Phase II Geo-Environmental Assessment

Premier Inn Central Huddersfield, St Andrews Road, Aspley, Huddersfield HD1 6SB

Whitbread Plc

CRM.1483.100.GE.R.001.A

'Experience and expertise working in union'

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Project:	Premier Inn Central Huddersfield, St Andrews Road, Aspley, Huddersfield HD1 6SB
For:	Whitbread
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Reviewer:	Steve Rhodes **Director**

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1.0 INTRODUCTION

1.1 Background

1.1.1 Enzygo Geoenvironmental Limited has been commissioned to prepare a Phase II Geoenvironmental Investigation in support of a planning application for a Premier Inn Extension at Premier Huddersfield Central St Andrews Road, Aspley, Huddersfield HD1 6SB.

1.2 Proposed Development

1.2.1 The existing site comprises a Premier Inn and restaurant with associated car parking and landscaping. The proposed development is to comprise a 2 storey Extension across the footprint of the restaurant to the northeast of the main premier inn buildings with associated landscaping and infrastructure.

1.3 Objectives

1.3.1 The objectives of the study are to:

- Review Desk Study Information;
- Review any available ground investigation data;
- Undertake a targeted ground investigation;
- Assess the implications of any potential environmental risks, liabilities and development constraints associated with the site in relation to the future use of the site and in relation to off-site receptors; and
- Provide a factual and interpretative report relating to the desk study and site investigations.
- Provide a revised conceptual model and recommendations on any potential development issues and mitigation measures, where appropriate.
- Provide geotechnical recommendations in relation to foundations and infrastructure.

1.4 Risk Classification

1.4.1 Enzygo Geoenvironmental has utilised the available information, together with our experience to assess the likely risks to development from land quality issues. Definitions of the risk terms used are provided on the following table.

Table 1.4.1 Risk Classification

Risk	Description
Dismissed	No contamination risk has been identified which is likely to affect development.
Low	No significant contaminated land risks have been encountered affecting development and a low risk that remediation will be required.
Low-Moderate	There are unlikely to be significant contaminated land issue associated with the site which will adversely affect its re-development. However, minor, or localised contamination may be present requiring remediation. Remediation should be possible under a discovery strategy and with a call out service.
Moderate	Some potential contaminated land risks have been encountered or identified which may affect re- development. The risks identified are unlikely to affect the entire site or preclude development. Remediation is considered feasible as part of the development process and no further investigation is considered necessary.
Moderate-High	Some potentially significant contaminated land risks have been identified at the property that requires remediation. It is recommended that a separate remedial methodology is prepared supported by a site-specific risk assessment
High	Significant potential contaminated land risks have been identified, and remediation is required supported by further intrusive ground investigation, risk assessment and remedial design.

1.4.2 Where no pollutant linkage is identified risks are dismissed.

1.4.3 Where adverse risks from ground instability are identified these are discussed within the report.

2.0 SITE SETTING

Table 2.0 Site Description

Item	Description
Site Address	Premier Inn Central Huddersfield, St Andrews Road, Aspley, Huddersfield HD1 6SB
National Grid Reference	435005 381075
Site Area	Approximately 7.56 Ha

2.1 Current Site Description

2.1.1 The extension site is currently occupied by the Premier Inn restaurant which is located to the northwest of the main Premier Inn buildings and connect via a covered walkway.

2.1.2 The restaurant currently comprised a single storey building with front and side access and dormer roof extension.

2.1.3 There is a small outdoor seating area to the southeast of the restaurant building which is partially covered.

2.1.4 A pedestrian path separates the restaurant building and the hotel which is partially covered.

2.1.5 The Broad Canal and Marina are to the northwest and south. The sides walks have mooring against the side walls with moorings for canal boats. The towpath area is used as a footpath along the canal access the restaurant directly and the pedestrian foot bridge to the car park.

2.1.6 There is no vehicle access to the site and the existing restaurant building is surrounded by either building or footpaths.

2.1.7 Pedestrian access from the car park is also from the pedestrian bridge to the southwest of the site and over Broad Canal.

2.1.8 There is no evidence of spillages or tanks on the proposed extension site.

2.1.9 The exiting Premier Inn to the southeast of the proposed site comprises a 2 and half storey buildings with the main reception area to the northeast of this building. There is also limited parking and the main vehicle access to the Premier Inn building to the north of this building.

2.1.10 Landscaping for the entire Premier Inn site is limited it a small hedge and scattered shrubs along the boundary to the south of the Premier Inn building and trees on the northern and eastern boundary of the entire Premier Inn site. There is no existing landscaping associated within the proposed extension site.

2.1.11 Services and drainage appears to be located along the access road to the rear and north of the premier inn buildings

2.2 Surrounding Area

2.2.1 Land uses surrounding the site are summarised as follows:

Table 2.2.1 Land Use Surrounding the Area

Direction	Land Use
North	Part of the restaurant building, access road limited car parking and Marten House (commercial flats), with access road and car parking beyond.
South	Pedestrian foot path, Canal side wall, Aspley Wharf Canal Marina, Car parking for the Marina and Sentitin Marine, retaining wall with Wakefield Road and commercial properties beyond.
West	Canal side wall, Pedestrian foot bridge, Broad Canal, Atkinson Holt (commercial office) with car parking and toilet block for marina with Aspley Place and further Sainsburys car parking beyond.
East	Pedestrian foot path, Premier Inn main building, B6432 with commercial units and car parking and The River Colne Beyond. .

2.2.2 No spoil heaps or flying tipping was noted within the entire premier inn site.

2.2.3 No fuel related spillages were noted.

2.2.4 No other significant risks were identified.

3.0 SITE HISTORY

3.1 Historical Maps

3.1.1 A review of historical Ordnance Survey maps and information pertinent to the site and within a 250m radius is summarised below:

Table 3.1.1 Historical Maps

Map Dates	On Site	Surrounding Area
1890-1893	Two joined wharf buildings with the enlarged canal towpath to the NW of the site.	0m SE two further Warf buildings. 30m SE Coal Yard. Wharf 0m S. Canal basin 109m S. Canal 10m NE. Aspley Place and gardens 50m NE. Access Road 0m N. Fern Street and Aspley House 100m N and NE. Wharf and Wharf Mills (Dyeware) 50m S and south side of Basin. Road and tramway 100m S. Road 50m E. Melbourne Place (4 house) 55m SE. Aspley Dyeware Mills 80m S. River 100m Ease flowing N. Winthrope House And Aspley Old Brewery 80m to 100m N Seed Hill Mills 100m NW. Albany Mills 200m SW. Upper Albany Mills (250m SW).
1910	No changes	Bowling Green 50mN. Coal yard 30m SE is shown as Wharf. Aspley Dye Works extended along western bank of river 100m NW to 250m NW. Albany Mills 200m SW renamed Albany Mills (Worsted).
1918	No changes	Sluce is refenced SE corner of basin. Wharf mills 50m S shown as disused.
1932	SE wharf buildings appears as open space (possible bombed out)	Eclipse Works shown 20m N. Club shown 80m N. Aspley Soap works 60m SE (western bank of River). Albany Mills 200m SW renamed Albany works.
1960-1961	Wharf Building have been demolished and re modelled as smaller units with open space to the south. A hopper is shown to the east of the site.	The canal to the east of the site is shown as Huddersfield Broad canal. In between the eastern boundary of the site and the canal to the east a travellers crane is shown associated with the Hopper. Eclipse Works shown as Mills. Garage is shown 90m NW.
1975-1986	No changes	The travellers crane is no longer shown. The Mills 20m N is shown as textile Mill. The wharfs surrounding the site are renamed Aspley Wharf. Motor Body works 100m NE. Crown Works buildings 100m SE. Warehouses and Garage shown 100m SW to 180m SW. Aspley Iron works 100m S
1991	Site shown as current restaurant layout	Car parking 0m E. Garage 100m NW. Works buildings 30m NW. Earthworks with large factory beyond 110m E to 250m E.
1993	No changes	3 No. Garages shown 150m to 250m NW.
1995	No changes	Garages 150m to 250m NW replaced by car parking and new Sainsburys superstore. Works Buildings/depot 30m E.
2003	No changes	No changes
2012	No changes	Premier Inn buildings 0m E. works building 30m E shown as derelict site.
2018-2023	No changes	Derelict site 30m E shown as car parking

3.1.2 The site formerly comprised wharf buildings with associated infrastructure including hoppers travelling crane, cannel basins and wharfs associated with the Mill industry. The wharfs were progressively transformed into warehouses and factories with a number of garages and in turn commercial business and car parking. The site is therefore likely to comprise Made Ground associated with the regrading exercise to create development platforms.

3.1.3 Earthworks have also been noted as part of the remodelling exercise.

3.1.4 A number of garages have been historical located around the site, however these have since been redeveloped as commercial units and car parking and therefore have likely been remediated.

4.0 ENVIRONMENTAL SETTING

4.1 Ground Conditions

4.1.1 The British Geological Survey (BGS) indicates that the site is underlain by the following geological sequence:

Table 4.1.1 Geological Sequence

Geological Unit	Type	Descriptions	Aquifer Classification
Drift	Alluvium	Clay, sand and gravel	Secondary A Aquifer
	Head (14m north)	Clay silt sand and gravel	Secondary Undifferentiated
Solid	Pennine lower and Middle Coal Measures	Sandstone, siltstone mudstone and coal	Secondary A Aquifer

4.1.2 BGS records show no published records of Made Ground on the site with the closest being 31m south and 33m southwest. Given the separately by the canal and marina, these are not considered as risk to the site.

4.1.3 Google images and historical plans indicate that the majority of the site has been regraded with excavated overburden materials stockpiled during the opencast operation from 2009 to 2012.

4.1.4 There are no records of landslips on or near to the site.

4.1.5 There closest liner feature are coal and fossil bands (40m east, 75m west and 127m south). The closest fault is 434m northeast and is not considered a risk to the site. The risk associated with the coal seams will be discussed in the coal mining report.

4.1.6 Records of background soil chemistry for the site show no exceedances above soil guideline values for commercial use.

4.1.7 BGS boreholes logs vicinity of the site indicates Made Ground to 0.60m over clays to 2.40mbgl over sandstone. Groundwater was encountered at 2.40mbgl.

4.2 Groundwater

4.2.1 Permeability for the Alluvium and Head is high to low with an intergranular flow type and reflects the mixed nature of the superficial materials.

4.2.2 Permeability for the Lower Pennine Coal Measures is low to moderate and of fractured flow type.

4.2.3 The Ground Sure Report indicates the site is not located within a Source Protection Zone.

4.2.4 There are no known current groundwater abstraction licenses within 500m of the site.

4.2.5 The Ground Sure Report shows the site is located within negligible risk of river flooding.

4.2.6 BGS records indicate that the risk of ground water associated with the underlying ground conditions is negligible.

4.3 Coal Mining

4.3.1 The Groundsure Geo Insight report indicates the site is located within an area of potential coal mining which has been dismissed within a separate CMRA. No further assessment is required.

4.4 Non-Coal Mining and Cavities

4.4.1 The Groundsure GeoInsight report indicates the site is not at significant risk from non-coal mining activities.

4.5 Natural Cavities

4.5.1 No natural cavities are identified below or near to the site.

4.6 Ground Workings

4.6.1 There are a number of ground workings within 250m of the site. The majority of the surface workings are related to the canal wharfs and basins with the closest canal and basin 2m west and 3m south. The closest pit/quarry is located 188m east. Given the age of the pit and the age of the pit (1989) this is not considered a significant risk, however gas monitoring should be undertaken as part of any investigation post demolition given the current building covers the entire footprint of the proposed site.

4.6.2 The closest old shaft is located 545m northeast with the closest underground mining workings more than 500m from the site.

4.6.3 No other significant risks are identified.

4.7 Hydrology

4.7.1 The Groundsure EnviroInsight Report indicates there are two canals within 15m of the site (Broad Canal 11m northwest and Aspley Basin 12m southwest). These are manmade structures however still have a flow based on the surface water abstraction from the river being used to maintain the flow of the canal. The River Colne is located 100m east and flows are no other watercourses within 500m of the site.

4.7.2 Surface water flooding is noted around the current buildings and across the proposed extension site. A flood risk assessment should be undertaken.

4.7.3 The site is shown in flood zone 2.

4.7.4 There is one surface water abstractions within 500m of the site. This is located 271m south from the River Clone to maintain the through flow on the canal.

4.8 Radon Risk Potential

4.8.1 The Groundsure GeoInsight Report indicates that the site is not situated within an area of Radon Risk. No radon protection measures are required.

4.9 Natural Hazards Finding

4.9.1 BGS information presented within the Groundsure report identified the following ground conditions:

Table 4.9.1 Natural Hazards

Hazard	Risk Designation (Groundsure)
Shrink Swell	Very Low
Landslides	Very Low
Soluble Rocks	Negligible
Compressible Ground	Moderate
Collapsible Rocks	Negligible
Running Sands	Low

4.9.2 The moderate compressible risk is associated with the Alluvium. The ground conditions will be assessed as part of any investigation post demolition.

4.10 Sensitive Land Uses

4.10.1 The site comprises a restaurant and so is considered to be of low sensitivity.

4.10.2 No historical features are identified on the site.

4.11 Environmental Sensitivity

4.11.1 Overall, the site is currently considered to be of moderate environmental sensitivity due to the following:

- The underlying stratum are designated as Secondary A Aquifer;
- There are 2 inland water bodies close to the site, these are canals and canal basins and shown not be in hydraulic connectivity with the site;
- The site is not located within a source protection zone;
- There are no current known groundwater abstraction wells within 500m of the site; and
- No ecological designations on the site; and
- Surface water flooding is noted on the site.
- The site is not recorded within a flood zone.

4.11.2 The proposed end use of the site is for a hotel extension so future sensitivity will be low for end users.

4.12 Industrial Land Uses

4.12.1 Industrial land uses within 250m of the site comprise canal related land uses including moorings and service areas with the closest being 2m south. With the exception of the canal or marina related industries the closest industrial land use is a works and factories 26m northwest. Given the distance this and the remaining industrial uses are not considered a significant risk.

4.12.2 No other significant potential contamination sources are identified from the register of current land uses.

4.12.3 The Groundsure Report indicates that there are no garages within 250m of the site. The closest historical garages are located 32m northwest This has now been replaced by the Salisbury and car parking. The closest absolute garage station is 149m southwest.

4.12.4 Records indicate no high-pressure underground oil or gas pipelines within 250m of the site.

4.12.5 No new risks are identified from the register of industrial land uses.

4.13 Regulatory Database

4.13.1 The following information has been obtained from a commercially available environmental database.

Table 4.13.1 Regulatory Database

Environmental Permits, Incidents and Registers	0-250m	250-500m	Details
Site determined as contaminated land	0	0	Not applicable.
Authorised industrial processes	0	0	Not applicable.
Dangerous substances	0	0	Not applicable.
Registered radioactive substances	0	1	University of Huddersfield keeping use and disposal of radioactive substances (Revoked therefore no risk).
Enforcements, prohibitions, or prosecutions	0	0	Not applicable.
Pollution Incidents	3	1	Organic chemicals 39m south (significant impact to water (Category two). Given distance not considered a significate risk to the site.
Consents issued under the Planning (Hazardous Substances) Act 1990	0	0	Not applicable.
Control of Major Accident Hazard (COMAH)/ Notification of Installations Handling Hazardous Substances (NIHHS) sites	0	0	Not applicable.
Records of Licensed Discharge Consents	4	6	Closest is 101m east seepage discharge into a storm sewer. Given the distance these are not considered a significant risk to the site.

4.13.2 No significant risks are identified from the regulatory data base.

4.14 Landfill Sites and Waste Treatment Sites

4.14.1 The Groundsure report indicates there is one recorded landfill 498m northeast. This was licenced to dispose of Inert, Industrial, Commercial, Household, Special and ceased land fill in 1990. Given the distance this is not considered a significant risk. However, gas monitoring should be undertaken as part of any investigation post demolition.

4.14.2 The Groundsure report indicates no historical licenced waste sites within 250m of the site. The closed landfill is located 460m east and is for a metal Recycling site. Given the distance to this site this is not considered to be risk to the site.

4.14.3 The Groundsure report indicates a number of waste exceptions sites. However, given the closest is 201m southwest, this is not considered a risk to the site.

5.0 PRELIMINARY CONCEPTUAL MODEL

Table 5.1.1 Preliminary Conceptual Model

Source	Location	Exposure Pathway	Potential Receptor	Probability of Exposure	Details
Human Health					
Asbestos, metals and hydrocarbons.	Potential Made Ground.	Ingestion dermal and inhalation.	Construction Workers.	Dismissed.	Normal construction PPE will address risk under CDM.
			Site users.	Low	Made Ground materials are likely to comprise foundation materials for the existing buildings and historical buildings and structures on the site and associated with a regrading exercise of the site to create level development sites. The materials are likely to be reworked natural materials and not imported Made Ground, although some Made Ground may be present.
Asbestos, metals and hydrocarbons.	Unforeseen Contamination.	Ingestion dermal and inhalation.	Construction Workers.	Dismissed.	Normal construction PPE will address risk under CDM.
			Site users.	Low	Moderate/low sensitivity end use.
Hydrocarbon and metals.	Migration from off-site sources.	Ingestion dermal and inhalation.	Construction Workers.	Dismissed.	No significant source identified.
			Site users.		
Ground Gas.	Landfill.	Inhalation & Explosive.	Construction Workers.	Low.	No landfills within 250m. As a precaution gas monitoring should be undertaken as part of investigation post demolition.
			Site users.		
	Potential Made Ground.	Inhalation & Explosive.	Construction Workers.	Low.	Significant putrescible material unlikely as the infill materials are likely to be inert. Gas monitoring will be undertaken as part of the investigation.
			Site users.		
Radon	Ground conditions	Inhalation & Explosive.	Site users	Dismissed.	No radon protection required for the site.
Groundwater					
Hydrocarbon and metals.	Unforeseen Contamination.	Vertical Migration.	Groundwater.	Very Low	Low to high permeability soils, however no significant mobile source likely, and the bedrock is likely to be covered with low permeability weathered materials. (alluvium clay).
Surface Water					
Hydrocarbon and metals.	Unforeseen Contamination.	Horizontal Migration.	River Network.	Very Low	No surface water features noted on the site, however canal basin and canal adjacent to site boundaries. Any surface waters from the site will need to drain away from these canals.
Environmental Receptors					
On site contaminants		Ingestion dermal and inhalation.	Ecology.	Dismissed.	None present.
		Direct.	Archaeology.	Dismissed.	None present.
		Direct.	Geology.	Dismissed.	None present.
Building Services					
On site contaminants		Direct.	Historic Buildings.	Dismissed.	No receptors.
		Direct.	Proposed Buildings.	Dismissed.	No sources identified.
		Permeate into pipework.	Water Pipes	Dismissed.	No significant sources identified.

5.1.1 There are potential risks associated with potential Made Ground associated with the regrading exercise to construct the existing and previous developments on the site.

5.1.2 The is risk of unforeseen contamination associated with the regrade materials and reworked materials although this is considered as low and can be mitigated by a discovery strategy during construction works.

5.1.3 No other risks are identified.

5.1.4 Based on the conceptual model and desk study it is recommended that an investigation is undertaken to confirm the contamination assessment the gas regime and the required foundation parameters. The future ground investigation should be undertaken in accordance with, but not restricted to, BS 10175:2011+A2:2017, C665, BS 8485:2015+A1:2019. The layout of the works should take due cognisance of the desk study, in order to fully assess any identified potential pollutant linkages.

5.1.5 This investigation should be undertaken as part of an appropriately worded conditions.

5.1.6 Any contamination encountered during development works should be removed or encapsulated and remediated through a source removal if required and cover soils as part of a discovery strategy which will break the pollutant linkage.

6.0 SITE INVESTIGATION

6.1 General

6.1.1 A site investigation was undertaken by Enzygo Geoenvironmental Limited on 30th April to 8th May 2025 and comprised window sampler boreholes (WS1 to WS3) and Hand pits (HP01) over two visits due to restricted access to positions.

6.1.2 Exploratory holes were located to provide general site coverage. Window sampler boreholes were advanced below or adjacent to proposed buildings.

6.1.3 Locations of exploratory holes advanced by Enzygo Geoenvironmental Limited are presented on Drawing CRM1483100-ENZ-XX-XX-DR-G-001. Exploratory holes were located taking account of the proposed development, existing occupied buildings and locations of existing services. Some of the positions were moved due to restricted access associated with services and location of the canal.

6.2 Site Works

6.2.1 In-situ Standard Penetration Tests (SPT) were undertaken in window sampler boreholes to assess the undrained shear strength of clay soils and density of granular soils.

6.2.2 Representative soil samples were collected for chemical and geotechnical testing. Soil samples destined for chemical analysis were collected in appropriate containers provided by the analytical laboratory. Samples were stored in cool boxes prior to dispatch to the laboratory for analysis. All samples were collected using appropriate sampling equipment that was cleaned at each sampling location.

6.2.3 Generally, samples were collected from Made Ground, up to 3.00mbgl and for human health classification up to 1.00mbgl. These samples are thought to represent the classification of he Made Ground which may contain potential inclusions of contaminating materials and also materials displaying evidence of potential contamination.

6.2.4 In the absence of any evidence of contamination, samples were collected near surface as this material is more likely to be contaminated by surface spillages and also will potentially be in contact with future residents.

6.3 Laboratory Testing

6.3.1 Samples for geotechnical testing were sent to the laboratories of I2 Ltd, which is UKAS accredited, for the following analysis:

- Laboratory CBR tests;
- Moisture Content;
- Atterberg Limits Determinations; and
- Soluble sulphate and pH.

6.3.2 Samples for chemical analysis were sent to I2 ltd who are UKAS and MCERTS accredited. Samples were tested for the CLEA metal suite, pH, sulphate, cyanide, phenols, speciated Polycyclic Aromatic Hydrocarbons (PAH), organic carbon, banded Total Petroleum Hydrocarbon (TPH), and asbestos screen.

6.3.3 Waste Acceptance Criteria (WAC) testing was undertaken to assist in determining the waste classification of surplus soils.

6.3.4 Three leachate samples were collected from the sample borehole to provide a depth profile of leachate testing for the encountered Made Ground materials and up to10.00mbgl.

6.4 Monitoring

6.4.1 Installations were placed within selected boreholes which were monitored for groundwater depths and ground gas concentrations on return visits.

7.0 GROUND AND GROUNDWATER CONDITIONS

7.1 Summary of Ground and Groundwater Conditions

7.1.1 Ground and groundwater conditions have been assessed by Enzygo Geoenvironmental Limited investigation. The investigation undertaken identify the following strata:

Table 7.1.1 Ground and Groundwater Conditions

Surface Made Ground (soft landscaping)	Dark brown slightly gravelly fine to medium SAND with occasional roots. Gravel is composed of fine to medium angular to sub-angular flint and Brick and slate	0.1 to 0.2
Surface Made Ground Hardstanding	Asphalt (70mm to 100mm thick) or Concrete (50mm thick) over buildings sand and type one (300mm thick) over dark brownish black clayey fine to medium SAND & GRAVEL. Gravel is composed of fine to medium angular to sub-angular flint and Brick and concrete with low to medium cobble content.	0.45 to 1.6
Deeper Made ground	Very soft becoming firm and stiff dark grey mottled orangish slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is composed of fine to medium angular to sub-angular flint and Brick.	2.2 to in excess of 3.00
Highly weathered materials and possible Head	Alternating thick layers of soft becoming firm stiff dark grey mottled orangish sandy gravelly Clay. Gravel is composed of angular to subangular flint and sand is fine to medium. And Medium dense yellowish orangish brown slightly clayey fine to medium sand and gravel. Gravel is comprised of fine to medium angular to subrounded flint and sandstone.	2.45 to 2.5
Weathered Lower Pennine Coal Measures	Very Stiff dark greyish green mottled dark grey slightly gravelly sandy clay. Sand is fine to medium. Gravel is composed of fine to medium angular to subrounded flint.	In excess of 1.55
Groundwater.	Groundwater seepage at 3.00mbgl to .4.00mbgl.	N/A

7.1.2 Details of the ground and groundwater conditions encountered are given on the exploratory hole records included in Appendix 2 and are summarised in the sections below:

7.2 Surface Made Ground

7.2.1 Within soft landscaping areas the Made Ground comprised dark brown slightly gravelly fine to medium sand with occasional roots. Gravel is composed of fine to medium angular to sub-angular flint and Brick and slate (100mm to 200mm thick) over dark brownish black clayey fine to medium sand and gravel. Gravel is composed of fine to medium angular to sub-angular flint and Brick and concrete with low to medium cobble content. These materials are encountered to in excess of 1.80m bgl in Borehole WS03A

7.2.2 Within areas of hardstanding the surface Made Ground compromised either Asphalt (70mm to 100mm thick) or Concrete (50mm thick over Building sand dark brownish black clayey fine to medium sand and gravel. Gravel is composed of fine to medium angular to sub-angular flint and Brick and concrete with low to medium cobble content. These materials were encountered up to 1.60mbgl.

7.2.3 The existing foundations to the existing Premier Inn comprised concrete foundations from 0.55mbgl to 0.67mbgl and stepping out 0.13m from the hotel side wall. Details of this are given in Trial pit TP01).

7.3 Deeper Made Ground

7.3.1 Deeper Made Ground comprised, very soft becoming firm and stiff dark grey mottled orangish slightly sandy slightly gravelly clay. Sand is fine to medium. Gravel is composed of fine to

medium angular to sub-angular flint and Brick. These materials were encountered to a depth of 3.00mbgl in Boreholes WS01.

7.4 Highly weathered /Head materials.

7.4.1 These materials were encountered below the Made Ground and comprised alternating thick layers of soft clay and medium dense sand and gravel. The soft clay comprised soft becoming firm stiff dark grey mottled orangish sandy gravelly Clay. Gravel is composed of angular to subangular flint and sand is fine to medium. The sand and gravel comprised medium dense yellowish orangish brown slightly clayey fine to medium sand and gravel. Gravel is comprised of fine to medium angular to subrounded flint and sandstone. These materials were proved to 3.90mbgl.

7.5 Weathered Lower Pennine coal measures

7.5.1 The weathered Lower Pennine coal measures Very Stiff dark greyish green mottled dark grey slightly gravelly sandy clay. Sand is fine to medium. Gravel is composed of fine to medium angular to subrounded flint.

7.6 Soil Strength

7.6.1 Strength of soils were assessed using SPT values. Where appropriate the undrained shear strength of clayey Made Ground were calculated using the correlations of Stroud and Butler. Given this Is Made Ground these values should be taken as conservative and range from 4kN/m^2 to 229kN/m^2 with a lower quartile value of 32kN/m^2 at a depth of 1m below ground level (bgl) to 3mbgl.

7.6.2 Granular Made Ground soils were generally loose medium to dense with SPT values increasing from 14 at 1m to 1 28 at 1.65m bgl.

7.6.3 Within borehole WS01 the undrained shear strength of Head materials was calculated using the correlations of Stroud and Butler and ranged from 36kN/m^2 to 58kN/m^2 with a lower quartile value of 41kN/m^2 at depths between 3 and 4mbgl. Based on this the Head are shown to firm.

7.6.4 Within Borehole BH01 the undrained shear strength of weathered Pennine Lower coal Measures was calculated using the correlations of Stroud and Butler and ranged from 130 to 185kN/m^2 with a lower quartile value of 130kN/m^2 at depths between 4 and 5mbgl. Based on this the weathered Pennine Lower coal Measures are shown to be stiff.

7.7 Visual and Olfactory Evidence of Contamination

7.7.1 No visual or olfactory evidence of contamination was encountered during the site works with the exception of the Made Ground which was capped with clean materials.

7.8 Groundwater

7.8.1 Groundwater was encountered during the site works at depths ranging from 3.00m to 4.00mbgl. The depth to groundwater measured during the monitoring visits are summarised in the table below:

Table 7.8.1 Groundwater Depths

Exploratory Hole	Depth m(bgl)					
	30.04.25	08.05.25	13.05.25	21.05.24	01.06.24	14.06.24
WS01	Dry	Dry	Dry	3.01	3.00	3.00
WS02	Dry	Dry	Dry	Dry	Dry	Dry
WS03	Dry	Dry	Dry	Dry	Dry	Dry
WS04	2.9	Dry	Dry	3.14	3.13	3.14

7.9 Ground Gas

7.9.1 Ground gas was monitored during the return visit to monitor groundwater levels, and the results are summarised on the table below:

Table 7.9.1 Gas Monitoring Results

Exploratory Hole	Atmos pressure (Mb)	Flow (l/hr)	CH4		CO2		O2
			Concentration (%)	GSV (l/hr)	Concentration (%)	GSV (l/hr)	Concentration (%)
30.04.25							
WS01	1114(F)	<0.1	<0.1	<0.0001	0.4	<0.0004	20.8
WS02	1114(F)	<0.1	<0.1	<0.0001	0.5	<0.0005	20.9
WS03	1113(F)	<0.1	<0.1	<0.0001	0.6	<0.0006	20.7
WS04	1113 (F)	<0.1	<0.1	<0.0001	3.5	<0.0035	20.9
08.05.25							
WS01	1018 (S)	<0.1	<0.1	<0.0001	1.4	<0.0014	18.5
WS02	1018 (S)	<0.1	<0.1	<0.0001	0.1	<0.0001	20.1
WS03	1018 (S)	<0.1	<0.1	<0.0001	0.5	<0.0005	19.3
WS04	1018 (S)	<0.1	<0.1	<0.0001	0.5	<0.0005	13.9
13.05.25							
WS01	1014 (S)	<0.1	<0.1	<0.0001	1.4	<0.0014	19.5
WS02	1014 (S)	<0.1	<0.1	<0.0001	0.2	<0.0002	20.4
WS03	1014 (S)	<0.1	<0.1	<0.0001	0.4	<0.0005	20.2
WS04	1014 (S)	<0.1	<0.1	<0.0001	2.6	<0.0026	16
21.05.25							
WS01	1009 (F)	<0.1	<0.1	<0.0001	1.6	<0.0016	18.5
WS02	1009 (F)	<0.1	<0.1	<0.0001	0.1	<0.0001	20.1
WS03	1008 (F)	<0.1	<0.1	<0.0001	0.5	<0.0005	19.3
WS04	1008 (F)	<0.1	<0.1	<0.0001	3.9	<0.0039	13.9
01.06.25							
WS01	1002 (F)	<0.1	1.0	<0.0010	2.5	<0.0025	13.7
WS02	1002 (F	<0.1	<0.1	<0.0001	0.3	<0.0003	20.4
WS03	1002 (F	<0.1	<0.1	<0.0001	3.5	<0.0035	15.6
WS04	1001 (F	<0.1	<0.1	<0.0001	4	<0.0040	14.5
14.06.25							
WS01	1014 (R)	<0.1	<0.1	<0.0001	1.3	<0.0001	19.7
WS02	1014 (R)	<0.1	<0.1	<0.0001	0.1	<0.0001	20.5
WS03	1014 (R)	<0.1	<0.1	<0.0001	0.5	<0.0007	20.1
WS04	1015 (R)	<0.1	<0.1	<0.0001	2.1	<0.0007	16.5

8.0 CONTAMINATION ASSESSMENT

8.1 General

8.1.1 A Tier I risk assessment has been undertaken using available and current screening values for a residential end use. The risk assessment is undertaken based on the findings of the ground investigation. Based on the contamination testing and Tier I assessment a Conceptual Model has been prepared, which is presented later in this section.

8.1.2 Where significant risks are identified remedial measures are recommended.

8.2 Human Health

8.2.1 Assessment of the risks to human health has been undertaken by comparing the soil quality data with reference values obtained from the Contaminated Land Exposure Assessment (CLEA), Soil Guideline Values (SGV) and General Acceptance Criteria (GAC) published by LQM/CIEH. The LQM/CIEH S4ULs values are used, and summary tables of the reference values are included in Appendix 5.

8.2.2 Where an exceedance is identified the risk is assessed by considering the sensitivity of the proposed development and the potential pathway. The proposed development is for residential comprising including domestic houses and therefore the GAC values for Residential Use with plant uptake are considered suitable.

8.2.3 Results of the chemical testing from the investigations are included in Appendix 3.

8.2.4 The soil quality analysis shows no exceedances of the GAC values. No asbestos was detected.

8.2.5 Samples recorded no exceedances above the guidance values given in Water UK guidelines for the use of plastic pipes, however local water services may have specific localised guidance vales for plastic pipes. Based on the above Chemical results should be sent to the Water service provider to confirm which water pipes are suitable.

8.3 Controlled Waters

8.3.1 Groundwater was not encountered during drilling and encountered below 3.00mbgl. At this depth the materials are considered to have a low permeability and are cohesive in nature. Given this leachate analysis was undertaken through the depth of the Made ground to 3.00mbgl.

8.3.2 No mobile contamination was noted up to 3.00mbgl and no significant leachate exceedances up to 3.00mbgl were noted above the, EQS guidelines and Drinking Water Standards. Only marginal exceedances were encountered above the EQS guidelines for Lead, zinc and copper due to the low hardness values. Based on the above and given the aquifer classification and no significant sources the risks to controlled waters are dismissed.

8.3.3 Any ground water flow is considered to be low given the low permeability of the materials and the depth of the Groundwater encountered. (deeper than 3.00mbgl).

8.4 Ground Gas

8.4.1 Following the guidance provided in Section 3 of CIRIA C665 an initial assessment is undertaken to determine if there are any significant sources of potential ground gas. Such sources include landfills, organic clays and made ground incorporating putrescible materials such as rags, paper and wood. Where no significant source is identified no further assessment is necessary.

8.4.2 This approach is further supported by supplementary guidance given in RB17, published by CL: AIRE which confirms that gas monitoring is not generally required on sites where Made Ground is less than 5m thick and with low organic matter content or on natural soils such as alluvial clays and Chalk as the ground gas sources are not considered significant. The supplementary guidance given in RB17 also takes account of the current requirements for sealing of floor slabs and substructures to meet air tightness requirements under Part L of the Building Regulations which were not considered in CIRIA C665. The advice given in RB17 is consistent with CIRIA C665 and the Local Authority Guide to Ground Gas published by CIEH.

8.4.3 Where significant potential risk from ground gas is identified from the Initial Conceptual Model and the intrusive ground investigation works ground gas monitoring is undertaken and the results of the monitoring are compared against the Gas Screening Values given in CIRIA Report 665. From this the Characteristic Situation is identified and remedial measures proposed.

8.4.4 When assessing the risk and type of remedial measures appropriate consideration is given to the likely construction of the development, the nature of the gas posing a risk and the nature of the likely source. The use of engineering judgement when determining risk from ground gas is consistent with the recommendations given in CIRIA C665 using a pollutant linkage model.

8.4.5 Based on the above CS1 conditions apply and in accordance with BS8485 the building is considered a type C building which will require no gas precaution measures.

8.5 Conceptual Model

8.5.1 A Conceptual Model is presented below based on the findings of the ground investigation.

Table 8.5.1 Conceptual Model

Source	Location	Exposure Pathway	Potential Receptor	Probability of Exposure	Details
Human Health					
Hydrocarbons, asbestos and metals.	On-site sources.	Ingestion dermal and inhalation.	Construction Workers.	Dismissed	No exceedance of GAC.
			Site users.		
Asbestos, metals and hydrocarbons.	Unforeseen Contamination.	Ingestion dermal and inhalation.	Construction Workers.	Dismissed.	Normal construction PPE will address risk under CDM.
			Site users.	Very Low.	Discovery Strategy.
Hydrocarbon and metals.	Migration from off-site sources.	Ingestion dermal and inhalation.	Construction Workers.	Dismissed.	No significant source identified.
			Site users.		
Hydrocarbon	Migration from off-site sources. The recent petrol station	Ingestion dermal and inhalation.	Construction Workers.	Dismissed.	No exceedance of GAC Made Ground. No spillages recorded.
			Site users		
Ground Gas.	Made Ground/Landfill	Inhalation & Explosive.	Construction Workers.	Dismissed.	Characteristic situation 1 and no gas mitigation measures recommended.
			Site users.		
Groundwater					
Hydrocarbon and metals.	Potential spillage on site.	Vertical Migration.	Groundwater.	Dismissed.	No significant source identified, and risk dismissed given the no mobile contamination identified and with only minor leachate exceedances to 3.00mbgl in zinc. Lead and copper. Groundwater recorded at 3.00bgl within low permeability materials.
Surface Water					
Hydrocarbon and metals.	Potential spillage on site.	Horizontal Migration.	River Network.	Dismissed.	No significant source identified.
Environmental Receptors					
On site contaminants.		Ingestion dermal and inhalation.	Ecology.	Dismissed.	No receptor.
		Direct.	Archaeology.	Dismissed.	No receptor.
		Direct.	Geology.	Dismissed.	No receptor.
		Phytotoxic.	Woodland.	Dismissed.	No receptor.
		Phytotoxic.	Crops.	Dismissed.	No receptor.
		Ingestion dermal and inhalation.	Livestock.	Dismissed.	No receptor.
Building Services					
On site contaminants.		Direct.	Historic Buildings.	Dismissed.	No receptor.
		Direct.	Proposed Buildings.	Dismissed.	No receptor.
		Permeate into pipework.	Water Pipes.	Very Low	Water Authority Guidance values have not been exceeded however local water service providers may have specific guidance which will need to be followed.

8.6 Outline Remediation and Verification Strategy

8.6.1 No gross contamination has been identified; however, Made Ground has been encountered to 3.00mbgl.

8.6.2 Based on the gas monitoring no gas risk has been identified and therefore no gas protection measures are required.

8.6.3 Local water companies guidance values are to be followed in relation to use of plastic pipes on site. Based on the initial screening assessment and using the WIR further assessment may be required.

8.6.4 Given no mobile contamination has been encountered, no GAC exceedances have been encountered and only minor leachate exceedances encountered above the EQS, UK Drinking Waters Standards, the risk to controlled waters has been dismissed.

8.6.5 Within proposed landscaping and as no GAC exceedances are recorded to 3.00mbgl, however Made ground is encountered to 3.0mbgl it is considered that a 400mm thickness of clean inert materials together with a geotextile will mitigate any risk to the site uses to any additional pathways not encountered. If unforeseen contamination is encountered during construction works such as localised spillage outside the areas investigated an Environmental consultant will be available on a 'call out' basis to undertake an assessment of risk. If 'unforeseen contamination' is encountered the discovery strategy will be removal of the source.

8.6.6 Based on the above a full Remediation strategy will not be required.

8.7 Waste Classification

8.7.1 No elevated Asbestos, PAH or TPH concentrations were recorded above the Inert Waste thresholds however pH was recorded above the inert classification. Leachable concentrations for fluoride exceed the inert classification.

8.7.2 Soils are considered to be Stable non-reactive.

8.7.3 The Waste Management paper 3 requires the landfill to make an appropriate assessment of the waste classification. As such final assessment will be undertaken by the receiving landfill based on the requirements of their permit.

9.0 GEOTECHNICAL ASSESSMENT

9.1 Proposed Development

9.1.1 The proposed development comprises an annex extension to an existing hotel. Structural loads are not known, and so typical wall load of 100kN/m has been used for preliminary assessment purposes.

9.1.2 It is considered that the scheme meets the criteria of Geotechnical Category 1 of Eurocode 7.

9.2 Ground Conditions

9.2.1 Ground conditions comprise Made Ground over Hed materials over weathered Lower Pennine Coal measures (Very stiff clay) No shallow groundwater was encountered. Groundwater was encountered at 3.00mbgl in the installations.

9.3 Preparation

9.3.1 The site should be cleared and any vegetation below areas of proposed development stripped in accordance with Series 200 of the Specification for Highway Works. This should include:

- Any redundant services should be sealed off and grubbed out and replaced with suitable compacted engineered fill;
- All buried structures and old foundations should be excavated from below the proposed structures with the resulting void backfilled prior to foundation works; and
- Any root balls associated with existing trees should be grubbed out.

9.4 Foundations

9.4.1 It is considered that conventional strip foundations are not suitable for the site given the thickness, consistency and strength of Made Ground.

9.4.2 Based on the above a ground improvement or controlled modulus Columns could be undertaken to strengthen the underlying Made Ground given the potential soft consistency to allow shallow foundations to be constructed or a piled foundations solution could be adopted.

9.4.3 As discussed above vibro concrete columns combined with a raft foundation is considered a potential foundation solution to be adopted. The Ground improvement combined with a reinforced raft solution could mitigate the risk of the deep variable strength Made Ground, although the ground improvement techniques would have to extend into the underlying Natural materials to a approximate depth of 5.0mbgl .The Ground replacement techniques will need to be confirmed by a specialist contractor; however if suitable the ground improvement should allow the construction of shallow foundations at generally 1.20mbgl with a maximum allowable pressure of 150kN/m^2. It is recommended that a specialist ground improvement contractor confirms the suitable with ground approvement and provides recommendations in relation to depths and achievable allowable bearing pressures. Consideration will need to be given to the proximity of the canal and adjacent structure and therefore consideration may be given to adopting a mini piled raft solution.

9.4.4 An assessment of the soils modified plasticity index confirms that the cohesive soils are of a low to moderate volume change potential in accordance with Chapter 4.2 of NHBC Standards.

9.4.5 As an alternative to vibro replacement techniques a mini piled raft foundation solution may be considered suitable.

9.4.6 Final foundation depths should also take account of NHBC requirements for building near trees. An assessment of the soils modified plasticity index confirms that the clay soils are of Low volume change potential in accordance with Chapter 4.2 of NHBC Standards and there are limited trees within the proposed extension area.

9.4.7 Concrete blinding is recommended to prevent softening of the formation.

9.5 Floor Slab

9.5.1 It is recommended that suspended floor slabs are used given the thickness of the Made Ground and consistency of the Made Ground.

9.5.2 No gas and radon protection measures are required.

9.6 Pavement Construction

9.6.1 An assessment of the likely California Bearing Ratio (CBR) has been assessed from the following sources:

- Laboratory CBR tests;
- Description of the materials encountered in the exploratory holes;
- Guidance given in HD25/94 and 73/06; and

9.6.2 Based on this it is recommended that an equilibrium CBR of 4% is used. Soils are considered frost susceptible.

9.7 Drainage

9.7.1 Soakaway drainage is not considered feasible due to the presence of thickness cohesive Made Ground and also the high clay content of the granular soils.

9.7.2 The report should be submitted to the Water Authority but as this is a green field site with no evidence of contamination being identified. Based on the initial chemical assessment plastic pipes should be suitable however local water authority pipe specification is to be followed and additional chemical UKWIR analysis may be required to confirm plastic pipes should be suitable.

9.8 Aggressive Soils

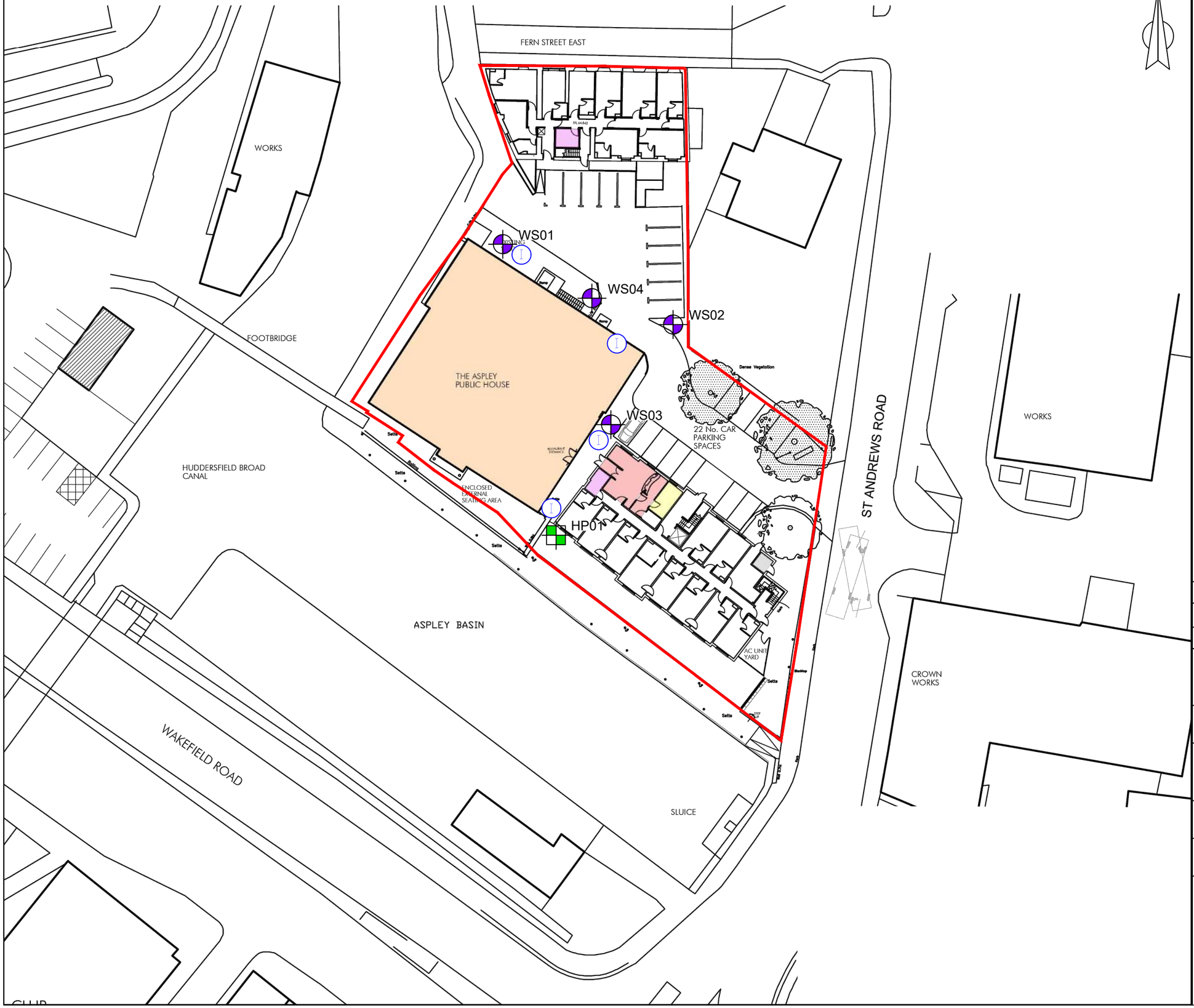
9.8.1 It is considered that buried concrete may be designed in accordance with ACEC Class AC1 within the underlying Made Ground and superficial materials to 5.00mbgl.

9.9 Excavation

9.9.1 Based on the various site observations it is considered that shallow excavations should be feasible with normal plant.

9.9.2 Excavations where access is required should be supported in accordance with CIRIA RR97.

9.9.3 Significant dewatering is not anticipated.



KEY:

- Site Boundary
- Hand Pits (HP01)
- Window Sampler Borehole (WS01-WS04)
- Gas and Groundwater Monitoring Well

NOTES:

ALL DIMENSIONS ARE IN METRES UNLESS STATED OTHERWISE

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS AND DOCUMENTS ASSOCIATED WITH THIS PROJECT.

ALL EXISTING AND PROPOSED DIMENSIONS, LEVELS AND LOCATIONS TO BE CHECKED AND VERIFIED BY THE MAIN CONTRACTOR ON SITE PRIOR TO THE COMMENCEMENT OF THE WORKS AND ANY ANOMALIES REPORTED TO THE ENGINEER.

Rev	Date	Description	DRA	CHK	APP
P01	04/07/25	Issued for comment / approval	SD	RH	RH

Project
Premier Inn Central Huddersfield

Client
Whitbread Group PLC

Drawing Title
Location Plan - Existing Site Layout

Scale	Date	Status
NTS @ A3	04/07/25	Preliminary

DWG No. CRM1483100-ENZ-XX-XX-DR-Z-0001 **Revision** P01

Bristol 01454 269 237
Cardiff 02920 023 700
Manchester 0161 413 6444
Cambridge 01799 542 473
Sheffield 0114 321 5151
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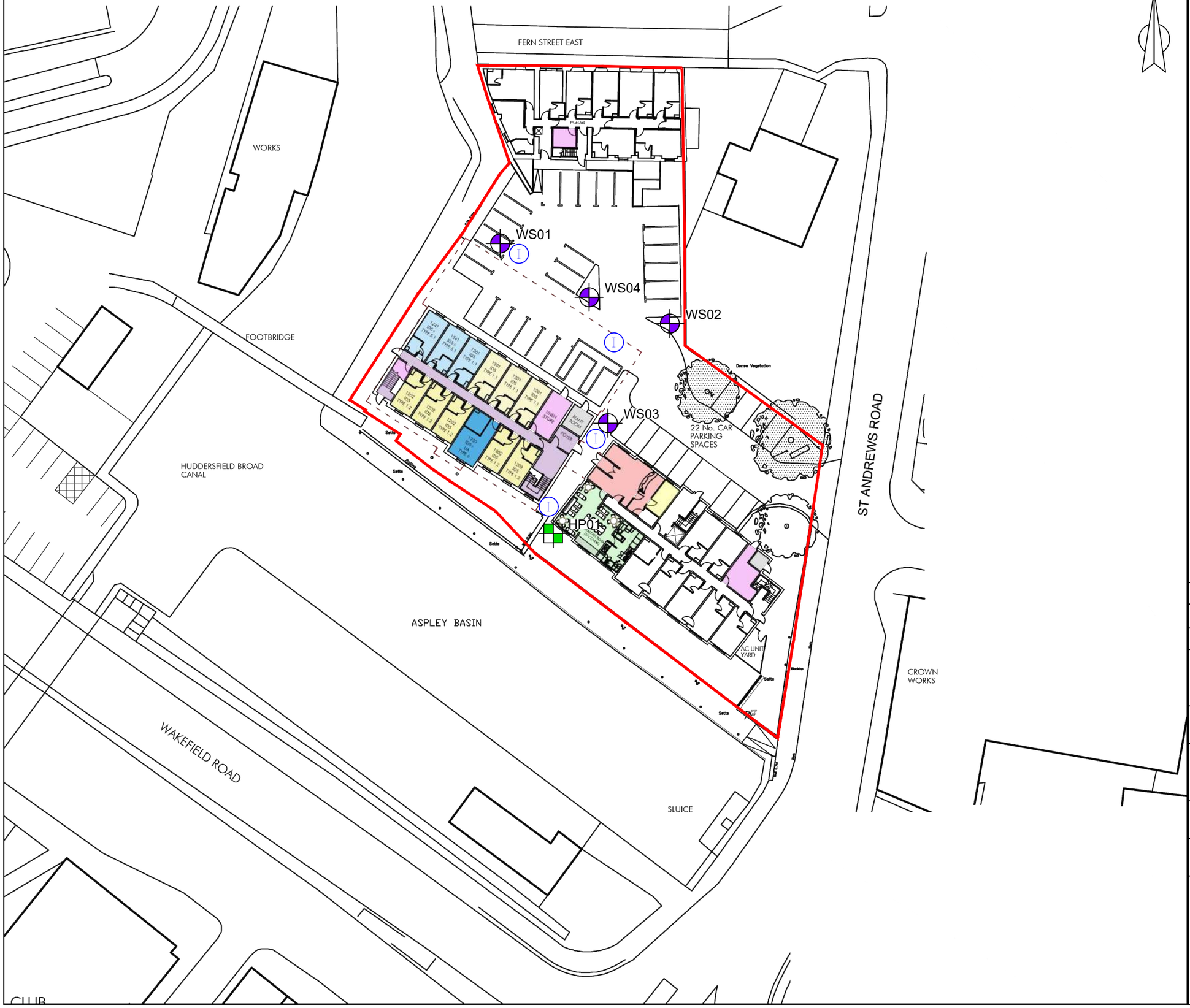

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KEY:

- Site Boundary
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Rev	Date	Description	DRA	CHK	APP
P01	04/07/25	Issued for comment / approval	SD	RH	RH

Project
Premier Inn Central Huddersfield

Client
Whitbread Group PLC

Drawing Title
Location Plan - Proposed Site Layout

Scale	Date	Status
NTS @ A3	04/07/25	Preliminary

DWG No. CRM1483100-ENZ-XX-XX-DR-Z-0001 **Revision** P01

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Manchester 0161 413 6444
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Sheffield 0114 321 5151
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Appendix 1 – Desk Study Information

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

Premier Inn, Huddersfield central, St Andrews Road, Aspley, Huddersfield, HD1 6SB

Order Details

Date: 11/07/2024

Your ref: EMS_957530_1189291

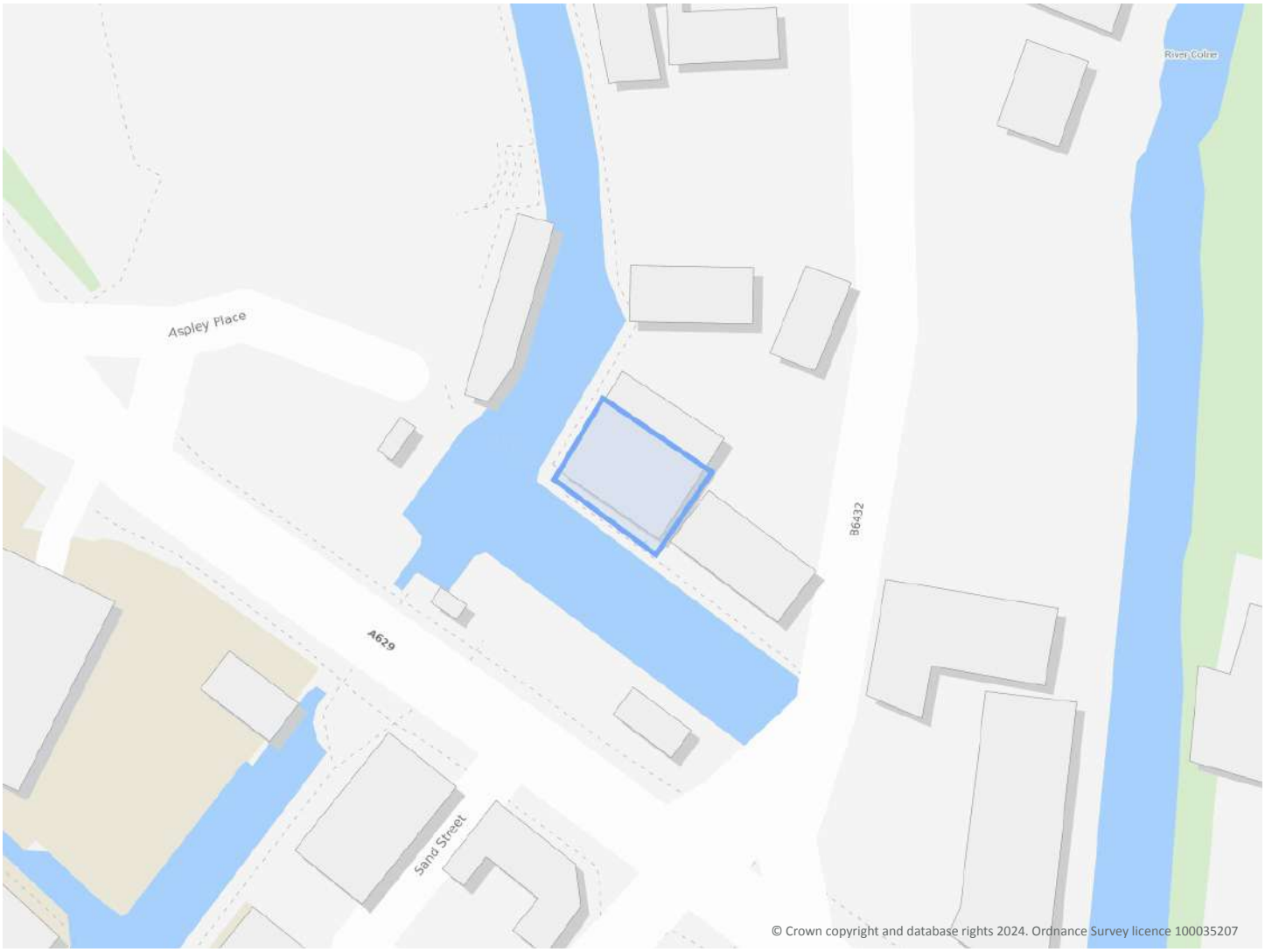
Our Ref: EMS-957530_1216439

Site Details

Location: 415021 416505

Area: 0.06 ha

Authority: Kirklees Council ↗



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Contact us with any questions at:
info@groundsure.com ↗
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Certified B Corporation

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
14 >	1.1 >	Historical industrial land uses >	0	7	27	38	-
17 >	1.2 >	Historical tanks >	0	0	7	21	-
19 >	1.3 >	Historical energy features >	0	0	3	26	-
20	1.4	Historical petrol stations	0	0	0	0	-
20 >	1.5 >	Historical garages >	0	1	27	24	-
22	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
23 >	2.1 >	Historical industrial land uses >	0	9	41	53	-
27 >	2.2 >	Historical tanks >	0	0	8	39	-
29 >	2.3 >	Historical energy features >	0	0	8	40	-
31	2.4	Historical petrol stations	0	0	0	0	-
31 >	2.5 >	Historical garages >	0	1	28	32	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
35	3.1	Active or recent landfill	0	0	0	0	-
35	3.2	Historical landfill (BGS records)	0	0	0	0	-
36	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
36 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	0	1	-
36 >	3.5 >	Historical waste sites >	0	0	0	7	-
38 >	3.6 >	Licensed waste sites >	0	0	0	6	-
39 >	3.7 >	Waste exemptions >	0	0	3	32	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
43 >	4.1 >	Recent industrial land uses >	0	4	23	-	-
45 >	4.2 >	Current or recent petrol stations >	0	0	1	3	-
46	4.3	Electricity cables	0	0	0	0	-
46	4.4	Gas pipelines	0	0	0	0	-
46	4.5	Sites determined as Contaminated Land	0	0	0	0	-

46	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
46	4.7	Regulated explosive sites	0	0	0	0	-
47	4.8	Hazardous substance storage/usage	0	0	0	0	-
47	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
47	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
47 >	**4.11 >**	**Licensed pollutant release (Part A(2)/B) >**	0	0	5	6	-
49 >	**4.12 >**	**Radioactive Substance Authorisations >**	0	0	4	0	-
49 >	**4.13 >**	**Licensed Discharges to controlled waters >**	0	0	14	18	-
54	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
54	4.15	Pollutant release to public sewer	0	0	0	0	-
55	4.16	List 1 Dangerous Substances	0	0	0	0	-
55	4.17	List 2 Dangerous Substances	0	0	0	0	-
55 >	**4.18 >**	**Pollution Incidents (EA/NRW) >**	0	1	2	1	-
56	4.19	Pollution inventory substances	0	0	0	0	-
56	4.20	Pollution inventory waste transfers	0	0	0	0	-
56	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	**Hydrogeology >**	On site	0-50m	50-250m	250-500m	500-2000m
57 >	**5.1 >**	**Superficial aquifer >**	Identified (within 500m)				
59 >	**5.2 >**	**Bedrock aquifer >**	Identified (within 500m)				
61 >	**5.3 >**	**Groundwater vulnerability >**	Identified (within 50m)				
62	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
63	5.5	Groundwater vulnerability- local information	None (within 0m)				
64 >	**5.6 >**	**Groundwater abstractions >**	0	0	0	0	27
71 >	**5.7 >**	**Surface water abstractions >**	0	0	2	3	11
75 >	**5.8 >**	**Potable abstractions >**	0	0	0	0	7
77	5.9	Source Protection Zones	0	0	0	0	-
77	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	**Hydrology >**	On site	0-50m	50-250m	250-500m	500-2000m
78 >	**6.1 >**	**Water Network (OS MasterMap) >**	0	4	4	-	-

79 >	6.2 >	Surface water features >	0	1	3	-	-
79 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
80 >	6.4 >	WFD Surface water bodies >	0	1	2	-	-
80 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
82 >	7.1 >	Risk of flooding from rivers and the sea >	Medium (within 50m)				
83	7.2	Historical Flood Events	0	0	0	-	-
83	7.3	Flood Defences	0	0	0	-	-
83	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
83	7.5	Flood Storage Areas	0	0	0	-	-
84 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
85 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
86 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
88 >	9.1 >	Groundwater flooding >	Low (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
89	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
90	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
90	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
90	10.4	Special Protection Areas (SPA)	0	0	0	0	0
90	10.5	National Nature Reserves (NNR)	0	0	0	0	0
91 >	10.6 >	Local Nature Reserves (LNR) >	0	0	0	0	1
91 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	2
91	10.8	Biosphere Reserves	0	0	0	0	0
92	10.9	Forest Parks	0	0	0	0	0
92	10.10	Marine Conservation Zones	0	0	0	0	0
92 >	10.11 >	Green Belt >	0	0	0	0	1
92	10.12	Proposed Ramsar sites	0	0	0	0	0

