Taylor Wimpey UK Limited

Desk Study Report

For

Former Glen Dimplex Site, Stoney Lane, Prescot

July 2026

REPORT NO: 25TAY078/DS

- *Desk Studies and Site Walkovers*
- *Intrusive Contaminated Land Investigations*
- *Geotechnical Appraisals and Ground Investigations*
- *Landfill Gas Assessments and Remedial Design*
- *Remediation Design and Implementation*
- *Remediation Project Management and Supervision*
- *Site Abnormal Assessments (Foundations and Contaminated Land)*

GEOTECHNICAL - CONTAMINATED LAND - FLOOD RISK

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Prepared by:	B Simkin
Checked by:	B Lewis
Approved by:	M Fawcett
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BETTS GEO
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1 EXECUTIVE SUMMARY

Note – The following summary is not exhaustive and should be interpreted as an overview only. The entire report should be read for a full understanding.

Site Location

The site is located south of Stoney Lane, Prescot, Merseyside, L35 2XW. The Grid Reference coordinates are SJ 480 915. The site is approximately 5.8 ha in total.

Proposed Development

It is proposed to redevelop the site for residential use, including dwellings with gardens, landscaped public open space and associated infrastructure.

Site Description

The majority of the site is occupied by a large, irregularly shaped industrial building, with ancillary buildings to the north and south. A sealed car park occupies the majority of the easternmost area of the site. The surface of the site is generally level and comprises hardstanding except for grassed areas along the northern boundary (in part), to the immediate east of the main building (in part), in the southeasternmost extent of the site, and along the southern boundary (in part).

Site Walkover

The site walkover confirmed that the site comprises a former manufacturing facility, predominantly occupied by the main factory, associated infrastructure, and extensive hardstanding. The car park in the eastern part of the site was level. Former industrial activities identified included assembly, pressing, welding, painting, enamelling, aluminium treatment, and polystyrene moulding, together with associated fuel, gas, waste management and maintenance facilities. Evidence of both above- and below-ground services was widespread across the site, and areas of staining, materials and waste storage, enamel residues, oil staining and discarded drums within former process areas were observed. The buildings are currently vacant and show evidence of vandalism and deterioration, including damage to roof structures and the removal of services.

History of the Site and its Surroundings

The site evolved from agricultural land into a First World War munitions store, being then used as a foundry and, later, for the manufacture of stoves and appliances, with industrial use and redevelopment continuing throughout the 20th century. Potentially contaminative activities have been recorded across the site.

The surrounding land evolved from predominantly agricultural land to incorporate residential, institutional, and commercial/industrial uses. The review also identified various historical, potentially contaminative activities within proximity to the site.

Published Geology

The review identified the site to be underlain by glaciofluvial deposits and glacial till (classified as a Secondary A/Undifferentiated Aquifer), beneath which, bedrock geology of Chester Formation and Kinnerton Sandstone Formation (sandstone) are present (Principal Aquifer). A geological fault is recorded in the bedrock geology beneath the site. The nearest surface water course was identified to be Whiston

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Brook at approximately 140 m south.

Coal Mining and Radon

The site is defined as being situated within a Coal Mining Area by the Mining Remediation Authority. The obtained coal mining report did not highlight the site to be affected by past, current or future mining activities.

The United Kingdom Health Security Agency (UKHSA) interactive radon map for the UK indicates that part of the site is located within an area where the maximum radon potential is 3 – 5%.

Previous Investigations

Investigations since 2024 have identified metals, hydrocarbons, and chlorinated solvents in soil, groundwater, and surface water. However, limitations in how the work was carried out reduce confidence in the reliability of the findings. Despite this, contamination appears mainly concentrated in the eastern part of the main building and to the south, broadly aligning with the estimated groundwater flow in the surficial deposits. However, it is considered that sources and pathways have not been clearly defined.

Initial Conceptual Site Model

Based on the information review, a series of active and potentially active pollution linkages were identified. This included a potential moderate to moderate-high risk to future residents from exposure to contaminated soils and ground gas/vapour, and to buildings and infrastructure from direct contact with contaminated ground and potential impacts on buried services. Further, a potential moderate-high risk to groundwater from contaminant migration via infiltration, and surface waters from contaminated site runoff was identified.

Conclusions

A review of historical mapping and environmental records identified both on-site and nearby potentially contaminative land uses, including unsubstantiated reports of wartime munitions activity likely limited to metalwork such as ammunition boxes.

The only active groundwater abstraction in the vicinity of the site is related to a commercial laundry, located cross hydraulic gradient from the site, and is considered of low sensitivity. A further potential abstraction was identified >450 m away, however, this is considered to be hydraulically upgradient from the site and unlikely to be at risk. The site was not considered to be affected by coal mining, but part of the site is reported to be within an area where the maximum radon potential is 3 – 5%. The Environment Agency did not highlight records of significant pollution incidents or enforcement actions associated with the site but did note a risk of contamination mobilisation requiring further management detail before redevelopment.

Several phases of site investigation undertaken since 2024 have identified contamination in soil, groundwater, and surface water, including metals, hydrocarbons, and chlorinated solvents. Contamination appears to be primarily concentrated in the eastern half of the building and to the south of the main building footprint, broadly consistent with estimated groundwater flow towards the south to south-west. Some data reliability is limited by non-compliance with current guidance and best practice.

The presence of ash and slag in the made ground across the site is likely associated with a historical iron foundry on the site, with later furnaces being fired by gas. There are also likely multiple historical point sources of volatile organic compounds and hydrocarbons within and around the main building. Permeable horizons within the superficial deposits, which, combined with the presence of both historical and existing underground services and the recent installation of improperly cased monitoring wells, may act as

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preferential pathways, facilitating the migration of mobile contaminants across and beyond the site.

Historical site activities indicate potential PFAS use, particularly if electroplating or metal-finishing processes were undertaken, although evidence of such activities remains unconfirmed. The storage and application of paints, coatings and pickling activities are considered lower-likelihood sources. Potential off-site PFAS sources may be associated with wastewater discharge from the neighbouring commercial laundry, although additional unidentified sources cannot be ruled out.

Overall, it is considered that there are plausible pollutant linkages that may present unacceptable risks to human health and controlled waters. Further targeted site investigation is recommended.

Proposed Ground Investigation Scope

On considering the potential identified risks, and to support redevelopment, further targeted site investigation is recommended. This should be undertaken in accordance with current guidance and best practice. It is recommended that the proposed scope of works be agreed with the Local Authority before the intrusive ground investigation.

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2 INTRODUCTION

Betts Geo Environmental Limited (Betts Geo) has been engaged by Taylor Wimpey UK Limited (Taylor Wimpey – the client) to carry out an environmental desk study at the former Glen Dimplex site at Stoney Lane, Prescot, Merseyside. It is understood that the client intends to redevelop the property for residential use and that the desk study will be used to support the associated planning application. This report is based on a limited review of readily available information and Betts Geo's experience with similar sites.

2.1 Objectives and Scope

The objectives of the investigation are to:

- Determine the history of activities at the property, with particular reference to the contamination potential of those activities, specifically within the buildings on site that have not previously been fully assessed.
- Conduct a preliminary assessment of the possible risk posed by contamination associated with the historical activities.

The scope of work included:

- Obtaining and reviewing an environmental database report and historical maps.
- Obtaining and reviewing publicly available historical aerial photographs of the property.
- Contacting the Environment Agency and the Environmental Health Department of Knowsley Metropolitan Borough Council for publicly available environmental information relating to the property.
- Reviewing and summarising the historical environmental reports that the client provided in relation to the property.
- Visiting the property to undertake a site walkover.
- Preparing this report documenting the findings of the environmental desk study.

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3 SITE DESCRIPTION

The former Glen Dimplex facility is located south of Stoney Lane, Prescot, Merseyside, L35 2XW (grid reference SJ 480 915) and comprises a broadly rectangular-shaped parcel of land covering approximately 5.8 ha (referred to as 'the site'). The boundary of the site in relation to its surroundings is presented below.

The majority of the site is occupied by a large, irregularly shaped industrial building, with ancillary buildings to the north and south. A sealed car park occupies the majority of the easternmost area of the site. The surface of the site is generally level and comprises hardstanding except for grassed areas along the northern boundary (in part), to the immediate east of the main building (in part), in the southeasternmost extent of the site, and along the southern boundary (in part).

Land use surrounding the site is as follows:

- ***North*:** Stoney Lane, with Whiston Hospital, an ambulance station, and residential properties beyond.
- ***East*:** bound by an industrial laundry facility (Elis), with Stoney Lane and a combination of residential properties, a steel insulated panel manufacturing facility (Hemsec) and commercial buildings beyond.
- ***South*:** a school and educational facility, surrounded by playing/sports fields, car parking and soft

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landscaped areas.

- ***West*:** residential properties.

3.1 Proposed Development

The client intends to redevelop the site for residential use. This will include a total of 204 individual residential lots formed of detached, semi-detached and rows of three houses. The two-to-three-bedroom houses will be of either two or two and a half storeys, with garden areas and parking, interconnected with sealed roads and pedestrian access. The site will also include public open space, landscaping, a drainage pond in the centre, substations, and associated infrastructure. The proposed development plan is presented in Appendix A.

3.2 Site Walkover

The site visit was conducted by a Betts Geo Director on 28 November 2025. Photographs from the site walkover are presented in Appendix B.

Access to the site was gained via a gated entrance in the site's northeast corner or via the former delivery entrance in the northwest corner (Photo 1). The site surfacing generally comprised concrete or tarmac hardstanding (Photo 2). Exceptions were around the Social Club in the southeast corner of the site, and between the factory and car park (Photo 3), which were grassed. Site levels were observed to generally fall gently from the northwest to southeast. The car park in the eastern part of the site was level (Photo 4). Along the northern boundary, the elevation of Stoney Lane was observed to rise from and fall to that of the site as it ran east to west. Between the access points on this boundary, there was a brick retaining wall ranging from approximately 1 m to 4 m in height (Photo 5).

Most of the site is taken by the Glen Dimplex factory, which last operated in late 2024. At the time of the visit, the factory was no longer occupied and had been partially covered in hoarding for security. The main factory was generally constructed of brick with large roller shutter or pulley doors of varying ages. The pitched roofs appear to generally be either constructed of sheet metal or suspected ACM sheets with roof lights, which are currently in a state of disrepair (Photo 6). Various venting, dust suppression/collection, above-ground services and cabling were observed beneath the roof and along the walls, together with manholes and service protrusions at ground level, indicating the presence of below-ground services. At the time of the visit, there had been a significant amount of vandalism, including the removal and stripping of cabling. Large areas of ponded water were observed along the northern (Photo 5) and southern (Photo 7) boundaries.

The identified uses of the different areas within the buildings and across the site are described and illustrated in the plan below. The walkover of the external and internal areas of the factory was conducted in a broadly clockwise direction from the northwestern corner:

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3.2.1 Areas External to the Factory

Security Building – This comprised a single-storey building constructed of brick and plastic cladding, which was reportedly used as a security gatehouse and housed closed-circuit television operations for the site.

Covered Loading Bay – A covered area opposite the northwest site entrance, adjacent to the factory.

Polystyrene Plant – The polystyrene plant was inaccessible (Photo 8). However, discussions between the client and Glen Dimplex employees indicated that polystyrene beads were imported rather than manufactured on-site and that the plant was used to make packaging for the stove products. Steam (and potentially pentane) was likely used to expand the polystyrene beads into moulds.

Gas Governor – This was located on the northeast corner of the factory and contained the main gas supply to the site. The building was constructed of brick with suspected ACM cladding and roofing (Photo 9).

Bottled Gas and Paint Storage – Separately, a bottled gas storage area was observed to the southeast of the factory, with some bottles remaining. The reviewed plans indicated that this area was also used for paint storage, however, none was observed at the time of the site walkover (Photo 10).

Social Club – This was a single-storey building in the site's southeastern-most corner, with a grassed area to the rear. The building was inaccessible.

Maintenance Workshop – Located south of the eastern half of the factory, the workshop contained various tools and evidence of welding and wood and a dust suppression system. The interior had an odour of light-end hydrocarbons, and oil staining was observed on the concrete floor (Photo 11). This area was also used to store and charge forklift trucks (Photo 12)

Waste Management/Recycling areas – The central recycling area was south and southeast of the main factory, and several skips were located here containing scrap parts, general waste, and pallets (Photo 13). A plan outlining the onsite recycling areas was observed elsewhere within the offices presented in Appendix B - note that the plans appear to have been slightly skewed from the actual locations and should be used with caution). The larger skips shown on the plan appear to have been removed along with the compactors. Several further waste management areas were shown on the recycling plan but were not observed on-site, i.e. polystyrene waste, contaminated rags, and powder/oil waste. A large above ground, bunded enamel slurry waste tank was present in the area between the factory and the previously described maintenance workshop. This was locked, but there were several cracks in the top of the tank, and it appeared to be full (Photo 14). To the immediate east of the enamel slurry tank were a series of open-top, wastewater tanks at ground level and a small effluent pump house (Photo 15). To the west of the enamel slurry tank, a diesel above-ground storage tank was observed. This was empty and double-skinned rather than bunded, with localised black staining observed in this area, although hydrocarbon sheen was not observed.

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External Staff Buildings – A separate two-storey building (Photo 16) containing offices (Photos 17 and 18) and a general and customer part centre (CPC) 'store' (Photo 19) was located to the south of the factory. Office furniture, along with calibration machines and tools, was observed within the offices, while the part centre stores were empty, other than the presence of tall racking.

Substations – Two substations are located on-site, one positioned immediately west of the CPC store in the south, and the other to the south of the security building in the northwest corner of the site (Photo 20). Both substations were located within small buildings and were understood to be oil-filled. Transformers were also identified within the factory (Photo 21)

3.2.2 Internal Areas of the Factory

Assembly Area – This occupied much of the eastern half of the factory and was accessed via the covered loading bay in the northwest corner. The assembly area comprised a largely open warehouse (Photos 22 to 23), although some pallets of old stock and furniture were observed in the offices within this area. Ventilation systems and wiring were visible within the roof sections, along with several manholes and surface scarring on the concrete floor, indicative of underground services and the former location of machinery. While no obvious staining was observed on the concrete floor, the presence of water ingress from broken roof panels and vandalism could have obscured this.

Press Area – Predominantly occupying the northeast quadrant of the building (Photos 24 to 29), this area contained old machinery and equipment, covered inspection pits (Photos 30 to 34) and surface scarring from larger machine bases. Large open pits were also present, which would likely have contained hydraulic arms and lifting equipment when the factory was active. Various drums, including drums of hydraulic oil, paint, and other unidentified products, were stored in this area (Photo 35). Drums of unidentified products had been discarded within the open pits, which contained water (Photo 36).

Tool Area – Whilst primarily used for tool storage, this location was open to the larger Press Area. Several tools and lathes remained, and staining was observed on the concrete floor (Photo 37).

Dinamec Room/Paint Store – This was positioned to the north of the tool area and was inaccessible. However, it is thought that this area contained a 'Dinamec' machine (detailed within Asbestos report reference P266435, dated October 2017). This machine likely removed sand cores from aluminium parts. Details from the Dinamec Website suggest the following process:

- The first fluid bed operates at a temperature ranging between 968-1020º F and removes the sand cores from the aluminium castings by gasification of the organic binding materials. The excess sand coming from the moulds & cores is collected and can be reused for the production of new sand moulds. At the same time, the solution heat treatment is performed.

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- The second fluid bed is working at room temperature (70 to 170º F) and is used to quench the aluminium castings after the decoring and solution heat treatment. The sand in this second bed is constantly cooled down to its set temperature.
- The third fluid bed is operated at temperatures between 320-470º F and is used for the ageing of the aluminium parts.

Given the location of this machine adjacent to the aluminium workshop, it is reasonable to assume the above process was undertaken on-site. However, an earlier plan of the site, dated 2011 (presented in Appendix B), annotated this location as 'Jig Burn Off', which is a pyrolysis oven used for thermal cleaning of organic particles in a low oxygen environment, with a second afterburn used to eliminate emissions (Photo 38). These treatments remove the need to use solvents for cleaning, and it is reasonable to consider that the factory used both processes at different times.

To the immediate north of the Dinamec Room was a former paint store (refer to plans presented in Appendix B). Whilst this had been removed, the base of the building was observed to remain (Photo 39). This was observed to be of concrete construction and in reasonable condition.

Aluminium Workshop – this area was largely empty except for file storage and other equipment. Scarring from former machine bases was evident on the floor (Photos 40 and 41).

Paint Workshop – This was located east of the Dinamec Room and comprised a workshop including a paint oven, several spray booths and other equipment such as mechanised overhead conveyors (Photos 42 and 43).

Weld/Strut line – Two spot welding robots were located here (Photo 44), along with several boxes of tools and calibration equipment and office furniture. No significant staining was observed on the concrete in this location (Photos 45 to 47).

Tech Centre (R&D) – A series of offices dedicated to quality assurance and potential new products was located in the southeastern corner of the building (Photos 48 to 50). While no obvious staining was observed on the floor, this area contained office furniture and various items of stock, which prevented full observation. The northern extent of this area appeared to be for testing equipment and for the demonstration of new products to clients.

Enamel Furnaces and Pre-treat – This area occupied the southeastern quadrant of the factory and contained large, automated enamel pre-treat machinery and furnaces with a conveyor system between (Photos 51 to 54). A large amount of dried enamel slurry was observed on the floor and walls, and site observations indicated the presence of a void beneath this area (Photo 55).

Staff Facilities – Generally located across the southwestern quadrant of the factory and included a call

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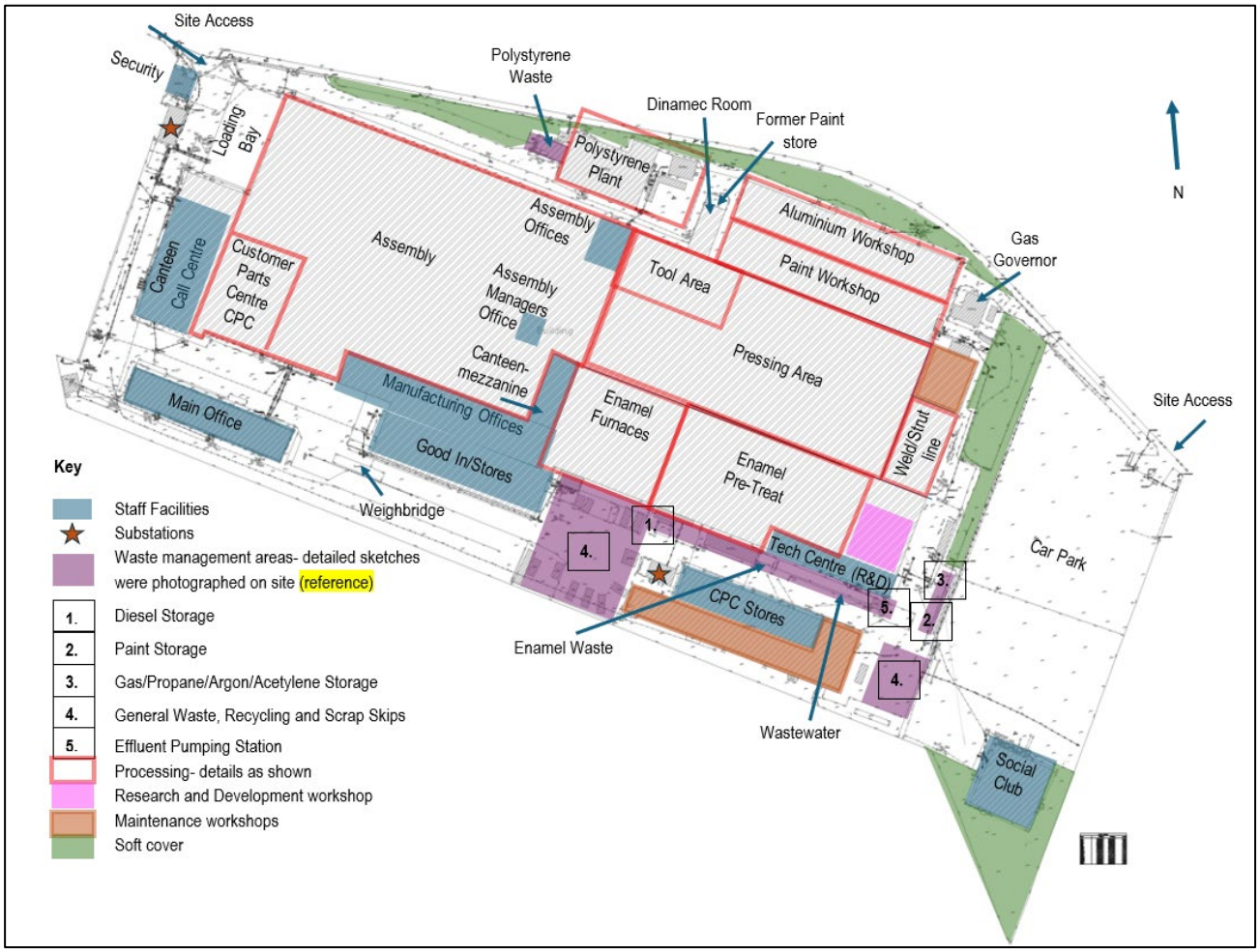
centre, assembly manager's office, manufacturing management offices, canteen area and separate mezzanine canteen area (Photos 56 and 57). These areas were separated from the surrounding assembly area.



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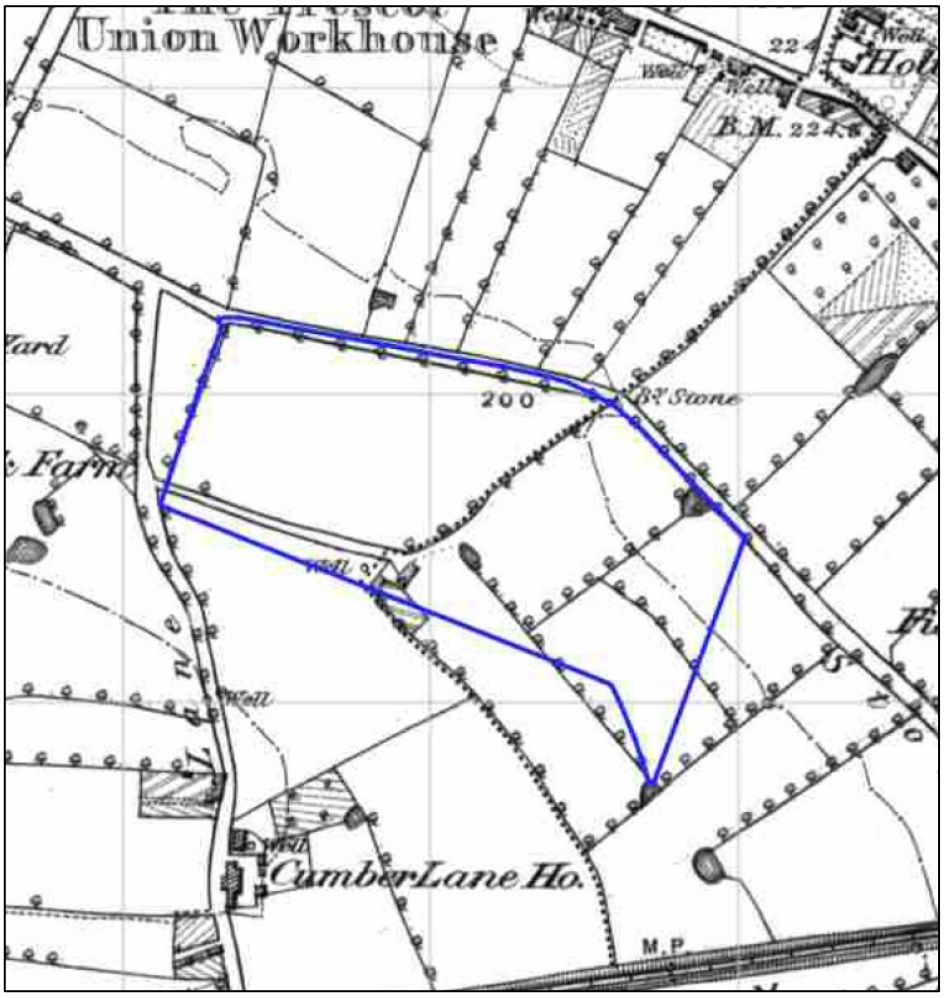
4 SITE HISTORY

A total of eight historical maps and two aerial images were selected for review to assist in establishing the history of the site. Extracts of the maps are presented and discussed below, and the full set of maps are appended (Appendix C). Interpretation is limited to identifying the past and current land use at the site, and attempting to identify features which may indicate potentially contaminating activities within the site boundary and its surroundings. All quoted distances are taken from the site boundary.

4.1 On-Site

The earliest available historical map (1850) identified the site to comprise pastureland with a small pond on the north-northeastern boundary and a further small pond within the central-southern extent of the site. A rural residential dwelling and an associated well were present on the central southern boundary.

1850 1:10,560 map



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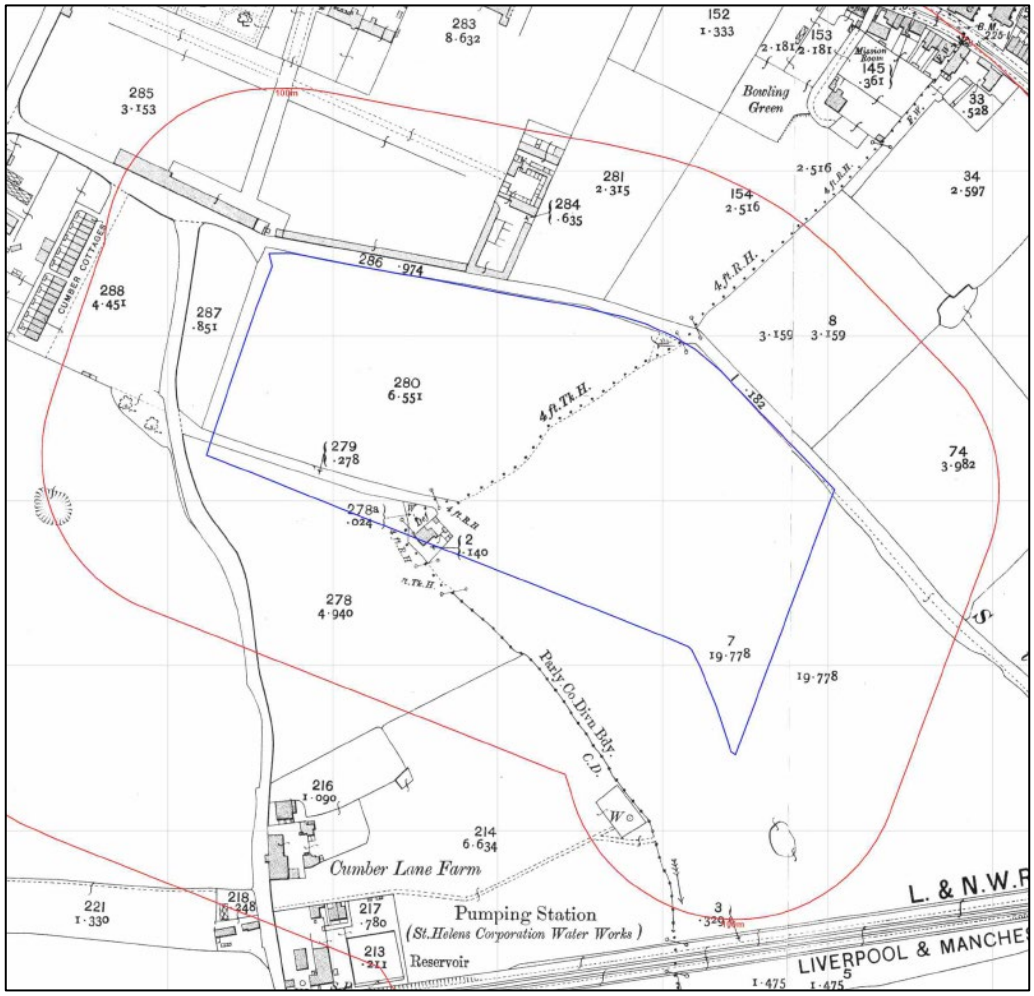
The next historical map (1907) indicated that the two previously identified ponds were no longer present, but that a small marshy area was present on the central part of the northern boundary. No other significant changes were observed.

1907 1:2,500



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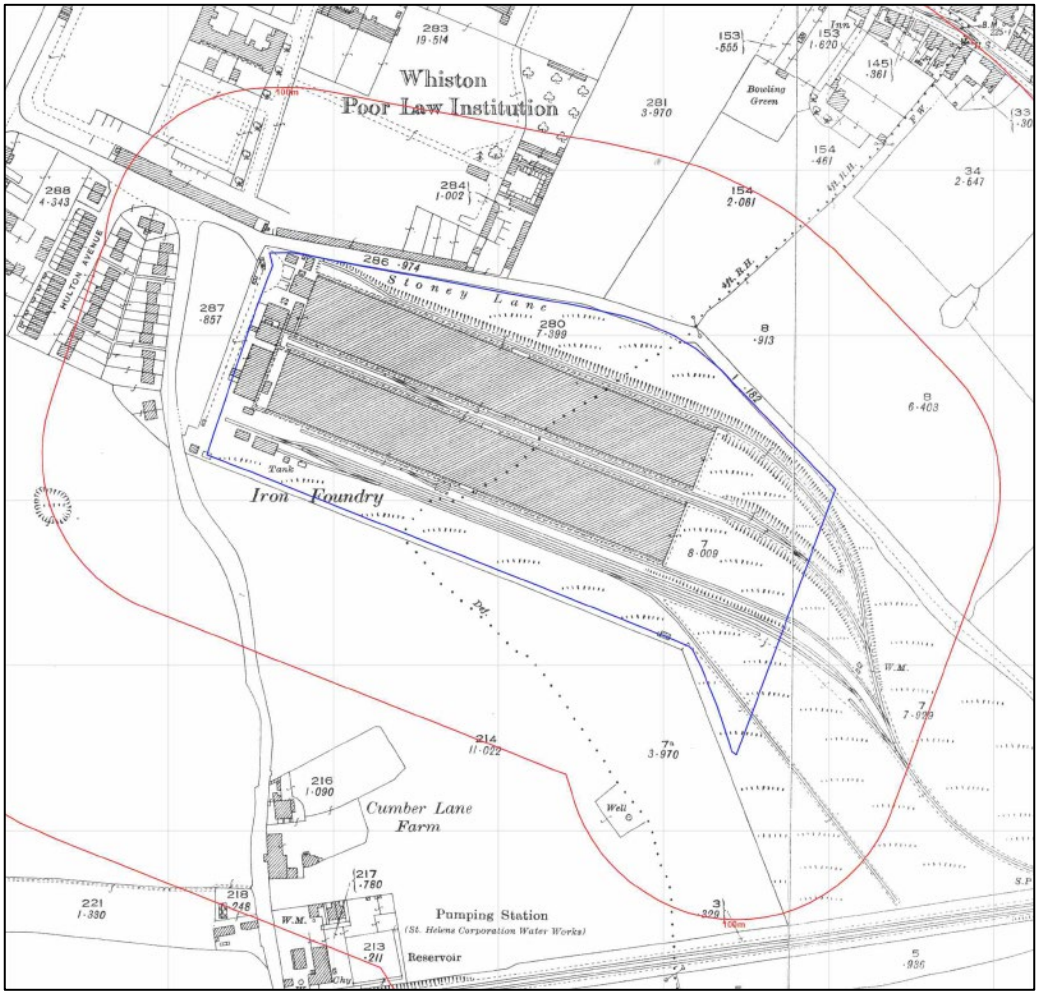
The subsequent historical map (1927) identified that the previously identified rural residential dwelling and the associated well were no longer shown, and two large rectangular buildings had been constructed across the central and western extents of the site, annotated as an 'iron foundry'. A series of ancillary buildings were present to the immediate west and southwest of the two buildings, with a tank also being annotated in the latter. Railway lines and sidings were present to the north, south, and in between the two large buildings, these extending to the east and exiting via four points along the eastern boundary. The rail lines in the northern half of the site were within shallow cuttings.

1927 1:2,500



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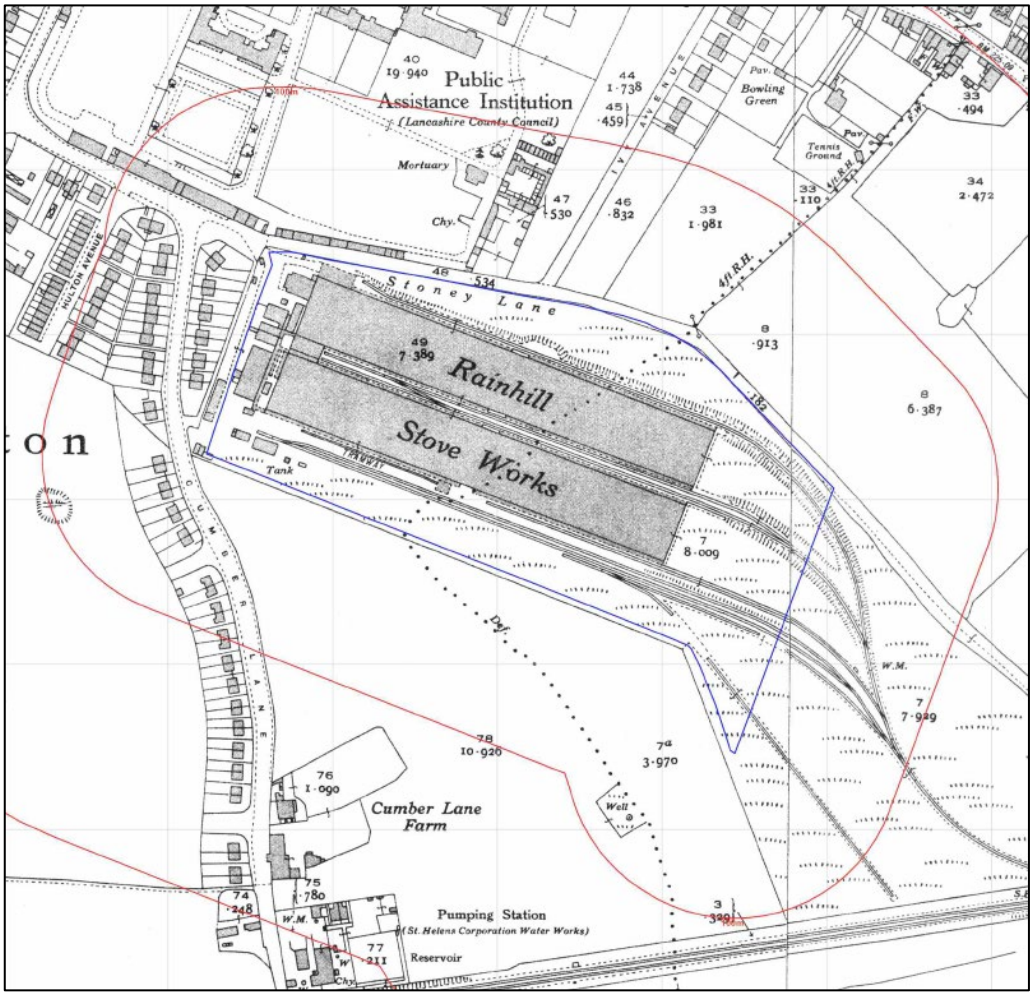
The next historical map (1937) showed the two large buildings to be annotated as 'Rainhill Stove Works'. The ancillary buildings to the immediate west and northwest, and the railway lines and sidings to the south and southeast, had been subject to slight reconfiguration.

1937 1:2,500



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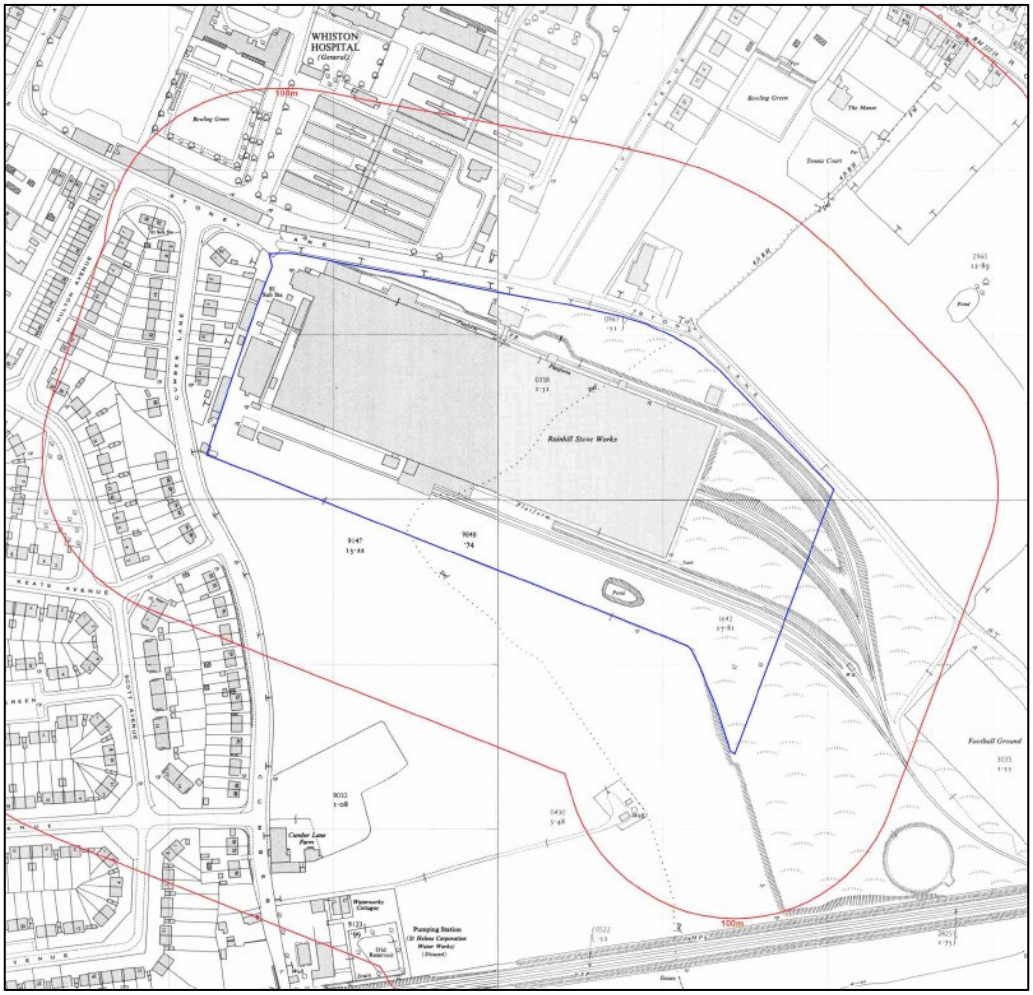
The subsequent historical map (1956) identified that the two main, large buildings had been amalgamated into a single building and that extensions and further ancillary buildings had been constructed to the immediate north and south. Further ancillary buildings had been constructed to the immediate west of the main building, with additional reconfiguration of the ancillary buildings in this area and the railway lines and sidings to the south and southeast. A tank was annotated adjacent to the southeast corner of the large building, a small pond was shown to the south-southeast of the large building, and an electrical substation was annotated within the ancillary buildings to the west of the main building. The previously identified tank to the southwest of the large building was no longer annotated.

1956 1:2,500



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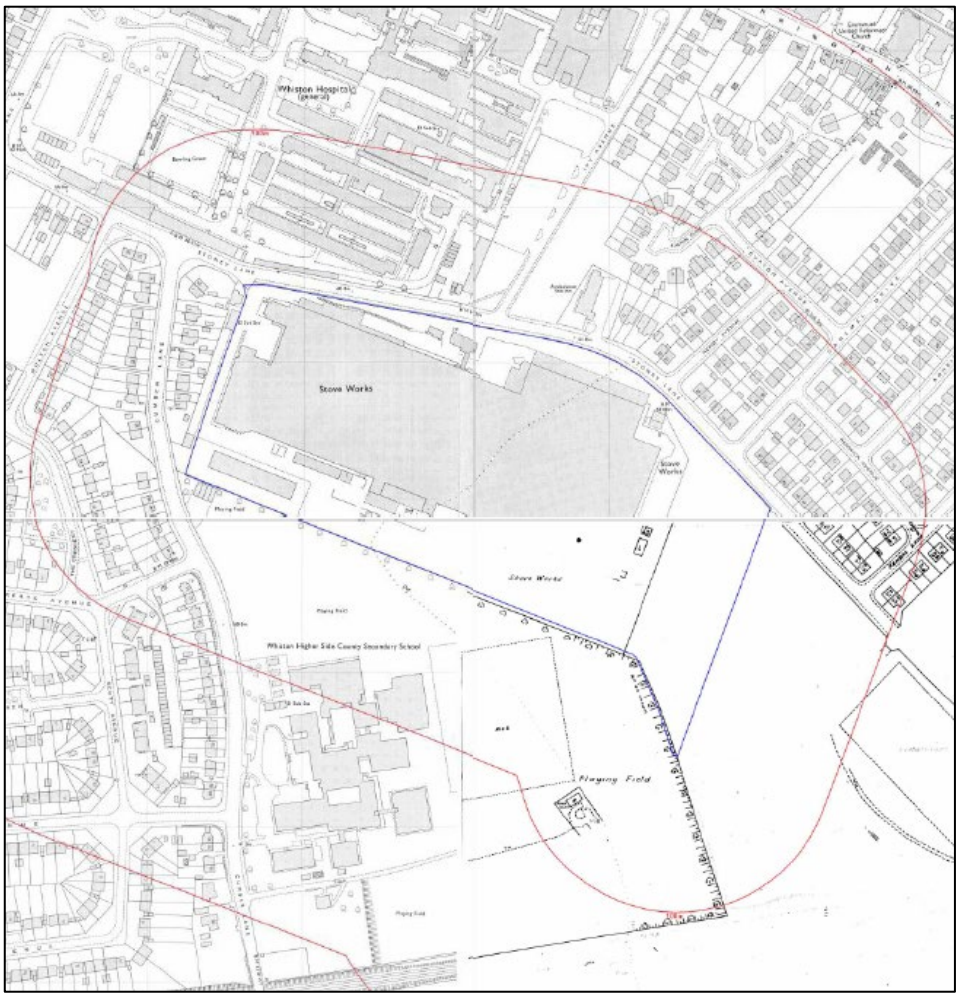
The 1972-1976 historical map identified that parts of the main building had been extended to the north, south and west, and that all of the previously identified ancillary buildings to the west were no longer present. A large rectangular building had been constructed in the southwest corner of the site. The previously identified rail lines to the north, east and south of the main building had been removed. However, the southeastern quadrant of the map showed limited information compared to the remainder of the map. The pond to the south-southeast of the large building was no longer annotated.

1972-1976 1:1,250



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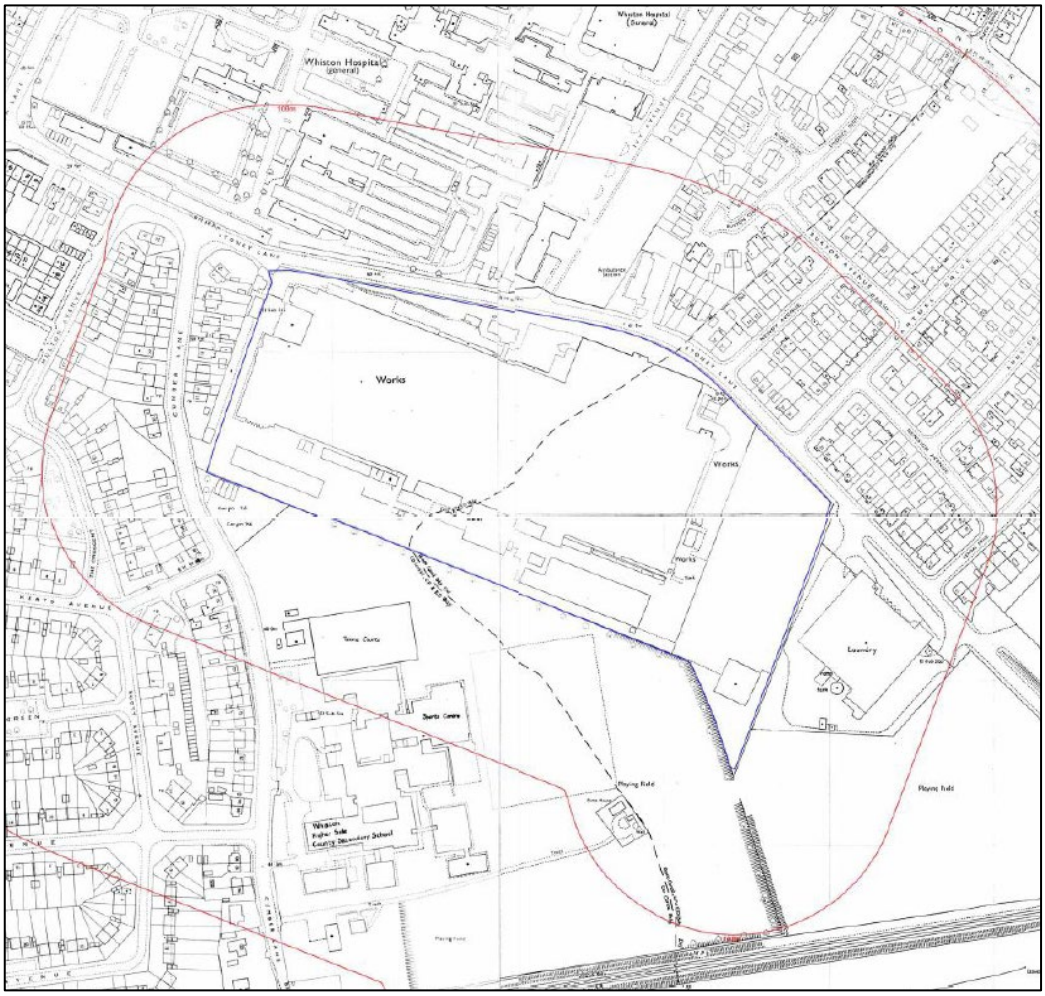
The subsequent historical map (1980-1985) identified that additional ancillary buildings had been constructed south of the main building, and a further square-shaped building had been constructed in the southeasternmost extent of the site. The easternmost extent of the site appeared undeveloped.

1980-1985 1:1,250



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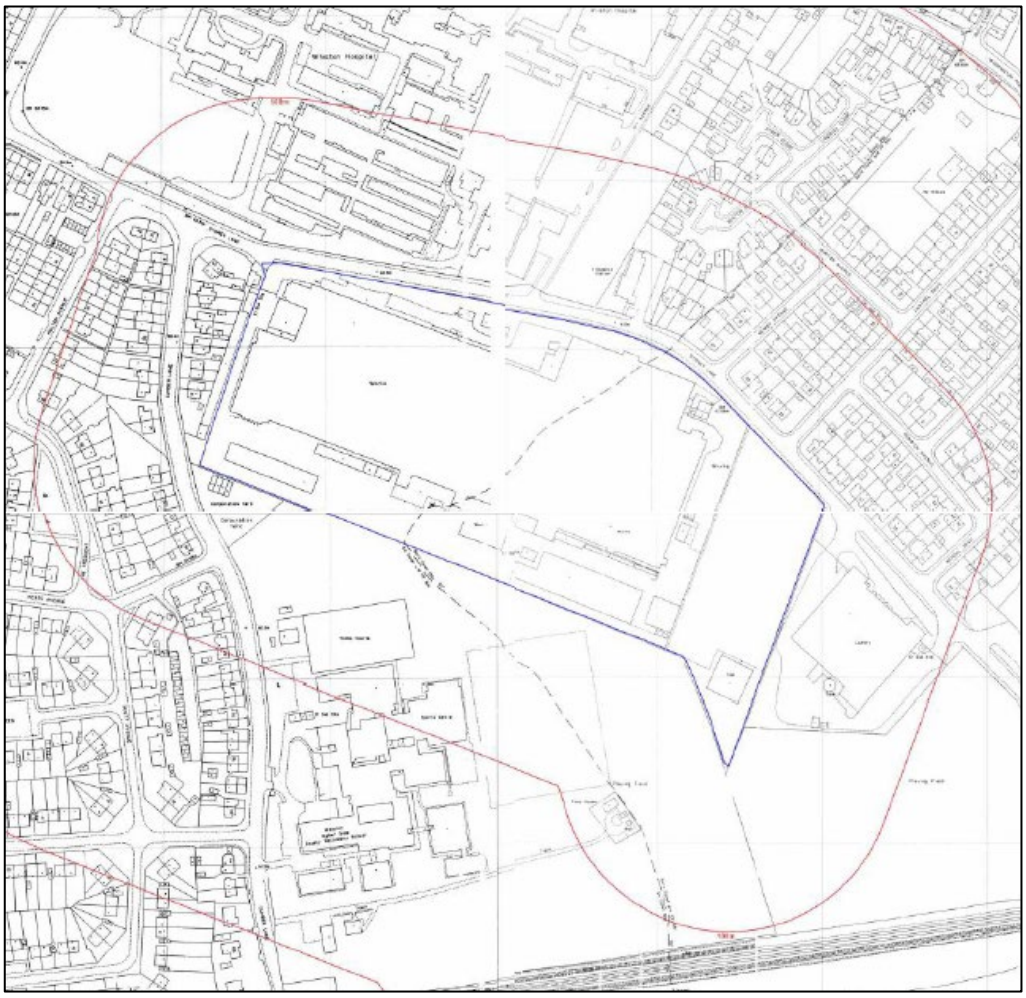
The next available map (1993-1994) identified the site layout to remain as previously identified. Electrical substations remained annotated to the northwest of the main building, with a further substation annotated to the west of the ancillary building located to the south/southeast of the main building. The previously identified square-shaped building in the southeastern corner of the site was labelled as 'club.'

1993-1994 1:1,250



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The 2005 aerial photograph identified that a large rectangular building had been constructed adjacent to the central southern elevation of the main building. The previously identified undeveloped area in the east of the site was shown to comprise a sealed car park. Grassed areas were present along the northern boundary, between the main building and the car park to the east, in the southeasternmost corner and, in part, along the southern boundary, with the remainder of the site being sealed.

2005

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The next aerial photograph (2022) showed that a further L-shaped building had been constructed midway along the northern extent of the main building. No further significant changes were identified.

2022

4.2 Surrounding Area

The following table summarises the significant changes in historical use surrounding the site.

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Date	Land Uses
1850	North: Pastureland, interspaced with ponds (from 20 m) and market gardening (from 130 m) associated with residential dwellings. East: Pastureland bisected by Stony Lane. South: Pastureland interspaced with ponds (from adjacent to the southern boundary), market gardening (from 120 m) associated with a residential dwelling, and the Northwestern Railway present in a cutting from 115 m. Wells were identified at approximately 110 m and 180 m south, the latter being associated with a residential dwelling. West: Cumber Lane, with pastureland interspaced with ponds (from 65 m) and residential dwellings.
1907	North: Buildings had been constructed over the pond closest to the northern boundary, the next nearest pond being 120 m away. The previously identified market gardens were no longer present, however, a bowling green was shown (from 135 m). East: No significant changes. South: The pond closest to the southern boundary was no longer present, the next nearest pond being 50 m away. The previously identified market gardens and the two wells were no longer annotated, however, an additional well was shown from approximately 70 m from the southernmost point of the site. A water pumping station and reservoir were present from 215 m. West: No significant changes.
1927	North: Land to the northwest contains further buildings, annotated as 'Whiston Poor Law Institution.' East: Rail lines and sidings extended to the southeast from the site's eastern boundary, to join with the Northwestern Railway. South: The pond closest to the southern boundary was no longer present. A chimney was annotated by the previously identified water pumping station. West: No significant changes.
1937	North: A chimney and mortuary were annotated within the area labelled as 'Public Assistance Institution' (from 35 m and 60 m, respectively). A tennis ground has been developed adjacent to the previously identified bowling green (from 125 m) East: No significant changes. South: No significant changes. West: No significant changes.
1956	North: The area previously labelled as 'Public Assistance Institution' and 'Whiston Poor Law Institution' had been redeveloped into Whiston General Hospital and contained a series of large buildings. The previously identified chimney was no longer annotated, nor was the mortuary, however, the mortuary building remained. East: An unspecified circular feature of 40 m diameter was located at 125 m to the southeast. South: The previously identified well at approximately 70 m from the site has small buildings in its vicinity. The previously identified pumping station and associated reservoir are annotated as disused, and the chimney is no longer annotated. West: An electrical substation is present at 70 m within a residential area. A bowling green is present to the northwest (from 60 m).
1972-1976	North: The previously identified bowling green, tennis court and pond were no longer present, this area having been redeveloped for residential use. An ambulance station and two electrical substations were annotated at 10 m, 100 m, and 115 m, respectively. A series of glasshouses were present from 200 m. East: The previously identified railway lines and sidings had been removed. A large industrial building annotated as 'shirt factory' was present from 200 m. South: The previously identified circular feature was no longer present. A pumphouse was annotated at 55 m in the vicinity of the previously identified well, and an electrical substation associated with a school was present at 115 m. West: The previously identified electrical substation within the residential area was no longer annotated. An electrical substation was shown at 250 m to the northwest.
1980-1985	North: The previously identified glasshouses had been removed. East: A large industrial building, annotated as a laundry, was present adjacent to the eastern boundary. An electrical substation (85 m) and tank (35 m) were annotated in the immediate vicinity of the laundry. A further building annotated as works with a tank and an electrical substation (all from 160 m) were present beyond. South: An area annotated as 'Corporation Yard' was shown adjacent to the southwestern boundary. West: No significant changes.

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1994-1995	North: No significant changes. East: No significant changes. South: The previously identified corporation yard was no longer present, being occupied by a building and a car park. West: No significant changes.
2005	North: No significant changes. East: No significant changes. South: The previously identified pumphouse associated with the well from 70 m south was no longer present, the location being occupied by trees and vegetation. West: No significant changes.
2022	North: Many of the previously identified hospital buildings to the north had been removed and replaced with sealed car parking and new buildings. East: No significant changes. South: The previously identified school and associated electrical substation had been removed and replaced by a new building surrounded by sports fields and car parks. The location of the previously identified pumphouse and well was covered by sealed tennis courts. West: No significant changes.

4.3 Additional Information

4.3.1 Web-Based Research

A brief search of web resources (accessed on 17 June 2026) indicated that the site was previously occupied by a company called Stoves Limited (Stoves), described as a British appliance manufacturer which was formed in 1920, and which initially produced sheet metal and gas heaters before moving into the manufacture of cooking appliances. Stoves relocated from Warrington to the site in 1925. The larger site enabled the company to expand its cooker production and develop a wide range of models throughout the mid-20th century. From the 1960s onwards, Stoves became one of Europe's largest appliance manufacturers while maintaining its British design and engineering heritage. Glen Dimplex acquired the Stoves brand in 2000[1]. The Rainhill site remained the central manufacturing hub for Stoves under Glen Dimplex Home Appliances until it was acquired by the client sometime before 2026[2].

In addition to the decades of use as an engineering and metalworks, the site is reported to have historically been used as a munitions works during World War I and II, before returning to cooker production after each[3]. This is discussed further in Section 8.

4.3.2 Historical Plans

The client provided a series of scanned historical plans and blueprints. These were reviewed and the key details summarised as follows. The relevant plans are provided in Appendix D:

[1] https://www.stoves.co.uk/en-gb/our-heritage
[2] https://www.taylorwimpey.co.uk/new-homes/whiston/foundry-gardens
[3] https://www.heritagegateway.org.uk/Gateway/Results_Single.aspx?uid=3574218&resourceID=1970

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- One of the provided plans (scan005) was titled “Munitions Store Plan” by H.M. Office of Works, which was an operational government department during World War 1. Based on this and the surrounding layout, the plan was inferred to date from 1914 to 1918. The plan showed a stream to enter the site from the central northern boundary, running in a meandering northeasterly to southwesterly orientation before exiting the site via a 12-inch culvert, which existed at that time. An annotation on the plan indicated “existing stream to be diverted” via a culvert across the eastern extent of the site. The plan indicated that two large, rectangular industrial buildings were to be constructed, with railway sidings to the immediate north, south and separating the two buildings, each of which extended to the southeast, exiting the southeasternmost corner of the site. Ancillary buildings annotated as “Mess Rooms, Lavatories, and Offices” were present to the immediate west of the two main buildings. Along the central northern boundary, adjacent to Stoney Lane, a brick transformer house was annotated, and a coal store was depicted on the southwestern corner of the southern building.
- The next plan (scan004) was drawn for Stoves Limited and showed the layout of drains across the site. Based on the layout in comparison to the historical maps, the plan was inferred to date from sometime between 1937 and 1956. This indicated that the two large buildings had been converted into a single building, although rail sidings still existed to the immediate north and south and entered the building via its central eastern elevation. Ancillary buildings were depicted to the north (lavatories) and south, with additional buildings to those previously identified present to the west. A gas meter house was shown a short distance from the building's northeast corner, and the previously identified brick transformer house on the northern boundary was no longer shown.
- The subsequent plan (scan009) was dated 1 July 1949 and outlined the proposed extension to the enamelling department for a continuous furnace room for Stoves Limited. The plan indicated this was to be constructed along the central-eastern elevation of the building, above the previously identified railway sidings and was to contain a furnace with a chimney. Railway sidings remained annotated to the north and south of the building.
- The next plan (scan010) was also for Stoves Limited and was not dated but was presented on an identical template to the previous and was therefore inferred to be of a similar vintage (1949). The plan similarly outlined a proposed extension to the enamelling department but showed the proposed eastern elevation. This indicated that the railway lines and sleepers that were previously identified to enter the central eastern elevation of the building were to be removed, that a gas main and drains were present, and that asbestos sheets were to be applied to the side elevations of the building.

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- The next plan (scan002) did not contain a date but was inferred to be from circa 1949 based on the similar template to other plans. The plan was for Stoves Limited, and although part of the plan title was partially redacted, it was identified as "reconstruction of foundry assembly." The plan appeared to show the proposed redevelopment for the central northern area of the building, annotated as foundry. Two pits for equipment were proposed within the floor in the northern area, and a cesspool was annotated in the building's central area. The plan also indicated that the pattern shop and pattern/plate stores were located to the east, the fitting shop was present to the south and that a fettling shop was located to the west within the building. Asbestos ventilators were annotated within the pattern shop and stores. Various underground drains were shown to extend north to south and east to west beneath the building.
- The following plan (scan014) was for Stoves Limited and outlined the layout of a future amenities block to the area immediately north of the previously identified pattern shop (east of the original foundry area). The plan was presented on an identical template to scan009 and was therefore inferred to be of a similar period (1949). The plan indicated that railway sidings existed to the north of the building at this time.
- The next plan (scan003) was not dated, but was inferred to be from the mid-1950s, based on the building layout. The key indicated that a degreasing/pickling plant was present in the southeastern section of the building. The previously identified rail sidings to the south of the building remained, however, those to the north were no longer present.
- The following plan (scan012) was dated December 1971 and was for Stoves Limited and outlined the proposed foundations for a Model 2 Glydo Rack Plant[4]. The plan did not indicate where this equipment was proposed to be placed in the building but did highlight the presence of an associated boiler and chemical tank.
- Based on the building layout, the subsequent plan (scan001) is from the 1970s and annotates the uses within the various areas of the Stoves Limited building. A "de-rust line" was annotated within the central northern part of the building, and the northern extension to the main building was annotated as "paint department." The southeastern quadrant of the building contained a research and development workshop and laboratory, RMPS (assumed to be Raw Materials Preparation Shop), spotwelding areas, enamel pretreatment, enamel areas and chassis/flatware dips. The ancillary building to the southeast was annotated as a workshop.
- A plan by GDHA (dated September 2003) outlined the known location of asbestos. White asbestos wall cladding was present along the northern and eastern parts of the main factory and around the

[4] Glydo is an industrial term to describe electro- or metal plating and/or chemical treatment and finishing.

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ancillary building to the south/southeast of the factory and the upper floor of the ancillary building to the south/southwest. Asbestos downpipes were shown across the main factory and within the ancillary building to the south/southeast. Asbestos cement chrysotile sheets with minor amosite residue were reported to be present in the northwestern quadrant of the building. The lower floor of the ancillary building to the south/southwest and those to the west of the main factory were reported to be asbestos-free, as were some internal parts of the factory. The plan indicated that many of the buildings on-site possessed white asbestos roof sheets. The plan also annotates the use of the buildings at that time. The eastern half of the factory appears to be used for metal production and manufacturing, painting, enamelling and research and development. The western half of the building was used for the assembling of products, stores, warehousing, and offices. The plan also identified a substation to be present to the west of the ancillary building to the south/southwest and a further substation towards the northwest corner of the site, with the separate building in the site's southeasternmost corner labelled 'Social Club.'

4.3.3 Site Services

The various historical plans provided by the client (presented in Appendix D) also indicate the presence of underground assets across the site, the earliest being the inferred 1914-1918 plan from H.M Office of Works, which indicates the stream that originally bisected the site was to be diverted in a culvert across the site's eastern extent. Subsequent drawings from the mid-20th Century indicate the presence of various drains and gas pipes associated with the on-site buildings. It is expected that underground assets would have been relocated and/or removed throughout the years as buildings were removed and new buildings were constructed.

Recent topographic surveys identified underground assets around all of the buildings on-site, including electricity, gas, communications, water, wastewater, stormwater, and unidentified services. These were predominantly shown to run in north to south and east to west orientations. A low-resolution copy of the received .dwg survey is presented in Appendix D.

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5 GEOLOGY, HYDROGEOLOGY AND HYDROLOGY

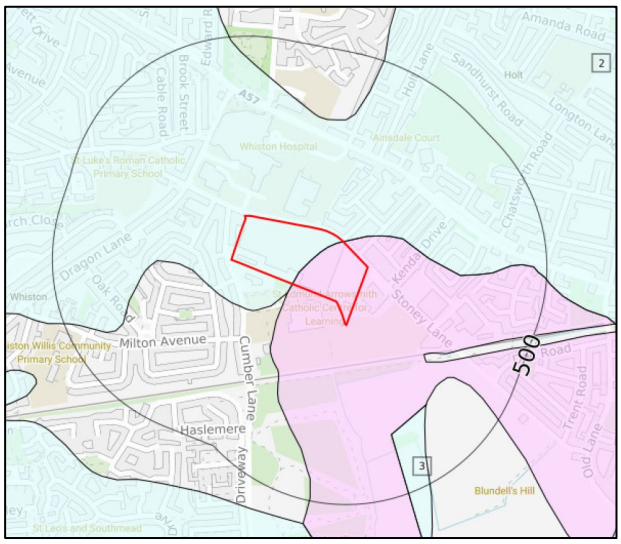
The following section details the published and available geological, hydrogeological, and hydrological data available for the site and the surrounding area. All data is taken from the Groundsure environmental database report, which is appended, unless otherwise stated. This report should be referred to for full details. Datasets for which no records were identified have not been included in the summary.

5.1 Geology

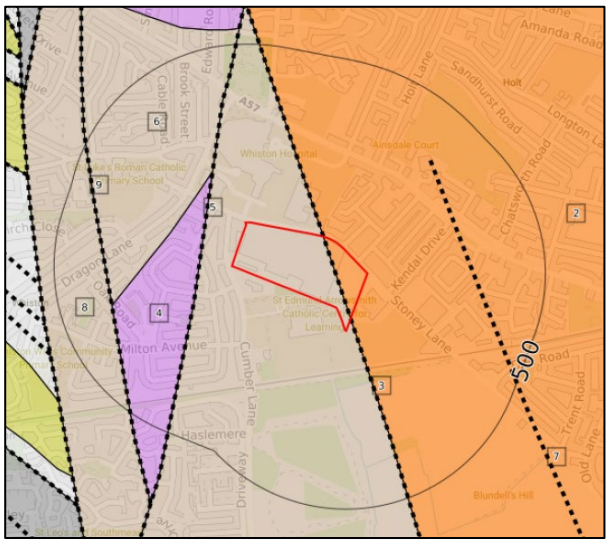
The documented geology of the site is summarised below and shown on the following British Geological Survey maps, with further site-specific details following.

Geology	Artificial Ground & Land Slip	Drift	Solid
1:50,000	None shown on, or within 500 m radius of, the site	Glaciofluvial deposits (sand and gravel) in the eastern half of the site, with glacial till (diamicton) in the west	Chester Formation (pebbly/gravelly sandstone) in the eastern part of the site, with Kinnerton Sandstone Formation (sandstone) beneath the remainder.
1:10,000[5]	None shown	Sand and gravel in the eastern part of the site, with boulder clay in the west.	Pebble Beds in the easternmost part of the site, with Lower Mottled Sandstone beneath the remainder

Superficial Geology



Bedrock Geology



The figure above identifies the potential presence of a fault on site, which runs in a northwesterly to southeasterly orientation across the site's eastern extent. Within a 250 m radius, there is one observed fault which runs in a broadly north to south orientation at approximately 90 m west.

The table below summarises the ground instability hazards within 500 m of the site. If entries are present

[5] Obtained from the British Geological Survey Maps Portal: www.bgs.ac.uk

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within 250m, further details are provided in the relevant section below.

Data Type	On Site	0 – 50m	50 – 250m	250 – 500m
Boreholes				
BGS Boreholes	0	4	13	-
Natural Ground Subsidence				
Including shrink/swell clays, running sands, compressible deposits, collapsible deposits, landslides, and dissolution of soluble rocks	Negligible to very low		-	-
Mining and Ground Working				
British pits (Britpits)	0	0	0	2
Surface ground workings	9	0	17	-
Non-coal mining	0	0	1	0
Coal mining	1	-	-	-
Radon	<1%	-	-	-

5.1.1 Historical Borehole Records

There are 17 records of British Geological Survey (BGS) boreholes within 250m of the site, none of which are located on the site. The closest relate to four locations that were advanced in 1992 at a Learning Difficulties Unit (reference A, 2, and 3), which range from 2.1 m to 6 m depth and are located between approximately 20 m and 55 m south of the site. Ground conditions within these locations were typically recorded to comprise 0.1 m of topsoil, overlying 1.2 – 1.3 m of made ground, which was underlain by sandy clay to 6 m bgl.

The next closest bore is recorded at approximately 25 m east and relates to Spring Grove Services (reference 1). The Groundsure report indicates the depth is -1 m bgl, however, further examination of the BGS record indicates that a 1991 survey within the well stated that the standing water level was 56 m BWT.

There are nine shallow bores associated with the Prescott and District Gas Company (reference B) that range from 4.57 m to 10.97 m bgl from approximately 70 m to the southeast, and a further well at approximately 75 m southwest that is 140 m bgl, described as the Whiston Pumping Station Auxiliary Well (reference 4). The final two bores are located at approximately 170m and 230 m to the north, being associated with the "Poor Land Institution", both of which were recorded to extend to approximately 60 m bgl and dated 1878.

The BGS borehole logs are presented in Appendix E.

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5.1.2 Natural Ground Subsidence

The potential hazard presented by shrink-swell clays is negligible to very low, with the soils being described as predominantly non-plastic and low plasticity, respectively.

The potential for running sand, compressible deposits, collapsible deposits, landslides, and the ground dissolution of soluble rocks is considered to be very low or negligible, with these conditions generally unlikely to be present at this location.

5.1.3 Surface Ground Workings

The nine records of surface ground workings onsite related to eight records of cuttings (dated 1925 to 1966) and one record of unspecified groundworks from 1966. These are all located in the site's northeastern extent.

Within the vicinity of the site, unspecified pits, ground workings, cuttings and pond/reservoir were identified between 80 m and 230 m, predominantly to the south or southwest.

5.1.4 Non-Coal Mining

The non-coal mining entry relates to a recorded mineral vein at approximately 90 m west. However, the database report considers that the working of this commodity is unlikely.

5.1.5 Coal Mining

The site is located described as being within a coal mining area as defined by the Mining Remediation Authority. A Consultant's Coal Mining Report was requested in relation to the site (issued 7 October 2025). The report is presented in Appendix F.

The report did not highlight the site to be affected by past, current or future mining activities. Further, the site is not recorded as being the subject of coal mining-related investigative or remedial activities. However, the report and the associated plan did highlight that a geological fault underlies the eastern-most extent of the site, running in a northwesterly to southeasterly orientation.

5.1.6 Radon

The Groundsure Report indicates that the site lies within a low radon risk area where <1% of homes are above the action level.

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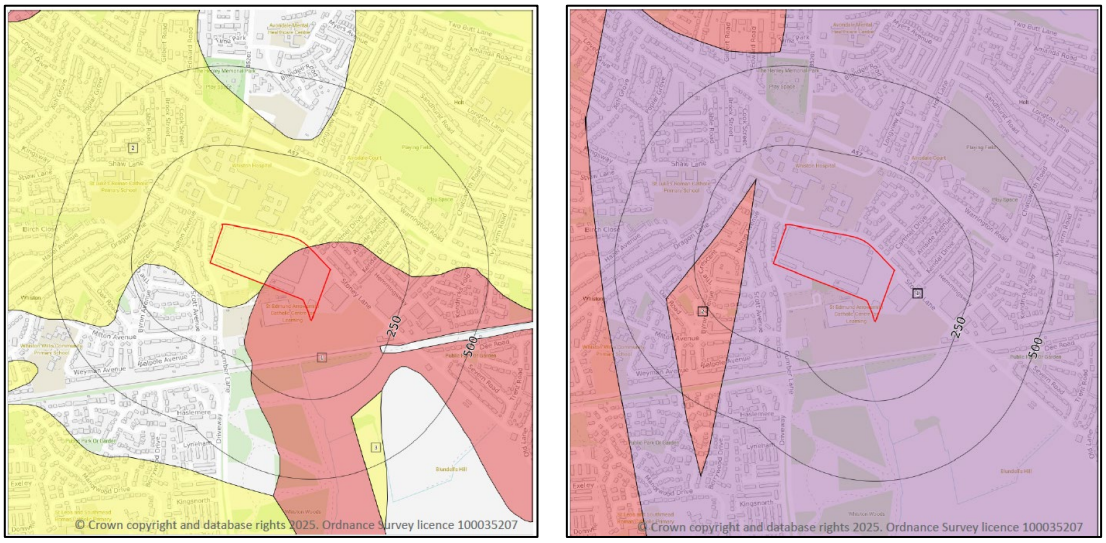
The United Kingdom Health Security Agency (UKHSA) has produced an interactive radon map for the UK[6] which was also reviewed. This indicates that the eastern half of the site sits within a 1 km grid square where the maximum radon potential is 1 – 3%, with the remainder of the site located within an area where the maximum radon potential is 3 – 5%.

5.2 Hydrogeology

The aquifer status of the site within the superficial and solid geology is summarised on the following British Geological Survey maps, with further site-specific details discussed below.

Superficial Aquifer **Bedrock Aquifer**



The superficial deposits in the eastern half of the site are classified as a Secondary A Aquifer, described as 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 (formerly known as minor aquifers). The remainder of the site is classified as a Secondary Undifferentiated aquifer. This designation is assigned where it is not possible to attribute either category A or B to the rock type due to its variable characteristics.

The solid deposits underlying the site area are classified as a Principal Aquifer (formerly known as major aquifers). These are described as possessing high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale.

The groundwater flow direction is inferred to be to the west to southwest, although features such as faults and groundwater abstractions may exert a localised influence.

[6] https://www.ukradon.org/information/ukmaps

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The table below summarises the hydrogeological information within 500m of the proposed site. If entries are present within 250m, further details are provided in the relevant subsection below.

Data Type	On Site	0 – 50m	50 – 250m	250 – 500m
Hydrogeology				
Groundwater vulnerability	Identified		-	-
Groundwater abstractions	0	2	1	4
Source Protection Zones	1	0	0	0
Water Framework Directive groundwater bodies	1	-	-	-

5.2.1 Groundwater Vulnerability

The bedrock geology is designated as having medium vulnerability, and the flow mechanism is described as well-connected fractures and mixed. The overlying superficial geology is classified as having a low vulnerability, ranging in depth from less than 3 to 10 m thickness with low to medium recharge potential.

5.2.2 Groundwater Abstractions and Source Protection Zones

There are four groundwater abstraction licenses of more than 20 m^3 per day within a 500 m radius of the site boundary, three of which are within 250 m. The first two records appear to relate to the same bore for use by the adjacent laundry, with one being described as historical and the other active. The duplication relates to different licence issue numbers and start dates. The third relates to a historical potable water supply at approximately 65 m southwest of the site, the start date of which was March 1966. However, the review of the historical maps and aerial photos suggests that the approximate location of this feature now forms part of sealed tennis courts associated with a school (refer to Section 4.2). The fourth historical abstraction was positioned at approximately 465 m north, from two bores within Whiston Hospital for commercial/industrial/public services (including drinking, cooking, sanitary, washing, small garden) which began in August 1992.

Source Protection Zones (SPZ) define the sensitivity of an area around a potable abstraction site to contamination. The site is categorised as being within SPZ 3 (total catchment).

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5.2.3 Water Framework Directive Groundwater Bodies

The groundwater body beneath the site is classified under the Water Framework Directive as being within the Lower Mersey Basin and North Merseyside Permo-Triassic Sandstone Aquifers, which were classified in 2019 as having a poor chemical and overall rating[7].

5.3 Hydrology

The table below summarises the hydrological information within 500m of the proposed site. If entries are present within 250m, further details are provided in the relevant subsection below.

Data Type	On Site	0 – 50m	50 – 250m	250 – 500m
Hydrology				
Water network/surface water features	0	0	4	-
Water Framework Directive surface water body catchments	1	-	-	-

5.3.1 Water Network/Surface Water Features

There are four records of permanent inland rivers not influenced by tidal action within a 250 m radius of the site. These all appear to relate to Whiston Brook, which, at its closest, is recorded at approximately 140 m south of the site.

As outlined previously (Section 4.3.2), historical plans indicate that a stream originally bisected the site, but that this was to be diverted in a culvert across the site's eastern extent in a southerly direction.

5.3.2 Water Framework Directive Surface Water Body Catchments

The WFD classifies the site as being located within the Prescott Brook (Logwood Mill Brook) catchment. This was described as having a failed chemical status in 2019 and a moderate ecological status in 2019 and 2023[8].

[7] https://environment.data.gov.uk/catchment-planning/WaterBody/GB41201G101700
[8] https://environment.data.gov.uk/catchment-planning/WaterBody/GB112069060710

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6 ENVIRONMENTAL DATA

The following section outlines the available environmental data for the site and the surrounding area. Full details can be found in the Groundsure environmental database report (appended). Datasets for which no records were identified have not been included in the summary.

The table below presents the records of past and current land uses, waste activities and environmental designations within 500 m of the site. If entries are present within 250m, further details are provided below.

Data Type	On Site	0 – 50m	50 – 250m	250 – 500m
Past Land Uses (grouped)				
Historical land use	17	5	22	57
Historical tanks	2	1	2	10
Historical energy features	4	1	17	16
Historical garages	0	0	0	5
Historical railway and tunnel features	12	2	5	-
Current Land Use (grouped)				
Recent industrial land use	5	4	11	-
Current or recent tanks	0	2	2	-
Current or recent petrol stations	0	0	0	1
Licensed industrial activities (Part A(1))	0	2	0	0
Licensed pollutant release (Part A(2)/B)	1	0	1	2
Radioactive substance authorisations	0	0	7	0
Pollution inventory radioactive waste	0	0	1	0
Railways	0	0	3	-
Waste and Landfill				
Licensed waste sites	0	1	0	0
Waste exemptions	0	2	4	5

6.1 Past Land Use

6.1.1 Historical Land Use

Within the site, records of historical land use range from 1925 to 1990 and include unspecified ground workings, a stove works, an iron foundry, unspecified works, railway sidings, cuttings, and tramway sidings.

Records within 250 m of the site boundary highlight the historical presence of a workhouse and a hospital (from approximately 5 m north), unspecified pits and ground workings (between approximately 80 m to 200 m to the west, southeast, and south), unspecified works (at approximately 105 m and 160 m east, and 245 m east), a union workhouse (approximately 110 m north), a tan yard (approximately 150 m west), an unspecified

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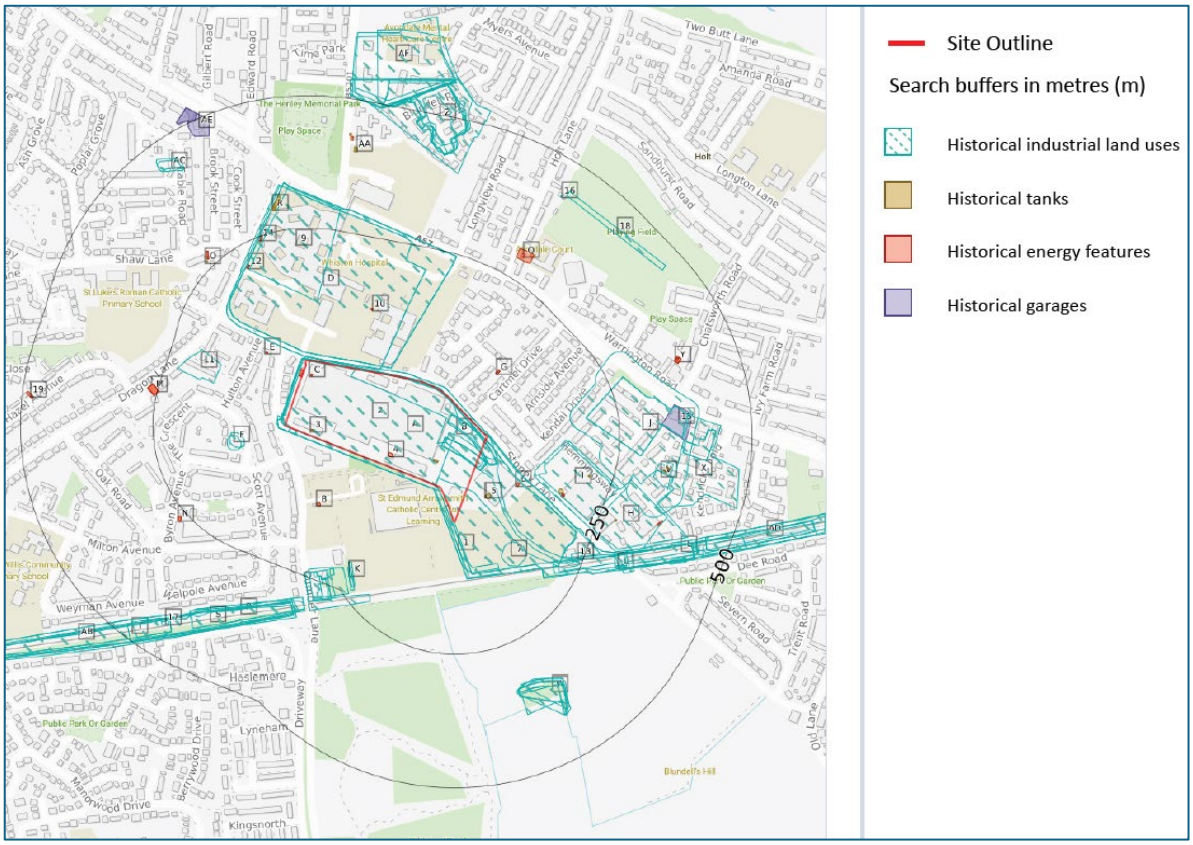
factory (approximately 190 m east), railway sidings (approximately 200 and 210 m east), cuttings (approximately 210 m southwest), pumping stations (between approximately 215m and 235 m south) and a railway building (approximately 225 m east).

The location of the historical land uses is presented in the extract below.



6.1.2 Historical Tanks

There are two records of historical tanks being located within the site, ranging from 1927 to 1937, and 1954 to 1984, respectively. There are records of a further three unspecified tanks being located within the surroundings of the site (at approximately 35 m, 160 m, and 205 m to the east), the dates of which range from 1997 to 1993. The approximate position of the historical tanks is presented in the extract above.

6.1.3 Historical Energy Features

There are two records of electrical substations within the boundaries of the site, one of which is dated 1993 and the other ranging from 1955 to 1990. The position of these features aligns with the two substations observed on site during the site walkover (refer to Section 3.2).

There are records of a further nine electrical substations within 250m of the site, the closest of which is located approximately 70 m to the west. The approximate position of the historical substations is presented

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in the extract above.

6.1.4 Historical Railway and Tunnel Features

Railway and tramway sidings were recorded as present on-site between 1925 and 1967. Further railway sidings were historically present to the east and southeast, from approximately 25 m between 1892 and 1956. This is consistent with the observations from the review of the historical maps (refer to Section 4).

6.2 Current Land Use

6.2.1 Recent Industrial Land Use

There are records of three current, potentially contaminative, industrial activities within the site, which include an electricity substation, a gas governor, and an unspecified works/factory (includes New World Appliances Limited and Glen Dimplex Home Appliances).

Within 250 m of the site, current industrial activities include various electrical substations (from 30 m and beyond), a gas governor (approximately 30 m north), an ambulance station (approximately 35 m north), a hospital (from approximately 155 m north), a unspecified works (approximately 210 m east), a company selling automatic gates (Mabley Electrical Services Limited at approximately 85 m south), and an electrician (C W Electrical at approximately 235 m west).

6.2.2 Current or Recent Tanks

There are two records of tanks within 250 m of the site. These relate to roofed storage tanks at approximately 35 m and 160 m to the east, being first identified in 2014.

6.2.3 Licensed Industrial Activities

Within 250 m of the site, there are two records of Part A(1) installations which relate to a single property (approximately 45 m east). These are held by Elis UK Limited for a medium combustion plant (MCP).

6.2.4 Licensed Pollutant Release

There is a record of a current Part B permit at the site. This relates to Glen Dimplex Home Appliances Limited for coating processes. A further Part B permit is registered approximately 205 m east of the site, held by Hemsec for di-isocyanate processes.

Client-provided information indicated that the Part B permit related to powder coating (Reference B/0494/6.4/6) and that the permit was surrendered due to cessation of the activity on 12 July 2024. The

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document is presented in Appendix G.

6.2.5 Radioactive Substance Authorisations

There are seven records of radioactive substance authorisations within a 250m radius of the site. However, five of these have been superseded by variation, and only two are described as active/issued. Both are held by St Helens and Knowsley Teaching Hospital and NHS Trust for the keeping and use of radioactive materials and the disposal of radioactive waste.

6.2.6 Pollution Inventory Radioactive Waste

There is one producer of radioactive waste within 250 m of the site. This relates to the St Helens and Knowsley Hospital Trust for the release of wastewater containing technetium 99m and iodine 123.

6.2.7 Railways

There are three records of railways, all of which are located approximately 115 m south and relate to the multi-track Liverpool and Manchester line.

6.3 Waste and Landfill

6.3.1 Licensed Waste Sites

One licensed waste site is recorded within 250 m of the site. This is located approximately 30 m east, being classified as a clinical waste transfer station operated by Elis UK Limited (identified above as a commercial laundry). The license was effective from 31 June 2024 and is described as issued.

6.3.2 Waste Exemptions

There are six records of waste exemptions within a 250 m radius of the site. The first two are positioned at approximately 45 m east for the storage of waste in a secure place (in the location of the commercial laundry, described above). However, the address of the property was not provided. The remaining four were positioned between approximately 160 m northwest and 160 m north, all of which related to the sorting and denaturing of controlled drugs for disposal.

6.4 Regulatory Authority Information

6.4.1 Environment Agency Information

A request for environmental information held by the Environment Agency on the site was made on 29 May 2026. The response (dated 19 June 2026) indicated that Glen Dimplex Home Appliances was registered on

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26 September 2018 as a lower-tier waste carrier/broker. There were no records of pollution reports or enforcement actions, and the reviewed records did not indicate the site had been designated as a special site. The response is presented in Appendix H.

6.4.2 Local Authority Information

A request for information was made to the environmental health department of Knowsley Council on 29 May 2026. The email response, dated 26 June 2026 (presented in Appendix H), contained information relating to the planning application for the redevelopment of the site, including the press release, the notification letter to residents, photos of the planning application notice, and objections to the planning application from residents. The comments from the Environment Agency on the application were also provided (also presented in Appendix H). This outlined that the Environment Agency did not object in principle to the proposed development, but that the previous use of the site had been identified as presenting an ongoing and significant risk of contamination that could be mobilised during site works and construction to pollute controlled waters, and that further detailed information on how the risks will be managed will be required before commencement of redevelopment. The Environment Agency recommended that several conditions be applied to the decision. In addition, the Part B permit surrender documentation (previously described in section 6.2.4) was also provided.

Knowsley Council's planning and development portal[9] was reviewed with respect to the site. Publicly available records of historical planning applications dated back to 1974 and related to Stoves Group Plc. The applications related to extensions to the factory for storage and dispatch (1974), for further storage (1974), to the south side of the factory for storage (2002), and to infill a courtyard to extend a showroom (2003). In 2006, an application was made to erect an industrial building for use as a boiler house and associated water tower and for the manufacture of polystyrene. Other planning applications, dating from 1995 to 2026, included the retention of portacabins, temporary offices and cycle shelters, the removal of conditions relating to noise mitigation, the installation of a liquid oxygen storage tank, the removal of offices, the construction of a new vehicle access point from Stoney Lane, and minor building alterations. Recent planning applications (2026) related to prior notification for the demolition of the factory and ancillary buildings, and the display of non-illuminated signs.

A current planning application (reference 25/00672/FUL) is registered against the site, pending consideration. This relates to a residential development, comprising the erection of up to 204 dwellings with associated parking, construction of vehicular and pedestrian accesses from Stoney Lane, pedestrian access from

[9] https://www.knowsley.gov.uk/planning-and-development

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Cumber Lane, substations, a sustainable urban drainage balancing pond, public open space, landscaping, and associated infrastructure.

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7 PREVIOUS INVESTIGATIONS

A summary of the available environmental investigations and reports relating to the site is presented below. The review has been limited to summarising relevant information on soil contaminants to the extent that they pose a potential risk. These documents should be read in conjunction with this report.

7.1 Phase I and II Geoenvironmental Site Assessment (E3P, 2024a)

Glen Dimplex Homes Appliances Limited commissioned E3P to undertake a Phase I and II Geoenvironmental Site Assessment at the Glen Dimplex Factory, Stoney Lane in Rainhill. The objective of the assessment was to determine potential contaminated land liabilities, remediation requirements, and geotechnical engineering works that will be required as part of the proposed redevelopment for low-rise residential use.

The site was described as comprising an active oven manufacturing facility with an associated employee car park to the east. Within the site, areas of hazardous materials storage, waste storage, electrical substations, and various underground utilities were confirmed. However, a summary of the internal layout or use within the buildings was not provided. The suspected presence of asbestos-containing materials (ACM) and per- and polyfluoroalkyl substances (PFAS) was assumed. The review of historical plans and aerial photographs indicated the site had originally been agricultural land before redevelopment into a munitions works, an iron foundry and then a stove/appliance manufacturing facility. Additionally, potentially contaminative features included historical tanks and substations, railway/tramway sidings, infilled ponds and made ground. The report considered the environmental setting of the site and highlighted the presence of a Secondary A/undifferentiated (superficial geology) and Principal (bedrock geology) aquifers to underlie the site, in addition to a geological fault, and a groundwater abstraction for laundry purposes in proximity to the eastern boundary of the site. The closest surface water receptor was identified at approximately 140 m to the south, and the site was assessed as not being affected by river flooding. Based on this, the report assessed the site as being of moderate/high environmental sensitivity. A coal mining risk assessment was undertaken, which determined there to be a low risk associated with coal mining activity and that no further assessment was required. The preliminary geotechnical risk assessment indicated there to be substantial made ground/deposits of fill, the presence of infilled ponds, and the presence of a fault, which were considered to present a geotechnical risk. The initial conceptual site model (CSM) identified the key risks related to a range of organic and inorganic chemical contaminants arising from the historical use of the site, potentially affecting human health, controlled waters, and buildings/infrastructure.

Exploratory fieldwork was undertaken between 19 and 21 March 2024 and comprised 10 window sample

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bores and two cable percussive boreholes. The encountered geology was reported to comprise made ground to a maximum depth of 3 m bgl, this being underlain by superficial deposits of sandy, gravelly clay with bedrock geology of weathered sandstone encountered between 4 m and 9.37 m bgl. Seepages were encountered in three locations at 1 m, 3.5 m, and 7 m bgl. Hydrocarbon odours and/or slag/ash inclusions were identified at six locations.

Between 5 and 20 samples were variously selected for chemical analysis, which identified exceedances of the utilised guidelines (the Land Quality Management/Chartered Institute of Environmental Health Suitable 4 Use Levels ((LQM/CIEH S4UL)) residential with plant uptake at 1% soil organic matter) for arsenic and nickel (WS110), lead (WS108), trichloroethene (TCE - WS101, WS102 and WS103), cis 1,2-dichloroethene (DCE) and trans 1,2-DCE (WS102 and WS103), and vinyl chloride (WS102). With respect to the elevated heavy metals, the report proposed that these be mitigated through the use of a cover system. For the elevated volatile organic compounds (VOCs), further investigation was recommended to assess and determine the spatial extent of impacts. It was suggested that the slurry waste storage area may be acting as a potential source.

The controlled waters risk assessment indicated that the vertical migration of contaminants towards the underlying aquifer, SPZ and abstraction point presented a high risk. Groundwater was estimated to flow in a southwesterly orientation. Eight groundwater samples, obtained using bailers, were selected for chemical analysis, which identified exceedances of the utilised guidelines (drinking water standards – DWS) for mercury and pH (CP101), benzene (WS102), TCE and cis 1,2-DCE (WS102, WS103, WS107, CP101 and CP102), trans 1,2-DCE and 1,1-DCE (WS102 and CP102), and vinyl chloride (WS102, WS103, WS107 and CP102). No exceedances of the utilised criteria were identified within any of the samples that were selected for leachate analysis. The report considered it likely that the VOC contamination within the groundwater arose from an on-site source, assumed to be the main factory and the enamel slurry waste storage area, which was migrating into the underlying groundwater, and subsequently, the Principal Aquifer. However, the report highlighted that no environmental monitoring wells had been advanced into the Principal Aquifer, so it was not proven whether the source-pathway-receptor linkage was complete. Gas monitoring was undertaken at all 12 locations over the course of one month. The report assessed the results from most of the locations as characteristic situation (CS) 1, but locations WS103 and WS105 were classified as CS2, with locations WS107 and WS109 classified as CS3. The report then recommended that the entire site be classified as CS2, requiring basic gas protection measures and that any plots within the area of the CS3 category require further precautions. It was also recommended that additional gas monitoring wells be installed, that further monitoring be undertaken, that vapour-resistant membranes may be required to be installed within any proposed buildings situated within the immediate vicinity of the VOC-impacted soils, and that these measures

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be agreed with the local authority.

The initial CSM was updated based on the results of the investigation. The key risks were considered to relate to VOCs, asbestos, and organic contaminants in soil affecting human health and/or water pipelines, phytotoxic contaminants impacting flora, VOCs in soil affecting controlled waters and infrastructure/services, VOC-impacted groundwater affecting human health, and ground gas/vapour affecting human health and infrastructure/services.

The report carried out a geotechnical assessment and made several recommendations, including the use of vibro stone columns for ground improvement to support a doubly reinforced strip foundation or the use of piled foundations, avoidance of infiltration drainage systems, and the removal of unsuitable material where roads or infrastructure were proposed.

The report made several recommendations, including the delineation of VOC-impacted soil/groundwater, additional analysis of asbestos for soil, further investigation to confirm the presence or absence of PFAS and explosive compounds/propellants within soil/groundwater, further investigation beneath the buildings, and a detailed quantitative risk assessment (DQRA) of the VOC-impacted soil and groundwater. It was also recommended that a plot-specific foundation schedule, geotechnical design report, and a geotechnical earthworks specification be provided, in addition to a remediation and enabling works strategy and a specification for mitigating hazardous ground gases.

7.2 Supplementary Ground Investigation – Stage 1 Glen Dimplex, Prescot (E3P, 2024b)

E3P were commissioned by Glen Dimplex Home Appliances Limited to undertake a supplementary ground investigation at the Glen Dimplex Factory in Rainhill. The report provided a summary of the previous work (E3P, 2024a). Based on this, it was proposed to drill six window sample holes in the southeast and southwest corners of the site, with the collection of soil samples and analysis for VOC and semi-volatile organic compounds (SVOCs). The fieldwork was undertaken on 19 to 20 August 2024. The encountered ground conditions comprised up to 1.8 m of made ground, underlain by superficial deposits of sandy, gravelly, clay. Bedrock geology was not encountered. During drilling, seepages were encountered in six of the 12 locations, from 0.8 m to 4 m bgl. Evidence of contamination was encountered in all 12 exploratory locations and included hydrocarbon odours and/or ash/slag materials, with elevated vapour readings reported in two locations.

Laboratory analysis of selected soil samples confirmed the presence of contaminants, including lead (WS201), mercury (WS211) and VOCs, including TCE (WS208) and 1,2,4-trimethylbenzene (WS207), to exceed the utilised criteria (LQM/CIEH S4UL residential with plant update at 1% soil organic matter). The report considered that the single elevated concentration of lead could be mitigated through the installation of

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a cover system, it assumed that the single elevated concentration of mercury was localised, and that further investigation would be required to determine the spatial extent of the VOC impacts in the south of the site and to assess asbestos in soil following the removal of the buildings on-site. The report also highlighted a potential risk to groundwater and the underlying aquifer from the VOC impacts, which were being investigated through the installation of deep boreholes within the bedrock (a subsequent phase of work).

While a geotechnical assessment was presented, the report recommended that geotechnical engineers and foundation specialists, who can assess the specific ground conditions and design an appropriate vibro stone column system to meet the project's requirements, be consulted. Driven pile foundations were proposed for areas of deep-made ground and within the footprint of the factory, where no ground investigation had occurred. The report concluded it was not possible to accurately define the foundation types due to the absence of a full ground investigation and final development levels but made inferences about the foundation solutions that may be required.

7.3 Controlled Waters Risk Assessment Glen Dimplex, Prescot (E3P, 2024c)

Glen Dimplex Homes Appliances Ltd commissioned E3P to undertake a further phase of supplementary ground investigation at the Glen Dimplex Factory in Rainhill. The report initially summarised the previous work (E3P, 2024a and 2024b). This highlighted that, following the detection of mercury in WS2011, an additional sample was obtained from the same depth during the subsequent drilling of RB102 (discussed below), which did not identify elevated concentrations of mercury. It was therefore assumed that the mercury impact at WS211 was localised and unlikely to be in its elemental form.

The scope of work involved the installation of two 30 m deep groundwater monitoring wells into the bedrock aquifer (RB101 and RB102) to assess the risk from VOCs. The wells were installed on 2 September 2024 in the southeastern and southwestern-most corners of the site, respectively. The report subsequently claimed the positioning of the wells within the two furthest opposing points of the southern boundary was to assess whether the contamination was present, and whether it spanned the entirety of the southern boundary of the site. It is unclear how the two groundwater samples were obtained. However, the analytical results detected the presence of trichloromethane in RB102 on two of the three monitoring visits. The groundwater flow plan stated the flow direction was to the southwest

In assessing the analytical dataset for groundwater, the report considered that, based on the fact that WS102 had the most elevated results of various compounds, this was the most likely point source of contamination and assumed that this originated from the factory and the enamel slurry waste storage area positioned to the north-northeast of the well. The report made several further assumptions about the presence and extent of a

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VOC plume across the site, and the potential for the deep monitoring wells to intercept a contamination plume in the deep aquifer. It was concluded that the exceedances of heavy metals and VOCs were typically confined to the superficial artesian [sic] water, that there was no pollutant linkage between the impacted groundwater in the superficial deposits and the deeper aquifer, and that low-permeability deposits could be limiting the migration of contaminants to the underlying aquifer within certain areas of the site. Whilst trichloromethane was detected in the deeper aquifer, this had not previously been identified in the near-surface analytical results, and therefore, the source was unable to be determined. However, given that the south was considered the most contaminated area, it was recommended that further boreholes be installed within the footprint of the factory and across the site's northern extent to further assess the condition of the underlying aquifer.

7.4 Email: Additional Water Samples - Glen Dimplex, Prescot (E3P, 2025a)

The brief email (dated 22 September 2025) confirmed the analytical results from a recent water sampling exercise. This indicated that heavy metals, TCE and vinyl chloride in the borehole closest to the enamel slurry tank (BH201), exceeded the utilised criteria and the DQRA-derived screening values. It was noted that TCE concentrations were roughly half what was identified during the first monitoring visit, with vinyl chloride being roughly similar. It was suggested that the VOC impact within the borehole could be an indication of minor ingress or some low-level impact within the aquifer.

It also confirmed that sampling of the culvert outfall had identified heavy metals, total cyanide, fluoranthene, TPH Aliphatic C16-35 and vinyl chloride to exceed the utilised criteria and the DQRA-derived screening values. It was suggested that the TCE contamination was getting into the site's drainage system and potentially migrating off-site.

7.5 Phase II Geoenvironmental Site Assessment (E3P, 2025b)

E3P was commissioned by Glen Dimplex Home Appliances Limited to carry out a Phase II Geoenvironmental Site Assessment of the internal areas within the Glen Dimplex factory in Whiston [sic]. The objective of the assessment was to determine potential contaminated land liabilities, remediation requirements, and geotechnical engineering works that will be required as part of the proposed redevelopment of the land for low-rise residential use.

The report initially summarised the previous work (E3P, 2024a, 2024b and 2024c). It also reviewed a detailed unexploded ordnance risk assessment (Brimstone, 2025), which confirmed that the factory had been used for the production of munitions during WWI and WWII, but that specific evidence on the activities or type of munitions could not be found. It also noted that the production and/or use of live explosives was typically well

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documented, and that it would be highly unusual for this to have occurred undocumented. Anecdotal information suggested that the factory was used to produce ammunition boxes and, whilst this could not be verified, it was considered consistent with the site's historical use as a metal works and would account for the lack of available information. The site was assessed as presenting a low-moderate risk from unexploded ordnance (UXO), and E3P considered that further investigation for the presence of explosive compounds or propellants was not required.