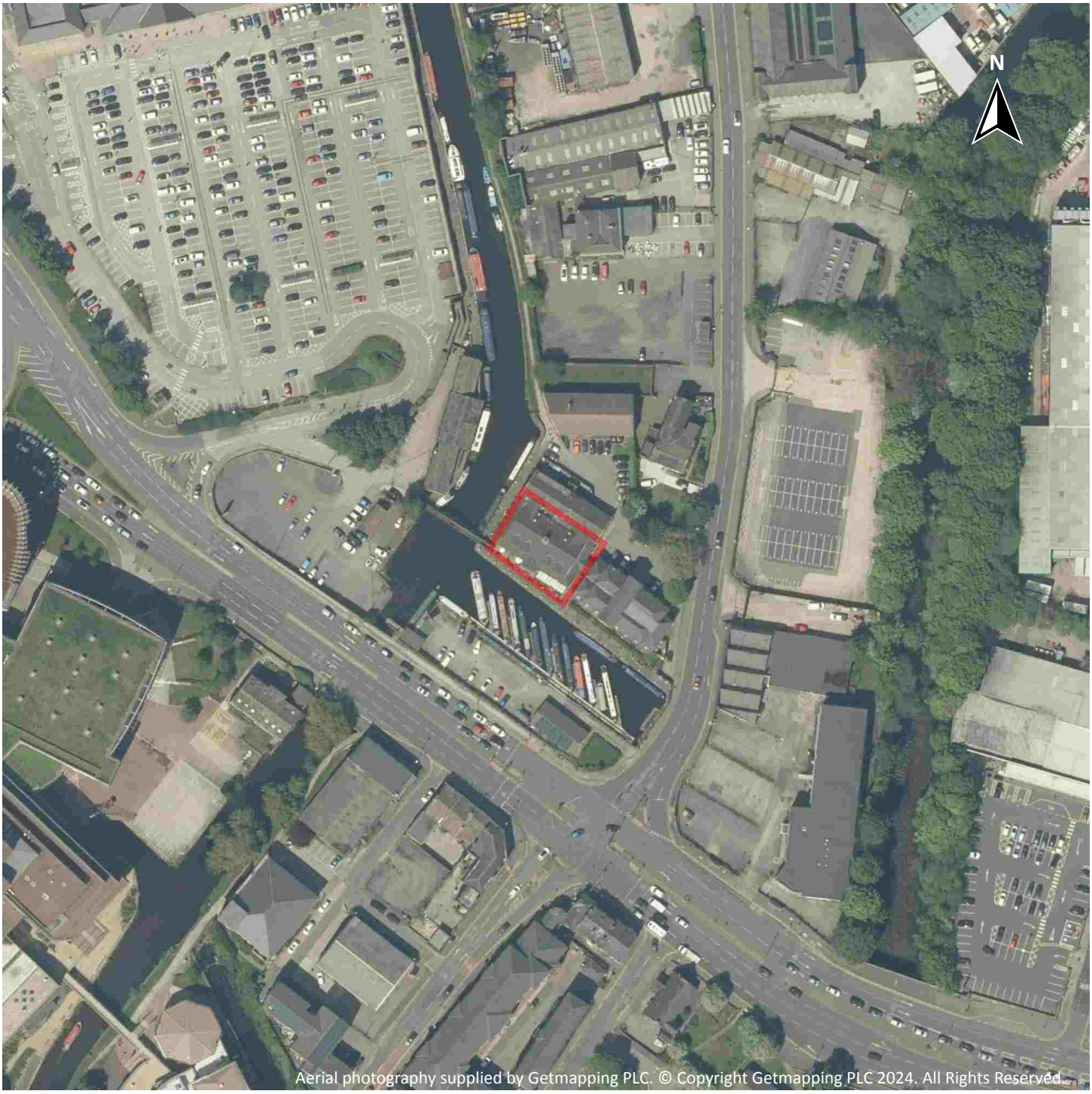
93	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
93	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
93	10.15	Nitrate Sensitive Areas	0	0	0	0	0
93	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
94 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
95	10.18	SSSI Units	0	0	0	0	0
Page	Section	**Visual and cultural designations** >	On site	0-50m	50-250m	250-500m	500-2000m
96	11.1	World Heritage Sites	0	0	0	-	-
97	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
97	11.3	National Parks	0	0	0	-	-
97 >	11.4 >	Listed Buildings >	0	3	3	-	-
98 >	11.5 >	Conservation Areas >	0	0	1	-	-
98	11.6	Scheduled Ancient Monuments	0	0	0	-	-
98	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	**Agricultural designations** >	On site	0-50m	50-250m	250-500m	500-2000m
99 >	12.1 >	Agricultural Land Classification >	Urban (within 250m)				
100	12.2	Open Access Land	0	0	0	-	-
100	12.3	Tree Felling Licences	0	0	0	-	-
100	12.4	Environmental Stewardship Schemes	0	0	0	-	-
100	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	**Habitat designations** >	On site	0-50m	50-250m	250-500m	500-2000m
101 >	13.1 >	Priority Habitat Inventory >	0	0	5	-	-
102	13.2	Habitat Networks	0	0	0	-	-
102	13.3	Open Mosaic Habitat	0	0	0	-	-
102	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	**Geology 1:10,000 scale** >	On site	0-50m	50-250m	250-500m	500-2000m
103 >	14.1 >	10k Availability >	Identified (within 500m)				
104 >	14.2 >	Artificial and made ground (10k) >	0	2	1	3	-
106 >	14.3 >	Superficial geology (10k) >	1	3	0	2	-

107	14.4	Landslip (10k)	0	0	0	0	-
108 >	14.5 >	Bedrock geology (10k) >	1	1	1	6	-
109 >	14.6 >	Bedrock faults and other linear features (10k) >	0	2	2	6	-
Page	Section	**Geology 1:50,000 scale** >	On site	0-50m	50-250m	250-500m	500-2000m
110 >	15.1 >	50k Availability >	Identified (within 500m)				
111 >	15.2 >	Artificial and made ground (50k) >	0	1	0	0	-
112 >	15.3 >	Artificial ground permeability (50k) >	0	2	-	-	-
113 >	15.4 >	Superficial geology (50k) >	1	1	0	2	-
114 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
114	15.6	Landslip (50k)	0	0	0	0	-
114	15.7	Landslip permeability (50k)	None (within 50m)				
115 >	15.8 >	Bedrock geology (50k) >	1	0	1	4	-
116 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
116 >	15.10 >	Bedrock faults and other linear features (50k) >	0	1	1	4	-
Page	Section	**Boreholes** >	On site	0-50m	50-250m	250-500m	500-2000m
117 >	16.1 >	BGS Boreholes >	0	3	66	-	-
Page	Section	**Natural ground subsidence** >					
121 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
122 >	17.2 >	Running sands >	Low (within 50m)				
124 >	17.3 >	Compressible deposits >	Moderate (within 50m)				
126 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
128 >	17.5 >	Landslides >	Very low (within 50m)				
130 >	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
132 >	18.1 >	BritPits >	0	0	0	1	-
133 >	18.2 >	Surface ground workings >	0	12	11	-	-
134 >	18.3 >	Underground workings >	0	0	0	0	16
135	18.4	Underground mining extents	0	0	0	0	-
135	18.5	Historical Mineral Planning Areas	0	0	0	0	-

135	18.6	Non-coal mining	0	0	0	0	0
135	18.7	JPB mining areas	None (within 0m)				
136	18.8	The Coal Authority non-coal mining	0	0	0	0	-
136	18.9	Researched mining	0	0	0	0	-
136	18.10	Mining record office plans	0	0	0	0	-
136	18.11	BGS mine plans	0	0	0	0	-
137 >	**18.12 >**	**Coal mining >**	Identified (within 0m)				
137	18.13	Brine areas	None (within 0m)				
137	18.14	Gypsum areas	None (within 0m)				
137	18.15	Tin mining	None (within 0m)				
137	18.16	Clay mining	None (within 0m)				
Page	Section	**Ground cavities and sinkholes >**	On site	0-50m	50-250m	250-500m	500-2000m
138	19.1	Natural cavities	0	0	0	0	-
139 >	**19.2 >**	**Mining cavities >**	0	0	0	0	2
139	19.3	Reported recent incidents	0	0	0	0	-
139	19.4	Historical incidents	0	0	0	0	-
140	19.5	National karst database	0	0	0	0	-
Page	Section	**Radon >**					
141 >	**20.1 >**	**Radon >**	Less than 1% (within 0m)				
Page	Section	**Soil chemistry >**	On site	0-50m	50-250m	250-500m	500-2000m
143 >	**21.1 >**	**BGS Estimated Background Soil Chemistry >**	2	5	-	-	-
143	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
144	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	**Railway infrastructure and projects >**	On site	0-50m	50-250m	250-500m	500-2000m
145	22.1	Underground railways (London)	0	0	0	-	-
145	22.2	Underground railways (Non-London)	0	0	0	-	-
146	22.3	Railway tunnels	0	0	0	-	-
146 >	**22.4 >**	**Historical railway and tunnel features >**	0	0	2	-	-
146	22.5	Royal Mail tunnels	0	0	0	-	-

146	22.6	Historical railways	0	0	0	-	-
147	22.7	Railways	0	0	0	-	-
147	22.8	Crossrail 1	0	0	0	0	-
147	22.9	Crossrail 2	0	0	0	0	-
147	22.10	HS2	0	0	0	0	-

Recent aerial photograph



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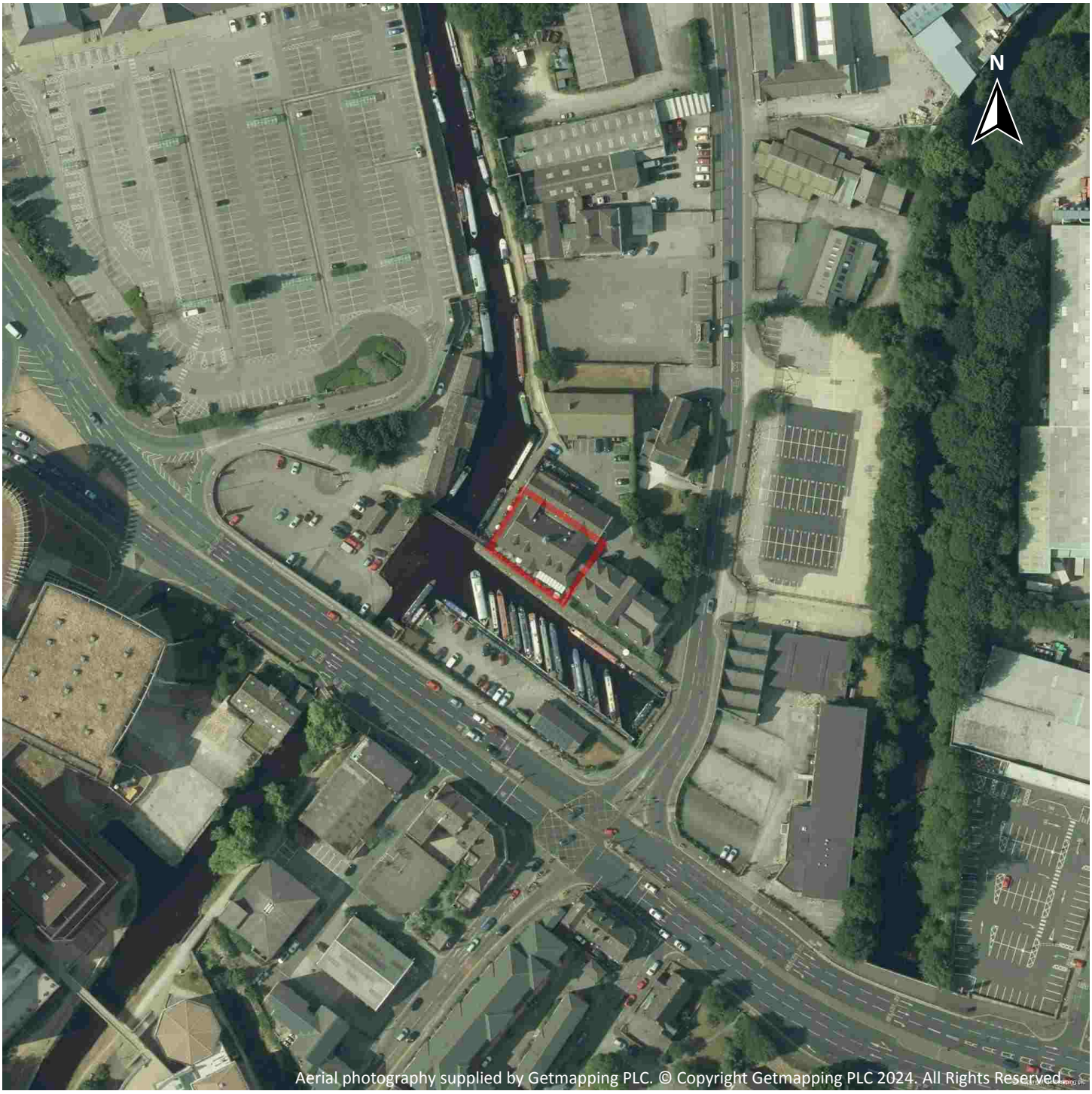
Capture Date: 30/05/2021

Site Area: 0.06ha

Recent site history - 2018 aerial photograph



Capture Date: 01/07/2018

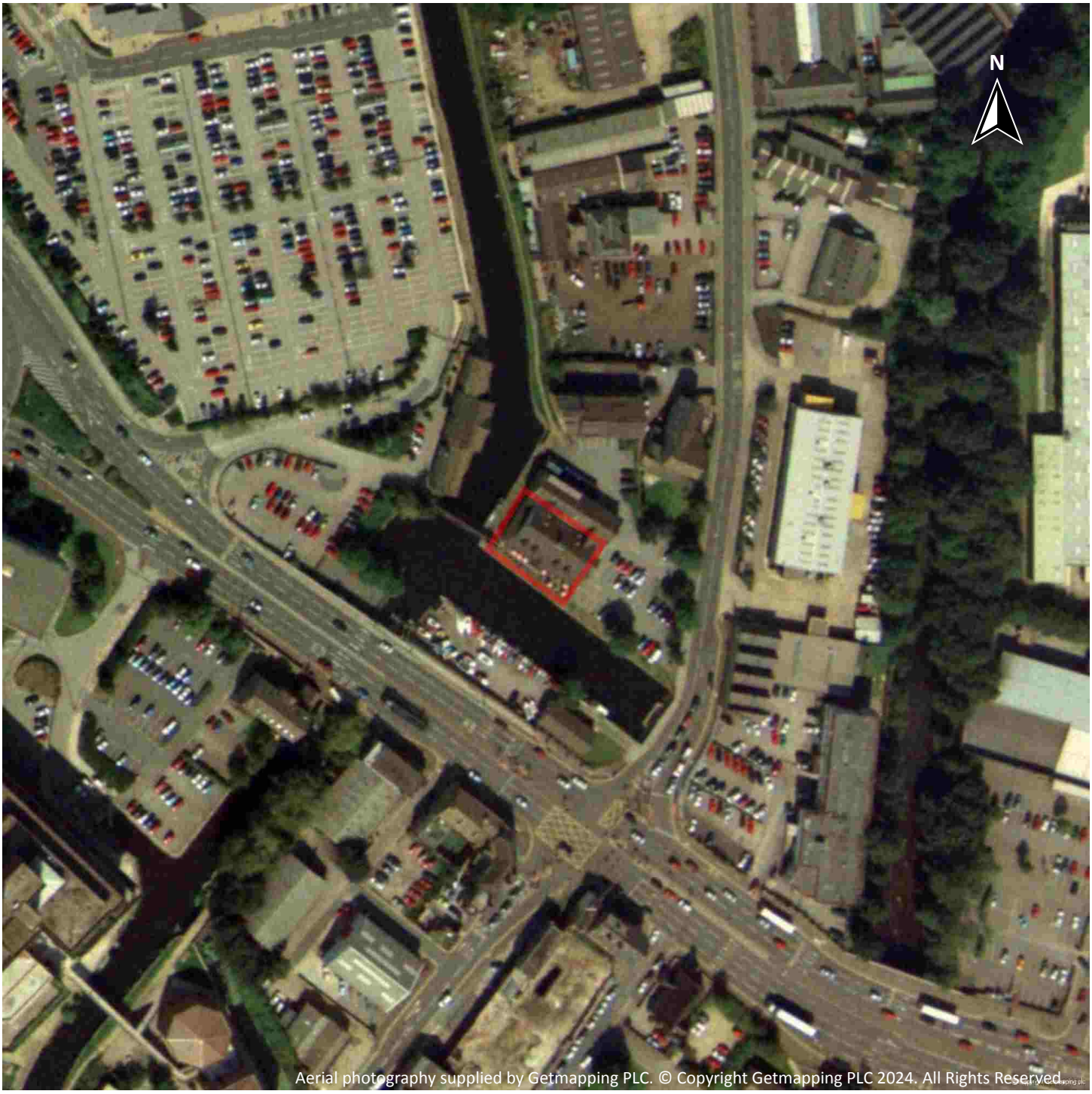
Site Area: 0.06ha

Recent site history - 2012 aerial photograph

Capture Date: 26/03/2012

Site Area: 0.06ha

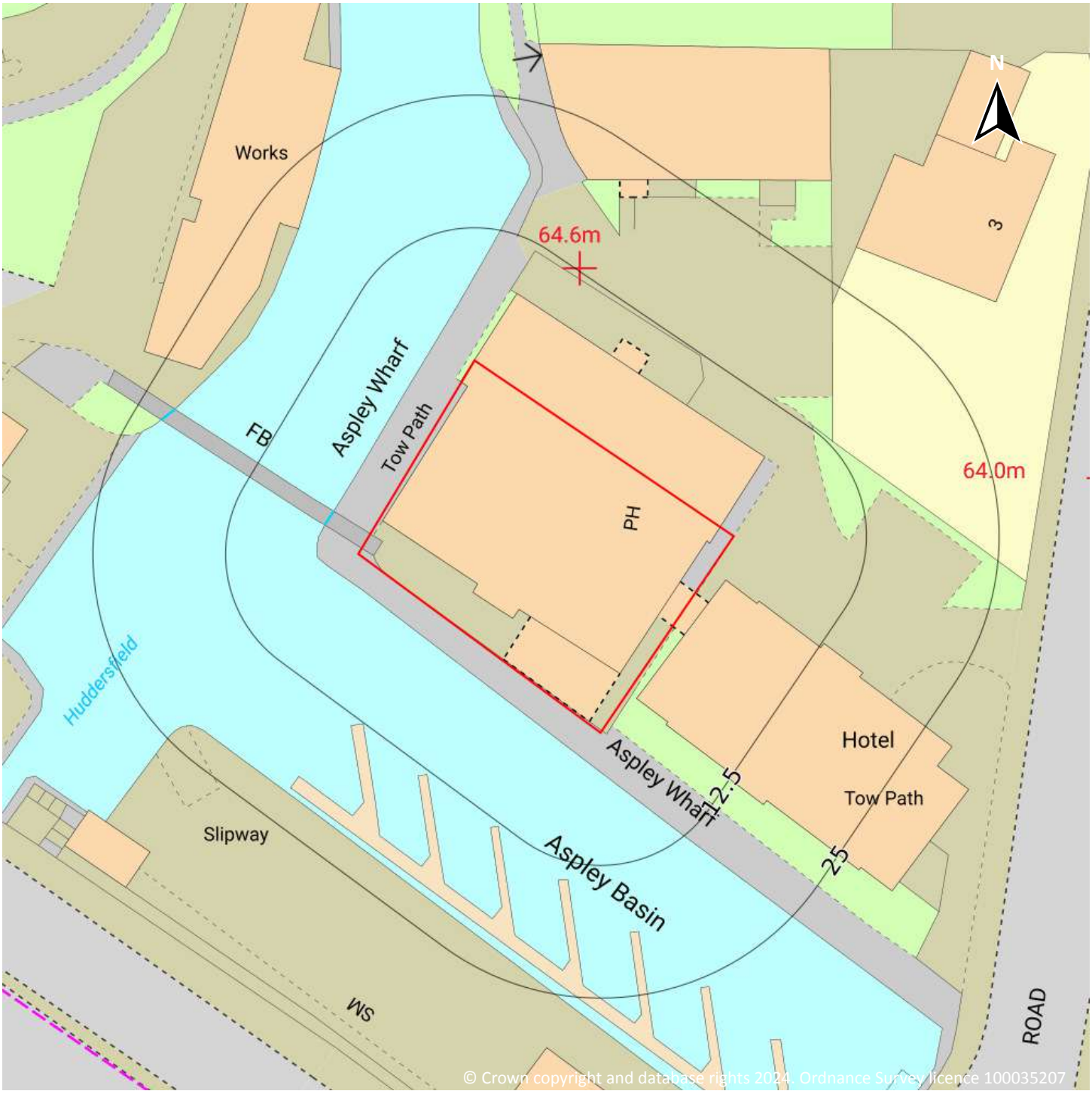
Recent site history - 2000 aerial photograph



Capture Date: 05/08/2000

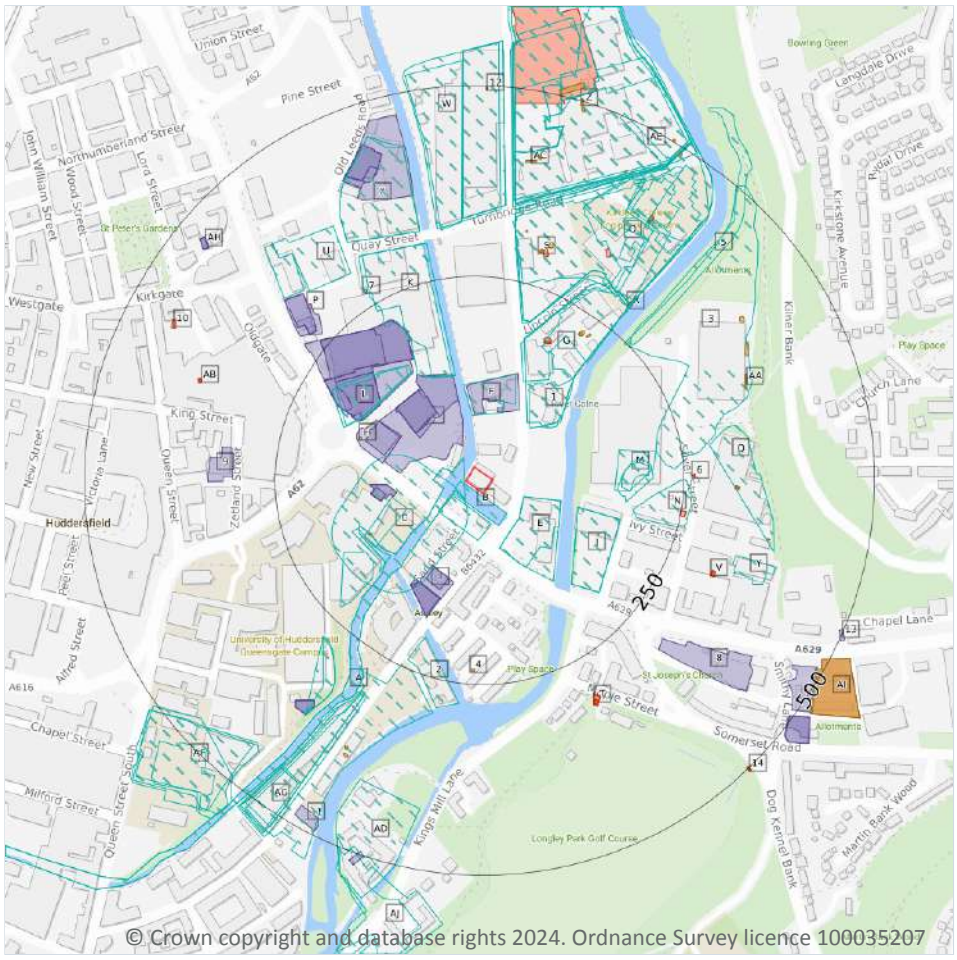
Site Area: 0.06ha

OS MasterMap site plan



Site Area: 0.06ha

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	72

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 14 >**

ID	Location	Land use	Dates present	Group ID
A	2m W	Disused Canal	1985	1540587

ID	Location	Land use	Dates present	Group ID
A	2m W	Disused Canal	1975	1548877
B	4m S	Unspecified Wharf	1938	1518445
C	16m W	Unspecified Wharf	1956	1516998
B	25m SW	Unspecified Wharf	1948	1526274
E	46m E	Unspecified Works	1965	1518683
E	46m E	Unspecified Works	1975 - 1988	1572897
F	67m N	Unspecified Works	1975 - 1988	1566284
1	84m NE	Dye Works	1905	1475063
C	85m W	Unspecified Wharf	1948	1524975
G	87m NE	Unspecified Mills	1956	1520381
G	87m NE	Unspecified Commercial/Industrial	1965 - 1988	1564619
J	117m E	Unspecified Works	1965	1460225
J	117m E	Unspecified Commercial/Industrial	1975 - 1988	1481997
K	123m N	Unspecified Mills	1985	1507204
K	123m N	Unspecified Mills	1966 - 1975	1567068
G	129m NE	Unspecified Mills	1938 - 1948	1501382
C	139m SW	Unspecified Wharf	1938	1536387
L	147m NW	Laundry	1948 - 1956	1496591
L	148m NW	Laundry	1938	1556157
M	160m E	Unspecified Mills	1889	1445984
C	161m SW	Unspecified Heap	1966 - 1975	1509015
M	163m E	Refuse Heap	1948 - 1956	1495518
M	169m E	Unspecified Heap	1938	1563869
G	177m NE	Unspecified Mill	1889 - 1905	1543230
N	188m E	Unspecified Pit	1889	1450336
O	198m N	Iron Works	1938	1511425
2	202m S	Unspecified Mills	1975 - 1985	1550851
O	203m N	Iron Works	1956	1508707

ID	Location	Land use	Dates present	Group ID
O	203m N	Unspecified Commercial/Industrial	1975 - 1988	1576238
O	203m N	Unspecified Works	1965	1579663
3	217m E	Unspecified Pit	1889	1450066
O	248m N	Iron Works	1889 - 1905	1549847
A	248m SW	Unspecified Mills	1889	1516416
5	254m NE	Unspecified Ground Workings	1905	1502930
A	276m SW	Unspecified Heap	1948	1548695
A	277m SW	Unspecified Heap	1905	1491755
O	287m NE	Railway Sidings	1938 - 1948	1551869
Q	287m E	Unspecified Pit	1965 - 1975	1547486
O	292m NE	Railway Sidings	1956	1488306
U	301m NW	Dairy	1985	1441862
A	302m SW	Unspecified Mills	1956	1539425
A	307m SW	Unspecified Mills	1938 - 1948	1496976
A	309m SW	Unspecified Mills	1975 - 1985	1577741
W	314m N	Unspecified Works	1975 - 1985	1557239
W	316m N	Dye Works	1905	1475070
X	317m N	Unspecified Mills	1966	1494525
X	317m N	Unspecified Mills	1975 - 1985	1523761
U	321m NW	Telephone Exchange	1975 - 1985	1513310
W	327m N	Unspecified Works	1975 - 1988	1546436
W	327m N	Unspecified Commercial/Industrial	1956 - 1965	1567912
Y	333m E	Unspecified Works	1965	1460226
O	333m NE	Unspecified Mill	1905	1448355
Z	345m N	Unspecified Works	1948	1500184
Z	348m N	Colour Works	1905	1433967
Z	348m N	Unspecified Works	1938	1494939
Z	351m N	Unspecified Works	1988	1495820

ID	Location	Land use	Dates present	Group ID
Z	353m N	Unspecified Works	1965 - 1975	1563134
Z	355m N	Bridge Works	1956	1442992
O	376m NE	Iron Works	1948	1572111
AD	407m S	Unspecified Mill	1975 - 1985	1484607
Z	417m N	Unspecified Works	1988	1485006
Z	417m N	Unspecified Works	1965 - 1975	1557247
AF	439m SW	Iron Works	1938	1482058
AF	443m SW	Unspecified Works	1966 - 1985	1514049
AG	444m SW	Unspecified Mills	1938	1528222
AG	447m SW	Unspecified Mill	1948	1448397
AE	460m NE	Rope Walk	1889	1469937
AF	466m SW	Iron Works	1956	1538762
AJ	488m S	Unspecified Mills	1905	1582425
AF	493m SW	Iron Works	1948	1530071
AJ	496m S	Unspecified Mill	1889 - 1985	1486169

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**28**

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 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 14 >**

ID	Location	Land use	Dates present	Group ID
C	143m SW	Unspecified Tank	1907	239846
H	147m W	Unspecified Tank	1985	239880
J	155m SE	Unspecified Tank	1972	239844

ID	Location	Land use	Dates present	Group ID
G	220m NE	Unspecified Tank	1893	250545
G	220m NE	Unspecified Tank	1918 - 1959	259171
G	223m NE	Unspecified Tank	1932	239856
4	229m S	Unspecified Tank	1907	239853
S	294m N	Unspecified Tank	1907	254245
S	294m N	Unspecified Tank	1932	254768
S	304m N	Unspecified Tank	1972 - 1993	248669
S	315m N	Unspecified Tank	1893	237590
Q	317m E	Unspecified Tank	1988 - 1995	246024
Q	317m E	Unspecified Tank	1983	254989
AA	351m E	Unspecified Tank	1993 - 1997	249676
Y	368m E	Unspecified Tank	1983	239879
AA	369m NE	Unspecified Tank	1988 - 1997	262339
A	376m SW	Unspecified Tank	1893	239850
AA	385m NE	Unspecified Tank	1988 - 1997	255272
A	385m SW	Tanks	1893	234708
AC	405m N	Tanks	1918	233765
AC	411m N	Tanks	1907	233771
AE	435m NE	Unspecified Tank	1893	237589
Z	486m N	Tanks	1918	233772
AE	488m NE	Unspecified Tank	1972 - 1997	249793
AI	491m SE	Gas Works	1893	236972
12	494m N	Unspecified Tank	1893	237613
Z	498m N	Tanks	1932	233773
AE	500m NE	Unspecified Tank	1993 - 1997	260777

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**29**

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 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 14 >**

ID	Location	Land use	Dates present	Group ID
G	185m NE	Electricity Substation	1993 - 1997	160083
G	187m NE	Electricity Substation	1972 - 1988	155830
N	249m E	Electricity Substation	1983 - 1988	147630
6	262m E	Electricity Substation	1997	143669
7	268m NW	Electricity Substation	1991	143011
R	287m NE	Electricity Substation	1997	146499
R	287m NE	Electricity Substation	1993	160394
R	289m NE	Electricity Substation	1972	148718
S	290m N	Electricity Substation	1972 - 1993	152937
R	291m NE	Electricity Substation	1988	154784
R	291m NE	Electricity Substation	1984	155260
P	299m NW	Electricity Substation	1985	143017
T	299m SE	Electricity Substation	1988 - 1995	151428
T	300m SE	Electricity Substation	1972	161588
T	307m SE	Electricity Substation	1983	158840
V	310m E	Electricity Substation	1988 - 1995	161950
V	311m E	Electricity Substation	1983	146434
V	311m E	Electricity Substation	1972	151865
O	326m NE	Electricity Substation	1972 - 1993	156240
AB	370m W	Electricity Substation	1991	161440
AB	370m W	Electricity Substation	1993	159980

ID	Location	Land use	Dates present	Group ID
AB	371m W	Electricity Substation	1985	159873
O	393m NE	Electricity Substation	1993 - 1997	148960
O	395m NE	Electricity Substation	1972	161379
O	395m NE	Electricity Substation	1984 - 1988	160505
10	430m NW	Electricity Substation	1991 - 1993	148165
Z	479m N	Electricity Transformer Station	1995	152671
AI	491m SE	Gas Works	1893	144910
14	497m SE	Electricity Substation	1983	147051

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 un-grouped 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	52

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 14 >**

ID	Location	Land use	Dates present	Group ID
D	32m NW	Garage	1985	50474
F	70m N	Garage	1993 - 1997	50059
D	79m NW	Garage	1966	52235

ID	Location	Land use	Dates present	Group ID
D	84m NW	Garage	1960	47180
D	85m NW	Garage	1961	51102
D	85m NW	Garage	1991	51753
C	92m W	Garage	1960	46397
C	92m W	Garage	1966	47080
H	103m NW	Garage	1985	46770
H	105m NW	Garage	1991	49906
C	106m W	Garage	1961	46421
I	115m SW	Garage	1993	49134
I	116m SW	Garage	1989	46723
I	142m SW	Garage	1989	51605
I	142m SW	Garage	1961	51655
I	143m SW	Garage	1966	49681
I	143m SW	Garage	1960	51505
I	143m SW	Garage	1993	46225
L	145m NW	Garage	1985	51504
L	148m NW	Garage	1991	48304
L	148m NW	Garage	1960	49647
L	148m NW	Garage	1966	50699
L	148m NW	Garage	1961	49965
L	163m NW	Garage	1960	47979
L	163m NW	Garage	1966	48184
L	163m NW	Garage	1961	48174
L	164m NW	Garage	1985	51653
L	178m NW	Garage	1991	49276
P	265m NW	Garage	1966 - 1985	47104
P	273m NW	Garage	1993	50753
P	273m NW	Garage	1991	51560

ID	Location	Land use	Dates present	Group ID
8	302m SE	Garage	1972	45644
9	306m W	Garage	1966	45647
A	349m SW	Garage	1961	50325
A	349m SW	Garage	1960	48292
A	349m SW	Garage	1966	51278
X	364m N	Garage	1985	52214
X	395m N	Garage	1961	47274
X	398m N	Garage	1991 - 1993	47507
X	403m N	Garage	1960	50535
X	403m N	Garage	1966	51906
AH	451m NW	Garage	1960	49495
AH	451m NW	Garage	1966	50967
AH	452m NW	Garage	1961	47718
AI	462m SE	Garage	1988 - 1995	49001
11	473m SW	Garage	1989 - 1993	51288
13	495m SE	Garage	1959 - 1961	46885
AD	495m S	Garage	1989 - 1993	52107
AI	495m SE	Garage	1988 - 1995	48815
AI	496m SE	Garage	1983	46822
AI	496m SE	Garage	1959 - 1972	46857
AI	496m SE	Garage	1961	50710

This data is sourced from Ordnance Survey / Groundsure.

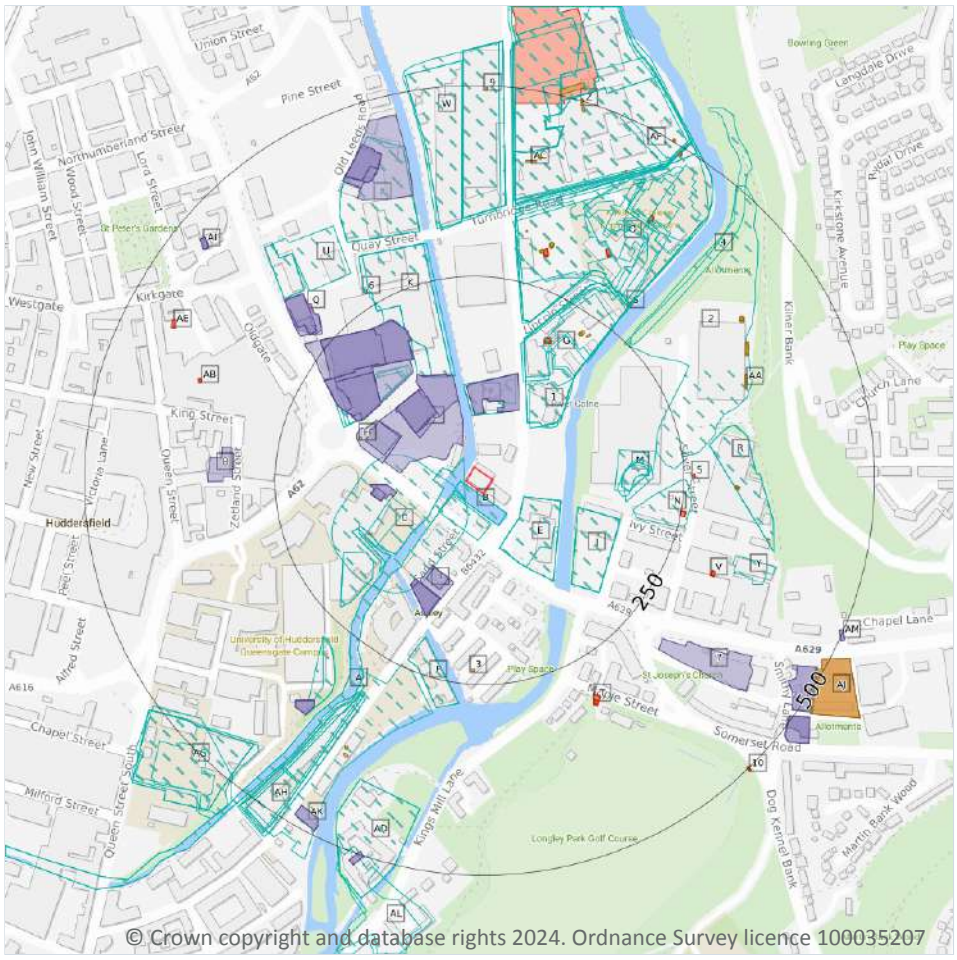
1.6 Historical military land

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



2.1 Historical industrial land uses

Records within 500m	103

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 23 >**

ID	Location	Land Use	Date	Group ID
A	2m W	Disused Canal	1975	1548877
A	2m W	Disused Canal	1985	1540587
B	4m S	Unspecified Wharf	1938	1518445

ID	Location	Land Use	Date	Group ID
B	4m S	Unspecified Wharf	1938	1518445
C	16m W	Unspecified Wharf	1956	1516998
B	25m SW	Unspecified Wharf	1948	1526274
E	46m E	Unspecified Works	1988	1572897
E	46m E	Unspecified Works	1965	1518683
E	46m E	Unspecified Works	1975	1572897
F	67m N	Unspecified Works	1988	1566284
F	67m N	Unspecified Works	1975	1566284
1	84m NE	Dye Works	1905	1475063
C	85m W	Unspecified Wharf	1948	1524975
G	87m NE	Unspecified Commercial/Industrial	1988	1564619
G	87m NE	Unspecified Commercial/Industrial	1965	1564619
G	87m NE	Unspecified Mills	1956	1520381
G	87m NE	Unspecified Commercial/Industrial	1975	1564619
J	117m E	Unspecified Commercial/Industrial	1988	1481997
J	117m E	Unspecified Works	1965	1460225
J	117m E	Unspecified Commercial/Industrial	1975	1481997
K	123m N	Unspecified Mills	1985	1507204
K	123m N	Unspecified Mills	1975	1567068
K	123m N	Unspecified Mills	1966	1567068
G	129m NE	Unspecified Mills	1948	1501382
G	136m NE	Unspecified Mills	1938	1501382
C	139m SW	Unspecified Wharf	1938	1536387
C	139m SW	Unspecified Wharf	1938	1536387
L	147m NW	Laundry	1956	1496591
L	147m NW	Laundry	1948	1496591
L	148m NW	Laundry	1938	1556157
M	160m E	Unspecified Mills	1889	1445984

ID	Location	Land Use	Date	Group ID
C	161m SW	Unspecified Heap	1975	1509015
C	161m SW	Unspecified Heap	1966	1509015
M	163m E	Refuse Heap	1948	1495518
M	169m E	Unspecified Heap	1938	1563869
M	169m E	Unspecified Heap	1938	1563869
M	171m E	Refuse Heap	1956	1495518
G	177m NE	Unspecified Mill	1889	1543230
G	186m NE	Unspecified Mill	1905	1543230
N	188m E	Unspecified Pit	1889	1450336
O	198m N	Iron Works	1938	1511425
P	202m S	Unspecified Mills	1975	1550851
P	202m S	Unspecified Mills	1985	1550851
O	203m N	Unspecified Commercial/Industrial	1988	1576238
O	203m N	Unspecified Works	1965	1579663
O	203m N	Iron Works	1956	1508707
O	203m N	Unspecified Commercial/Industrial	1975	1576238
2	217m E	Unspecified Pit	1889	1450066
O	248m N	Iron Works	1905	1549847
A	248m SW	Unspecified Mills	1889	1516416
4	254m NE	Unspecified Ground Workings	1905	1502930
O	261m N	Iron Works	1889	1549847
A	276m SW	Unspecified Heap	1948	1548695
A	277m SW	Unspecified Heap	1905	1491755
O	287m NE	Railway Sidings	1938	1551869
R	287m E	Unspecified Pit	1965	1547486
R	287m E	Unspecified Pit	1975	1547486
O	287m NE	Railway Sidings	1948	1551869
O	292m NE	Railway Sidings	1956	1488306

ID	Location	Land Use	Date	Group ID
U	301m NW	Dairy	1985	1441862
A	302m SW	Unspecified Mills	1956	1539425
A	307m SW	Unspecified Mills	1938	1496976
A	309m SW	Unspecified Mills	1975	1577741
A	309m SW	Unspecified Mills	1985	1577741
A	309m SW	Unspecified Mills	1948	1496976
W	314m N	Unspecified Works	1975	1557239
W	314m N	Unspecified Works	1985	1557239
W	316m N	Dye Works	1905	1475070
X	317m N	Unspecified Mills	1975	1523761
X	317m N	Unspecified Mills	1985	1523761
X	317m N	Unspecified Mills	1966	1494525
U	321m NW	Telephone Exchange	1975	1513310
U	321m NW	Telephone Exchange	1985	1513310
W	327m N	Unspecified Works	1988	1546436
W	327m N	Unspecified Commercial/Industrial	1965	1567912
W	327m N	Unspecified Commercial/Industrial	1956	1567912
W	327m N	Unspecified Works	1975	1546436
Y	333m E	Unspecified Works	1965	1460226
O	333m NE	Unspecified Mill	1905	1448355
Z	345m N	Unspecified Works	1948	1500184
Z	348m N	Colour Works	1905	1433967
Z	348m N	Unspecified Works	1938	1494939
Z	351m N	Unspecified Works	1988	1495820
Z	353m N	Unspecified Works	1965	1563134
Z	353m N	Unspecified Works	1975	1563134
Z	355m N	Bridge Works	1956	1442992
O	376m NE	Iron Works	1948	1572111

ID	Location	Land Use	Date	Group ID
AD	407m S	Unspecified Mill	1975	1484607
AD	407m S	Unspecified Mill	1985	1484607
Z	417m N	Unspecified Works	1988	1485006
Z	417m N	Unspecified Works	1965	1557247
Z	417m N	Unspecified Works	1975	1557247
AG	439m SW	Iron Works	1938	1482058
AG	443m SW	Unspecified Works	1975	1514049
AG	443m SW	Unspecified Works	1985	1514049
AG	443m SW	Unspecified Works	1966	1514049
AH	444m SW	Unspecified Mills	1938	1528222
AH	447m SW	Unspecified Mill	1948	1448397
AF	460m NE	Rope Walk	1889	1469937
AG	466m SW	Iron Works	1956	1538762
AL	488m S	Unspecified Mills	1905	1582425
AG	493m SW	Iron Works	1948	1530071
AL	496m S	Unspecified Mill	1889	1486169

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**47**

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 23 >**

ID	Location	Land Use	Date	Group ID
C	143m SW	Unspecified Tank	1907	239846
H	147m W	Unspecified Tank	1985	239880
J	155m SE	Unspecified Tank	1972	239844
G	220m NE	Unspecified Tank	1893	250545

ID	Location	Land Use	Date	Group ID
G	220m NE	Unspecified Tank	1918	259171
G	223m NE	Unspecified Tank	1932	239856
G	224m NE	Unspecified Tank	1959	259171
3	229m S	Unspecified Tank	1907	239853
O	294m N	Unspecified Tank	1907	254245
O	294m N	Unspecified Tank	1932	254768
O	304m N	Unspecified Tank	1993	248669
O	304m N	Unspecified Tank	1972	248669
O	306m N	Unspecified Tank	1984	248669
O	306m N	Unspecified Tank	1988	248669
O	306m N	Unspecified Tank	1988	248669
O	315m N	Unspecified Tank	1893	237590
R	317m E	Unspecified Tank	1995	246024
R	317m E	Unspecified Tank	1983	254989
R	318m E	Unspecified Tank	1988	246024
AA	351m E	Unspecified Tank	1997	249676
AA	351m E	Unspecified Tank	1993	249676
Y	368m E	Unspecified Tank	1983	239879
AA	369m NE	Unspecified Tank	1997	262339
AA	369m NE	Unspecified Tank	1993	262339
AA	370m NE	Unspecified Tank	1988	262339
AA	370m NE	Unspecified Tank	1988	262339
A	376m SW	Unspecified Tank	1893	239850
AA	385m NE	Unspecified Tank	1997	255272
AA	385m NE	Unspecified Tank	1993	255272
A	385m SW	Tanks	1893	234708
AA	385m NE	Unspecified Tank	1988	255272
AA	385m NE	Unspecified Tank	1988	255272

ID	Location	Land Use	Date	Group ID
AC	405m N	Tanks	1918	233765
AC	411m N	Tanks	1907	233771
AF	435m NE	Unspecified Tank	1893	237589
Z	486m N	Tanks	1918	233772
AF	488m NE	Unspecified Tank	1997	249793
AF	488m NE	Unspecified Tank	1993	249793
AF	489m NE	Unspecified Tank	1972	249793
AF	490m NE	Unspecified Tank	1984	249793
AF	490m NE	Unspecified Tank	1988	249793
AF	490m NE	Unspecified Tank	1988	249793
AJ	491m SE	Gas Works	1893	236972
9	494m N	Unspecified Tank	1893	237613
Z	498m N	Tanks	1932	233773
AF	500m NE	Unspecified Tank	1997	260777
AF	500m NE	Unspecified Tank	1993	260777

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m **48**

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 23 >**

ID	Location	Land Use	Date	Group ID
G	185m NE	Electricity Substation	1997	160083
G	185m NE	Electricity Substation	1993	160083
G	187m NE	Electricity Substation	1972	155830
G	188m NE	Electricity Substation	1984	155830
G	188m NE	Electricity Substation	1988	155830

ID	Location	Land Use	Date	Group ID
G	188m NE	Electricity Substation	1988	155830
N	249m E	Electricity Substation	1983	147630
N	250m E	Electricity Substation	1988	147630
5	262m E	Electricity Substation	1997	143669
6	268m NW	Electricity Substation	1991	143011
S	287m NE	Electricity Substation	1997	146499
S	287m NE	Electricity Substation	1993	160394
S	289m NE	Electricity Substation	1972	148718
O	290m N	Electricity Substation	1993	152937
O	290m N	Electricity Substation	1972	152937
S	291m NE	Electricity Substation	1984	155260
S	291m NE	Electricity Substation	1988	154784
O	291m N	Electricity Substation	1984	152937
O	291m N	Electricity Substation	1988	152937
O	291m N	Electricity Substation	1988	152937
Q	299m NW	Electricity Substation	1985	143017
T	299m SE	Electricity Substation	1995	151428
T	300m SE	Electricity Substation	1988	151428
T	300m SE	Electricity Substation	1972	161588
T	307m SE	Electricity Substation	1983	158840
V	310m E	Electricity Substation	1995	161950
V	311m E	Electricity Substation	1983	146434
V	311m E	Electricity Substation	1988	161950
V	311m E	Electricity Substation	1972	151865
O	326m NE	Electricity Substation	1993	156240
O	326m NE	Electricity Substation	1972	156240
O	328m NE	Electricity Substation	1984	156240
O	328m NE	Electricity Substation	1988	156240

ID	Location	Land Use	Date	Group ID
O	328m NE	Electricity Substation	1988	156240
AB	370m W	Electricity Substation	1991	161440
AB	370m W	Electricity Substation	1993	159980
AB	371m W	Electricity Substation	1985	159873
O	393m NE	Electricity Substation	1997	148960
O	393m NE	Electricity Substation	1993	148960
O	395m NE	Electricity Substation	1972	161379
O	395m NE	Electricity Substation	1984	160505
O	395m NE	Electricity Substation	1988	160505
O	395m NE	Electricity Substation	1988	160505
AE	430m NW	Electricity Substation	1993	148165
AE	431m NW	Electricity Substation	1991	148165
Z	479m N	Electricity Transformer Station	1995	152671
AJ	491m SE	Gas Works	1893	144910
10	497m SE	Electricity Substation	1983	147051

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	61

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 23 >**

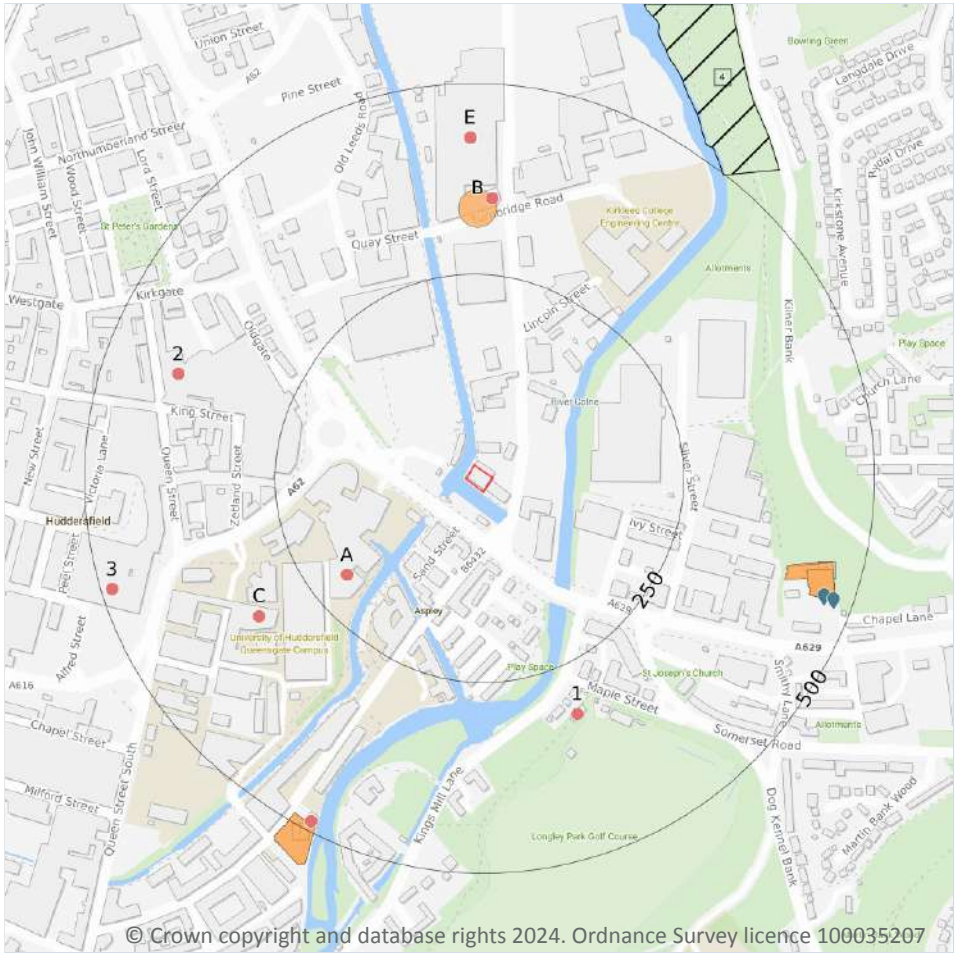
ID	Location	Land Use	Date	Group ID
D	32m NW	Garage	1985	50474
F	70m N	Garage	1997	50059
F	70m N	Garage	1993	50059
D	79m NW	Garage	1966	52235
D	84m NW	Garage	1960	47180
D	85m NW	Garage	1961	51102
D	85m NW	Garage	1991	51753
C	92m W	Garage	1960	46397
C	92m W	Garage	1966	47080
H	103m NW	Garage	1985	46770
H	105m NW	Garage	1991	49906
C	106m W	Garage	1961	46421
I	115m SW	Garage	1993	49134
I	116m SW	Garage	1989	46723
I	142m SW	Garage	1989	51605
I	142m SW	Garage	1961	51655
I	143m SW	Garage	1960	51505
I	143m SW	Garage	1966	49681
I	143m SW	Garage	1993	46225
L	145m NW	Garage	1985	51504
L	148m NW	Garage	1960	49647
L	148m NW	Garage	1991	48304
L	148m NW	Garage	1966	50699
L	148m NW	Garage	1961	49965
L	163m NW	Garage	1960	47979
L	163m NW	Garage	1966	48184
L	163m NW	Garage	1961	48174
L	164m NW	Garage	1985	51653

ID	Location	Land Use	Date	Group ID
L	178m NW	Garage	1991	49276
Q	265m NW	Garage	1966	47104
Q	269m NW	Garage	1985	47104
Q	273m NW	Garage	1993	50753
Q	273m NW	Garage	1991	51560
7	302m SE	Garage	1972	45644
8	306m W	Garage	1966	45647
A	349m SW	Garage	1961	50325
A	349m SW	Garage	1960	48292
A	349m SW	Garage	1966	51278
X	364m N	Garage	1985	52214
X	395m N	Garage	1961	47274
X	398m N	Garage	1993	47507
X	398m N	Garage	1991	47507
X	403m N	Garage	1960	50535
X	403m N	Garage	1966	51906
AI	451m NW	Garage	1960	49495
AI	451m NW	Garage	1966	50967
AI	452m NW	Garage	1961	47718
AJ	462m SE	Garage	1988	49001
AJ	468m SE	Garage	1995	49001
AK	473m SW	Garage	1989	51288
AK	473m SW	Garage	1993	51288
AM	495m SE	Garage	1959	46885
AM	495m SE	Garage	1961	46885
AD	495m S	Garage	1989	52107
AJ	495m SE	Garage	1995	48815
AJ	496m SE	Garage	1983	46822

ID	Location	Land Use	Date	Group ID
AD	496m S	Garage	1993	52107
AJ	496m SE	Garage	1959	46857
AJ	496m SE	Garage	1988	48815
AJ	496m SE	Garage	1972	46857
AJ	496m SE	Garage	1961	50710

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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 35 >**

ID	Location	Details		
4	498m NE	Site Address: Golf Driving Range, Lower Kilner Bank, off Bradley Mills Road, Huddersfield Licence Holder Address: Civic Centre, Huddersfield	Waste Licence: Yes Site Reference: 4700/0435 Waste Type: Inert, Industrial, Commercial, Household, Special Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 24/05/1984 Licence Surrender: 31/12/1990	Operator: - Licence Holder: Kirklees Metropolitan Borough Council First Recorded - Last Recorded: -

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

3.5 Historical waste sites

Records within 500m	7

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

Features are displayed on the Waste and landfill map on **page 35 >**

ID	Location	Address	Further Details	Date
B	311m N	Site Address: Cummings Turbo Technology, St. Andrews Road, HUDDERSFIELD, West Yorkshire, HD1 6RA	Type of Site: Waste Management Area (Alterations) Planning application reference: 2011/62/91414/W2 Description: Scheme comprises construction of canopy over bay 12 waste management area. Construction - canopy roof. An application (ref: 2011/62/91414/W2) for detailed planning permission was granted by Kirklees B.C. A detailed planning application has been granted Data source: Historic Planning Application Data Type: Point	13/11/2011
D	402m E	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1995
D	403m E	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1988
D	428m E	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1983
D	428m E	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1972
F	487m SW	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1993
F	487m SW	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1989

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

3.6 Licensed waste sites

Records within 500m	6

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

Features are displayed on the Waste and landfill map on **page 35 >**

ID	Location	Details		
D	460m E	Site Name: Mold Green Site Site Address: Back Chapel Lane, Mold Green, Huddersfield, HD5 9BG Correspondence Address: Treefield Ind Est, Gildersome, Leeds, LS27 7JU	Type of Site: Metal Recycling Site (mixed MRS's) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MOR003 EPR reference: - Operator: Morley Waste Traders Ltd Waste Management licence No: 63999 Annual Tonnage: 0	Issue Date: 16/09/1997 Effective Date: 23/11/2005 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred
D	460m E	Site Name: K & T Moorhouse Site Address: Back Chapel Lane, Mold Green, Huddersfield, HD5 9BG Correspondence Address: Back Chapel Lane, Mold Green, Huddersfield, HD5 9BG	Type of Site: Metal Recycling Site (mixed MRS's) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: KTM001 EPR reference: - Operator: K & T Moorhouse Waste Management licence No: 63999 Annual Tonnage: 0	Issue Date: 16/09/1997 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
D	460m E	Site Name: Mold Green Site Site Address: Back Chapel Lane, Mold Green, Huddersfield, HD5 9BG Correspondence Address: Treefield Ind Est, Gildersome, Leeds, LS27 7JU	Type of Site: Metal Recycling Site (mixed MRS's) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MOR003 EPR reference: - Operator: Morley Waste Traders Waste Management licence No: 63999 Annual Tonnage: 0	Issue Date: 16/09/1997 Effective Date: 23/11/2005 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred

ID	Location	Details		
D	473m E	Site Name: Morley Waste Traders Ltd Site Address: Back Chapel Lane, Moldgreen, Huddersfield, West Yorkshire, HD5 9BG Correspondence Address: -	Type of Site: Metal Recycling Site (mixed MRS's) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MOR003 EPR reference: EA/EPR/DP3397SG/V003 Operator: Morley Waste Traders Ltd Waste Management licence No: 63999 Annual Tonnage: 25000	Issue Date: 16/09/1997 Effective Date: 23/11/2005 Modified: 23/01/2009 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified
D	473m E	Site Name: Black Chapel Lane Site Address: Back Chapel Lane, Moldgreen, Huddersfield, West Yorkshire, HD5 9BG Correspondence Address: -	Type of Site: Metal Recycling Site (mixed MRS's) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIM011 EPR reference: EA/EPR/GB3102CE/T001 Operator: Sims Group U K Limited Waste Management licence No: 63999 Annual Tonnage: 25000	Issue Date: 16/09/1997 Effective Date: 08/10/2018 Modified: 23/01/2009 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred
D	473m E	Site Name: Black Chapel Lane Site Address: Back Chapel Lane, Moldgreen, Huddersfield, West Yorkshire, HD5 9BG Correspondence Address: -	Type of Site: Metal Recycling Site (mixed MRS's) Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 646230 EPR reference: EA/EPR/GB3102CE Operator: Sims Group Uk Limited Waste Management licence No: 63999 Annual Tonnage: 25000	Issue Date: 16/09/1997 Effective Date: 16/09/1997 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued

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

3.7 Waste exemptions

Records within 500m	35

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 35 >**

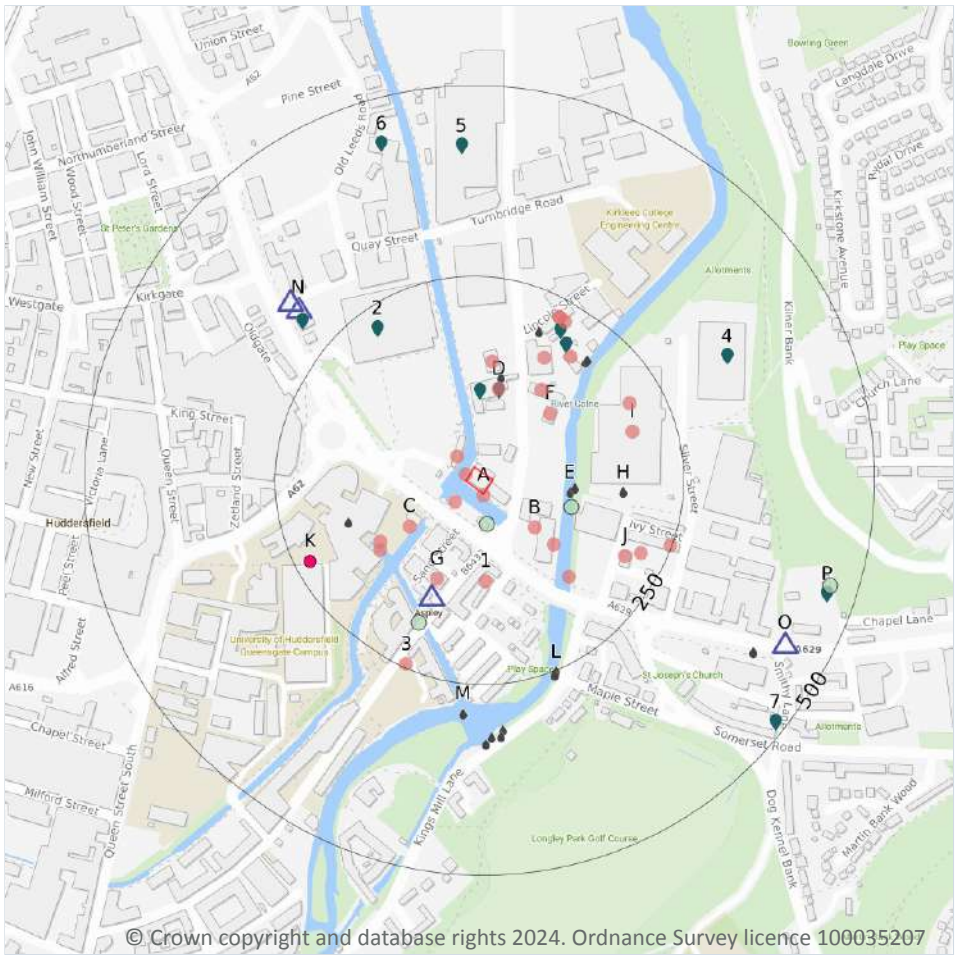
ID	Location	Site	Reference	Category	Sub-Category	Description
A	201m SW	Queensgate, Huddersfield, Hd1 3dh	WEX045657	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
A	201m SW	Queensgate Huddersfield Hd1 3dh	WEX012776	Treating waste exemption	Not on a farm	Screening and blending of waste
A	201m SW	Queensgate, Huddersfield, Hd1 3dh	WEX031534	Disposing of waste exemption	Not on a farm	Depositing samples of waste for the purposes of testing or analysing them
1	316m SE	Maple Street, Huddersfield, Hd5 9ax	WEX187810	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
C	326m SW	-	WEX276521	Using waste exemption	Not on a farm	Use of waste in construction
C	326m SW	University Of Huddersfield Nstl, Commercial Street, Huddersfield, Hd1 3dr	WEX134318	Using waste exemption	Not on a farm	Use of waste in construction
B	349m N	Cummins Turbo Technologies St. Andrews Road Huddersfield Hd1 6ra	EPR/RF0602HJ/A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in secure containers
B	349m N	Cummins Turbo Technologies St. Andrews Road Huddersfield Hd1 6ra	EPR/RF0602HJ/A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in a secure place
B	349m N	Cummins Turbo Technologies St. Andrews Road Huddersfield Hd1 6ra	EPR/RF0602HJ/A001	Treating waste exemption	Non-agricultural waste only	Crushing waste fluorescent tubes
B	349m N	Cummins Turbo Technologies St. Andrews Road Huddersfield Hd1 6ra	EPR/RF0602HJ/A001	Treating waste exemption	Non-agricultural waste only	Preparatory treatments (baling, sorting, shredding etc)
B	349m N	Cummins Turbo Technologies St. Andrews Road Huddersfield Hd1 6ra	EPR/RF0602HJ/A001	Treating waste exemption	Non-agricultural waste only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
2	401m W	Unit 19 Kingsgate Shopping Centre West Yorkshire Hd1 2qb	EPR/PE5342MS/A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in a secure place
E	429m N	St. Andrews Road, Huddersfield, Hd1 6ra	WEX358146	Treating waste exemption	Not on a farm	Recovery of scrap metal

ID	Location	Site	Reference	Category	Sub-Category	Description
E	429m N	St. Andrews Road, Huddersfield, Hd1 6ra	WEX358146	Storing waste exemption	Not on a farm	Storage of waste in a secure place
E	429m N	St. Andrews Road, Huddersfield, Hd1 6ra	WEX358146	Storing waste exemption	Not on a farm	Storage of waste in secure containers
E	429m N	St. Andrews Road, Huddersfield, Hd1 6ra	WEX358146	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
E	429m N	St. Andrews Road, Huddersfield, Hd1 6ra	WEX358146	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
E	429m N	St. Andrews Road, Huddersfield, Hd1 6ra	WEX231967	Storing waste exemption	Not on a farm	Storage of waste in secure containers
E	429m N	St. Andrews Road, Huddersfield, Hd1 6ra	WEX231967	Storing waste exemption	Not on a farm	Storage of waste in a secure place
E	429m N	St. Andrews Road, Huddersfield, Hd1 6ra	WEX231967	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
E	429m N	St. Andrews Road, Huddersfield, Hd1 6ra	WEX231967	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
E	429m N	St. Andrews Road, Huddersfield, Hd1 6ra	WEX231967	Treating waste exemption	Not on a farm	Recovery of scrap metal
E	429m N	St. Andrews Road, Huddersfield, Hd1 6ra	WEX088310	Storing waste exemption	Not on a farm	Storage of waste in secure containers
E	429m N	St. Andrews Road, Huddersfield, Hd1 6ra	WEX088310	Storing waste exemption	Not on a farm	Storage of waste in a secure place
E	429m N	St. Andrews Road, Huddersfield, Hd1 6ra	WEX088310	Treating waste exemption	Not on a farm	Crushing waste fluorescent tubes
E	429m N	St. Andrews Road, Huddersfield, Hd1 6ra	WEX088310	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
E	429m N	St. Andrews Road, Huddersfield, Hd1 6ra	WEX088310	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
E	429m N	St. Andrews Road, Huddersfield, Hd1 6ra	WEX088310	Treating waste exemption	Not on a farm	Recovery of scrap metal
3	486m W	Queensgate Market Arcade Market Office Princess Alexandra Walk Huddersfield Hd1 2uj	EPR/SF0232JD/A001	Treating waste exemption	Non-agricultural waste only	Crushing waste fluorescent tubes

ID	Location	Site	Reference	Category	Sub-Category	Description
F	488m SW	Firth Street, Huddersfield, Hd1 3bd	WEX379862	Treating waste exemption	Not on a farm	Recovery of scrap metal
F	488m SW	Firth Street, Huddersfield, Hd1 3bd	WEX379862	Using waste exemption	Not on a farm	Use of depolluted end-of-life vehicles for vehicle parts
F	488m SW	Firth Street, Huddersfield, Hd1 3bd	WEX110887	Treating waste exemption	Not on a farm	Recovery of scrap metal
F	488m SW	Firth Street, Huddersfield, Hd1 3bd	WEX110887	Using waste exemption	Not on a farm	Use of depolluted end-of-life vehicles for vehicle parts
F	488m SW	Firth Street, Huddersfield, Hd1 3bd	WEX252151	Using waste exemption	Not on a farm	Use of depolluted end-of-life vehicles for vehicle parts
F	488m SW	Firth Street, Huddersfield, Hd1 3bd	WEX252151	Treating waste exemption	Not on a farm	Recovery of scrap metal

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

4 Current industrial land use



4.1 Recent industrial land uses

Records within 250m	27

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 43 >**

ID	Location	Company	Address	Activity	Category
A	2m S	Aspley Wharf	West Yorkshire, HD1	Moorings and Unloading Facilities	Water
A	5m NW	Aspley Wharf	West Yorkshire, HD1	Moorings and Unloading Facilities	Water
A	26m NW	Works	West Yorkshire, HD1	Unspecified Works Or Factories	Industrial Features

ID	Location	Company	Address	Activity	Category
A	31m SW	Aspley Wharf	West Yorkshire, HD1	Moorings and Unloading Facilities	Water
B	80m SE	Works	West Yorkshire, HD5	Unspecified Works Or Factories	Industrial Features
C	95m SW	Crane	West Yorkshire, HD1	Travelling Cranes and Gantries	Industrial Features
D	107m N	G W Bodyshop Ltd	9a, St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB	Vehicle Repair, Testing and Servicing	Repair and Servicing
B	114m SE	Chimney	West Yorkshire, HD5	Chimneys	Industrial Features
1	114m S	Electricity Sub Station	West Yorkshire, HD1	Electrical Features	Infrastructure and Facilities
F	115m NE	Works	West Yorkshire, HD1	Unspecified Works Or Factories	Industrial Features
G	127m SW	Halfords Autocentre	-, Firth Street, Huddersfield, West Yorkshire, HD1 3BL	Vehicle Repair, Testing and Servicing	Repair and Servicing
F	133m NE	Works	West Yorkshire, HD1	Unspecified Works Or Factories	Industrial Features
C	137m SW	Crane	West Yorkshire, HD1	Travelling Cranes and Gantries	Industrial Features
D	141m N	Works	West Yorkshire, HD1	Unspecified Works Or Factories	Industrial Features
C	144m SW	Huddersfield Wharf	West Yorkshire, HD1	Moorings and Unloading Facilities	Water
B	156m SE	Outfall	West Yorkshire, HD5	Waste Storage, Processing and Disposal	Infrastructure and Facilities
F	171m NE	Works	West Yorkshire, HD1	Unspecified Works Or Factories	Industrial Features
F	191m NE	Coach Travel Services	Unit 5 Aspley Business Park, Lincoln Street, Huddersfield, West Yorkshire, HD1 6RX	Vehicle Hire and Rental	Hire Services
I	193m E	Factory	West Yorkshire, HD5	Unspecified Works Or Factories	Industrial Features
J	200m SE	D E S Group Ltd	Unit 7 Silver Court Industrial Estate, Silver Street, Moldgreen, Huddersfield, West Yorkshire, HD5 9AG	Mechanical Engineers	Engineering Services

ID	Location	Company	Address	Activity	Category
I	206m NE	J T Ellis & Co Ltd	Crown Works, Silver Street, Moldgreen, Huddersfield, West Yorkshire, HD5 9BA	General Construction Supplies	Industrial Products
J	217m SE	Silver Court Industrial Estate	West Yorkshire, HD5	Business Parks and Industrial Estates	Industrial Features
F	224m NE	Aspley Business Park	West Yorkshire, HD1	Business Parks and Industrial Estates	Industrial Features
F	226m NE	Marko's Autos	Unit 7 Aspley Business Park, Lincoln Street, Huddersfield, West Yorkshire, HD1 6RX	Vehicle Repair, Testing and Servicing	Repair and Servicing
F	226m NE	Pegasus Signs	Aspley Business Park, Lincoln Street, Huddersfield, West Yorkshire, HD1 6RX	Signs	Industrial Products
3	245m S	Electricity Sub Station	West Yorkshire, HD1	Electrical Features	Infrastructure and Facilities
J	248m E	Swann Graphics Ltd	Unit 2 Silver Court Industrial Estate, Silver Street, Moldgreen, Huddersfield, West Yorkshire, HD5 9AG	Signs	Industrial Products

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m **4**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 43 >**

ID	Location	Company	Address	LPG	Status
G	149m SW	OBSOLETE	Firth Street, Huddersfield, West Yorkshire, HD1 3BL	Not Applicable	Obsolete
N	311m NW	OBSOLETE	A62, Southgate, Huddersfield, West Yorkshire, HD1 6QR	Not Applicable	Obsolete
N	326m NW	SAINSBURYS	Southgate, Shorehead, Huddersfield, West Yorkshire, HD1 6QR	No	Open
O	438m SE	OBSOLETE	Wakefield Road, Mold Green, Huddersfield, West Yorkshire, HD5 9AN	Not Applicable	Obsolete

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 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.

4.6 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.

4.7 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.

4.8 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.

4.9 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.

4.10 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.

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

Records within 500m	11

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.

Features are displayed on the Current industrial land use map on **page 43 >**

ID	Location	Address	Details	
D	99m N	Huddersfield Accident Repair Centre, 9 St Andrew's Road, Aspley, Huddersfield, HD1 6SB	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
D	105m N	G W Bodyshop Ltd, St Andrews Road, Huddersfield, HD1 3LP	Process: Respraying of Road Vehicles Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

ID	Location	Address	Details	
F	200m NE	Francis W Birkett & Sons, Lincoln St, St Andrews Rd, Huddersfield, HD1 6RT	Process: Non-ferrous Metal Foundry Processes Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
F	210m NE	Huddersfield Polymeric Products Ltd, Aspley Works, Lincoln St, Huddersfield, HD1 6RX	Process: Coating Processes Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
2	222m NW	Johnson Cleaners UK, Sainsburys, Shorehead, Huddersfield, HD1 6QR	Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
N	295m NW	Sainsbury's Supermarkets Ltd, Shorehead, Southgate, Huddersfield, HD1 6QR	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
4	346m NE	J T Ellis & Co Ltd, Silver Street, Aspley, Huddersfield, HD5 9AG	Process: Timber Manufacture Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
5	421m N	Holset Engineering Co Ltd, St Andrews Rd, Huddersfield, HD1 6RA	Process: Rubber Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
6	440m N	Sainsburys Supermarkets, Quay St, Huddersfield, Huddersfield, HD1 6QX	Process: Petrol Vapour Recovery Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
P	462m E	Mrs Patel, Moldgreen Service Station, Wakefield Rd, Moldgreen, Huddersfield, HD5 9AN	Process: Petrol Vapour Recovery Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
7	485m SE	D C Cook Ltd, Smithy Lane, Huddersfield, HD5 9AP	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	**4**

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

Features are displayed on the Current industrial land use map on **page 43 >**

ID	Location	Address	Details	
K	229m SW	Huddersfield Polytechnic, Queensgate, Huddersfield, HD1 3DH	Operator: Huddersfield Polytechnic Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AC0885 Date of approval: 31/03/1991	Effective from: 31/03/1991 Last date of update: 01/01/2015 Status: Revoked/cancelled
K	229m SW	University Of Huddersfield, Queensgate, Huddersfield, West Yorkshire, HD1 3DH	Operator: University Of Huddersfield Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AC0923 Date of approval: 04/01/2000	Effective from: 04/01/2000 Last date of update: 01/01/2015 Status: Revoked/cancelled
K	229m SW	University Of Huddersfield, Queensgate, Huddersfield, West Yorkshire, HD1 3DH	Operator: University Of Huddersfield Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: BY8055 Date of approval: 20/12/2004	Effective from: 20/12/2004 Last date of update: 01/01/2015 Status: Superseded By Variation
K	229m SW	University Of Huddersfield, Queensgate, Huddersfield, West Yorkshire, HD1 3DH	Operator: University Of Huddersfield Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: BY8055 Date of approval: 13/12/2005	Effective from: 13/12/2005 Last date of update: 01/01/2015 Status: Revoked/cancelled

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

4.13 Licensed Discharges to controlled waters

Records within 500m	**32**

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 43 >**

ID	Location	Address	Details	
E	101m E	CARR PIT ROAD CSO, CARR PIT ROAD, HUDDERSFIELD, WEST YORKSHIRE, HD5 9AE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA8455 Permit Version: 1 Receiving Water: RIVER COLNE	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 31/03/2005 Effective Date: 31/03/2005 Revocation Date: 09/09/2018
E	101m E	IVY STREET CSO, OPPOSITE NO.7, IVY STREET, MOLDGREEN, HUDDERSFIELD, WEST YORKSHIRE, HD5 9AE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA8489 Permit Version: 1 Receiving Water: RIVER COLNE	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 24/05/2005 Effective Date: 24/05/2005 Revocation Date: 14/11/2017
E	108m E	CARR PIT ROAD CSO, CARR PIT ROAD, HUDDERSFIELD, WEST YORKSHIRE, HD5 9AE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA8455 Permit Version: 2 Receiving Water: RIVER COLNE	Status: VARIED UNDER EPR 2010 Issue date: 10/09/2018 Effective Date: 10/09/2018 Revocation Date: -
E	108m E	IVY STREET CSO, OPPOSITE NO.7, IVY STREET, MOLDGREEN, HUDDERSFIELD, WEST YORKSHIRE, HD5 9AE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA8489 Permit Version: 2 Receiving Water: RIVER COLNE	Status: VARIED UNDER EPR 2010 Issue date: 15/11/2017 Effective Date: 15/11/2017 Revocation Date: -
D	121m N	YWS UNKNOWN SITES DEFAULT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: S/CB/51 Permit Version: 1 Receiving Water: VARIES WITH OUTLET	Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 27/05/1963 Effective Date: 27/05/1963 Revocation Date: 01/07/1993
D	121m N	YWS UNKNOWN SITES DEFAULT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: S/CB/51 Permit Version: 3 Receiving Water: VARIES WITH OUTLET	Status: REVISED BY NOTICE, AT DIRECTION OF SEC. OF STATE - 37(2) Issue date: 25/01/1995 Effective Date: 25/01/1995 Revocation Date: 05/03/1995
D	121m N	YWS UNKNOWN SITES DEFAULT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: S/CB/51 Permit Version: 2 Receiving Water: VARIES WITH OUTLET	Status: REVISED BY NOTICE, AT DIRECTION OF SEC. OF STATE - 37(2) Issue date: 02/07/1993 Effective Date: 02/07/1993 Revocation Date: 24/01/1995

ID	Location	Address	Details	
C	163m W	TOWN HALL, RAMSDEN STREET, HUDDERSFIELD, WEST YORKSHIRE	Effluent Type: TRADE DISCHARGES - COOLING WATER Permit Number: 3653 Permit Version: 1 Receiving Water: HUDDERSFIELD NARROW CANAL	Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 02/11/1982 Effective Date: 02/11/1982 Revocation Date: -
H	171m E	YWS UNKNOWN SITES DEFAULT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: S/CB/51 Permit Version: 2 Receiving Water: VARIES WITH OUTLET	Status: REVISED BY NOTICE, AT DIRECTION OF SEC. OF STATE - 37(2) Issue date: 02/07/1993 Effective Date: 02/07/1993 Revocation Date: 24/01/1995
H	171m E	YWS UNKNOWN SITES DEFAULT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: S/CB/51 Permit Version: 1 Receiving Water: VARIES WITH OUTLET	Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 27/05/1963 Effective Date: 27/05/1963 Revocation Date: 01/07/1993
H	171m E	YWS UNKNOWN SITES DEFAULT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: S/CB/51 Permit Version: 3 Receiving Water: VARIES WITH OUTLET	Status: REVISED BY NOTICE, AT DIRECTION OF SEC. OF STATE - 37(2) Issue date: 25/01/1995 Effective Date: 25/01/1995 Revocation Date: 05/03/1995
F	194m NE	DAISY STREET CSO, OFF ST ANDREWS ROAD, HUDDERSFIELD, WEST YORKSHIRE, HD1 6SB	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA9171 Permit Version: 1 Receiving Water: RIVER COLNE	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 22/08/2007 Effective Date: 22/08/2007 Revocation Date: 27/06/2019
F	195m N	HOLMES W.C. & CO. LTD, TURNBRIDGE WORKS, HUDDERSFIELD, WEST YORKSHIRE	Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: 3048 Permit Version: 1 Receiving Water: RIVER COLNE	Status: REVOKED - UNSPECIFIED Issue date: 06/06/1974 Effective Date: 06/06/1974 Revocation Date: 15/06/1992
F	199m NE	DAISY STREET CSO, OFF ST ANDREWS ROAD, HUDDERSFIELD, WEST YORKSHIRE, HD1 6SB	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA9171 Permit Version: 2 Receiving Water: RIVER COLNE	Status: VARIED UNDER EPR 2010 Issue date: 28/06/2019 Effective Date: 28/06/2019 Revocation Date: -

ID	Location	Address	Details	
L	251m S	KINGS MILL LANE NO 2 CSO, KINGS MILL LANE, ASPLEY, HUDDERSFIELD, WEST YORKSHIRE, HD1 3AN	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 2325 Permit Version: 3 Receiving Water: RIVER COLNE	Status: VARIED UNDER EPR 2010 Issue date: 15/11/2017 Effective Date: 15/11/2017 Revocation Date: -
L	254m S	DOG KENNEL BANK CSO, DOG KENNEL BANK/JCT SOMERSET RD, HUDDERSFIELD, WEST YORKSHIRE, HD5 8JA	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA8681 Permit Version: 3 Receiving Water: RIVER COLNE	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 13/07/2022 Effective Date: 13/07/2022 Revocation Date: 07/09/2023
L	254m S	SOMERSET ROAD CSO, O/S GARAGE SOMERSET ROAD, HUDDERSFIELD, WEST YORHSHIRE, HD5 8JA	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: EPRRB3793AQ Permit Version: 1 Receiving Water: RIVER COLNE	Status: VARIED UNDER EPR 2010 Issue date: 13/07/2022 Effective Date: 13/07/2022 Revocation Date: -
L	255m S	SOMERSET ROAD, HUDDERSFIELD CSO, SOMERSET ROAD/OFF DOG KENNELS BK, HUDDERSFIELD, WEST YORKSHIRE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA8683 Permit Version: 1 Receiving Water: RIVER COLNE	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 11/03/2005 Effective Date: 01/04/2005 Revocation Date: 25/04/2007
L	255m S	DOG KENNEL BANK CSO, DOG KENNEL BANK/JCT SOMERSET RD, HUDDERSFIELD, WEST YORKSHIRE, HD5 8JA	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA8681 Permit Version: 2 Receiving Water: RIVER COLNE	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 25/04/2007 Effective Date: 25/04/2007 Revocation Date: 12/07/2022
L	255m S	DOG KENNEL BANK CSO, DOG KENNEL BANK/JCT SOMERSET RD, HUDDERSFIELD, WEST YORKSHIRE, HD5 8JA	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA8681 Permit Version: 2 Receiving Water: RIVER COLNE	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 25/04/2007 Effective Date: 25/04/2007 Revocation Date: 12/07/2022
L	256m S	DOG KENNEL BANK CSO, DOG KENNEL BANK/JCT SOMERSET RD, HUDDERSFIELD, WEST YORKSHIRE, HD5 8JA	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA8681 Permit Version: 1 Receiving Water: RIVER COLNE	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 11/03/2005 Effective Date: 01/04/2005 Revocation Date: 24/04/2007

ID	Location	Address	Details	
M	289m S	KINGS MILL LANE NO 2 CSO, KINGS MILL LANE, ASPLEY, HUDDERSFIELD, WEST YORKSHIRE, HD1 3AN	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 2325 Permit Version: 1 Receiving Water: RIVER COLNE	Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 09/01/1968 Effective Date: 09/01/1968 Revocation Date: 30/03/2005
M	289m S	KINGS MILL LANE NO 2 CSO, KINGS MILL LANE, ASPLEY, HUDDERSFIELD, WEST YORKSHIRE, HD1 3AN	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 2325 Permit Version: 2 Receiving Water: RIVER COLNE	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 28/02/2005 Effective Date: 31/03/2005 Revocation Date: 14/11/2017
M	310m S	LONGLEY PARK CSO, LONGLEY PARK GOLF COURSE, COLNE ROAD, ASPLEY, HUDDERSFIELD, WEST YORKSHIRE, HD1 3AW	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA8682 Permit Version: 3 Receiving Water: RIVER COLNE	Status: VARIED UNDER EPR 2010 Issue date: 26/02/2018 Effective Date: 31/03/2018 Revocation Date: -
M	319m S	LONGLEY PARK CSO, LONGLEY PARK GOLF COURSE, COLNE ROAD, ASPLEY, HUDDERSFIELD, WEST YORKSHIRE, HD1 3AW	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA8682 Permit Version: 1 Receiving Water: RIVER COLNE	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 11/03/2005 Effective Date: 01/04/2005 Revocation Date: 24/04/2007
M	319m S	LONGLEY PARK CSO, LONGLEY PARK GOLF COURSE, COLNE ROAD, ASPLEY, HUDDERSFIELD, WEST YORKSHIRE, HD1 3AW	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA8682 Permit Version: 2 Receiving Water: RIVER COLNE	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 25/04/2007 Effective Date: 25/04/2007 Revocation Date: 30/03/2018
M	319m S	COLNE ROAD CSO, COLNE ROAD (OPP MILLS), HUDDERSFIELD, WEST YORKSHIRE, HD1 3BD	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA8557 Permit Version: 2 Receiving Water: RIVER COLNE	Status: VARIED UNDER EPR 2010 Issue date: 15/11/2017 Effective Date: 15/11/2017 Revocation Date: -
M	328m S	COLNE ROAD CSO, COLNE ROAD (OPP MILLS), HUDDERSFIELD, WEST YORKSHIRE, HD1 3BD	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA8557 Permit Version: 1 Receiving Water: RIVER COLNE	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 31/03/2005 Effective Date: 31/03/2005 Revocation Date: 14/11/2017

ID	Location	Address	Details	
O	409m SE	YWS UNKNOWN SITES DEFAULT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: S/CB/51 Permit Version: 1 Receiving Water: VARIES WITH OUTLET	Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 27/05/1963 Effective Date: 27/05/1963 Revocation Date: 01/07/1993
O	409m SE	YWS UNKNOWN SITES DEFAULT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: S/CB/51 Permit Version: 2 Receiving Water: VARIES WITH OUTLET	Status: REVISED BY NOTICE, AT DIRECTION OF SEC. OF STATE - 37(2) Issue date: 02/07/1993 Effective Date: 02/07/1993 Revocation Date: 24/01/1995
O	409m SE	YWS UNKNOWN SITES DEFAULT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: S/CB/51 Permit Version: 3 Receiving Water: VARIES WITH OUTLET	Status: REVISED BY NOTICE, AT DIRECTION OF SEC. OF STATE - 37(2) Issue date: 25/01/1995 Effective Date: 25/01/1995 Revocation Date: 05/03/1995
O	409m SE	ASPLEY WAKEFIELD ROAD CSO, WAKEFIELD ROAD (OPP NO.145), ASPLEY, HUDDERSFIELD, WEST YORKSHIRE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA9173 Permit Version: 1 Receiving Water: PENNY DIKE	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 22/08/2007 Effective Date: 22/08/2007 Revocation Date: -

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

4.14 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.

4.15 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.

4.16 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.

4.17 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.

4.18 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 43 >**

ID	Location	Details	
A	39m S	Incident Date: 20/03/2009 Incident Identification: 663022 Pollutant: Organic Chemicals/Products Pollutant Description: Pesticides and Biocides	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
E	108m E	Incident Date: 17/02/2003 Incident Identification: 137402 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Other General Biodegradable Material or Waste	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
G	189m SW	Incident Date: 08/08/2003 Incident Identification: 180250 Pollutant: Oils and Fuel Pollutant Description: Insulating and Cable Oils	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
P	462m E	Incident Date: 14/08/2002 Incident Identification: 100317 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Atmospheric Pollutant or Effect	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)

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

4.19 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.

4.20 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.

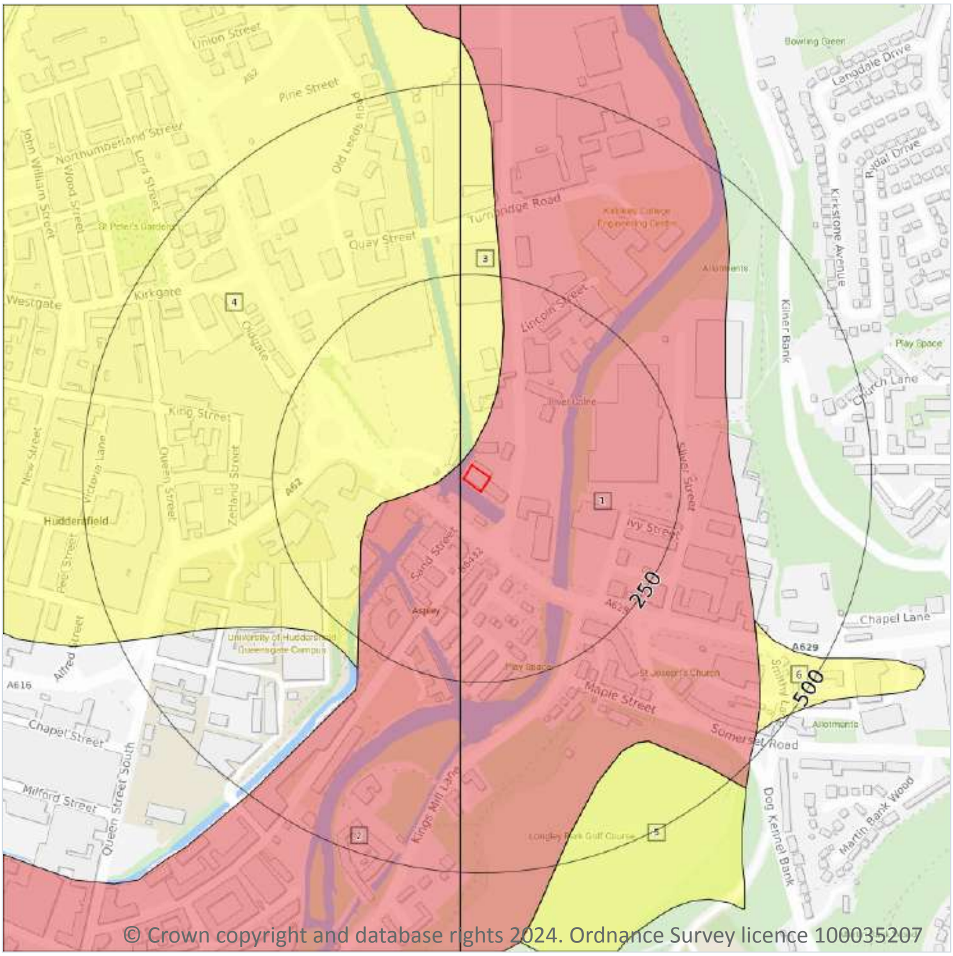
4.21 Pollution inventory radioactive waste

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 **6**

Aquifer status of groundwater held within superficial geology.

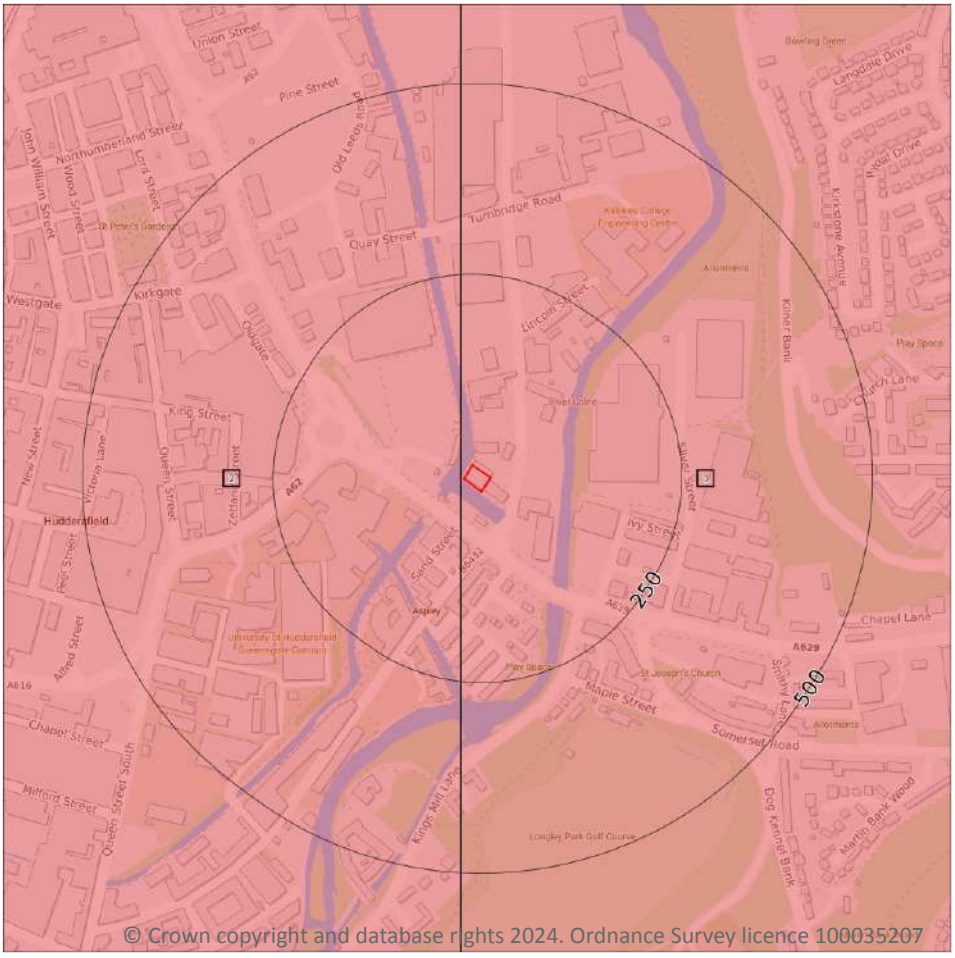
Features are displayed on the Hydrogeology map on page 57 >

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	4m W	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

ID	Location	Designation	Description
3	13m NW	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
4	14m NW	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
5	387m SE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
6	394m SE	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



5.2 Bedrock aquifer

Records within 500m	2

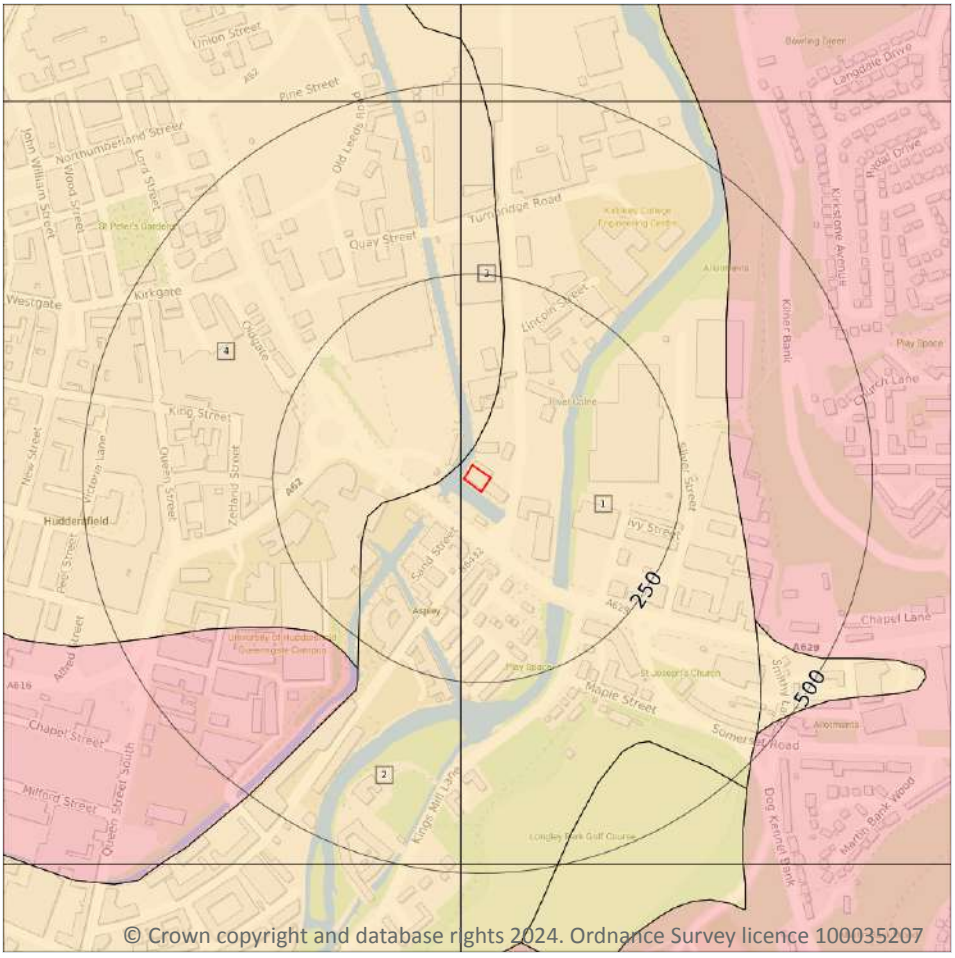
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 59 >**

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	4m W	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

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

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	4

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 61 >**

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: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
2	4m W	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: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
3	12m NW	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: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
4	14m NW	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: No Data	Vulnerability: High Aquifer type: Secondary 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.

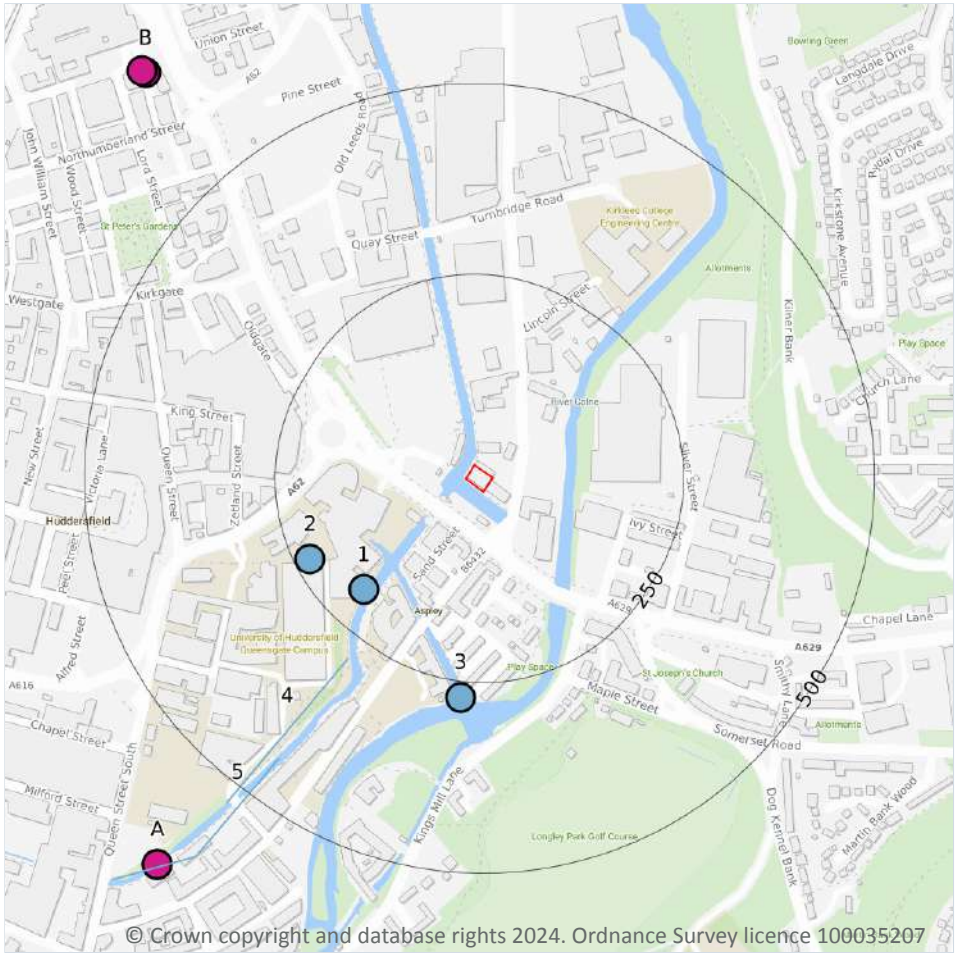
5.5 Groundwater vulnerability- local information

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
- 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	27

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 64 >**

ID	Location	Details	
A	647m SW	Status: Historical Licence No: 2/27/11/176 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: SKA TEXTILES LTD Easting: 414600 Northing: 416000	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/08/1995 Expiry Date: - Issue No: 101 Version Start Date: 08/02/2001 Version End Date: -
A	647m SW	Status: Historical Licence No: 2/27/11/176 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - HUDDERSFIELD Data Type: Point Name: SKA TEXTILES LTD Easting: 414600 Northing: 416000	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/08/1995 Expiry Date: - Issue No: 101 Version Start Date: 08/02/2001 Version End Date: -
B	670m NW	Status: Active Licence No: 2/27/11/193/R01 Details: Heat Pump Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - HUDDERSFIELD Data Type: Point Name: Kirklees Council Easting: 414584 Northing: 417037	Annual Volume (m^3): 32000 Max Daily Volume (m^3): 357 Original Application No: NPS/WR/025885 Original Start Date: 17/04/2015 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 02/10/2017 Version End Date: -
B	675m NW	Status: Historical Licence No: 2/27/11/193 Details: Non-Evaporative Cooling Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - HUDDERSFIELD Data Type: Point Name: KIRKLEES METROPOLITAN COUNCIL Easting: 414580 Northing: 417040	Annual Volume (m^3): 2400 Max Daily Volume (m^3): 85 Original Application No: - Original Start Date: 18/05/2007 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 01/04/2008 Version End Date: -
-	728m SE	Status: Active Licence No: 2/27/11/018 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - MOLDGREEN Data Type: Point Name: W T JOHNSON & SONS (HUDDERSFIELD) LTD Easting: 415700 Northing: 416200	Annual Volume (m^3): 105854 Max Daily Volume (m^3): 390.96 Original Application No: 1567(1) Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -

ID	Location	Details	
-	728m SE	Status: Active Licence No: 2/27/11/031 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - MOLDGREEN Data Type: Point Name: W T JOHNSON & SONS (HUDDERSFIELD) LTD Easting: 415700 Northing: 416200	Annual Volume (m^3): 36754 Max Daily Volume (m^3): 136.38 Original Application No: 1567(2) Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
-	728m SE	Status: Historical Licence No: 2/27/11/031 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: W T JOHNSON & SONS (HUDDERSFIELD) LTD Easting: 415700 Northing: 416200	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
-	728m SE	Status: Historical Licence No: 2/27/11/018 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: W T JOHNSON & SONS (HUDDERSFIELD) LTD Easting: 415700 Northing: 416200	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
-	728m SE	Status: Historical Licence No: 2/27/11/031 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - MOLDGREEN Data Type: Point Name: W T JOHNSON & SONS (HUDDERSFIELD) LTD Easting: 415700 Northing: 416200	Annual Volume (m^3): 36754 Max Daily Volume (m^3): 136.38 Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -

ID	Location	Details	
-	728m SE	Status: Historical Licence No: 2/27/11/018 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - MOLDGREEN Data Type: Point Name: W T JOHNSON & SONS (HUDDERSFIELD) LTD Easting: 415700 Northing: 416200	Annual Volume (m^3): 105854 Max Daily Volume (m^3): 390.956 Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
-	787m SW	Status: Historical Licence No: 2/27/11/176 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - HUDDERSFIELD Data Type: Point Name: SKA TEXTILES LTD Easting: 414400 Northing: 416000	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/08/1995 Expiry Date: - Issue No: 101 Version Start Date: 08/02/2001 Version End Date: -
-	788m N	Status: Historical Licence No: 2/27/11/060 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: GROUNDWATERS Point: BOREHOLE X4 - CARBONIFEROUS MILLSTONE GRIT Data Type: Poly4 Name: ZENECA FINE CHEMICAL MANUFACTURING ORGANISATION Easting: 416690 Northing: 418150	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 27/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/01/1966 Version End Date: -
-	788m N	Status: Historical Licence No: 2/27/11/060 Details: Process Water Direct Source: GROUNDWATERS Point: BOREHOLE 3 - MILLSTONE GRIT Data Type: Point Name: SYNGENTA LTD Easting: 415200 Northing: 417290	Annual Volume (m^3): 881941 Max Daily Volume (m^3): 6000.84 Original Application No: - Original Start Date: 27/01/1966 Expiry Date: - Issue No: 102 Version Start Date: 12/10/2006 Version End Date: -

ID	Location	Details	
-	788m N	Status: Historical Licence No: 2/27/11/060 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: GROUNDWATERS Point: BOREHOLE 3 - MILLSTONE GRIT Data Type: Point Name: SYNGENTA LTD Easting: 415200 Northing: 417290	Annual Volume (m^3): 881941 Max Daily Volume (m^3): 6000.84 Original Application No: - Original Start Date: 27/01/1966 Expiry Date: - Issue No: 102 Version Start Date: 12/10/2006 Version End Date: -
-	892m N	Status: Historical Licence No: 2/27/11/060 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: GROUNDWATERS Point: BOREHOLE 4 - MILLSTONE GRIT - HUDDERSFIELD Data Type: Point Name: SYNGENTA LTD Easting: 415180 Northing: 417400	Annual Volume (m^3): 881941 Max Daily Volume (m^3): 6000.84 Original Application No: - Original Start Date: 27/01/1966 Expiry Date: - Issue No: 102 Version Start Date: 12/10/2006 Version End Date: -
-	892m N	Status: Historical Licence No: 2/27/11/060 Details: Process Water Direct Source: GROUNDWATERS Point: BOREHOLE 4 - MILLSTONE GRIT - HUDDERSFIELD Data Type: Point Name: SYNGENTA LTD Easting: 415180 Northing: 417400	Annual Volume (m^3): 881941 Max Daily Volume (m^3): 6000.84 Original Application No: - Original Start Date: 27/01/1966 Expiry Date: - Issue No: 102 Version Start Date: 12/10/2006 Version End Date: -
-	1238m W	Status: Historical Licence No: 2/27/11/190 Details: Process Water Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-HUDDERSFIELD Data Type: Point Name: SKA TEXTILES LTD Easting: 413830 Northing: 416110	Annual Volume (m^3): 465000 Max Daily Volume (m^3): 1272 Original Application No: - Original Start Date: 04/02/2005 Expiry Date: 31/12/2010 Issue No: 2 Version Start Date: 18/04/2006 Version End Date: -

ID	Location	Details	
-	1298m W	Status: Historical Licence No: NE/027/0011/006 Details: Process Water Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-HUDDERSFIELD Data Type: Point Name: SKA TEXTILES LTD Easting: 413794 Northing: 416036	Annual Volume (m^3): 200000 Max Daily Volume (m^3): 1272 Original Application No: - Original Start Date: 06/01/2011 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 06/01/2011 Version End Date: -
-	1469m N	Status: Historical Licence No: 2/27/11/023 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: BENJAMIN SHAW & SONS LTD Easting: 414500 Northing: 417900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 26/03/1999 Version End Date: -
-	1469m N	Status: Historical Licence No: 2/27/11/023 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT Data Type: Point Name: BENJAMIN SHAW & SONS LTD Easting: 414500 Northing: 417900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 26/03/1999 Version End Date: -
-	1476m N	Status: Active Licence No: 2/27/11/171 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - HUDDERSFIELD Data Type: Point Name: HUDDERSFIELD DYEING CO LTD Easting: 415000 Northing: 418000	Annual Volume (m^3): 136410 Max Daily Volume (m^3): 637.07 Original Application No: 6256 Original Start Date: 24/05/1990 Expiry Date: - Issue No: 100 Version Start Date: 24/05/1990 Version End Date: -
-	1476m N	Status: Historical Licence No: 2/27/11/171 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: HUDDERSFIELD DYEING CO LTD Easting: 415000 Northing: 418000	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/05/1990 Expiry Date: - Issue No: 100 Version Start Date: 24/05/1990 Version End Date: -

ID	Location	Details	
-	1523m NW	Status: Historical Licence No: 2/27/11/023 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-HUDDERSFIELD Data Type: Point Name: BRITVIC SOFT DRINKS PLC Easting: 414140 Northing: 417770	Annual Volume (m^3): 90920 Max Daily Volume (m^3): 636.4 Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2009 Version End Date: -
-	1569m NW	Status: Historical Licence No: 2/27/11/023 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: BENJAMIN SHAW & SONS LTD Easting: 414210 Northing: 417870	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 26/03/1999 Version End Date: -
-	1569m NW	Status: Historical Licence No: 2/27/11/023 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT Data Type: Point Name: BRITVIC SOFT DRINKS LTD Easting: 414210 Northing: 417870	Annual Volume (m^3): 360000 Max Daily Volume (m^3): 1200 Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 101 Version Start Date: 01/11/2004 Version End Date: -
-	1569m NW	Status: Historical Licence No: 2/27/11/023 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT- HUDDERSFIELD Data Type: Point Name: BRITVIC SOFT DRINKS PLC Easting: 414210 Northing: 417870	Annual Volume (m^3): 90920 Max Daily Volume (m^3): 636.4 Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2009 Version End Date: -
-	1575m NW	Status: Historical Licence No: 2/27/11/023 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-HUDDERSFIELD Data Type: Point Name: BRITVIC SOFT DRINKS PLC Easting: 414250 Northing: 417900	Annual Volume (m^3): 90920 Max Daily Volume (m^3): 636.4 Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2009 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	16

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 64 >**

ID	Location	Details	
1	197m SW	Status: Historical Licence No: 2/27/11/160 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: HUDDERSFIELD CANAL Data Type: Point Name: Canal and River Trust Easting: 414870 Northing: 416360	Annual Volume (m^3): 700000 Max Daily Volume (m^3): 3600 Original Application No: - Original Start Date: 01/03/1974 Expiry Date: - Issue No: 102 Version Start Date: 21/01/2008 Version End Date: -
2	229m SW	Status: Historical Licence No: 2/27/11/160 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: HUDDERSFIELD CANAL Data Type: Point Name: BRITISH WATERWAYS BOARD Easting: 414800 Northing: 416400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/03/1974 Expiry Date: - Issue No: 100 Version Start Date: 17/11/1993 Version End Date: -
3	271m S	Status: Active Licence No: NE/027/0011/023 Details: Supply To A Canal For Throughflow Direct Source: SURFACE WATER Point: RIVER COLNE AT ASPLEY, HUDDERSFIELD Data Type: Point Name: Canal and River Trust Easting: 414997 Northing: 416219	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: NPS/NA/000948 Original Start Date: 31/03/2021 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 31/03/2021 Version End Date: -

ID	Location	Details	
4	280m SW	Status: Historical Licence No: 2/27/11/175 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: HUDDERSFIELD NARROW CANAL Data Type: Line Name: Canal and River Trust Easting: 414690 Northing: 416080	Annual Volume (m^3): 1250000 Max Daily Volume (m^3): 3960 Original Application No: - Original Start Date: 22/09/1994 Expiry Date: - Issue No: 103 Version Start Date: 21/01/2008 Version End Date: -
5	438m SW	Status: Historical Licence No: 2/27/11/175 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: HUDDERSFIELD NARROW CANAL Data Type: Line Name: BRITISH WATERWAYS BOARD Easting: 414650 Northing: 416010	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 22/09/1994 Expiry Date: - Issue No: 101 Version Start Date: 10/03/2003 Version End Date: -
A	608m SW	Status: Historical Licence No: 2/27/11/175 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: HUDDERSFIELD NARROW CANAL Data Type: Line Name: BRITISH WATERWAYS BOARD Easting: 414650 Northing: 416010	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 22/09/1994 Expiry Date: - Issue No: 100 Version Start Date: 22/09/1994 Version End Date: -
-	925m SW	Status: Active Licence No: NE/027/0011/011 Details: Non-Evaporative Cooling Direct Source: SURFACE WATER Point: HUDDERSFIELD NARROW CANAL Data Type: Point Name: Canal and River Trust Easting: 414179 Northing: 416087	Annual Volume (m^3): 1684800 Max Daily Volume (m^3): 7560 Original Application No: NPS/WR/008366 Original Start Date: 24/04/2012 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 24/04/2012 Version End Date: -

ID	Location	Details	
-	1069m SW	Status: Historical Licence No: 2/27/10/009 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER HOLME Data Type: Point Name: TAYLOR & LODGE LTD Easting: 414200 Northing: 415800	Annual Volume (m^3): 54552 Max Daily Volume (m^3): 327.312 Original Application No: - Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 01/12/1965 Version End Date: -
-	1069m SW	Status: Historical Licence No: 2/27/10/009 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER HOLME - HUDDERSFIELD Data Type: Point Name: TAYLOR & LODGE LTD Easting: 414200 Northing: 415800	Annual Volume (m^3): 54552 Max Daily Volume (m^3): 327.312 Original Application No: - Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 01/12/1965 Version End Date: -
-	1097m N	Status: Historical Licence No: 2/27/11/182 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: HUDDERSFIELD BROAD CANAL Data Type: Point Name: BRITISH WATERWAYS Easting: 414800 Northing: 417600	Annual Volume (m^3): 170000 Max Daily Volume (m^3): 750 Original Application No: - Original Start Date: 10/07/1998 Expiry Date: 31/12/2006 Issue No: 100 Version Start Date: 10/07/1998 Version End Date: -
-	1250m N	Status: Active Licence No: 2/27/11/158 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: HUDDERSFIELD BROAD CANAL - HUDERSFIELD INCINERATOR Data Type: Point Name: Canal and River Trust Easting: 414830 Northing: 417760	Annual Volume (m^3): 273000 Max Daily Volume (m^3): 1090 Original Application No: 5182 Original Start Date: 27/10/1972 Expiry Date: - Issue No: 103 Version Start Date: 21/01/2008 Version End Date: -

ID	Location	Details	
-	1250m N	Status: Historical Licence No: 2/27/11/158 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: HUDDERSFIELD BROAD CANAL Data Type: Point Name: BRITISH WATERWAYS BOARD Easting: 414830 Northing: 417760	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 27/10/1972 Expiry Date: - Issue No: 102 Version Start Date: 26/10/1999 Version End Date: -
-	1476m N	Status: Active Licence No: 2/27/11/131 Details: Process Water Direct Source: SURFACE WATER Point: HUDDERSFIELD CANAL Data Type: Point Name: Canal and River Trust Easting: 415000 Northing: 418000	Annual Volume (m^3): 400000 Max Daily Volume (m^3): 1800 Original Application No: 2266 Original Start Date: 26/05/1966 Expiry Date: - Issue No: 101 Version Start Date: 21/01/2008 Version End Date: -
-	1476m N	Status: Active Licence No: 2/27/11/131 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: HUDDERSFIELD CANAL Data Type: Point Name: Canal and River Trust Easting: 415000 Northing: 418000	Annual Volume (m^3): 400000 Max Daily Volume (m^3): 1800 Original Application No: 2266 Original Start Date: 26/05/1966 Expiry Date: - Issue No: 101 Version Start Date: 21/01/2008 Version End Date: -
-	1476m N	Status: Historical Licence No: 2/27/11/131 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: HUDDERSFIELD CANAL Data Type: Point Name: BRITISH WATERWAYS Easting: 415000 Northing: 418000	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 26/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/02/1993 Version End Date: -

ID	Location	Details	
-	1476m N	Status: Historical Licence No: 2/27/11/131 Details: General use relating to Secondary Category (Very Low Loss) Direct Source: SURFACE WATER Point: HUDDERSFIELD CANAL Data Type: Point Name: BRITISH WATERWAYS Easting: 415000 Northing: 418000	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 26/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/02/1993 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m **7**

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.

Features are displayed on the Abstractions and Source Protection Zones map on **page 64 >**

ID	Location	Details	
-	1469m N	Status: Historical Licence No: 2/27/11/023 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: BENJAMIN SHAW & SONS LTD Easting: 414500 Northing: 417900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 26/03/1999 Version End Date: -
-	1469m N	Status: Historical Licence No: 2/27/11/023 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT Data Type: Point Name: BENJAMIN SHAW & SONS LTD Easting: 414500 Northing: 417900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 26/03/1999 Version End Date: -

ID	Location	Details	
-	1523m NW	Status: Historical Licence No: 2/27/11/023 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-HUDDERSFIELD Data Type: Point Name: BRITVIC SOFT DRINKS PLC Easting: 414140 Northing: 417770	Annual Volume (m^3): 90920 Max Daily Volume (m^3): 636.4 Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2009 Version End Date: -
-	1569m NW	Status: Historical Licence No: 2/27/11/023 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: BENJAMIN SHAW & SONS LTD Easting: 414210 Northing: 417870	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 26/03/1999 Version End Date: -
-	1569m NW	Status: Historical Licence No: 2/27/11/023 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT Data Type: Point Name: BRITVIC SOFT DRINKS LTD Easting: 414210 Northing: 417870	Annual Volume (m^3): 360000 Max Daily Volume (m^3): 1200 Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 101 Version Start Date: 01/11/2004 Version End Date: -
-	1569m NW	Status: Historical Licence No: 2/27/11/023 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT- HUDDERSFIELD Data Type: Point Name: BRITVIC SOFT DRINKS PLC Easting: 414210 Northing: 417870	Annual Volume (m^3): 90920 Max Daily Volume (m^3): 636.4 Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2009 Version End Date: -
-	1575m NW	Status: Historical Licence No: 2/27/11/023 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-HUDDERSFIELD Data Type: Point Name: BRITVIC SOFT DRINKS PLC Easting: 414250 Northing: 417900	Annual Volume (m^3): 90920 Max Daily Volume (m^3): 636.4 Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2009 Version End Date: -

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.

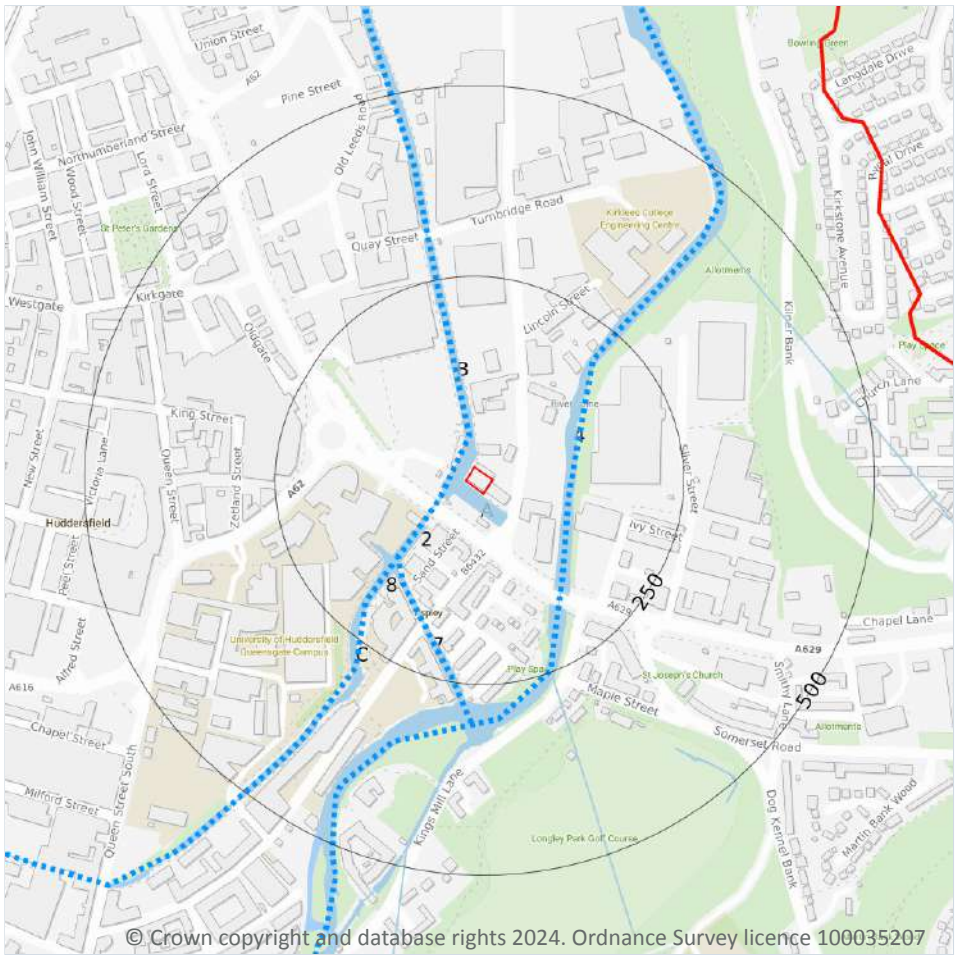
5.10 Source Protection Zones (confined aquifer)

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	8

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 78 >**

ID	Location	Type of water feature	Ground level	Permanence	Name
B	11m NW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Huddersfield Broad Canal

ID	Location	Type of water feature	Ground level	Permanence	Name
A	12m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Aspley Basin
A	18m W	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Huddersfield Broad Canal
2	37m SW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Huddersfield Broad Canal
4	100m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Colne
7	145m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Shore Foot Mill Tail Goit
8	145m SW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Huddersfield Broad Canal
C	184m SW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Huddersfield Narrow Canal

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 78 >**

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 78 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	**On site**	**River**	**Colne from River Holme to River Calder**	**GB104027062550**	**Colne and Holme**	**Aire and Calder**

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

6.4 WFD Surface water bodies

Records identified	**3**

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 78 >**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
B	21m W	Canal	Huddersfield Broad Canal	GB70410176 ↗	Moderate	Fail	Good	2019
5	102m E	River	Colne from River Holme to River Calder	GB104027062550 ↗	Moderate	Fail	Moderate	2019
6	145m SW	Canal	Huddersfield Narrow Canal east section	GB70410269 ↗	Moderate	Fail	Good	2019

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

6.5 WFD Groundwater bodies

Records on site	**1**

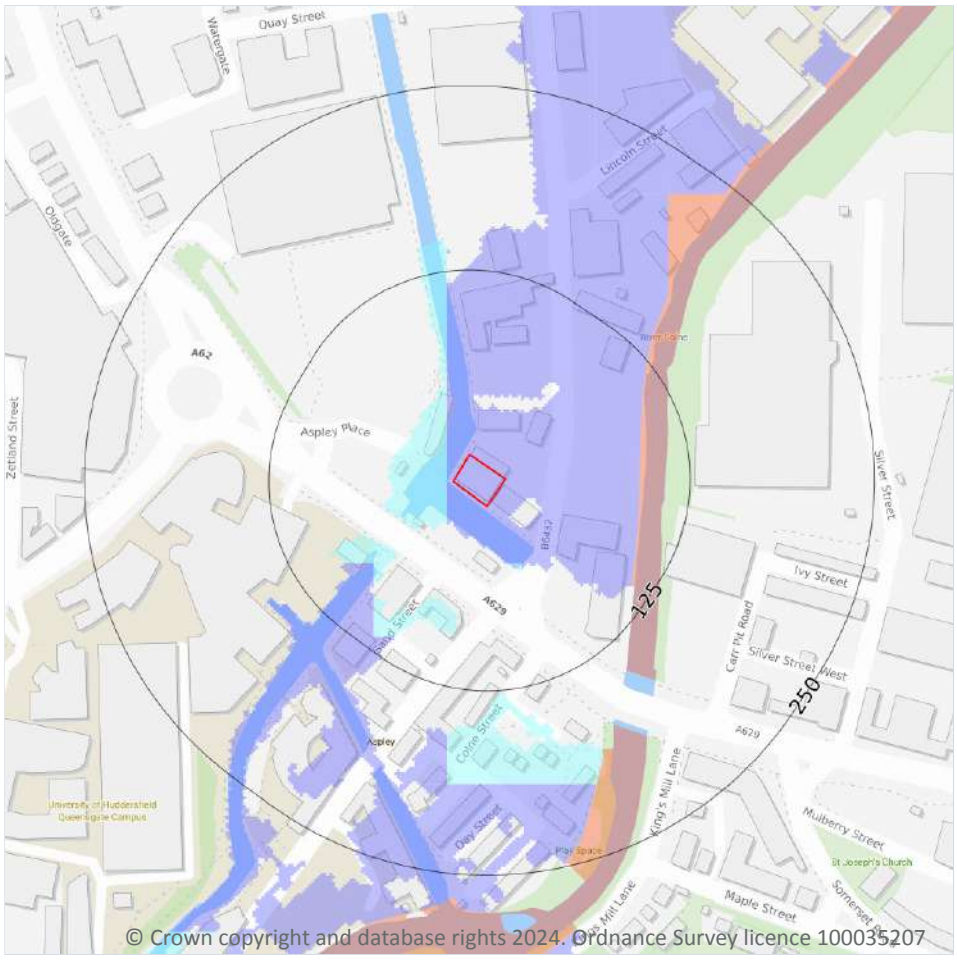
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 78 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**Aire & Calder Carb Limestone / Millstone Grit / Coal Measures.**	**GB40402G700400** ↗	**Poor**	**Poor**	**Good**	**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	4

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 82 >**

Distance	Flood risk category
On site	**Medium**
0 - 50m	Medium

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

7.2 Historical Flood Events

Records within 250m	**0**

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.