A partial site walkover of the main building was undertaken on 13 January 2025. This identified that the main factory structure was internally segmented into multiple smaller areas relating to the various elements of the manufacturing process. The paint shop, press, and enamel areas (occupying much of the eastern half of the building) and the assembly area (occupying much of the building's western extent) were accessed. However, access was not granted to the polystyrene plant or the aluminium shop in the northern part of the site, and the southeastern and southwestern corners of the building do not appear to have been observed, nor the ancillary buildings to the south and west. Site observations identified a series of large machine pits with evidence of hydrocarbon staining on the walls and base in the press area. Within the enamel area, relic machinery associated with the cleaning and priming, painting and assembling was observed. A void beneath the floor of the assembly area was identified, it being assumed that this was limited in extent, running east to west and aligning with historical railway sidings in this location. Historical plans that were provided during the walkover identified a stream to run across the site. The plan indicated this was to be culverted, however, it was assumed that, as there was no evidence to suggest this had been undertaken, the stream still existed beneath the building (note that a subsequent CCTV survey and dye test demonstrated the stream had been diverted via a culvert across the site's eastern area, with a spur also located beneath the main building – refer to Section 7.9).

Intrusive investigation of the internal areas of the building was undertaken between 13 and 29 January 2025 and comprised the installation of 12 shallow boreholes (4.45 m to 10.75 m bgl) and three deep boreholes (20 m to 21 m bgl). The 12 shallow boreholes were reported to be installed with filter socks around the response zone. The encountered ground conditions generally comprised made ground to a maximum depth of 3 m, underlain by superficial deposits of sandy clay with weathered sandstone identified at 5 m to 7.3 m bgl in several locations. Seepage or slow to moderate ingress of groundwater was reported in either the made ground or the underlying clay in all locations. Evidence of contamination was recorded in almost two-thirds of the locations, comprising ash and/or slag inclusions and organic or hydrocarbon odours. Selected samples were analysed for a range of contaminants.

The soil analytical results were compared to the LQM/CIEH S4UL residential with plant uptake at 1% soil

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organic matter criteria. Arsenic (BH105 and BH112), lead (BH108 and BH112), zinc (BH112), benzo(b)fluoranthene, benzo(k)fluoranthene and dibenzo(a,h)anthracene (BH108), were identified to exceed the utilised criteria. Based on the results, the report considered that heavy metal impacts were "site-wide," but that the risk from heavy metals and polycyclic aromatic hydrocarbons (PAH) could be mitigated through the use of cover systems in all proposed private gardens, landscaping and areas of public open space. In addition, asbestos was detected at location BH108 within the location of the former paint shop in the northeastern part of the building. However, subsequent quantification confirmed that trace fibres (<0.001 %) were present. Yet the report recommended that validation samples be taken from this location and that additional analysis of the made ground should be undertaken following removal of the buildings, as asbestos was known to have been used in the building fabric. The analysis identified concentrations of TCE (BH104, BH105, BH108, BH201 and BH203), cis 1,2-DCE (BH104), and vinyl chloride (BH104) to exceed the utilised criteria. VOC impacts were predominant within the eastern and southern parts of the factory, with a localised exceedance in the northwestern area. The greatest concentrations of TCE and vinyl chloride were detected in BH104 in the enamel area. The report considered that the enamel slurry tank was the source of these impacts, and that removal of the slurry tank and additional investigation of this area should be undertaken. The report also considered that there was the potential for PFAS contamination as a result of the historical activities on the site. Various soil samples beneath the former paint shop and enamel area were sent for analysis, none of which contained PFAS above the method detection limit.

During monitoring, the three deep monitoring wells were reported to have silted up, but significant recharge of groundwater was reported. The report suggested that artesian pressure dislodged the silted materials in two of the monitoring wells to allow for the accumulation of groundwater and that the samples obtained from BH201 and BH202 were "wholly representative" of groundwater within the bedrock. Low-flow techniques were reported to have been used to obtain the samples. The report assessed the results against the DWS and environmental quality standards (EQS) to account for the assumed presence of a stream beneath the factory.

Elevated concentrations of arsenic, cadmium, chromium (III), copper, manganese, lead, nickel, and zinc were present above the utilised criteria in various monitoring wells, with the greatest concentrations most commonly identified within shallow superficial groundwater. The report indicated that the groundwater exceedances of heavy metals corresponded with heavy metal concentrations in the soil analytical data and therefore concluded that there was a complete pollution linkage. It was also inferred that "the rising groundwater regime was most likely mobilising heavy metalloids from within the overlaying made ground deposits" and that this could result in the lateral and vertical migration of heavy metals into the underlying superficial groundwater. Heavy metals were not identified to exceed the utilised criteria in the groundwater

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within the deeper aquifer.

Based on the groundwater analytical results, the report continued to consider that the enamel slurry tank was the primary source of (TCE) contamination, and that this was biodegrading to DCE variants and vinyl chloride as it migrated laterally and vertically through permeable layers within low-permeability clay. It also suggested that, as only these degradation products were present in the location 25 m to the south (BH112), they had migrated in this direction. However, the report then contradicted this by stating that the main body of contamination remained concentrated beneath and around the tank and is primarily moving east to west in line with the groundwater gradient[10]. Exceedances of the utilised guidelines for TCE and daughter products were identified in the deep groundwater at BH201 during the first two monitoring rounds, but not the third. Soil results showed only low TCE levels in made ground, with none in superficial deposits, with nearby wells (BH202) showing no contamination. The report considered these impacts were "temporarily introduced" and were not representative of bedrock groundwater conditions, suggesting that VOCs have not yet migrated down into the underlying bedrock principal aquifer. The report considered that the largest risk associated with the superficial groundwater mobilisation of contaminants was the underlying stream/culvert, potentially running through the centre of the site. The report recommended the supervised removal of the enamel slurry tank and immediate underlying materials to mitigate further migration and subsequent degradation of TCE and daughter products across the site, followed by treatment of the superficial deposits to further reduce the source, prevent migration via preferential granular stratums and reduce the risk posed to both the underlying bedrock principal aquifer and underground stream/culvert. A Tier 3 Controlled Waters DQRA was also recommended to derive site-specific remedial targets.

The twelve shallow wells within the building were subject to three gas monitoring rounds over the course of one month (February to March 2025). The assessment indicated that most of the wells fall within CS1. However, the report recommended that CS2 be adopted as a precaution due to the majority of monitoring wells being recorded as flooded, making the data unreliable. The report recommended that further monitoring be undertaken to confirm the ground gas regime.

The updated CSM identified a moderate risk to human health from contaminated made ground, a very high risk to human health from VOCs within the vicinity of the enamel slurry tank and across the site. A very high risk to human health from VOCs affecting water pipelines, a very high risk to human health and aquatic ecosystems from impacted groundwater, a high risk to human health and infrastructure/services from ground gas and vapour, and a moderate risk to flora from phytotoxic contaminants was also identified.

[10] Groundwater flow was previously reported to be to the southwest.

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The report included a geotechnical assessment, which recommended driven pile foundations or ground improvement by vibro stone columns and suspended floor slabs. Several recommendations were made, including a piling risk assessment, a plot-specific foundation schedule, settlement analysis, a geotechnical design report and earthworks specification. In terms of ground contamination, a watching brief and post-demolition investigation was recommended for previously inaccessible areas, in addition to the provision of a remediation and enabling works strategy, a tier 3 controlled waters DQRA and a ground gas protection design report.

7.6 Ground Gas Addendum (E3P, 2025c)

The objective of the report was to provide a detailed assessment of ground gas risk based on all available data from the previous E3P investigations. Previous limited monitoring classified areas of the site as falling within CS1 to CS3, and it was recommended that the whole site should be categorised as CS2, requiring basic gas protection measures, with those areas identified as CS3 potentially requiring further precautions. Gas monitoring wells BH101 to BH112 were monitored 12 times over seven months. A third of the wells were consistently identified to have water levels above, or within 0.10 m of, the top of the response zone, with a further two wells intermittently experiencing similar conditions. The report stated that, where flooded wells were encountered, the well was bailed and left to re-equilibrate before being re-monitored after a period of 20-30 minutes.

The report concluded that the majority of the site was classified as CS1 (very low gas risk). It was highlighted that whilst elevated concentrations of carbon dioxide and methane had been identified, these were considered isolated occurrences and not a true representation of the ground gas regime, since no persistent gas source capable of creating a gas risk had been identified on-site, and no genuine gas flow rate had been recorded during the monitoring period. Further, it was highlighted that additional consideration would be required in areas where elevated volatile contaminants had been identified within soils and groundwater across the site's southern boundary and that a vapour-resistant membrane may be required. Based on the site being classified as Radon Class 1, radon protection measures were not recommended.

7.7 Gap Analysis of Information provided Relating to Groundwater Only and Recommendations for Further Works to Support Controlled Waters DQRA (Smith Grant, 2025a)

The purpose of the review was to identify any limitations or information gaps in the current reporting, which may be required to inform the development of a DQRA with regard to controlled waters. The appraisal considered E3P's previous investigations, groundwater monitoring data, and supporting surveys and confirmed the site was underlain by made ground, glacial till (secondary aquifer) and sandstone bedrock (principal aquifer). A culverted watercourse beneath the site was identified as a key potential receptor.

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It was considered that potential controlled water receptors were not fully defined, including nearby groundwater abstractions (one potable supply unconfirmed), that historical features (e.g. former well, uncharacterised tanks, drainage) may provide preferential migration pathways but were insufficiently investigated, and that source zones were uncertain; while a UST containing enamel slurry was identified, primary solvent use/storage areas were not confirmed. The report went on to identify that while 29 wells were installed, no single monitoring round covered all wells, and some are silted or abandoned. There was a lack of consistent groundwater level data, which prevented reliable hydraulic gradient assessment, and sparse soil leachate testing and incomplete geochemical datasets with limited contaminant mobility analysis. Further, the analytical detection limits exceeded regulatory criteria for some contaminants (e.g. vinyl chloride, chromium), preventing robust compliance assessment.

The report confirmed that significant chlorinated solvent contamination (TCE, DCE, vinyl chloride) was present, and although there was evidence of biodegradation, plume behaviour was not fully defined. Elevated metals (e.g. manganese, nickel, cadmium) exceeded the utilised criteria in multiple locations, and water from the outfall of a culvert showed contamination (VOCs, metals), confirming a groundwater–surface water linkage. The principal risks were considered to relate to the migration of a chlorinated solvent plume into the Principal sandstone aquifer, the potential impact on nearby groundwater abstractions (including potable) and ongoing contamination of the culverted watercourse, a sensitive receptor. However, there was uncertainty in plume extent, source locations, and transport pathways, which prevented reliable DQRA modelling. The report recommended that substantial additional investigation and monitoring would be required to define risks and support the development of a remedial strategy.

7.8 Glen Dimplex Infiltration Potential (Betts Geo, 2026)

The letter was written in response to comments issued by the lead local flood authority in respect of Knowsley Council planning application 25/00672/FUL. The letter confirmed that the ground conditions on-site comprised up to 3 m of made ground underlain by stiff glacial clay and the sandstone aquifer. Within the made ground, perched water had been encountered within 0.6 m bgl of the surface, within which heavy metal and VOC impacts had been identified. It was highlighted that a DQRA and additional ground investigation were proposed. Given the cohesive ground at the site, the high groundwater table and the presence of contaminants, infiltration as a surface water drainage option was not considered viable, and infiltration testing was not advised.

7.9 Controlled Waters Detailed Quantitative Risk Assessment (Smith Grant, 2026)

Smith Grant was engaged to undertake a DQRA for controlled waters to derive remedial values (RTVs) for

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contaminants of concern CoC associated with on-site historical usage for use. It was highlighted that Taylor Wimpey Northwest had recently purchased the site to redevelop it for residential purposes. It also highlighted that the historical watercourse that was identified to have previously crossed the site was proven by a CCTV survey and dye testing to have been diverted via a culvert across the site's eastern area, with a spur also located beneath the main building. The entirety of the culvert was reported to have been relined as it was known to be affected by tree roots[11].

The report relied upon selected previous investigations (described above) and the findings of an environmental investigation conducted by Betts Geo in December 2025. Perched water was reported in the made ground, with groundwater in the glacial till being recorded between 5 m and 6.5 m bgl. Within the superficial deposits, groundwater flow was estimated to be to the south/southwest, with that in the deeper Kinnerton Sandstone aquifer being predominantly to the south/southeast, although a southwesterly flow was also shown.

RTVs were derived using the remedial target methodology for both soil and groundwater. It was considered that adoption of a compliance point down-gradient from the source area would be protective of the SPZ (Outer Catchment) within the Principal Aquifer and the Prescot Brook downstream of the site where it daylights from the culvert. It was identified that several of the potential source zones contain exceedances of the derived RTVs in both soil and groundwater. It was envisaged that this would be sufficient to identify where remediation of soil and groundwater was required.

[11] The client has since advised that only the spur of the culvert from the centre of the site southwards has been relined. The section of the culvert in the east of the site is understood to remain unlined.

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8 SUMMARY OF SITE HISTORY AND AREAS OF CONCERN

The review of historical mapping initially identified the site to comprise agricultural land interspersed with small ponds and a residential dwelling. Undated plans produced by H.M. Office of Works (an operational government department during the First World War) suggest that the site was redeveloped during this period as a munitions store, comprising two large rectangular buildings served by railway sidings, with ancillary buildings to the immediate west. Following the war, the site was occupied by a British appliance manufacturer from 1925. Historical mapping from this period labels the buildings as an iron foundry (1927), later labelled as a stove works by 1937. The site was reportedly again used for munition works during World War 2 after which it reverted to appliance manufacturing. Redevelopment over the following decades included the amalgamation of the two buildings into a single structure, the presence of tanks and electrical substations, the progressive removal of the railway sidings, extensions to the main building, and various ancillary buildings being constructed to the north, south and east. By the post-2000 period, the site was predominantly sealed, with only limited areas of soft landscaping remaining. Glen Dimplex acquired the Stoves brand and the site in 2000 and continued to use the site for the manufacture of appliances until the mid-2020s.

The site was recorded as holding a Part B environmental permit for coating processes, this being associated with powder coating, with the permit being surrendered in 2024. Information provided by the Environment Agency indicates that Glen Dimplex Home Appliances was previously registered as a lower-tier waste carrier/broker. However, the Environment Agency confirmed there are no records of pollution incidents or enforcement actions associated with the site, and it has not been designated as a Special Site under the relevant regulatory framework.

Several phases of site investigation have been undertaken across the site since 2024, which have identified soil, groundwater, and surface water contamination by a range of metals, hydrocarbons, and chlorinated solvents. While a detailed critique of the investigations is beyond the scope of this review, it is evident that significant elements of the investigations have not been undertaken in accordance with current guidance and best practice. There is also concern that the use of non-clean drilling techniques during the various phases of investigation may have created preferential pathways for contaminants, especially chlorinated solvents such as TCE, to have migrated into the underlying principal aquifer. This undermines confidence in the robustness, reliability, and overall validity of the conclusions. Notwithstanding these limitations, the reviewed data indicate that contamination in both soil and groundwater is predominantly concentrated within the eastern half of the building footprint and to the south of the structure. This distribution is considered to be broadly consistent with the estimated groundwater flow direction in the superficial deposits towards the south to south-west. However, based on the information provided, potential source areas, contaminant linkages, and migration pathways have not been adequately characterised or delineated.

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Following the review of historical information, Betts Geo has identified the following areas of concern:

Identified On-Site Historical, Contaminative Activities and Associated Contaminants of Concern		
Activity	**Location**	**Potential Contaminants of Concern**
Railway sidings	North, through the centre, and south of the main building, extending to the southeast (from at least 1927 to 1956)	Metals, PAH, TPH, VOC, SVOC, persistent pesticides
Coal store	Southwestern corner of the southern building (inferred to be 1914-1918 period)	Metals, PAH
Transformer	Central northern boundary (inferred to be 1914-1918 period)	Metals, TPH, asbestos
Tank	Southwest of the main building (1927)	Unknown
Foundry (includes iron works and stove works)	Foundry activities were located in the central northern area of the main building (1940s), with wider use in the overall building.	Metals, PAH, TPH, VOC, SVOC, cyanide, asbestos, inorganics
Equipment/inspection pits	Pits were shown in the foundry area (central northern part of the main building – 1940s), and in the press area in the eastern half of the building (site observations)	TPH, VOC, SVOC
Plate/pattern shop	Eastern area of the main building (1940s)	Metals, TPH, VOC, SVOC
Fitting shop	Southern area of the main building (1940s)	Metals, TPH, VOC, SVOC
Fettling shop	Western area of the main building (1940s)	Metals, TPH, VOC, SVOC
Degreasing and pickling plant	Southeastern quadrant of the main building (1950s)	Metals, TPH, VOC, SVOC, cyanide, acids, PFAS
Electrical substation	Northwest corner of the site (1956)	Metal, TPH, PCBs, asbestos
Tank	Southwest corner of the main building (1956)	Unknown
Various storage activities	Extensions to the main building, including along the southern elevation (1970s)	Metals, TPH, VOC, SVOC
Possible electro- or metal plating (Model 2 Glydo Rack Plant)	Location unknown (1971)	Metals, TPH, VOCs, SVOCs, cyanide, acids, PFAS
De-rust line	Central northern area of the main building (1970s)	Metals, TPH, VOCs, SVOCs, cyanide, acids
Paint Department	Extension to the north/northeast of the main building (1970s)	Metals, VOCs, SVOCs, PFAS
Raw material preparation shops (RMPS) and press department	Northeastern quadrant of the main building (1970s)	Metals, TPH, VOC, SVOC
Research and development	Southeastern quadrant of the main building (1970s)	Metals, TPH, VOC, SVOC, cyanide, acid,

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Identified On-Site Historical, Contaminative Activities and Associated Contaminants of Concern		
workshop/lab, enamel pretreatment and dip		PFAS
Workshops	Ancillary building to the south/southeast (1970s)	Metals, TPH, VOC, SVOC
Electrical substation	West of the ancillary building, located to the south/southeast of the main building (1993-1994)	Metal, TPH, PCBs, asbestos
Metal processing, including painting, enamelling, and research and development	Eastern half of the main building (2003)	Metals, TPH, VOC, SVOC, cyanide, acid, PFAS
Assembly, storage, warehousing	Western half of the main building (2003)	TPH, VOC, SVOC
Lead-based paints and asbestos-containing materials in the fabric of the building	Unsealed halo of buildings constructed pre-2000	Lead, asbestos
Cuttings and infilled ponds	Central northern boundary, to the immediate east and south of the main building	Metals, PAH, TPH, VOC, SVOC, persistent pesticides

Identified Off- Site Historical, Contaminative Activities and Associated Contaminants of Concern		
Activity	**Location**	**Potential Contaminants of Concern**
Railway infrastructure	Adjacent to, and at 200 m from, the site's eastern boundary (from at least 1927 to 1976) and from 115 m south (from at least 1850 to the present).	Metals, PAH, TPH, VOC, SVOC, persistent pesticides
Commercial laundry	Adjacent to the eastern boundary (from at least 1980 to present)	TPH, PFAS
Corporation yard	Adjacent to the site's southwest boundary (from at least 1980 to 1995)	Metals, PAH, TPH, asbestos
Institutional uses (including historical workhouse, mortuary, and hospital)	From 5 m north (from at least 1850 to present)	Metals, PAH, TPH, asbestos
Ambulance station	From 10 m north (from at least 1972 to present)	Metals, TPH
Former ponds	At 20 m and 120 m north (from at least 1850 – 1976), adjacent to the southern boundary and 50 m (from at least 1850 to 1927), and from 65 m west (from at least 1850)	Metals, PAH
Electrical substations	At 70m west (1956 to 1976 period), 85 m east (from 1980), 100 m and 115 m north (from 1972), 115 m south (1972 to 2022 period), 160 m east (from 1980), and 250 m northwest (from 1972)	Metal, TPH, PCBs, asbestos

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Identified Off- Site Historical, Contaminative Activities and Associated Contaminants of Concern		
Unspecified pits, ground workings, cuttings, reservoirs etc.	From 80 m west (from at least 1906 to 1956), from 105 m southeast (from at least 1906 to 1978), from 195 m south (from at least 1891 to 1978) and from 210 m southwest (from at least 1891 to present)	Metals, PAH
Unspecified works or factories	From 105 m east (from at least 1978), 160 m east (from at least 1966) and 245 m east (from at least 1990)	Metals, PAH, TPH, asbestos
Tan yard	At 150 m west (1850)	Metals, ammonia, sulphides
Pumping station	From 215 m south (from at least 1907 to 1956)	Metals, PAH, TPH

8.1 Emerging Contaminants (PFAS)

The previous investigations have indicated the potential for PFAS to have been used within the historical production processes on-site but did not detect PFAS in the limited sampling and analysis that was undertaken. A proposed plant layout plan, provided by the client, indicated that electroplating and/or metal finishing activities may have occurred since at least the 1970s. Although the specific location of this activity could not be confirmed, if present, this would likely have been restricted to a discrete location in the eastern half of the factory, with such processes considered to have a higher potential for PFAS use due to the potential for the use of fluorinated surfactants and mist suppressants, particularly if chromium plating occurred. However, further evidence of such activities was not identified.

Elsewhere on-site, PFAS may have been present, but typically as a secondary contaminant of products or materials. This could include areas associated with the storage, handling or application of paints and coatings, particularly if specialist coatings, fluorinated surfactants, or water- and stain-resistant formulations were used. However, based on the reviewed information, it is unclear whether such operations were undertaken. Conventional paint operations generally represent a lower-likelihood PFAS source than plating and metal-finishing activities.

A pickling plant was also identified in the southeastern quadrant of the building during the 1950s. Simple acid pickling and/or derusting activities are generally not recognised to represent a primary source of PFAS contamination. However, this assessment should be revisited if evidence emerges that pickling operations were directly associated with metal-finishing or electroplating processes, where PFAS-containing products may have been used.

Offsite, a potential offsite source of PFAS could relate to the commercial laundry to the east. While not a primary source of PFAS itself, it is plausible that wastewater from laundry operations could be impacted if

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fabrics treated with fluorinated compounds for water- or stain resistance were/are regularly processed. Further unidentified sources of PFAS may exist in the site's surroundings, given the widespread historical use, persistence, and mobility of PFAS, however, a detailed assessment of this falls outside the current scope of work.

8.2 UXO Assessment

While the site was reported to have been used as a munitions works during both World Wars, the UXO report (Brimstone, 2025) was unable to identify any specific evidence of this activity, or the types of munitions produced. It notes that the production and/or use of live explosives was typically well documented, and it would be highly unusual for this to have occurred undocumented. Research has indicated that the nearest recorded munitions filling factories to the site were National Filling Factory No. 2 at Aintree during World War I[12] and the Royal Ordnance Factory Kirby during World War II[13]. Site personnel reportedly indicated that the site had produced ammunition boxes; whilst this could not be verified, it would appear consistent with the site's historical use as an iron foundry and metal works, the proximity of documented munitions filling factories and would account for the lack of information on the production or use of live explosives. If the site had been used for the production of ordnance, there is the potential for unwanted items to be disposed of on nearby, open ground. While this cannot be entirely dismissed, it is expected that the subsequent redevelopment and investigation of the site over time would have disturbed the shallow ground, and there has been no reported evidence of the presence of such materials. As such, this has not been considered further.

[12] https://www.gracesguide.co.uk/National_Filling_Factories
[13] https://www.heritagegateway.org.uk/Gateway/Results_Single.aspx?uid=1078217%20&resourceID=19191

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9 INITIAL CONCEPTUAL SITE MODEL

This section of the report aims to identify land which could potentially be affected by contamination, such that it could affect the value or re-use of the land, or such that mitigation would be required for certain proposed end uses of the land. Potentially significant risks are evaluated as part of the subsequent sub-sections.

9.1 Source-Pathway-Receptor Linkages

A risk can only arise if there is a hazard (e.g. contaminated soil), a receptor (e.g. people), and an exposure pathway between the hazard and the receptor. An absence of any of these components means there is no associated risk.

A CSM for the future development is set out in the table below, which presents the potential contaminant sources, the future receptors, and the potential pathways whereby the receptors could be exposed either directly or indirectly to contaminants. The likelihood of contamination based on the site history and the likelihood of exposure based on the configuration of the buildings and other site features can then be assessed to determine whether a complete exposure pathway, and therefore a risk from contamination, exists.

For details on how the conceptual model is evaluated, please refer to Appendix J.

Type of Contamination	Potential Sources	Potential Pathway	Potential Receptors	Pollution Linkage	Estimated Level of Risk
Soil contaminants (including metals, PAH, TPH, VOC, SVOC, cyanide, asbestos, persistent pesticides, PFAS, inorganics, acids)	Historical development and use of the site as an iron works, foundry, and appliance manufacturing facility since the early 20th Century	Dermal contact with soil and dust	Future site users	**Active**	**Moderate – High:** Previous investigations have identified contaminant concentrations in the soils across the site to exceed the utilised guidelines. However, there is concern that the investigations were not undertaken in accordance with best practice and that the conclusions cannot be relied upon. It is considered that potential source areas, contaminant linkages, and migration pathways have not been adequately characterised or delineated.
		Inhalation and ingestion of soil and dust			
		Consumption of produce grown on-site			
		Inhalation of asbestos fibres		**Potentially Active**	**Moderate:** Previous investigations only detected asbestos in one location (<0.001%). ACM is known to have been used in the buildings, which, if in a degraded condition, could have impacted near-surface soils in unsealed areas (i.e. around the external halo of buildings). Previous investigations do not appear to have targeted these areas.
		Dermal contact with soil and dust	Construction and maintenance workers	**Active**	**Low:** Exposure could occur during subsurface or excavation activities. However, construction and maintenance personnel will only be exposed for limited periods and frequency and must comply with occupational health and safety regulations. The risk will be further reduced through the required use of personal protective equipment.
		Inhalation and ingestion of soil and dust			
		Inhalation of asbestos fibres			
		Dermal contact with soil and dust	Adjacent site users	**Inactive**	**Low:** Currently, the site is predominantly sealed, which would limit off-site migration. It is expected that, during construction, work will be undertaken in accordance with an approved construction management plan.
		Inhalation and ingestion of soil and dust			

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Type of Contamination	Potential Sources	Potential Pathway	Potential Receptors	Pollution Linkage	Estimated Level of Risk
		Inhalation of asbestos fibres			
		Infiltration into groundwater	Controlled waters - groundwater	**Active**	**Moderate – High:** Previous investigations have confirmed that groundwater in the superficial aquifer is impacted. There is the potential for groundwater in the deeper aquifer to be impacted. However, it is considered that potential source areas, contaminant linkages, and migration pathways have not been adequately characterised or delineated. In addition to the identified geological fault, there is the potential for the historical and current wells, bores, and services to act as preferential pathways.
		Offsite migration in groundwater	Abstractions	**Potentially Active**	**Low – Moderate:** The only active groundwater abstraction in the immediate surroundings is located cross-hydraulic gradient to the site at approximately 25 m to the east, relating to the operation of a commercial laundry, considered to be of low sensitivity. Within the wider surrounds, an abstraction associated with Whiston Hospital was identified at approximately 465 m north. However, this is considered to be hydraulically upgradient from the site and unlikely to be at risk.
			Controlled waters - surface water	**Potentially Active**	**Low – Moderate:** Previous investigations have confirmed that groundwater in the superficial aquifer is impacted. The underlying aquifers are described as potentially providing a source of base flow to rivers. In the absence of evidence to the contrary, impacts to surface water from the migration of impacted groundwater cannot be discounted.
		Run-off to surface water	Controlled waters - surface water	**Potentially Active**	**Moderate:** Previous (2025) sampling of the outfall of the culvert that crosses the site confirmed that contaminant concentrations exceeded the utilised guidelines. While it is understood that the culvert has since been relined, there is evidence of multiple historical and current underground services which could potentially act as preferential pathways.
			Abstractions	**Inactive**	**Low:** The review did not identify surface water abstractions.
		Direct contact	Structures	**Potentially Active**	**Moderate:** As outlined above, the results of the previous investigations across the site are not considered reliable. Concentrations of sulphate and pH in the soil could present a potential risk.
			Potable water supply pipes	**Potentially Active**	**Moderate – High:** Previous investigations have identified elevated concentrations of contaminants in near-surface soils across parts of the site. However, it is considered that potential source areas, contaminant linkages, and migration pathways have not been adequately characterised or delineated. A pipeline assessment will be required once the water pipeline route is confirmed.
		Soil to plant uptake	Plants	**Active**	**Low – Moderate:** It is proposed to redevelop the site to include residential houses with gardens and areas of public open space. Previous investigations have identified concentrations of phytotoxic contaminants in the near-surface soils across parts of the site. However, it is considered that potential source areas, contaminant linkages, and migration pathways have not been adequately characterised or delineated.

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Type of Contamination	Potential Sources	Potential Pathway	Potential Receptors	Pollution Linkage	Estimated Level of Risk
Ground gases and vapour		Inhalation of gases and vapour	Future site users	**Potentially Active**	**Moderate – High:** Infilled former cuttings and ponds are known to exist within the eastern half of the site, and up to 3 m of made ground has been recorded across parts of the site. The nature of the made ground and the limited areas of filling likely result in limited gas generation potential, which should have long since passed, given the time since filling and/or placement. However, previous investigations have relied on data from flooded wells. C665 (CIRIA, 2007) notes that reliance on data from flooded wells for quantitative risk assessment (such as gas screening value calculations) is not recommended unless supporting evidence demonstrates that the data remains representative. The known presence of VOCs in the soil and groundwater results in the potential for vapour intrusion into unprotected buildings. The UKHSA radon map indicates that part of the site lies within an area where the maximum radon potential is 3 – 5%.
			Adjacent site users	**Potentially Active**	**Moderate – High:** Previous investigations have confirmed that groundwater in the superficial aquifer is impacted, and there is the potential for groundwater in the deeper aquifer to be impacted. However, it is considered that potential source areas, contaminant linkages, and migration pathways have not been adequately characterised or delineated. Fugitive VOCs in soil and groundwater (if present beyond the site boundary) could result in vapour intrusion in unprotected buildings hydraulically down-gradient.
			Construction and maintenance workers	**Potentially Active**	**Low:** As discussed above, the potential for ground gas cannot be discounted at this stage. However, construction and maintenance personnel must comply with occupational health and safety regulations. The risk will be further reduced through the required use of personal protective equipment.

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10 CONCLUSIONS AND RECOMMENDATIONS

Betts Geo Environmental Limited (Betts Geo) was commissioned to undertake an environmental desk study of the former Glen Dimplex site at Stoney Lane, Prescot, Merseyside, which is proposed for residential redevelopment.

The site walkover confirmed the site to comprise a former manufacturing facility that ceased operations in late 2024, being predominantly covered by the main factory, associated infrastructure, and extensive areas of concrete hardstanding. A range of former industrial processes, including assembly, pressing, welding, painting, enamelling, aluminium treatment, and polystyrene moulding, together with associated fuel, gas, waste management and maintenance facilities, were identified during the walkover. Evidence of both above- and below-ground services was widespread across the site. Additionally, areas of staining, materials and waste storage, enamel residues, oil staining, discarded drums within former process areas, and various industrial infrastructure were observed. The buildings are currently vacant and have been subject to vandalism and deterioration, including damage to roof structures and removal of services. Historical mapping indicates the site was originally agricultural land with ponds, a dwelling and a well before being redeveloped during the First World War as a munitions store with rail infrastructure. From 1925, it was used for industrial purposes, initially as an iron foundry and later as a stove works, with ancillary involvement in munitions-related activities during the Second World War. Post-war redevelopment saw expansion, consolidation of buildings, and removal of railway sidings, resulting in a predominantly hardstanding industrial site by the early 2000s. Appliance manufacturing continued under Glen Dimplex ownership from 2000 until the mid-2020s. Historical plans also identify the location of historical, potentially contaminative activities both within and external to the buildings across the site.

Although reportedly used for munitions during both World Wars, no specific evidence or records confirming this or detailing the types of munitions produced were identified in the unexploded ordnance assessment. Available information and site accounts suggest the site was used for the manufacture of items such as ammunition boxes, which broadly aligns with its historical use as a metal works and would explain the lack of formal documentation. The documented presence of dedicated ordnance-filling factories in the region further supports this view. This was, therefore, not considered further. The review of environmental information identified that the superficial deposits underlying the site comprise a Secondary A and Undifferentiated Aquifer, with the underlying solid geology designated as a Principal Aquifer. There were records of historical surface ground workings within the northeastern site area. The review of bore and abstraction reports identified an active groundwater abstraction from a well in proximity to the east of the site, relating to a commercial laundry. This is located cross hydraulic gradient to the site and is considered to be of low sensitivity. An historical water abstraction associated with an offsite well was also identified to the

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south, both of which extended into the bedrock aquifer. Historical plans and site observations indicated that a stream historically flowed across the site, but that this was culverted across the site's eastern area. The Whiston Brook was identified at approximately 140 m south of the site. These factors identify controlled waters as potentially sensitive receptors.

Environmental database records identify both historical and current potentially contaminative land uses on-site and in the surrounding area. The site previously operated under a Part B permit for powder coating (surrendered in 2024), and while waste handling activities were registered, no records of significant pollution incidents or enforcement actions were identified. The site was not considered to be affected by coal mining, but part of the site is reported to be within an area where the maximum radon potential is 3 – 5%.

Several phases of site investigation undertaken since 2024 have identified contamination in soil, groundwater, and surface water, including metals, hydrocarbons, and chlorinated solvents. However, a review of the available information indicates that elements of these investigations do not comply with current best practice guidance. Consequently, there is reduced confidence in the completeness, reliability, and suitability of the data for detailed quantitative risk assessment or remediation design. Notwithstanding these limitations, contamination appears to be primarily concentrated in the eastern half of the building and to the south of the main building footprint, broadly consistent with the estimated groundwater flow in the superficial deposits towards the south to south-west. However, based on the information provided, potential source areas, contaminant linkages, and migration pathways have not been adequately characterised or delineated.

The reviewed borehole logs indicate the presence of up to 3 m of made ground across parts of the site, with most areas comprising 1 m to 2 m, variously containing ash and slag. This is likely associated with the former foundry operations from the early 20th century, with available evidence suggesting that later furnaces were gas-fired by the mid to late 1940s. The detection of chlorinated solvents in the soil and groundwater is likely linked to historical activities involving the cleaning, preparation, and/or manufacture of metal products. These activities appear to have been primarily concentrated in the eastern part of the main building on the site, but may also be linked to workshop and storage areas in the building's western extent. This, combined with the presence of historical equipment and inspection pits, which are typically considered potential point sources of contamination, indicates the likelihood of multiple discrete source areas within and around the main building, including the identified waste management area to the south. In addition to these sources, the site is underlain by permeable horizons within the superficial deposits, which, combined with the presence of both historical and existing underground services and the recent installation of improperly cased monitoring wells, may act as preferential pathways, facilitating the migration of mobile contaminants across and beyond the site.

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The previous investigations considered there to be the potential for PFAS to have been used within the historical production processes on-site. This could be the case if electroplating or metal-finishing processes occurred. Although a proposed plant layout plan referred to such equipment, the specific location and further evidence of such activity were not identified. The use of paints, coatings and pickling activities is generally considered a lower-likelihood source. A potential off-site PFAS source may be associated with wastewater discharge from the neighbouring commercial laundry, although additional unidentified off-site sources in the site's wider surrounds cannot be ruled out, given the widespread historical use and persistence of PFAS.

An initial conceptual site model (CSM) has been developed based on the available information. In summary, this identified the following potential risks:

- Human health (future residents and adjacent site users): moderate to moderate-high risk from exposure to contaminated soils and/or ground gas/vapour
- Controlled waters (groundwater): moderate-high risk from contaminant migration via infiltration
- Controlled waters (surface water): moderate risk from contaminated site runoff
- Buildings and infrastructure: moderate to moderate-high risk from direct contact with contaminated ground and potential impacts on buried services

Overall, it is considered that there are plausible pollutant linkages that may present unacceptable risks to human health and controlled waters. To support redevelopment, further targeted site investigation will be required, which should be undertaken in accordance with current guidance and best practice.

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11 SCOPE OF GROUND INVESTIGATION

Based on the findings of the initial CSM, additional targeted geoenvironmental and geotechnical investigation and monitoring will be required. This section outlines the work that will be required based on the findings of the desk study.

11.1 Objectives of the Further Ground Investigation

The objectives of the intrusive ground investigation will be to:

- Identify whether contaminants in soils, ground- and surface water at the site exceed applicable standards and provide sufficient information to update the controlled waters DQRA.
- Confirm the findings of the initial CSM.
- Provide sufficient data to scope the remedial works that may be required.
- Provide a geotechnical appraisal for the site.

11.2 Proposed Scope of the Further Ground Investigation

On assessing the potential risks on-site, we have compiled the following recommendations for site investigation:

- Request a site-specific radon report to confirm the radon risk.
- Decommission existing on-site wells that are suspected to act as a pathway between shallow contamination and the deeper, underlying principal aquifer.
- Accurately locate and target those locations identified in section 8 of this report, as well as providing general coverage in areas that have not previously been investigated or sampled adequately by means of trial pits (estimate 13 locations).
- Drill and install a series of regularly spaced wells along the site boundary to the south of the building (estimate seven wells at regular intervals, hydraulically down-gradient of known source areas), and a hydraulically upgradient well, using clean drilling methods. The down-gradient bores are to be drilled to approximately 20 m bgl and installed as nested wells to characterise groundwater in the superficial deposits and two depths in the bedrock to ascertain plume thickness (depths to be confirmed). Well installation should be undertaken in accordance with best practice, and consideration of the objectives of the investigation (e.g. clean drilling methods, not utilising a filter

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sock in wells impacted with organic contaminants and installing with an appropriate filter pack to minimise sediment ingress).

- Carry out appropriate field testing, sampling and laboratory analysis during test pitting and drilling to enable an assessment of geoenvironmental and geotechnical risk, and to provide sufficient information to advance the DQRA for controlled waters. The analytical schedule is to be determined based on the contaminants of concern in section 8 of this report and field observations.
- Survey all wells to a consistent datum to assist in determining groundwater levels and flow direction.
- Carry out six groundwater monitoring visits over three months, using low-flow (peristaltic or bladder pump) methods, and hydraulic conductivity testing on the wells, with samples being sent for appropriate analysis.
- Carry out surface water sampling upstream and downstream of the site, and within the culverted sections on-site.
- Carry out additional ground gas risk assessment/detailed design.
- Production of a report detailing the results of the investigation and update the DQRA for controlled waters.

Findings from the above investigation should be approved by the Local Authority and Environment Agency.

Notes on the limitations of this report can be found in Appendix K.

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The Coal Authority App

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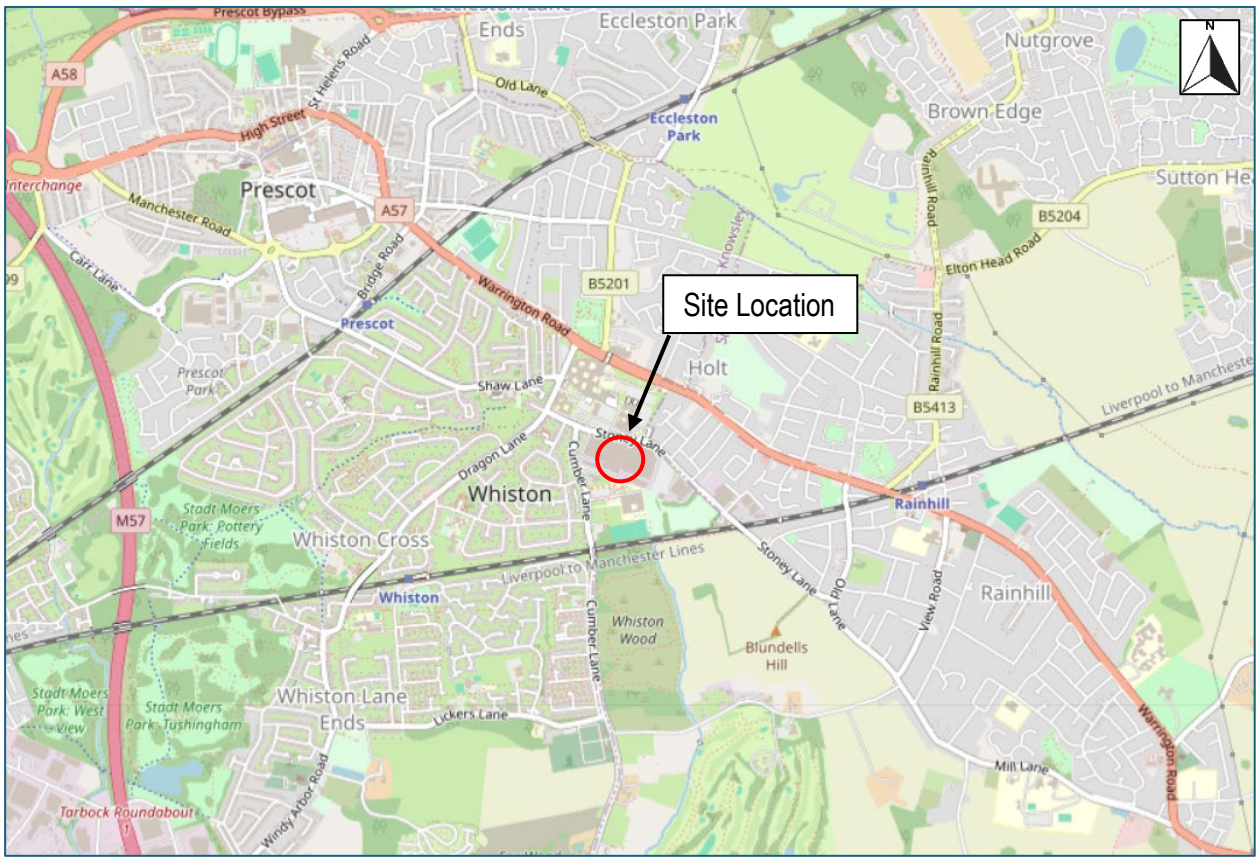
APPENDIX A

i) Site Location Plan



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ii) Proposed Development Plan

Taken from Taylor Wimpey Coloured Planning Layout (Reference 22970-CL-1001-A, dated 11 November 2025)

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APPENDIX B

Site Walkover Photographs and Layout Plans

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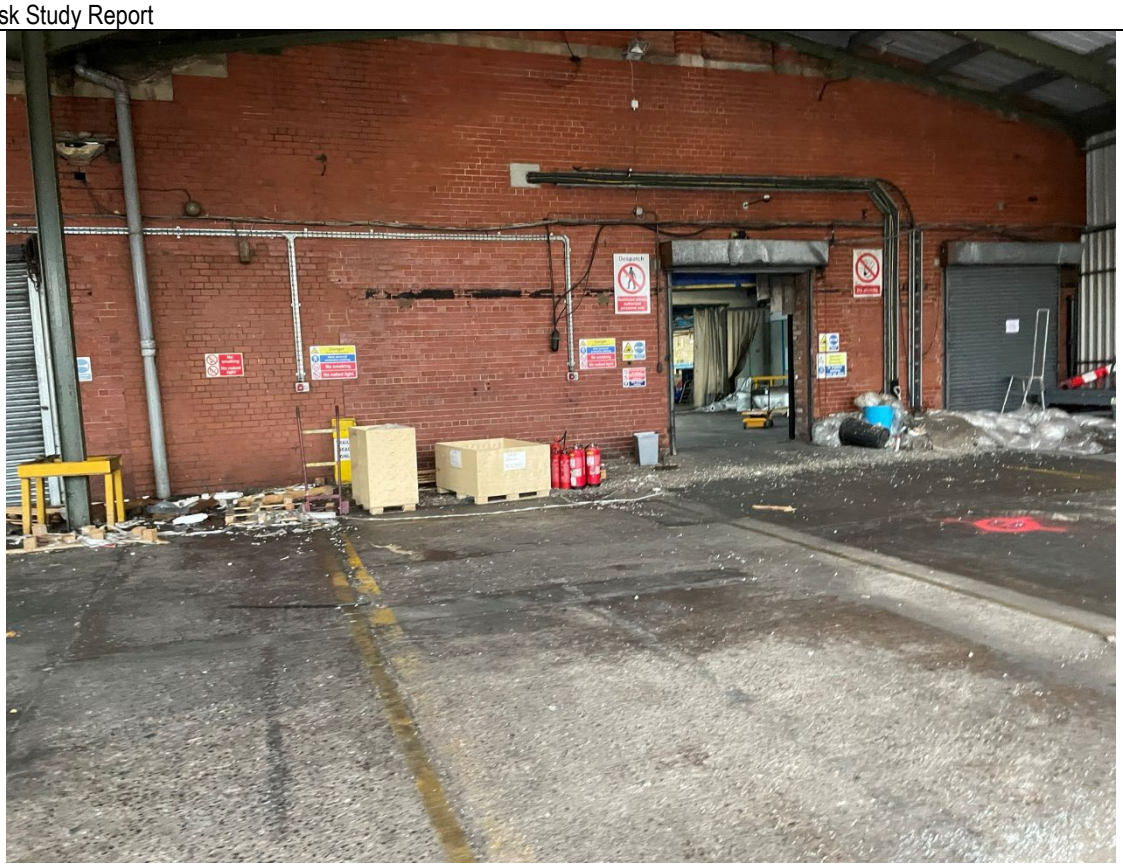

Photo 1: Delivery entrance/loading bay on the northwest corner of the factory.

Photo 2: Areas of hardstanding around goods in area on the northern boundary, looking west

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Photo 3: Grassed area to the east of the factory, looking south

Photo 4: Carpark to the east of the site, looking southeast towards the former social club building (far right)

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Photo 5: Northern boundary of the site, looking west, with Stoney Lane to the right.

Photo 6: Southwestern corner of the factory, showing general building construction and surrounding sealed areas.

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Photo 7: Ponded water on the southern boundary, looking east.

Photo 8: Polystyrene Plant, north of the factory.

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Photo 9: Building containing the gas governor to the northeast of the factory.

Photo 10: Area east of the factory, looking north towards the bottled gas and paint storage area.

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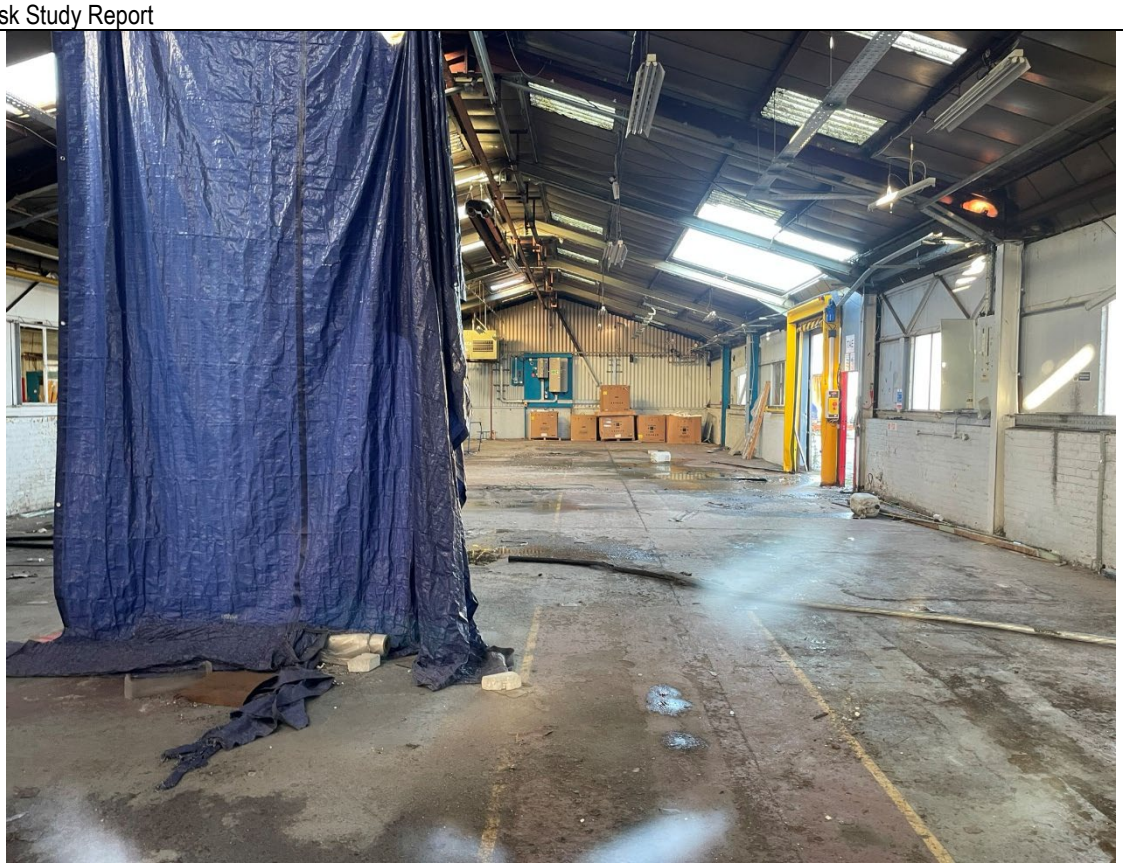

Photo 11: Interior of the maintenance workshop to the southeast of the factory.

Photo 12: Forklift parking and charging area in the maintenance workshop.

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Photo 13: Waste management and recycling area, to the south/southeast of the factory, looking west.

Photo 14: Enamel slurry waste tank, to the south/southeast of the factory, looking west.

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Photo 15: Open top wastewater tanks and effluent pumphouse (blue cabin), on the southeast corner of the factory.

Photo 16: Two-storey office in the southwest corner of the site, looking east.

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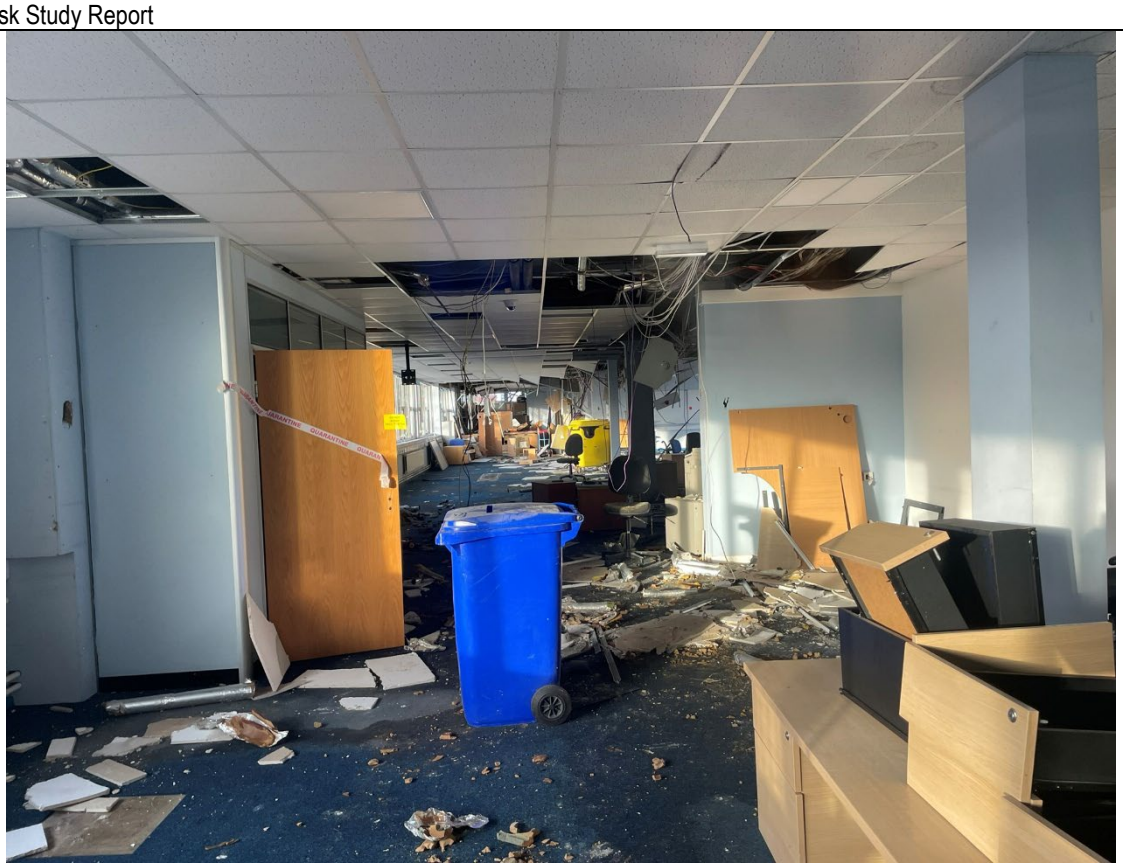

Photo 17: Interior of the offices.

Photo 18: Interior of the offices.

© Betts Geo Environmental Ltd 2026

Photo 19: Interior of the Customer Parts Centre (CPC) Store

Photo 20: Substation located in the site's northwestern corner, looking north.

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Photos 21: Example of transformers present on-site

Photos 22: Assembly area in western part of the factory

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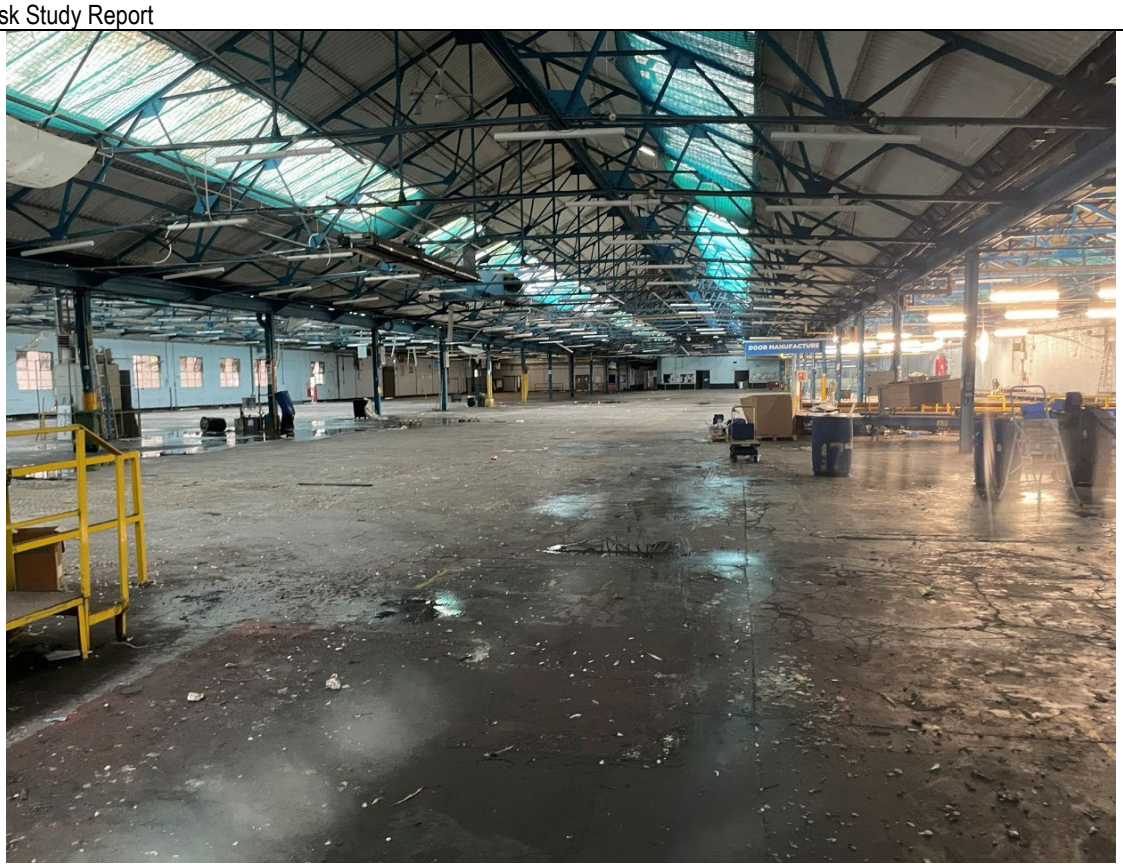

Photo 23: Assembly area in western part of the factory

Photo 23: Assembly area in western part of the factory

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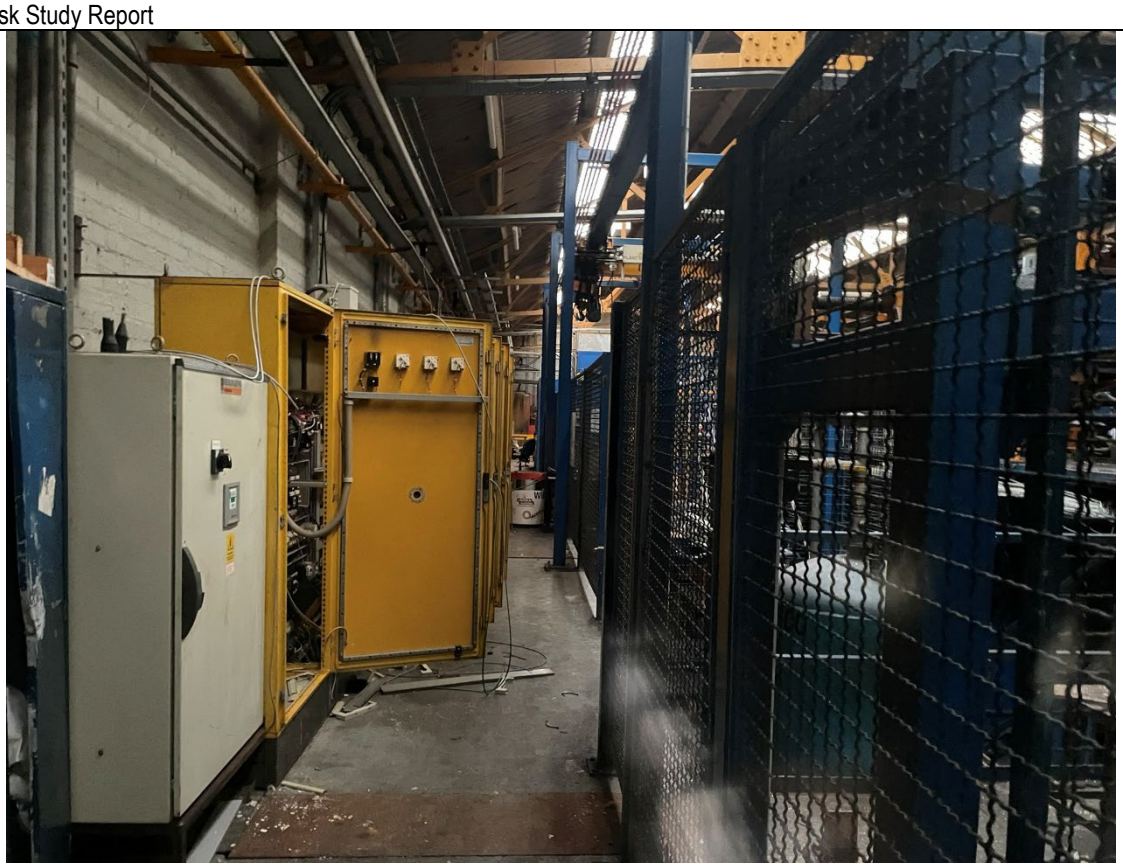

Photo 24: Machinery within the press area in the northeast quadrant of the factory.

Photo 25: Machinery within the press area.

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Photo 26: Interior of the press area.

Photo 27: Machinery within the press area.

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Photo 28: Interior of the press area.

Photo 29: Interior of the press area.

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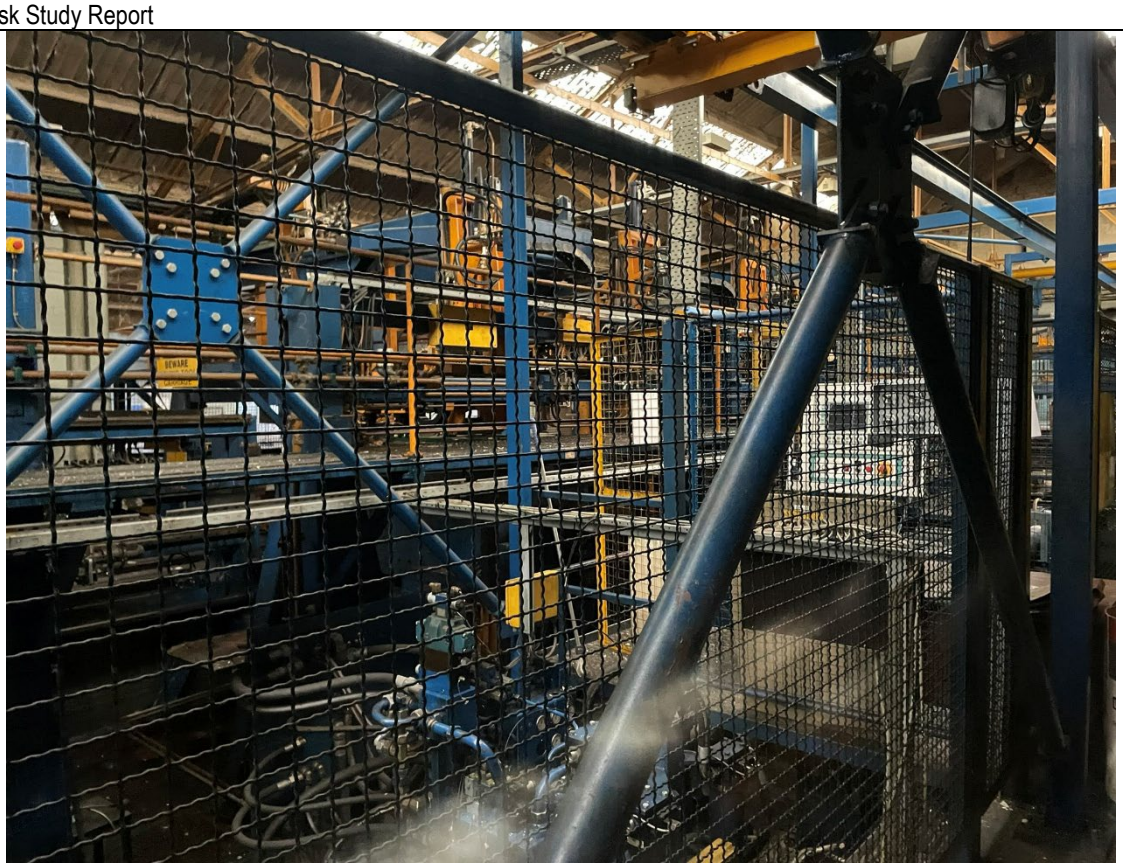

Photo 30: Machinery within the press area.

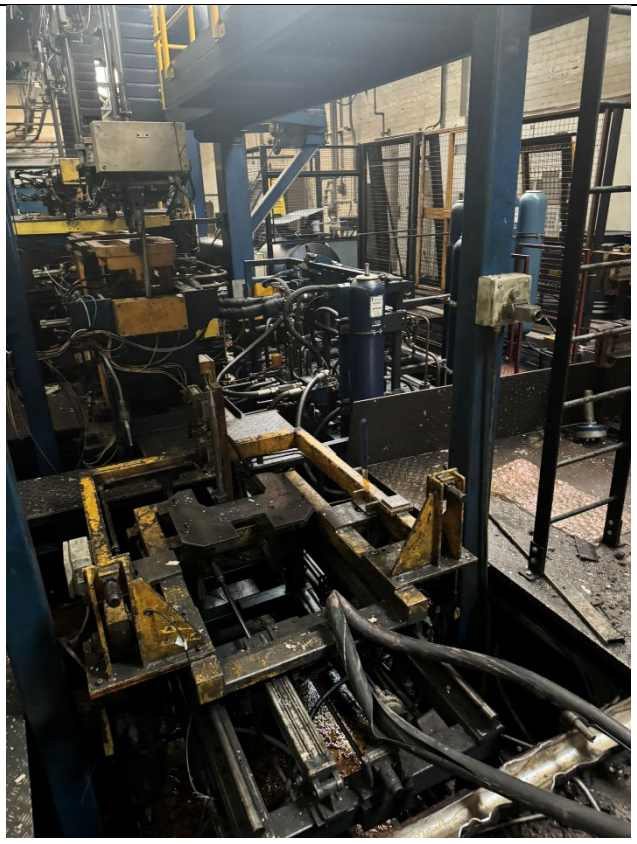

Photo 31: Machinery within the press area.

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Photo 32: Pit with staining in the press area

Photo 33: Pit containing discoloured water in the press area

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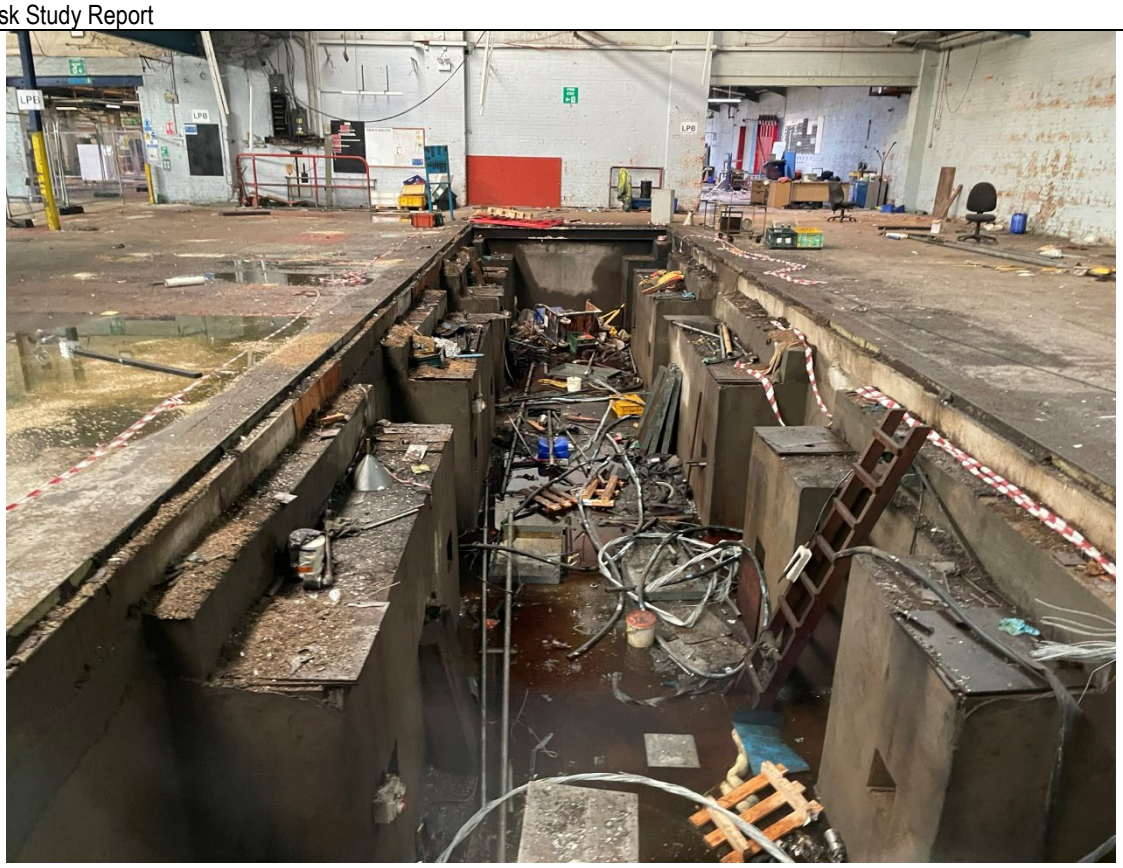

Photo 34: Large pit with staining, containing waste materials and discoloured water in the press area.

Photo 35: Storage of drums of hydraulic oil, paint and other unidentified products in the press area.

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Photo 36: Pit containing water and discarded 25 L drums in the press area.

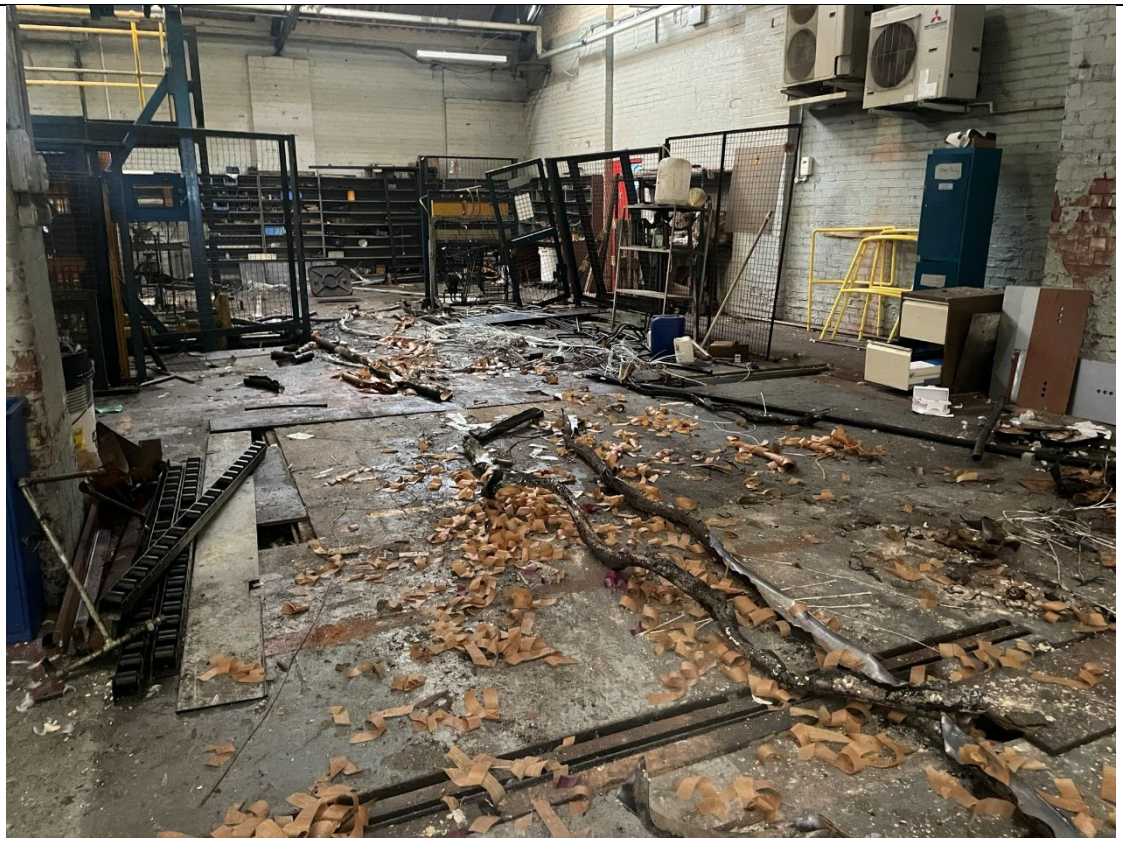

Photo 37: Tool area containing remnant equipment and staining on the floor, north of the press area.

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Photo 38: Jig burn off, in the viciniuty of the Dinamec Room

Photo 39: Remnant base of the former paint store on the northern side of the factory, looking west.

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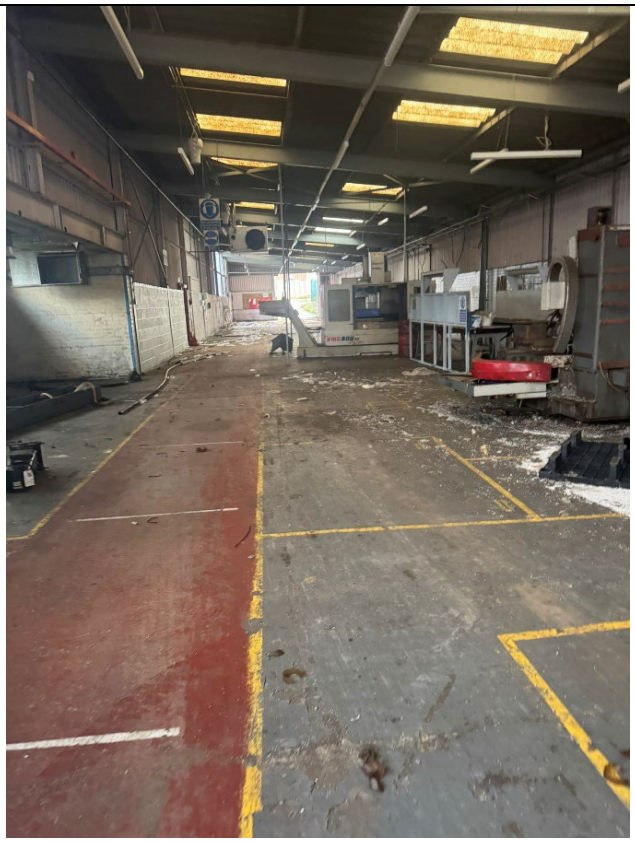

Photo 40: Interior of the aluminium workshop, on the northern side of the factory.

Photo 41: Interior of the aluminium workshop

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Photo 42: Interior of the paint workshop, on the northern side of the factory.

Photo 43: Interior of the paint workshop.

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Photo 44: Sport welding robots in the weld and strut area, located on the eastern side of the factory.

Photo 45: Interior of the weld and strut line

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Photo 46: Interior of the weld and strut line

Photo 47: Equipment and low-quantity chemical storage in the weld and strut line

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Photo 48: Interior of the research and development laboratory, containing stock. On the southeast corner of the factory.

Photo 49: Interior of the research and development workshop area.

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Photo 50: Looking into the research and development workshop area.

Photo 51: Remnant equipment in the enamel workshop area, in the southeastern quadrant of the factory.

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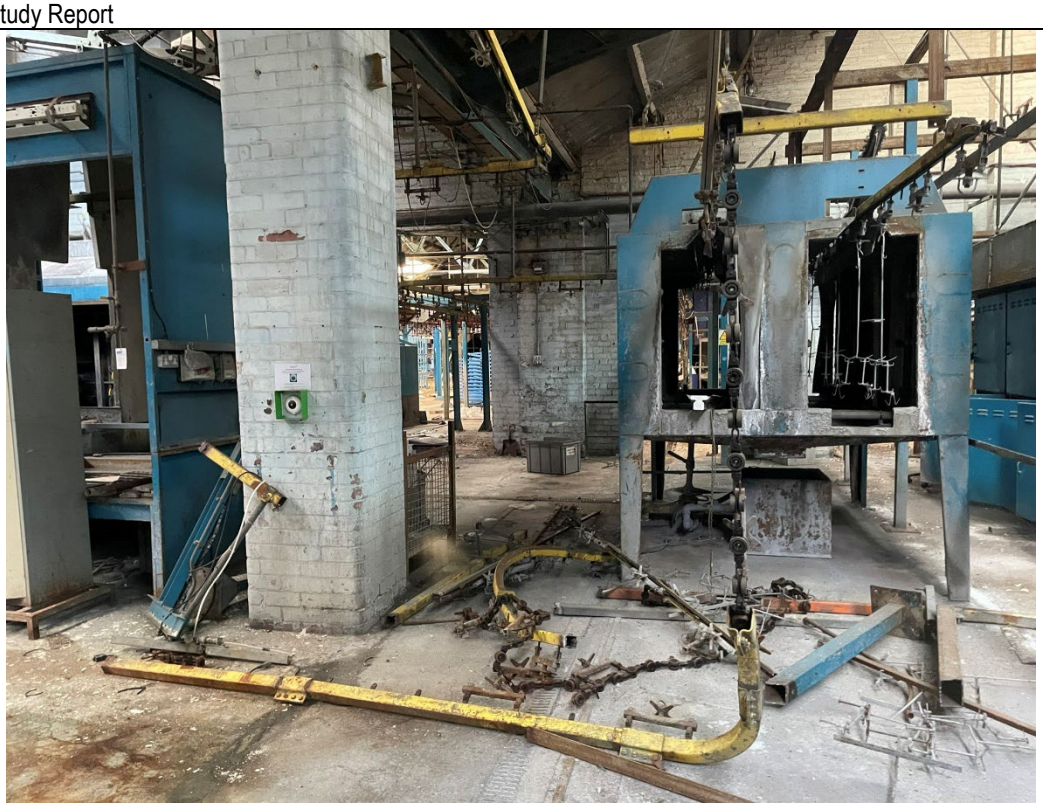

Photo 52: Remnant equipment in the enamel workshop area.

Photo 53: Remnant equipment in the enamel workshop area.

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Photo 54: Remnant equipment in the enamel workshop area.

Photo 55: Void beneath the floor of the enamel workshop area.

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Photo 56: Offices and mezzanine to the south of the assembly area.

Photo 57: Interior of manufacturing offices.

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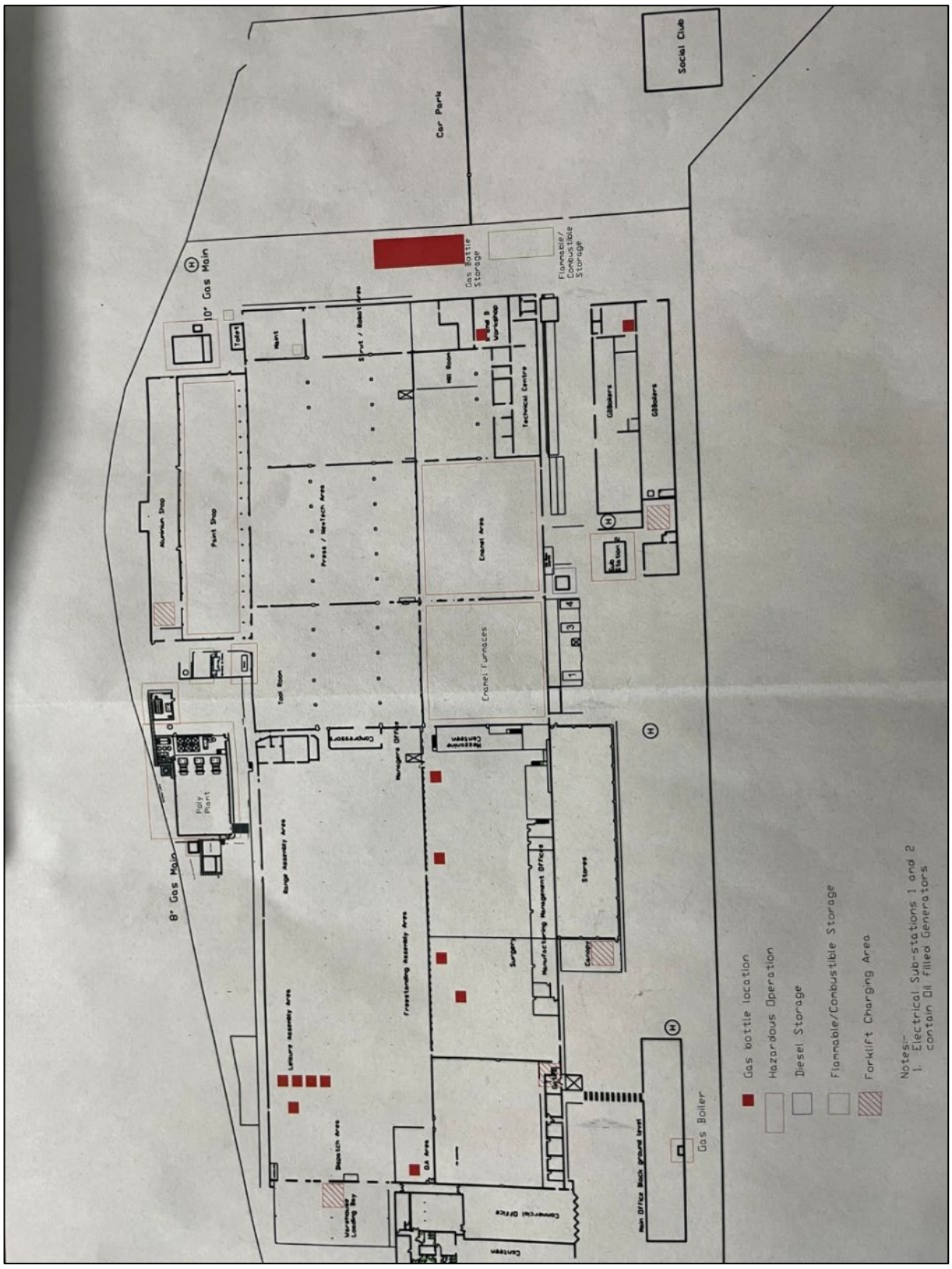

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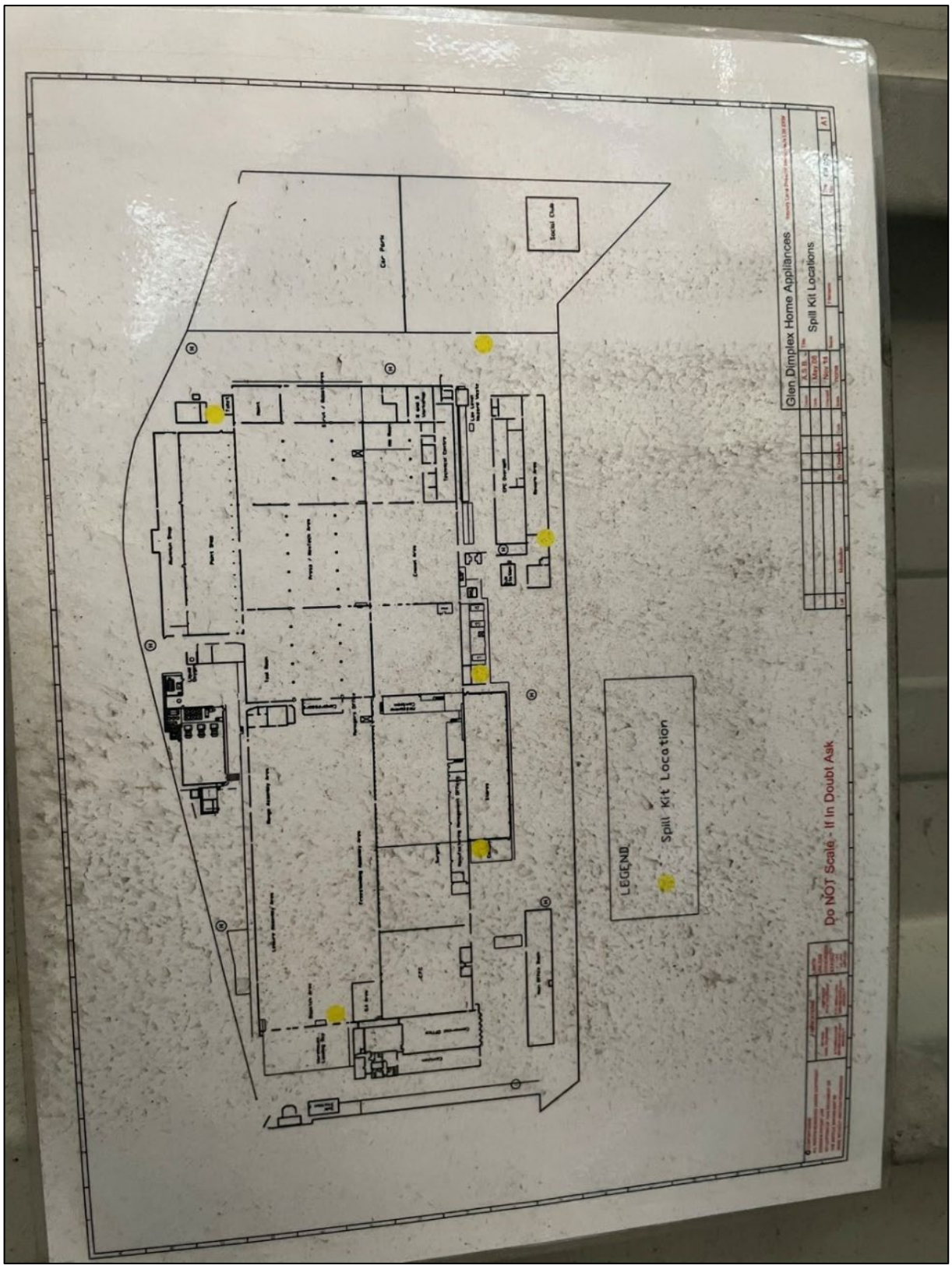

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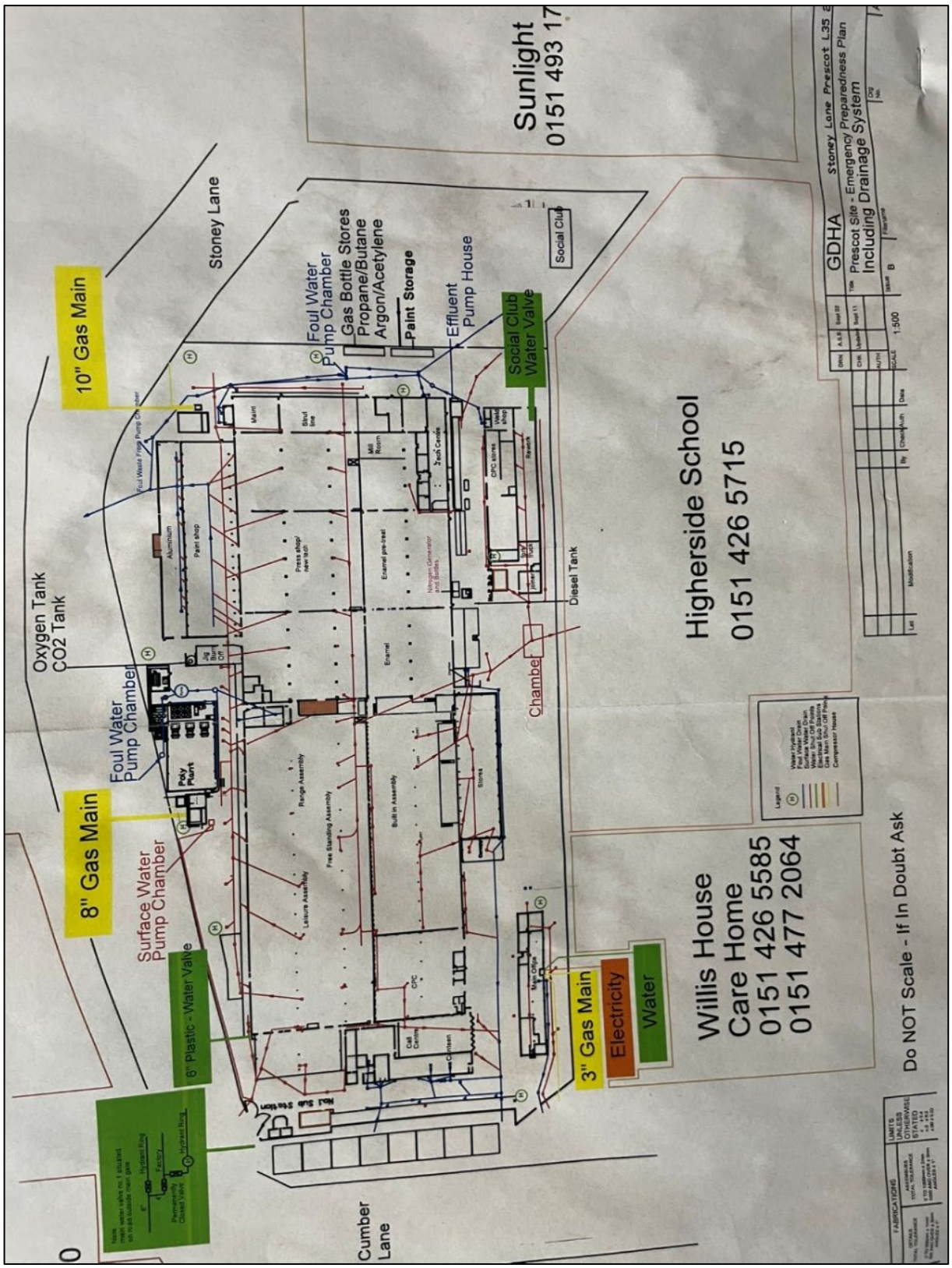

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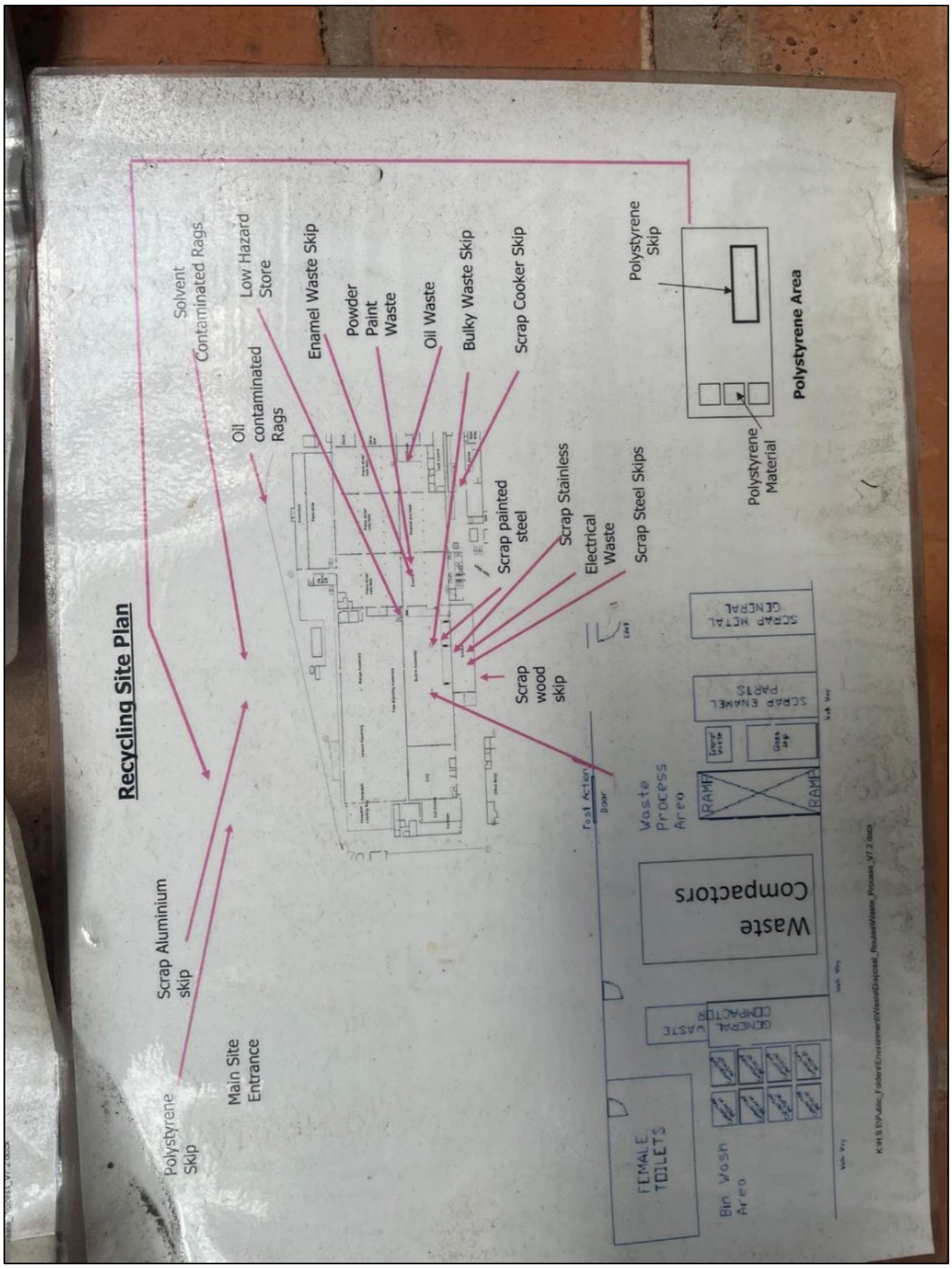

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APPENDIX C

Historical Maps

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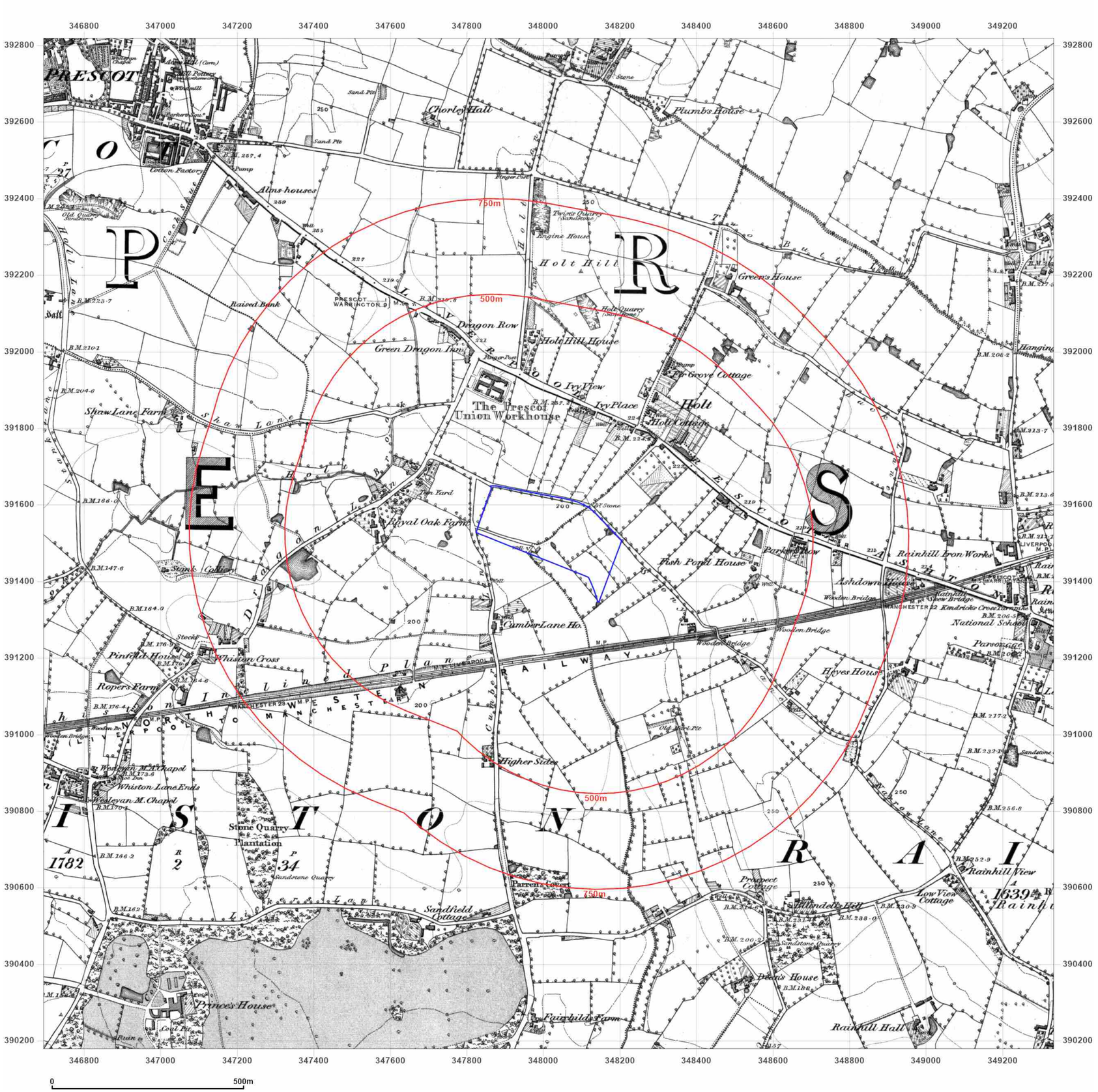

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Site Details:

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4
Grid Ref: 348013, 391498

Map Name: County Series

Map date: **1850**

Scale: 1:10,560

Printed at: 1:10,560

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Edition 1850
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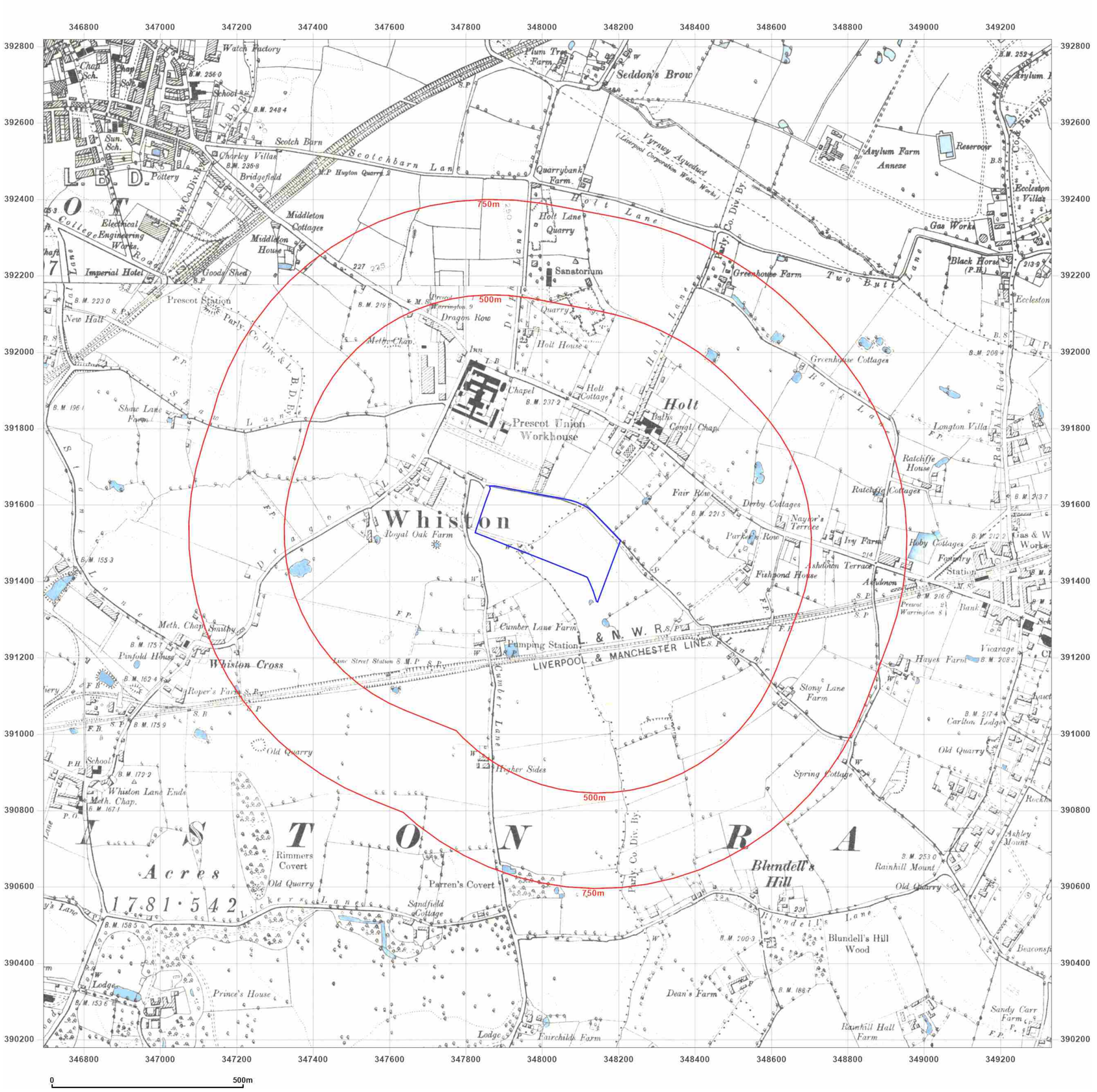