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

7.3 Flood Defences

Records within 250m	**0**

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.

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	**0**

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.

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

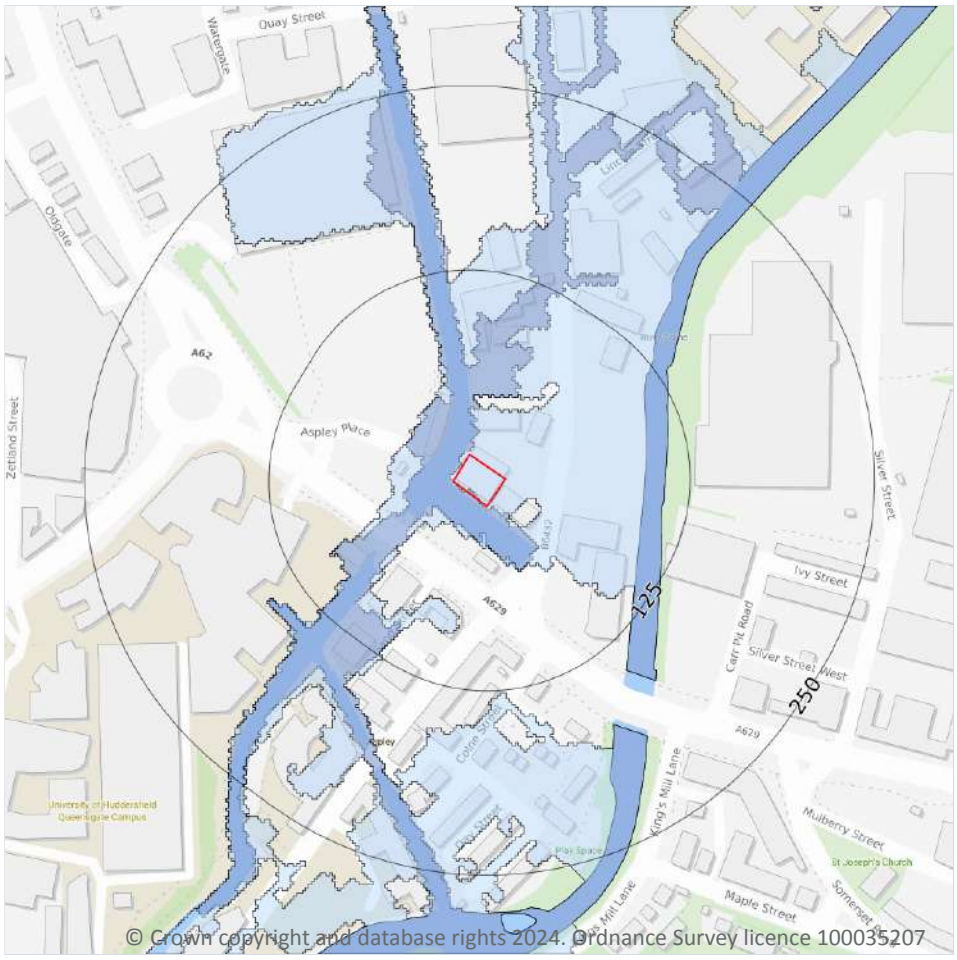
7.5 Flood Storage Areas

Records within 250m	**0**

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.

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 82 >**

Location	Type
On site	**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

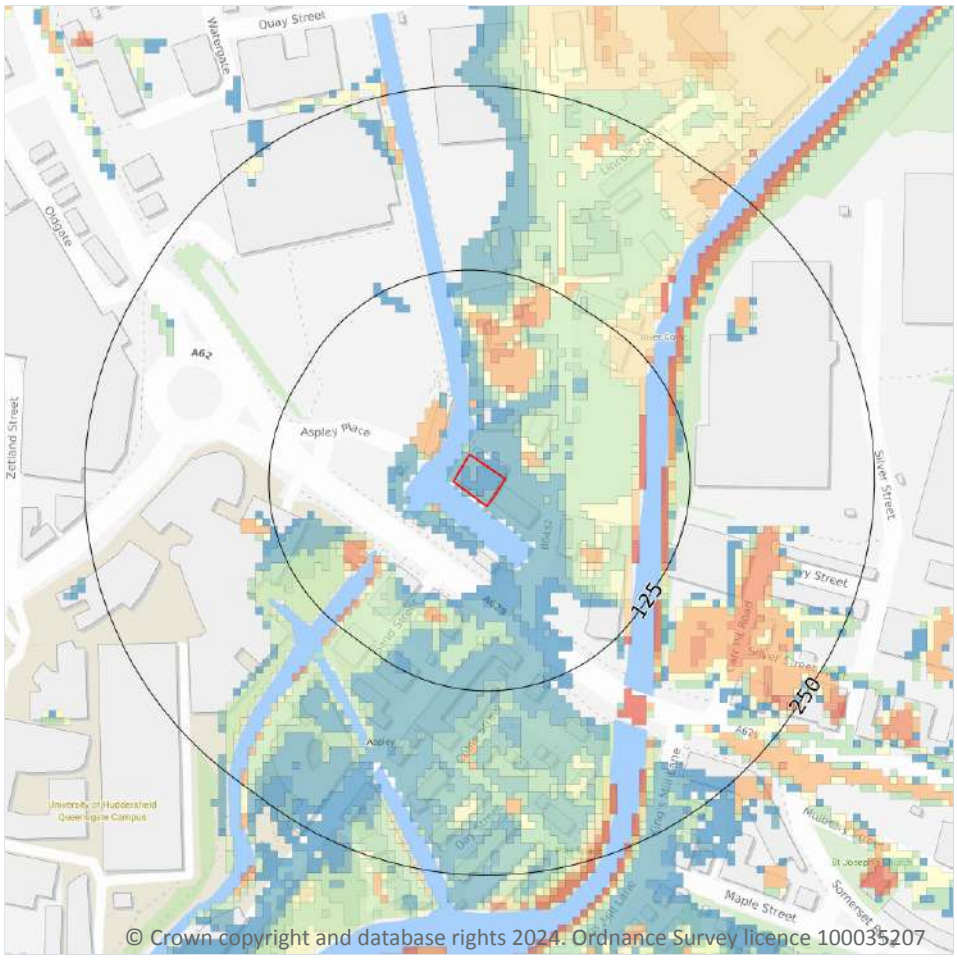
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 82 >**

Location	Type
On site	**Zone 3 - (Fluvial Models)**

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

8 Surface water flooding



Site Outline

Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**1 in 1000 year, 0.3m - 1.0m**
Highest risk within 50m	**1 in 30 year, 0.3m - 1.0m**

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 86 >**

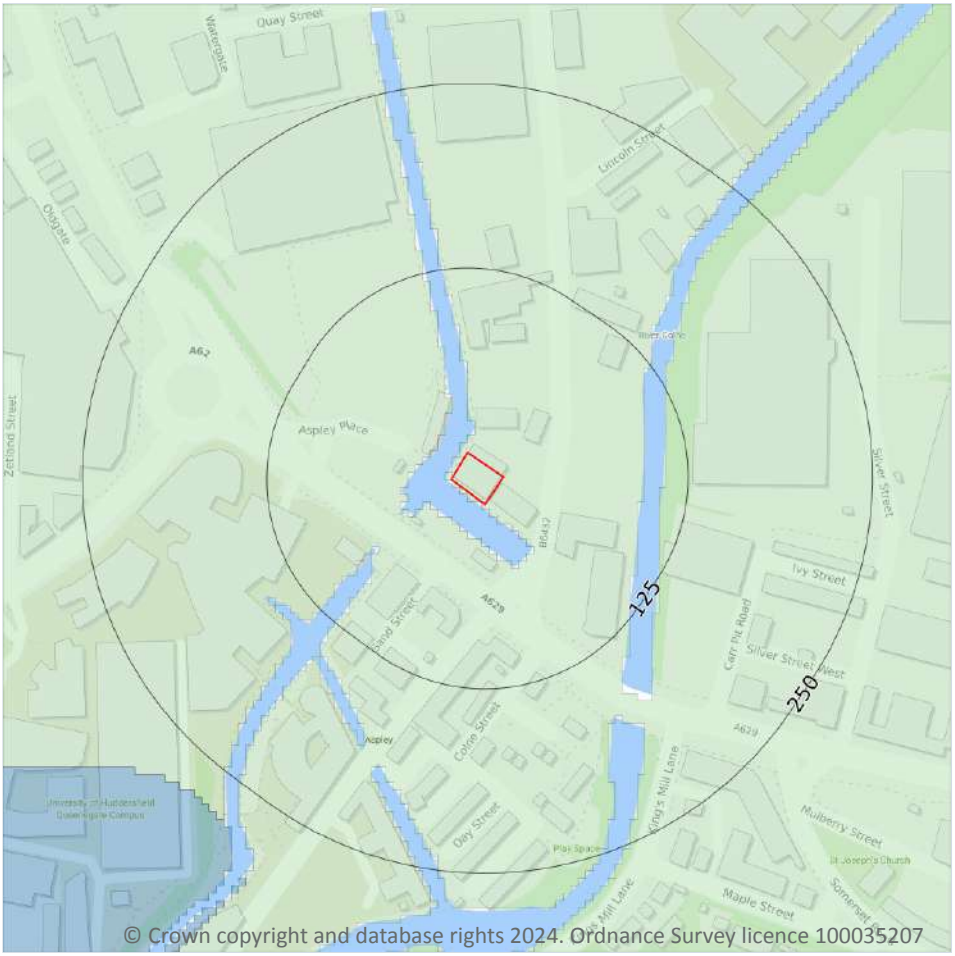
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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	Between 0.3m and 1.0m
1 in 250 year	Between 0.05m and 0.1m
1 in 100 year	Between 0.05m and 0.1m
1 in 30 year	Between 0.01m and 0.05m

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

High

Moderate - High

Moderate

Low

Negligible

9.1 Groundwater flooding

Highest risk on site	**Low**
Highest risk within 50m	**Low**

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 88 >**

This data is sourced from Ambiental 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	1

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 89 >**

ID	Location	Name	Data source
-	1623m W	Gledholt Woods	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 89 >**

ID	Location	Name	Woodland Type
2	1139m SE	Benholmley Wood	Ancient Replanted Woodland
-	1733m SE	Benholmley Wood	Ancient Replanted 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	1

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

Features are displayed on the Environmental designations map on **page 89 >**

ID	Location	Name	Local Authority name
1	1090m SE	South and West Yorkshire	Kirklees

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.

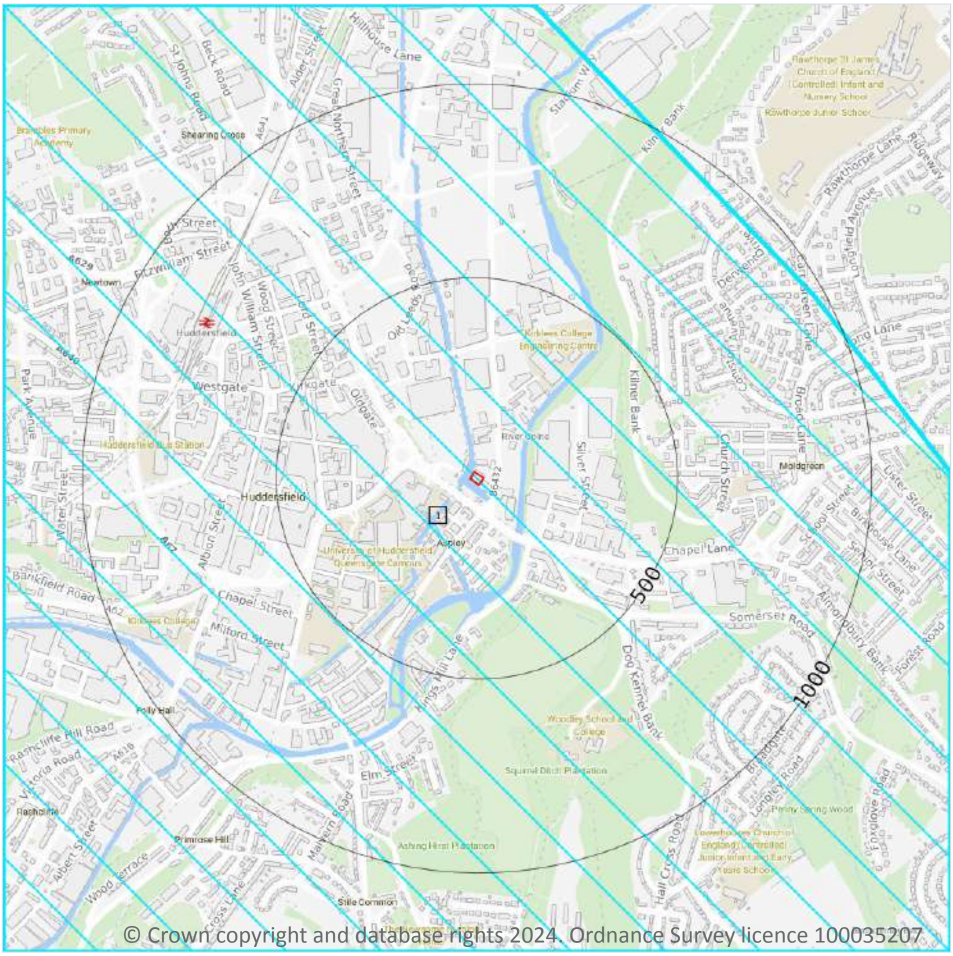
10.16 Nitrate Vulnerable Zones

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 94 >

ID	Location	Type of developments requiring consultation
1	**On site**	**Infrastructure - Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Oil & gas exploration/extraction. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 4000m². Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.**

This data is sourced from Natural England.

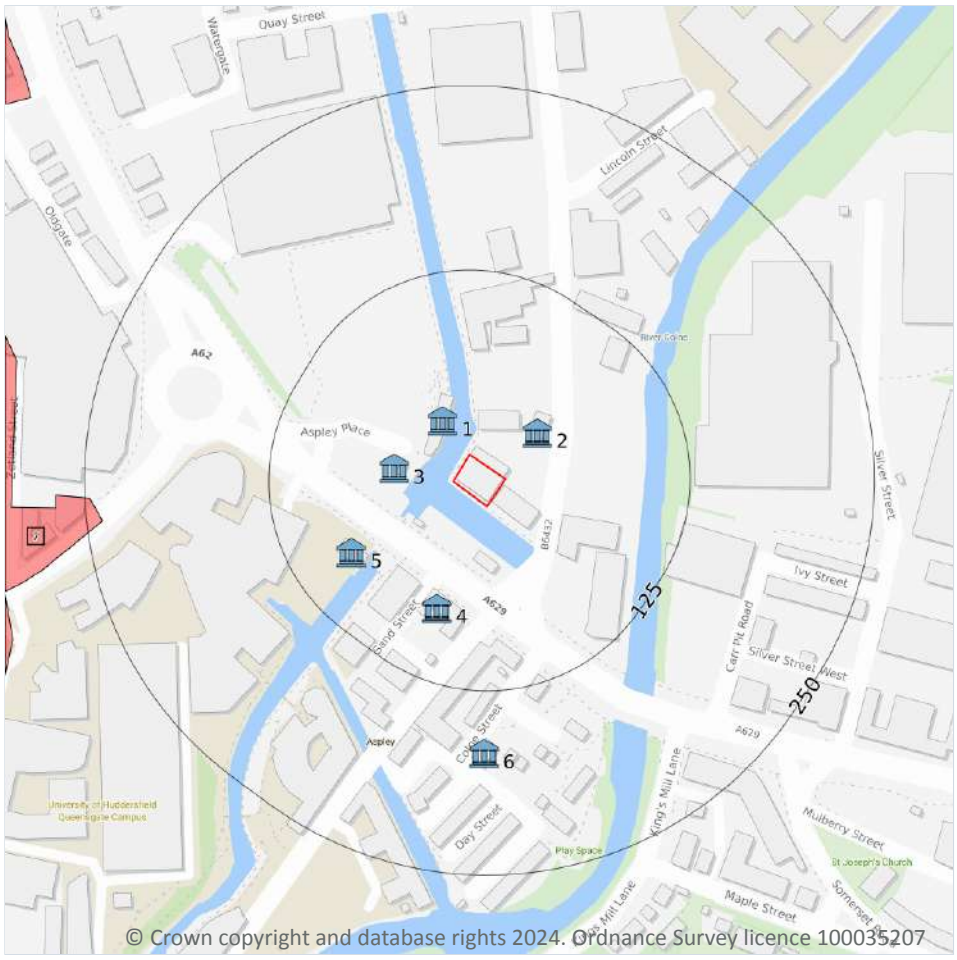
10.18 SSSI Units

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



Site Outline

Search buffers in metres (m)

- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

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	6

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.

Features are displayed on the Visual and cultural designations map on **page 96 >**

ID	Location	Name	Grade	Reference Number	Listed date
1	29m NW	Canal Warehouse At North End	II	1220248	29/09/1978
2	38m NE	Numbers 1 And 3 And The Premises Of The Benson Tool Hire Company	II	1231779	29/09/1978
3	41m W	Calder And Hebble Navigation Aspley Basin Sir John Ramsdens Canal Aspley Basin	II	1134350	29/09/1978
4	77m S	40-48, Wakefield Road	II	1267097	29/09/1978
5	84m SW	Canal Warehouse At Aspley Basin	II*	1223867	12/09/1973

ID	Location	Name	Grade	Reference Number	Listed date
6	167m S	The Fly Boat Public House	II	1134292	29/09/1978

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

11.5 Conservation Areas

Records within 250m	**1**

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.

Features are displayed on the Visual and cultural designations map on **page 96 >**

ID	Location	Name	District	Date of designation
7	239m W	Huddersfield Town Centre	Kirklees	31/03/1981

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.

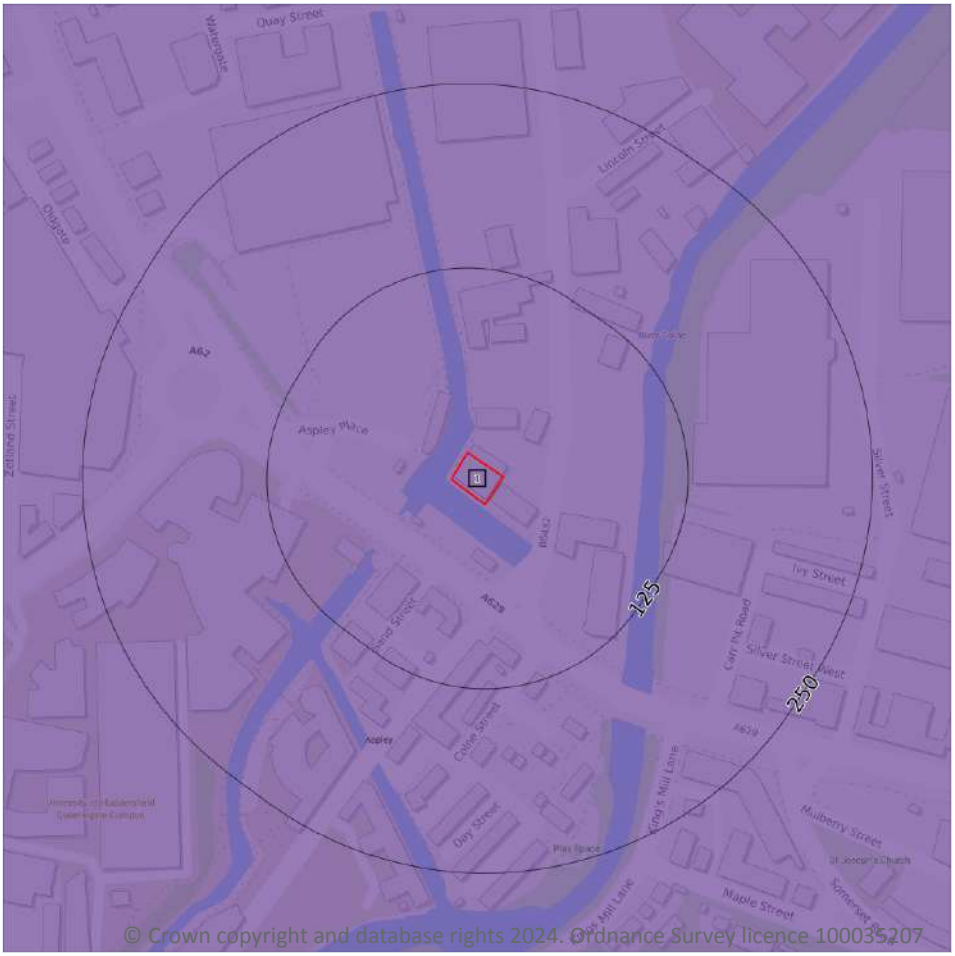
11.7 Registered Parks and Gardens

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	1

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 99 >**

ID	Location	Classification	Description
1	**On site**	**Urban**	-

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

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.

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

12.3 Tree Felling Licences

Records within 250m	0

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.

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.

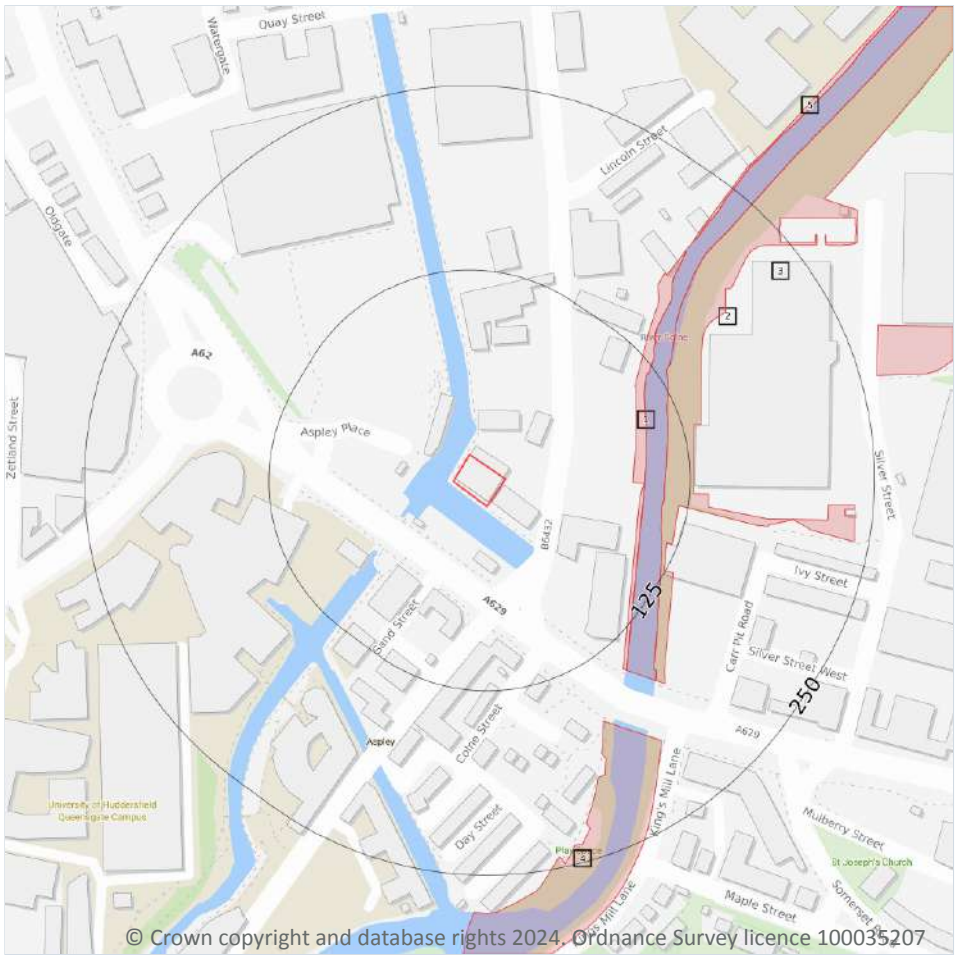
12.5 Countryside Stewardship Schemes

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	5

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 101 >**

ID	Location	Main Habitat	Other habitats
1	86m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	94m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	108m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	166m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

ID	Location	Main Habitat	Other habitats
5	205m 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.

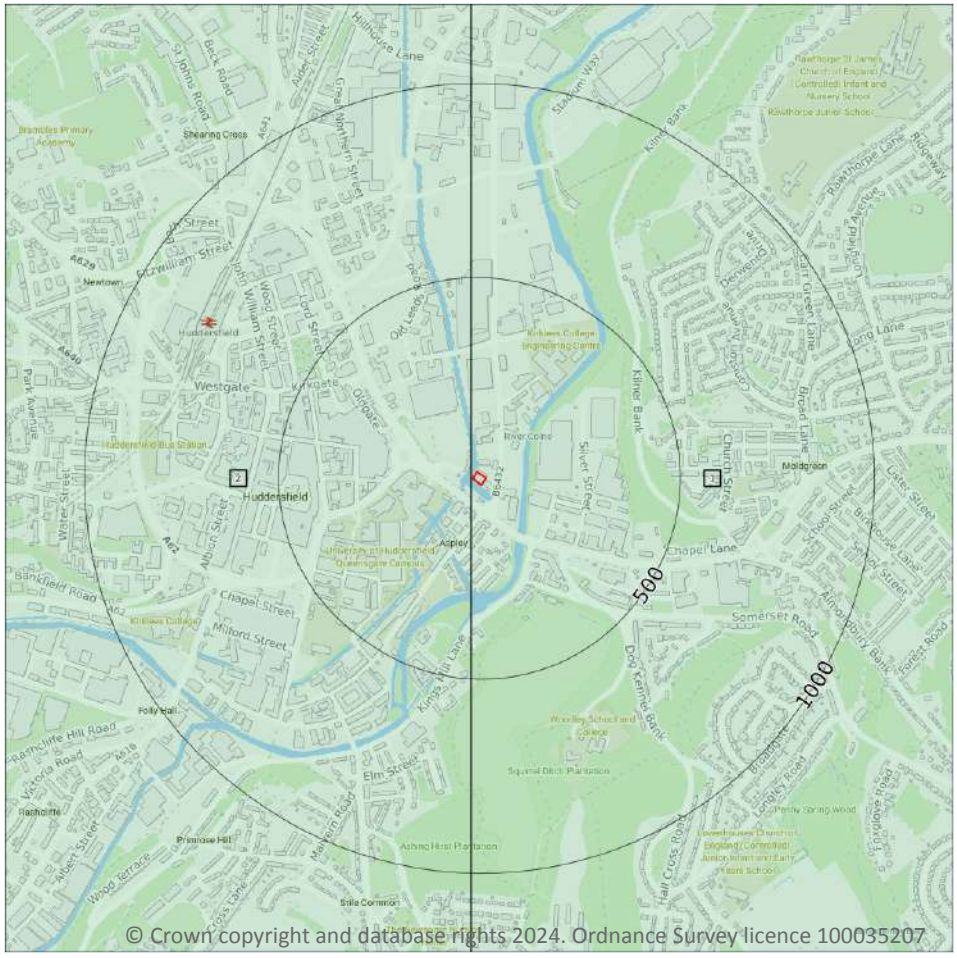
13.4 Limestone Pavement Orders

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	2

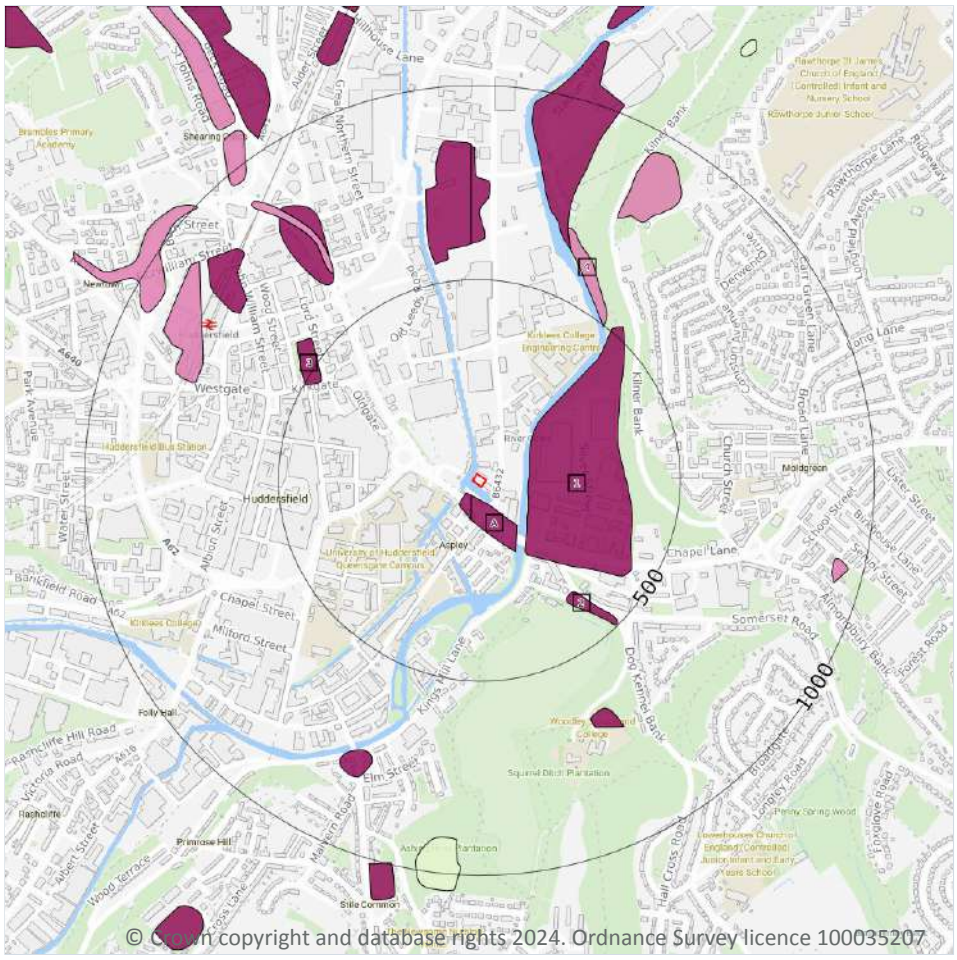
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 103 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**SE11NE**
2	4m W	Full	Full	Full	Full	SE11NW

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground



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Site Outline

Search buffers in metres (m)

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

14.2 Artificial and made ground (10k)

Records within 500m	6

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

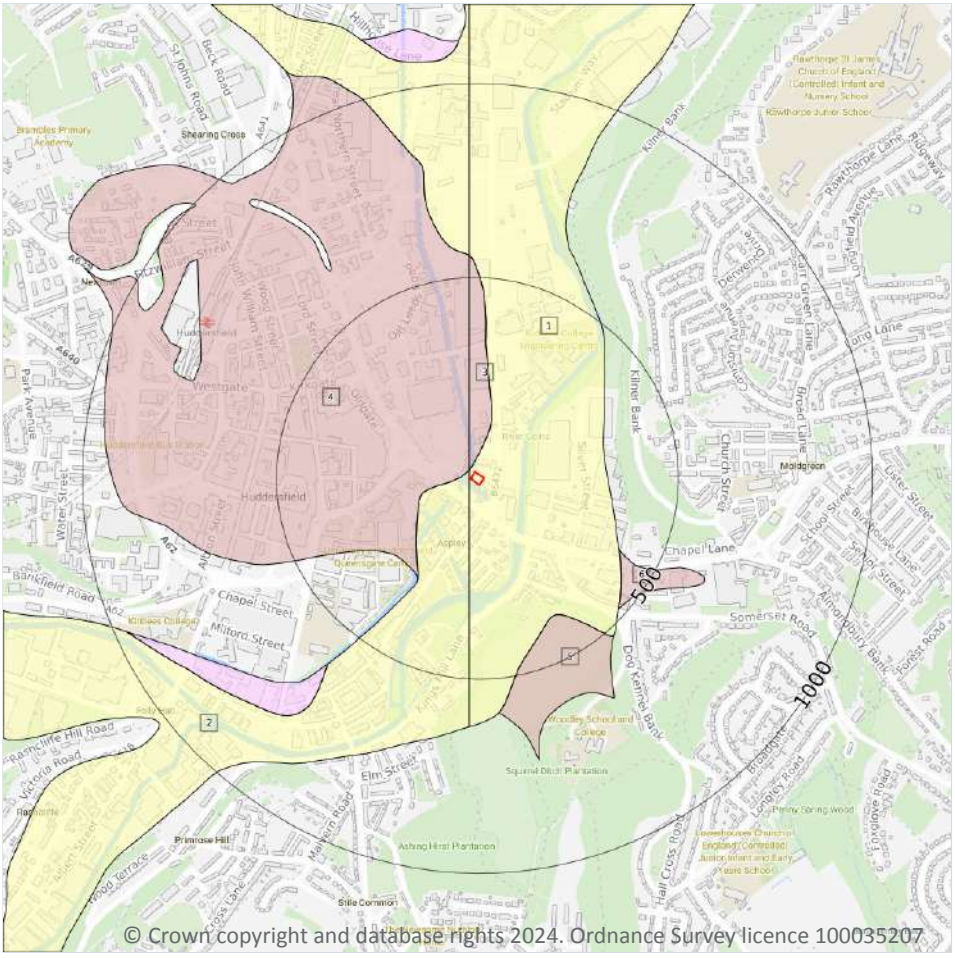
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 104 >**

ID	Location	LEX Code	Description	Rock description
A	31m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	33m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
1	108m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	356m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

ID	Location	LEX Code	Description	Rock description
3	467m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	497m NE	WGR-VOID	Worked Ground (Undivided)	Void

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



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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 106 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**ALV-XCSV**	**Alluvium - Clay, Sand And Gravel**	**Clay, Sand And Gravel**
2	4m W	ALV-XCSV	Alluvium - Clay, Sand And Gravel	Clay, Sand And Gravel
3	14m NW	HEAD-XCZSV	Head - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel

ID	Location	LEX Code	Description	Rock description
4	14m NW	HEAD-XCZSV	Head - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
5	387m SE	HEAD-XCZSV	Head - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
6	392m SE	HEAD-XCZSV	Head - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel

This data is sourced from the British Geological Survey.

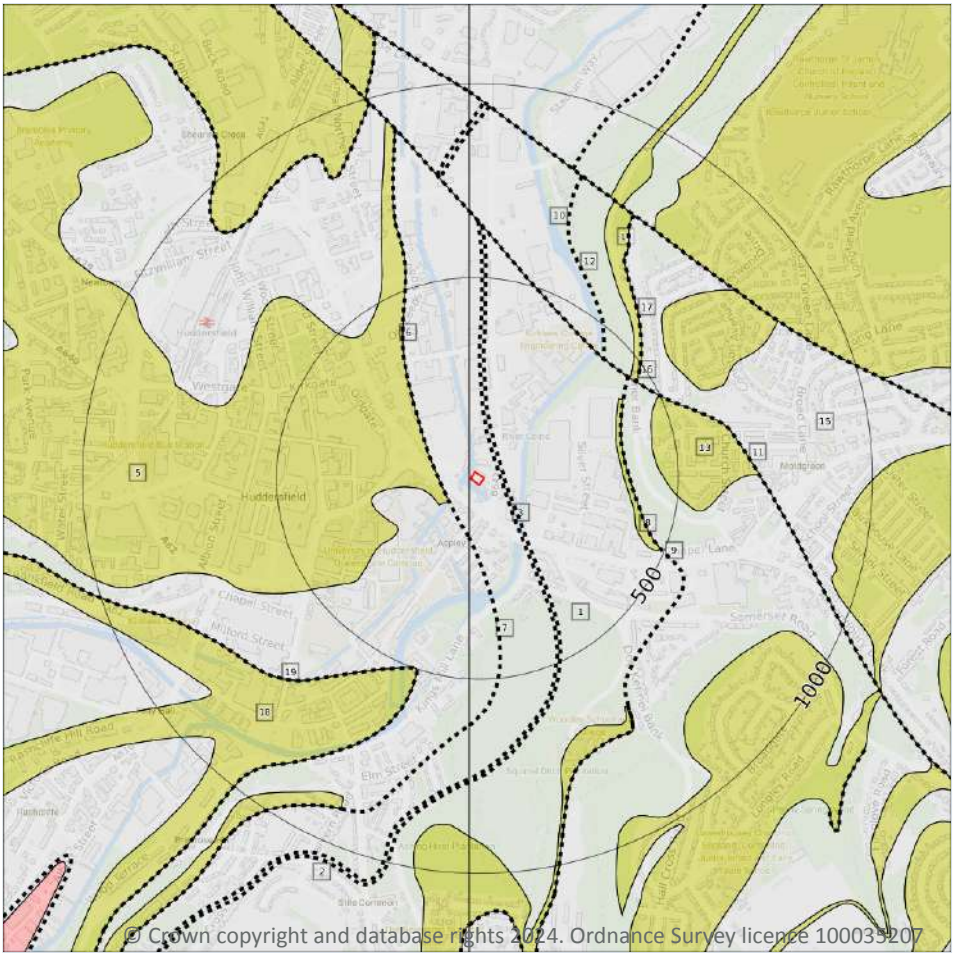
14.4 Landslip (10k)

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 **9**

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 108 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**PLCM-MDSS**	**Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone**	**Langsettian Sub-age**
2	4m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
5	75m W	MBR-SDST	Middle Band Rock - Sandstone	Langsettian Sub-age

ID	Location	LEX Code	Description	Rock age
8	350m E	STNR-SDST	Stanningley Rock - Sandstone	Langsettian Sub-age
10	434m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
13	440m E	EYR-SDST	80 Yard Rock - Sandstone	Langsettian Sub-age
14	456m NE	EYR-SDST	80 Yard Rock - Sandstone	Langsettian Sub-age
15	463m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
18	500m S	SBF-SDST	Soft Bed Flags - Sandstone	Langsettian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	**10**

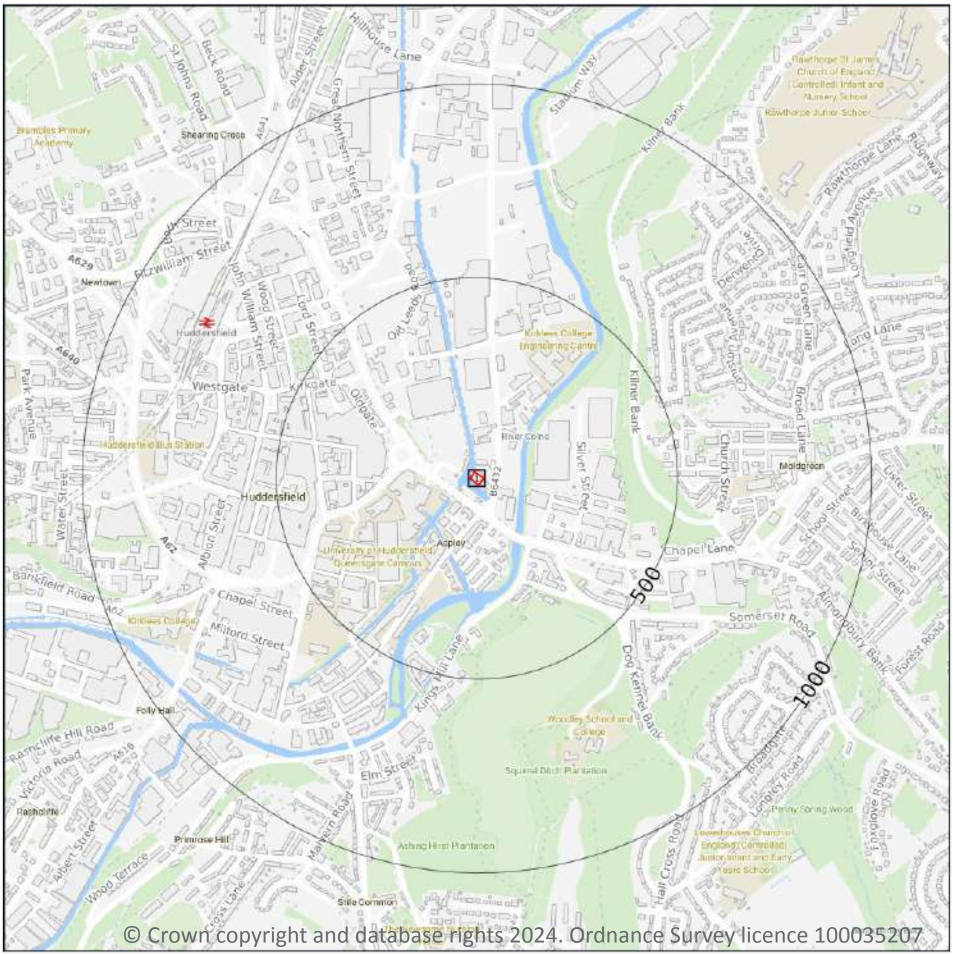
Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 108 >**

ID	Location	Category	Description
3	40m E	ROCK	Coal seam, inferred
4	50m E	FOSSIL_HORIZON	Fossil horizon, marine band
6	75m W	ROCK	Coal seam, inferred
7	137m S	ROCK	Coal seam, inferred
9	364m E	ROCK	Coal seam, inferred
11	434m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
12	434m NE	ROCK	Coal seam, inferred
16	463m NE	ROCK	Coal seam, inferred
17	489m NE	ROCK	Coal seam, observed
19	500m S	ROCK	Coal seam, inferred

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

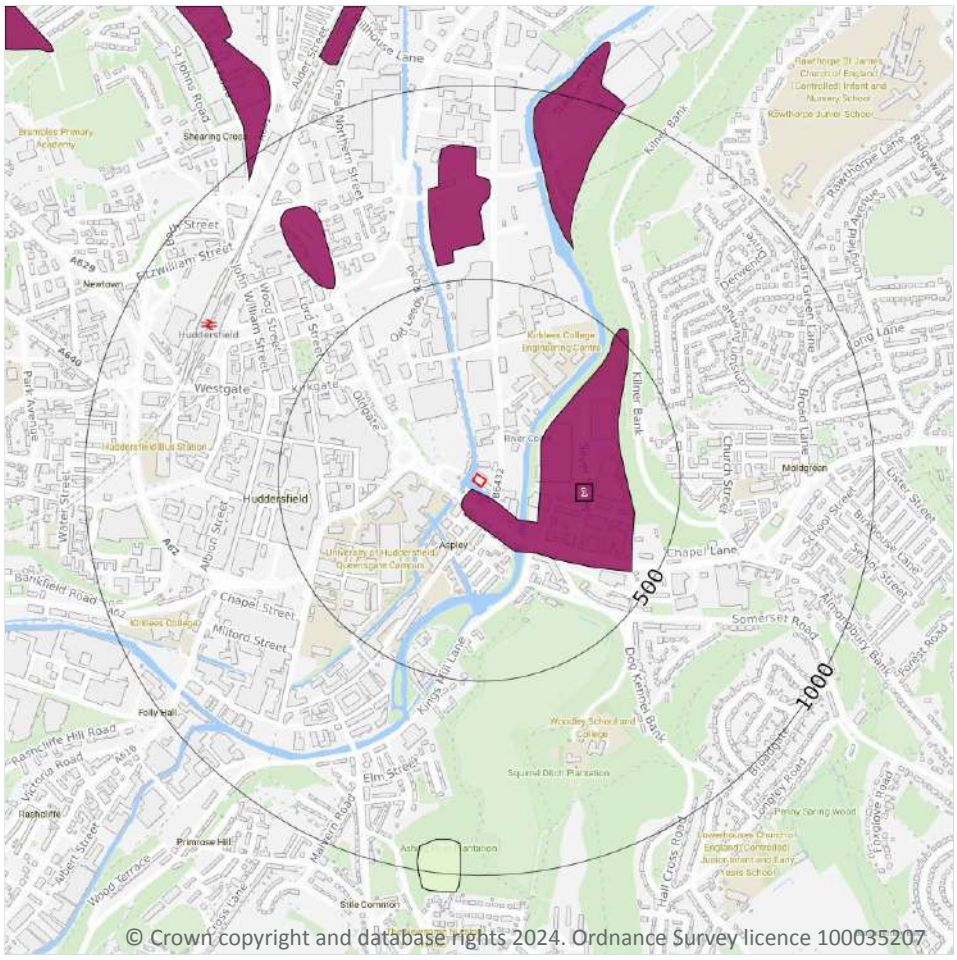
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on page 110 >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW077_huddersfield_v4**

This data is sourced from the British Geological Survey.

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



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Site Outline

Search buffers in metres (m)

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

15.2 Artificial and made ground (50k)

Records within 500m	1

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.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 111 >**

ID	Location	LEX Code	Description	Rock description
1	15m S	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

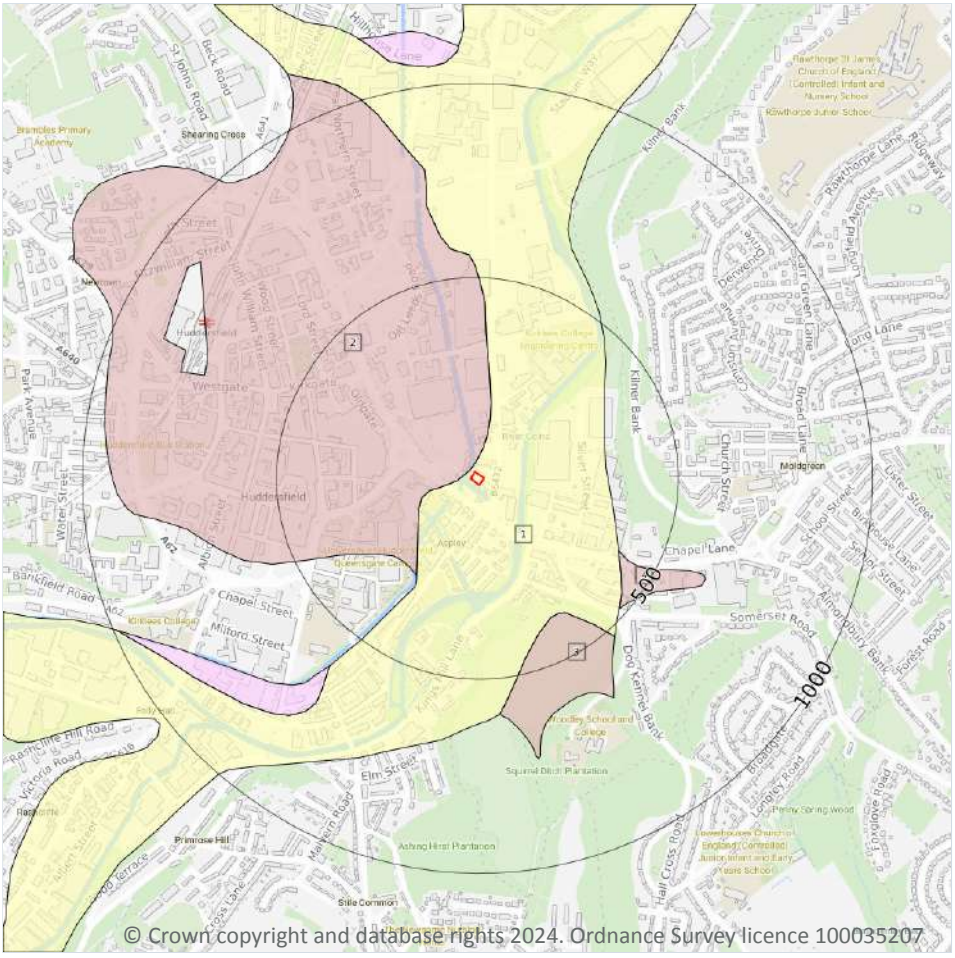
Records within 50m	2

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).

Location	Flow type	Maximum permeability	Minimum permeability
15m S	Mixed	Very High	Low
21m SW	Mixed	Very High	Low

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



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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 **4**

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 113 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**ALV-XCZSV**	**ALLUVIUM**	**CLAY, SILT, SAND AND GRAVEL**
2	13m NW	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
3	387m SE	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL

ID	Location	LEX Code	Description	Rock description
4	394m SE	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	**4**

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**
4m W	Intergranular	High	Very Low
13m NW	Mixed	High	Very Low
14m NW	Mixed	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.