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4
Grid Ref: 348013, 391498

Map Name: County Series

Map date: **1891**

Scale: 1:10,560

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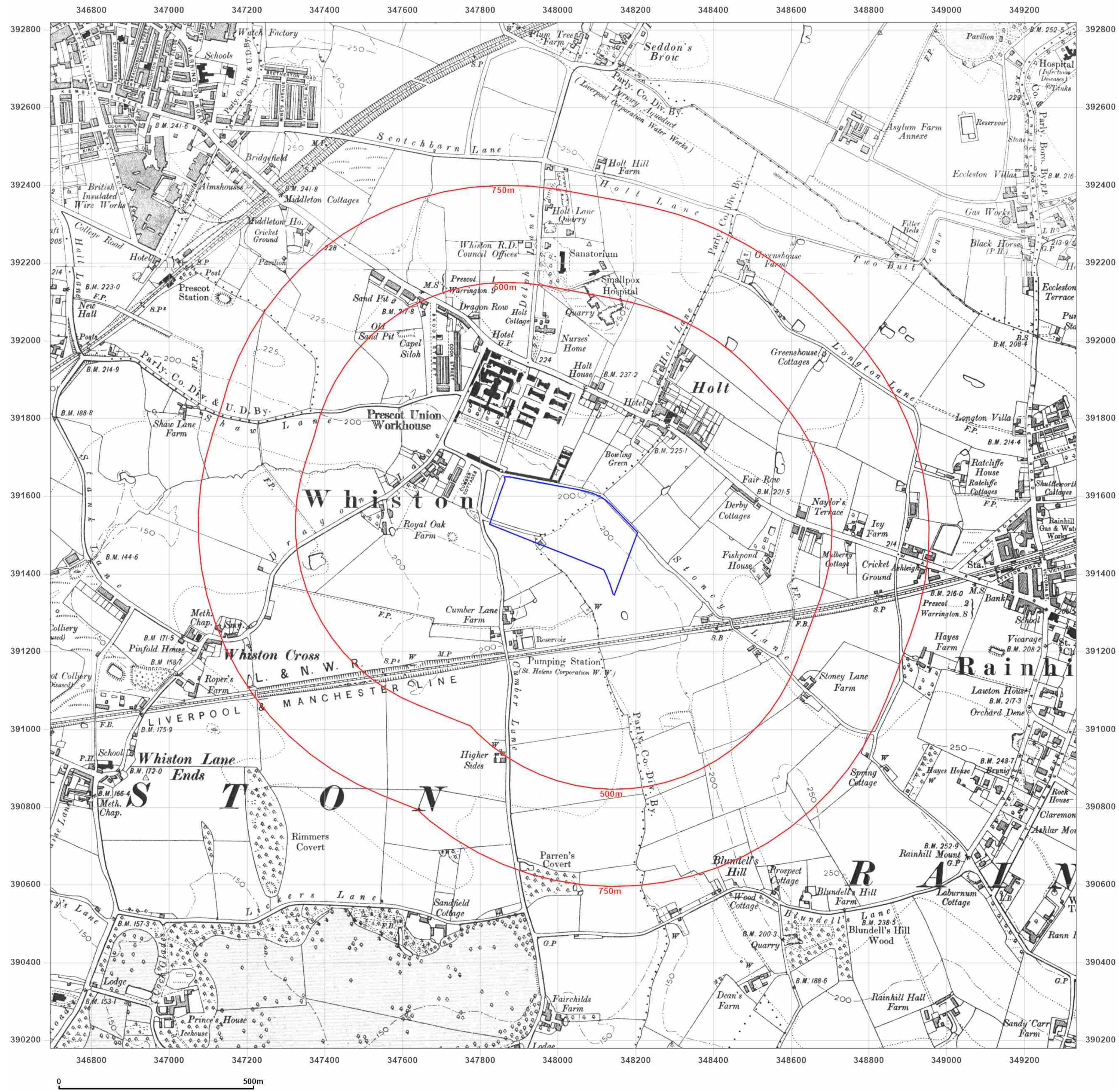

Site Details:

GLEN DIMPLEX HOME APPLIANCES, STONEY LANE, WHISTON, KNOWSLEY, L35 2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4
Grid Ref: 348013, 391498

Map Name: County Series

Map date: **1906**

Scale: 1:10,560

Printed at: 1:10,560

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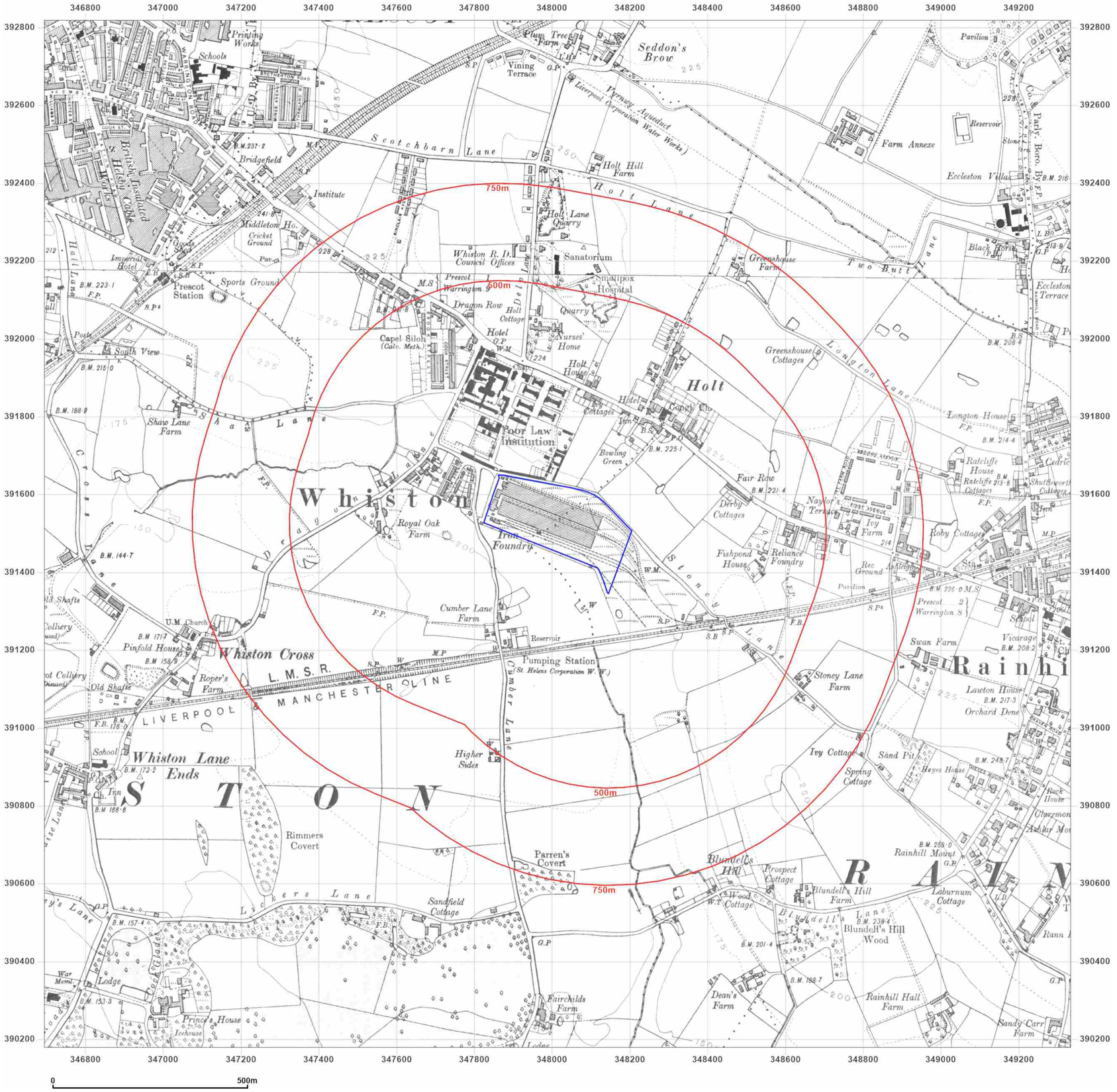

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Client Ref: 25TAY078 - BG5993
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Grid Ref: 348013, 391498

Map Name: County Series

Map date: **1925**

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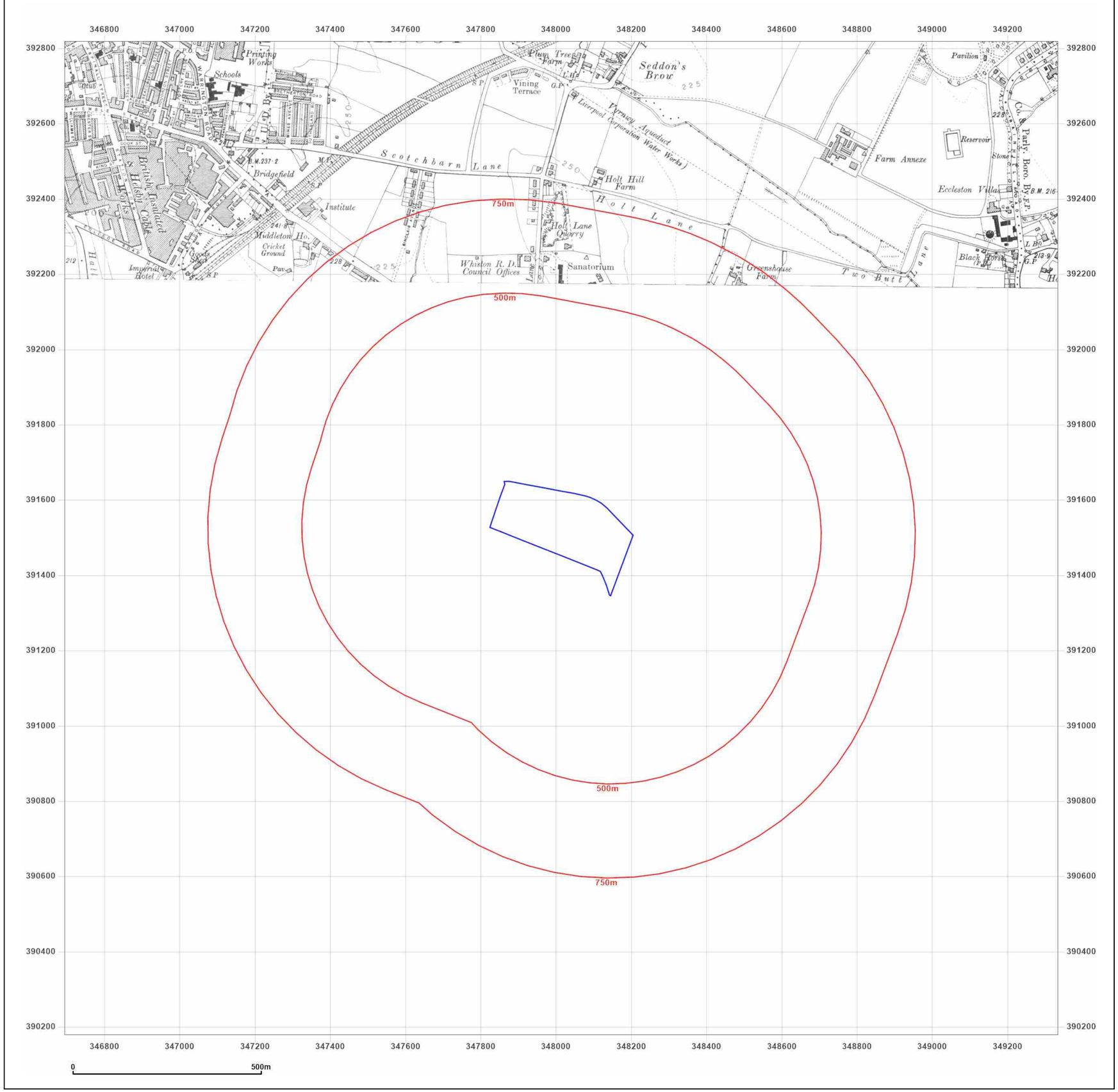

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Client Ref: 25TAY078 - BG5993
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Map Name: County Series

Map date: **1925**

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Edition N/A
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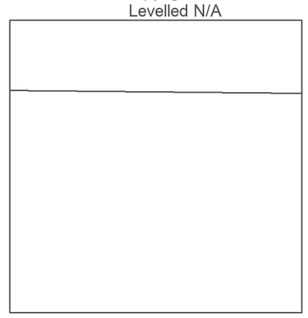

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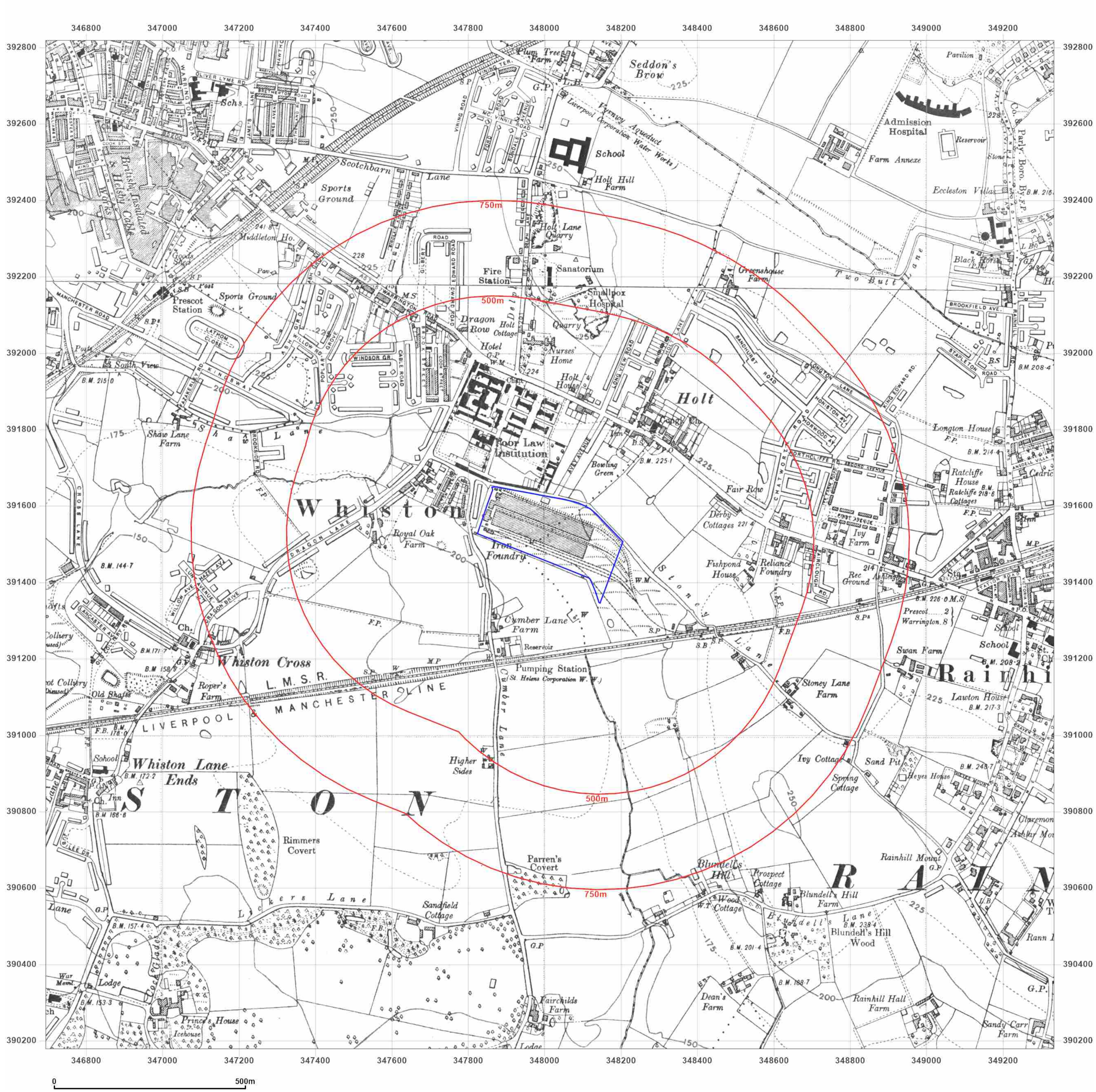

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4
Grid Ref: 348013, 391498

Map Name: County Series

Map date: **1938**

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Printed at: 1:10,560

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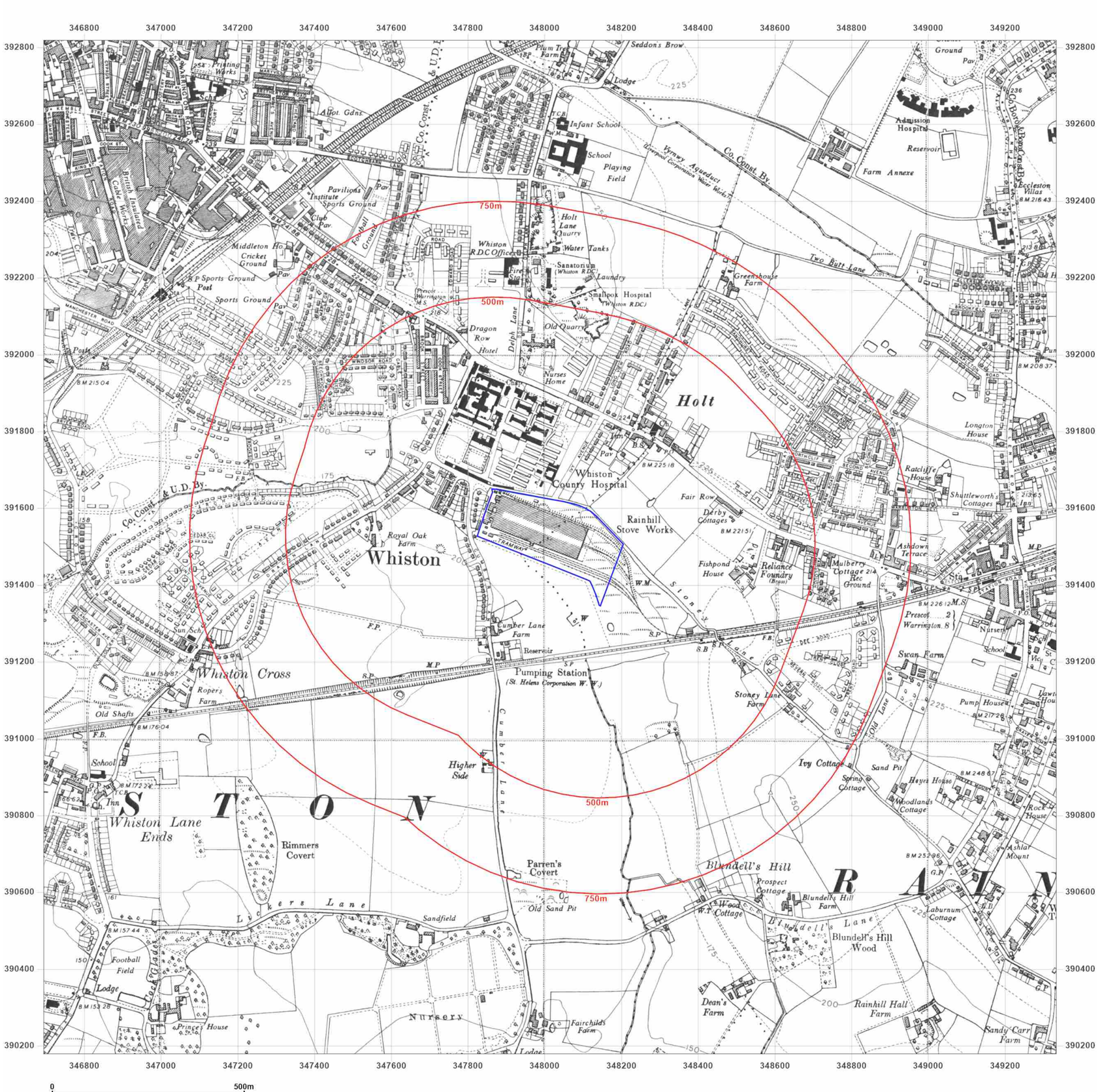

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4
Grid Ref: 348013, 391498

Map Name: County Series

Map date: **1947-1950**

Scale: 1:10,560

Printed at: 1:10,560

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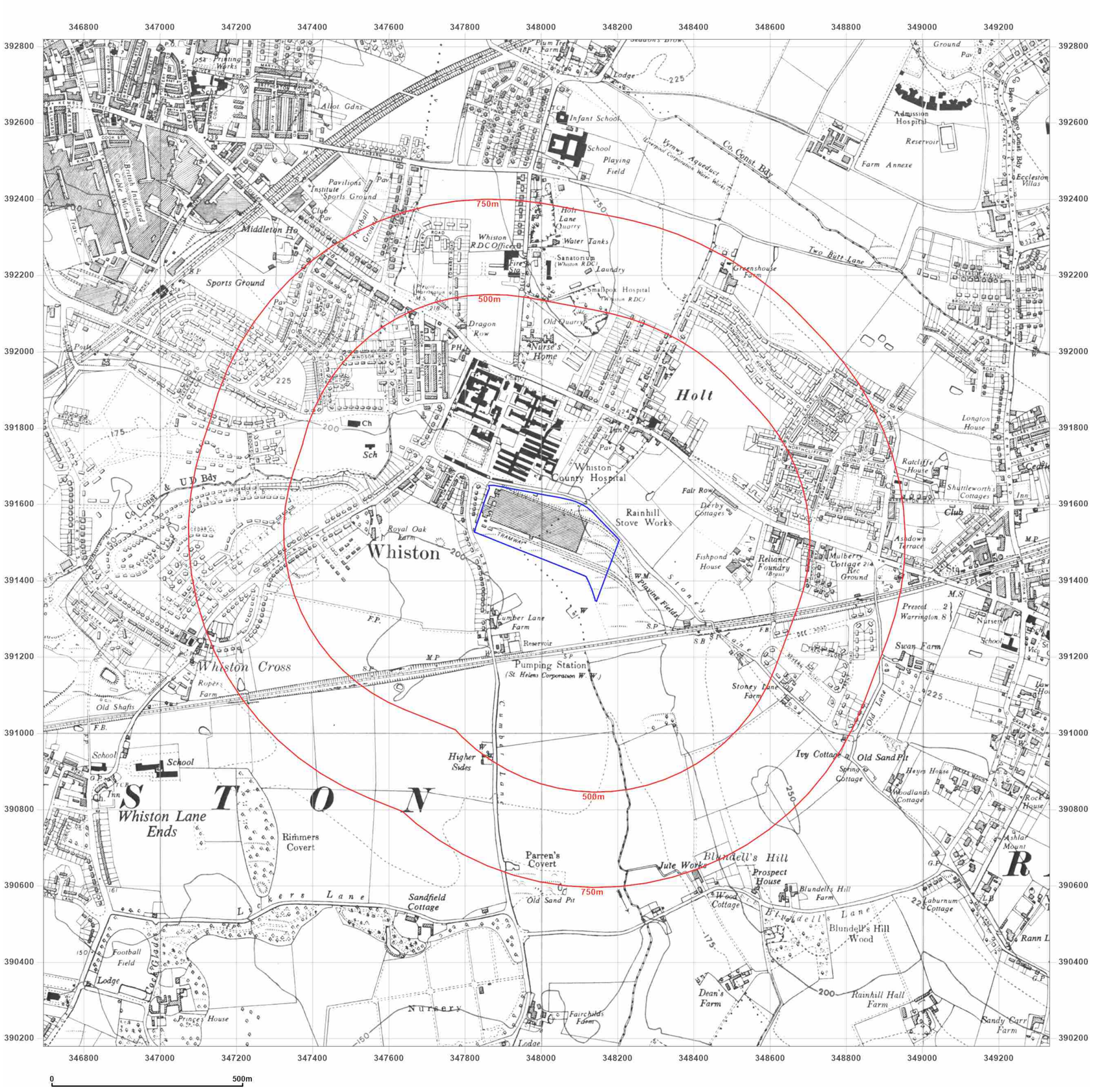

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4
Grid Ref: 348013, 391498

Map Name: Provisional

Map date: **1956**

Scale: 1:10,560

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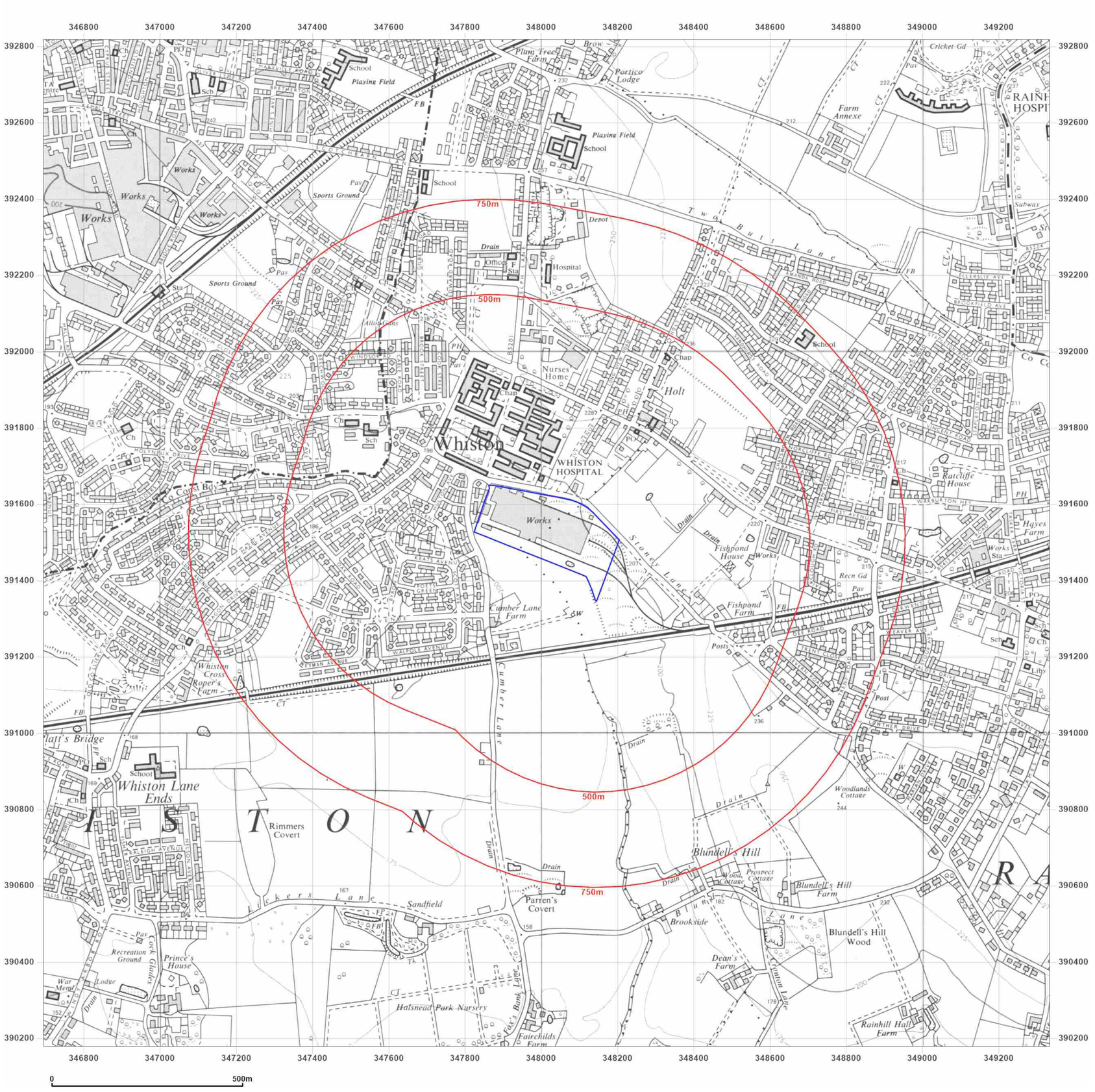

Site Details:

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4
Grid Ref: 348013, 391498

Map Name: Provisional

Map date: **1966**

Scale: 1:10,560

Printed at: 1:10,560

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4
Grid Ref: 348013, 391498

Map Name: National Grid

Map date: **1978**

Scale: 1:10,000

Printed at: 1:10,000

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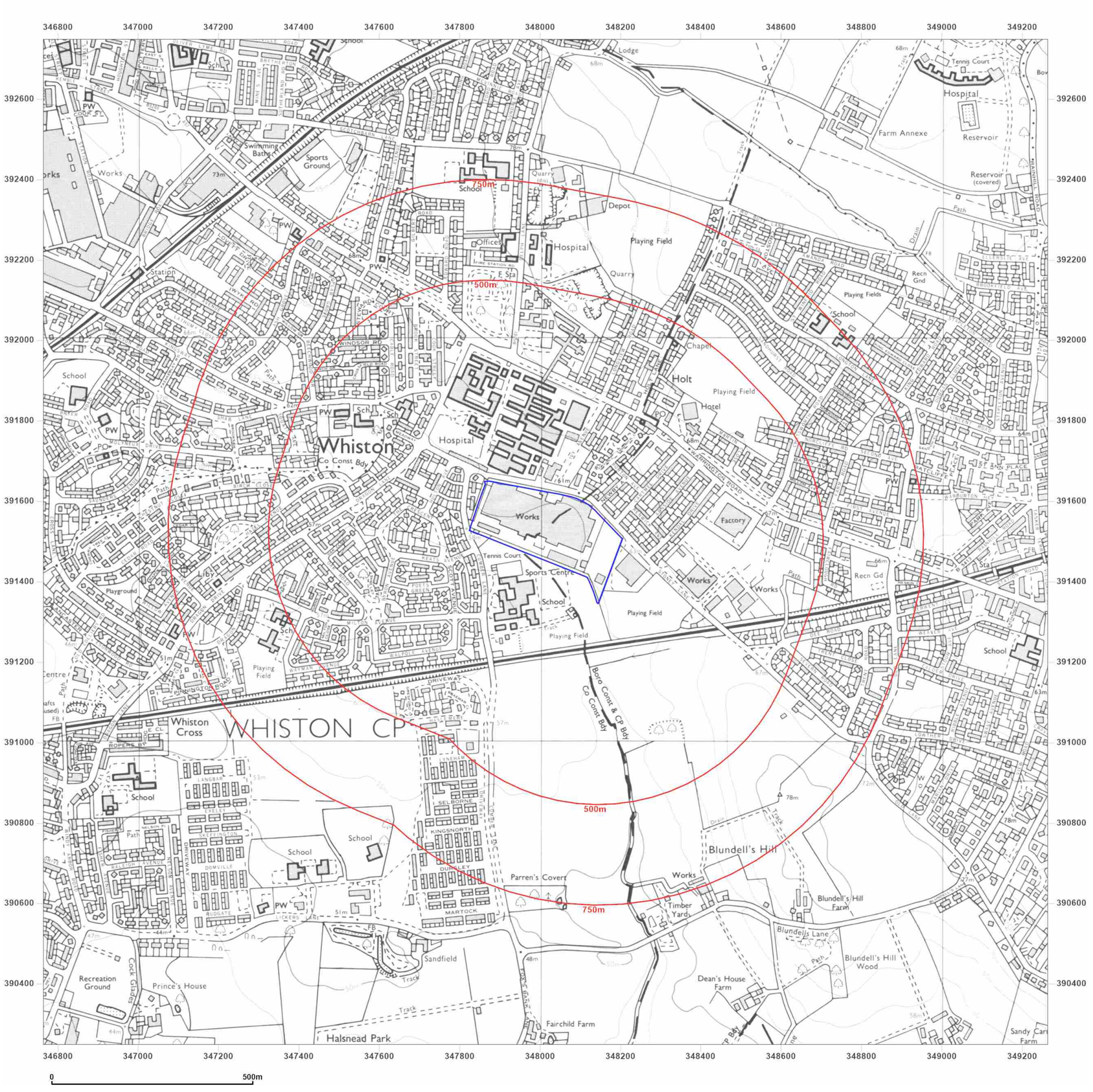

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4
Grid Ref: 348013, 391498

Map Name: National Grid

Map date: **1990**

Scale: 1:10,000

Printed at: 1:10,000

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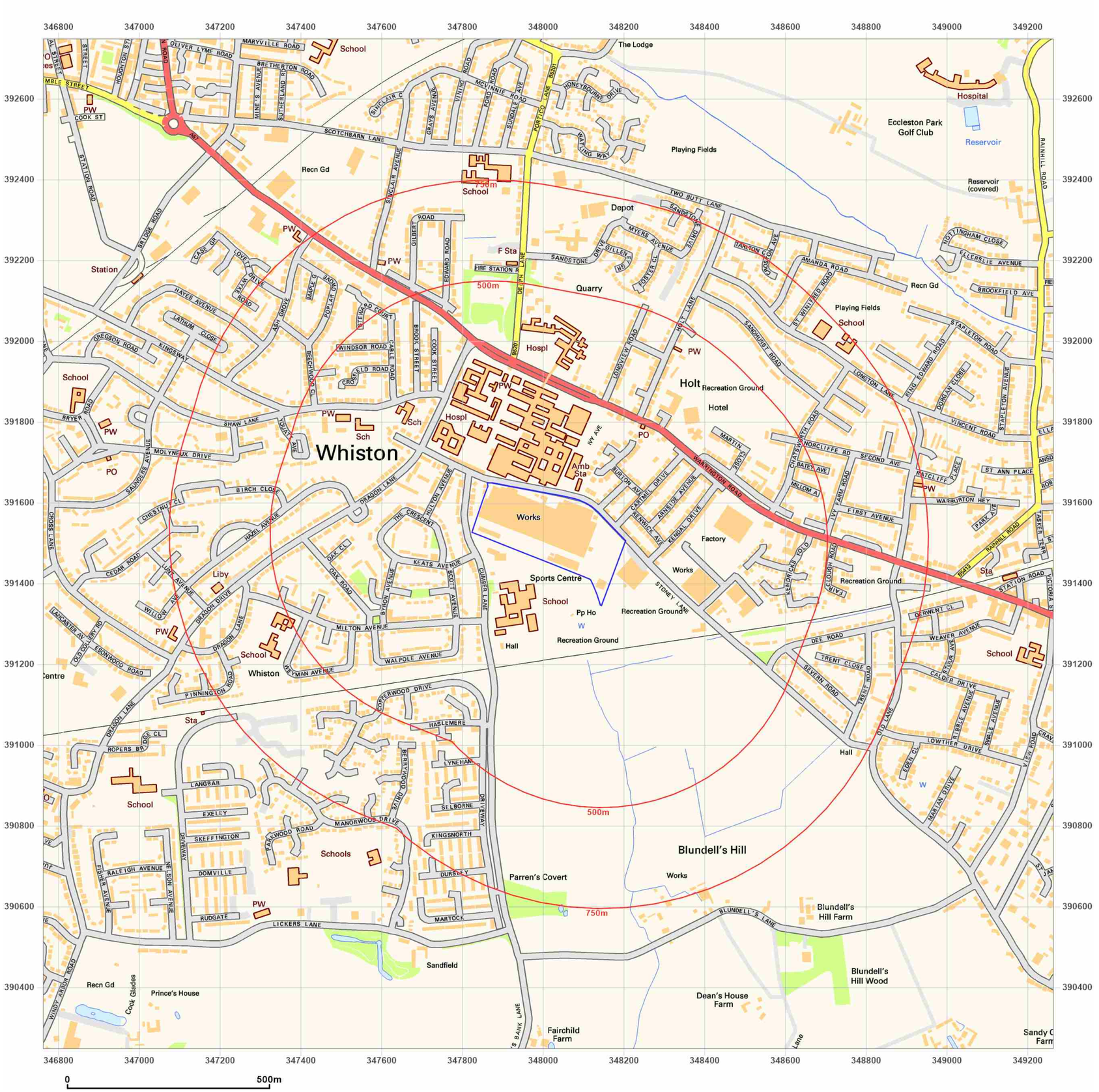

Groundsure INSIGHTS

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4
Grid Ref: 348013, 391498

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

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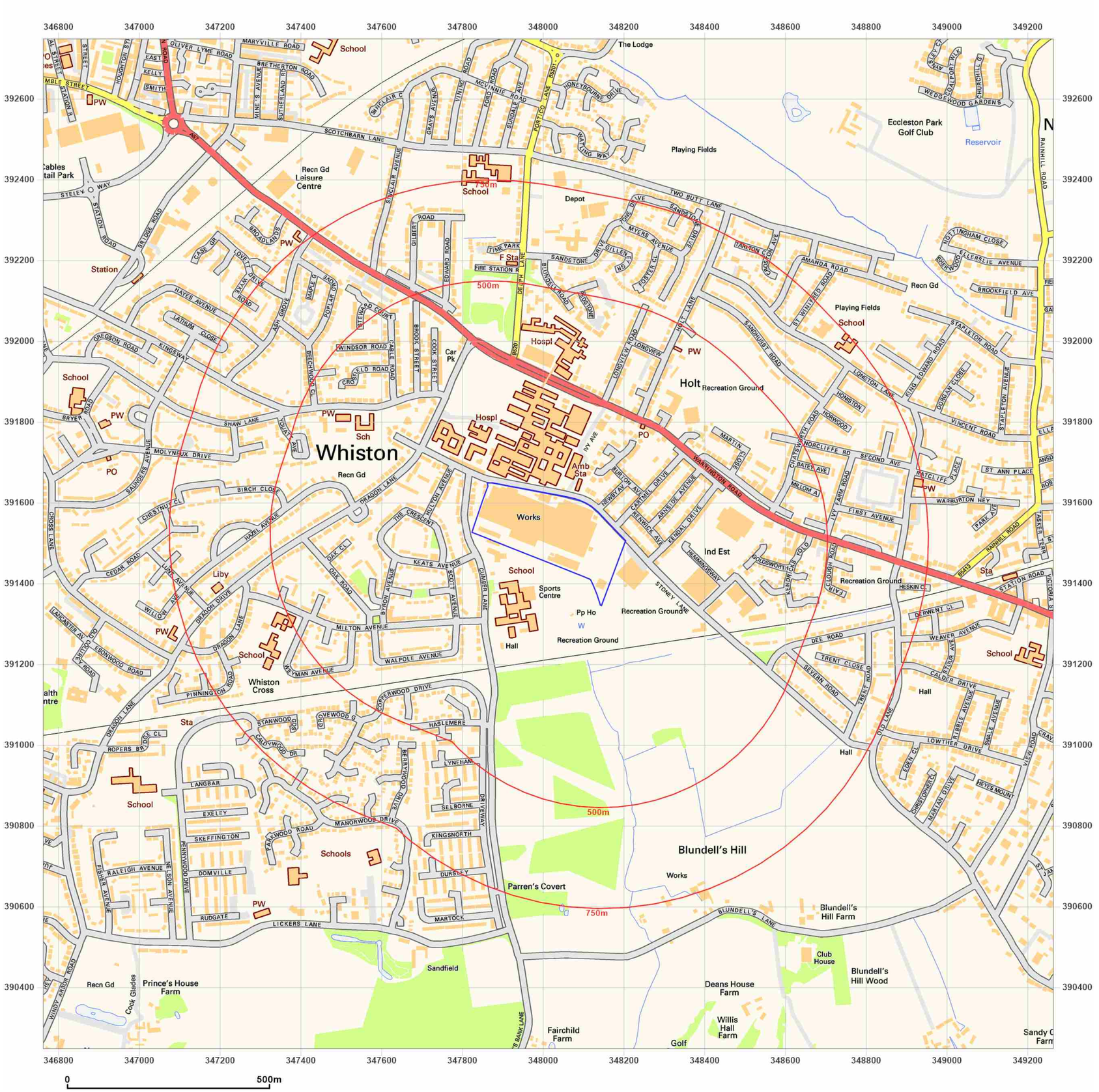

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Site Details:

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4
Grid Ref: 348013, 391498

Map Name: National Grid
Map date: **2010**
Scale: 1:10,000
Printed at: 1:10,000

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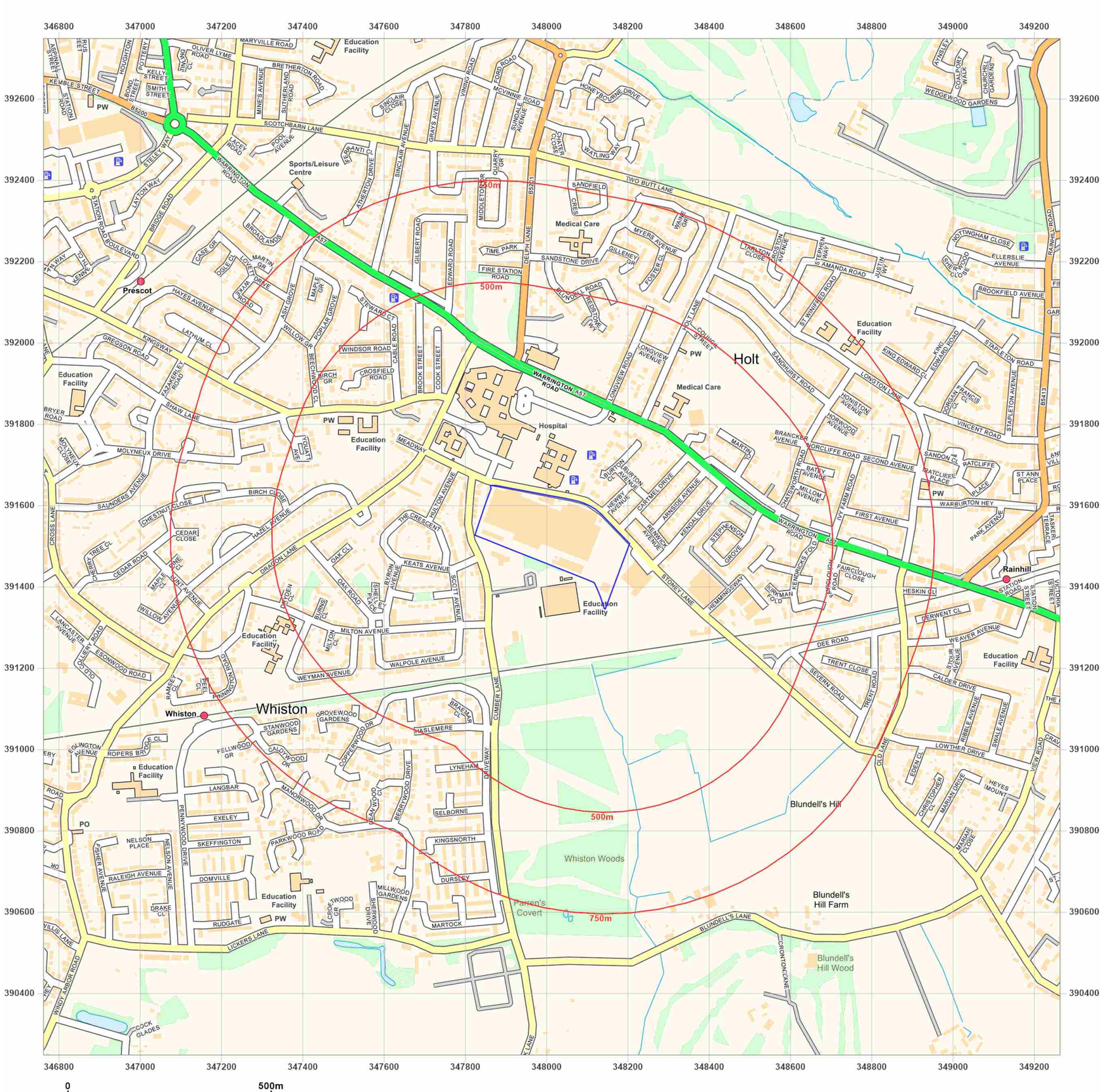

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Site Details:

GLEN DIMPLEX HOME APPLIANCES, STONEY LANE, WHISTON, KNOWSLEY, L35 2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4
Grid Ref: 348013, 391498

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

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2025

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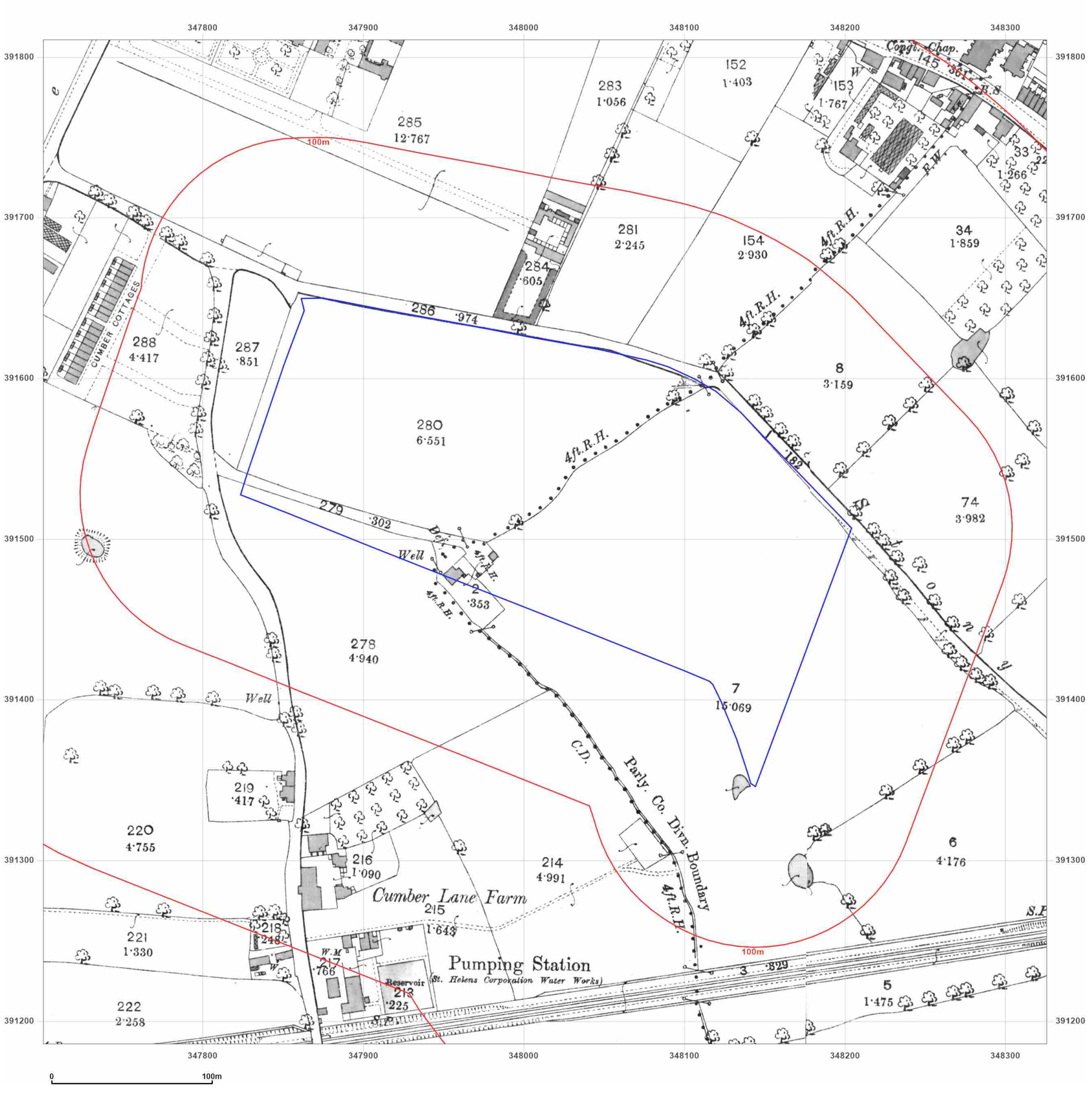

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Site Details:

GLEN DIMPLEX HOME APPLIANCES, STONEY LANE, WHISTON, KNOWSLEY, L35 2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_2500
Grid Ref: 348013, 391498

Map Name: County Series
Map date: **1892**
Scale: 1:2,500
Printed at: 1:2,500

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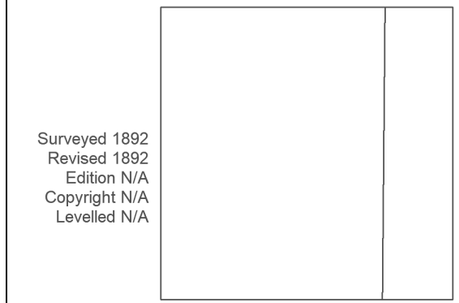

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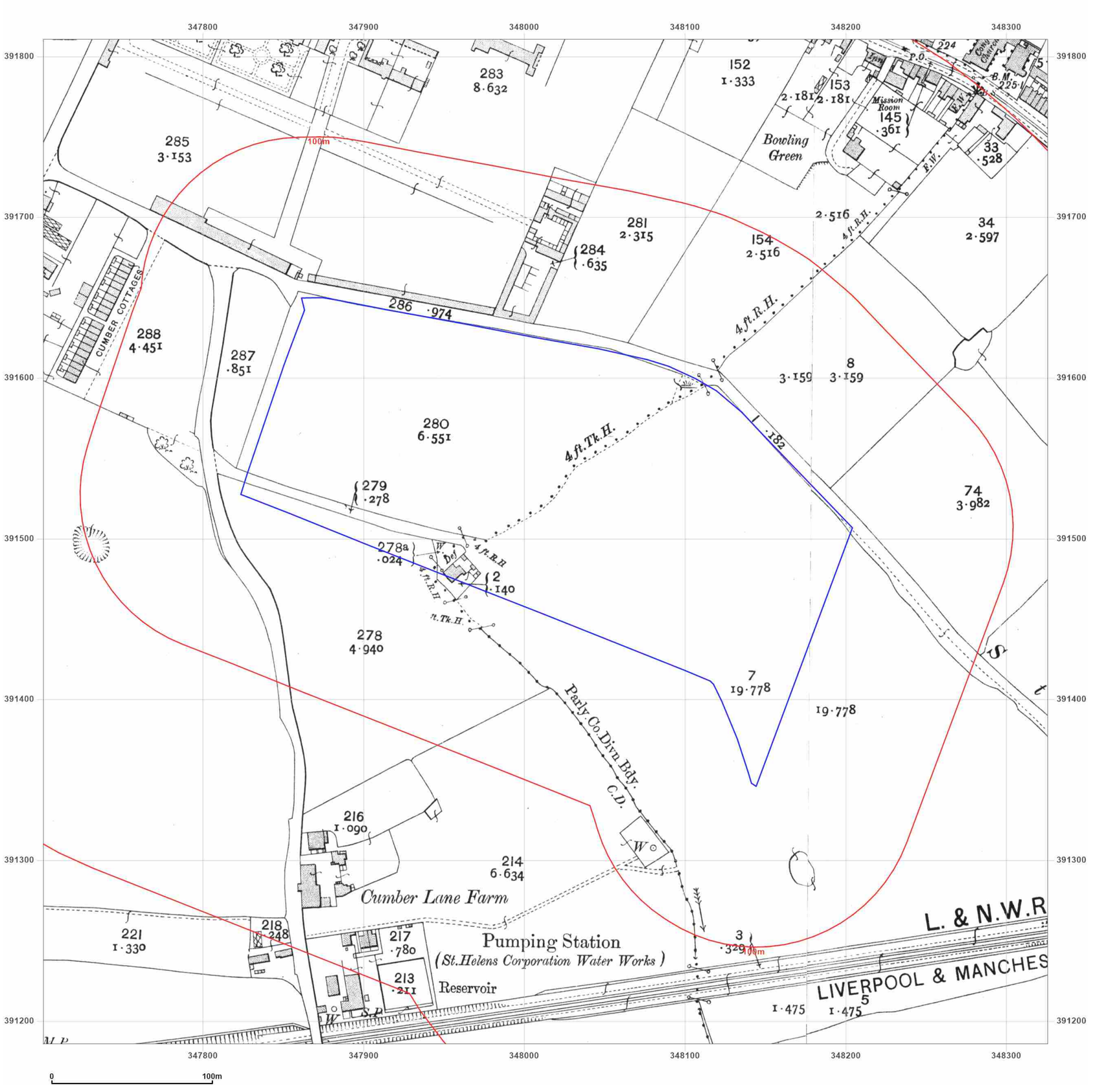

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Site Details:

GLEN DIMPLEX HOME
APPLIANCES, STONEY LANE,
WHISTON, KNOWSLEY, L35
2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_2500
Grid Ref: 348013, 391498

Map Name: County Series

Map date: **1907**

Scale: 1:2,500

Printed at: 1:2,500

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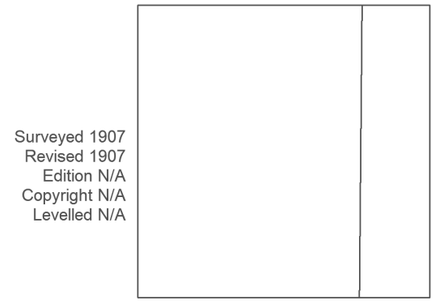

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Site Details:

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_2500
Grid Ref: 348013, 391498

Map Name: County Series

Map date: **1927**

Scale: 1:2,500

Printed at: 1:2,500

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Edition N/A
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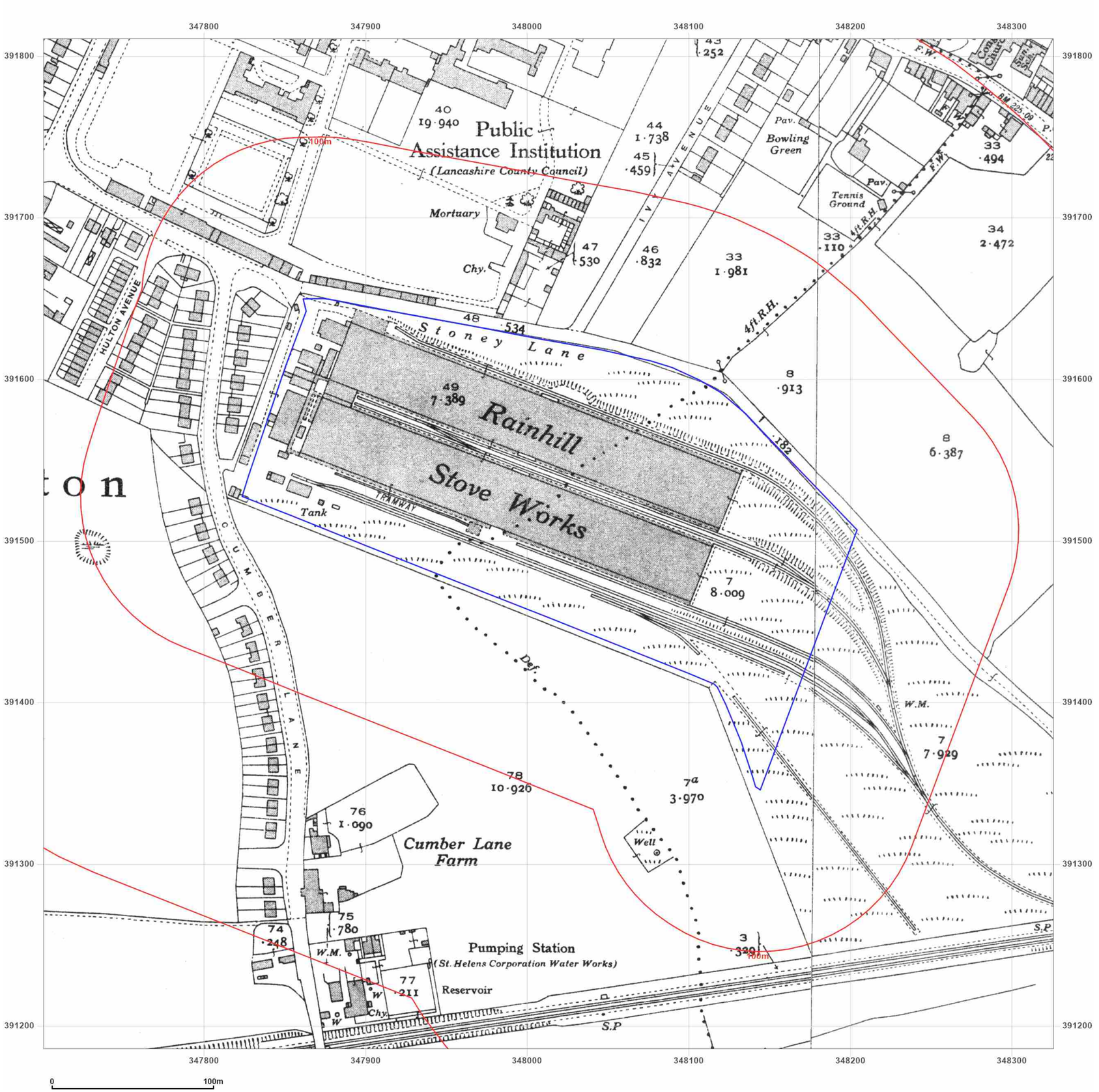

Groundsure INSIGHTS

Site Details:

GLEN DIMPLEX HOME APPLIANCES, STONEY LANE, WHISTON, KNOWSLEY, L35 2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_2500
Grid Ref: 348013, 391498

Map Name: County Series
Map date: **1937**
Scale: 1:2,500
Printed at: 1:2,500

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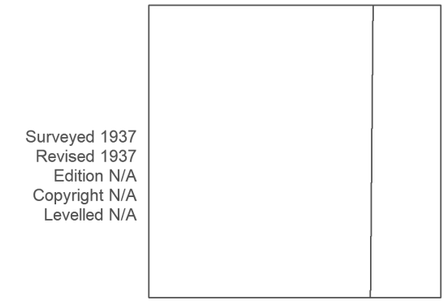

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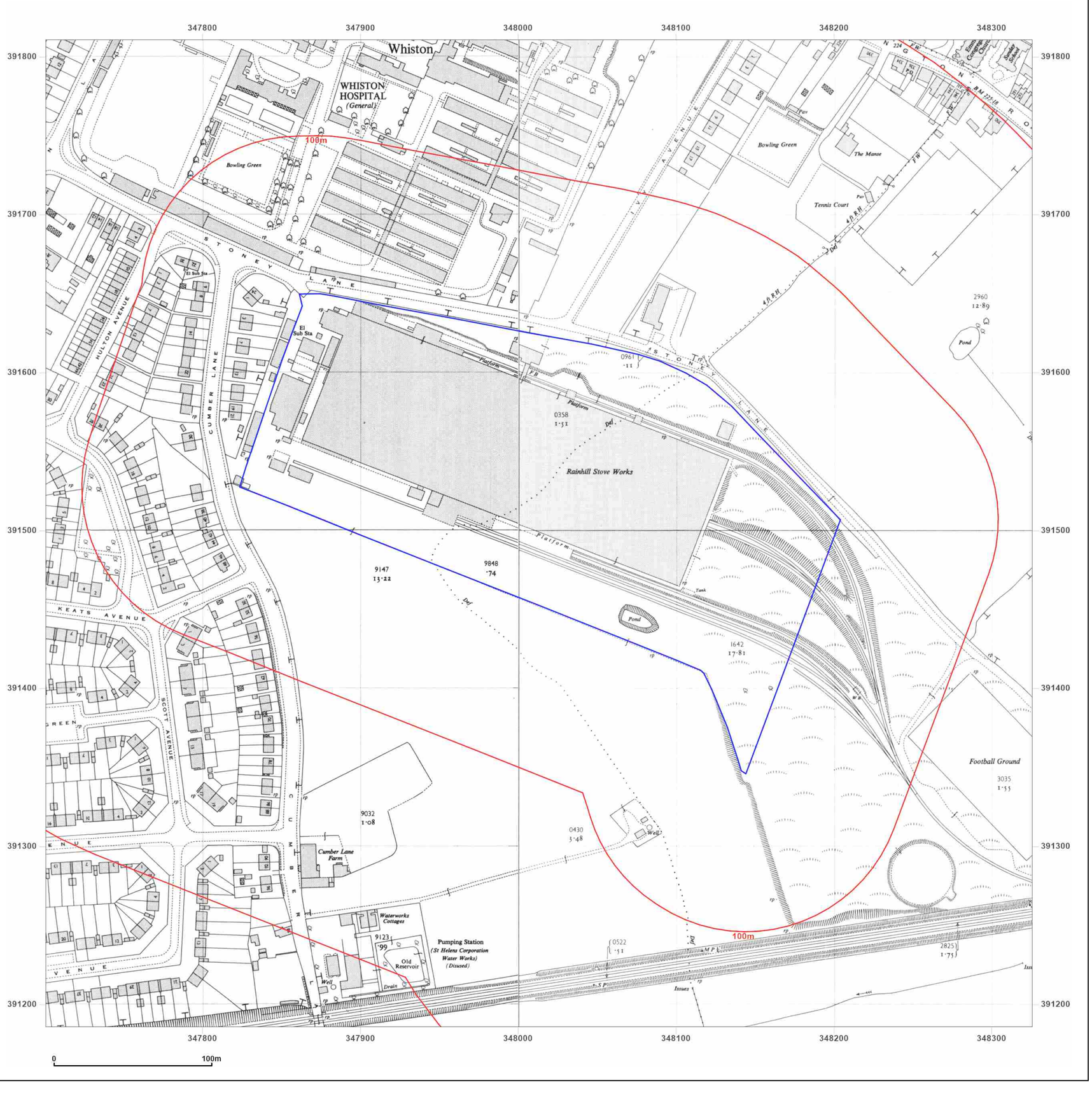

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Site Details:

GLEN DIMPLEX HOME APPLIANCES, STONEY LANE, WHISTON, KNOWSLEY, L35 2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_2500
Grid Ref: 348013, 391498

Map Name: National Grid

Map date: **1956**

Scale: 1:2,500

Printed at: 1:2,500

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Edition 1956
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Levelled 1946

Surveyed 1954
Revised 1954
Edition 1956
Copyright N/A
Levelled 1946

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Site Details:

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_2500
Grid Ref: 348013, 391498

Map Name: National Grid

Map date: **1967**

Scale: 1:2,500

Printed at: 1:2,500

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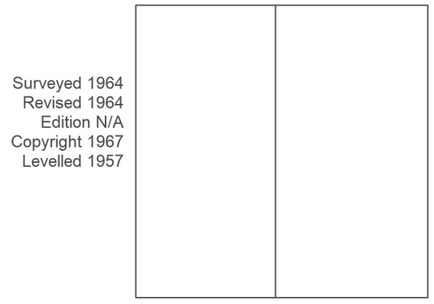
Surveyed 1964
Revised 1964
Edition N/A
Copyright 1967
Levelled 1957



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Site Details:

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_2
Grid Ref: 347763, 391748

Map Name: National Grid

Map date: **1954-1955**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1955 Revised 1955 Edition N/A Copyright N/A Levelled 1946	Surveyed 1954 Revised 1954 Edition N/A Copyright N/A Levelled 1946
Surveyed 1955 Revised 1955 Edition N/A Copyright N/A Levelled 1946	Surveyed 1954 Revised 1954 Edition N/A Copyright N/A Levelled 1946

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Site Details:

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_2
Grid Ref: 347763, 391748

Map Name: National Grid
Map date: **1955-1956**
Scale: 1:1,250
Printed at: 1:2,000

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

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_2
Grid Ref: 347763, 391748

Map Name: National Grid

Map date: **1972-1974**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1955 Revised 1971 Edition N/A Copyright 1972 Levelled 1957	Surveyed 1954 Revised 1973 Edition N/A Copyright 1973 Levelled 1957
Surveyed 1955 Revised 1972 Edition N/A Copyright 1973 Levelled 1957	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A

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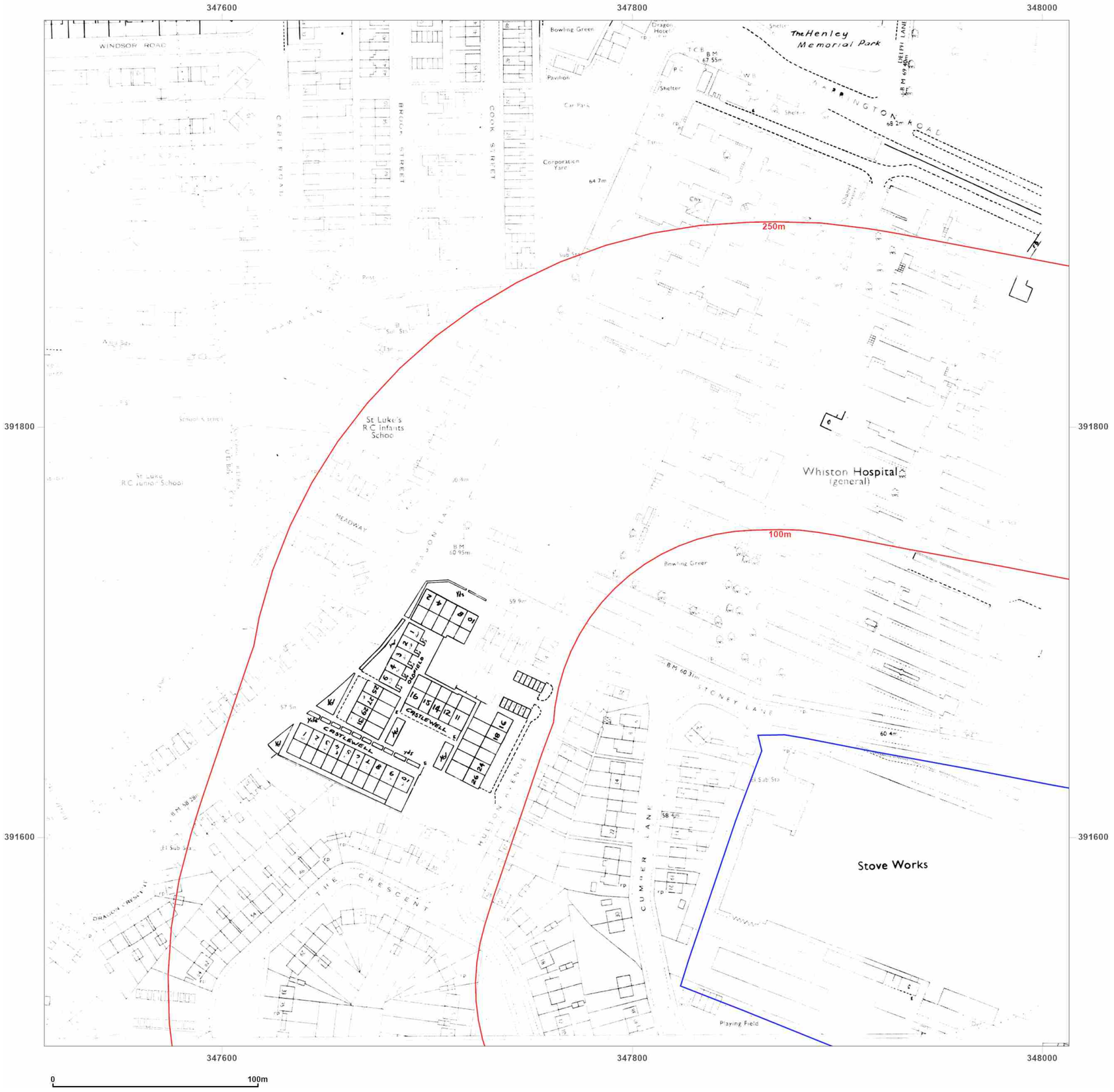

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Site Details:

GLEN DIMPLEX HOME APPLIANCES, STONEY LANE, WHISTON, KNOWSLEY, L35 2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_2
Grid Ref: 347763, 391748

Map Name: National Grid
Map date: **1975-1977**
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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Levelled N/A

Surveyed 1954
Revised 1976
Edition N/A
Copyright 1977
Levelled 1957

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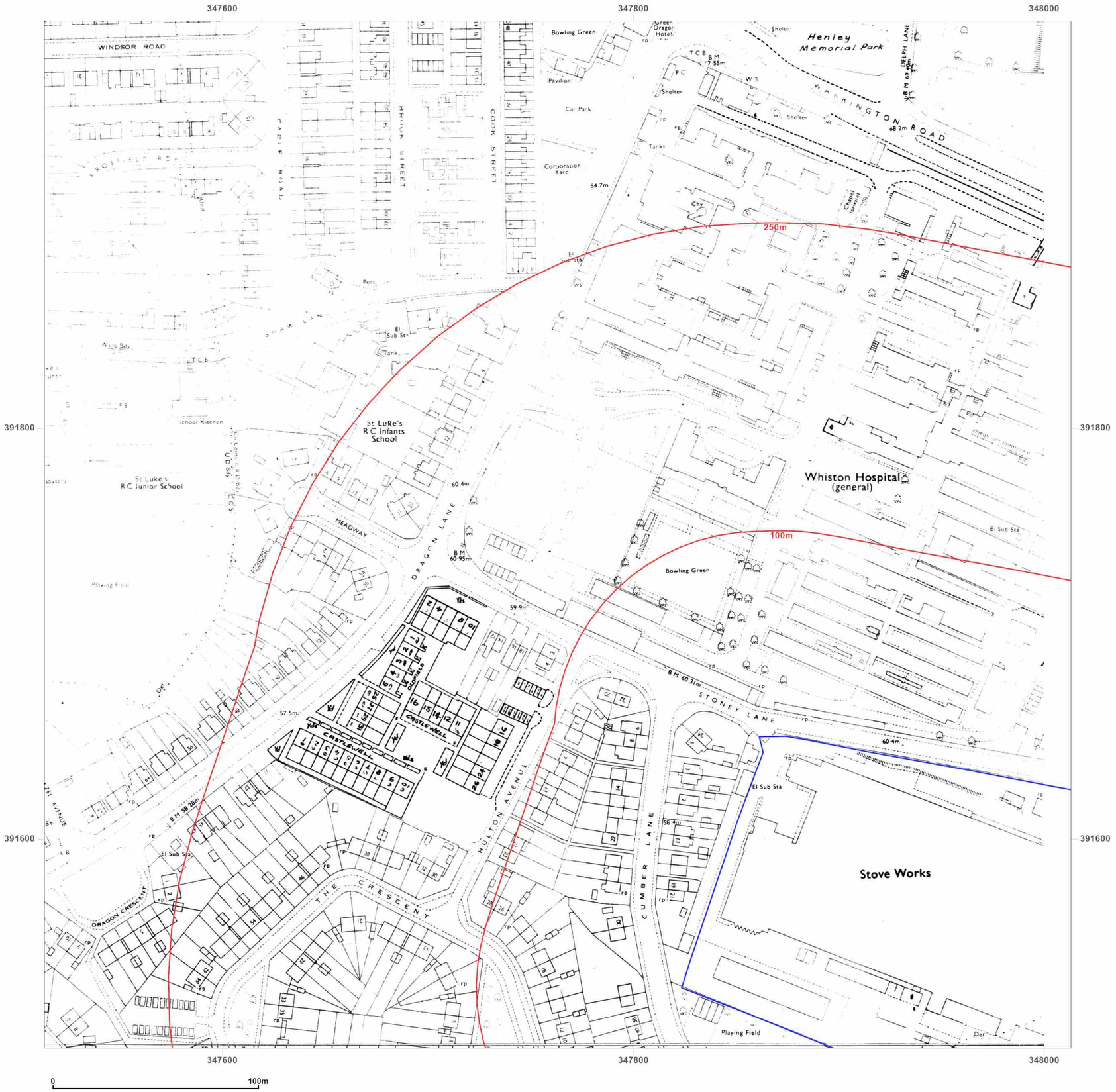

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Site Details:

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_2
Grid Ref: 347763, 391748

Map Name: National Grid

Map date: **1974-1979**

Scale: 1:1,250

Printed at: 1:2,000

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

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1979
Levelled 1957

Surveyed N/A
Revised N/A
Edition N/A
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Site Details:

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APPLIANCES, STONEY LANE,
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2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_2
Grid Ref: 347763, 391748

Map Name: National Grid
Map date: **1980-1985**
Scale: 1:1,250
Printed at: 1:2,000

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Surveyed N/A Revised N/A Edition N/A Copyright 1980 Levelled 1957	Surveyed N/A Revised N/A Edition N/A Copyright 1984 Levelled 1957
Surveyed 1957 Revised 1985 Edition N/A Copyright 1985 Levelled 1957	Surveyed 1957 Revised 1984 Edition N/A Copyright 1984 Levelled 1957

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Site Details:

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_2
Grid Ref: 347763, 391748

Map Name: National Grid

Map date: **1990-1993**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A	Surveyed 1993 Revised 1993 Edition N/A Copyright N/A Levelled N/A

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Site Details:

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APPLIANCES, STONEY LANE,
WHISTON, KNOWSLEY, L35
2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_2
Grid Ref: 347763, 391748

Map Name: National Grid
Map date: **1991-1994**
Scale: 1:1,250
Printed at: 1:2,000

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

Surveyed 1994
Revised 1994
Edition N/A
Copyright 1994
Levelled N/A

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Site Details:

GLEN DIMPLEX HOME
APPLIANCES, STONEY LANE,
WHISTON, KNOWSLEY, L35
2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_2
Grid Ref: 347763, 391748

Map Name: National Grid
Map date: **1993-1994**
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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Levelled N/A

Surveyed 1994
Revised 1994
Edition N/A
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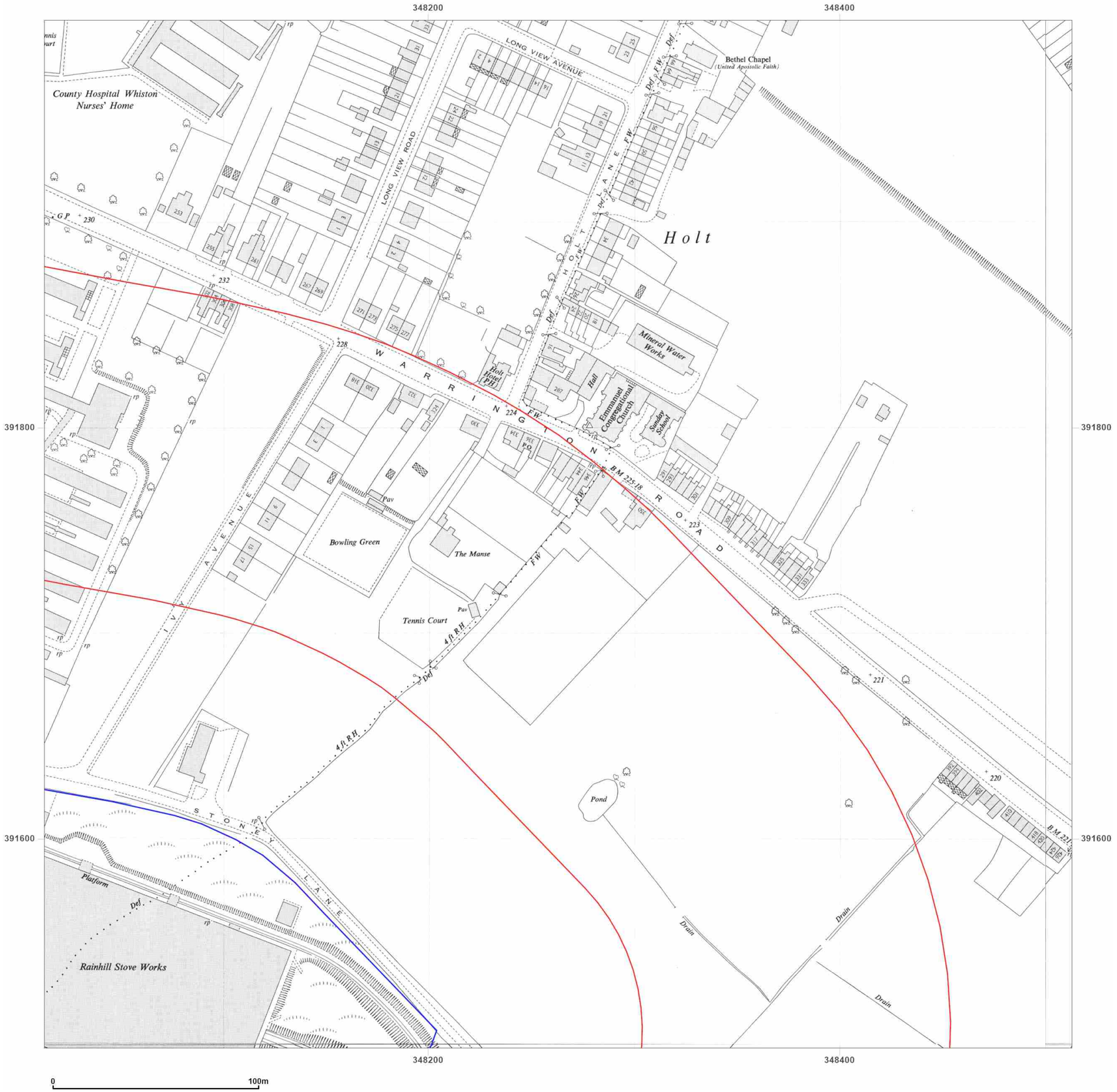

Groundsure INSIGHTS

Site Details:

GLEN DIMPLEX HOME
APPLIANCES, STONEY LANE,
WHISTON, KNOWSLEY, L35
2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_2_2
Grid Ref: 348263, 391748

Map Name: National Grid
Map date: **1954**
Scale: 1:1,250
Printed at: 1:2,000

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Surveyed 1954
Revised 1954
Edition N/A
Copyright N/A
Levelled 1946

Surveyed 1954
Revised 1954
Edition N/A
Copyright N/A
Levelled 1946

Surveyed 1954
Revised 1954
Edition N/A
Copyright N/A
Levelled 1946

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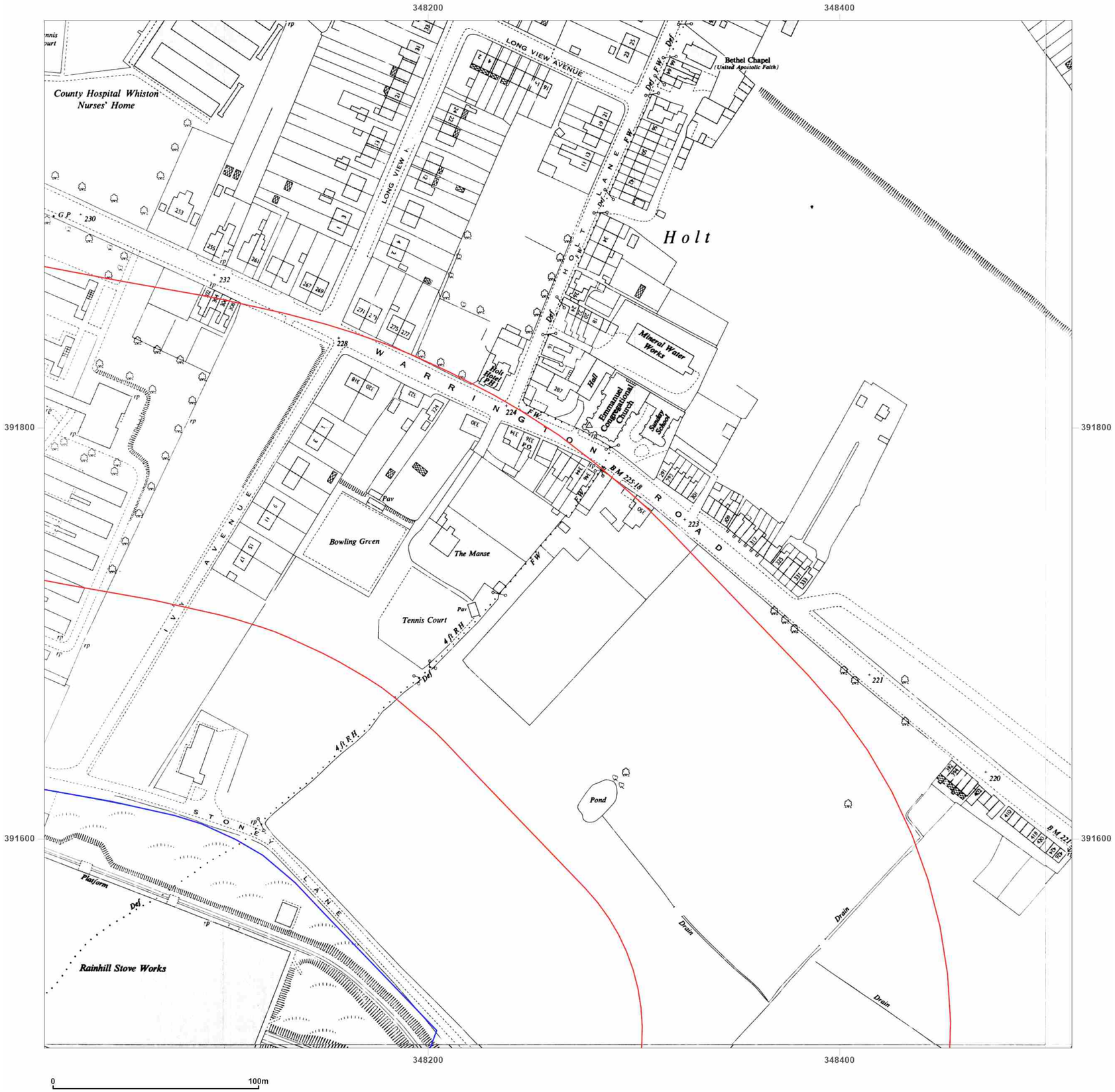

Groundsure INSIGHTS

Site Details:

GLEN DIMPLEX HOME APPLIANCES, STONEY LANE, WHISTON, KNOWSLEY, L35 2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_2_2
Grid Ref: 348263, 391748

Map Name: National Grid
Map date: **1955**
Scale: 1:1,250
Printed at: 1:2,000

N W E S

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

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

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

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Groundsure INSIGHTS

Site Details:

GLEN DIMPLEX HOME
APPLIANCES, STONEY LANE,
WHISTON, KNOWSLEY, L35
2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_2_2
Grid Ref: 348263, 391748

Map Name: National Grid

Map date: **1963-1964**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1954
Revised 1963
Edition N/A
Copyright 1964
Levelled 1957

Surveyed 1954
Revised 1962
Edition N/A
Copyright 1963
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Groundsure INSIGHTS

Site Details:

GLEN DIMPLEX HOME
APPLIANCES, STONEY LANE,
WHISTON, KNOWSLEY, L35
2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_2_2
Grid Ref: 348263, 391748

Map Name: National Grid

Map date: **1972-1974**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1954 Revised 1973 Edition N/A Copyright 1973 Levelled 1957	Surveyed 1954 Revised 1972 Edition N/A Copyright 1972 Levelled 1957
Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1974 Levelled N/A

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Groundsure INSIGHTS

Site Details:

GLEN DIMPLEX HOME
APPLIANCES, STONEY LANE,
WHISTON, KNOWSLEY, L35
2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_2_2
Grid Ref: 348263, 391748

Map Name: National Grid
Map date: **1984**
Scale: 1:1,250
Printed at: 1:2,000

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Edition N/A
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Revised 1984
Edition N/A
Copyright 1984
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Groundsure INSIGHTS

Site Details:

GLEN DIMPLEX HOME
APPLIANCES, STONEY LANE,
WHISTON, KNOWSLEY, L35
2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_2_2
Grid Ref: 348263, 391748

Map Name: National Grid

Map date: **1993**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1993 Revised 1993 Edition N/A Copyright N/A Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A
Surveyed 1993 Revised 1993 Edition N/A Copyright N/A Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A

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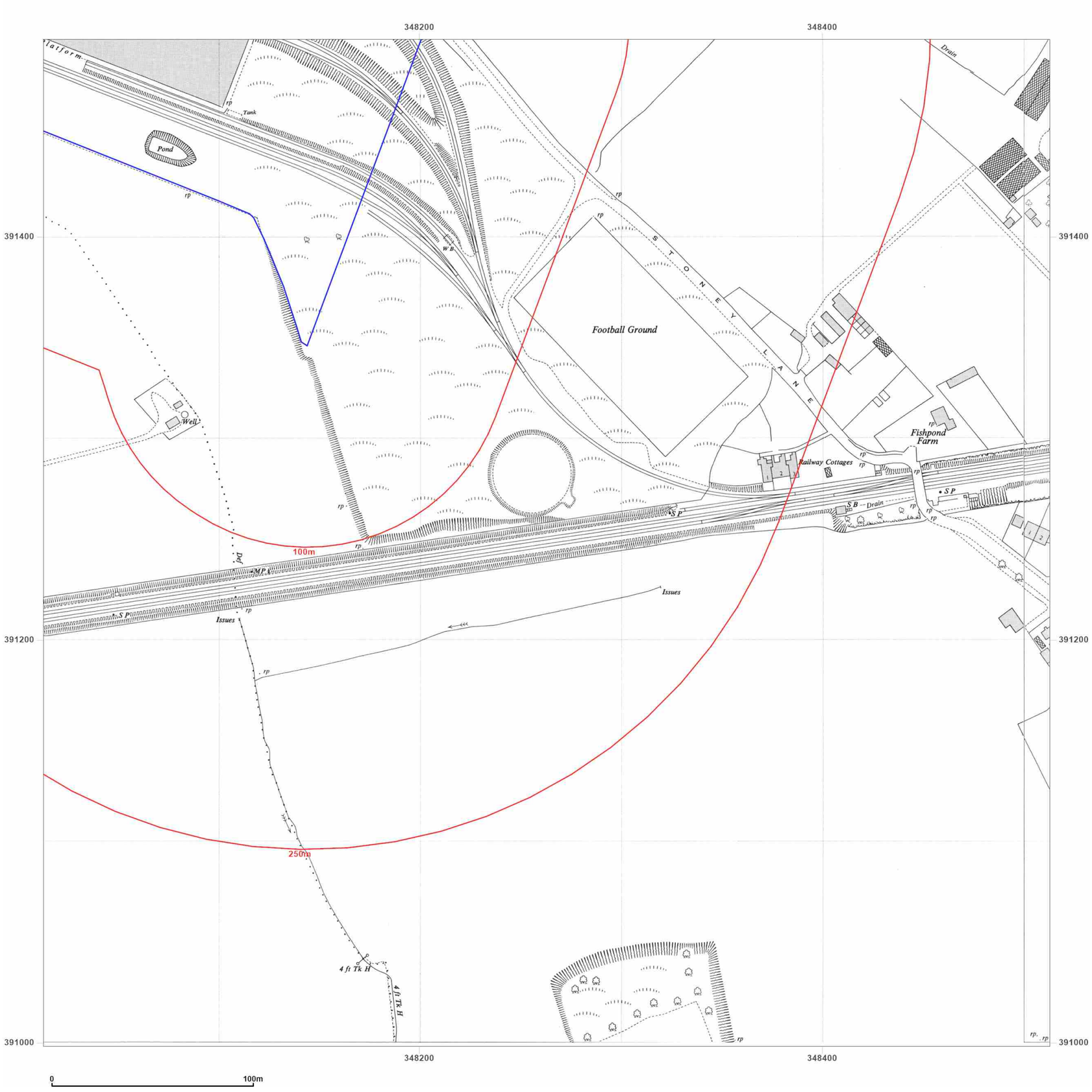

Groundsure INSIGHTS

Site Details:

GLEN DIMPLEX HOME APPLIANCES, STONEY LANE, WHISTON, KNOWSLEY, L35 2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_2_1
Grid Ref: 348263, 391248

Map Name: National Grid
Map date: **1954**
Scale: 1:1,250
Printed at: 1:2,000

N
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Surveyed 1954
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Copyright N/A
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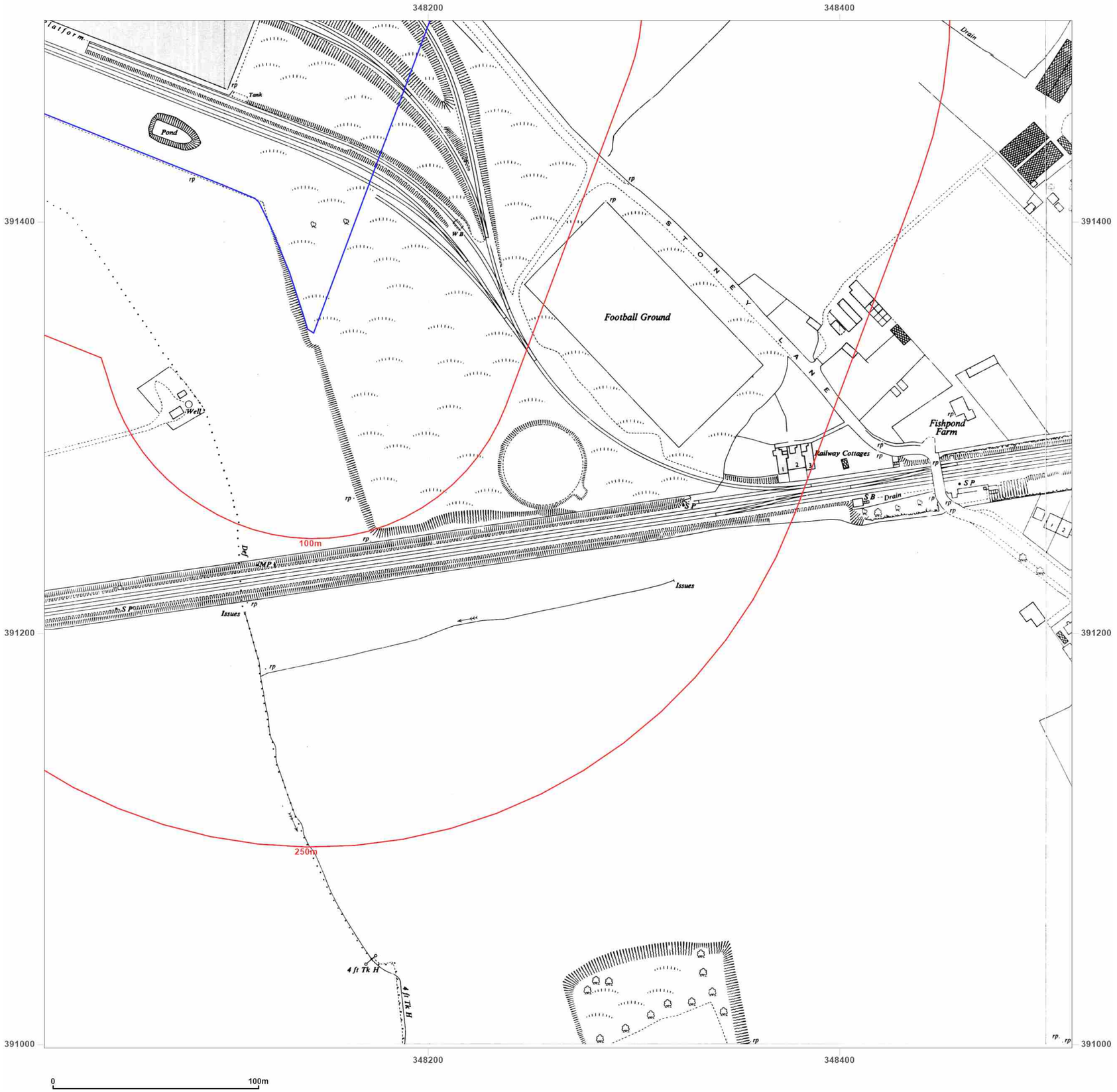

Groundsure INSIGHTS

Site Details:

GLEN DIMPLEX HOME APPLIANCES, STONEY LANE, WHISTON, KNOWSLEY, L35 2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_2_1
Grid Ref: 348263, 391248

Map Name: National Grid
Map date: **1955**
Scale: 1:1,250
Printed at: 1:2,000

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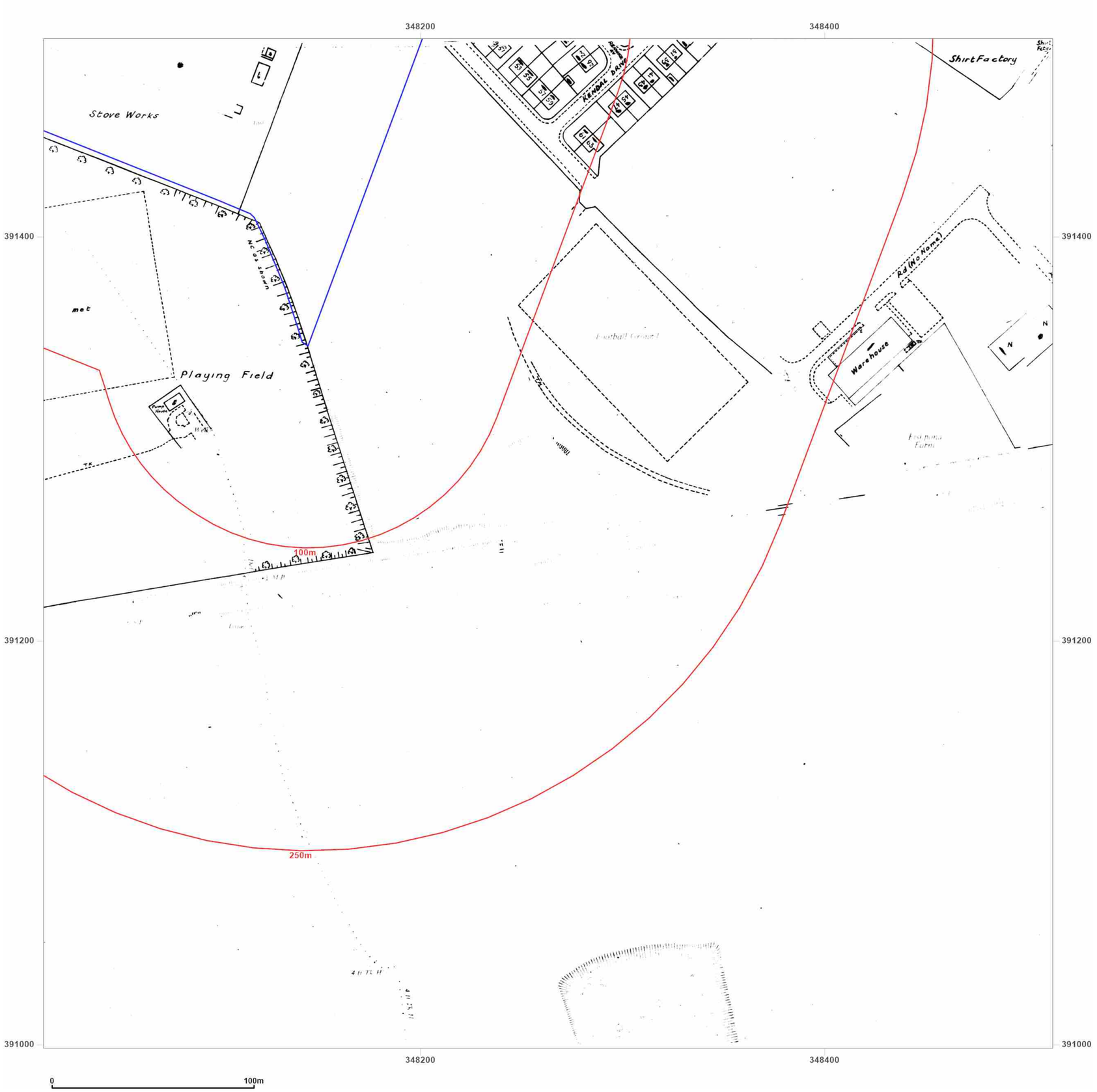

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Site Details:

GLEN DIMPLEX HOME APPLIANCES, STONEY LANE, WHISTON, KNOWSLEY, L35 2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_2_1
Grid Ref: 348263, 391248

Map Name: National Grid
Map date: **1974**
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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Revised N/A
Edition N/A
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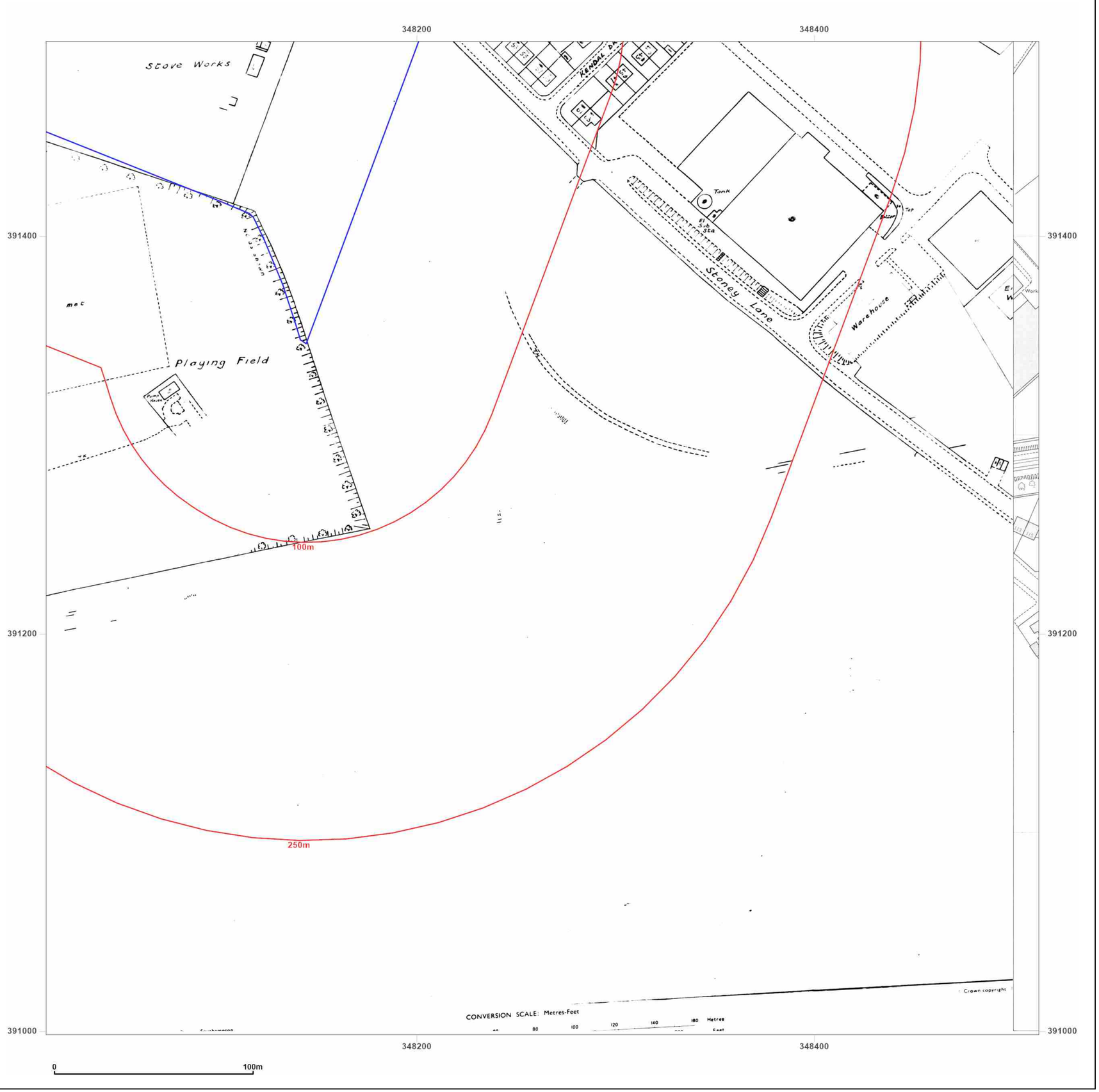

Groundsure INSIGHTS

Site Details:

GLEN DIMPLEX HOME
APPLIANCES, STONEY LANE,
WHISTON, KNOWSLEY, L35
2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_2_1
Grid Ref: 348263, 391248

Map Name: National Grid
Map date: **1975-1977**
Scale: 1:1,250
Printed at: 1:2,000

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

Surveyed 1954
Revised 1976
Edition N/A
Copyright 1977
Levelled 1957

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Site Details:

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_2_1
Grid Ref: 348263, 391248

Map Name: National Grid

Map date: **1977**

Scale: 1:1,250

Printed at: 1:2,000

N
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Surveyed 1954
Revised 1976
Edition N/A
Copyright 1977
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APPLIANCES, STONEY LANE,
WHISTON, KNOWSLEY, L35
2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_2_1
Grid Ref: 348263, 391248

Map Name: National Grid
Map date: **1984**
Scale: 1:1,250
Printed at: 1:2,000

N
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Surveyed 1957
Revised 1984
Edition N/A
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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_2_1
Grid Ref: 348263, 391248

Map Name: National Grid
Map date: **1993**
Scale: 1:1,250
Printed at: 1:2,000

N
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Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

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Revised N/A
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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_1
Grid Ref: 347763, 391248

Map Name: National Grid

Map date: **1954-1955**

Scale: 1:1,250

Printed at: 1:2,000

N
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Revised 1955
Edition N/A
Copyright N/A
Levelled 1946

Surveyed 1954
Revised 1954
Edition N/A
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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_1
Grid Ref: 347763, 391248

Map Name: National Grid

Map date: **1955-1956**

Scale: 1:1,250

Printed at: 1:2,000

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Revised N/A
Edition N/A
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Revised N/A
Edition N/A
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APPLIANCES, STONEY LANE,
WHISTON, KNOWSLEY, L35
2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_1
Grid Ref: 347763, 391248

Map Name: National Grid
Map date: **1973-1976**
Scale: 1:1,250
Printed at: 1:2,000

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Surveyed 1955
Revised 1972
Edition N/A
Copyright 1973
Levelled 1957

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

Surveyed 1975
Revised 1975
Edition N/A
Copyright 1976
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WHISTON, KNOWSLEY, L35
2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_1
Grid Ref: 347763, 391248

Map Name: National Grid

Map date: **1975-1979**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
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Surveyed N/A
Revised N/A
Edition N/A
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Levelled 1957

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Revised N/A
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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_1
Grid Ref: 347763, 391248

Map Name: National Grid

Map date: **1984-1985**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1957	Surveyed 1957
Revised 1985	Revised 1984
Edition N/A	Edition N/A
Copyright 1985	Copyright 1984
Levelled 1957	Levelled 1957

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_1
Grid Ref: 347763, 391248

Map Name: National Grid

Map date: **1993**

Scale: 1:1,250

Printed at: 1:2,000

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Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed 1993
Revised 1993
Edition N/A
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Groundsure INSIGHTS

Site Details:

GLEN DIMPLEX HOME
APPLIANCES, STONEY LANE,
WHISTON, KNOWSLEY, L35
2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_1
Grid Ref: 347763, 391248

Map Name: National Grid

Map date: **1994**

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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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_1
Grid Ref: 347763, 391248

Map Name: National Grid

Map date: **1994**

Scale: 1:1,250

Printed at: 1:2,000

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Site Details:

GLEN DIMPLEX HOME APPLIANCES, STONEY LANE, WHISTON, KNOWSLEY, L35 2XW

Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_1
Grid Ref: 347763, 391248

Map Name: National Grid

Map date: **1994**

Scale: 1:1,250

Printed at: 1:2,000

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_1
Grid Ref: 347763, 391248

Map Name: National Grid

Map date: **1994**

Scale: 1:1,250

Printed at: 1:2,000

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Site Details:

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_1
Grid Ref: 347763, 391248

Map Name: National Grid

Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

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Client Ref: 25TAY078 - BG5993
Report Ref: GS-8WU-RI2-FQW-LI4_1250_1_1
Grid Ref: 347763, 391248

Map Name: National Grid

Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

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Revised N/A
Edition N/A
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Revised N/A
Edition N/A
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APPENDIX D

Historical Plans

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N.B. NEW MAINS TO BE TAKEN FROM EXISTING 6" MAINS IN DRAGON LANE ABOUT 1900 FEET WEST OF NEW STOP-COCKS AT ⊗

WHISTON INFIRMARY

CYMBER LANE

DRAGON LANE

BRICK TRANSFORMER HOUSE 6'-6" x 6'-6" SQ INSIDE

EXISTING STREAMS TO BE DIVERTED

SHED No 1 (6 BAYS) FALL 1 in 300

SHED No 2 (6 BAYS) FALL 1 in 300

FLOOR LEVEL 49.00

FLOOR LEVEL 45.00

RAILWAY SIDING FALL 1 in 200

9 STRAND B. W. FENCE

838'-6"

371'-4"

EXISTING 21 STRAND B. W. FENCE

B.W.F.