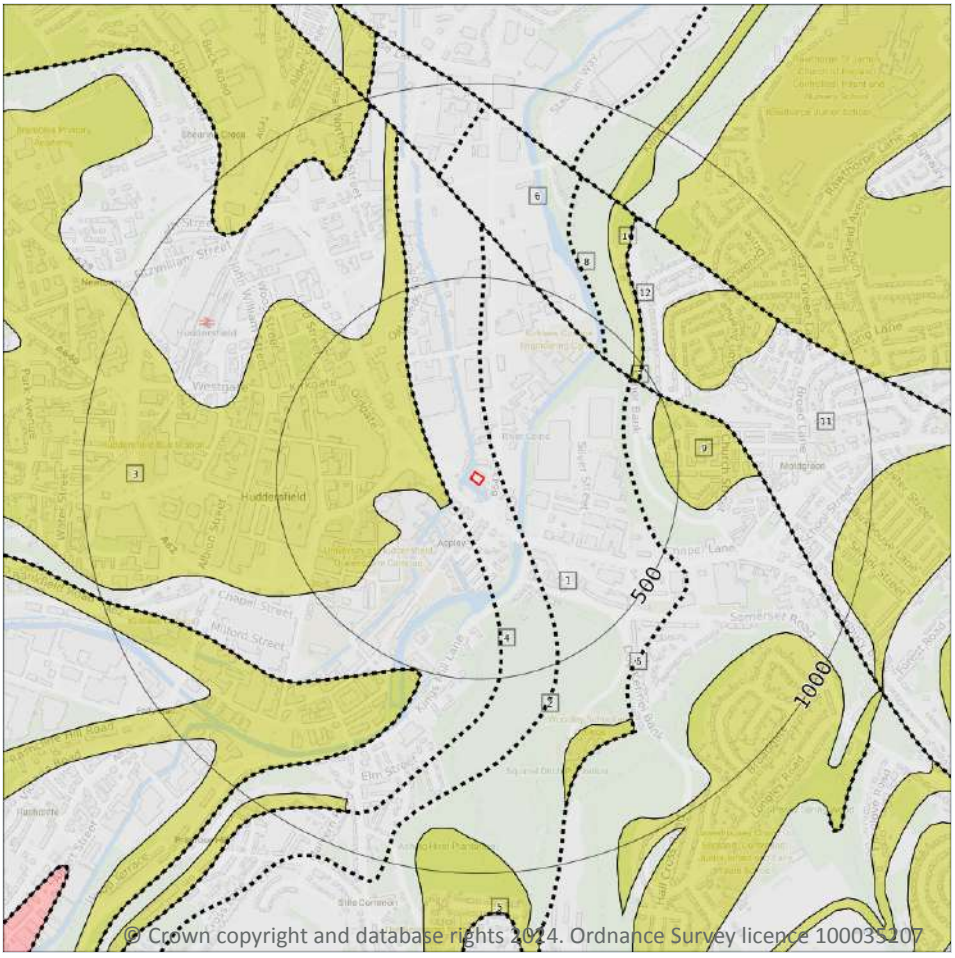
15.7 Landslip permeability (50k)

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 **6**

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 115 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**PLCM-MDSS**	**PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE**	**WESTPHALIAN**
3	70m W	MBR-SDST	MIDDLE BAND ROCK - SANDSTONE	WESTPHALIAN
6	436m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
9	445m E	EYR-SDST	80 YARD ROCK - SANDSTONE	WESTPHALIAN
10	456m NE	EYR-SDST	80 YARD ROCK - SANDSTONE	WESTPHALIAN
11	466m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m **2**

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	**Fracture**	**Moderate**	**Low**
4m W	Fracture	Moderate	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m **6**

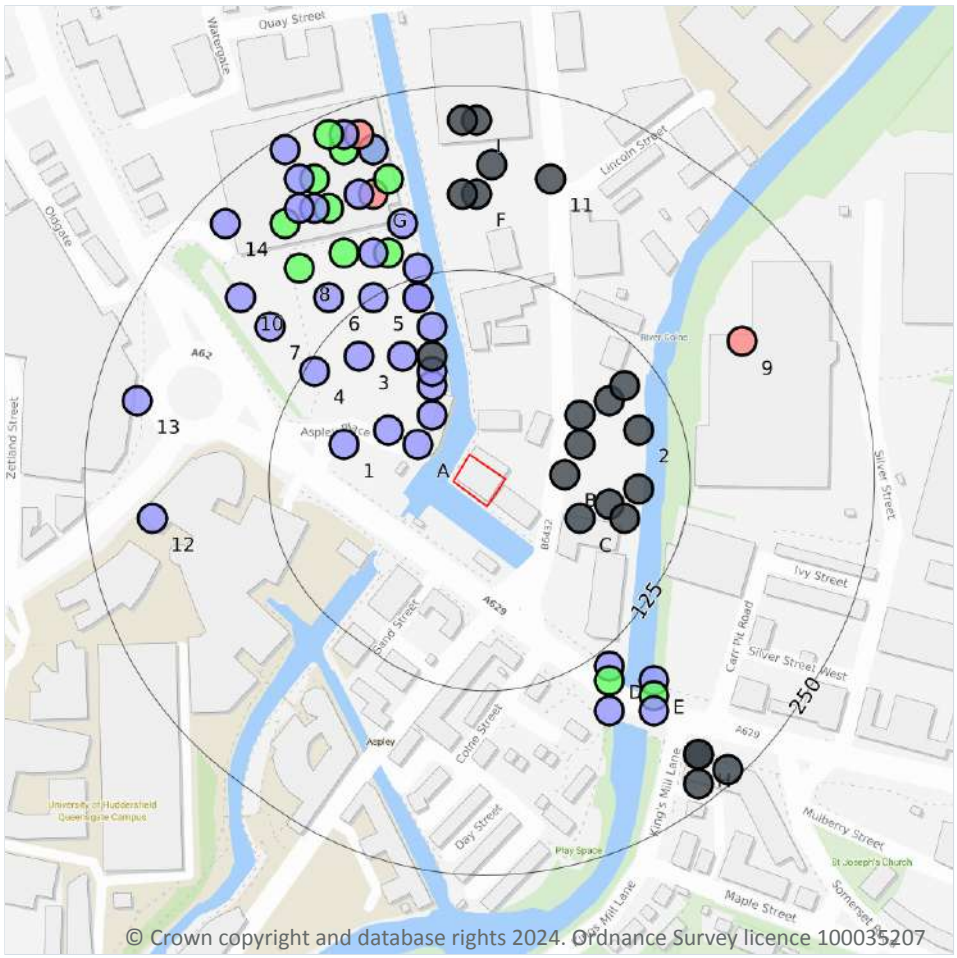
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 115 >**

ID	Location	Category	Description
2	42m E	ROCK	Coal seam, inferred
4	70m W	ROCK	Coal seam, inferred
5	370m E	ROCK	Coal seam, inferred
7	436m NE	FAULT	Fault, inferred
8	437m NE	ROCK	Coal seam, inferred
12	466m NE	ROCK	Coal seam, 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	69

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 117 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	34m NW	414980 416530	BROCKHOLES HUDDERSFIELD TP 15	3.1	N	41389 ↗
A	37m NW	414990 416550	BROCKHOLES HUDDERSFIELD TP 14	3.0	N	41388 ↗
B	41m E	415080 416510	EXAMINER BUILDING HUDDERSFIELD WS1	-	Y	N/A

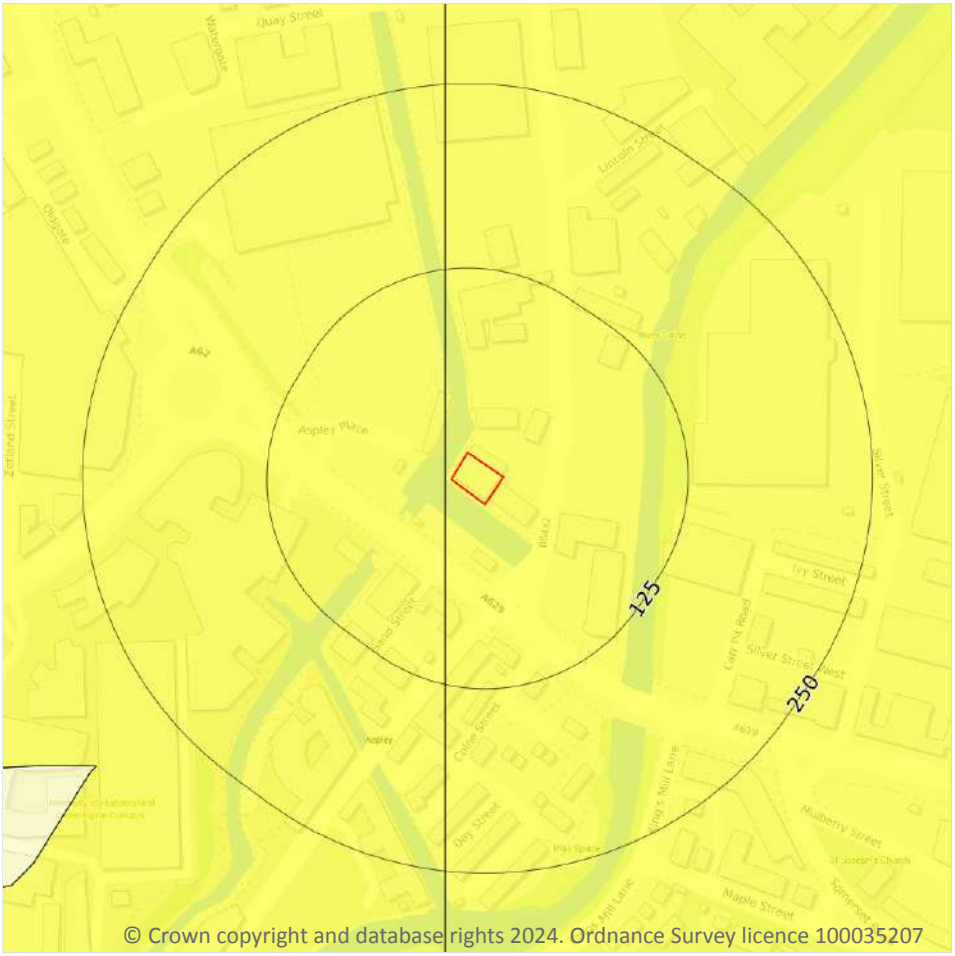
ID	Location	Grid reference	Name	Length	Confidential	Web link
A	53m NW	414990 416570	BROCKHOLES HUDDERSFIELD T13	8.9	N	41404 ↗
B	56m E	415090 416530	EXAMINER BUILDING HUDDERSFIELD WS8	-	Y	N/A
A	56m NW	414960 416540	BROCKHOLES HUDDERSFIELD TP 16	2.7	N	41390 ↗
C	57m E	415090 416480	EXAMINER BUILDING HUDDERSFIELD WS7	-	Y	N/A
A	62m NW	414990 416580	BROCKHOLES HUDDERSFIELD TP 13	3.15	N	41387 ↗
B	66m NE	415090 416550	EXAMINER BUILDING HUDDERSFIELD WS2	-	Y	N/A
A	71m N	414990 416590	FOX HOLLIES ROAD, HUDDERSFIELD TP2	-	Y	N/A
C	72m E	415110 416490	EXAMINER BUILDING HUDDERSFIELD WS6	-	Y	N/A
1	78m W	414930 416530	BROCKHOLES HUDDERSFIELD TP 17	2.4	N	41391 ↗
A	81m NW	414970 416590	BROCKHOLES HUDDERSFIELD TP S3	2.9	N	41402 ↗
C	85m E	415120 416480	EXAMINER BUILDING HUDDERSFIELD WS4	-	Y	N/A
B	88m NE	415110 416560	EXAMINER BUILDING HUDDERSFIELD WS9	-	Y	N/A
A	90m N	414990 416610	BROCKHOLES HUDDERSFIELD TP 12	2.1	N	41386 ↗
C	91m E	415130 416500	EXAMINER BUILDING HUDDERSFIELD WS5	-	Y	N/A
2	96m E	415130 416540	EXAMINER BUILDING HUDDERSFIELD WS10	-	Y	N/A
3	100m NW	414940 416590	BROCKHOLES HUDDERSFIELD TP 19	3.1	N	41393 ↗
B	102m NE	415120 416570	EXAMINER BUILDING HUDDERSFIELD WS3	-	Y	N/A
A	112m N	414980 416630	BROCKHOLES HUDDERSFIELD T10	10.0	N	41403 ↗
A	112m N	414980 416630	BROCKHOLES HUDDERSFIELD TP 10	2.1	N	41384 ↗
4	119m NW	414910 416580	BROCKHOLES HUDDERSFIELD TP 18	2.95	N	41392 ↗
5	125m NW	414950 416630	BROCKHOLES HUDDERSFIELD TP 11	2.4	N	41385 ↗
A	131m N	414980 416650	BROCKHOLES HUDDERSFIELD TP 8	2.6	N	41382 ↗
D	137m SE	415110 416380	SOMERSET BRIDGE WAKEFIELD ROAD 1	8.84	N	15631019 ↗
6	143m NW	414920 416630	BROCKHOLES HUDDERSFIELD TP 9	2.8	N	41383 ↗
D	145m SE	415110 416370	SOMERSET BRIDGE WAKEFIELD ROAD 2	11.58	N	15631020 ↗
A	147m N	414960 416660	BROCKHOLES HUDDERSFIELD P6	30.0	N	41410 ↗
A	151m NW	414950 416660	BROCKHOLES HUDDERSFIELD TP 7	2.1	N	41381 ↗

ID	Location	Grid reference	Name	Length	Confidential	Web link
7	161m NW	414880 416610	BROCKHOLES HUDDERSFIELD TP 20	2.9	N	41394 ↗
A	161m NW	414930 416660	BROCKHOLES HUDDERSFIELD P9	30.0	N	41413 ↗
D	161m SE	415110 416350	SOMERSET BRIDGE WAKEFIELD ROAD 3	5.64	N	15631040 ↗
A	163m N	414970 416680	BROCKHOLES HUDDERSFIELD TP 6	2.0	N	41380 ↗
E	164m SE	415140 416370	SOMERSET BRIDGE WAKEFIELD ROAD 4	6.63	N	15631042 ↗
E	171m SE	415140 416360	SOMERSET BRIDGE WAKEFIELD ROAD 5	10.67	N	15631043 ↗
8	171m NW	414900 416650	BROCKHOLES HUDDERSFIELD RD4	30.0	N	41417 ↗
F	177m N	415020 416700	I M C DEVELOPMENT 1	-	Y	N/A
F	177m N	415010 416700	I M C DEVELOPMENT TP 1	-	Y	N/A
E	179m SE	415140 416350	SOMERSET BRIDGE WAKEFIELD ROAD 6	7.7	N	15631044 ↗
9	186m NE	415200 416600	R DEWHIRST AND CO	74.06	N	18524377 ↗
G	188m N	414950 416700	BROCKHOLES HUDDERSFIELD RD2	31.2	N	41415 ↗
10	188m NW	414860 416630	BROCKHOLES HUDDERSFIELD TP 21	2.65	N	41395 ↗
G	192m NW	414920 416690	BROCKHOLES HUDDERSFIELD P8	30.0	N	41412 ↗
G	192m NW	414940 416700	BROCKHOLES HUDDERSFIELD TP 5	2.75	N	41379 ↗
11	195m N	415070 416710	I M C DEVELOPMENT TP 6	-	Y	N/A
G	195m N	414960 416710	BROCKHOLES HUDDERSFIELD P5	30.0	N	41409 ↗
G	197m NW	414910 416690	BROCKHOLES HUDDERSFIELD TP 27	2.25	N	41399 ↗
F	197m N	415030 416720	I M C DEVELOPMENT TP 5	-	Y	N/A
G	201m NW	414890 416680	BROCKHOLES HUDDERSFIELD P7	30.0	N	41411 ↗
G	203m NW	414900 416690	BROCKHOLES HUDDERSFIELD TP S1	1.6	N	41400 ↗
12	206m W	414800 416480	HUDDERSFIELD INNER RING ROAD 12	9.75	N	15631286 ↗
G	214m NW	414910 416710	BROCKHOLES HUDDERSFIELD P2	30.0	N	41406 ↗
G	217m N	414950 416730	BROCKHOLES HUDDERSFIELD P4	30.0	N	41408 ↗
G	217m N	414950 416730	BROCKHOLES HUDDERSFIELD TP 4	2.85	N	41378 ↗

ID	Location	Grid reference	Name	Length	Confidential	Web link
G	219m NW	414900 416710	BROCKHOLES HUDDERSFIELD TP 3	3.15	N	41377 ↗
H	221m SE	415170 416320	UNIVERSITY OF HUDDERSFIELD RIVERSIDE TP1	-	Y	N/A
H	221m SE	415170 416320	UNIVERSITY OF HUDDERSFIELD RIVERSIDE PH1	-	Y	N/A
13	221m W	414790 416560	HUDDERSFIELD INNER RING ROAD 11	9.45	N	15631285 ↗
G	224m N	414930 416730	BROCKHOLES HUDDERSFIELD P3	30.0	N	41407 ↗
I	227m N	415020 416750	I M C DEVELOPMENT TP 2	-	Y	N/A
I	227m N	415010 416750	I M C DEVELOPMENT 2	-	Y	N/A
14	228m NW	414850 416680	BROCKHOLES HUDDERSFIELD TP 23	2.85	N	41396 ↗
G	229m N	414940 416740	BROCKHOLES HUDDERSFIELD RD1	30.8	N	41414 ↗
G	233m N	414930 416740	BROCKHOLES HUDDERSFIELD TP 2	3.2	N	41376 ↗
H	237m SE	415170 416300	UNIVERSITY OF HUDDERSFIELD RIVERSIDE TP3	-	Y	N/A
G	237m NW	414920 416740	BROCKHOLES HUDDERSFIELD P1	30.0	N	41405 ↗
G	242m NW	414890 416730	BROCKHOLES HUDDERSFIELD TP 1	2.5	N	41375 ↗
H	242m SE	415190 416310	UNIVERSITY OF HUDDERSFIELD RIVERSIDE PH5	-	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	2

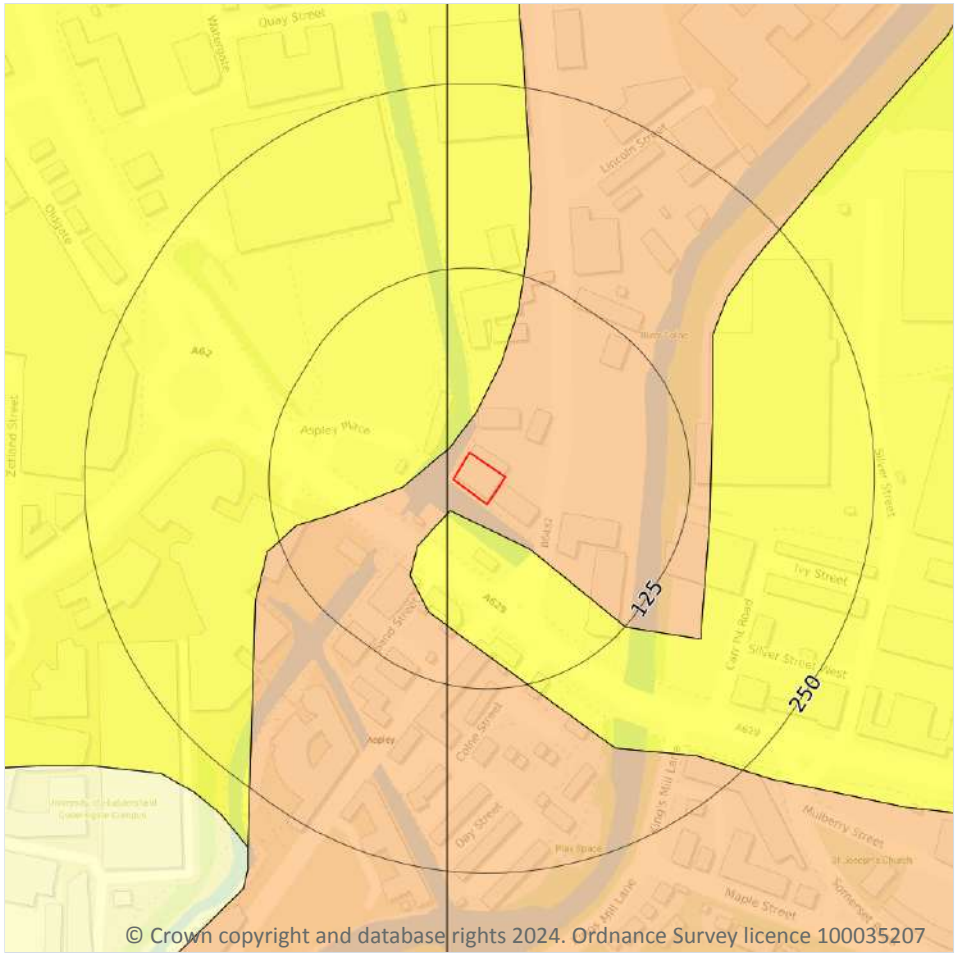
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 121 >**

Location	Hazard rating	Details
On site	**Very low**	**Ground conditions predominantly low plasticity.**
4m W	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	6

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.

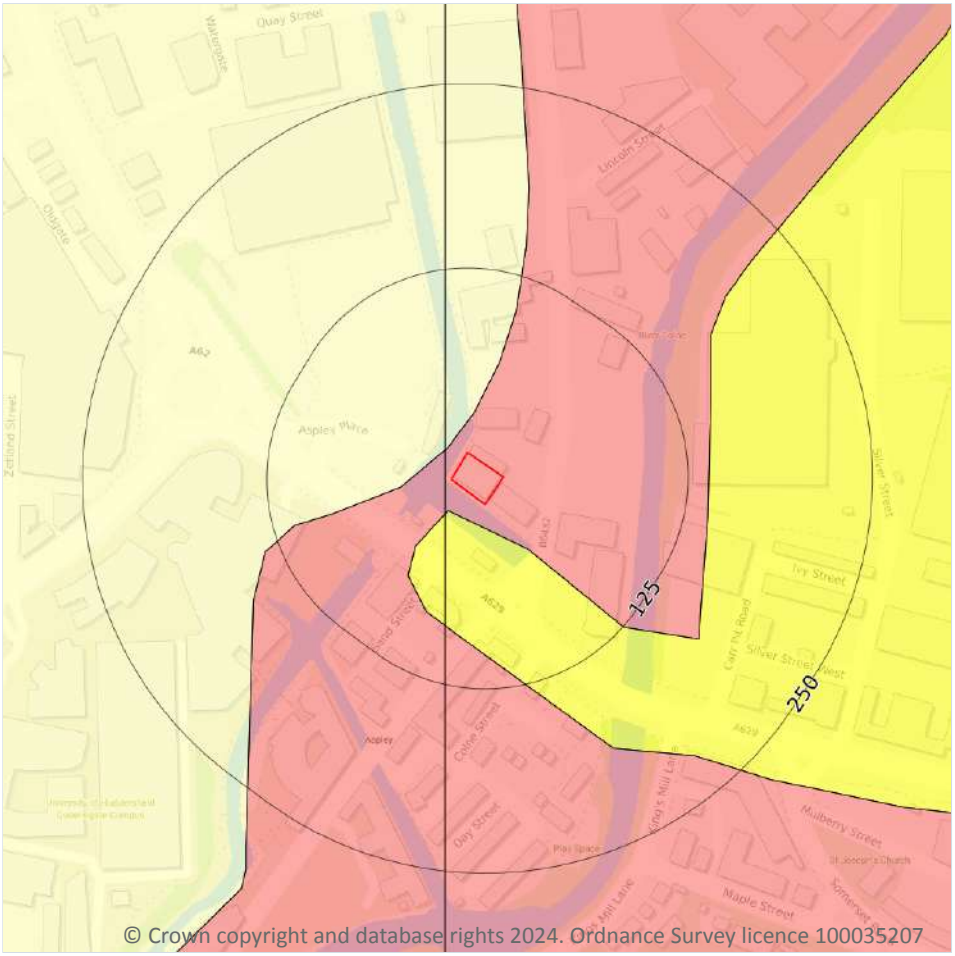
Features are displayed on the Natural ground subsidence - Running sands map on **page 122 >**

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.**

Location	Hazard rating	Details
4m W	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.
13m NW	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.
14m NW	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.
15m S	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.
21m SW	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

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	6

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.

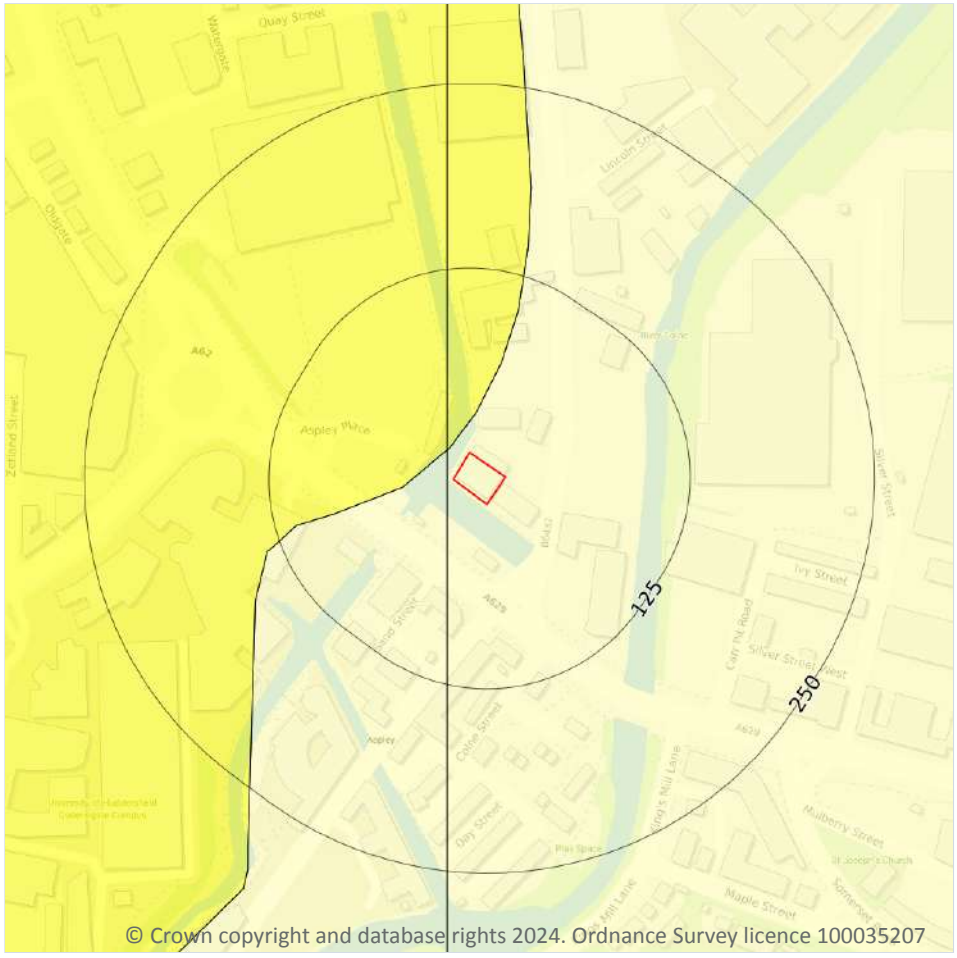
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 124 >**

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.**

Location	Hazard rating	Details
4m W	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.
13m NW	Negligible	Compressible strata are not thought to occur.
14m NW	Negligible	Compressible strata are not thought to occur.
15m S	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.
21m SW	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m	4

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.

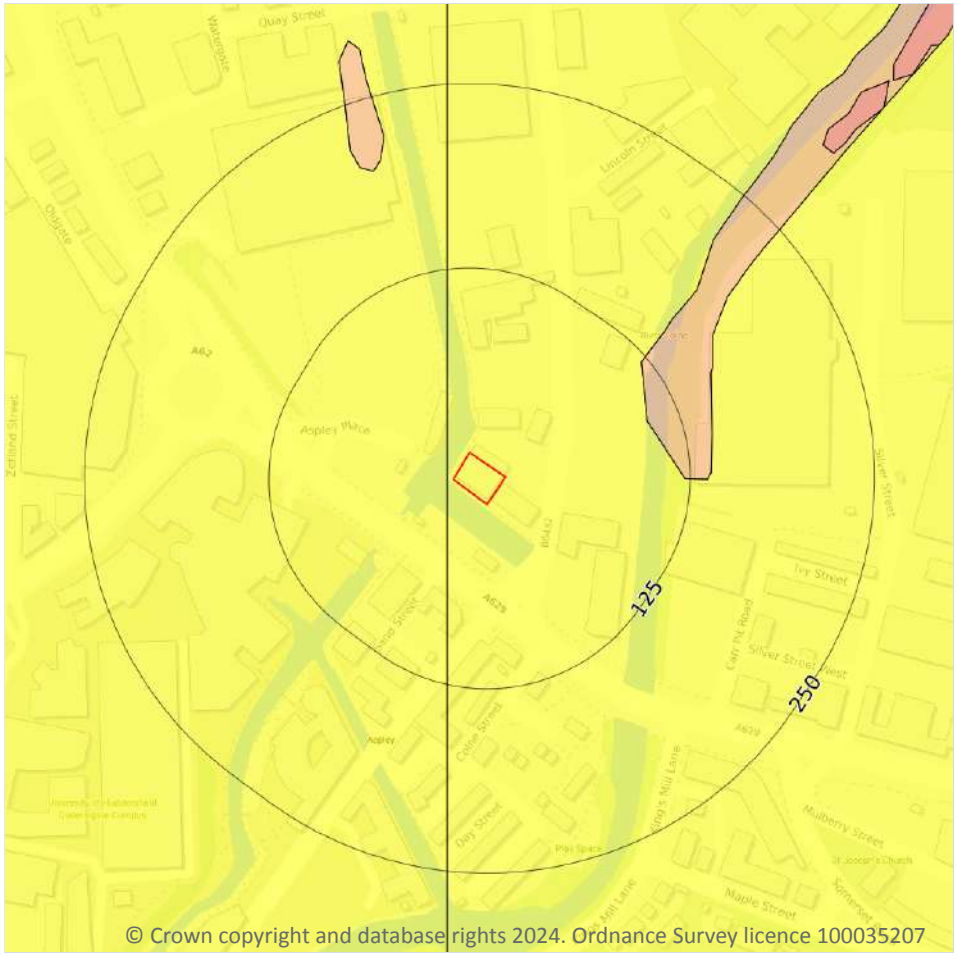
Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 126 >**

Location	Hazard rating	Details
On site	**Negligible**	**Deposits with potential to collapse when loaded and saturated are believed not to be present.**
4m W	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.
13m NW	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

Location	Hazard rating	Details
14m NW	Very low	Deposits with potential to collapse when loaded and saturated are unlikely 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	2

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.

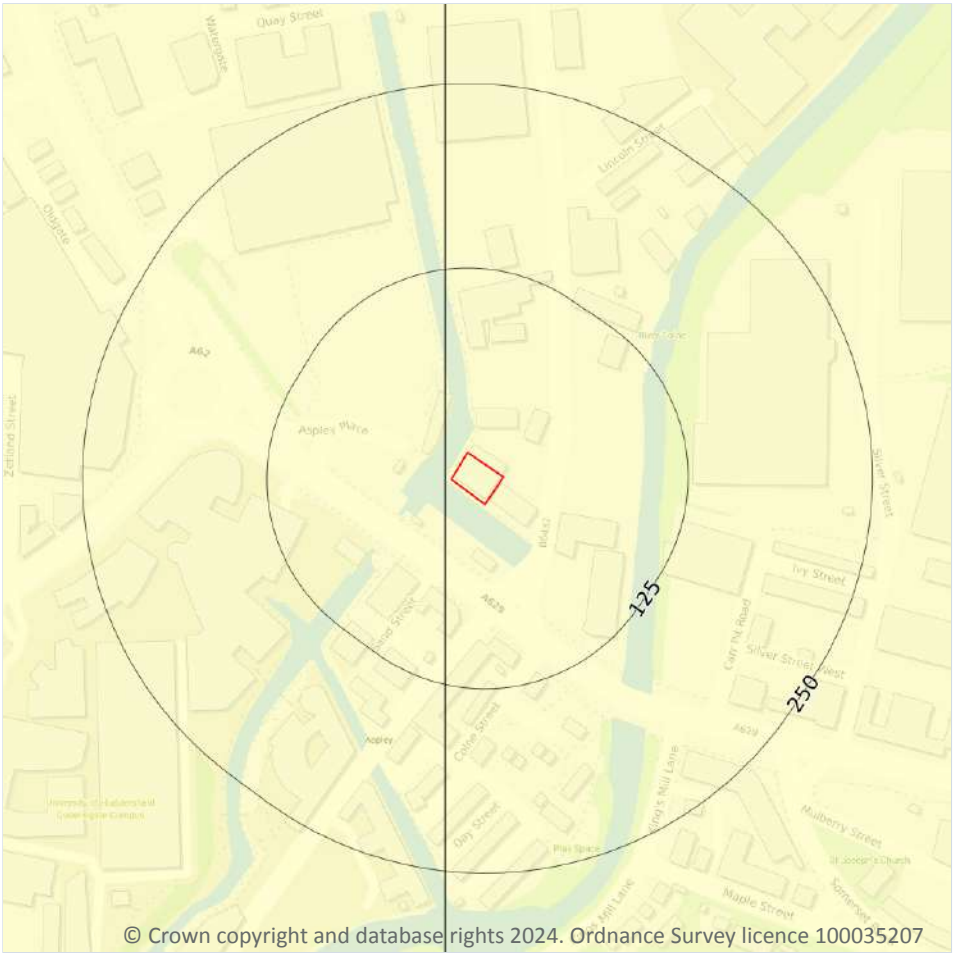
Features are displayed on the Natural ground subsidence - Landslides map on **page 128 >**

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.**

Location	Hazard rating	Details
4m W	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	2

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.

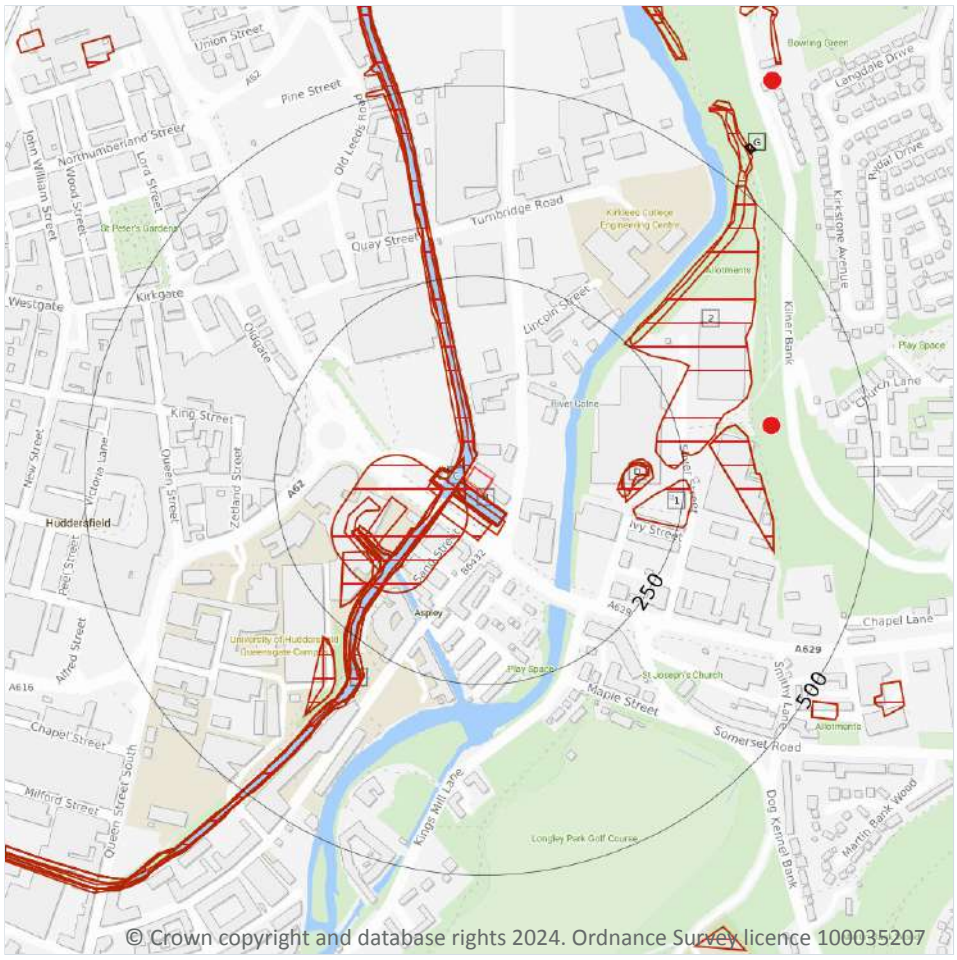
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 130 >**

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.**

Location	Hazard rating	Details
4m W	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	1

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.

Features are displayed on the Mining and ground workings map on **page 132 >**

ID	Location	Details	Description
4	371m E	Name: Storths Address: Moldgreen, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m **23**

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 132 >**

ID	Location	Land Use	Year of mapping	Mapping scale
A	2m W	Disused Canal	1985	1:10000
A	2m W	Canal	1966	1:10560
A	2m W	Disused Canal	1975	1:10000
A	2m W	Canal	1956	1:10560
B	4m S	Unspecified Wharf	1938	1:10560
B	4m S	Unspecified Wharf	1938	1:10560
C	5m S	Canal	1948	1:10560
C	5m S	Canal	1905	1:10560
C	5m NW	Canal	1889	1:10560
C	5m NW	Canal	1938	1:10560
C	16m W	Unspecified Wharf	1956	1:10560
B	25m SW	Unspecified Wharf	1948	1:10560
C	85m W	Unspecified Wharf	1948	1:10560
C	139m SW	Unspecified Wharf	1938	1:10560
C	139m SW	Unspecified Wharf	1938	1:10560
C	161m SW	Unspecified Heap	1966	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
C	161m SW	Unspecified Heap	1975	1:10000
D	163m E	Refuse Heap	1948	1:10560
D	169m E	Unspecified Heap	1938	1:10560
D	169m E	Unspecified Heap	1938	1:10560
D	171m E	Refuse Heap	1956	1:10560
1	188m E	Unspecified Pit	1889	1:10560
2	217m E	Unspecified Pit	1889	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	**16**

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

Features are displayed on the Mining and ground workings map on **page 132 >**

ID	Location	Land Use	Year of mapping	Mapping scale
G	545m NE	Unspecified Old Shaft	1905	1:10560
-	768m W	Tunnels	1975	1:10000
-	768m W	Tunnels	1956	1:10560
-	768m W	Tunnels	1985	1:10000
-	768m W	Tunnels	1966	1:10560
-	771m W	Tunnel	1948	1:10560
-	771m W	Tunnel	1905	1:10560
-	785m W	Tunnels	1975	1:10000
-	785m W	Tunnels	1956	1:10560
-	785m W	Tunnels	1985	1:10000
-	785m W	Tunnels	1966	1:10560
-	788m W	Tunnel	1948	1:10560
-	788m W	Tunnel	1905	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
-	815m SW	Colliery	1905	1:10560
-	977m W	Unspecified Shafts	1975	1:10000
-	977m W	Unspecified Shafts	1985	1:10000

This is 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	0

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

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	1

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

Location	Details
On site	**The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.**

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.

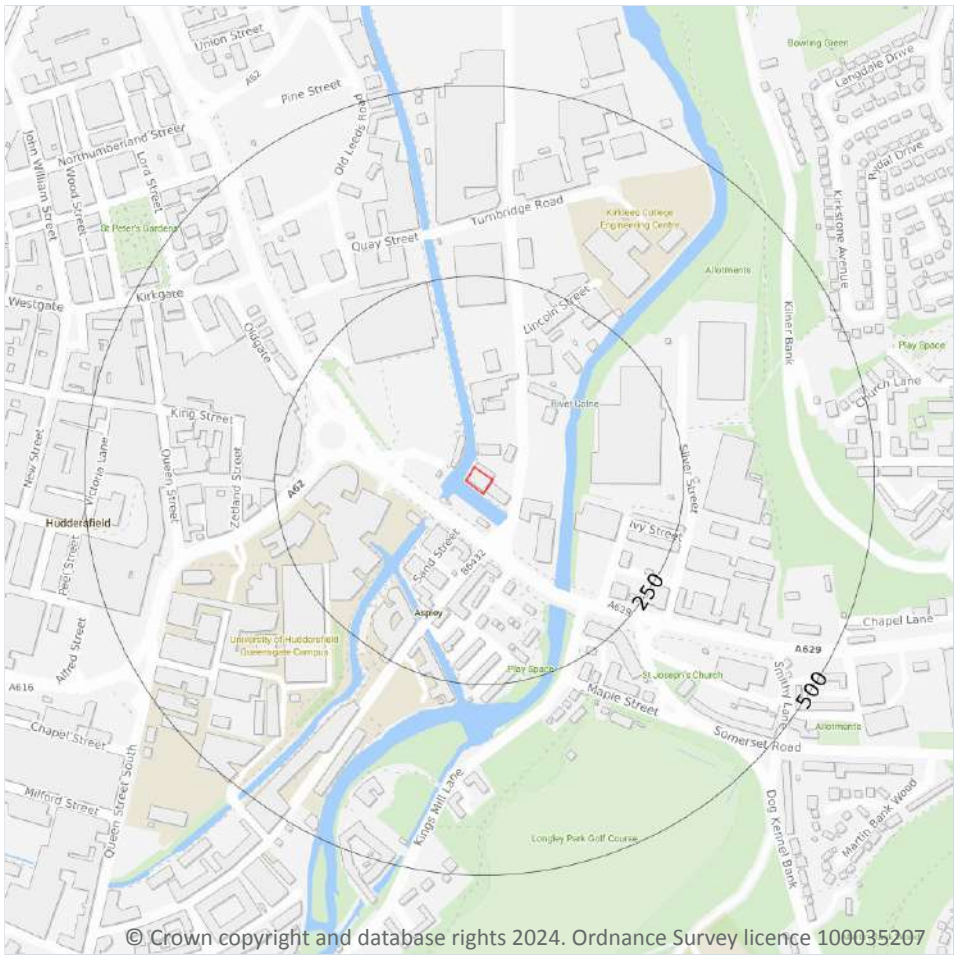
18.16 Clay mining

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	2

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.

Features are displayed on the Ground cavities and sinkholes map on **page 138 >**

ID	Location	Mine Address	Mineral	Data source	Publisher
-	957m NE	Brown Royd, West Yorkshire	Clay	LISTING OF NEW MINERAL RECORDS OFFICE CATALOGUE.	UNPUBLISHED/DRAFT
-	957m NE	Brown Royd, West Yorkshire	Clay	LISTING OF NEW MINERAL RECORDS OFFICE CATALOGUE.	UNPUBLISHED/DRAFT

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.

19.5 National karst database

Records within 500m	0

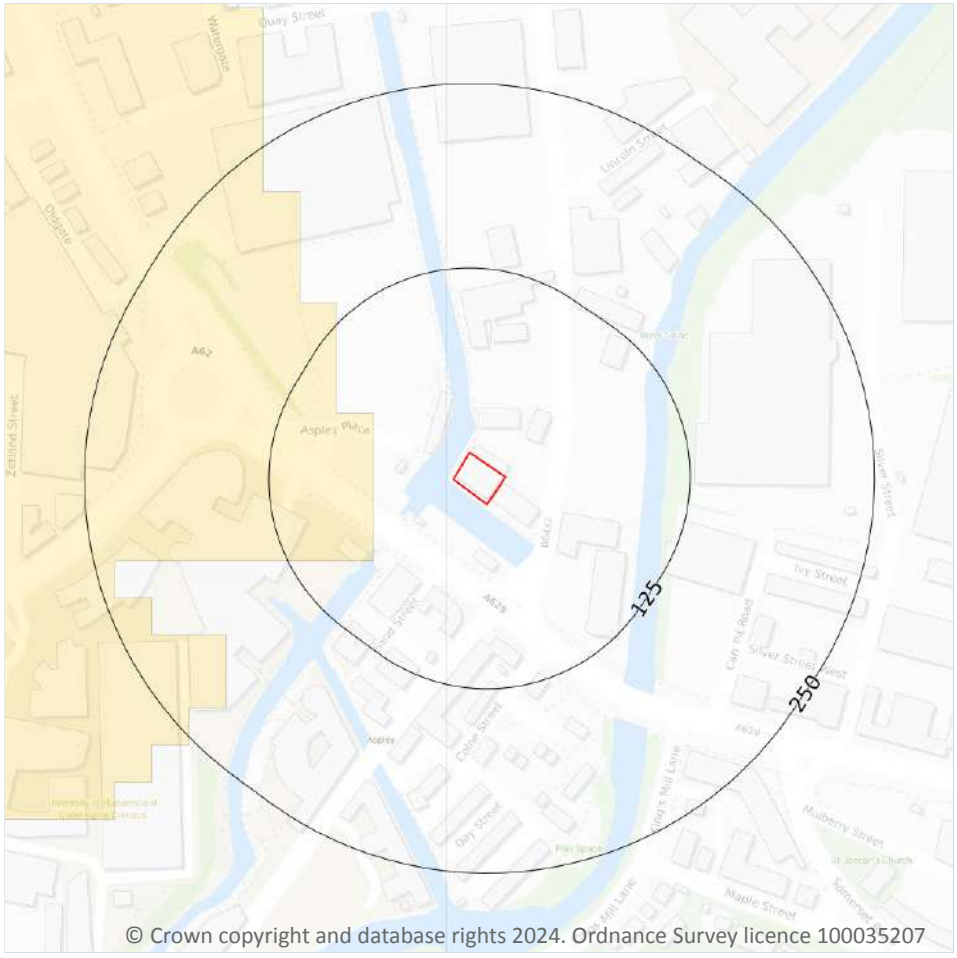
This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.

20 Radon



Site Outline

Search buffers in metres (m)

Greater than 30%

Between 10% and 30%

Between 5% and 10%

Between 3% and 5%

Between 1% and 3%

Less than 1%

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 141 >**

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 **7**

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 km^2. 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 km^2; 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	**25 - 35 mg/kg**	**No data**	**100 - 200 mg/kg**	**60 - 120 mg/kg**	**1.8 mg/kg**	**120 - 180 mg/kg**	**30 - 45 mg/kg**
On site	**25 - 35 mg/kg**	**No data**	**100 - 200 mg/kg**	**60 - 120 mg/kg**	**1.8 mg/kg**	**120 - 180 mg/kg**	**30 - 45 mg/kg**
4m W	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	120 - 180 mg/kg	30 - 45 mg/kg
7m W	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	120 - 180 mg/kg	30 - 45 mg/kg
13m NW	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
14m NW	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
35m W	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 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 km^2).

This data is sourced from the British Geological Survey.

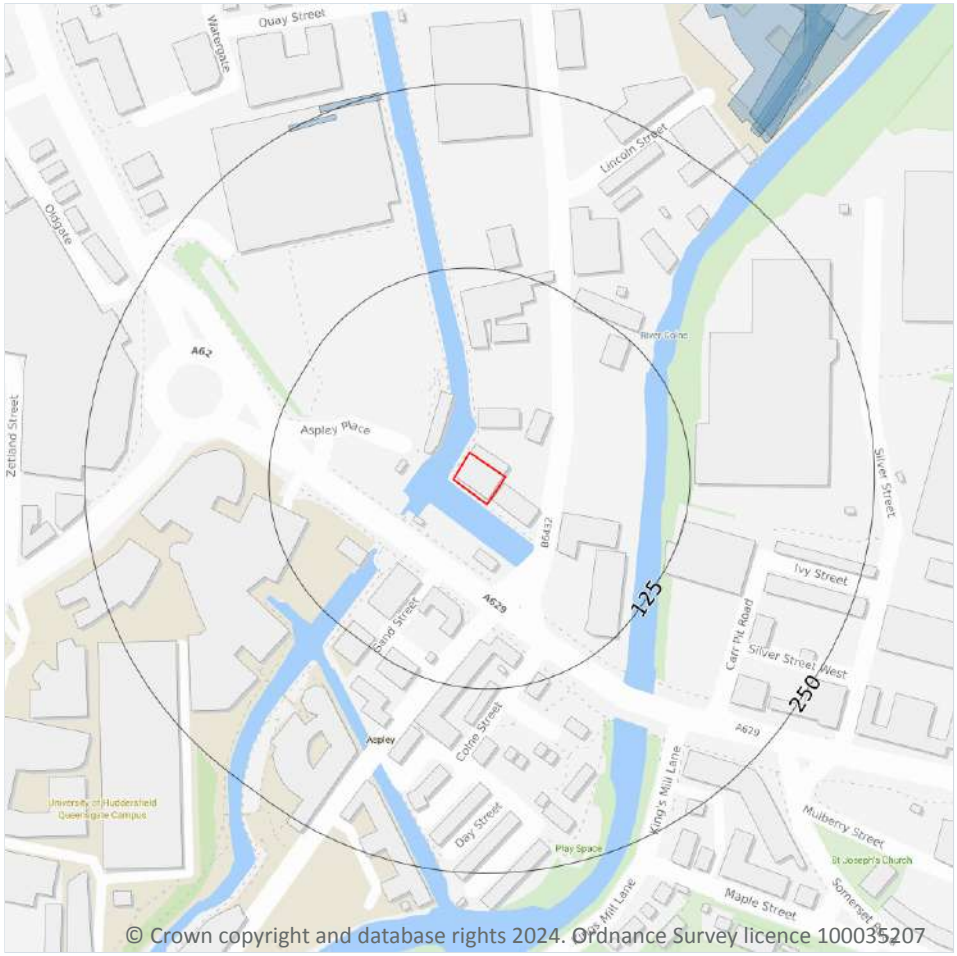
21.3 BGS Measured Urban Soil Chemistry

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 km^2.

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects



Site Outline

Search buffers in metres (m)

- Crossrail 1 Stations
- Crossrail 1 Route
- 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

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	2

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.

Features are displayed on the Railway infrastructure and projects map on **page 145 >**

Location	Land Use	Year of mapping	Mapping scale
243m N	Railway Sidings	1893	2500
246m N	Railway Sidings	1893	2500

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 1

Records within 500m	0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

22.9 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.

22.10 HS2

Records within 500m	0

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.

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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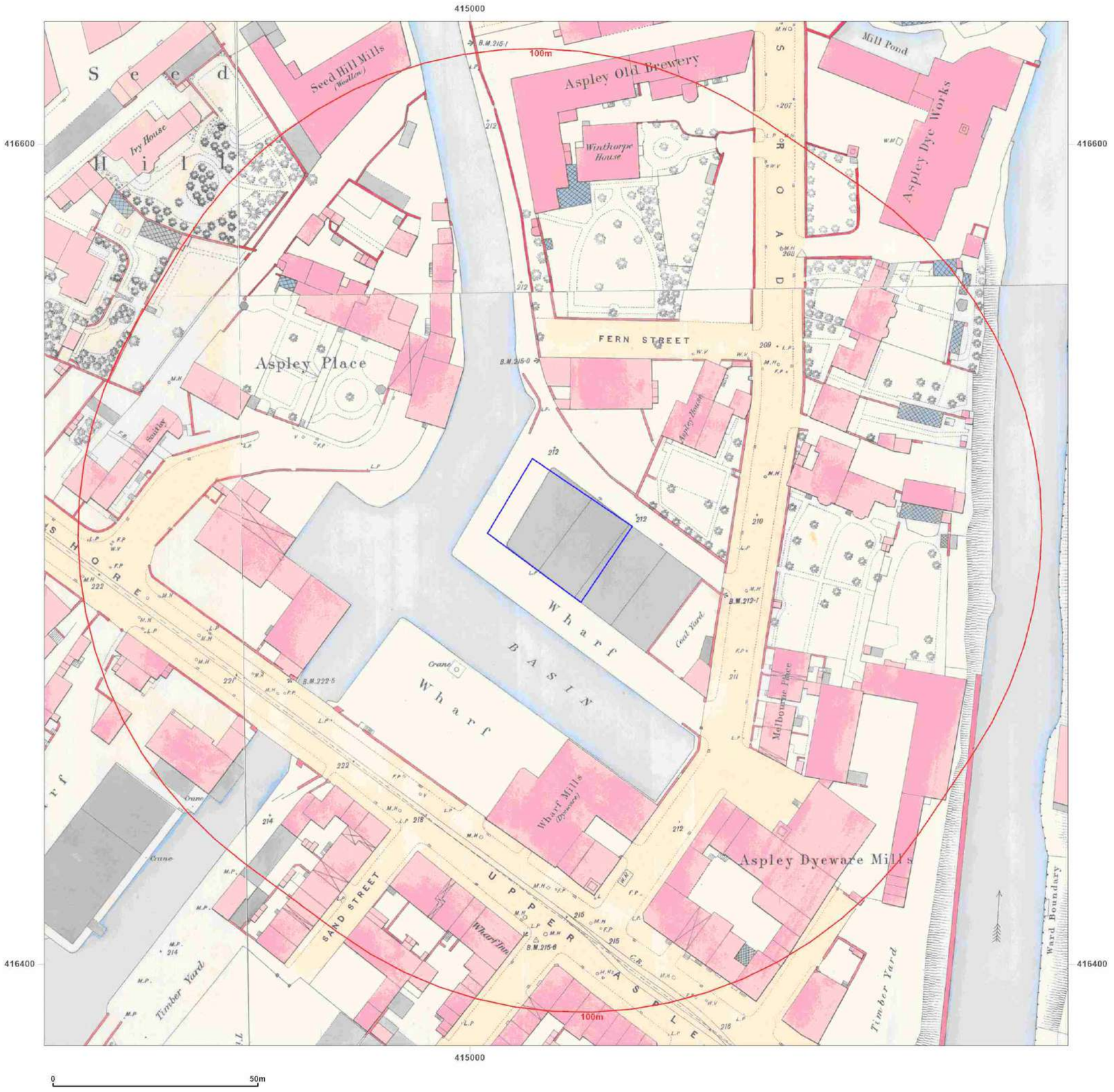

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: County Series Town Plan

Map date: **1890**

Scale: 1:500

Printed at: 1:1,000

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Surveyed 1890
Revised N/A
Edition N/A
Copyright N/A
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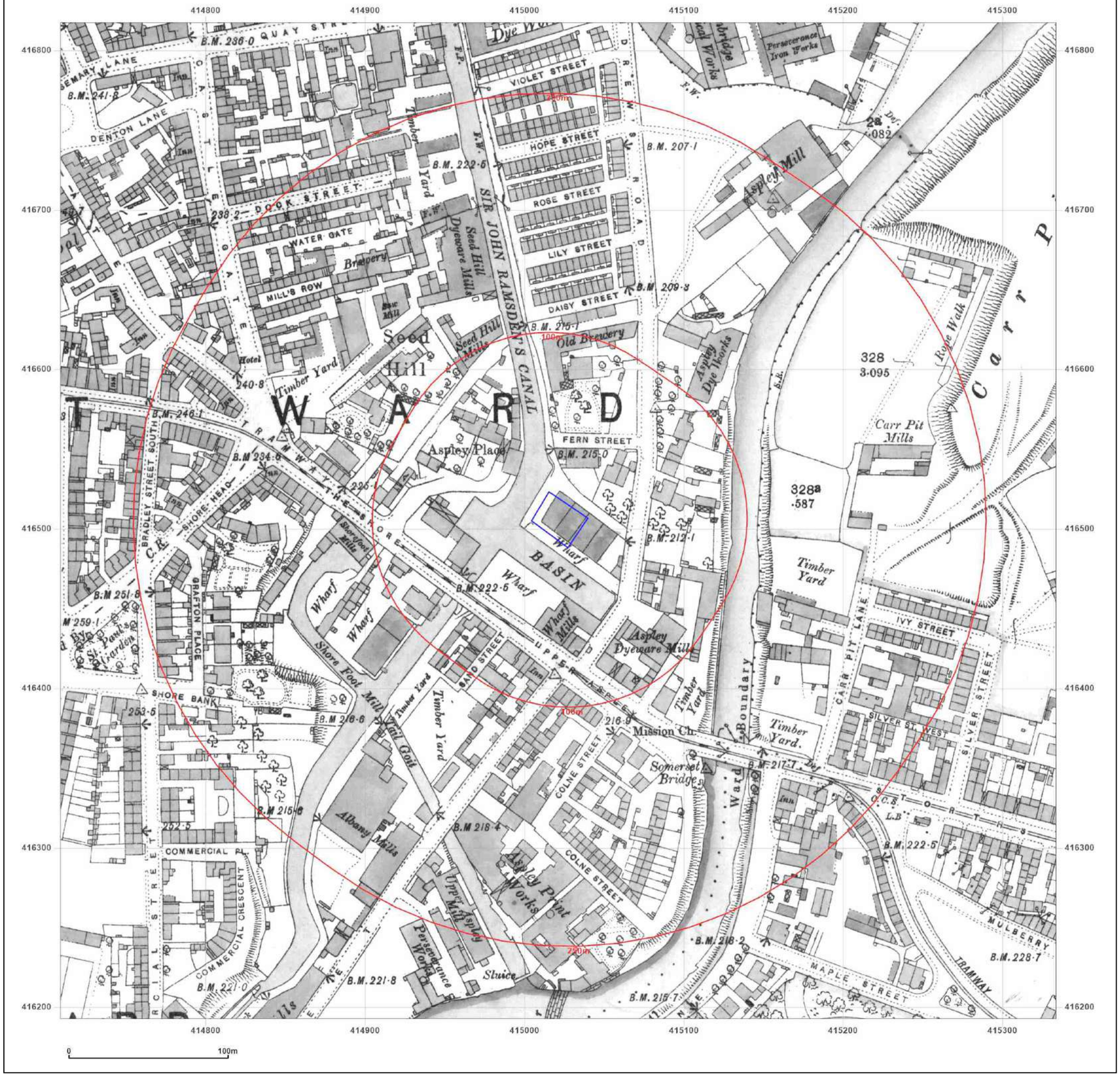

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Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

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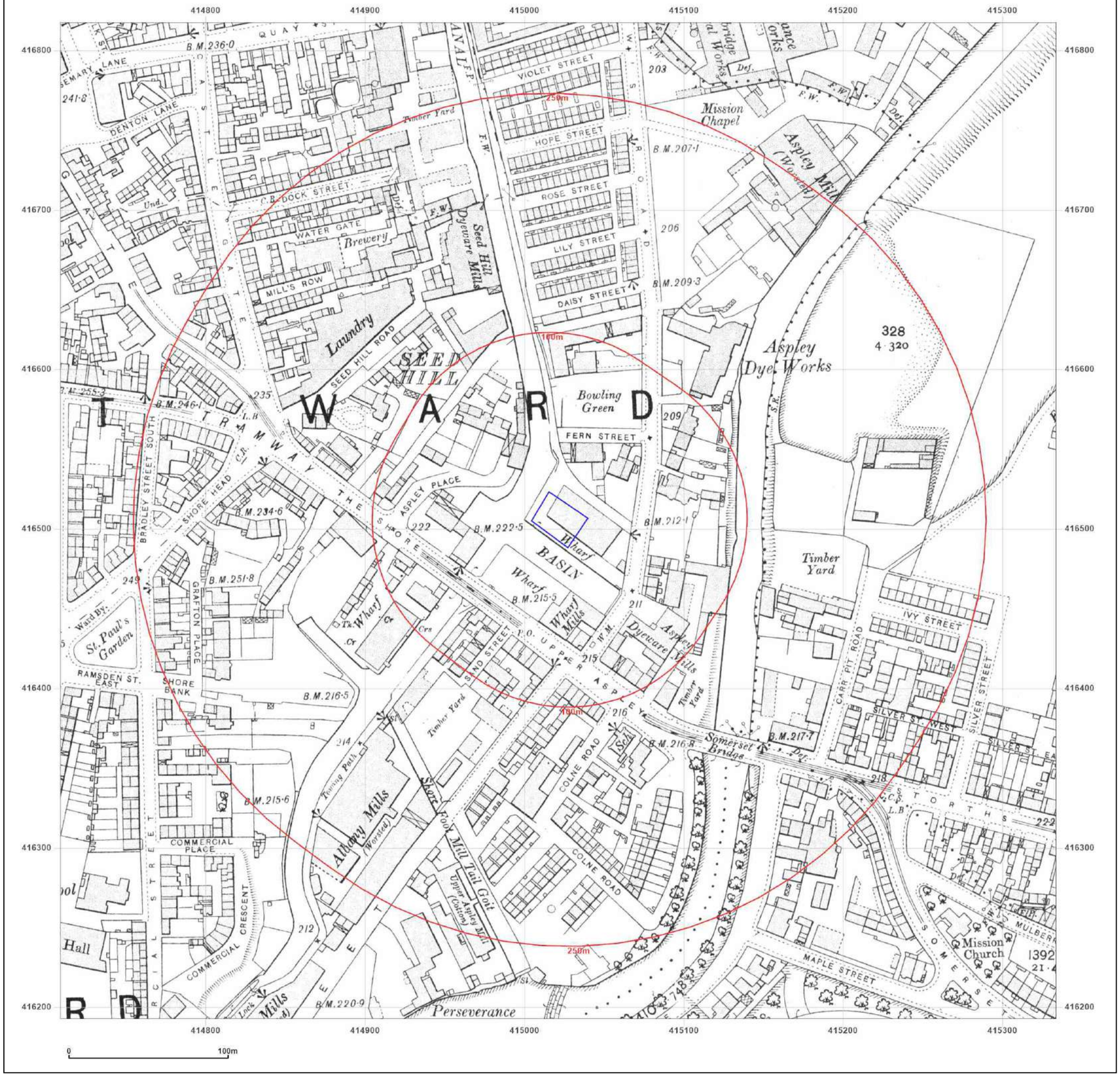

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: County Series

Map date: **1907**

Scale: 1:2,500

Printed at: 1:2,500

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Edition N/A
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Grid Ref: 415021, 416505

Map Name: County Series

Map date: **1918**

Scale: 1:2,500

Printed at: 1:2,500

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Revised 1918
Edition N/A
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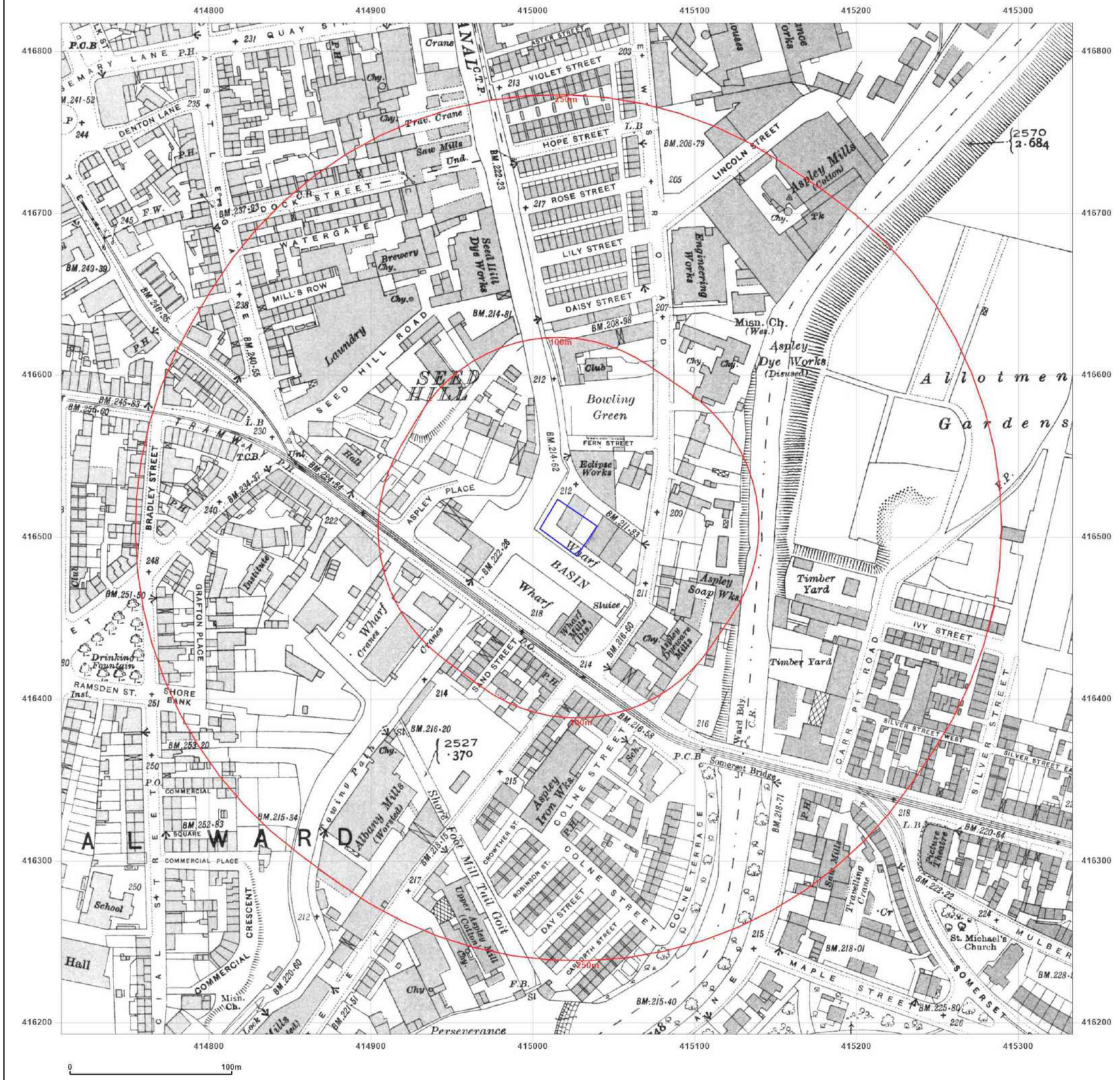

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: County Series

Map date: **1932**

Scale: 1:2,500

Printed at: 1:2,500

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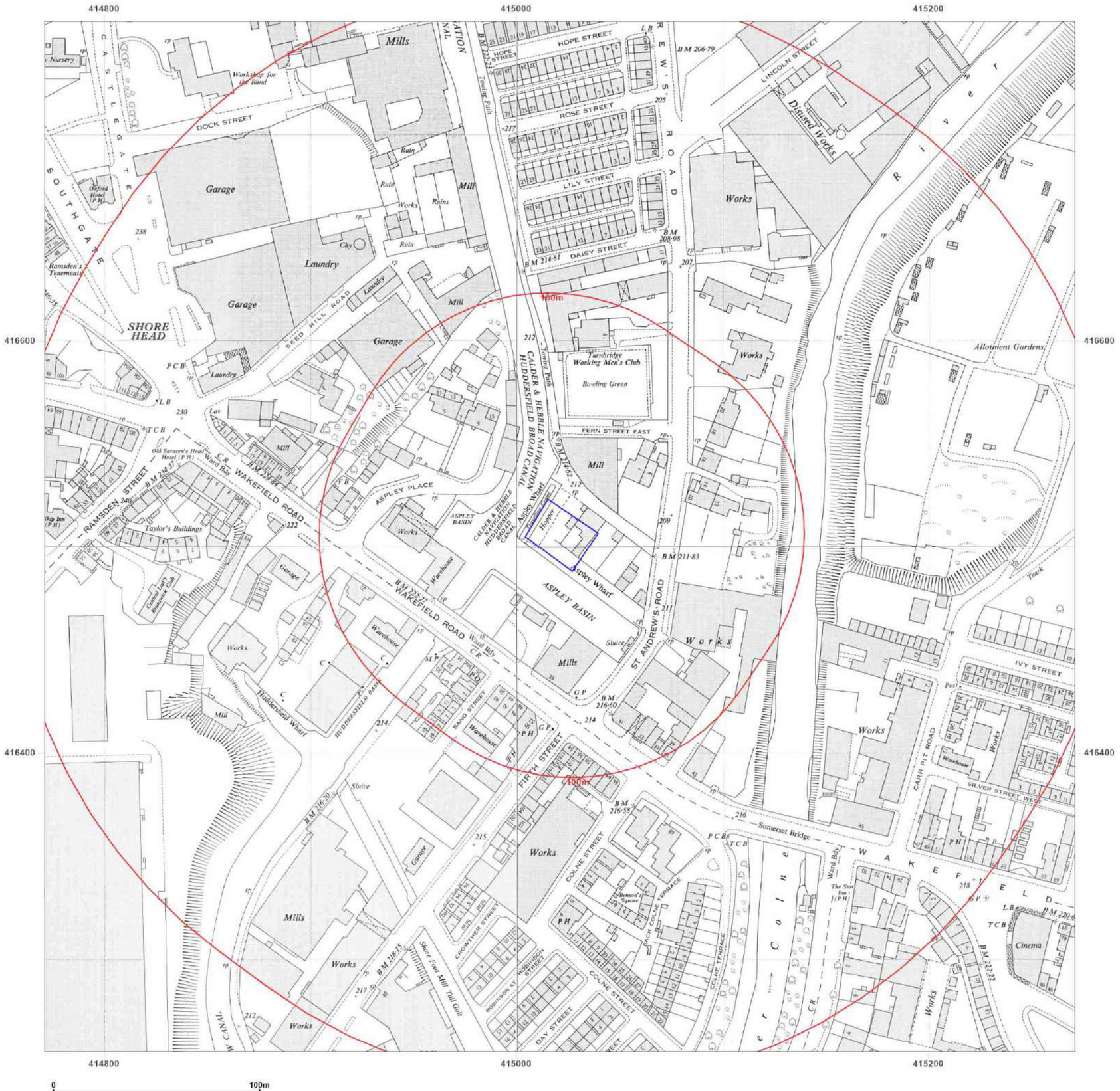