250'-6"

12" PIPE DRAIN

HEDGE & POST FENCE

9" LAND DRAIN

TUNNEL CREEK FALL 1 in 144

STONEY LANE

HEDGE

RL 45·60

CONTRACTOR'S STORE FROM THIS POINT

TO RAINHILL Stn.

TO LIVERPOOL

L. & N. W. RY. MAIN LINE LIVERPOOL TO MANCHESTER

SIGNAL BOX

DESCRIPTION

GAS MAINS MARKED THUS ——·——

WATER MAINS " " ——··——

ELECTRIC MAINS " " ··········

SEWER (EXISTING) " " — — — —

NEW DRAINS " " ———

SURFACE WATER DRAINS " " ═══

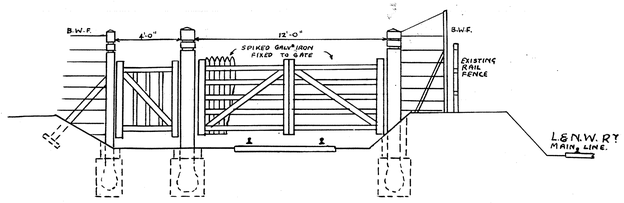
LAND DRAINS " " — — —

SLIDING DOORS " " ┊┊┊

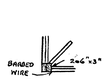
SKYLIGHTS " " ┊┊┊

LEVELS " " ┊┊┊

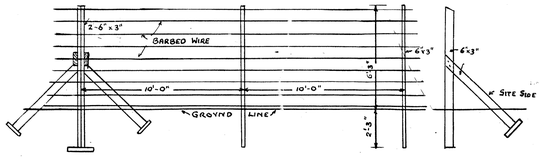
N.B. LEVELS TAKEN AS BEING ABOVE DATUM WHICH IS 40'-0" BELOW THE SIGNAL BOX GROUND LEVEL AT 'A'.



DETAIL OF GATES OVER RAILWAY



PLAN OF ANGLE POSTS.



STRAINING POST

DETAILS OF FENCING SCALE 1/4" = 1 FOOT.

DETAIL OF EVERY 5TH POST.

WHISTON RAINHILL: NR. LIVERPOOL.

MVNITION STORE SITE PLAN.

SCALE OF 66 FEET TO AN INCH.

COPIED FROM DR. No 1
H.M. OFFICE OF WORKS.
STOREYS GATE
WESTMINSTER S.W.

STOVES LIMITED RAINHILL.
PLAN OF WORKS

TRACED BY: W.R.M.
CHECKED BY:

DRG. No. B	DO NOT SCALE PRINT	IF IN DOUBT ASK

WHISTON

HOSPITAL.

STONEY LANE.

EXISTING SEWER. M.H.

I.C. & D.T.

I.C. 6" I.C.

BRANCH DRAINS. 4" LAVATORIES

I.C. 6" I.C.

50'-0"

50'-0"

BUILDING LINE

GAS METER HOUSE

4"

EXISTING 9" S.W. DRAIN.

6" 6" 6" 4" 4" 4" 4" 4" 4"

6" 6" 6" 6" 6" 6" 6" 6" 6"

APPROX LINE OF GAS MAIN

6" 6"

EXISTING 9" S.W. DRAIN.

6" 6"

EXISTING BUILDING

6" 6" 6" 6" 6" 6"

4" 4" 4" 4" 4" 4"

EXISTING 9" DRAIN.

RAILWAY SIDING.

N

CUMBER LANE.

STOVES LTD. RAINHILL NR. LIVERPOOL LANCS.

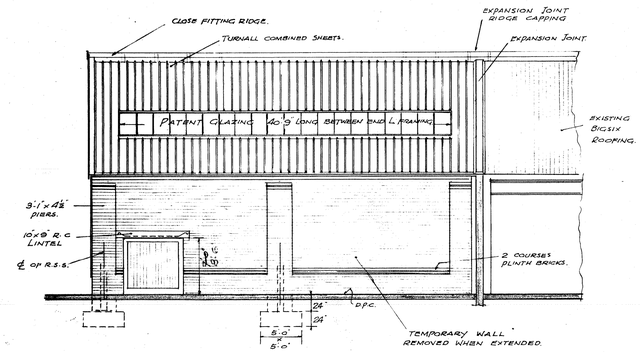
BLOCK PLAN. (SHOWING DRAINS.)

Scale 41·66 feet to one inch.

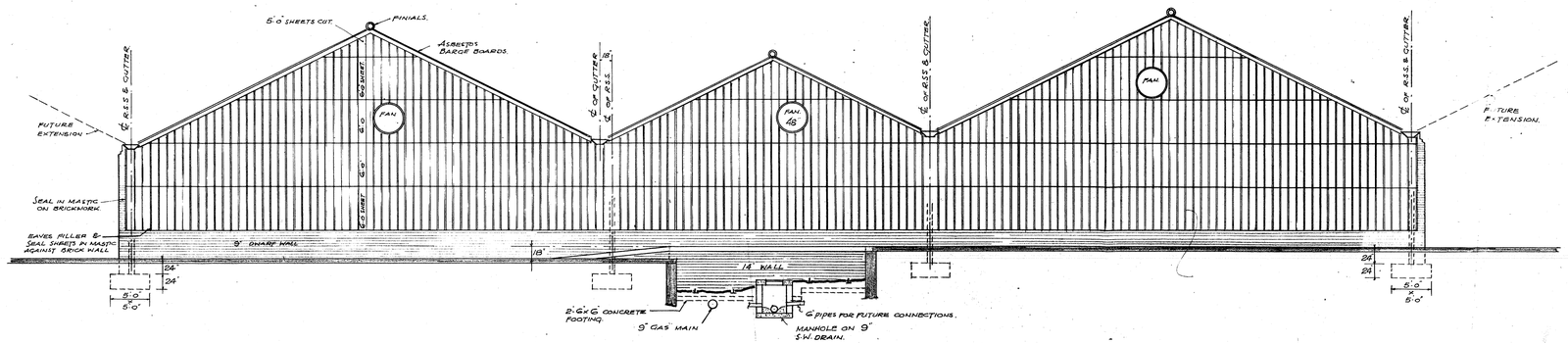
COPIED FROM DRG. No. 48-50.

ISSUE	MODIFICATION	DATE

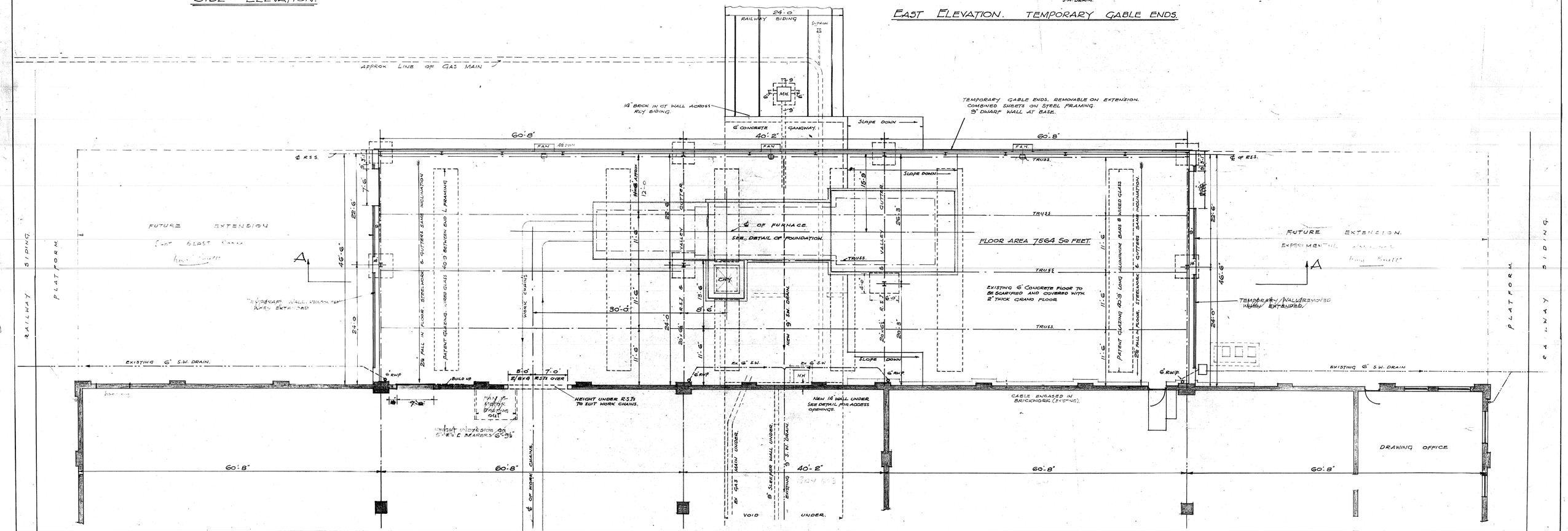
ISSUED TO DEPT. 1 2 3 4 5 6 7 8	REF. OTHER DRGS:-	STOVES LIMITED, RAINHILL.	
	TOLERANCE UNLESS OTHERWISE STATED	SCALE 1/500	~~MODEL NOS.~~ PLAN OF WORKS
	MATERIAL / FINISH	SHEET OF	PART:- SHOWING DRAINS.
	DRAWN CHECKED / TRACED APP'VED	DATE PRINTED	PART No. / DRG. No. WF



SIDE ELEVATION.



EAST ELEVATION. TEMPORARY GABLE ENDS.



DRAWING Nº 50-65.

MESSRS STOVES LTD. RAINHILL NEAR LIVERPOOL. EXTENSION TO ENAMELLING DEPT. PLAN & ELEVATIONS.

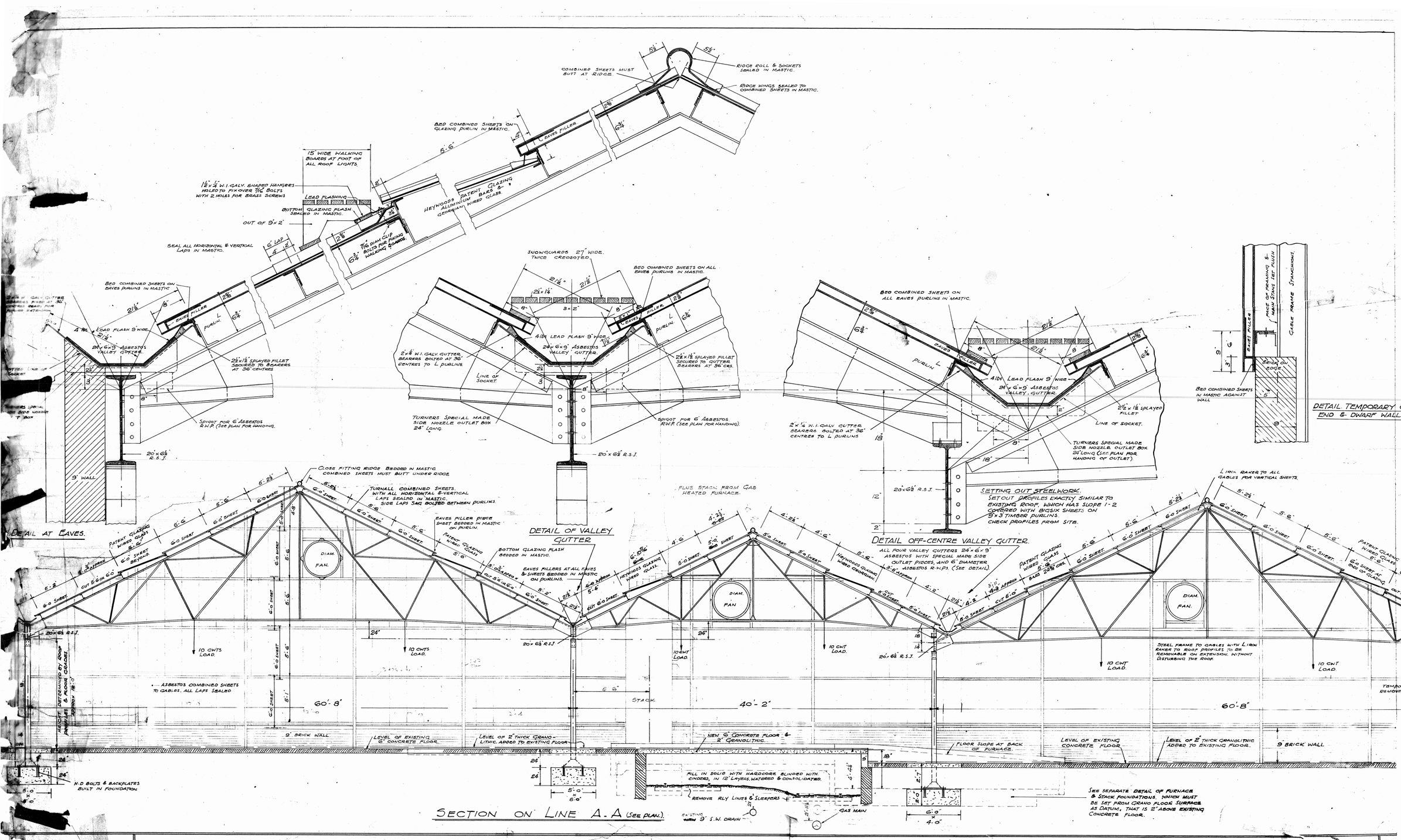
Scale: one Inch equals 8 feet.

CONTINUOUS FURNACE ROOM

WP 25

A. MAYNARD. L.R.I.B.A.
CHARTERED ARCHITECT.
169. WOODSMOOR LANE.
DAVENPORT STOCKPORT

1-7-49.



DRAWING No

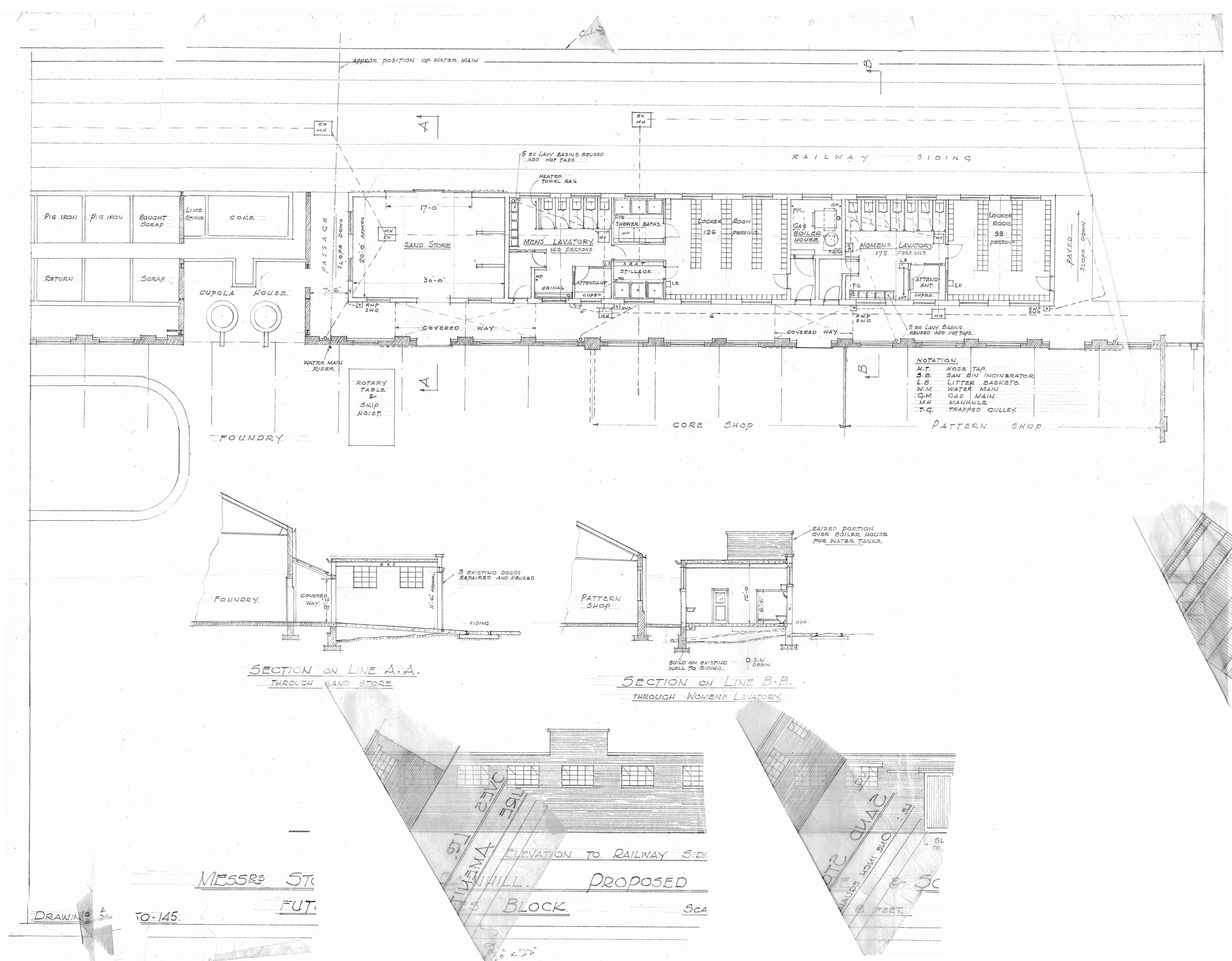
Messrs Stoves Ltd. Rainhill near Liverpool. Extension to Enamelling Dept. Section & Details.

Scales: ¼" and 1½" Inches equal one foot.

WP 11

MESSRS. STOVES LTD. RAINHILL. LIVERPOOL. RECONSTRUCTION OF [redacted]

DRAWING No 50-102. PLAN. Scale: One Inch equals 8 feet. Assembly



APPROX POSITION OF WATER MAIN
RAILWAY SIDING
5 EX LAVY BASINS REUSED ADD HOT TAPS
HEATED TOWEL RAIL
PIG IRON
PIG IRON
BOUGHT SCRAP
LIME STONE
COKE
RETURN
SCRAP
CUPOLA HOUSE
PASSAGE
SLOPE DOWN
20'-0" APPROX
17'-0"
SAND STORE
30'-0"
7'-6"
MENS LAVATORY
140 PERSONS
SHOWER BATHS
URINAL
ATTENDANT
CUPBD
SEAT
STILLAGE
LOCKER ROOM
126 PERSONS
GAS BOILER HOUSE
WOMENS LAVATORY
175 PERSONS
ATTENDANT
CUPBD
LOCKER ROOM
98 PERSONS
PAVED
SLOPE DOWN
COVERED WAY
COVERED WAY
5 EX LAVY BASINS REUSED ADD HOT TAPS
WATER MAIN RISER
ROTARY TABLE & SKIP HOIST
FOUNDRY
CORE SHOP
PATTERN SHOP
NOTATION.
H.T. HOSE TAP.
S.B. SAN BIN INCINERATOR
L.B. LITTER BASKETS.
W.M. WATER MAIN
G.M. GAS MAIN.
MH MANHOLE
T.G. TRAPPED GULLEY.
FOUNDRY.
COVERED WAY
3 EXISTING DOORS REPAIRED AND REUSED
11'-6" APPROX
SIDING
SECTION ON LINE A.A.
THROUGH SAND STORE.
PATTERN SHOP
RAISED PORTION OVER BOILER HOUSE FOR WATER TANKS.
12'-0"
6'-6"
DPC
BUILD ON EXISTING WALL TO SIDING.
S.W DRAIN
SECTION ON LINE B-B.
THROUGH WOMENS LAVATORY.
ELEVATION TO RAILWAY SIDI
PROPOSED
BLOCK.
SCA
MESSRS ST
FUT
DRAWING
50-145.

DO NOT SCALE PRINT IF IN DOUBT ASK

Stoney Lane

Boundary Line

Building Line

6" RISE

6" RISE

6" RISE

3" RISE

4" RISE

2" RISE & BOOSTAR

BOOSTAR

J	INFRA RED OVEN.	3200 FT/HR	EACH	2 OFF
I	BALLARD.	1200 FT/HR	—	1 OFF
H	BOX FURNACE.	6000 FT/HR	EACH	2 OFF
G	CORE OVEN.	1200 FT/HR	—	1 OFF
F	DRAVO HEATER	4000 FT/HR	—	1 OFF
E	DEGREASING PLANT / PICKLING LI E.	1200 FT/HR		2 OFF
D	GROUND COAT DRYING FURNACE.	2000 FT/HR		1 OFF
C	LAYDOWN DRIER	1200 FT/HR	EACH	2 OFF

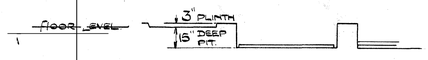
300 GAS FIRES
TOTAL 15000 FT/HR

A/	NOT SCA	1	1 1 CHECKED APPVED M.R. 13	A

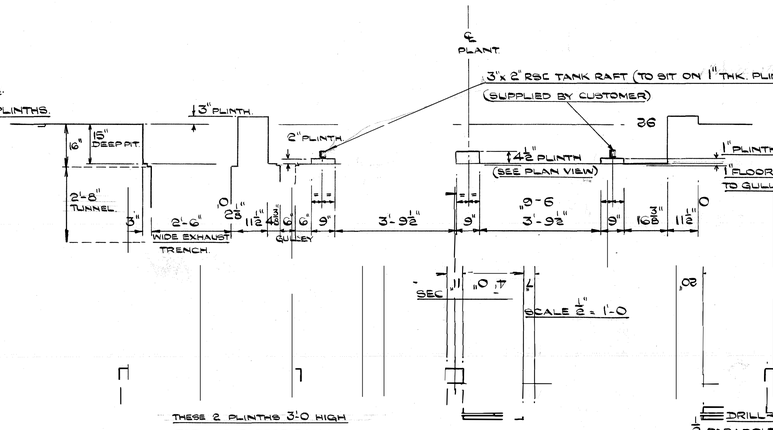
ISSUED TO

FOUNDATIONS 8" THICK REINFORCED CONCRETE BASE.
REINFORCING TO BE 2" FROM BOTTOM OF CONCRETE BASE.

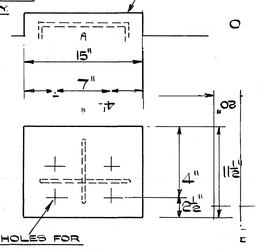
FLOOR - PLINTHS MUST BE ACID RESISTANT.
PLINTHS OF COMMON HEIGHT MUST BE LEVEL & IN LINE.
TRACK SUPPORT PLINTHS MUST BE CAST INTEGRAL WITH FLOOR OR KEYED TO SAME USING STEEL BAR REINFORCEMENT AS DETAIL HEREON.
IF A FLOOR COVERING IS USED IT SHOULD NOT BE TAKEN OVER THE TOP OF PLINTHS.
TOP OF GULLEY TO HAVE REBATE FOR SUITABLE COVER.
FINAL DIRECTION & TERMINATION OF DRAIN GULLEY TO SUIT CUSTOMERS EFFLUENT TREATMENT REQUIREMENTS.
INSIDE OF EXHAUST TRENCH TO HAVE ACID PROOF LINING.
DRAIN SUMP SHOULD BE PROVIDED AT DEEPEST PART OF TRENCH FOR OCCASIONAL REMOVAL OF CONDENSATE.



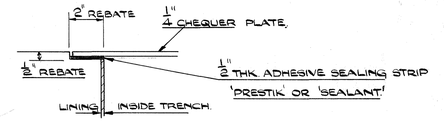
VIEW ON ARROW 'Y'



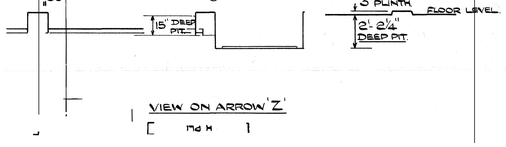
TO FACILITATE DRILLING THESE PLINTHS SHOULD BE CONSTRUCTED FROM THE FOLLOWING MIX:-
1- PART CEMENT : 1½ PARTS SAND : 3 PARTS GRANITE.
PEBBLE AGGREGATES SHOULD NOT BE USED.



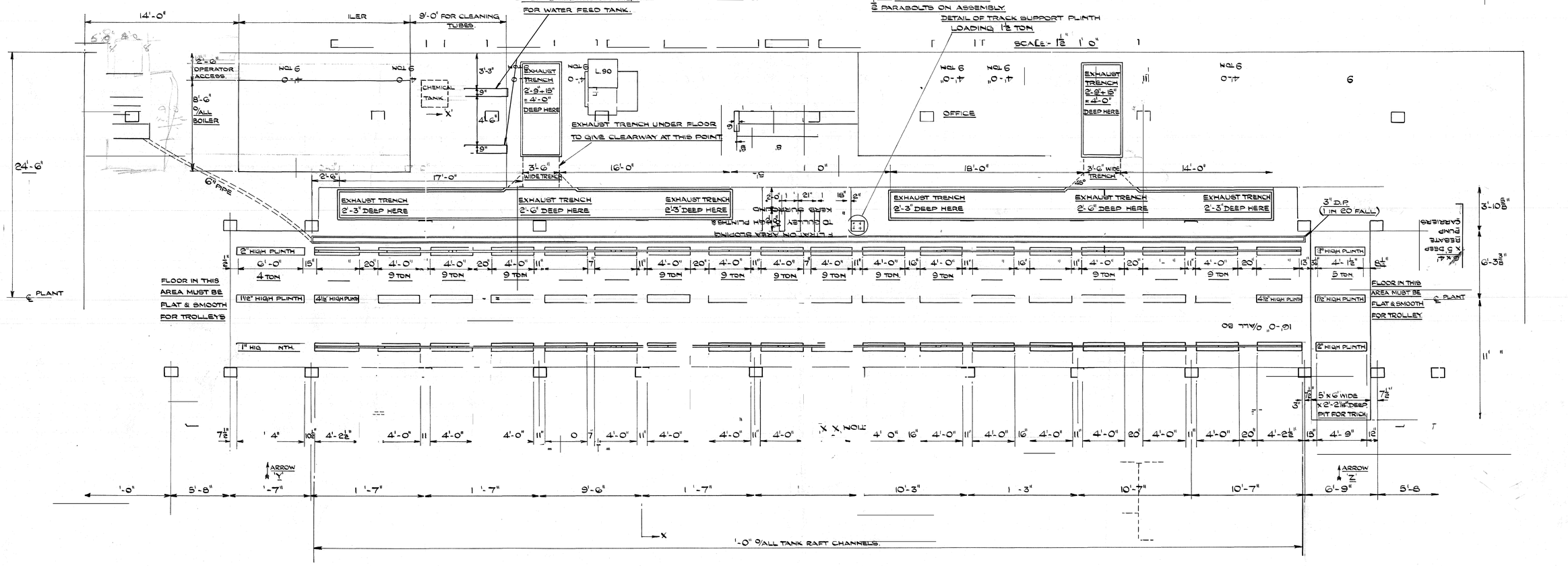
DETAIL OF TRACK SUPPLIED PLINTH
LOADING 1½ TON
SCALE - 1½" 1'0"



DETAIL OF EXHAUST TRENCH REBATE
SCALE 3" = 1'-0"



VIEW ON ARROW 'Z'



3"x 2" RSC TANK RAFT (SUPPLIED BY CUSTOMER)
BOLT TO TOP OF PLINTHS WHERE SHOWN THUS:- + BY LEAVING
2⅜" SQ. GROUTING HOLES FOR ½" GROUTING BOLTS (SUPPLIED BY CUSTOMER)
BOLTS SHOULD PROJECT 1½" ABOVE PLINTHS.

TRACED FROM W. CANNING & CO LTD. DRG. No. LK/7834/20

ISSUE	MODIFICATION	DATE

DEPT.

REF. OTHER DRGS:-				STOVES LIMITED, RAINHILL.
TOLERANCE UNLESS OTHERWISE STATED	FRAC: ± 1/64"	DEC: ± .006"	ANGLE: ± 1°	SCALE:- ¼ = 1'-0"
MATERIAL				MODEL NOS. MODEL 2 GLYDO RACK PLANT.
FINISH				SHEET OF
DRN				PART:- DETAILS OF PLANT FOUNDATIONS
TRACED	12-71			PRINTED
				PART No. W 809 DRG. No. A/7761

LE PR NT
F N DOUBT

LORRY TURNING CIRCLE

MALE/FEMALE TOILETS

PAINT DEPT

BAY 5

DE-RUST LINE

PRESS DEPT

PRESS DEPT

PRESS CANTEEN

TOOLSTORES

WAREHOUSE

BAY 4

TOOL STORAGE

PRESS DEPT

RM PS

Q C AUDIT

PACKING & RADYNE

BAY 3

SPOTWELD

MILL ROOM

GENERAL STORES

COOKER ASSY

BAY 2

ENAMEL

FLATWARE DIP

CHASSIS DIP

CHASSIS SPOTWELD

R&D D O

FACTORY CAR PARK

BAY 1

ENAMEL

ENAMEL PRE-TREATMENT

R&D LAB

R&D W/SHOP

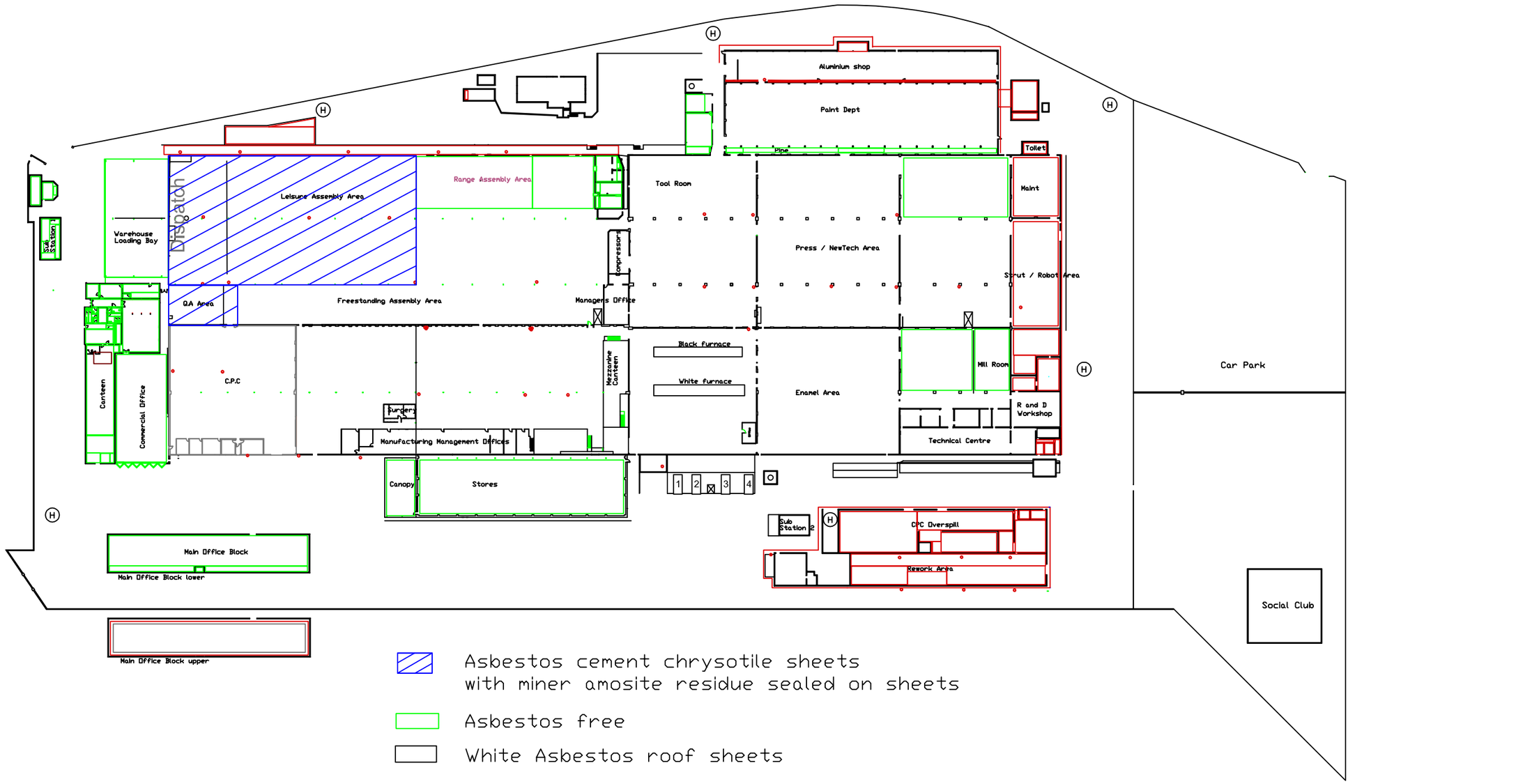
MAIN OFFICE BLOCK

WORK SHOPS

STOVES LIMITED

SCALE 1/500 FT

WP 2



Asbestos cement chrysotile sheets with miner amosite residue sealed on sheets

Asbestos free

White Asbestos roof sheets

Encapulated brown

White asbestos wall cladding

Asbestos down pipes

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FABRICATIONS		LIMITS UNLESS OTHERWISE STATED
DETAILS TOTAL TOLERANCE	ASSEMBLIES TOTAL TOLERANCE	x ±0,4
0 TO 500mm ± 1mm	0 TO 1000mm ± 2mm	x,0 ± 0,2
500 AND OVER ± 3mm	1000 AND OVER ± 3mm	x,00 ± 0,02
ANGLES ± 1°	ANGLES ± 1°	

DO NOT SCALE DRG - If In Doubt Ask

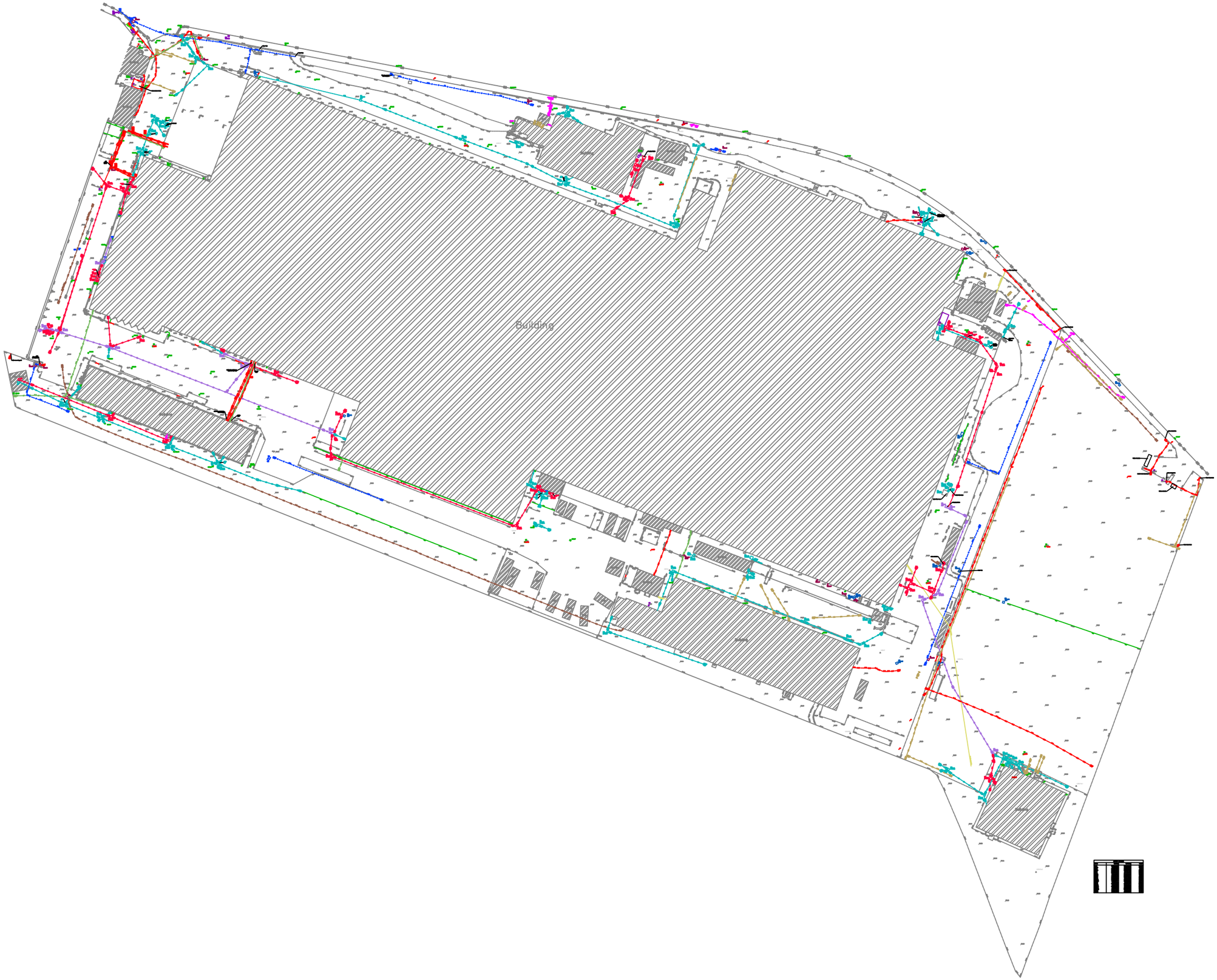
LET	MODIFICATION	BY	CHK	AUTH	DATE

DRN	K.S.H	Sept 03
DRN	A.S.B Modified	Jun 11
AUTH		
SCALE	1:600	

GDHA Stoney Lane Prescot L35 2XW.

Title: Prescot Site Asbestos Location

DRG No. A1


Building

APPENDIX E

British Geological Survey Bore Logs

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STRATA SURVEYS LTD.,
Telephone: 0606 834637 Fax: 0606 836657

Borehole Number : 1
Sheet 1 of 1.

347874
391488

Job Number : 6682 Location : Learning Disabilities Unit.
Client : Bucknall Austin.

Dia. & Drilling Methods
light cable percussion
150mm diameter.

Description of Strata	Red. Level	Legend	Thick -ness	Depth m	Sample Depths	Sample Types	N Value	Cu	ø	Water Level	Piezo -meter	Daily Prog.
Dark brown sandy TOPSOIL.			(0.10)	0.00 0.10								
MADE GROUND (clayey topsoil with rootlets and ash).			(0.50)	0.60	0.50 - 0.95	S 1	N 9					
MADE GROUND (Very soft brown sandy clay with occasional broken bricks).			(0.80)	1.40	1.10 - 1.50	U 1		9.0	0			
Firm light brown very sandy CLAY with some gravel and pockets of sand.			(0.70)	2.10	1.60	D 1				▽ after 2 hrs.		
Firm reddish-brown sandy CLAY with some fine to coarse gravel.			(1.40)		2.10 - 2.55	U 2		22	11	▽ tsl 5/8		
					2.80	D 2						
					3.10 - 3.55	U 3				▼ 1 5/8 no rise		1 & 2 5/8
Firm to stiff reddish-brown sandy CLAY with fine sand partings.			(0.20)	3.50 3.70	3.70	W 1				▼ 2 5/8 fast		
Medium dense brown fine to medium SAND with some fine gravel.			(0.80)		3.70 4.20 - 4.65	D 3 S 2	N 12					
Stiff reddish-brown sandy CLAY with some fine to medium gravel. Very silty to 4.65m. Becomes very stiff from 5.80m. (Boulder Clay).			(1.50)	4.50	5.10 - 5.55	U 4		54	15			
					5.80	D 4						5/8
Borehole Completed				6.00								

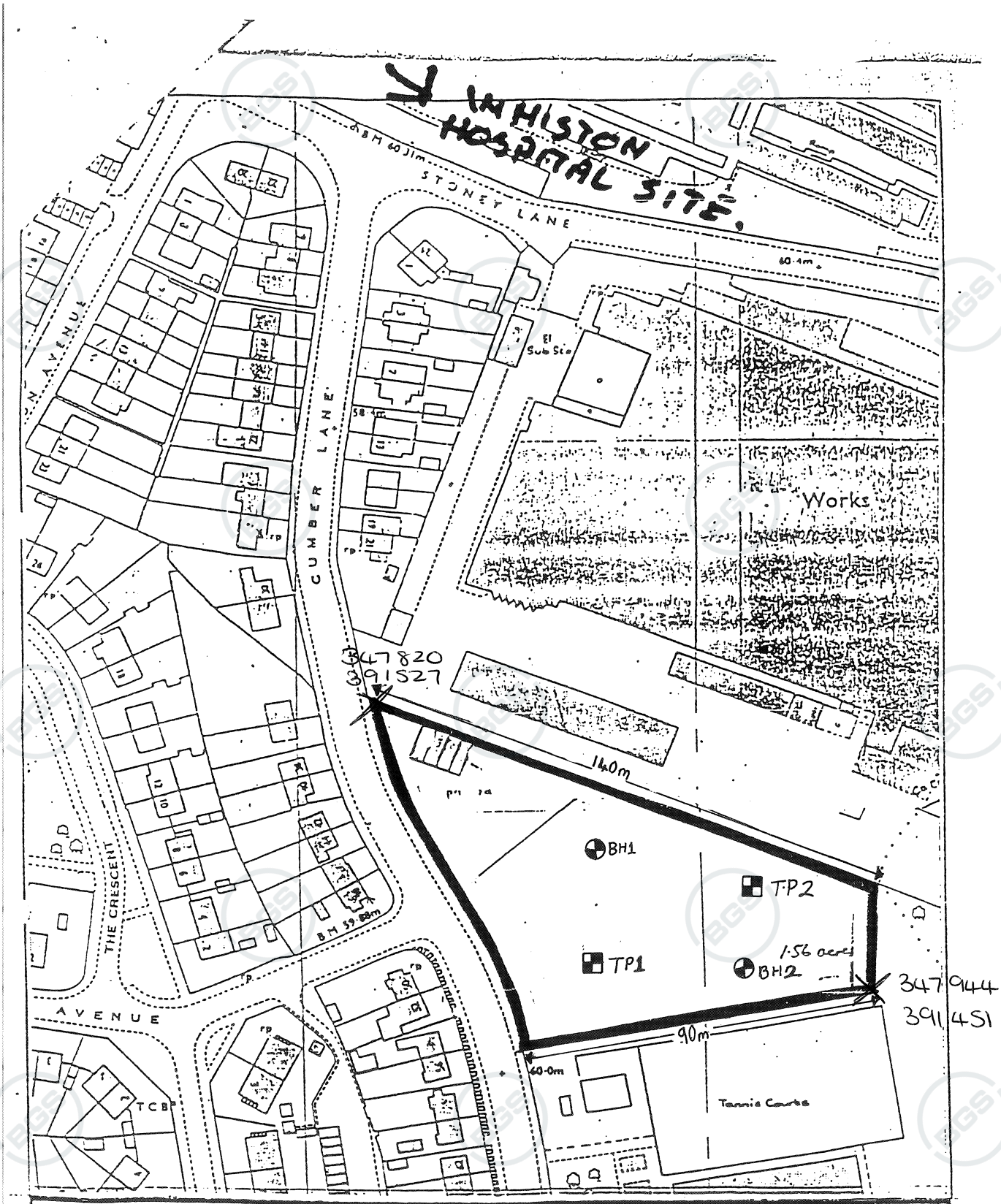
General Remarks :
A small water strike 3.10m with no rise.
Water strike at 3.70m.
Rose to 2.30m after twenty minutes.
Standing level after two hours was 1.75m.