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **1959-1960**

Scale: 1:1,250

Printed at: 1:2,000

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **1961**

Scale: 1:2,500

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **1961**

Scale: 1:2,500

Printed at: 1:2,500

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Edition N/A
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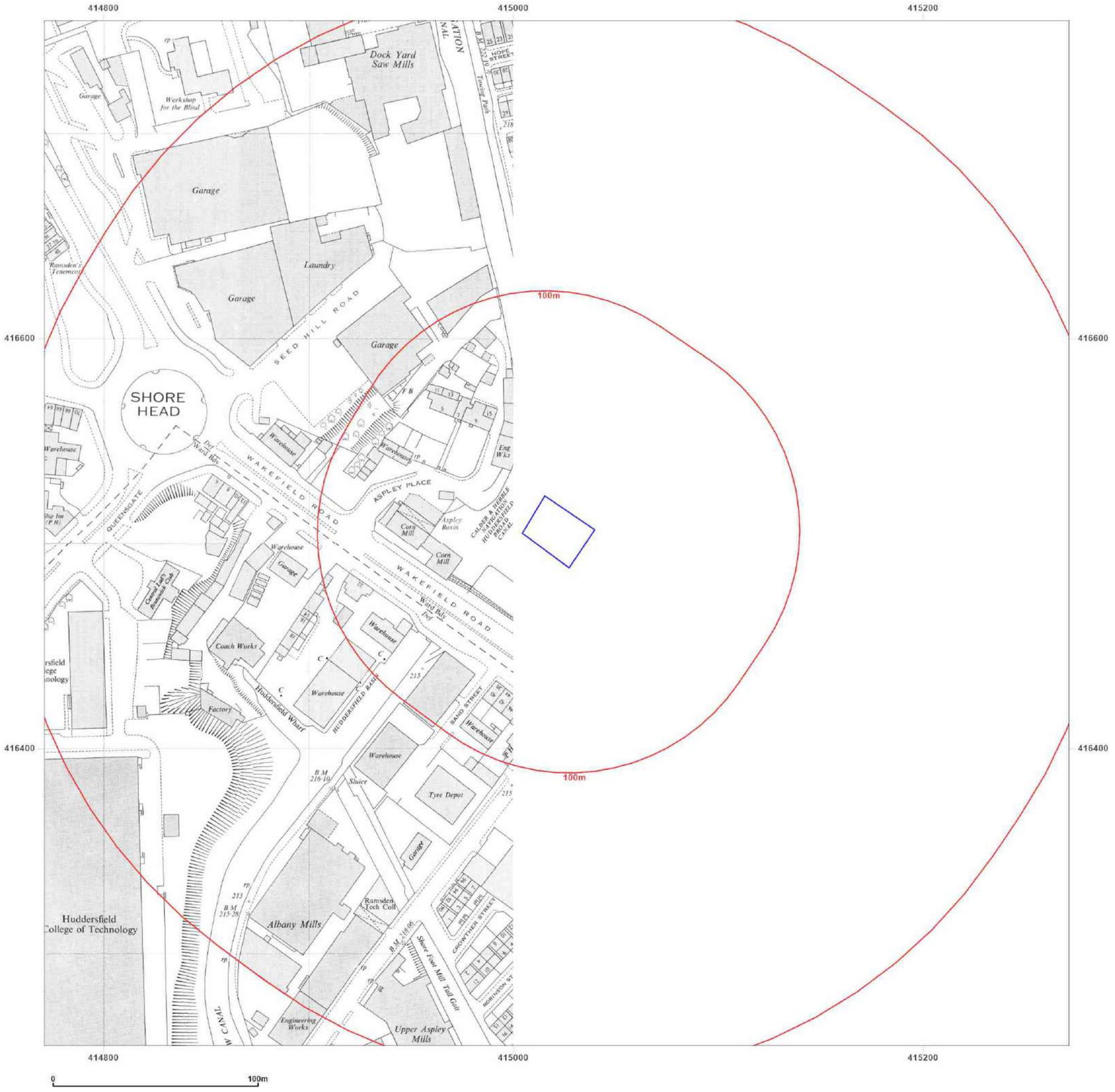

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **1966**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1959
Revised 1965
Edition N/A
Copyright 1966
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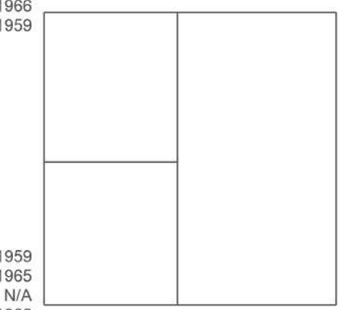

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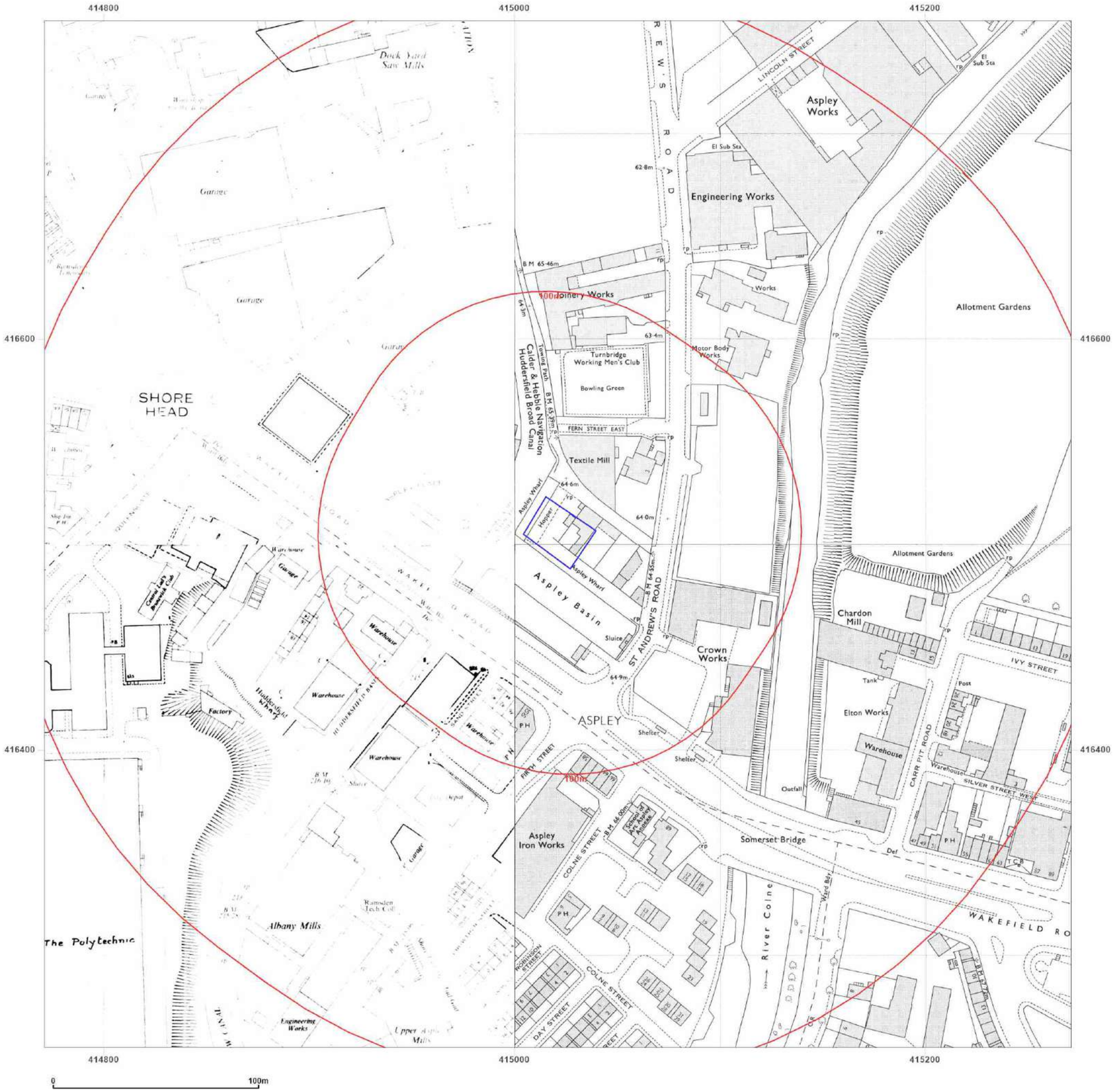

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid
Map date: **1972-1975**
Scale: 1:1,250
Printed at: 1:2,000

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

Surveyed 1958
Revised 1971
Edition N/A
Copyright 1972
Levelled 1959

Surveyed N/A
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Edition N/A
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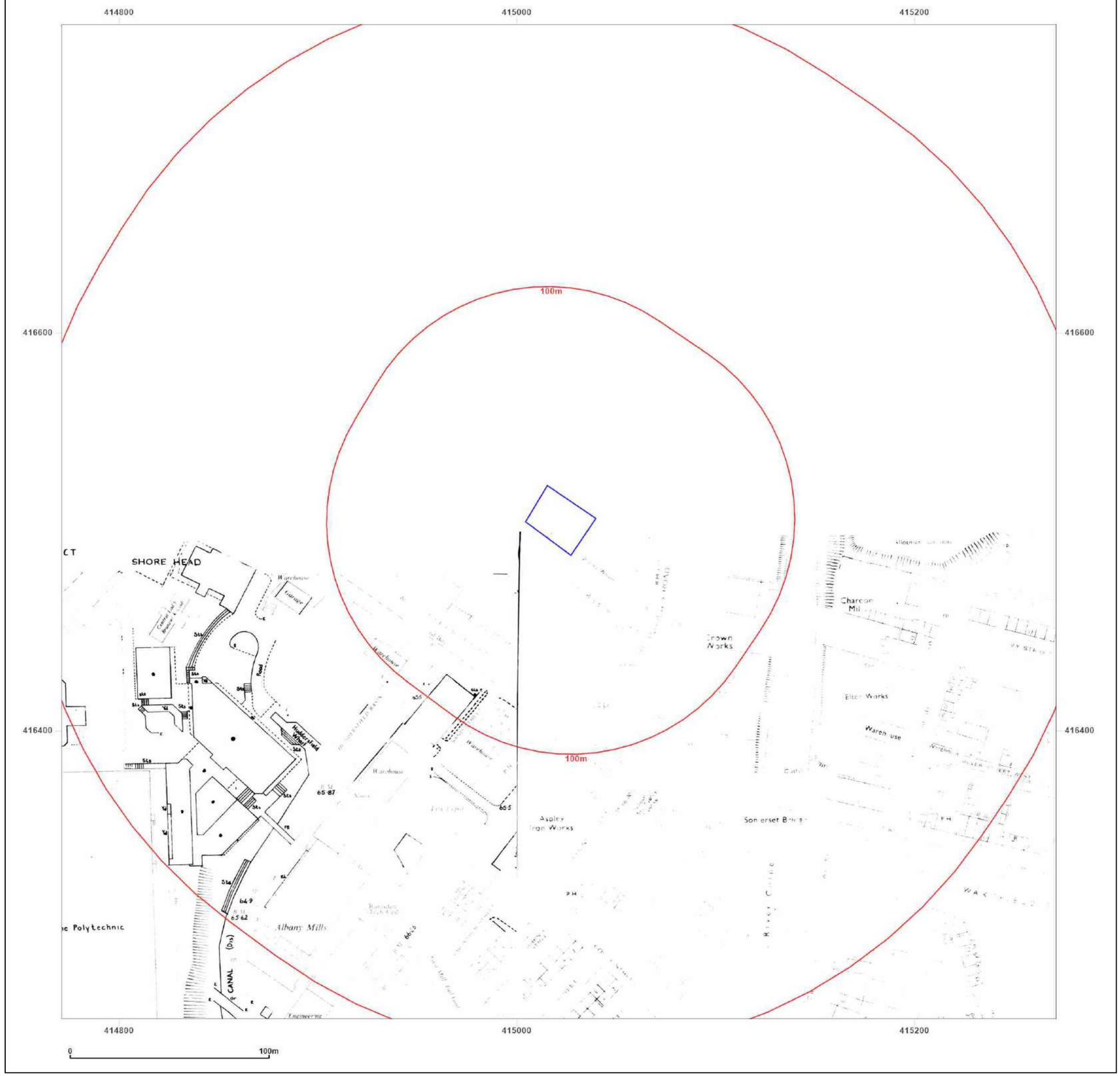

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **1975-1977**

Scale: 1:1,250

Printed at: 1:2,000

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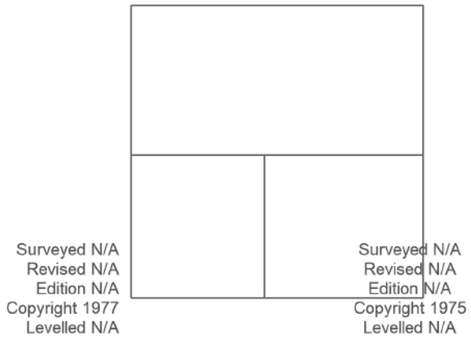

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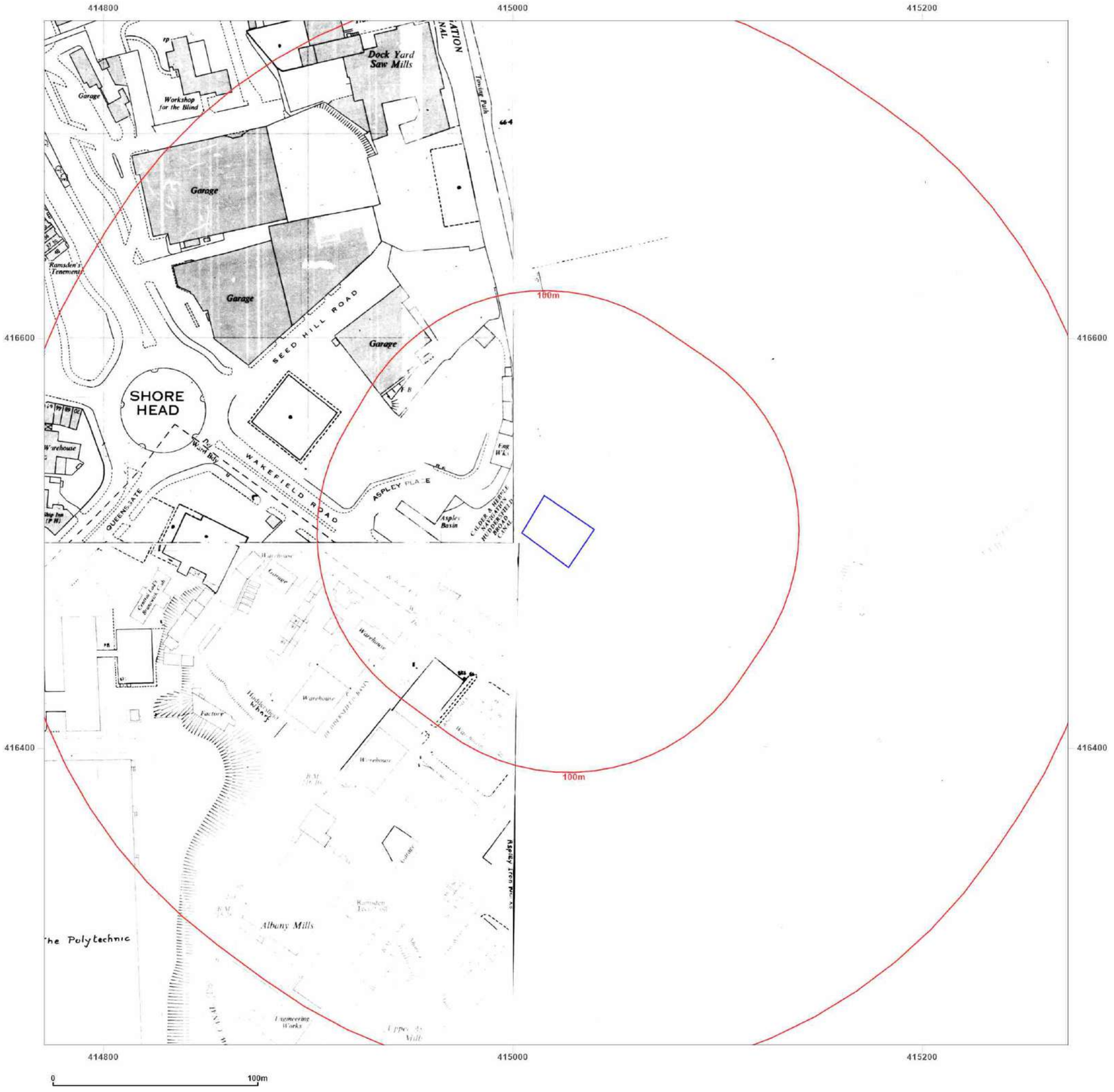

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Site Details:

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **1975-1978**

Scale: 1:1,250

Printed at: 1:2,000

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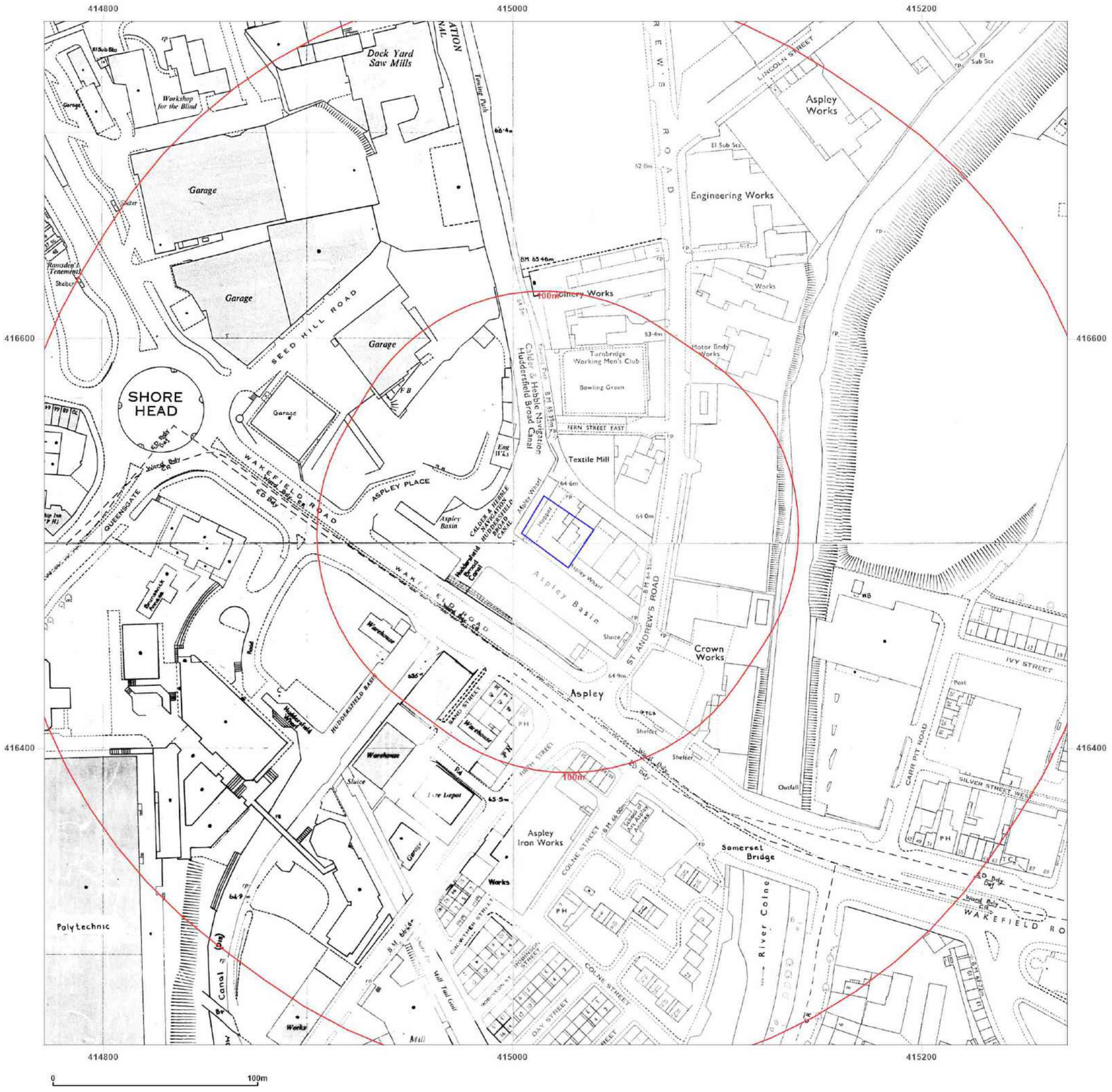

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Site Details:

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **1983-1986**

Scale: 1:1,250

Printed at: 1:2,000

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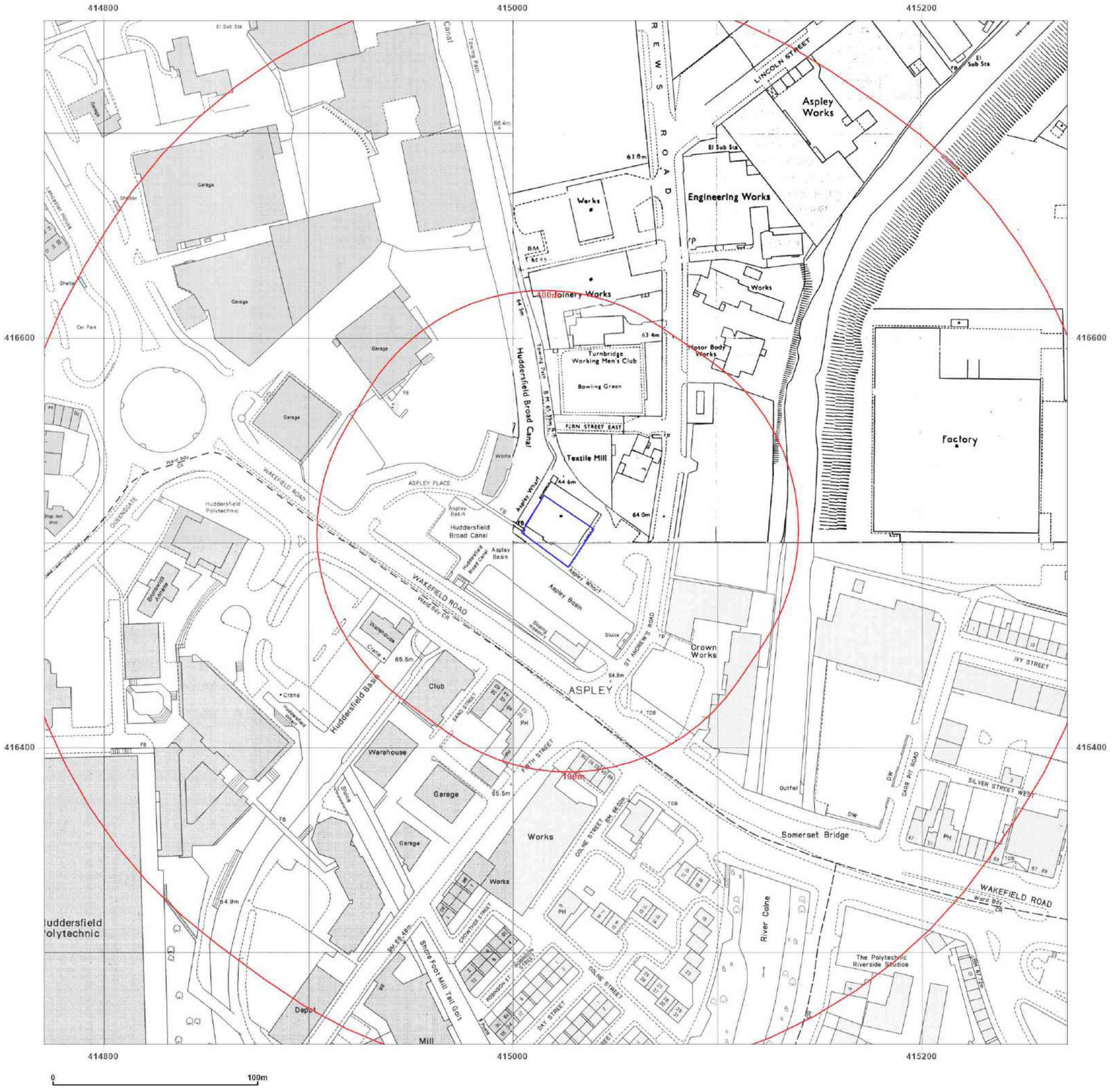

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **1988-1991**

Scale: 1:1,250

Printed at: 1:2,000

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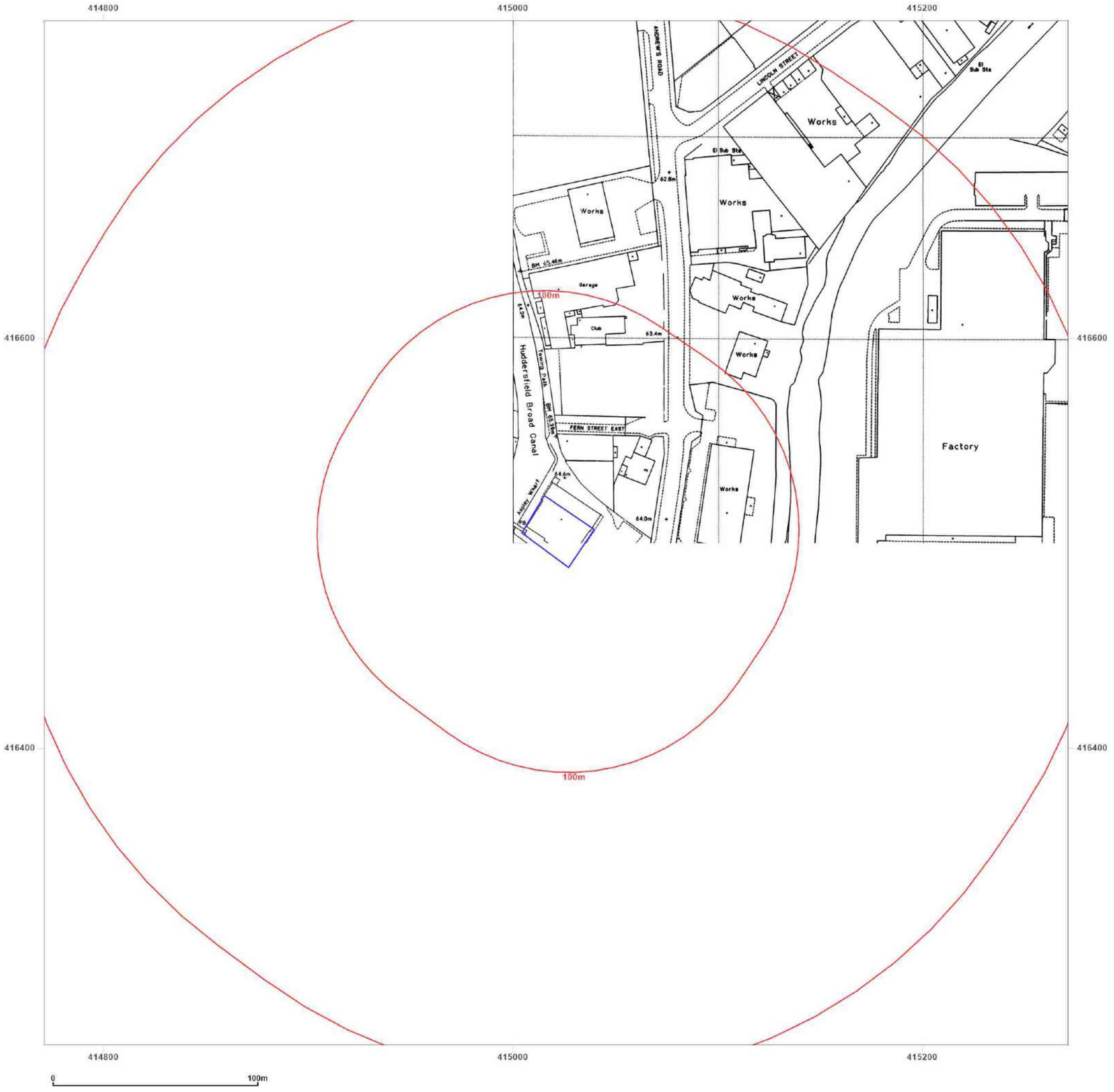

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **1993**

Scale: 1:1,250

Printed at: 1:2,000

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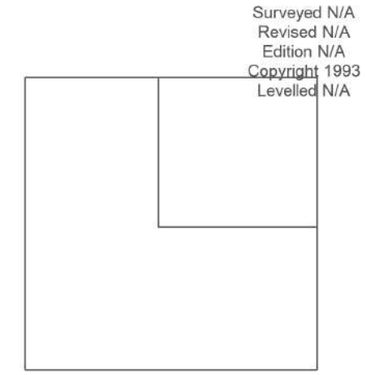

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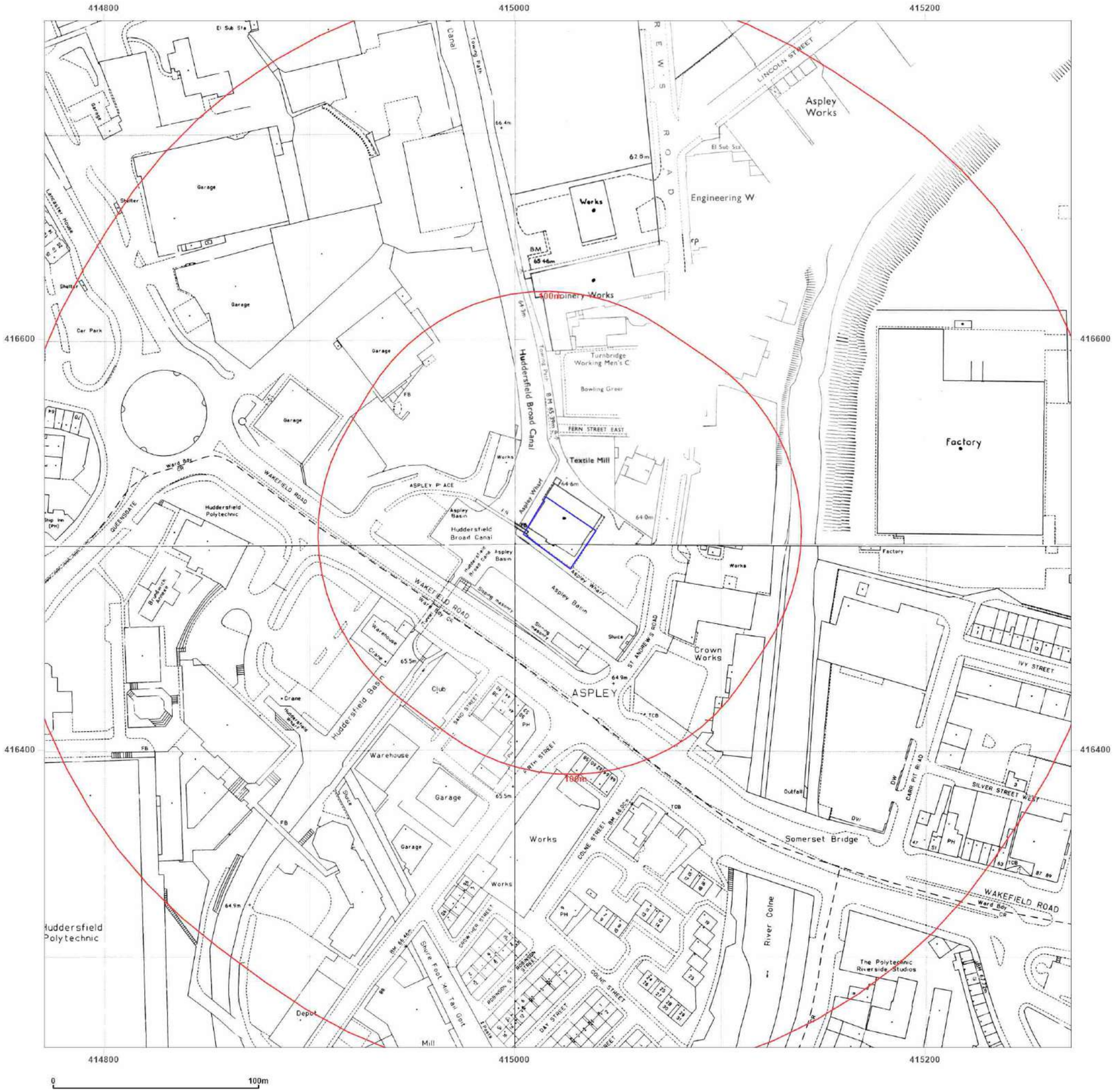

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **1988-1993**

Scale: 1:1,250

Printed at: 1:2,000

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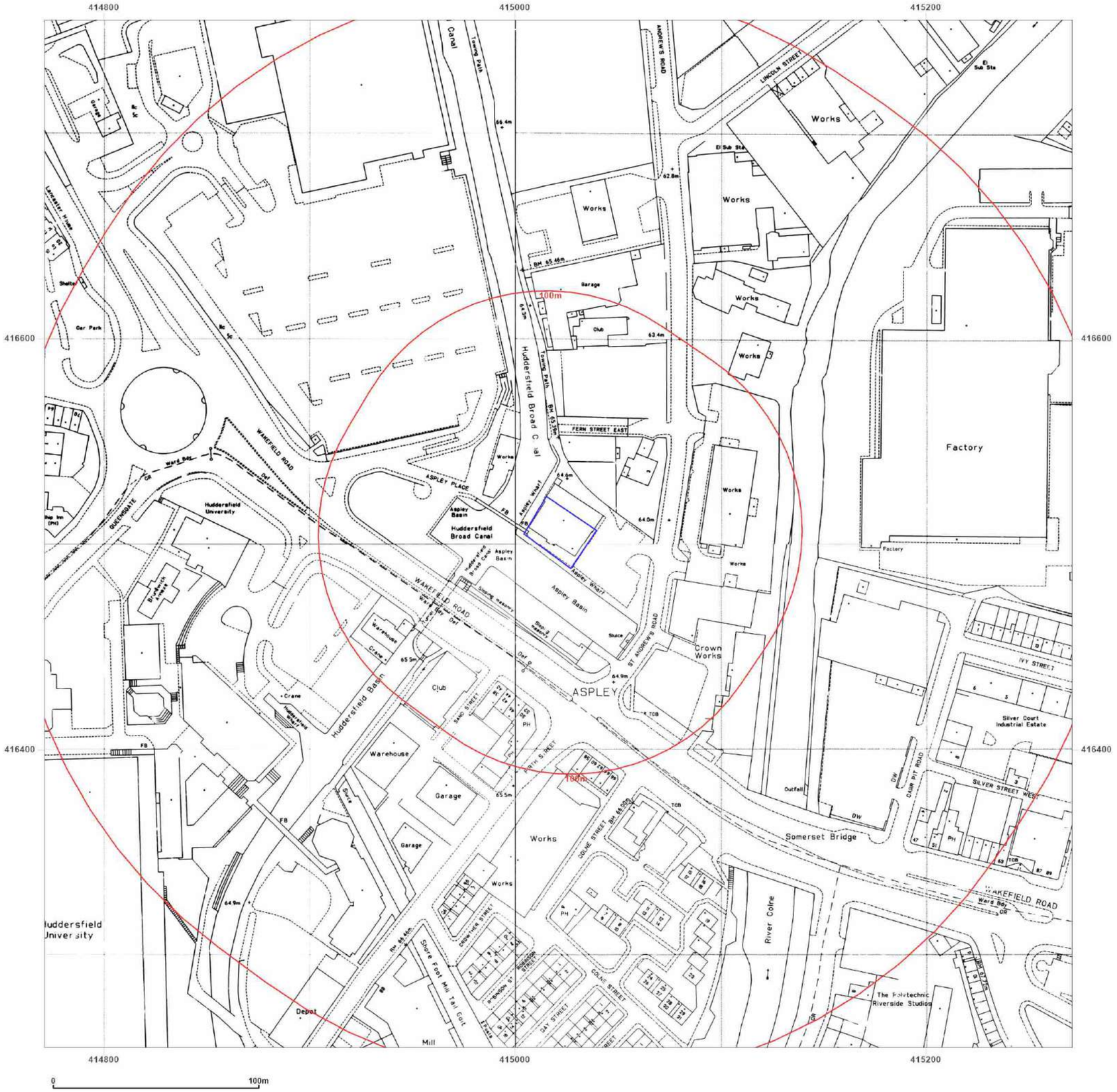

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **1993-1995**

Scale: 1:1,250

Printed at: 1:2,000

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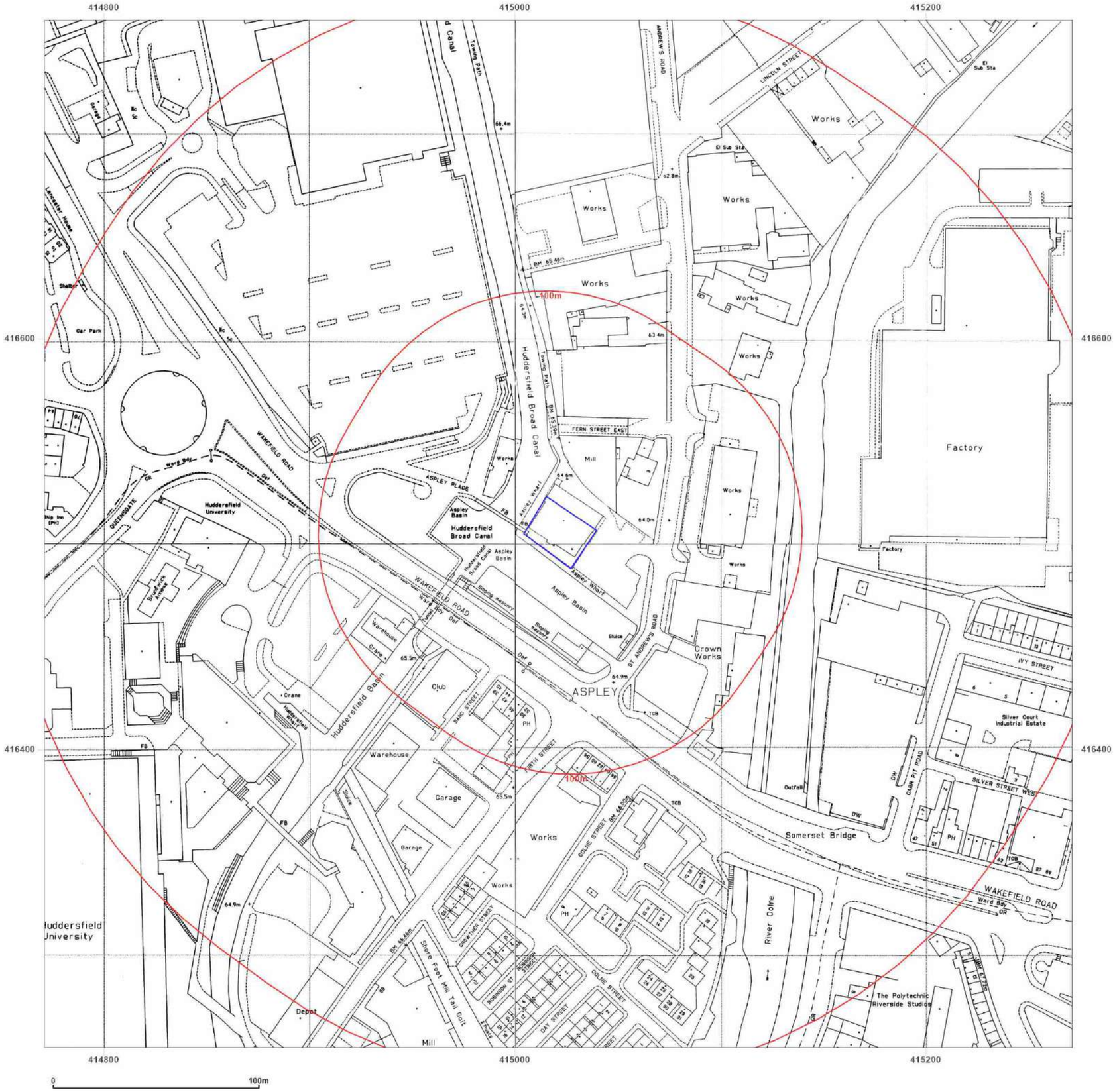

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **1993-1995**

Scale: 1:1,250

Printed at: 1:2,000

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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2003

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County Series 1:10,560 scale

VEGETATION

Fir Wood

Deciduous Wood

Mixed Wood

Brushwood

Orchard

Reeds

Rough Pasture

Furze

Marsh

Osiers

ROADS

Railway over Road

Road over Railway

Road over River or Canal

Level Crossing

Railway over River

Road over Stream

Sunken Road

Raised Road

RAILWAYS

Double Lines of Railway

Single Lines of Railway and Tramway

GENERAL FEATURES

Gravel Pit

Sand Pit

Quarry

Shingle

Other Pits

Antiquities, Site of

Arrow, showing direction of flow of water

Trigonometrical Station

BOUNDARIES

County Boundary

Parliamentary Division Boundary

Parish Boundary

Union Boundary

200 Contours

Rural District Boundary

National Grid 1:10,000 scale

HEIGHTS (METRES)

Values are given in metres above mean sea level at Newlyn.

Surface heights determined by: ground survey • 163m; air survey

Bench marks and their values are shown on large scale maps, and bench mark lists containing fuller and possibly later levelling information are obtainable from the Director General, Ordnance Survey.

Contours are at 5 metres vertical interval.

ROCK FEATURES

Loose rock

Boulders

Outcrop

Scree

Vertical face

CONVERSION SCALE

Metres - Feet

2000 Metres – 6500 Feet

6000

5000

1500

4000

ABBREVIATIONS

BP,BS	Boundary Post or Stone
Ch	Church
CH	Club House
F Sta	Fire Station
FB	Foot Bridge
Fn	Fountain
GP	Guide Post
MP,MS	Mile Post or Stone
P	Pole or Post
Pol Sta	Police Station
PO	Post Office
PC	Public Convenience
PH	Public House
S	Stone
Spr	Spring
TCB	Telephone Call Box
TCP	Telephone Call Post
TH	Town Hall
W	Well
Y	Youth hostel

ROADS

Road

Track (Where unfenced shown by pecked lines.)

Path

RAILWAYS

Cutting, Embankment, Road over, Road under, Level crossing, Foot Bridge

Multiple track

Single track

Siding, tramway or mineral line

Standard gauge

Narrow gauge

GENERAL FEATURES

Antiquity, (site of)

Boulders

Building

Pylon

Pole

Electricity transmission line

Glasshouse

Triangulation station

Direction of flow of water

Lake, loch or pond

Sloping masonry

Chalk pit, clay pit or quarry

Gravel pit

Sand pit

Refuse or slag heap

Shingle

Sand

VEGETATION

Bracken, rough grassland

Scrub

Heath

Marsh

Saltings

Reeds

Coppice

Orchard

Coniferous trees

Non-coniferous trees

In some areas bracken ( ) and rough grassland ( ) are shown separately.

GroundSure

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County Series & National Grid

1:10,560 scale

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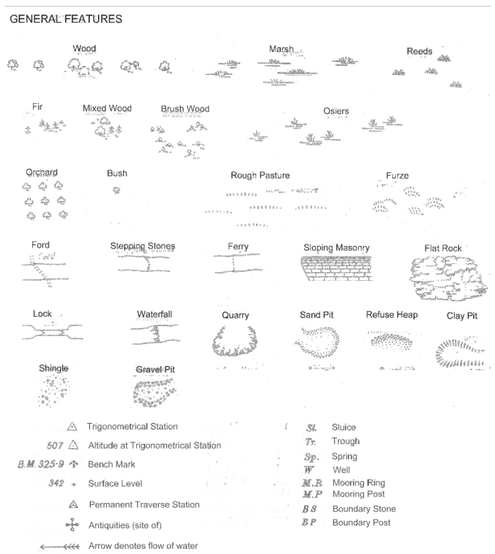
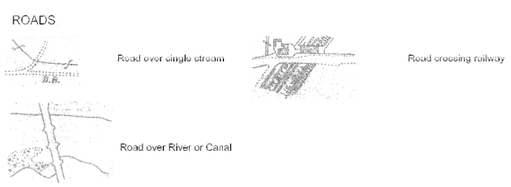
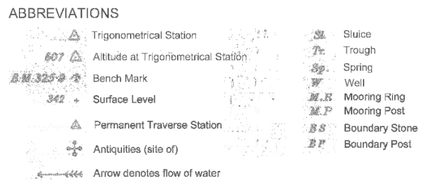
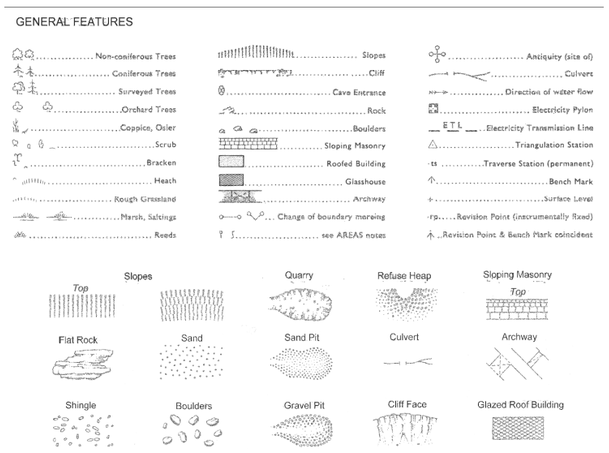
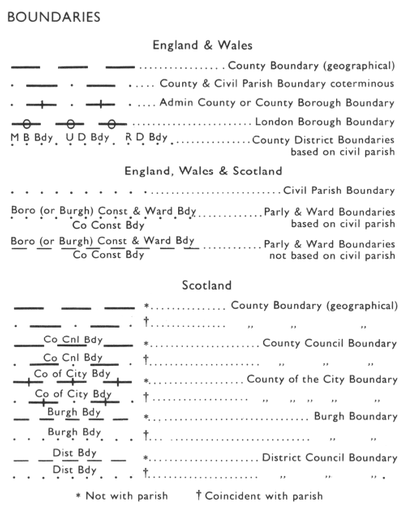


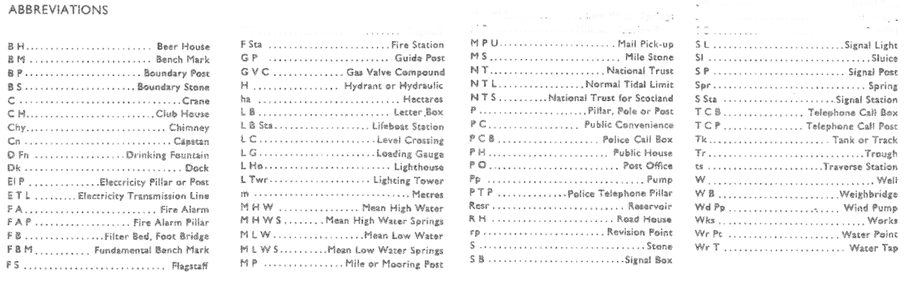




National Grid 1:2,500 / 1:1,250 scale







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Historical Map Pack Legend

County Series

1:1,250 scale

~

County Series & National Grid

1:2,500 scale

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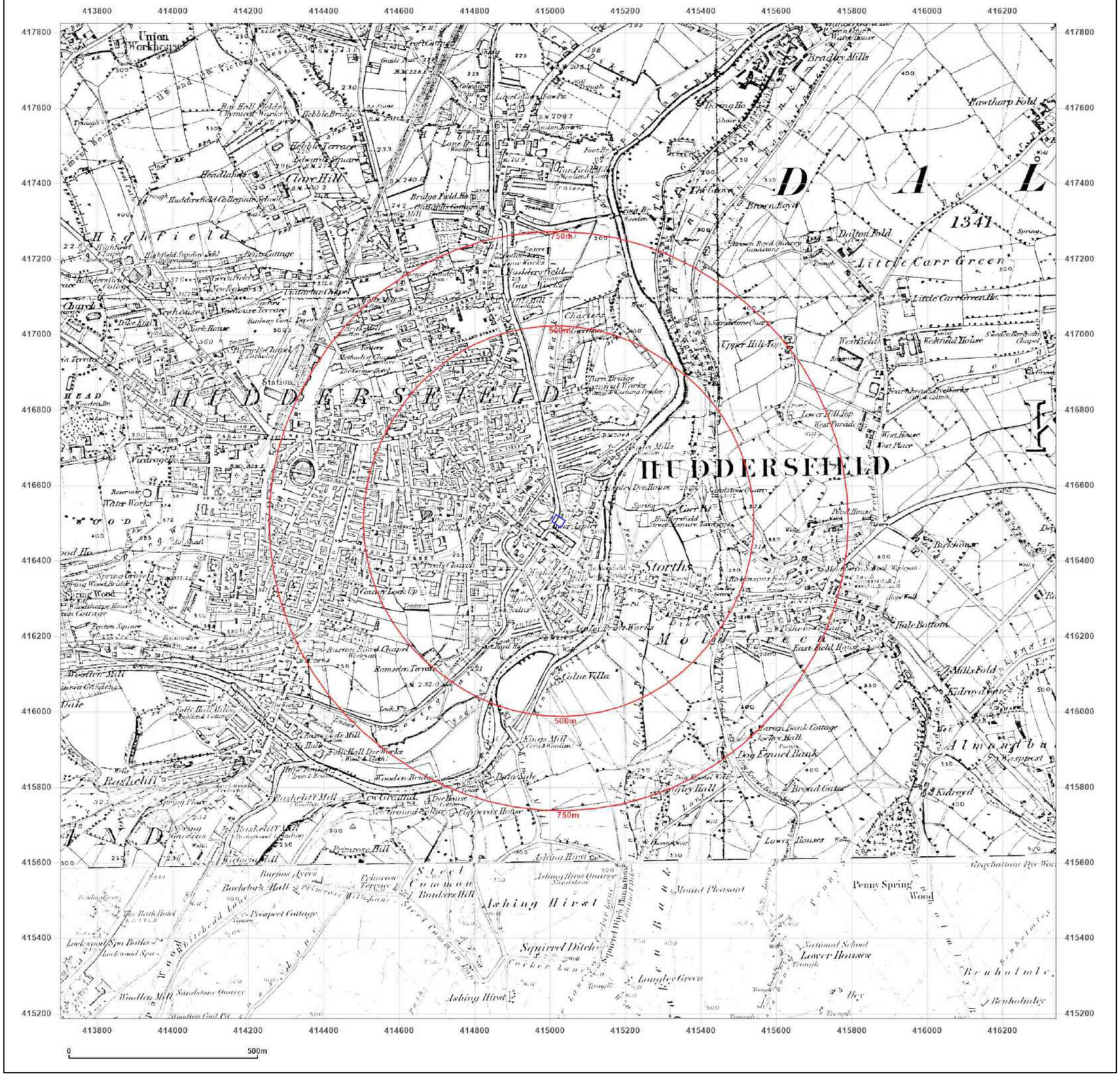

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: County Series

Map date: **1854**

Scale: 1:10,560

Printed at: 1:10,560

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Levelled 1853

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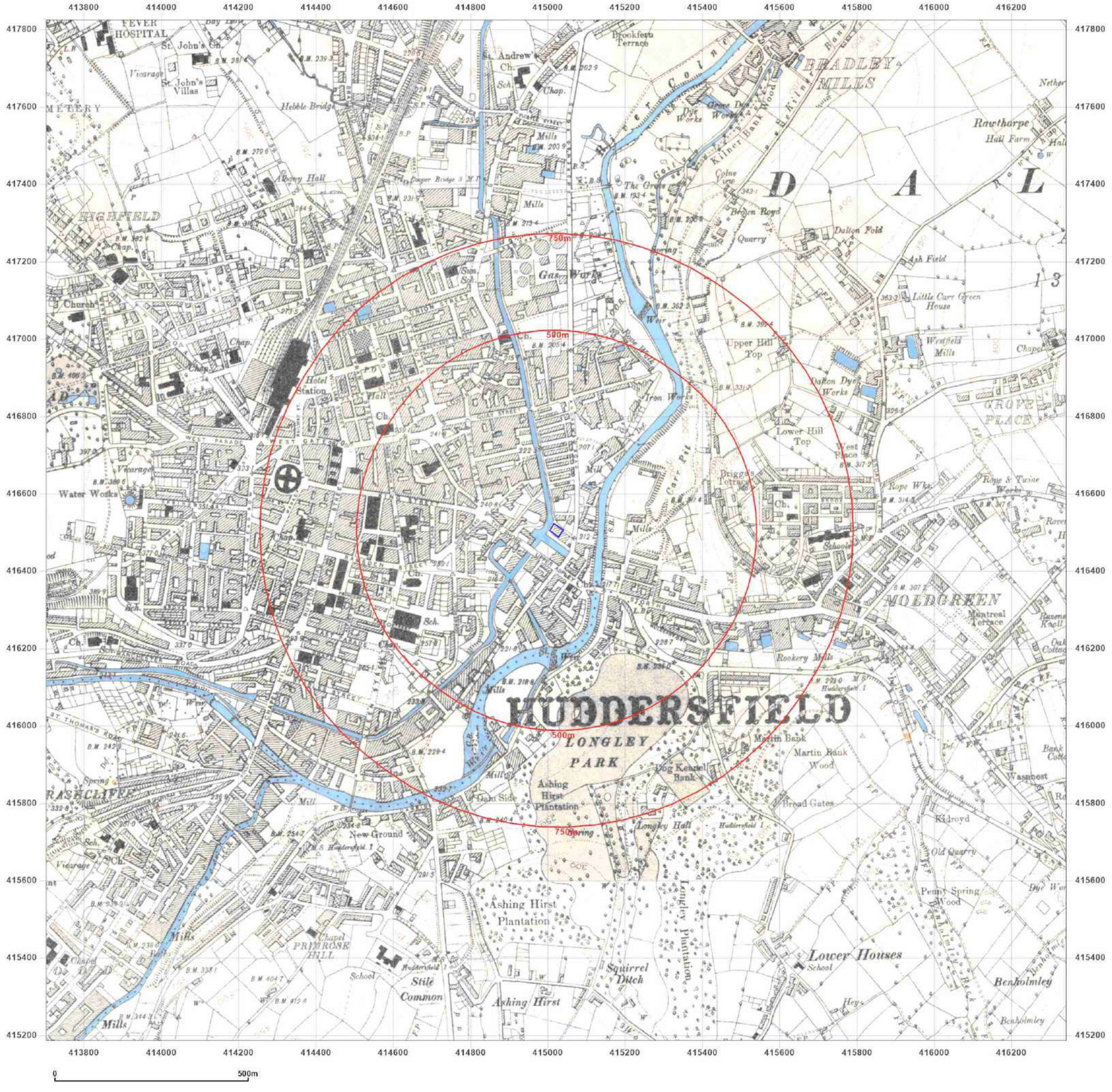

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Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: County Series

Map date: **1888-1889**

Scale: 1:10,560

Printed at: 1:10,560

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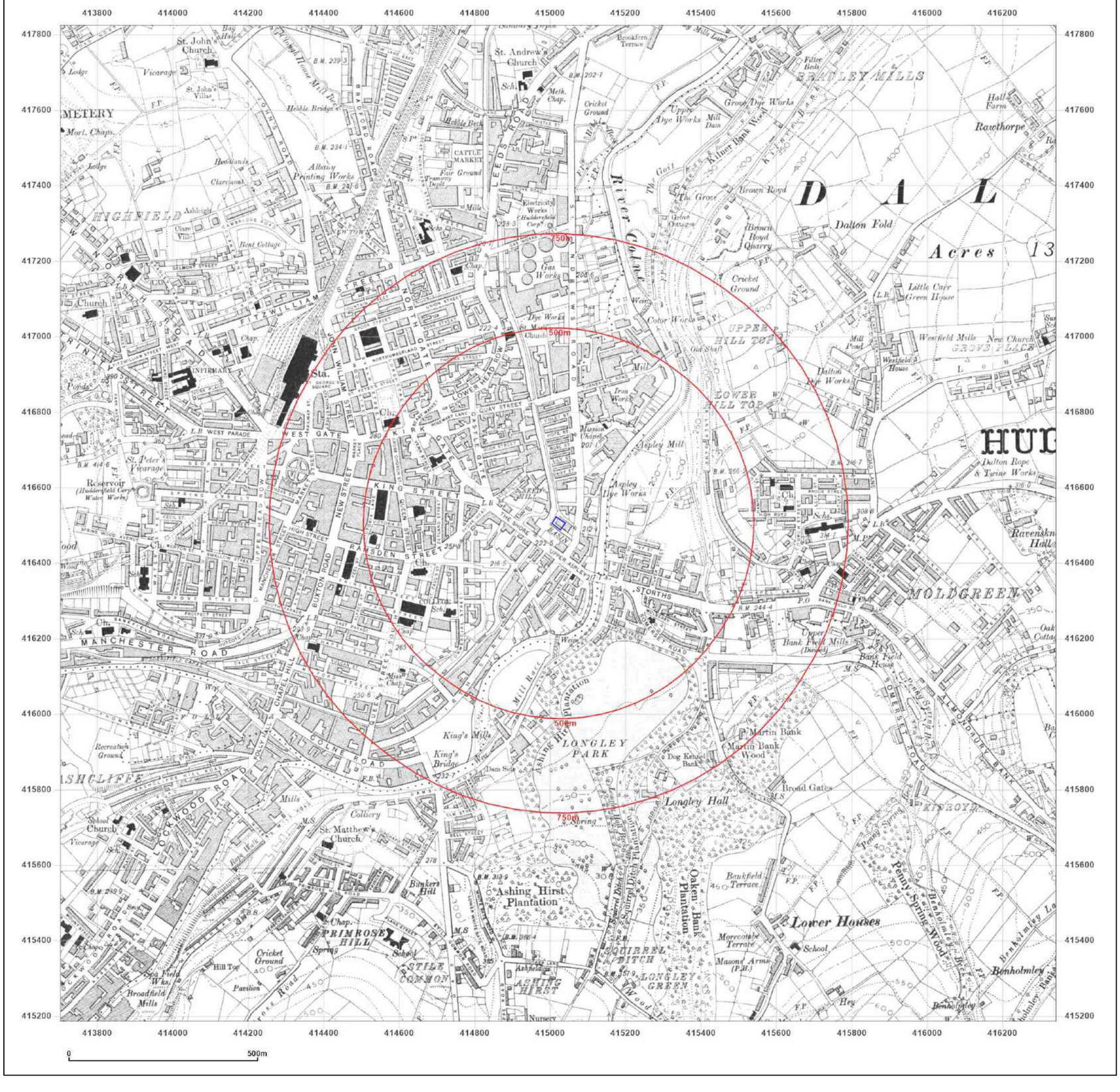

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: County Series

Map date: **1905**

Scale: 1:10,560

Printed at: 1:10,560

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Grid Ref: 415021, 416505

Map Name: County Series

Map date: **1930-1931**

Scale: 1:10,560

Printed at: 1:10,560

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Client Ref:	EMS_957530_1189291
Report Ref:	EMS-957530_1216438
Grid Ref:	415021, 416505
Map Name:	County Series
Map date:	**1938**
Scale:	1:10,560
Printed at:	1:10,560

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Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: County Series

Map date: **1948**

Scale: 1:10,560

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: Provisional

Map date: **1956**

Scale: 1:10,560

Printed at: 1:10,560

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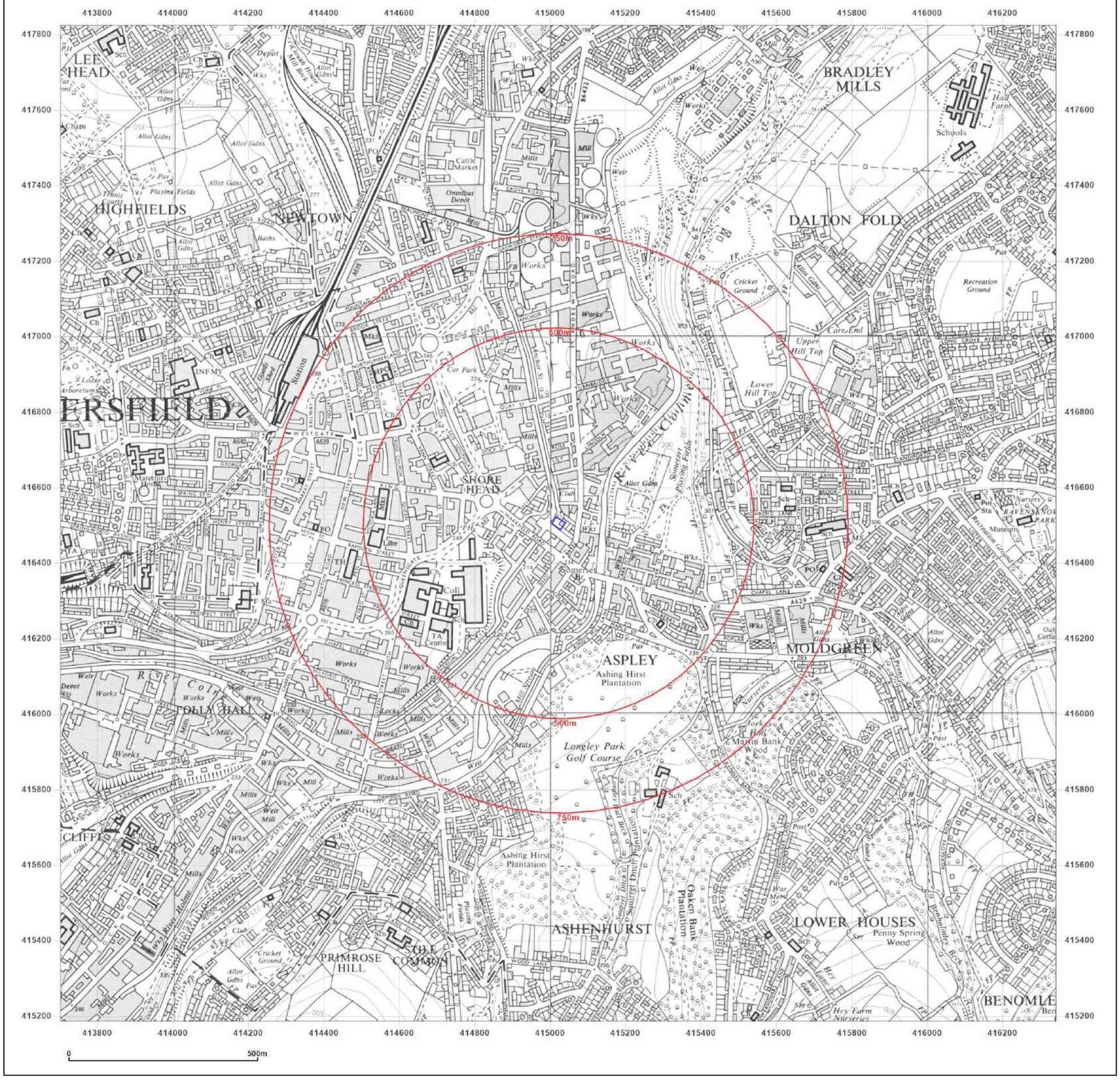

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Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: Provisional

Map date: **1965-1966**

Scale: 1:10,560

Printed at: 1:10,560

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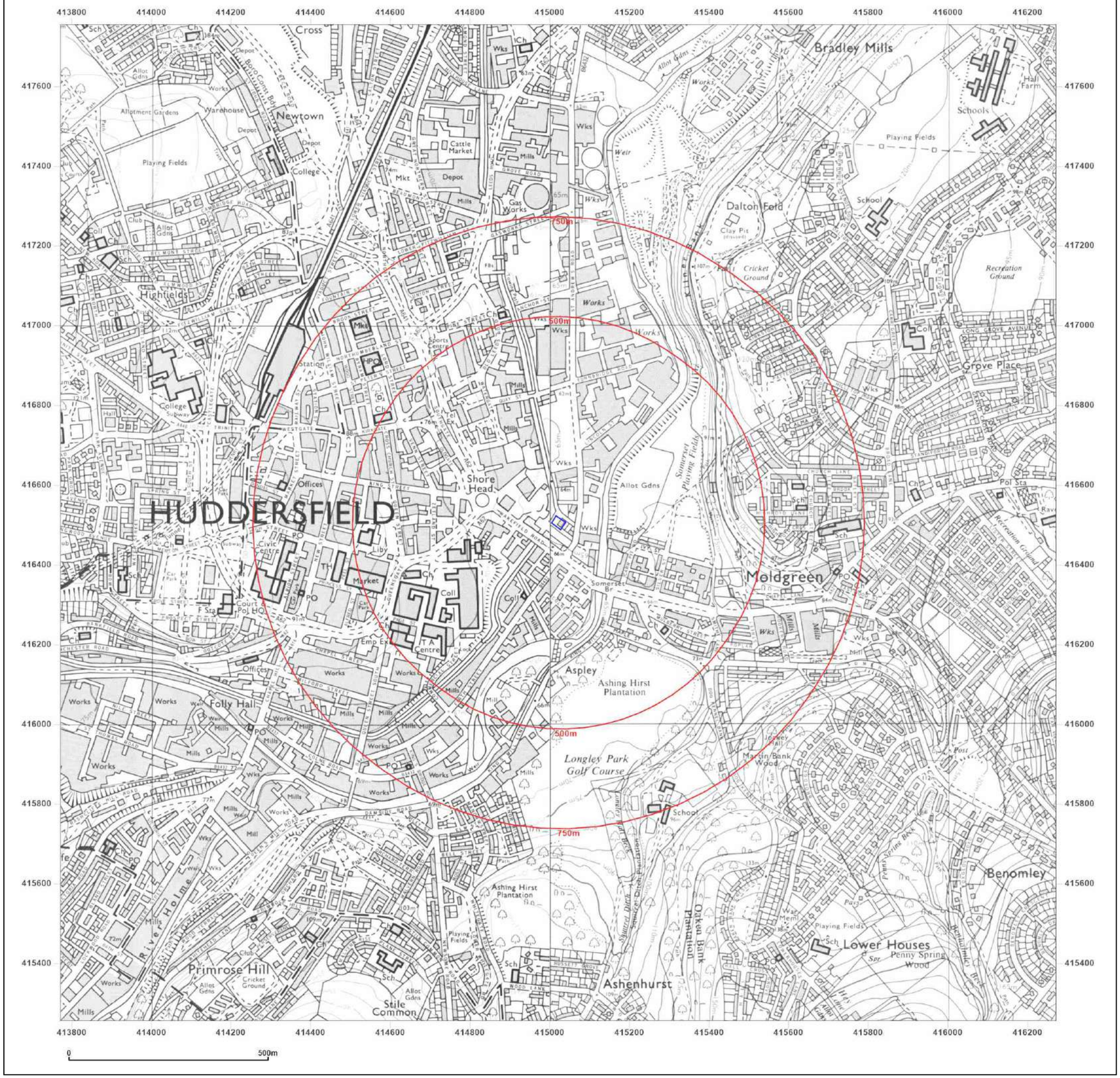

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Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **1975**

Scale: 1:10,000

Printed at: 1:10,000

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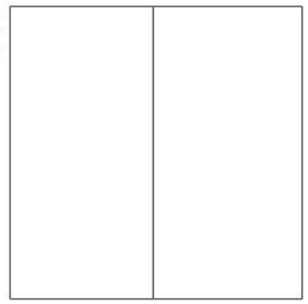
Surveyed 1974
Revised 1975
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1974
Revised 1975
Edition N/A
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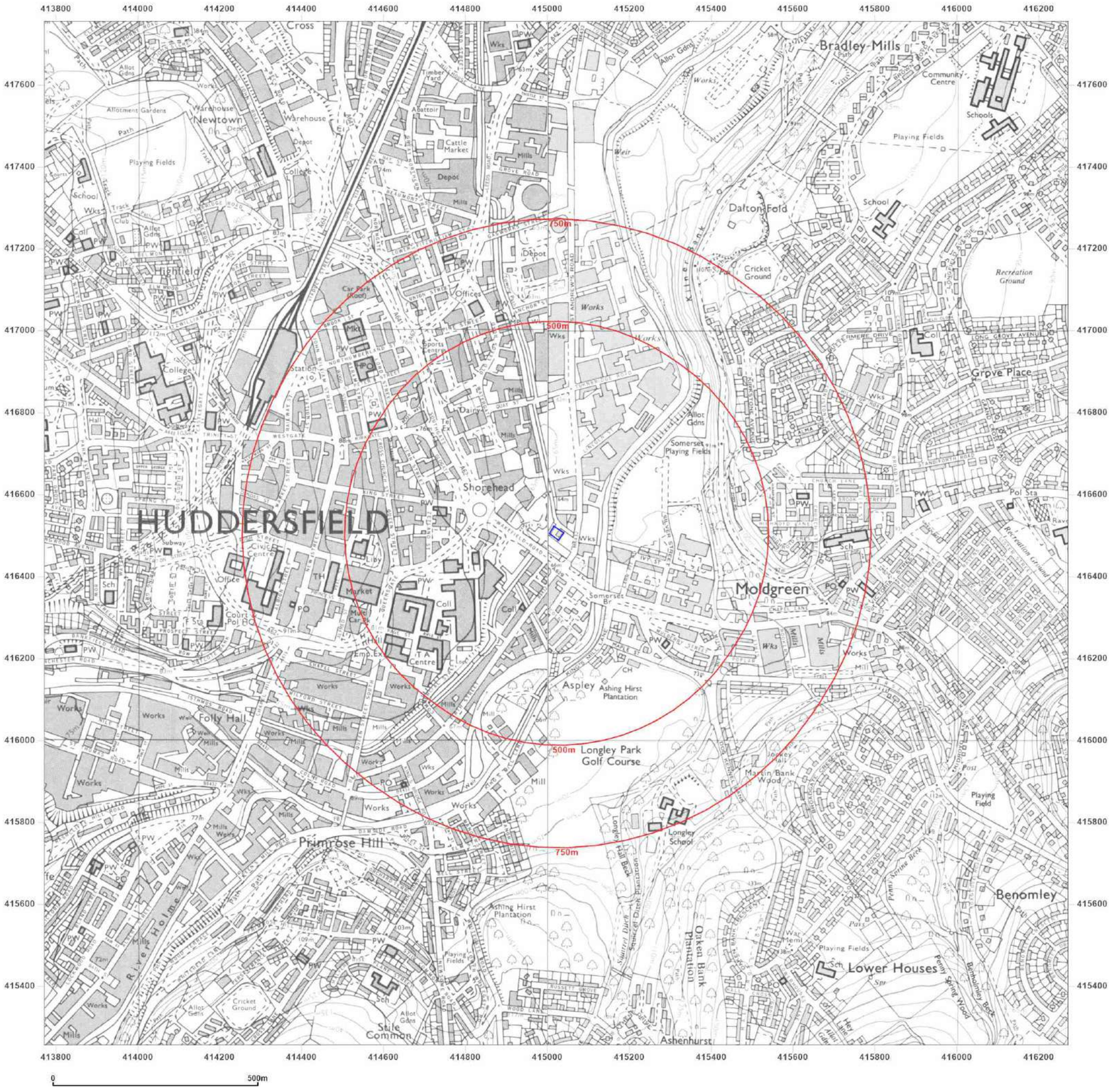

EMAPSITE™

Site Details:

Premier Inn, Huddersfield central, St Andrews Road, Aspley, Huddersfield, HD1 6SB

Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **1985-1988**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
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Surveyed 1984
Revised 1985
Edition N/A
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Surveyed 1984
Revised 1988
Edition N/A
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Map legend available at:
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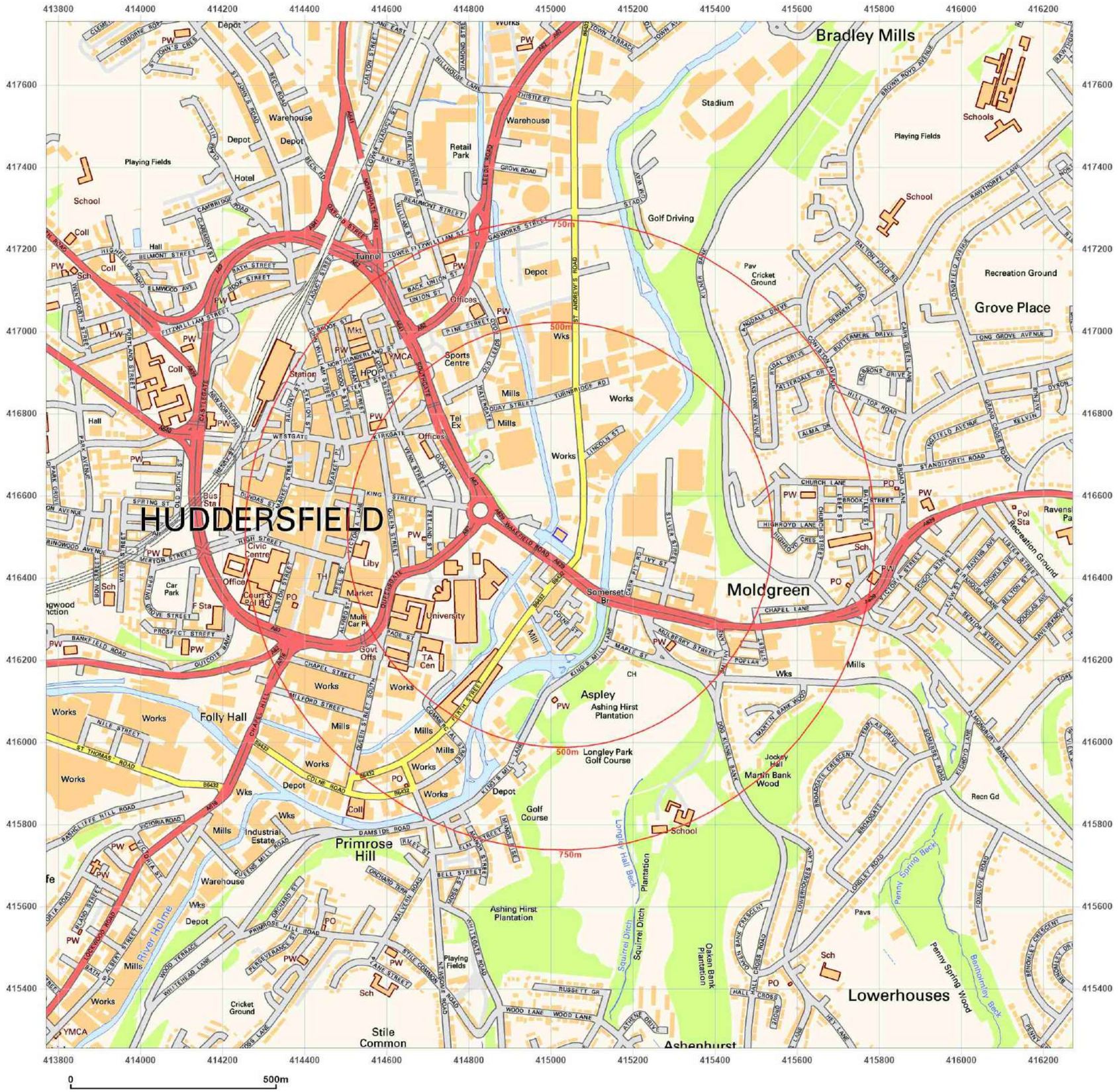

EMAPSITE™

Site Details:

Premier Inn, Huddersfield central, St Andrews Road, Aspley, Huddersfield, HD1 6SB

Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

N
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2001

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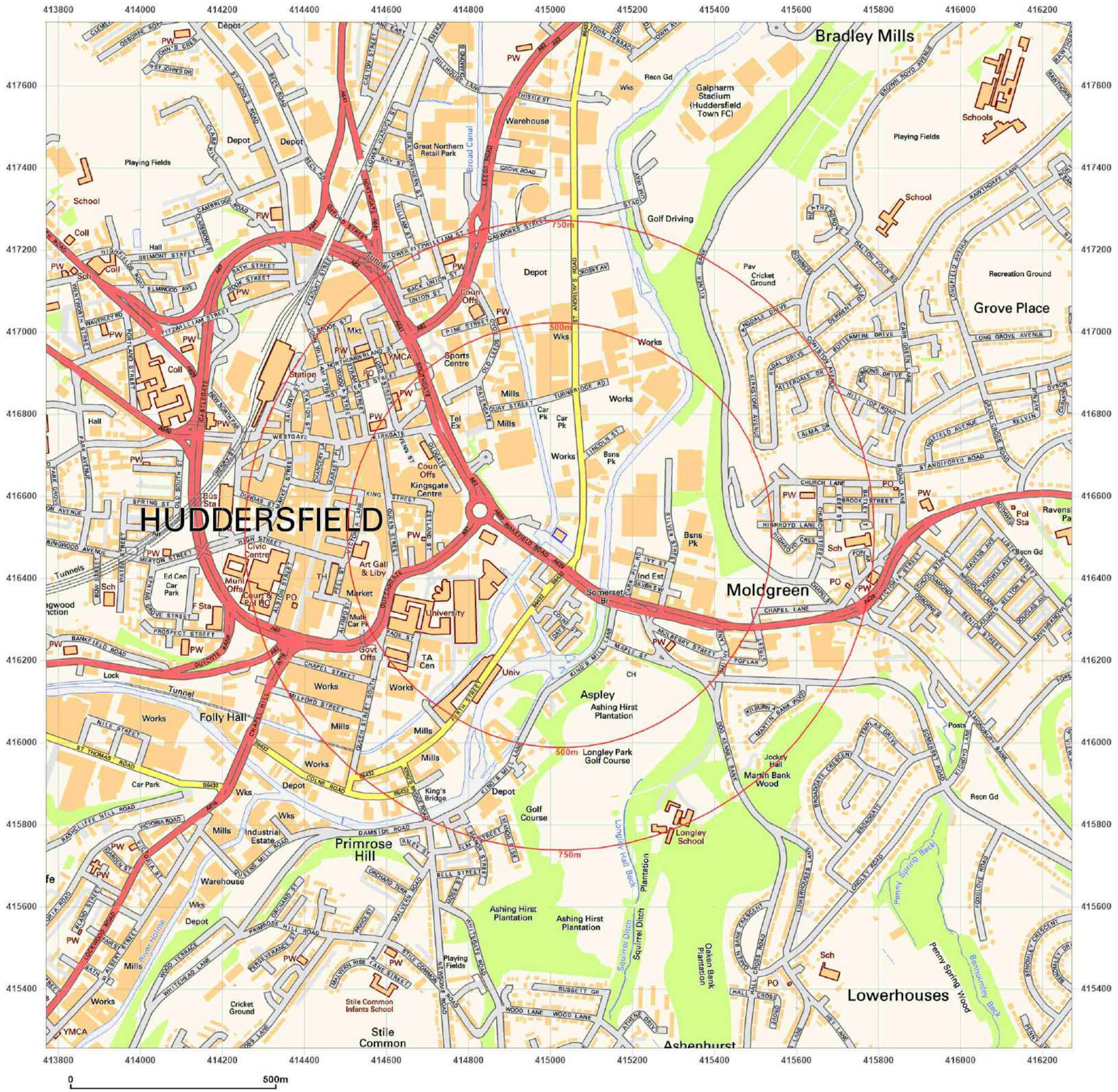

EMAPSITE™

Site Details:

Premier Inn, Huddersfield central, St Andrews Road, Aspley, Huddersfield, HD1 6SB

Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

N
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2010

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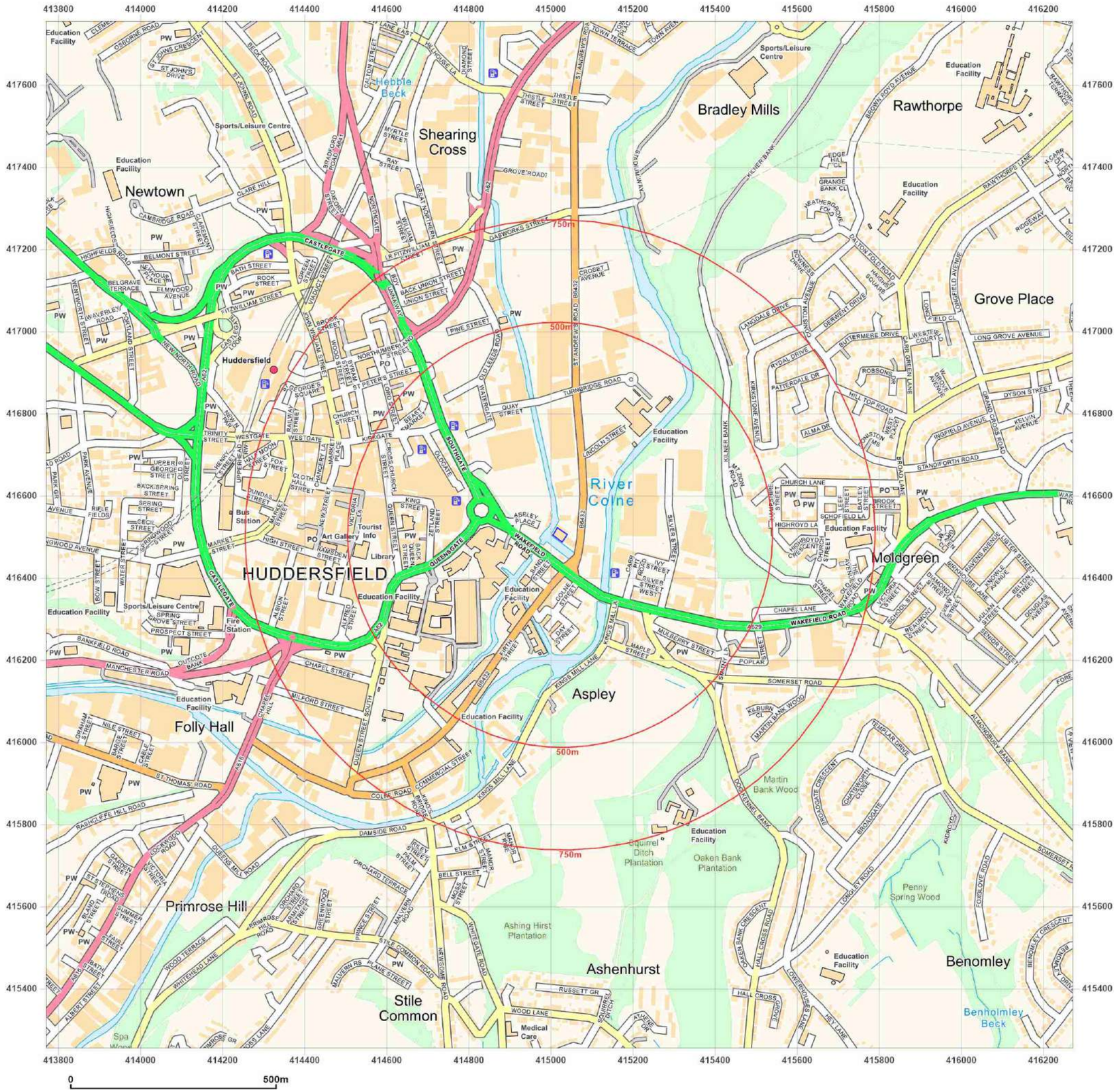

EMAPSITE™

Site Details:

Premier Inn, Huddersfield central, St Andrews Road, Aspley, Huddersfield, HD1 6SB

Client Ref: EMS_957530_1189291
Report Ref: EMS-957530_1216438
Grid Ref: 415021, 416505

Map Name: National Grid

Map date: **2024**

Scale: 1:10,000

Printed at: 1:10,000

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2024

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Production date: 11 July 2024

Map legend available at:
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Appendix 2 – Borehole logs

Trial Pit Log

Project Name: Premier Inn Huddersfield Central, St Andrews Road, Aspley, HD1 6SB	Client: Booth King Partnership	Date: 30/04/2025
Location: Premier Inn Huddersfield Central, St Andrews Road, Aspley, HD1 6SB	Contractor:	
Project No. : CRM.1483.100	Crew Name: Marly O'Connell	Equipment: Hand Tools

Location Number	Location Type	Level	Logged By	Scale	Page Number
HP01	TP		Marly O'Connell	1:25	Sheet 1 of 1

Well	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.50 0.50	D ES		0.15			MADE GROUND: Soft dark brown slightly gravelly fine to medium SAND with ocassional roots. Gravel is composed of fine to medium angular to sub-angular flint and Brick.
				0.67			MADE GROUND: Dark brown fine to medium SAND & GRAVEL. Gravel is composed of fine to coarse angular to sub-angular flint and Brick and concrete with high cobble content and flint and Concrete and brick.
							End of Borehole at 0.67m

0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
0.35	0.40	Unstable					

Remarks

Trial pit excavated using hand digging techniques. Trial pit sides were unstable. Groundwater not encountered. Concrete foundation encountered from 0.55m to 0.67m, with a step out of 0.13m from the hotel wall. On completion, the trial pit was backfilled with material arisings.

Percussion Drilling Log

Project Name: Premier Inn Huddersfield Central, St Andrews Road, Aspley, HD1 6SB	Client: Booth King Partnership	Date: 30/04/2025
Location: Premier Inn Huddersfield Central, St Andrews Road, Aspley, HD1 6SB	Contractor:	
Project No. : CRM.1483.100	Crew Name: Marly O'Connell	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS01	WS		Marly O'Connell	1:50	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.07			MADE GROUND: ASPHALT.
		0.50	B					MADE GROUND: Dark brownish black clayey fine to medium SAND & GRAVEL. Gravel is composed of fine to medium angular to sub-angular flint and Brick and concrete with low to medium cobble content and Brick.
		0.50	D					
		0.50	ES		0.80			
		1.00	D					MADE GROUND: Soft becoming firm dark grey mottled orangish slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is composed of fine to medium angular to sub-angular flint and Brick.
		1.00	ES					
		1.20	SPT	N=7 (2,1/2,1,2,2)				
		2.00	D					
		2.00	ES					
		2.00	SPT	N=11 (1,2/3,3,3,2)				
	▼	3.00	D		3.00			Soft and firm becoming firm and very stiff dark grey mottled orangish sandy gravelly CLAY. Sand is fine to medium. Gravel is composed of angular to sub-rounded flint.
		3.00	SPT	N=8 (2,2/2,1,2,3)				
		4.00	D					
		4.00	SPT	N=13 (2,2/3,3,3,4)				
		5.00	D					
		5.00	SPT	N=42 (10,11/12,10,10,10)				
					5.45			End of Borehole at 5.45m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
2.00	102							0.00	5.45	90	0
3.00	87										
4.00	77										
5.00	67										

Remarks

Premier 110 tracked rig used. Hardstanding broken out 0.0-0.07m, hand dug inspection pit 0.07-1.20m, dynamic sampled 1.20-5.00m. Casing not used. Groundwater encountered at 3.00m. On completion, a slotted standpipe (50mm) was installed to 3.50m, arisings 5.45-3.05m, granular response zone 3.50-0.50m, bentonite seal 0.5-0.20m, gravel 0.20-0.10m, concrete and lockable stopcock cover 0.10-0.0m.

Percussion Drilling Log

Project Name: Premier Inn Huddersfield Central, St Andrews Road, Aspley, HD1 6SB	Client: Booth King Partnership	Date: 30/04/2025
Location: Premier Inn Huddersfield Central, St Andrews Road, Aspley, HD1 6SB	Contractor:	
Project No. : CRM.1483.100	Crew Name: Marly O'Connell	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS02	WS		Marly O'Connell	1:50	Sheet 1 of 1

Well	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
				0.10			MADE GROUND: ASPHALT.
	0.50	B		0.45			MADE GROUND: Medium dense light brown clayey fine to medium SAND & GRAVEL. Gravel is composed of fine to medium angular to sub-angular flint and Brick and concrete with medium cobble content and Brick.
	0.50	D					
	0.50	ES					
	1.00	D					MADE GROUND: Very soft becoming stiff and very stiff dark grey mottled orangish slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is composed of fine to medium angular to sub-angular flint and Brick.
	1.00	ES					
	1.20	SPT	N=1 (1,0/0,0,0,1)				
	2.00	D					
	2.00	ES					
	2.00	SPT	N=19 (1,1/4,5,5,5)				
	3.00	D					
	3.00	SPT	N=50 (7,7/50 for 295mm)				
				3.44			End of Borehole at 3.44m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
2.00	102							0.00	3.44	90	0
3.00	87										

Remarks

Premier 110 tracked rig used. Hardstanding broken out 0.00-0.10m, hand dug inspection pit 0.10-1.20m, dynamic sampled 1.20-3.00m. Casing not used. Groundwater not encountered. Borehole terminated at 3.44m following SPT refusal. On completion, a slotted standpipe (50mm) was installed to 2.80m, arisings 3.44-2.80m, granular response zone 2.80-0.80m, bentonite seal 0.80-0.20m, concrete 0.20-0.10m, concrete and lockable stopcock cover 0.10-0.0m.

Percussion Drilling Log

Project Name: Premier Inn Huddersfield Central, St Andrews Road, Aspley, HD1 6SB	Client: Booth King Partnership	Date: 30/04/2025
Location: Premier Inn Huddersfield Central, St Andrews Road, Aspley, HD1 6SB	Contractor:	
Project No. : CRM.1483.100	Crew Name: Marly O'Connell	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS03	WS		Marly O'Connell	1:50	Sheet 1 of 1

Well	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.50 0.50	B ES		0.10 0.75			MADE GROUND: Soft dark brown slightly gravelly fine to medium SAND with occasional roots. Gravel is composed of fine to medium angular to sub-angular flint and Brick. MADE GROUND: Dense dark brown fine to medium SAND & GRAVEL. Gravel is composed of fine to coarse angular to sub-angular flint and Brick and concrete with medium to high cobble content and Concrete and brick. End of Borehole at 0.75m

1 2 3 4 5 6 7 8 9 10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	0.75	90	0

Remarks

Hand dug inspection pit 0.00-1.20m. Groundwater not encountered. Rig not used due to time restrictions. On completion, the trial pit was backfilled with material arisings.

Percussion Drilling Log

Project Name: Premier Inn Huddersfield Central, St Andrews Road, Aspley, HD1 6SB	Client: Booth King Partnership	Date: 08/05/2025
Location: Premier Inn Huddersfield Central, St Andrews Road, Aspley, HD1 6SB	Contractor:	
Project No. : CRM.1483.100	Crew Name: Marly O'Connell	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS03A	WS		Marly O'Connell	1:50	Sheet 1 of 1

Well	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.20	ES		0.20			MADE GROUND: Dark brown gravelly fine to medium SAND with occasional roots. Gravel is composed of fine to medium angular to sub-angular flint and Brick and slate.
	0.50	B					MADE GROUND: Brown fine to medium SAND & GRAVEL. Gravel is composed of fine to coarse angular to sub-angular flint and Brick and concrete with medium to high cobble content and Concrete and brick,)
	1.00	ES					
	1.20	SPT	N=14 (0,1/1,2,5,6)				
	1.50	ES					
	1.65	SPT	N=50 (1,15/50 for 0mm)	1.80			End of Borehole at 1.80m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
1.50	102							0.00	1.80	90	0

Remarks

Premier 110 tracked rig used. Hand dug inspection pit 0.100-1.20m, dynamic sampled 1.20-1.50m. Casing not used. Groundwater not encountered. Borehole terminated at 1.80m following SPT refusal on suspected obstruction. On completion, a slotted standpipe (50mm) was installed to 1.65m, granular response zone 1.80-0.50m, bentonite seal 0.50-0.15m, concrete and lockable stopcock cover 0.15-0.0m.

Percussion Drilling Log

Project Name: Premier Inn Huddersfield Central, St Andrews Road, Aspley, HD1 6SB	Client: Booth King Partnership	Date: 30/04/2025
Location: Premier Inn Huddersfield Central, St Andrews Road, Aspley, HD1 6SB	Contractor:	
Project No. : CRM.1483.100	Crew Name: Marly O'Connell	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS04	WS		Marly O'Connell	1:50	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.05			MADE GROUND: CONCRETE.
					0.25			MADE GROUND: Building SAND.
					0.35			MADE GROUND: Type 1.
		0.50	B					MADE GROUND: Brown fine to medium SAND & GRAVEL. Gravel is composed of fine to coarse angular to sub-angular flint and Brick and concrete with low to medium cobble content and Brick and concrete.
		0.50	D					
		0.50	ES		0.80			
		1.00	D					
		1.00	ES					
		1.20	SPT	N=18 (1,3/6,5,4,3)				MADE GROUND: Dark brownish black clayey fine to medium SAND & GRAVEL. Gravel is composed of fine to medium angular to sub-angular flint and Brick and concrete with low to medium cobble content and Brick.
					1.40			Stiff dark grey mottled orangish sandy gravelly CLAY. Sand is fine to medium. Gravel is composed of angular to sub-rounded flint.
		2.00	D					
		2.00	ES					
		2.00	SPT	N=28 (5,7/7,6,7,8)	2.20			Medium dense yellowish orangish brown slightly clayey fine to medium SAND & GRAVEL. Gravel is composed of fine to medium angular to sub-rounded flint and sandstone.
		3.00	D					
		3.00	SPT	N=19 (6,7/5,5,4,5)				
	▼				3.90			Very stiff dark greyish green mottled dark grey slightly gravelly sandy CLAY. Sand is fine to medium. Gravel is composed of fine to medium angular to sub-rounded flint.
		4.00	D					
		4.00	SPT	N=29 (1,2/3,12,7,7)				
		5.00	D					
		5.00	SPT	N=29 (6,7/6,7,7,9)				
					5.45			End of Borehole at 5.45m

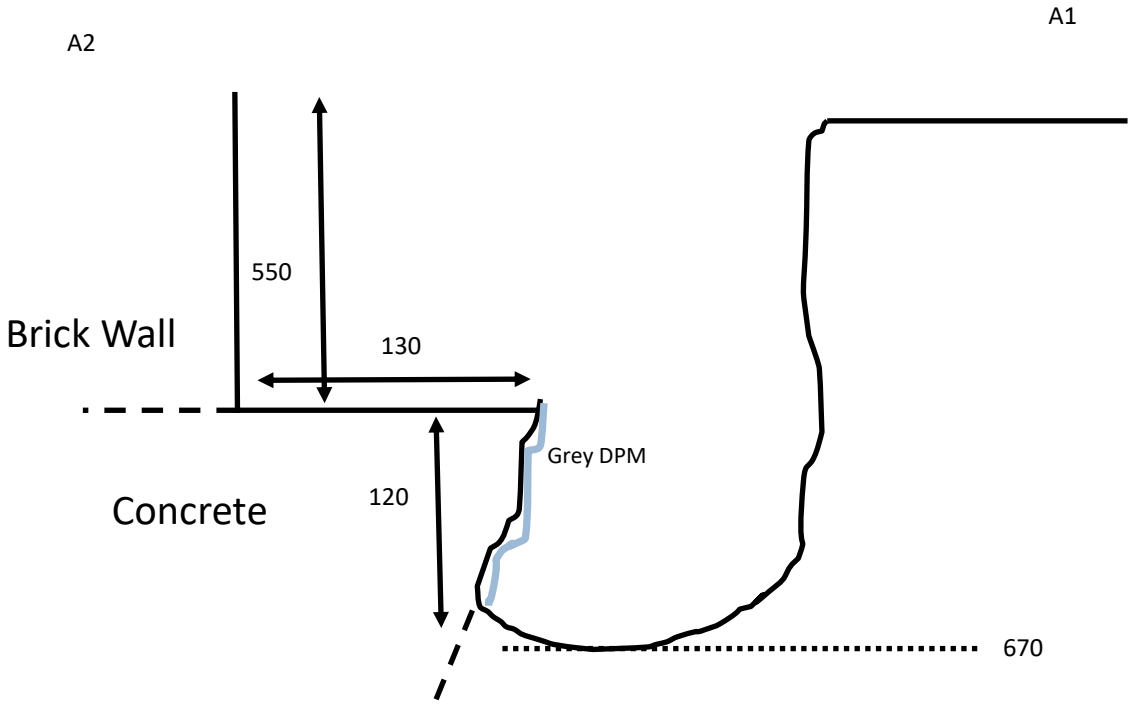
Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
2.00	102							0.00	5.45	90	0
3.00	87										
4.00	77										
5.00	67										

Remarks

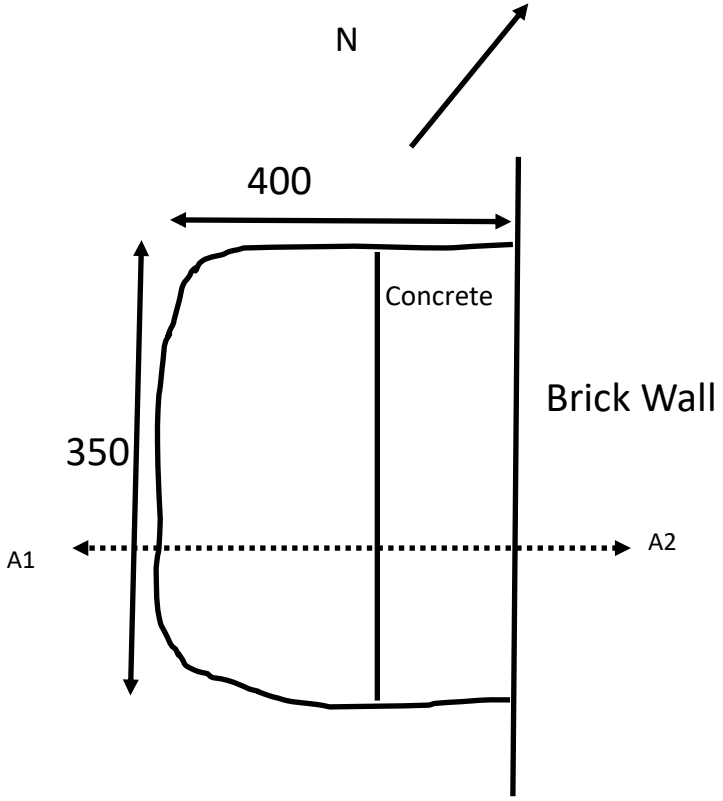
Premier 110 tracked rig used. Hardstanding broken out 0.0-0.05m, hand dug inspection pit 0.05-1.20m, dynamic sampled 1.20-5.00m. Casing not used. Groundwater encountered at 4.00m. On completion, a slotted standpipe (50mm) was installed to 4.00m, arisings 5.45-4.00m, granular response zone 4.00-1.00m, bentonite seal 1.00-0.10m, concrete and lockable stopcock cover 0.10-0.0m.

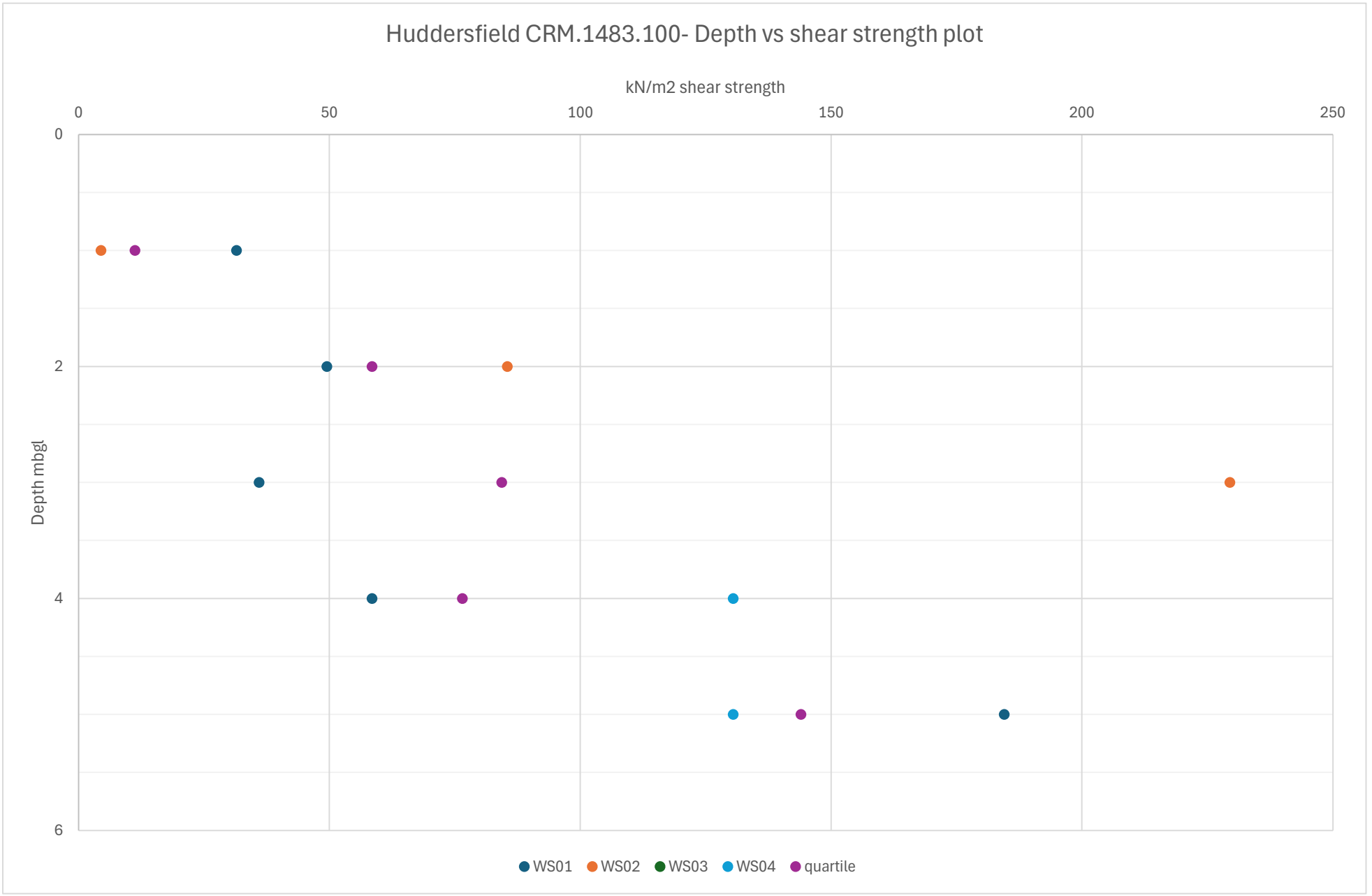
HP1

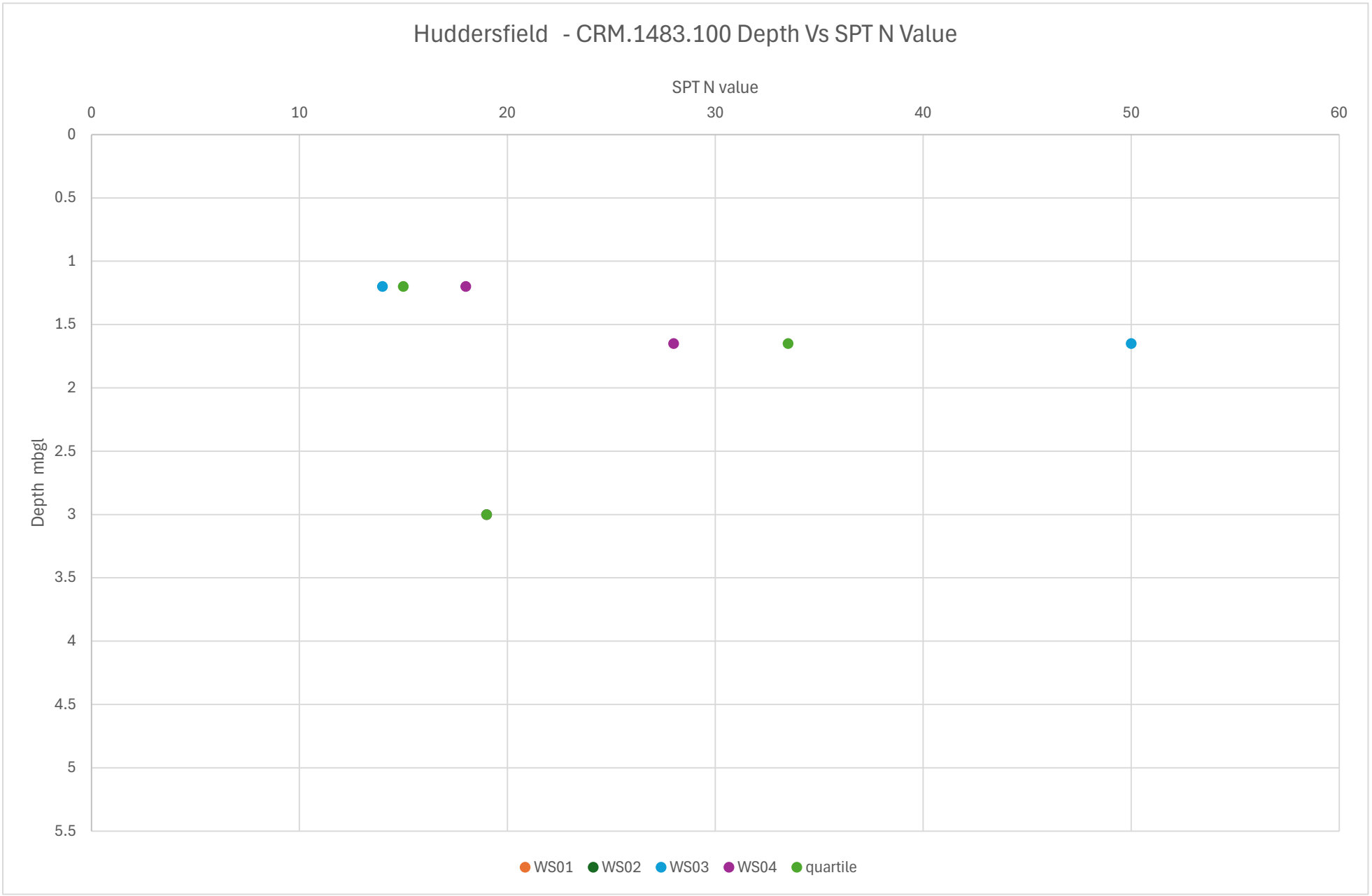
Cross Sectional View



Plan View




Huddersfield CRM.1483.100- Depth vs shear strength plot
kN/m2 shear strength
0
50
100
150
200
250
Depth mbgl
0
2
4
6
WS01
WS02
WS03
WS04
quartile


Huddersfield - CRM.1483.100 Depth Vs SPT N Value
SPT N value
0
10
20
30
40
50
60
Depth mbgl
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
WS01
WS02
WS03
WS04
quartile

Appendix 3 – Chemical Laboratory Results

Enzygo Geoenvironmental Ltd
The Byre
Woodend Lane
Cromhall
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GL12 8AA

e: Richard.hamilton@enzygo.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 25-027388

Project / Site name:	Huddersfield	**Samples received on:**	09/05/2025
Your job number:	CRM 1483 100	**Samples instructed on/ Analysis started on:**	27/05/2025
Your order number:	CRM 1483 100	**Analysis completed by:**	05/06/2025
Report Issue Number:	1	**Report issued on:**	06/06/2025
Samples Analysed:	5 soil samples - 2 leachate samples		

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-027388
Project / Site name: Huddersfield
Your Order No: CRM 1483 100

Lab Sample Number				559507	559508	559510	559511	559512
Sample Reference				WS01	WS01	WS02	WS02	WS04
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.5	1	0.5	2	1
Date Sampled				08/05/2025	08/05/2025	08/05/2025	08/05/2025	08/05/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	31.6	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	29	6.8	14	17
Total mass of sample received	kg	0.1	NONE	0.3	0.3	0.3	0.3	0.3
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	-	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	-	WEM	MJN	MJN	WEM
Analysis completed	N/A	N/A	N/A	-	04/06/2025	02/06/2025	02/06/2025	04/06/2025
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.9	6.1	8.5	7.6	7.9
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	150	-	-	-	-
Water Soluble SO_4 16hr extraction (2:1)	mg/l	1.25	MCERTS	73.6	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	3.1	0.7	2.2	6.4
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	0.16	0.57	0.79
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	0.09	0.09
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	0.24	0.5	0.42
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	0.19	0.4	0.36
Phenanthrene	mg/kg	0.05	MCERTS	-	0.17	1.3	3.2	4.9
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	0.21	0.49	0.94
Fluoranthene	mg/kg	0.05	MCERTS	-	0.16	1.5	3.4	5.4
Pyrene	mg/kg	0.05	MCERTS	-	0.16	1.4	3.4	5.5
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	0.09	0.79	2.1	3.2
Chrysene	mg/kg	0.05	MCERTS	-	0.15	0.82	2	3.9
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	0.17	0.87	2	3.3
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	< 0.05	0.36	0.95	1.1
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	0.1	0.75	1.9	2.7
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	0.05	0.3	0.77	1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	0.1	0.27	0.32
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	< 0.05	0.36	0.9	1.3
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	1.06	9.26	22.7	35.2

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 25-027388
Project / Site name: Huddersfield
Your Order No: CRM 1483 100

Lab Sample Number				559507	559508	559510	559511	559512
Sample Reference				WS01	WS01	WS02	WS02	WS04
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.5	1	0.5	2	1
Date Sampled				08/05/2025	08/05/2025	08/05/2025	08/05/2025	08/05/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	17	8.6	33	240
Boron (water soluble)	mg/kg	0.2	MCERTS	-	1.5	0.2	0.8	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	0.4	2.5	0.5 **i	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	31	20	78	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	78	31	77	63
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	120	52	200	150
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	0.5	< 0.3	< 0.3	0.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	31	11	29	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	1.4	< 1.0 #	2.9 #	3.8
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	76	170	89	160
Petroleum Hydrocarbons								
TPH (>EC5 - EC7) HS_1D_TOTAL	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
TPH (>EC7 - EC8) HS_1D_TOTAL	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
TPH (>EC8 - EC10) HS_1D_TOTAL	mg/kg	0.02	MCERTS	-	< 0.02	< 0.02	< 0.02	< 0.02
TPH (>EC10 - EC12) EH_CU_1D_TOTAL	mg/kg	2	MCERTS	-	< 2.0	< 2.0	< 2.0	< 2.0
TPH (>EC12 - EC16) EH_CU_1D_TOTAL	mg/kg	4	MCERTS	-	< 4.0	5.6	10	6.1
TPH (>EC16 - EC21) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	14	17	21	22
TPH (>EC21 - EC35) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	17	200	24	34
TPH (>EC35 - EC44) EH_CU_1D_TOTAL	mg/kg	10	NONE	-	< 10	150	14	< 10
TPH Total >EC5 - EC44 EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	-	38	370	72	64

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 25-027388
Project / Site name: Huddersfield

Your Order No: CRM 1483 100

Lab Sample Number				559509	559513
Sample Reference				WS01	WS04
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				2	2
Date Sampled				08/05/2025	08/05/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
General Inorganics					
Hardness - Total	mgCaCO3/l	1	ISO 17025	26.4	12.3
Speciated PAHs					
Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	NONE	0.05	0.06
Fluorene	µg/l	0.01	NONE	0.04	< 0.01
Phenanthrene	µg/l	0.01	NONE	0.09	< 0.01
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.16	NONE	0.18	< 0.16
Heavy Metals / Metalloids					
Arsenic (dissolved)	µg/l	1	ISO 17025	16	5.7
Boron (dissolved)	µg/l	10	ISO 17025	89	28
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.7	4.5
Copper (dissolved)	µg/l	0.7	ISO 17025	20	17
Lead (dissolved)	µg/l	1	ISO 17025	4.9	6.9
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	2.8	5.2
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	17	52
Petroleum Hydrocarbons					
TPH (>EC10 - EC12) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10
TPH (>EC16 - EC21) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10
TPH (>EC21 - EC40) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10
TPH Total >EC6 - EC40 EH+HS_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10
Petroleum Range Organics (EC6 - EC10) HS_1D_TOTAL	µg/l	10	NONE	< 10	< 10

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Analytical Report Number: 25-027388
Project / Site name: Huddersfield

Your Order No: CRM 1483 100

Lab Sample Number				559509	559513
Sample Reference				WS01	WS04
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				2	2
Date Sampled				08/05/2025	08/05/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
TPH (EC10 - EC40) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10

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Analytical Report Number : 25-027388
Project / Site name: Huddersfield

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
559507	WS01	None Supplied	0.5	Black loam with gravel and vegetation
559508	WS01	None Supplied	1	Black clay and loam with gravel and vegetation
559510	WS02	None Supplied	0.5	Brown sand with gravel and stones
559511	WS02	None Supplied	2	Brown clay and sand with gravel and vegetation
559512	WS04	None Supplied	1	Brown loam and clay with gravel and vegetation

Analytical Report Number : 25-027388
Project / Site name: Huddersfield

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Total Hardness of leachates	Determination of hardness in leachates by calculation from calcium and magnesium	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045B	W	ISO 17025

Analytical Report Number : 25-027388
Project / Site name: Huddersfield

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons by GC-MS/GC MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS	In-house method	L070B/L088-PL	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
NRA Leachate 10:1		In-house method based on interim NRA guidance (1994)	L020B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

**i- Data reported unaccredited - Sample affected by spectral interference from high As. Data reported with additional background correction applied
#- Quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as deviating and should be interpreted with caution. The result is not accredited.

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Analytical Report Number : 25-027389

Project / Site name:	Huddersfield	**Samples received on:**	09/05/2025
Your job number:	CRM 1483 100	**Samples instructed on/ Analysis started on:**	27/05/2025
Your order number:	CRM 1483 100	**Analysis completed by:**	05/06/2025
Report Issue Number:	1	**Report issued on:**	05/06/2025
Samples Analysed:	2 soil samples - 2 2stage samples		

Signed:

Trevor Hill
Customer Service
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-027389
Project / Site name: Huddersfield
Your Order No: CRM 1483 100

Lab Sample Number				559514	559515
Sample Reference				WS02	WS03
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				1	0.5
Date Sampled				08/05/2025	08/05/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Stone Content	%	0.1	NONE	79.4	48.5
Moisture Content	%	0.01	NONE	8.8	6.7
Total mass of sample received	kg	0.1	NONE	2	2
General Inorganics					
pH (L005B)	pH Units	N/A	MCERTS	8.2	8.5
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	1.3	1.4
Loss on Ignition @ 450°C	%	0.2	MCERTS	3.6	4.4
Acid Neutralisation Capacity	+/- mmol/kg	-9999	NONE	8.1	11
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	0.71	0.24
Acenaphthylene	mg/kg	0.05	MCERTS	0.06	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.78	0.09
Fluorene	mg/kg	0.05	MCERTS	0.6	0.09
Phenanthrene	mg/kg	0.05	MCERTS	4.7	0.98
Anthracene	mg/kg	0.05	MCERTS	1	0.19
Fluoranthene	mg/kg	0.05	MCERTS	4.8	1.3
Pyrene	mg/kg	0.05	MCERTS	4.3	1.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.3	0.85
Chrysene	mg/kg	0.05	MCERTS	2.2	0.92
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2.5	0.87
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.79	0.33
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.1	0.72
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.92	0.29
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.24	0.1
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1	0.36
Coronene	mg/kg	0.05	NONE	0.46	0.16
Total PAH					
Total WAC-17 PAHs	mg/kg	0.85	NONE	29.4	8.71
Petroleum Hydrocarbons					
Mineral Oil (EC10 - EC40) EH_CU_1D_AL	mg/kg	10	NONE	< 10	< 10
VOCs					
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Total BTEX	µg/kg	10	MCERTS	< 10	< 10

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Analytical Report Number: 25-027389
Project / Site name: Huddersfield
Your Order No: CRM 1483 100

Lab Sample Number				559514	559515
Sample Reference				WS02	WS03
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				1	0.5
Date Sampled				08/05/2025	08/05/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
PCBs by GC-MS					
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Waste Acceptance Criteria Analytical Results

Report No:	**25-027389**						
					Client:	**ENZYGOGEO**	
Location	**Huddersfield**						
Lab Reference (Sample Number)	559514				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	08/05/2025				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS02						
Depth (m)	1.00						
Solid Waste Analysis							
TOC (%)**	1.3				3%	5%	6%
Loss on Ignition (%) **	3.6				--	--	10%
BTEX (µg/kg)**	< 10				6000	--	--
Sum of PCBs (mg/kg)**	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	29.4				100	--	--
pH (units)**	8.2				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	8.1				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 3 preparation utilising end over end leaching procedure)	2:1 mg/l	8:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.0020	0.0037		0.033	0.5	2	25
Barium *	0.025	0.012		0.13	20	100	300
Cadmium *	< 0.00010	< 0.00010		< 0.0010	0.04	1	5
Chromium *	0.0019	0.0017		0.017	0.5	10	70
Copper *	0.011	0.011		0.11	2	50	100
Mercury *	< 0.00070	< 0.0007		< 0.0070	0.01	0.2	2
Molybdenum *	0.034	0.017		0.19	0.5	10	30
Nickel *	0.00091	< 0.00090		< 0.0090	0.4	10	40
Lead *	0.002	0.0037		0.036	0.5	10	50
Antimony *	0.0036	0.0039		0.038	0.06	0.7	5
Selenium *	< 0.0050	< 0.0050		< 0.050	0.1	0.5	7
Zinc *	0.0075	0.002		0.026	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	15000	25000
Fluoride*	1.2	0.84		8.9	10	150	500
Sulphate *	120	15		260	1000	20000	50000
TDS*	230	81		970	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.16	< 0.13		< 0.50	1	-	-
DOC	8.47	11		106	500	800	1000
Leach Test Information							
Stone Content (%)	79.4						
Sample Mass (kg)	2						
Dry Matter (%)	91						
Moisture (%)	8.8						
Stage 1							
Volume Eluate L2 (litres)	0.3						
Filtered Eluate VE1 (litres)	0.19						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.
Where colour coding is used on this report, this is for guidance purposes only. This does not constitute a statement of conformity of pass or fail.
Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

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Waste Acceptance Criteria Analytical Results

Report No:	**25-027389**						
					Client:	**ENZYGOGEO**	
Location	**Huddersfield**						
Lab Reference (Sample Number)	559515				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	08/05/2025				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS03						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	1.4				3%	5%	6%
Loss on Ignition (%) **	4.4				--	--	10%
BTEX (µg/kg)**	< 10				6000	--	--
Sum of PCBs (mg/kg)**	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	8.71				100	--	--
pH (units)**	8.5				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	11				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 3 preparation utilising end over end leaching procedure)	2:1 mg/l	8:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.02	0.018		0.18	0.5	2	25
Barium *	0.027	0.018		0.19	20	100	300
Cadmium *	< 0.00010	< 0.00010		< 0.0010	0.04	1	5
Chromium *	0.02	0.014		0.14	0.5	10	70
Copper *	0.054	0.026		0.29	2	50	100
Mercury *	< 0.00070	< 0.0007		< 0.0070	0.01	0.2	2
Molybdenum *	0.017	0.0067		0.079	0.5	10	30
Nickel *	0.0013	0.0017		0.017	0.4	10	40
Lead *	0.017	0.029		0.28	0.5	10	50
Antimony *	0.0054	< 0.0020		< 0.020	0.06	0.7	5
Selenium *	< 0.0050	< 0.0050		< 0.050	0.1	0.5	7
Zinc *	0.017	0.021		0.2	4	50	200
Chloride *	47	4.6		94	800	15000	25000
Fluoride*	1.8	1		11	10	150	500
Sulphate *	19	5.7		72	1000	20000	50000
TDS*	240	95		1100	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.16	< 0.13		< 0.50	1	-	-
DOC	12.7	18		175	500	800	1000
Leach Test Information							
Stone Content (%)	48.5						
Sample Mass (kg)	2						
Dry Matter (%)	93						
Moisture (%)	6.7						
Stage 1							
Volume Eluate L2 (litres)	0.333						
Filtered Eluate VE1 (litres)	0.2						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

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Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.
Where colour coding is used on this report, this is for guidance purposes only. This does not constitute a statement of conformity of pass or fail.
Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

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Analytical Report Number : 25-027389
Project / Site name: Huddersfield

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
559514	WS02	None Supplied	1	Brown clay and loam with gravel and stones
559515	WS03	None Supplied	0.5	Brown loam and sand with gravel and stones

Analytical Report Number : 25-027389
Project / Site name: Huddersfield

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L023B	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L031B	W	ISO 17025
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033B	W	ISO 17025
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037B	W	NONE
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed	L039B	W	ISO 17025
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed	L039B	W	ISO 17025
Two stage WAC leachate preparation	Two stage batch test at a liquid to solid ratio of 2 L/kg and 8 L/kg	BS EN 12457-3-2002	L043B	W	ISO 17025
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047-PL	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	NONE

Analytical Report Number : 25-027389
Project / Site name: Huddersfield

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

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Analytical Report Number : 25-027502

Project / Site name:	Huddersfield	**Samples received on:**	09/05/2025
Your job number:	CRM 1483 100	**Samples instructed on/ Analysis started on:**	27/05/2025
Your order number:	CRM 1483 100	**Analysis completed by:**	05/06/2025
Report Issue Number:	1	**Report issued on:**	05/06/2025
Samples Analysed:	2 soil samples - 1 leachate sample		

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-027502
Project / Site name: Huddersfield
Your Order No: CRM 1483 100

Lab Sample Number				560012	560013
Sample Reference				WS03	WS03
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				0.2	1
Date Sampled				08/05/2025	08/05/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	29
Moisture Content	%	0.01	NONE	6.3	6.7
Total mass of sample received	kg	0.1	NONE	2	2
Asbestos					
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	JSW	-
Analysis completed	N/A	N/A	N/A	04/06/2025	-
General Inorganics					
pH (L099)	pH Units	N/A	MCERTS	8.5	8.5
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	-	180
Water Soluble SO_4 16hr extraction (2:1)	mg/l	1.25	MCERTS	-	90.5
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	6.1	-
Total Phenols					
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	-
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	0.09	-
Acenaphthylene	mg/kg	0.05	MCERTS	0.13	-
Acenaphthene	mg/kg	0.05	MCERTS	0.06	-
Fluorene	mg/kg	0.05	MCERTS	0.1	-
Phenanthrene	mg/kg	0.05	MCERTS	1.1	-
Anthracene	mg/kg	0.05	MCERTS	0.2	-
Fluoranthene	mg/kg	0.05	MCERTS	2.4	-
Pyrene	mg/kg	0.05	MCERTS	2.1	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.1	-
Chrysene	mg/kg	0.05	MCERTS	1.2	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.5	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.7	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.3	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.73	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.12	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.81	-
Total PAH					
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	13.7	-
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.2	-
Boron (water soluble)	mg/kg	0.2	MCERTS	1.2	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	12	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	22	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	33	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	8.4	-

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Analytical Report Number: 25-027502
Project / Site name: Huddersfield
Your Order No: CRM 1483 100

Lab Sample Number				560012	560013
Sample Reference				WS03	WS03
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				0.2	1
Date Sampled				08/05/2025	08/05/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	72	-
Petroleum Hydrocarbons					
TPH (>EC5 - EC7) HS_1D_TOTAL	mg/kg	0.1	NONE	< 0.1	-
TPH (>EC7 - EC8) HS_1D_TOTAL	mg/kg	0.1	NONE	< 0.1	-
TPH (>EC8 - EC10) HS_1D_TOTAL	mg/kg	0.02	MCERTS	< 0.02	-
TPH (>EC10 - EC12) EH_CU_1D_TOTAL	mg/kg	2	MCERTS	< 2.0	-
TPH (>EC12 - EC16) EH_CU_1D_TOTAL	mg/kg	4	MCERTS	< 4.0	-
TPH (>EC16 - EC21) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	-
TPH (>EC21 - EC35) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	69	-
TPH (>EC35 - EC44) EH_CU_1D_TOTAL	mg/kg	10	NONE	51	-
TPH Total >EC5 - EC44 EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	130	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 25-027502
Project / Site name: Huddersfield

Your Order No: CRM 1483 100

Lab Sample Number				560014
Sample Reference				WS03
Sample Number				None Supplied
Water Matrix				N/A
Depth (m)				1.5
Date Sampled				08/05/2025
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**	
General Inorganics				
Hardness - Total	mgCaCO3/l	1	ISO 17025	33.7
Speciated PAHs				
Naphthalene	µg/l	0.01	NONE	< 0.01
Acenaphthylene	µg/l	0.01	NONE	< 0.01
Acenaphthene	µg/l	0.01	NONE	0.05
Fluorene	µg/l	0.01	NONE	0.04
Phenanthrene	µg/l	0.01	NONE	0.09
Anthracene	µg/l	0.01	NONE	< 0.01
Fluoranthene	µg/l	0.01	NONE	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.16	NONE	0.18
Heavy Metals / Metalloids				
Arsenic (dissolved)	µg/l	1	ISO 17025	27
Boron (dissolved)	µg/l	10	ISO 17025	48
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	2.7
Copper (dissolved)	µg/l	0.7	ISO 17025	23
Lead (dissolved)	µg/l	1	ISO 17025	9
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	2.7
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	9.1
Petroleum Hydrocarbons				
TPH (>EC10 - EC12) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10
TPH (>EC16 - EC21) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10
TPH (>EC21 - EC40) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10
TPH Total >EC6 - EC40 EH+HS_1D_TOTAL_MS	µg/l	10	NONE	< 10
Petroleum Range Organics (EC6 - EC10) HS_1D_TOTAL	µg/l	10	NONE	< 10
TPH (EC10 - EC40) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10

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Analytical Report Number : 25-027502
Project / Site name: Huddersfield

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
560012	WS03	None Supplied	0.2	Brown loam and sand with gravel and vegetation
560013	WS03	None Supplied	1	Brown loam and sand with stones and vegetation

Analytical Report Number : 25-027502
Project / Site name: Huddersfield

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Total Hardness of leachates	Determination of hardness in leachates by calculation from calcium and magnesium	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045B	W	ISO 17025

Analytical Report Number : 25-027502
Project / Site name: Huddersfield

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons by GC-MS/GC MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS	In-house method	L070B/L088-PL	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
NRA Leachate 10:1		In-house method based on interim NRA guidance (1994)	L020B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

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Ducie House
Ducie Street
M1 2JW

e: richard.reece@enzygo.com
steve.rhodes@enzygo.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 25-029524

Project / Site name:	Huddersfield	**Samples received on:**	03/06/2025
Your job number:	CRM.1483.100	**Samples instructed on/ Analysis started on:**	03/06/2025
Your order number:	CRM.1483.100	**Analysis completed by:**	13/06/2025
Report Issue Number:	1	**Report issued on:**	13/06/2025
Samples Analysed:	5 soil samples		

Signed:

Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

Excel copies of reports are only valid when accompanied by this PDF certificate.

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-029524
Project / Site name: Huddersfield
Your Order No: CRM.1483.100

Lab Sample Number				571961	571962	571963	571964	571965
Sample Reference				WS02	WS02	WS04	WS04	WS04
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				2	3	3	4	5
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	71.8	41.4	< 0.1
Moisture Content	%	0.01	NONE	22	19	7.2	12	8.5
Total mass of sample received	kg	0.1	NONE	0.4	0.4	0.4	0.4	0.4

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.1	8.3	7.6	7.1	7.4
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	100	81	76	62	23
Water Soluble SO_4 16hr extraction (2:1)	mg/l	1.25	MCERTS	50.4	40.5	37.8	30.8	11.3

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 25-029524
Project / Site name: Huddersfield

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
571961	WS02	None Supplied	2	Brown loam and clay with gravel and vegetation
571962	WS02	None Supplied	3	Brown clay and sand with gravel
571963	WS04	None Supplied	3	Brown clay and sand with gravel and stones
571964	WS04	None Supplied	4	Brown clay and sand with gravel and stones
571965	WS04	None Supplied	5	Brown loam and clay with gravel and vegetation

Analytical Report Number : 25-029524
Project / Site name: Huddersfield

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
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Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

Appendix 4 - Geotechnical Laboratory testing

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022, cl 5.3, 6

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Enzygo Geoenvironmental Ltd
Client Address: Ducie House, Ducie Street, M1 2JW
Contact: Richard Hamilton
Site Address: Huddersfield

Client Reference: CRM.1483.100
Job Number: 25-029522-1
Date Sampled: Not Given
Date Received: 03/06/2025
Date Tested: 10/06/2025
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

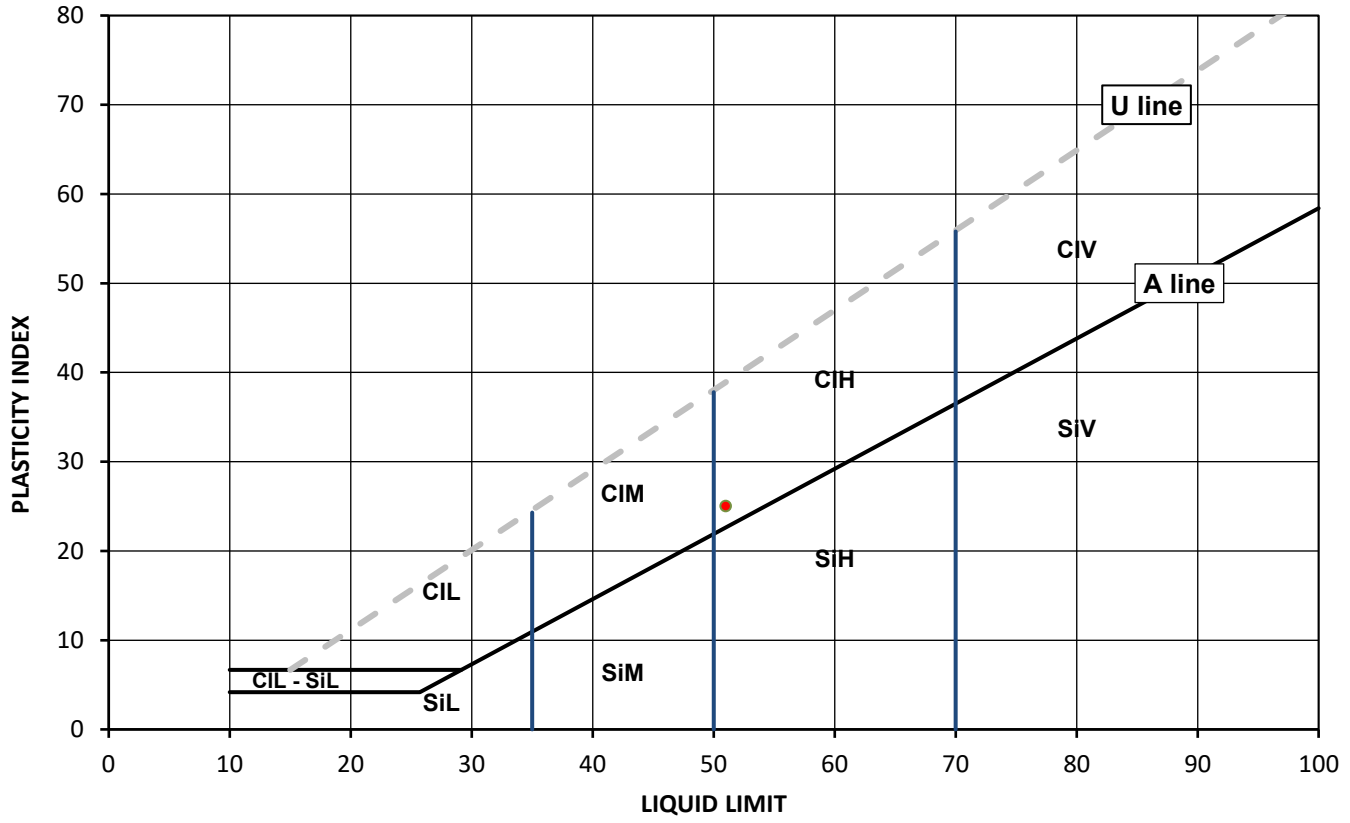
Test Results:

Laboratory Reference: 571946
Hole No.: WS01
Sample Reference: Not Given
Sample Description: Dark brown slightly gravelly slightly sandy CLAY

Depth Top [m]: 3.00
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after >0.425 mm removed by hand;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
24.4	51	1.021	26	25	-0.08	1.08	91



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1:2014+A1:2022, BS 1377-2:2022; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

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Signed: Katarzyna Banys
Katarzyna Banys
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 24/06/2025

GF 360.13

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022, cl 5.3, 6

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

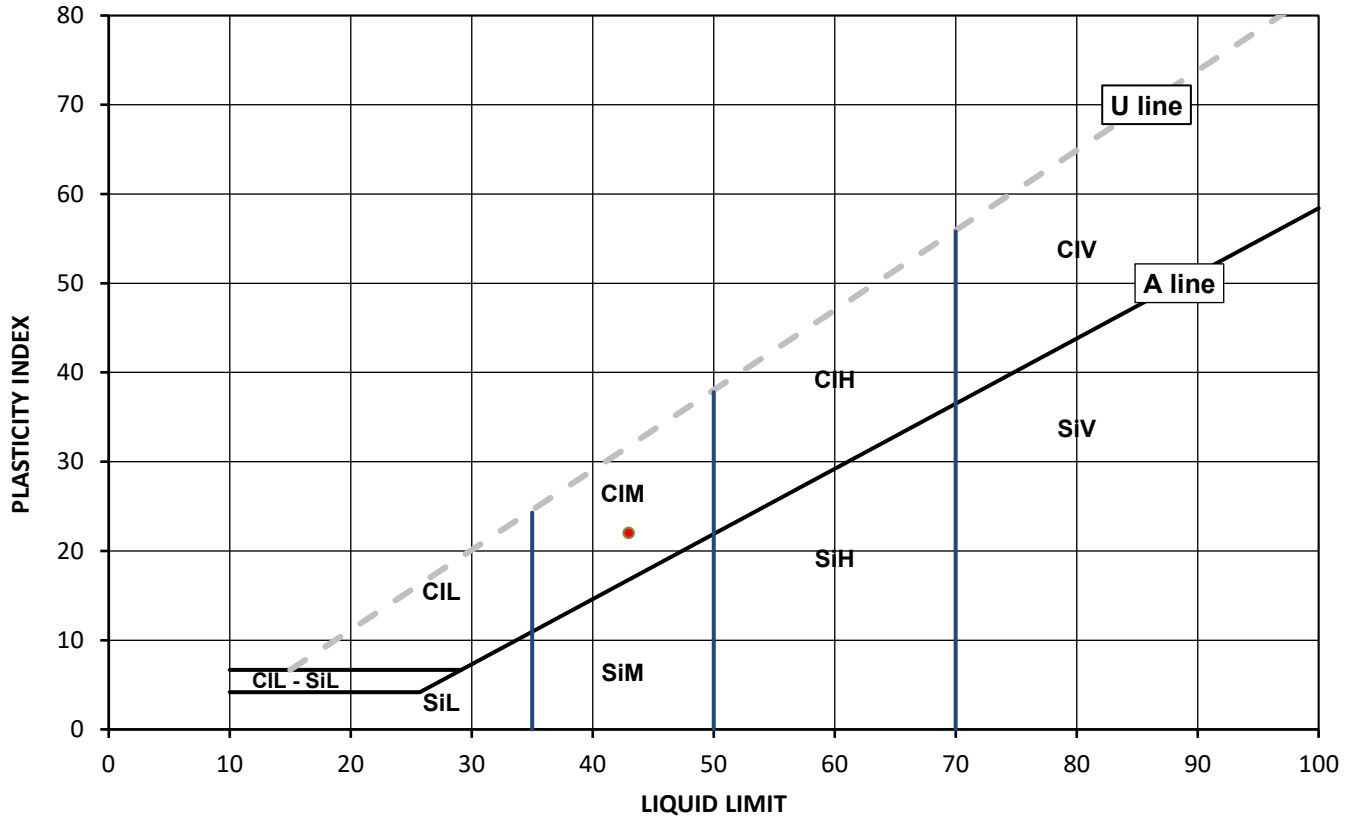
Client:	Enzygo Geoenvironmental Ltd	Client Reference:	CRM.1483.100
Client Address:	Ducie House, Ducie Street, M1 2JW	Job Number:	25-029522-1
		Date Sampled:	Not Given
		Date Received:	03/06/2025
Contact:	Richard Hamilton	Date Tested:	10/06/2025
Site Address:	Huddersfield	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	571947	Depth Top [m]:	4.00
Hole No.:	WS01	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Dark brown very gravelly sandy CLAY		
Sample Preparation:	Tested after washing to remove >0.425 mm;		
Cone Type:	80g/30deg		

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
15.6	43	0.984	21	22	-0.23	1.23	52



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1:2014+A1:2022, BS 1377-2:2022; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

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DETERMINATION OF LIQUID AND PLASTIC LIMITS

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i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

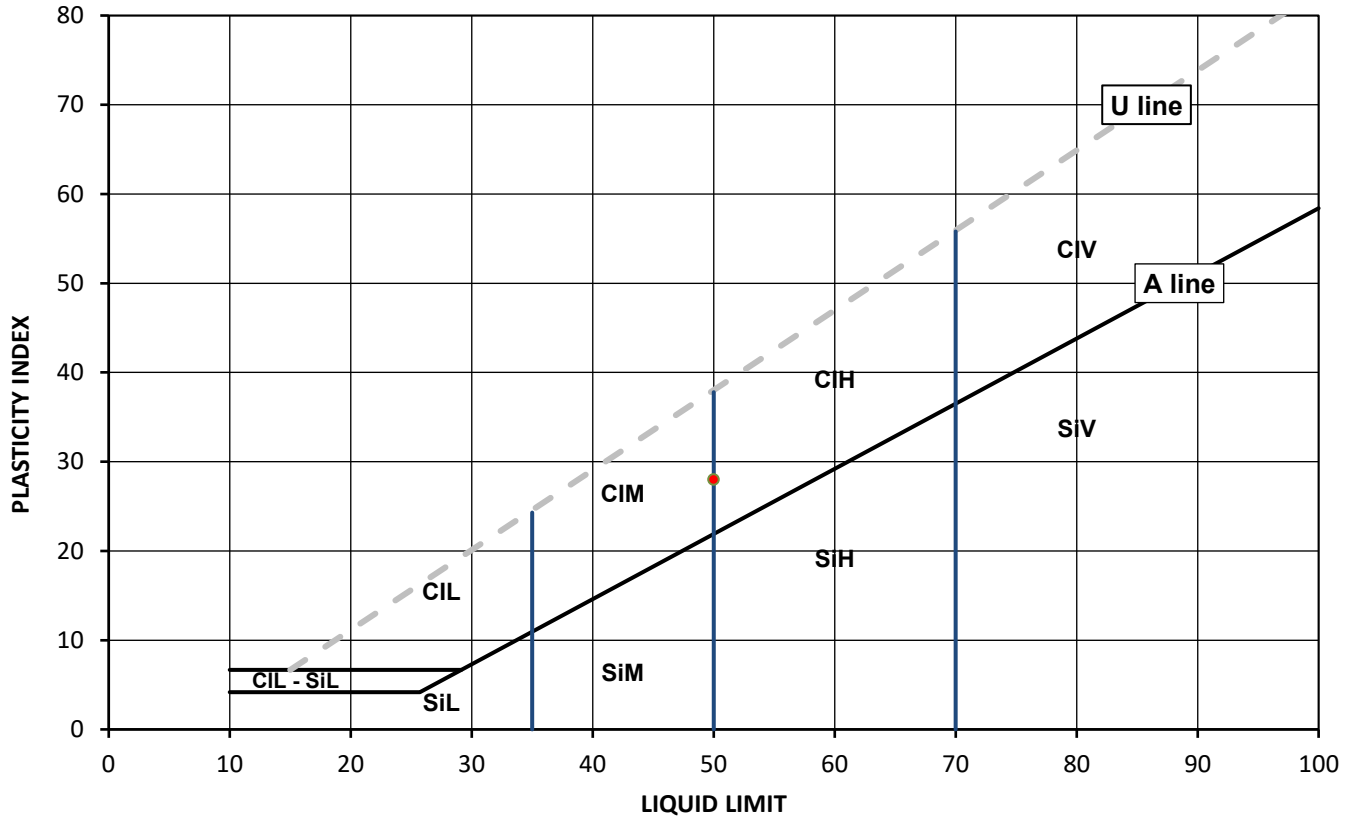
Client:	Enzygo Geoenvironmental Ltd	Client Reference:	CRM.1483.100
Client Address:	Ducie House, Ducie Street, M1 2JW	Job Number:	25-029522-1
		Date Sampled:	Not Given
		Date Received:	03/06/2025
Contact:	Richard Hamilton	Date Tested:	10/06/2025
Site Address:	Huddersfield	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	571948	Depth Top [m]:	5.00
Hole No.:	WS01	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Dark brown gravelly slightly sandy CLAY		
Sample Preparation:	Tested after washing to remove >0.425 mm;		
Cone Type:	80g/30deg		

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
16.6	50	0.984	22	28	-0.18	1.18	65



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1:2014+A1:2022, BS 1377-2:2022; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

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DETERMINATION OF LIQUID AND PLASTIC LIMITS

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i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

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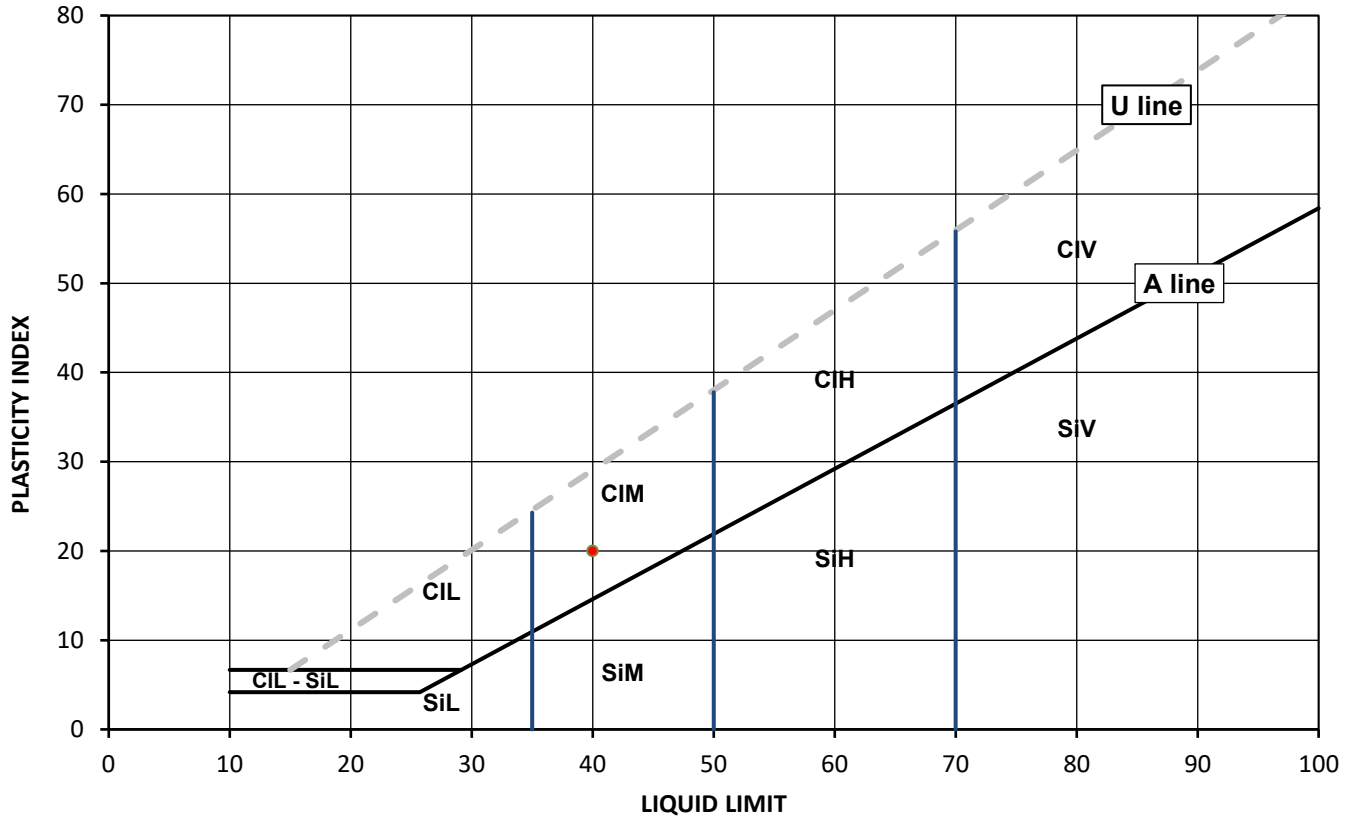
Client:	Enzygo Geoenvironmental Ltd	Client Reference:	CRM.1483.100
Client Address:	Ducie House, Ducie Street, M1 2JW	Job Number:	25-029522-1
		Date Sampled:	Not Given
		Date Received:	03/06/2025
Contact:	Richard Hamilton	Date Tested:	10/06/2025
Site Address:	Huddersfield	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	571949	Depth Top [m]:	2.00
Hole No.:	WS04	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Dark brown very gravelly sandy CLAY		
Sample Preparation:	Tested after washing to remove >0.425 mm;		
Cone Type:	80g/30deg		

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
17.8	40	0.968	20	20	-0.10	1.10	48



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1:2014+A1:2022, BS 1377-2:2022; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

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Date Reported: 24/06/2025

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DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022, cl 5.3, 6

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Northampton NN4 7EB

4041

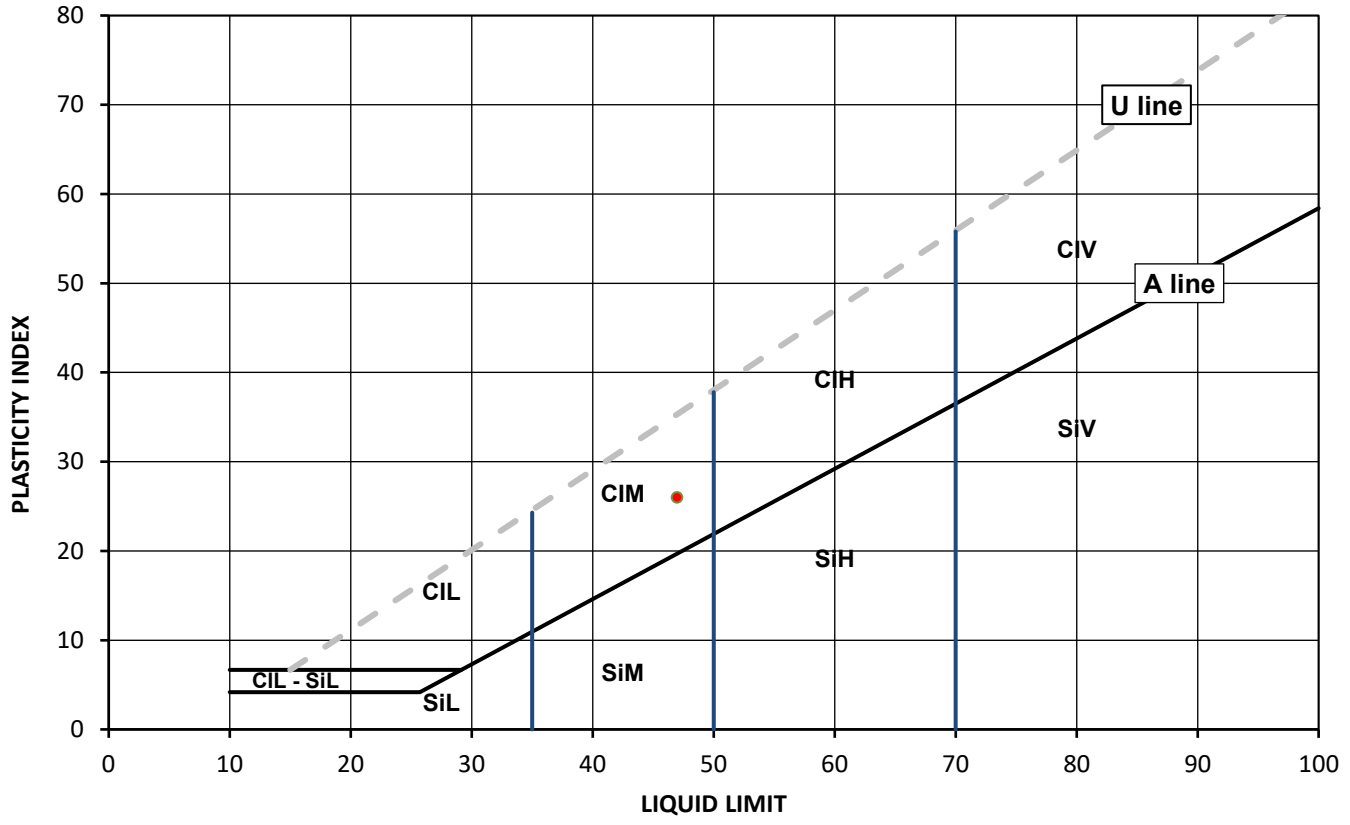
Client:	Enzygo Geoenvironmental Ltd	Client Reference:	CRM.1483.100
Client Address:	Ducie House, Ducie Street, M1 2JW	Job Number:	25-029522-1
		Date Sampled:	Not Given
		Date Received:	03/06/2025
Contact:	Richard Hamilton	Date Tested:	10/06/2025
Site Address:	Huddersfield	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	571950	Depth Top [m]:	4.00
Hole No.:	WS04	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Dark brown very gravelly slightly sandy CLAY		
Sample Preparation:	Tested after washing to remove >0.425 mm;		
Cone Type:	80g/30deg		

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
15.5	47	0.968	21	26	-0.19	1.19	45



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
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		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1:2014+A1:2022, BS 1377-2:2022; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

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Katarzyna Banys
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 24/06/2025

GF 360.13

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022, cl 5.3, 6

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

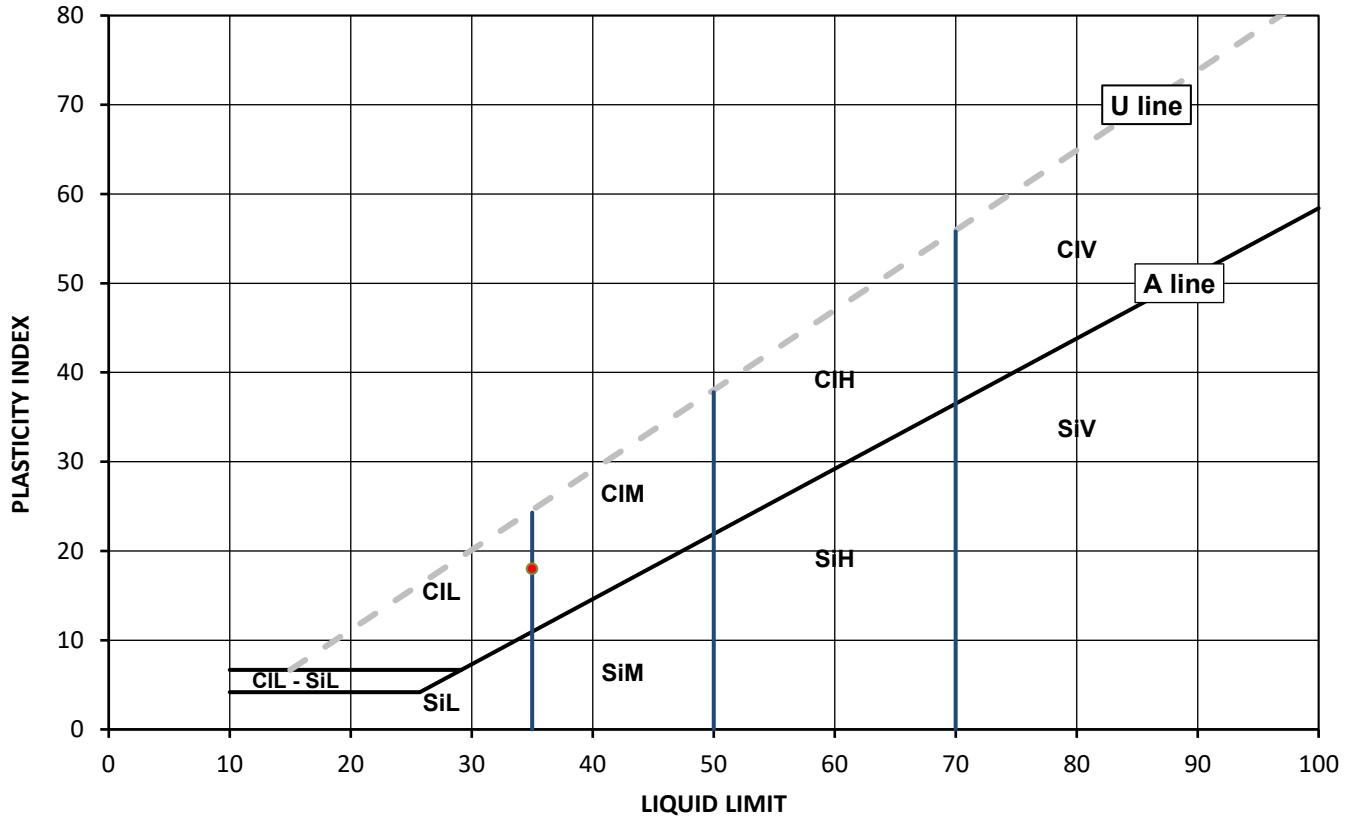
Client:	Enzygo Geoenvironmental Ltd	Client Reference:	CRM.1483.100
Client Address:	Ducie House, Ducie Street, M1 2JW	Job Number:	25-029522-1
		Date Sampled:	Not Given
		Date Received:	03/06/2025
Contact:	Richard Hamilton	Date Tested:	10/06/2025
Site Address:	Huddersfield	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	571951	Depth Top [m]:	5.00
Hole No.:	WS04	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brown very gravelly sandy CLAY		
Sample Preparation:	Tested after washing to remove >0.425 mm;		
Cone Type:	80g/30deg		

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
12.1	35	0.968	17	18	-0.28	1.28	44



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
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		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1:2014+A1:2022, BS 1377-2:2022; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

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Signed: Katarzyna Banys

Katarzyna Banys
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 24/06/2025

GF 360.13

SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Tested in Accordance with:

BS EN ISO 17892-12:2018+A2:2022, cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022, cl 5.3, 6. Correlation Factor by Clayton C.R.I and Jukes A.W (1978). W by BS EN ISO 17892-1:2014+A1:2022.

Client: Enzygo Geoenvironmental Ltd

Client Address: Ducie House, Ducie Street, M1 2JW

Contact: Richard Hamilton

Site Address: Huddersfield

Client Reference: CRM.1483.100
Job Number: 25-029522-1
Date Sampled: Not Given
Date Received: 03/06/2025
Date Tested: 10/06/2025
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	W	Liquid & Plastic Limit							Density		
		Reference	Depth Top m	Depth Base m	Type			%	% Passing 425um %	WL* %	Correlation Factor	Wp %	Ip %	Cone type	Sample Preparation	bulk Mg/m3	dry Mg/m3	PD Mg/m3
571946	WS01	Not Given	3.00	Not Given	D	Dark brown slightly gravelly slightly sandy CLAY	Atterberg 1 Point	24.4	91	51	1.021	26	25	80g/30 deg	R			
571947	WS01	Not Given	4.00	Not Given	D	Dark brown very gravelly sandy CLAY	Atterberg 1 Point	15.6	52	43	0.984	21	22	80g/30 deg	WR			
571948	WS01	Not Given	5.00	Not Given	D	Dark brown gravelly slightly sandy CLAY	Atterberg 1 Point	16.6	65	50	0.984	22	28	80g/30 deg	WR			
571949	WS04	Not Given	2.00	Not Given	D	Dark brown very gravelly sandy CLAY	Atterberg 1 Point	17.8	48	40	0.968	20	20	80g/30 deg	WR			
571950	WS04	Not Given	4.00	Not Given	D	Dark brown very gravelly slightly sandy CLAY	Atterberg 1 Point	15.5	45	47	0.968	21	26	80g/30 deg	WR			
571951	WS04	Not Given	5.00	Not Given	D	Brown very gravelly sandy CLAY	Atterberg 1 Point	12.1	44	35	0.968	17	18	80g/30 deg	WR			

Note: # Non accredited; NP - Non plastic; N - Tested in natural condition, R - Tested after >0.425mm removed by hand, WR - Tested after washing to remove >425mm; * - One point liquid limit corrected as per the report Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Comments:

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Signed: Katarzyna Banys

Katarzyna Banys
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 24/06/2025 **GF 361.15**

SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS EN ISO 17892-1:2014+A1:2022, BS 1377-2: 2022, clause 4.1

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Enzygo Geoenvironmental Ltd

Client Address: Ducie House, Ducie Street, M1 2JW

Contact: Richard Hamilton

Site Address: Huddersfield

Client Reference: CRM.1483.100
Job Number: 25-029522-1
Date Sampled: Not Given
Date Received: 03/06/2025
Date Tested: 10/06/2025
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC											
		Reference	Depth Top m	Depth Base m	Type			%											
571946	WS01	Not Given	3.00	Not Given	D	Dark brown slightly gravelly slightly sandy CLAY		24.4											
571947	WS01	Not Given	4.00	Not Given	D	Dark brown very gravelly sandy CLAY		15.6											
571948	WS01	Not Given	5.00	Not Given	D	Dark brown gravelly slightly sandy CLAY		16.6											
571949	WS04	Not Given	2.00	Not Given	D	Dark brown very gravelly sandy CLAY		17.8											
571950	WS04	Not Given	4.00	Not Given	D	Dark brown very gravelly slightly sandy CLAY		15.5											
571951	WS04	Not Given	5.00	Not Given	D	Brown very gravelly sandy CLAY		12.1											

Comments:

Signed: Katarzyna Banys

Katarzyna Banys
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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Date Reported: 24/06/2025

GF 126.19

TEST CERTIFICATE

DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR) TOP ONLY

Tested in Accordance with: BS 1377-2:2022 Cl. 15

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client:	Enzygo Geoenvironmental Ltd	Client Reference:	CRM.1483.100
Client Address:	Ducie House, Ducie Street, M1 2JW	Job Number:	25-029522-1
		Date Sampled:	Not Given
		Date Received:	03/06/2025
Contact:	Richard Hamilton	Date Tested:	23/06/2025
Site Address:	Huddersfield	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

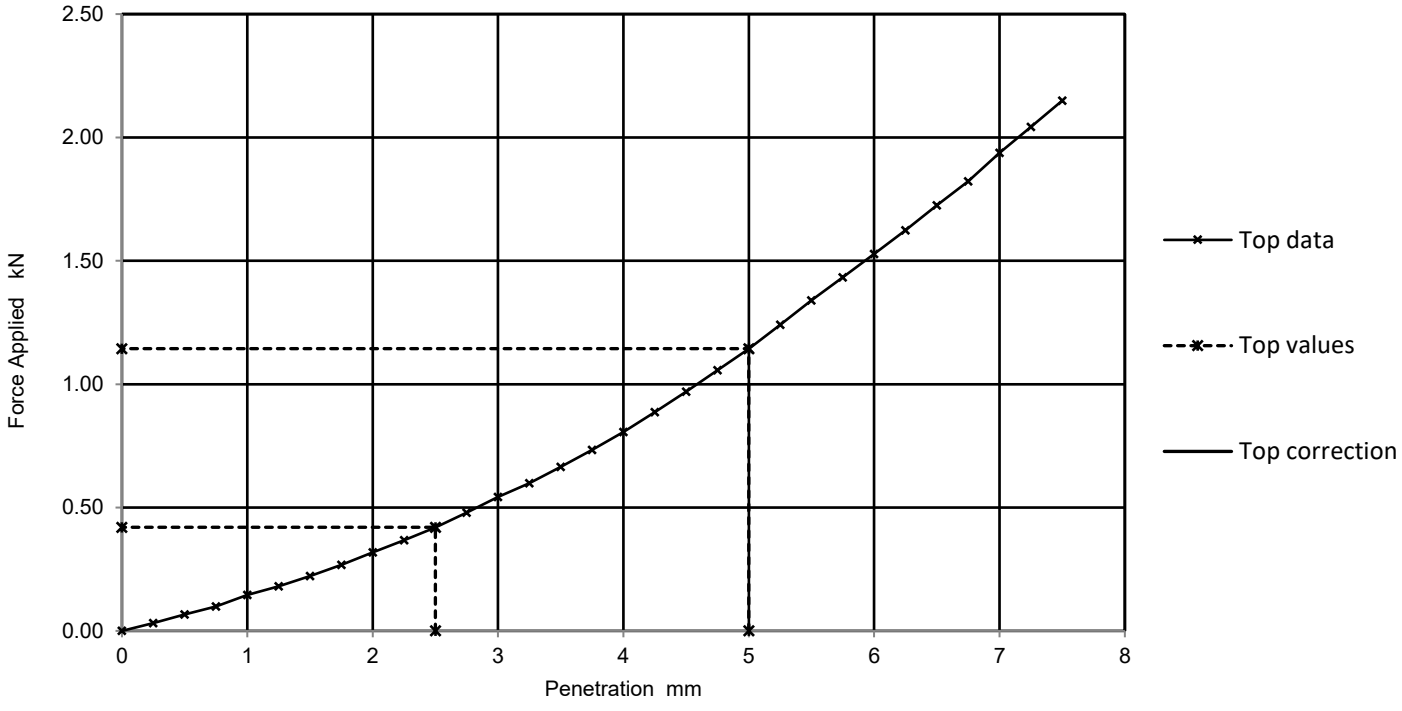
Test Results:

Laboratory Reference:	571945	Depth Top [m]:	0.50
Hole No.:	WS01	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Dark brown gravelly SAND		

Specimen Preparation:

Condition	Remoulded			Soaking details	Not soaked
Details	Recompacted with specified standard effort using 2.5kg rammer			Period of soaking	days
				Time to surface	days
				Amount of swell recorded	mm
Material retained on 20mm sieve removed		13	%	Dry density after soaking	Mg/m3
Initial Specimen details	Bulk density	1.77	Mg/m3	Surcharge applied	8 kg
	Dry density	1.43	Mg/m3		4.9 kPa
	Water content	24	%		

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Water Content %
		2.5mm	5mm	Highest	Average	
TOP	No	3.2	5.7	5.7	N/A	23

Remarks:

Test/ Specimen specific remarks:

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Signed: Katarzyna Banys

Katarzyna Banys
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 24/06/2025

GF 595.1

Appendix 5 – Contamination Assessment Reference Values

Determinant	Units	GAC Value Residential					
		With Plant Uptake			Without Plant Uptake		
Arsenic	mg/kg	37			40		
Cadmium	mg/kg	11			85		
Chromium	mg/kg	910			910		
Chromium VI	mg/kg	6			6		
Lead	mg/kg	200			310		
Mercury	mg/kg	40			56		
Nickel	mg/kg	180			180		
Selenium	mg/kg	250			430		
Copper	mg/kg	2400			7100		
Zinc	mg/kg	3700			40000		
Cyanide	mg/kg	791			800		
SOM	%	1	2.5	6	1	2.5	6
Phenol	mg/kg	120	200	380	440	690	1200
Napthalene	mg/kg	2.3	5.6	13	2.3	5.6	13
Acenaphtylene	mg/kg	170	420	920	2900	4600	6000
Acenaphthene	mg/kg	210	510	1100	3000	4700	6000
Flourene	mg/kg	170	400	860	2800	3800	4500
Phenanthrene	mg/kg	95	220	440	1300	1500	1500
Anthracene	mg/kg	2400	5400	11000	31000	35000	37000
Fluoranthene	mg/kg	280	560	890	1500	1600	1600
Pyrene	mg/kg	620	1200	2000	3700	3800	3800
Benzo(a)Anthracene	mg/kg	7.2	11	13	11	14	15
Chrysene	mg/kg	15	22	27	30	31	32
Benzo(b)Flouranthene	mg/kg	2.6	3.3	3.7	3.9	4.0	4.0
Benzo(k)Flouranthene	mg/kg	77	93	100	110	110	110
Benzo(a)Pyrene	mg/kg	2.2	2.7	3.0	3.2	3.2	3.2
Indeno(123-cd)Pyrene	mg/kg	27	36	41	45	46	46
Dibenzo(a,h)Anthracene	mg/kg	0.24	0.28	0.3	0.31	0.32	0.32
Benzo(ghi)Perylene	mg/kg	320	340	350	360	360	360
TPH C_5-C_6 Aliphatic	mg/kg	**42**	**78**	**160**	**42**	**78**	**160**
TPH C_6-C_8 Aliphatic	mg/kg	**100**	**230**	**530**	**100**	**230**	**530**
TPH C_8-C_{10} Aliphatic	mg/kg	**27**	**65**	**150**	**27**	**65**	**150**
TPH C_{10}-C_{12} Aliphatic	mg/kg	130	330	760	**130**	**330**	**770**
TPH C_{12}-C_{16} Aliphatic	mg/kg	1100	2400	4300	**1100**	2400	4400
TPH C_{16}-C_{35} Aliphatic	mg/kg	65000	92000	110000	65000	92000	110000
TPH C_{35}-C_{44} Aliphatic	mg/kg	65000	92000	110000	65000	92000	110000
TPH C_5-C_7 Aromatic	mg/kg	70	140	300	370	690	1400
TPH C_7-C_8 Aromatic	mg/kg	130	290	660	860	1800	3900
TPH C_8-C_{10} Aromatic	mg/kg	34	83	190	47	110	270
TPH C_{10}-C_{12} Aromatic	mg/kg	**74**	**180**	**380**	250	590	1200
TPH C_{12}-C_{16} Aromatic	mg/kg	**140**	**330**	**660**	1800	**2300**	**2500**
TPH C_{16}-C_{21} Aromatic	mg/kg	**260**	**540**	**930**	**1900**	**1900**	**1900**
TPH C_{21}-C_{35} Aromatic	mg/kg	**1100**	**1500**	**1700**	**1900**	**1900**	**1900**
TPH C_{35}-C_{44} Aromatic	mg/kg	**1100**	**1500**	**1700**	**1900**	**1900**	**1900**
Benzene	mg/kg	0.087	0.17	0.37	0.38	0.70	1.4
Toluene	mg/kg	130	290	660	880	1900	3900
Ethylebenzene	mg/kg	47	110	260	83	190	440
Xylene	mg/kg	56	130	310	79	180	430

Determinant	Units	GAC Value					
		Residential POS			Commercial		
Arsenic	mg/kg	79			640		
Cadmium	mg/kg	120			190		
Chromium	mg/kg	1500			8600		
Chromium VI	mg/kg	7.7			33		
Lead	mg/kg	630			2330		
Mercury	mg/kg	120			1100		
Nickel	mg/kg	230			980		
Selenium	mg/kg	1100			12000		
Copper	mg/kg	12000			68000		
Zinc	mg/kg	81000			730000		
Cyanide	mg/kg	N/A			16200		
SOM	%	1	2.5	6	1	2.5	6
Phenol	mg/kg	440	690	1300	440	690	1300
Napthalene	mg/kg	4900	4900	4900	190	460	1100
Acenaphtylene	mg/kg	15000	15000	15000	83000	97000	100000
Acenaphthene	mg/kg	15000	15000	15000	84000	97000	100000
Flourene	mg/kg	9900	9900	9900	63000	68000	71000
Phenanthrene	mg/kg	3100	3100	3100	22000	22000	23000
Anthracene	mg/kg	74000	74000	74000	520000	540000	540000
Fluoranthene	mg/kg	3100	3100	3100	23000	23000	23000
Pyrene	mg/kg	7400	7400	7400	54000	54000	54000
Benzo(a)Anthracene	mg/kg	29	29	29	170	170	180
Chrysene	mg/kg	57	57	57	350	350	350
Benzo(b)Flouranthene	mg/kg	7.1	7.2	7.2	44	44	45
Benzo(k)Flouranthene	mg/kg	190	190	190	1200	1200	1200
Benzo(a)Pyrene	mg/kg	5.7	5.7	5.7	35	35	36
Indeno(123-cd)Pyrene	mg/kg	82	82	82	500	510	510
Dibenzo(a,h)Anthracene	mg/kg	0.57	0.57	0.58	3.5	3.6	3.6
Benzo(ghi)Perylene	mg/kg	640	640	640	3900	4000	4000
TPH C_5-C_6 Aliphatic	mg/kg	570000	590000	600000	**3200**	**5900**	**12000**
TPH C_6-C_8 Aliphatic	mg/kg	600000	610000	620000	**7800**	**17000**	**40000**
TPH C_8-C_{10} Aliphatic	mg/kg	13000	13000	13000	**2000**	**4800**	**11000**
TPH C_{10}-C_{12} Aliphatic	mg/kg	13000	13000	13000	**9700**	**23000**	47000
TPH C_{12}-C_{16} Aliphatic	mg/kg	13000	13000	13000	59000	82000	90000
TPH C_{16}-C_{35} Aliphatic	mg/kg	250000	250000	250000	1600000	1700000	1800000
TPH C_{35}-C_{44} Aliphatic	mg/kg	250000	250000	250000	1600000	1700000	1800000
TPH C_5-C_7 Aromatic	mg/kg	**56000**	**56000**	**56000**	26000	46000	86000
TPH C_7-C_8 Aromatic	mg/kg	**56000**	**56000**	**56000**	56000	110000	180000
TPH C_8-C_{10} Aromatic	mg/kg	**5000**	**5000**	**5000**	3500	8100	17000
TPH C_{10}-C_{12} Aromatic	mg/kg	**5000**	**5000**	**5000**	16000	28000	**34000**
TPH C_{12}-C_{16} Aromatic	mg/kg	**5100**	**5100**	**5000**	**36000**	**37000**	**38000**
TPH C_{16}-C_{21} Aromatic	mg/kg	**3800**	**3800**	**3800**	**28000**	**28000**	**28000**
TPH C_{21}-C_{35} Aromatic	mg/kg	**3800**	**3800**	**3800**	**28000**	**28000**	**28000**
TPH C_{35}-C_{44} Aromatic	mg/kg	**3800**	**3800**	**3800**	**28000**	**28000**	**28000**
Benzene	mg/kg	72	72	73	27	47	90
Toluene	mg/kg	56000	56000	56000	56000	110000	180000
Ethylebenzene	mg/kg	24000	24000	25000	5700	13000	27000
Xylene	mg/kg	41000	42000	43000	5900	14000	30000

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Determinant	Units	GAC Value					
		Park POS			Allotments		
Arsenic	mg/kg	170			43		
Cadmium	mg/kg	532			1.9		
Chromium	mg/kg	33000			18000		
Chromium VI	mg/kg	220			1.8		
Lead	mg/kg	1300			80		
Mercury	mg/kg	240			19		
Nickel	mg/kg	3400			230		
Selenium	mg/kg	1800			88		
Copper	mg/kg	44000			520		
Zinc	mg/kg	170000			620		
Cyanide	mg/kg						
SOM	%	1	2.5	6	1	2.5	6
Phenol	mg/kg	440	690	1300	23	42	83
Napthalene	mg/kg	1200	1900	3000	4.1	10	24
Acenaphtylene	mg/kg	29000	30000	30000	28	69	160
Acenaphthene	mg/kg	29000	30000	30000	34	85	200
Flourene	mg/kg	20000	20000	20000	27	67	160
Phenanthrene	mg/kg	6200	6200	6300	15	38	90
Anthracene	mg/kg	150000	150000	150000	380	950	2200
Fluoranthene	mg/kg	6300	6300	6400	52	130	290
Pyrene	mg/kg	15000	15000	15000	110	270	620
Benzo(a)Anthracene	mg/kg	49	56	62	2.9	6.5	13
Chrysene	mg/kg	93	110	120	4.1	9.4	19
Benzo(b)Flouranthene	mg/kg	13	15	16	0.99	2.1	3.9
Benzo(k)Flouranthene	mg/kg	370	410	440	37	75	130
Benzo(a)Pyrene	mg/kg	11	12	13	0.97	2.0	3.5
Indeno(123-cd)Pyrene	mg/kg	150	170	180	9.5	21	39
Dibenzo(a,h)Anthracene	mg/kg	1.1	1.3	1.4	0.14	0.27	0.43
Benzo(ghi)Perylene	mg/kg	1400	1500	1600	290	470	640
TPH C_5-C_6 Aliphatic	mg/kg	95000	130000	180000	730	1700	3900
TPH C_6-C_8 Aliphatic	mg/kg	150000	220000	320000	2300	5600	13000
TPH C_8-C_{10} Aliphatic	mg/kg	14000	18000	21000	320	770	1700
TPH C_{10}-C_{12} Aliphatic	mg/kg	21000	23000	24000	2200	4400	7300
TPH C_{12}-C_{16} Aliphatic	mg/kg	25000	25000	26000	11000	13000	13000
TPH C_{16}-C_{35} Aliphatic	mg/kg	450000	480000	490000	260000	270000	270000
TPH C_{35}-C_{44} Aliphatic	mg/kg	450000	480000	490000	260000	270000	270000
TPH C_5-C_7 Aromatic	mg/kg	**76000**	**84000**	**92000**	**13**	**27**	**57**
TPH C_7-C_8 Aromatic	mg/kg	**87000**	**95000**	**100000**	**22**	**51**	**120**
TPH C_8-C_{10} Aromatic	mg/kg	**7200**	**8500**	**9300**	**8.6**	**21**	**51**
TPH C_{10}-C_{12} Aromatic	mg/kg	**9200**	**9700**	**10000**	**13**	**31**	**74**
TPH C_{12}-C_{16} Aromatic	mg/kg	**10000**	**10000**	**10000**	**23**	**57**	**130**
TPH C_{16}-C_{21} Aromatic	mg/kg	**7600**	**7700**	**7800**	**46**	**110**	**260**
TPH C_{21}-C_{35} Aromatic	mg/kg	**7800**	**7800**	**7900**	**370**	**820**	**1600**
TPH C_{35}-C_{44} Aromatic	mg/kg	**7800**	**7800**	**7900**	**370**	**820**	**1600**
Benzene	mg/kg	90	100	110	0.017	0.034	0.075
Toluene	mg/kg	87000	95000	100000	22	51	120
Ethylebenzene	mg/kg	17000	22000	27000	16	39	91
Xylene	mg/kg	17000	23000	31000	28	67	160

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GAC gqvap Threshold Values

Determinant	Unit	SoBRA Values GAC (gwvap)	
		Residentiaal	Commercial
Benzene	ug/l	210	20000
Ethylbenzene	ug/l	10000	960000
Isopropylbenzene	ug/l	850	86000
Propylbenzene	ug/l	2700	240000
Styrene	ug/l	8800	810000
Toluene	ug/l	230000	21000000
TPH Aliphatic (EC5 – EC6)	ug/l	1900	190000
TPH Aliphatic (EC6 – EC8)	ug/l	1500	150000
TPH Aliphatic (EC8 – EC10)	ug/l	57	5700
TPH Aliphatic (EC10– EC12)	ug/l	37	3600
TPH Aromatic (EC5 – EC7)	ug/l	210000	20000000
TPH Aromatic (EC7 – EC8)	ug/l	220000	21000000
TPH Aromatic (EC8 – EC10)	ug/l	1900	190000
TPH Aromatic (EC10– EC12)	ug/l	6800	660000
TPH Aromatic (EC12– EC16)	ug/l	39000	3700000
M Xylene	ug/l	9500	940000
O Xylene	ug/l	12000	1100000
P Xylene	ug/l	9900	980000
1.2.4. Trimethylbenzene	ug/l	24	2200
Acenaphthene	ug/l	170000	15000000
Acenaphthylene	ug/l	220000	20000000
Fluorene	ug/l	210000	18000000
Napthalene	ug/l	220	23000
1,1,1,2-Tetrachloroethane	ug/l	240	22,000
1,1,1-Trichloroethane	ug/l	3,000	290,000
1,1,2,2-Tetrachloroethane	ug/l	1,600	150,000
1,1,2-Trichloroethane	ug/l	520	49,000
1,1-Dichloroethane	ug/l	2,700	260,000
1,1-Dichloroethene	ug/l	160	16,000
1,2,3,4-Tetrachlorobenzene	ug/l	240	*31,000*
1,2,3,5-Tetrachlorobenzene	ug/l	7.0	600
1,2,3-Trichlorobenzene	ug/l	35	3,100
1,2,4,5-Tetrachlorobenzene	ug/l	8.1	*700*
1,2,4-Trichlorobenzene	ug/l	68	7,200
1,2-Dichlorobenzene	ug/l	2,000	*220,000*
1,2-Dichloroethane	ug/l	8.9	850
1,2-Dichloropropane	ug/l	22	2,600
1,3,5-Trichlorobenzene	ug/l	7.4	660
1,3-Dichlorobenzene	ug/l	31	2,800
1,4-Dichlorobenzene	ug/l	5,000	*460,000*
Bromobenzene	ug/l	220	20,000
Bromodichloromethane	ug/l	17	1,600
Bromoform (Tribromomethane)	ug/l	3,100	400,000
Chlorobenzene	ug/l	98	15,000
Chloroethane	ug/l	10,000	1,000,000
Chloroethene (VinylChloride)	ug/l	0.62	63
Chloromethane	ug/l	14	1,400
cis-1,2-Dichloroethene	ug/l	130	13,000
Dichloromethane	ug/l	3,300	370,000
Hexachlorobenzene	ug/l	*16*	*1,400*
Hexachlorobutadiene	ug/l	1.7	230
Hexachloroethane	ug/l	8.5	740
Pentachlorobenzene	ug/l	140	*12,000*
Tetrachloroethene	ug/l	34	4,600
Tetrachloromethane (CarbonTetrachloride)	ug/l	5.3	770
trans-1,2-Dichloroethene	ug/l	160	16,000
Trichloroethene	ug/l	5.7	530
Trichloromethane(Chloroform)	ug/l	790	85,000
Mercury, elemental	ug/l	1.1	*95*
Methyl tertiary butyl ether(MTBE)	ug/l	83,000	7,800,000

Controlled Waters Assessment Reference Values

Determinant	Unit	EQS Freshwater						UK DWS	WHO
Hardness	mg/l	0-50	50-100	100-150	150-200	200-250	>250		
Arsenic	ug/l	50						10	10
Boron	ug/l	2000						1000	0.3
Cadmium	ug/l	5						5	3
Chromium	ug/l	2	10	10	20	20	20	50	50
Lead	ug/l	4	10	10	20	20	20	10	10
Mercury	ug/l	1						1	1
Selenium	ug/l							10	10
Copper	ug/l	0.5	3	3	3	8	12	20000	2000
Nickel	ug/l	8	20	20	40	40	40	20	70
Zinc	ug/l	8	15	15	50	50	50	5000	3000
Sulphate	mg/l	400						250	250
PAH	ug/l							0.1	
Anthracene	ug/l	0.02							
Naphthalene	ug/l	10							
Benzo(a)Pyrene	ug/l	0.03							0.01
Fluoranthene	ug/l	0.02							
Benzene	ug/l	30						1	10
Toluene	ug/l	50							
Ethylebenzene	ug/l	20							
Xylene	ug/l	30							
$C_5 – C_6$ Aliphatic	ug/l								15000
$C_6 – C_8$ Aliphatic	ug/l								15000
$C_8 – C_{10}$ Aliphatic	ug/l								300
$C_{10} – C_{12}$ Aliphatic	ug/l								300
$C_{12} – C_{16}$ Aliphatic	ug/l								300
$C_{16} – C_{36}$ Aliphatic	ug/l								N/A
$C_6 – C_7$ Aromatic	ug/l								10
$C_7 – C_8$ Aromatic	ug/l	50							10
$C_8 – C_{10}$ Aromatic	ug/l	20							300
$C_{10} – C_{12}$ Aromatic	ug/l								1000
$C_{12} – C_{16}$ Aromatic	ug/l								1000
$C_{16} – C_{21}$ Aromatic	ug/l								90
$C_{21} – C_{35}$ Aromatic	ug/l								90

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