Dates : 5-AUG-92
Driller : GB
Engineer: AMT

Coordinates :

British Geological Survey

BGS ID: 15047302 : BGS Reference: SJ49SE293
British National Grid (27700) : 347870,391480



Council Depot,
Cumber Lane,
WHISTON.

Location Plan

Drawn	P.G..
Date	4.3.91
Scale	1:1250

Drawing No. 0197/91

Estates No. EST/47/91

METROPOLITAN
Borough of Knowsley

Department of Planning & Development

GRAHAM A. SMITH, B.Sc.,Dip.M.S.,C.Eng.,MICE.,MIHT.
Director
Economic Development Division,
Council Offices, P.O. Box 26,
Archway Road, Huyton, L36 9FB.

North

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 15047306 : BGS Reference: SJ49SE294
British National Grid (27700) : 347910,391450

STRATA SURVEYS LTD.,
Telephone: 0606 834637 Fax: 0606 836657

Borehole Number : 2
Sheet 1 of 1.

347911
391457

Job Number : 6682 Location : Learning Disabilities Unit.
Client : Bucknall Austin.

Dia. & Drilling Methods
light cable percussion
150mm diameter.

Description of Strata	Red. Level	Legend	Thick -ness	Depth m	Sample Depths	Sample Types	N Value	Cu	ø	Water Level	Piezo -meter	Daily Prog.
Dark brown sandy TOPSOIL.			(0.10)	0.00 0.10								
MADE GROUND (0.40m of concrete rubble over clayey topsoil with occasional rootlets, small brick fragments, gravel and cobbles).			(1.20)		0.60 - 0.93	U 1						
				1.30	1.20	D 1						
Firm reddish-brown mottled grey very sandy CLAY with some fine to medium gravel			(1.10)		1.50 - 1.95	U 2		50	0			
				2.40	2.10	D 2						
Soft reddish-brown sandy CLAY with some fine to medium gravel and occasional thin wet sand bands.			(0.60)		2.60 - 3.05	U 3						
				3.00	3.10	D 3		22	0			
Firm brown sandy CLAY with some fine to medium gravel. Becoming stiff to very stiff with depth. (Boulder Clay).					3.50 - 3.95	U 4						
					4.10	D 4		24	13			
					4.20	W 1				▽ tsl 5/8		
			(3.00)		4.50 - 4.95	U 5						
					5.10	D 5						
					5.50 - 5.95	U 6						
				6.00								5/8
Borehole Completed												

General Remarks :
Water standing level at 4.20m half an hour after the casing was pulled out.
Half an hour spent back filling boreholes 1 and 2.

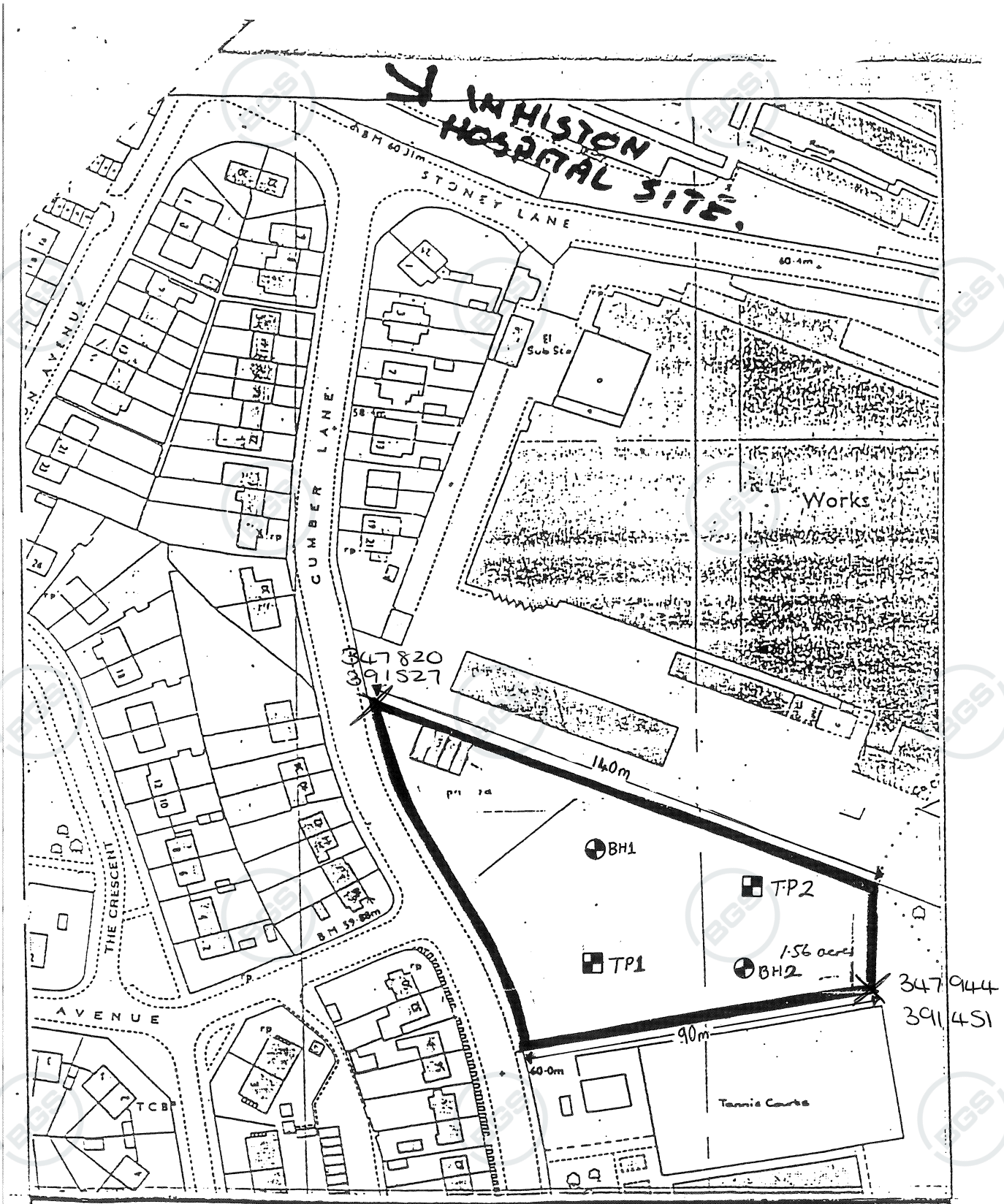
Dates : 5-AUG-92
Driller : GB
Engineer: AMT

Coordinates :

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 15047306 : BGS Reference: SJ49SE294
British National Grid (27700) : 347910,391450



Council Depot,
Cumber Lane,
WHISTON.

Location Plan

Drawn	P.G..
Date	4.3.91
Scale	1:1250

Drawing No. 0197/91

Estates No. EST/47/91

METROPOLITAN
Borough of Knowsley

Department of Planning & Development

GRAHAM A. SMITH, B.Sc.,Dip.M.S.,C.Eng.,MICE.,MIHT.
Director
Economic Development Division,
Council Offices, P.O. Box 26,
Archway Road, Huyton, L36 9FB.

North

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 15047307 : BGS Reference: SJ49SE295
British National Grid (27700) : 347870,391450

STRATA SURVEYS LTD.,
HOLMES CHAPEL ROAD,
MIDDLEWICH, CHESHIRE. CW10 0JB
Telephone: 0606 834637 Fax: 0606 836657

Trial Pit No. : 1

Sheet No. 1 Of 1.
Depth 0 to 4 metres.
Dates : 5-AUG-92

347873
391459

Job Number : 6682 Location : Learning Disabilities Unit.
Client : Bucknall Austin.

Equipment and Methods
J.C.B. 3cx Excavator.

Engineer : AMT

Description of Strata	Red. Level	Legend	Thick -ness	Depth m	Sample Depths	Sample Types	NMC	Cu	Remarks
Grassed over TOPSOIL.			(0.10)	0.00 0.10					
MADE GROUND (Dark brown clayey topsoil with occasional gravel, and cobbles).			(0.40)	0.50	0.70	D 1			
Loose brown grey mottled clayey fine to coarse SAND with some fine to medium gravel. (Possible Made Ground).			(0.70)	1.20	1.20	D 2			
Firm brown grey mottled very sandy CLAY with some gravel and occasional sand pockets.			(0.20)	1.40	1.50	D 3			
Firm to stiff reddish-brown grey mottled sandy CLAY.			(0.40)	1.80	1.80	D 4			
Firm reddish brown slightly mottled grey very sandy wet CLAY with some fine to medium gravel. Becomes soft and more gravelly with occasional cobbles from 2.60m.			(0.90)						Water strike at 2.40m slow.
Very stiff reddish brown CLAY with some fine to coarse gravel. (Boulder Clay).			(0.10)	2.70 2.80	2.80	D 5			End of pit.
End of Trial Pit									

Key

Sample Types
U Undisturbed
D Disturbed
B Bulk Disturbed
W Water

In-Situ Tests
V Vane Test
Pb Plate Bearing Test
CBR In-Situ CBR Test

Pp Pocket Penetrometer

Progress / Water Levels
Borehole Depth
Water Level
Water Strike

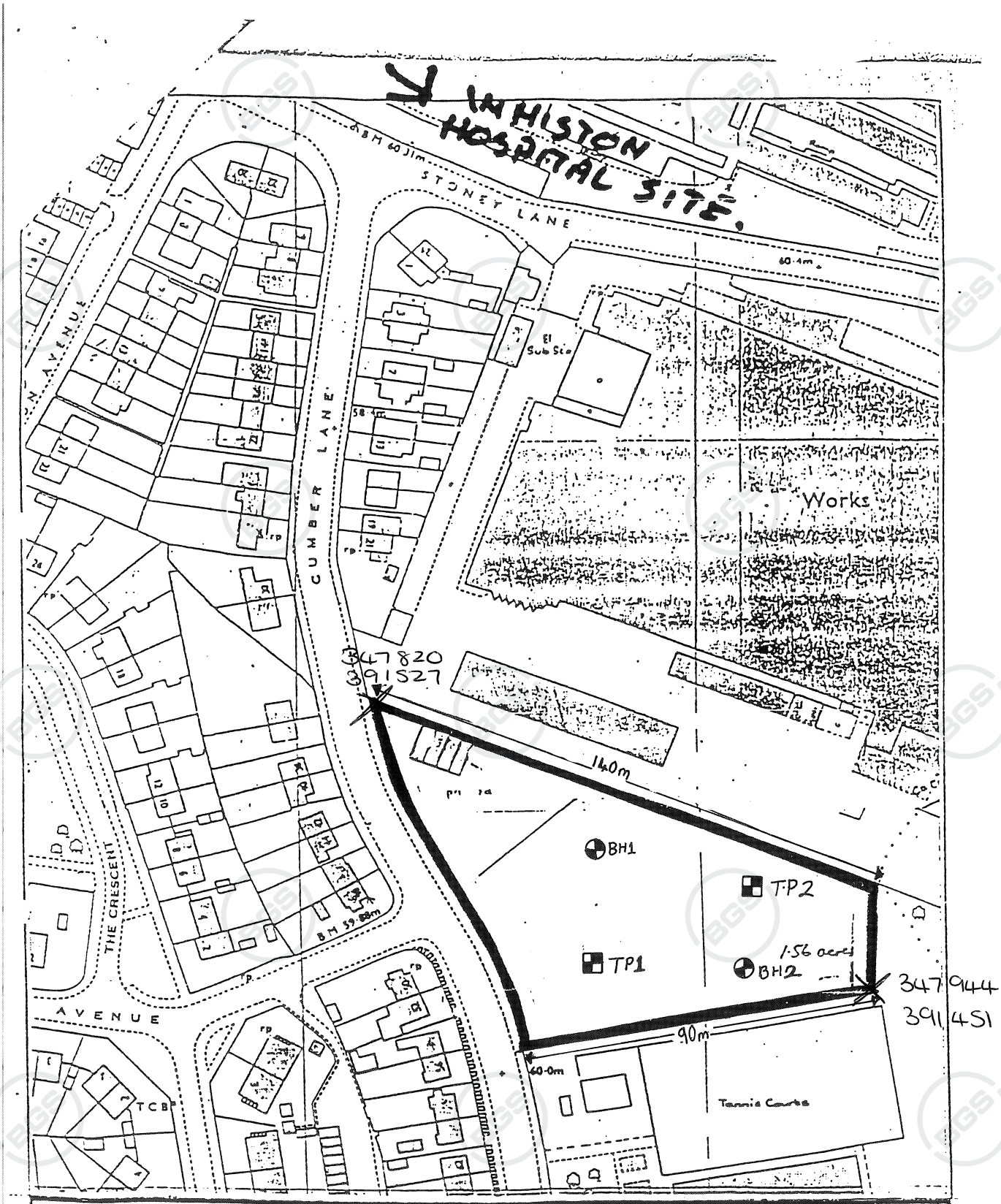
General Remarks
Water strike at 2.40m.

Sketch/Plan

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 15047307 : BGS Reference: SJ49SE295
British National Grid (27700) : 347870,391450



Council Depot, Cumber Lane, WHISTON. Location Plan	Drawn P.G..	Drawing No. 0197/91
	Date 4.3.91	Estates No. EST/47/91
	Scale 1:1250	

METROPOLITAN Borough of Knowsley

Department of Planning & Development

GRAHAM A. SMITH, B.Sc.,Dip.M.S.,C.Eng.,MICE.,MIHT.
Director
Economic Development Division,
Council Offices, P.O. Box 26,
Archway Road, Huyton, L36 9FB.

North

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 15047309 : BGS Reference: SJ49SE296
British National Grid (27700) : 347910,391470

STRATA SURVEYS LTD.,
HOLMES CHAPEL ROAD,
MIDDLEWICH, CHESHIRE. CW10 0JB
Telephone: 0606 834637 Fax: 0606 836657

Trial Pit No. : 2

Sheet No. 1 Of 1.
Depth 0 to 4 metres.
Dates : 5-AUG-92

347914
391477

Job Number : 6682 Location : Learning Disabilities Unit.
Client : Bucknall Austin.

Equipment and Methods
J.C.B. 3cx Excavator.

Engineer : AMT

Description of Strata	Red. Level	Legend	Thick -ness	Depth m	Sample Depths	Sample Types	NMC	Cu	Remarks
Grassed over topsoil.			(0.20)	0.00 0.20					
MADE GROUND (Dark brown clayey topsoil with occasional gravel and cobbles).			(0.80)		0.40	D 1			
Firm to stiff brown grey sandy CLAY with some fine to coarse gravel. Becomes a clayey Sand at 1.30m.			(0.40)	1.00	1.00 1.30	D 2 D 3			
Stiff reddish-brown grey mottled very sandy CLAY with occasional grey fine to coarse sand pockets. (Boulder Clay).			(0.70)	1.40	1.40	D 4			Water strike at 1.75m very slow.
End of Trial Pit				2.10					End of pit.

Key

Sample Types
U Undisturbed
D Disturbed
B Bulk Disturbed
W Water

In-Situ Tests
V Vane Test
Pb Plate Bearing Test
CBR In-Situ CBR Test

Pp Pocket Penetrometer

Progress / Water Levels
Borehole Depth
Water Level
Water Strike

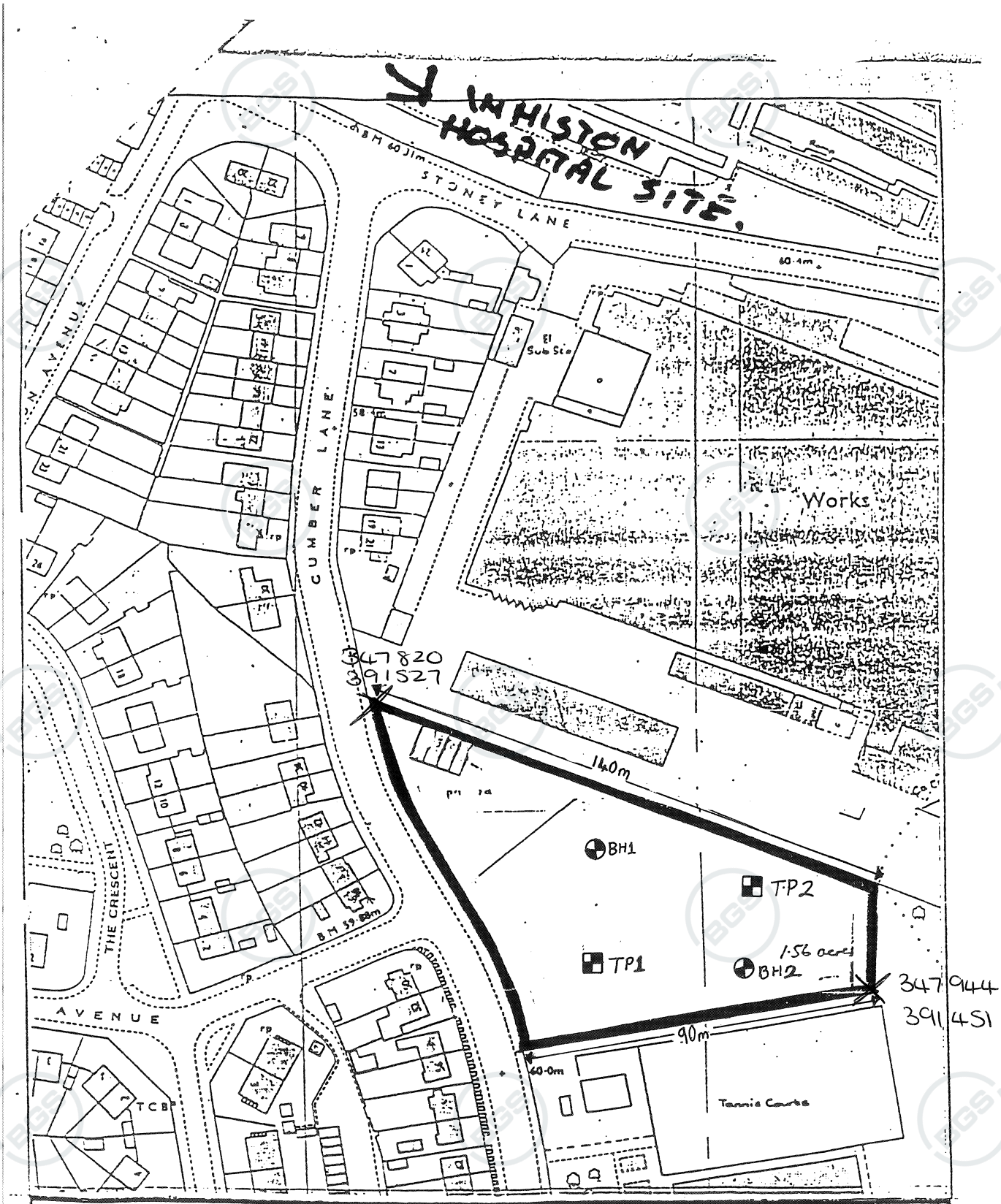
General Remarks
Water strike at 1.75m.

Sketch/Plan

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 15047309 : BGS Reference: SJ49SE296
British National Grid (27700) : 347910,391470



Council Depot,
Cumber Lane,
WHISTON.

Location Plan

Drawn	P.G..
Date	4.3.91
Scale	1:1250
Drawing No.	0197/91
Estates No.	EST/47/91

METROPOLITAN
Borough of Knowsley

Department of Planning & Development

GRAHAM A. SMITH, B.Sc.,Dip.M.S.,C.Eng.,MICE.,MIHT.
Director
Economic Development Division,
Council Offices, P.O. Box 26,
Archway Road, Huyton, L36 9FB.

North

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165902 : BGS Reference: SJ49SE273
British National Grid (27700) : 348190,391400

Name of site Central L.S. North West NRA.

SPRING GROVE SERVICES.

W R B No. 97 · SJ 49/ 27 SJ49SE

Owner Spring Grove Services. | Licence no. Appn no. Cancelled

Occupier | IGS ref. no.

Nat. grid ref. SJ 4819 9140

Status Borehole - licensed.

Ground Level m OD ft. OD

Aquifer

Level of well top m OD ft. OD

Code BDJZZ.

Rest water level m bwt ft. bwt

(Date) m OD ft. OD

Construction: Method Rotary & Percussion Date mar'91

Depth bwt	Dia.	Linings (below well top) From	To	Dia.	Type

Summary of geological section	Thickness	Depth

Abstraction rates Type of pump

gph PWL Chem./bact. anal. YES/NO

gpd Well driller J. P. Whitaker

If insufficient space has been allowed, continue in 'Notes' overleaf. MDT KJS MAY 1991

Lockie 162

Site Plan

Notes

See Consent No. 385
& Hydrogeological Report No 160
-formerly Baynes Textile Rental Services.
.. Cleggs Lane.

"KEYHOLE" SHAPED BORE ( ) fouled total depth probe - Geophysical logging attempt abandoned due to risk of probes getting stuck.
CCTU survey dam to SWL circa 56m. BWT. (8.5.91)

N.R.A. - N.W.
GROUNDWATER
SECTION

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165630 : BGS Reference: SJ49SE9/A
British National Grid (27700) : 348172,391280

Institute of Geological Sciences

*

6-in or 1:10 000 Map Registration No. SJ 49 SE / 9

Page 1

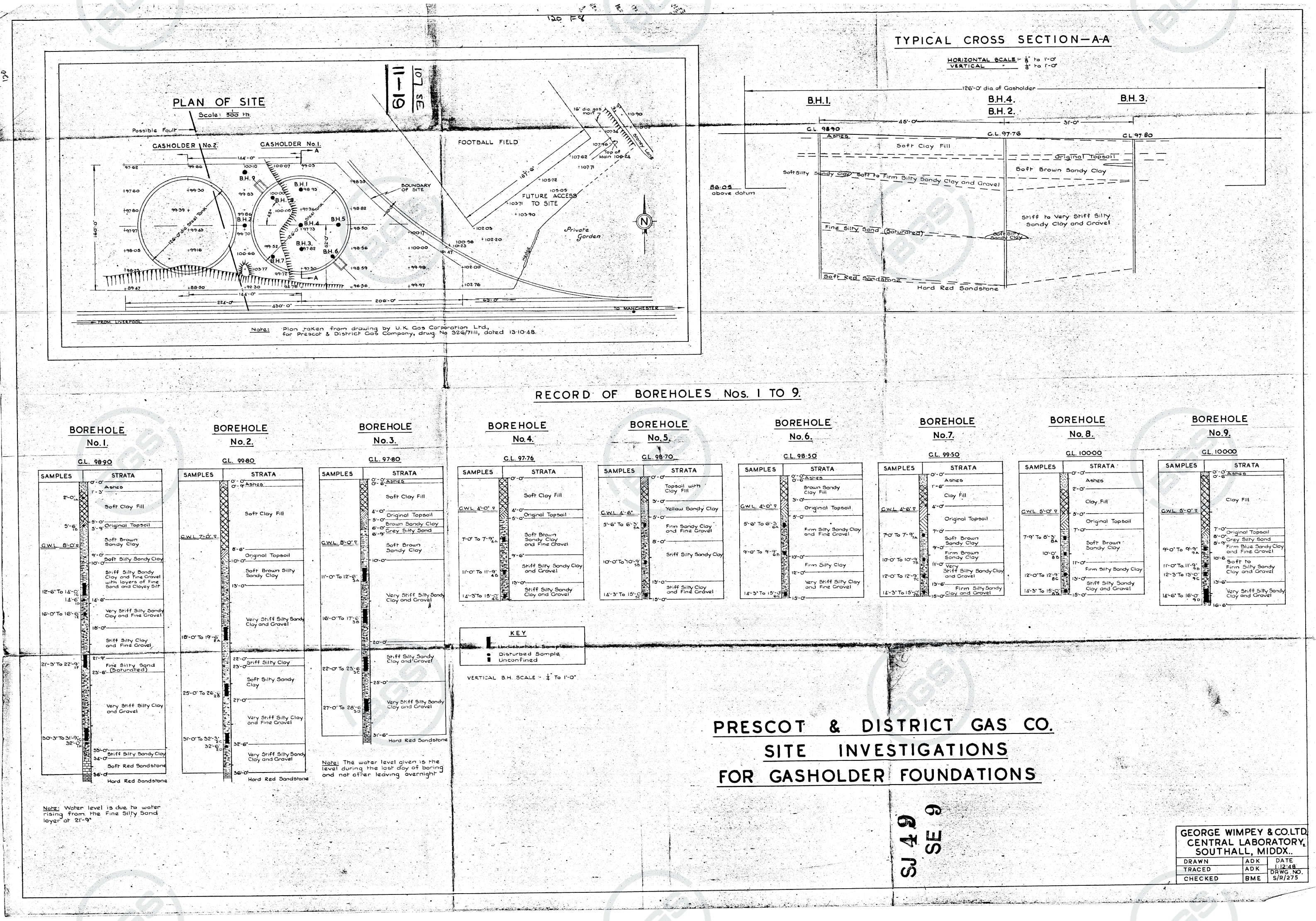
Name and Number of Shaft or Borehole : SJ 49 SE (9).

National Grid Reference 4818 [illegible]9129

Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
	Brought Forward		
Borehole (1) A SJ 49 SE/9	Ashes	0.38	0.38
	Soft clay fill	1.14	1.52
	Original Topsoil	0.23	1.75
	Soft Brown sandy clay	0.99	2.74
	Soft, silty, sandy clay	0.31	3.05
	Stiff, silty, sandy clay & fine gravel with layers of fine sand & clayey silt	1.37	4.42
	Very stiff, silty, sandy clay & fine gravel.	1.07	5.49
	Stiff silty clay & fine gravel.	1.14	6.63
	Fine silty sand (saturated)	0.53	7.16
	Very stiff silty clay & gravel	2.90	10.06
	Stiff silty, sandy clay.	0.30	10.36
	Soft red sandstone.	0.61	10.97
	Hard red sandstone.		
no. (2) SJ 49 SE/10	Ashes	0.23	0.23
	Soft clay fill	2.36	2.59
	Original topsoil	0.46	3.05
	Soft brown silty sandy clay	0.91	3.96
	Very stiff, silty, sandy clay & gravel.	2.75	6.71
	Stiff silty clay	0.30	7.01
	Soft silty, sandy clay	1.22	8.23
	Very stiff, silty clay & fine gravel.	1.68	9.91
	Very stiff silty sandy clay & gravel.	1.06	10.97
	Hard red sandstone.		

Contact BGS: ngdc@bgs.ac.uk

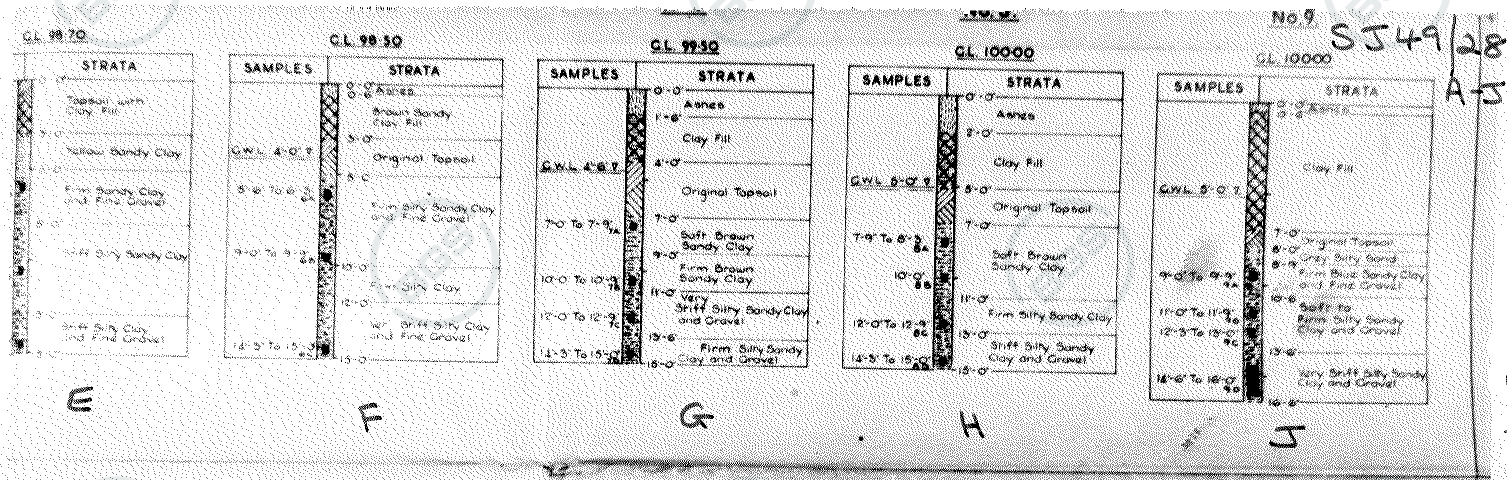
British Geological Survey
BGS ID: 165630 : BGS Reference: SJ49SE9/A
British National Grid (27700) : 348172,391280



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165630 : BGS Reference: SJ49SE9/A
British National Grid (27700) : 348172,391280



PRESCOT & DISTRICT GAS CO.
SITE INVESTIGATIONS
FOR GASHOLDER FOUNDATIONS

GEORGE WIMPEY & CO LTD.
CENTRAL LABORATORY,
SOUTHALL, MIDDX.

DRAWN	ADK	DATE
TRACED	ADK	12.48
CHECKED	BME	DRWG NO. S/R/275

SJ 48 NE 9132

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165630 : BGS Reference: SJ49SE9/A
British National Grid (27700) : 348172,391280

[redacted] Lancs 107 SE page 66n

Lancs 107 SE / 11-19

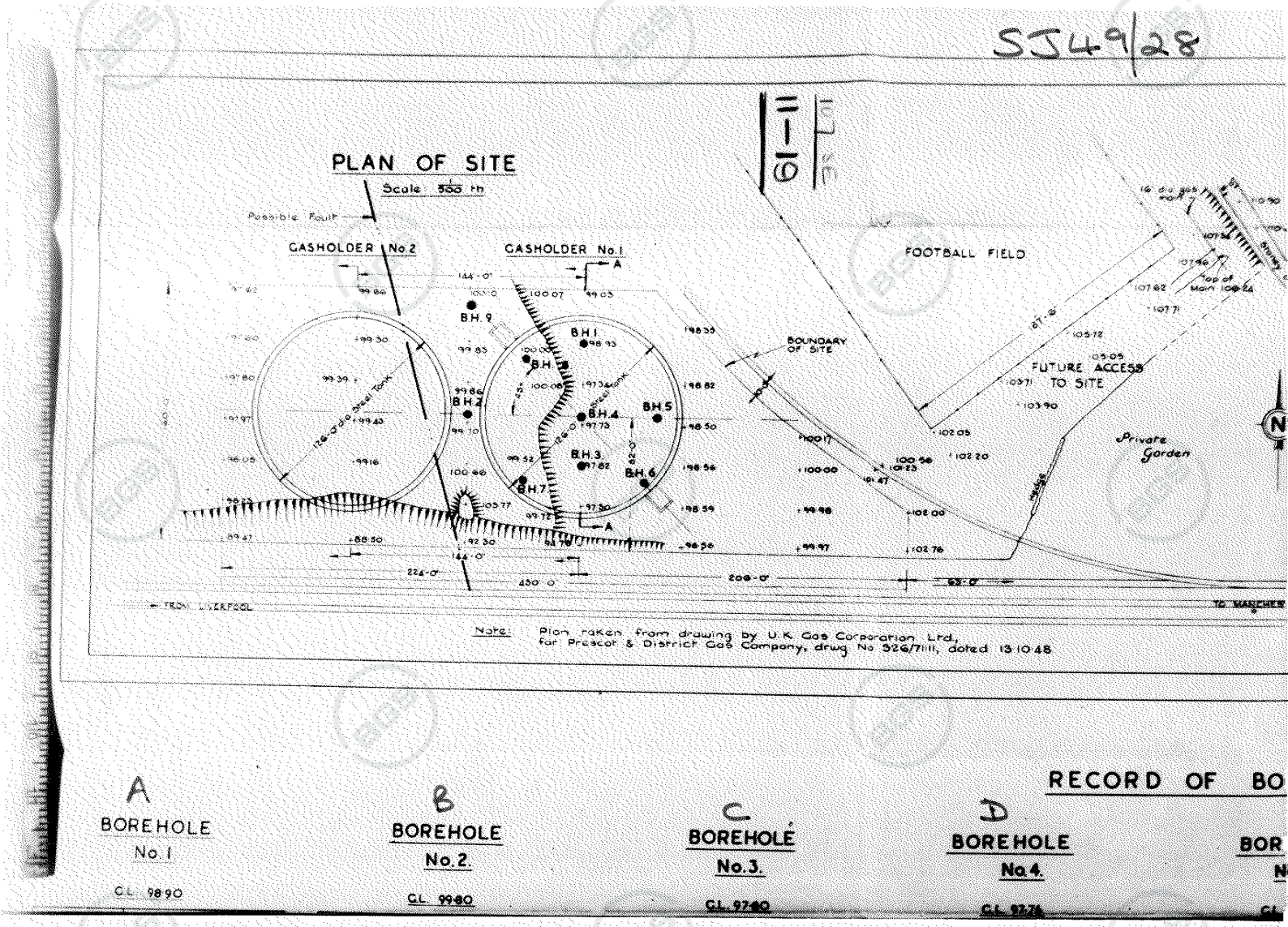
Maps 4

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165630 : BGS Reference: SJ49SE9/A
British National Grid (27700) : 348172,391280

SJ49/28



RECORD OF BO

A
BOREHOLE
No.1
G.L. 98.90

B
BOREHOLE
No.2.
G.L. 99.80

C
BOREHOLE
No.3.
G.L. 97.60

D
BOREHOLE
No.4.
G.L. 97.75

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165630 : BGS Reference: SJ49SE9/A
British National Grid (27700) : 348172,391280

Lancs 107 SE /

11-19

Maps 1

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165630 : BGS Reference: SJ49SE9/A
British National Grid (27700) : 348172,391280

SJ49/28

TYPICAL CROSS SECTION—A-A

HORIZONTAL SCALE 8 to 1-0"
VERTICAL 8 to 1-0"

126-0 dia of Gasholder

B.H.1 B.H.4 B.H.2 B.H.3

45'-0" 51'-0"

C.L. 98.90 AMSD C.L. 97.76 C.L. 97.80

Soft Clay Fill

Original Topsoil

Soft Brown Sandy Clay

Soft Silty Sandy Clay Soft to Firm Silty Sandy Clay and Gravel

58.05 approx

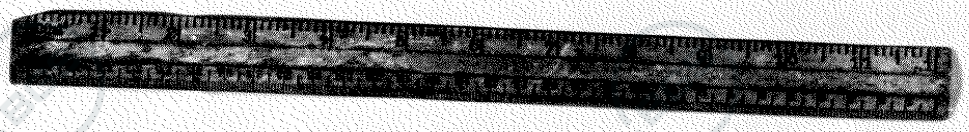
Stiff to Very Stiff Silty Sandy Clay and Gravel

Firm Silty Sandy (Saturated)

Soft Silty Sandy Clay

Soft Red Sandstone

Hard Red Sandstone



BOREHOLES Nos. 1 TO 9

E BOREHOLE No. 5

F BOREHOLE No. 6

G BOREHOLE No. 7

H BOREHOLE No. 8

J BOREHOLE No. 9

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165630 : BGS Reference: SJ49SE9/A
British National Grid (27700) : 348172,391280

Lancs 107 SE

11-19

Maps 2

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165631 : BGS Reference: SJ49SE9/B
British National Grid (27700) : 348172,391280

Institute of Geological Sciences

*

6-in or 1:10 000 Map Registration No. SJ 49 SE / 9

Page 7

Name and Number of Shaft or Borehole : SJ 49 SE (9).

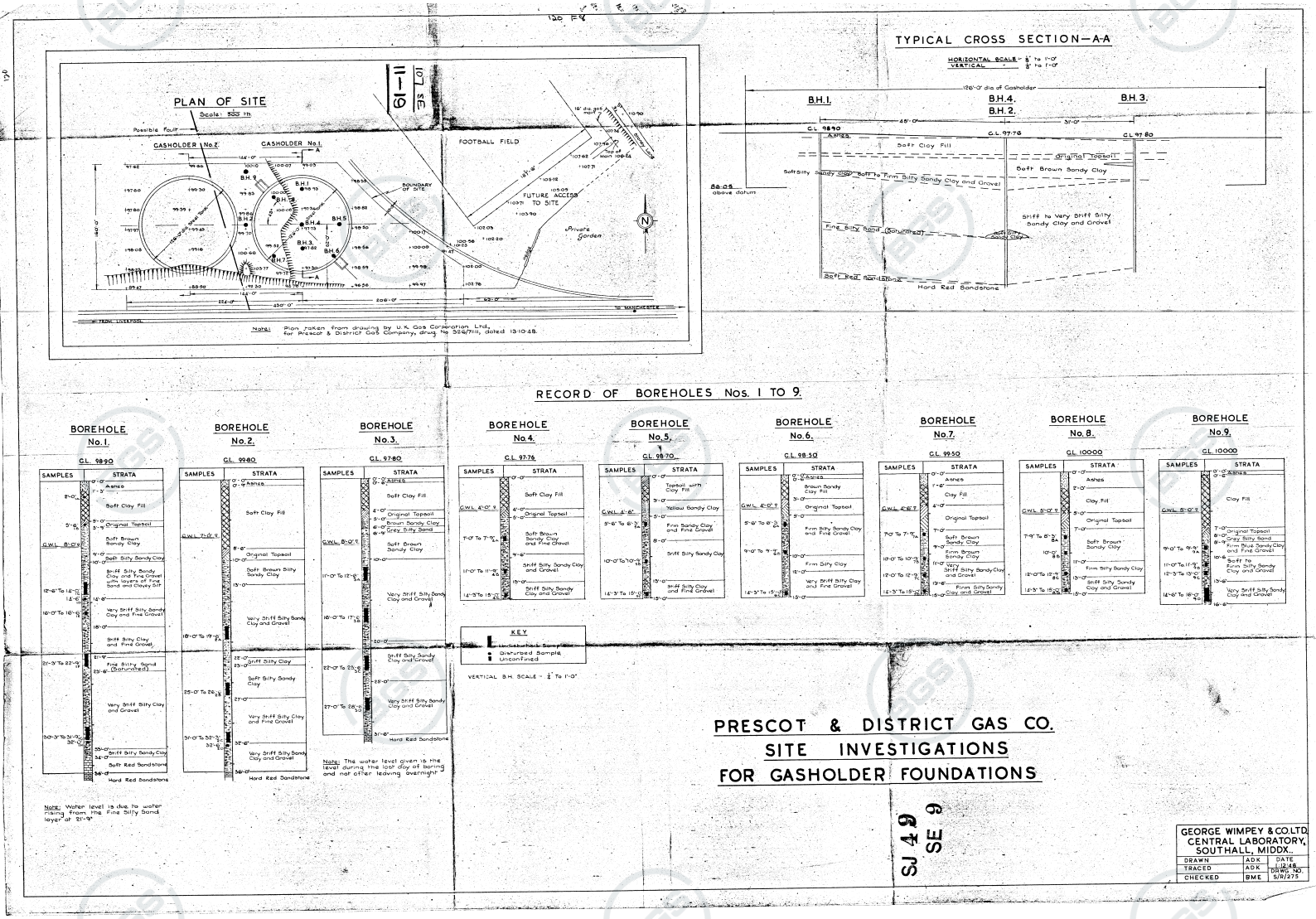
National Grid Reference 4818 [illegible]9129

Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
	Brought Forward		
Borehole (1) A SJ 49 SE/9	Ashes	0.38	0.38
	Soft clay fill	1.14	1.52
	Original Topsoil	0.23	1.75
	Soft Brown sandy clay	0.99	2.74
	Soft, silty, sandy clay	0.31	3.05
	Stiff, silty, sandy clay & fine gravel with layers of fine sand & clayey silt	1.37	4.42
	Very stiff, silty, sandy clay & fine gravel.	1.07	5.49
	Stiff silty clay & fine gravel.	1.14	6.63
	Fine silty sand (saturated)	0.53	7.16
	Very stiff silty clay & gravel	2.90	10.06
	Stiff silty, sandy clay.	0.30	10.36
	Soft red sandstone.	0.61	10.97
	Hard red sandstone.		
no. (2) SJ 49 SE/10	Ashes	0.23	0.23
	Soft clay fill	2.36	2.59
	Original topsoil	0.46	3.05
	Soft brown silty sandy clay	0.91	3.96
	Very stiff, silty, sandy clay & gravel.	2.75	6.71
	Stiff silty clay	0.30	7.01
	Soft silty, sandy clay	1.22	8.23
	Very stiff, silty clay & fine gravel.	1.68	9.91
	Very stiff silty sandy clay & gravel.	1.06	10.97
	Hard red sandstone.		

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165631 : BGS Reference: SJ49SE9/B
British National Grid (27700) : 348172,391280



RECORD OF BOREHOLES Nos. 1 TO 9.

PRESCOT & DISTRICT GAS CO.
SITE INVESTIGATIONS
FOR GASHOLDER FOUNDATIONS

SJ 49 SE 9

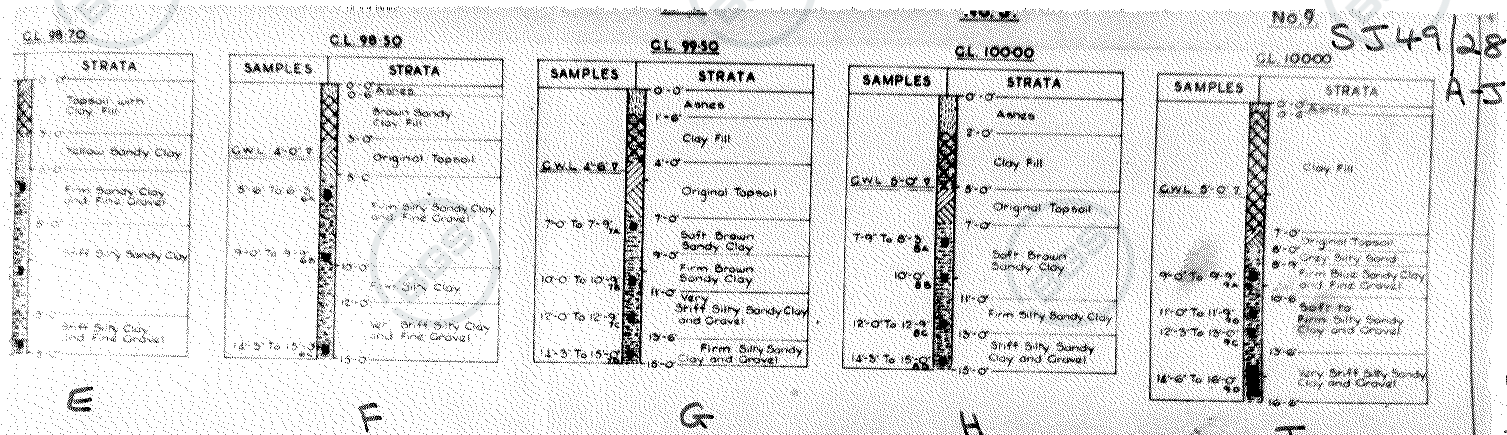
GEORGE WIMPEY & CO. LTD.
CENTRAL LABORATORY,
SOUTHALL, MIDDX.

DRAWN	ADK	DATE 1-12-48
TRACED	ADK	DRWG. NO
CHECKED	BME	9/8/275

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165631 : BGS Reference: SJ49SE9/B
British National Grid (27700) : 348172,391280



PRESCOT & DISTRICT GAS CO.
SITE INVESTIGATIONS
FOR GASHOLDER FOUNDATIONS

GEORGE WIMPEY & CO LTD.
CENTRAL LABORATORY,
SOUTHALL, MIDDX.

DRAWN	ADK	DATE
TRACED	ADK	1.12.48
CHECKED	BME	DRWG NO. S/R/275

SJ 48 NE 9132

Contact BGS: ngdc@bgs.ac.uk

Lancs 107 SE page 66M

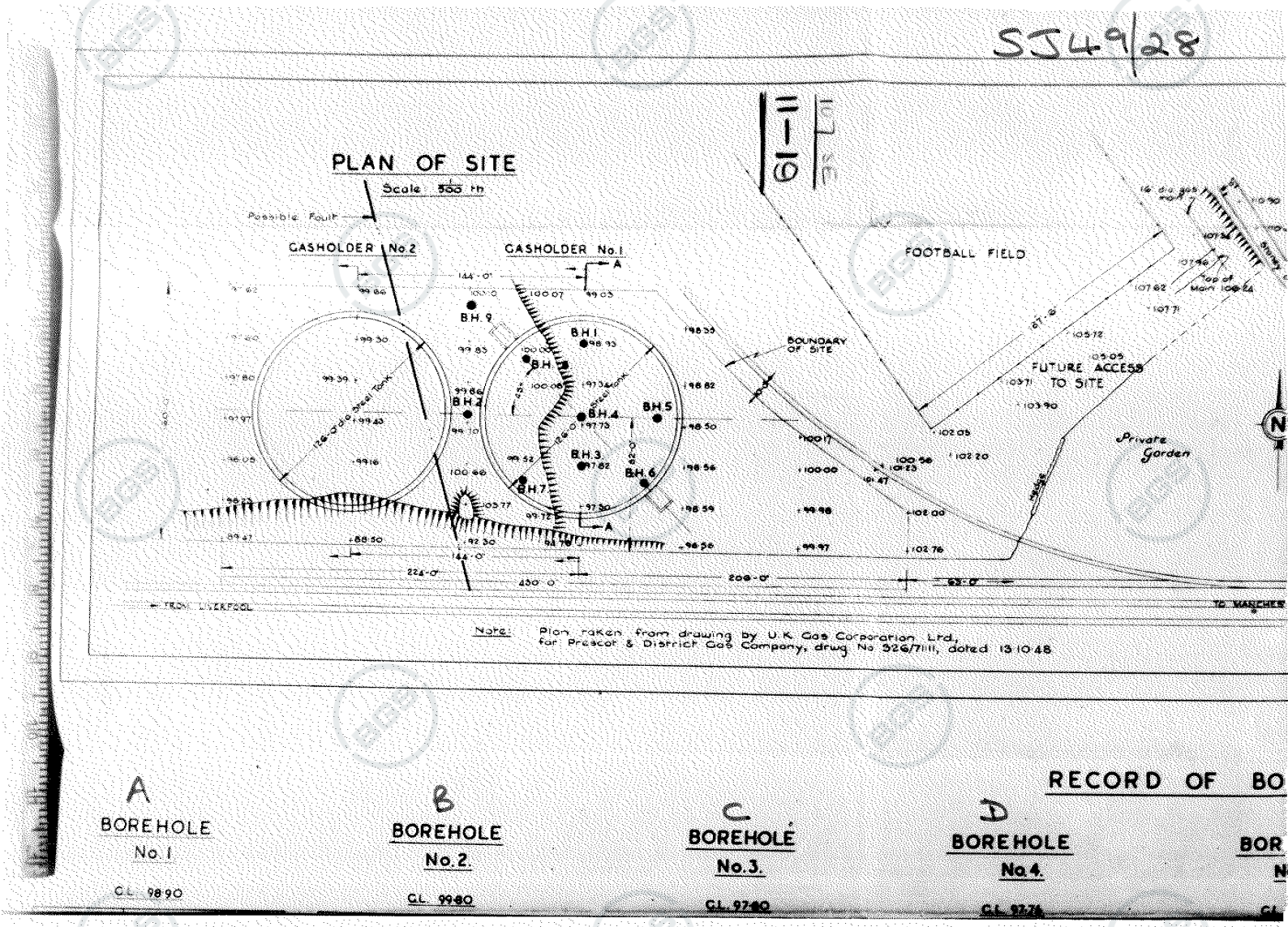
Lancs 107 SE / 11-19

Maps 4

British Geological Survey

BGS ID: 165631 : BGS Reference: SJ49SE9/B
British National Grid (27700) : 348172,391280

SJ49/28



RECORD OF BO

A	B	C	D
BOREHOLE No.1	BOREHOLE No.2	BOREHOLE No.3.	BOREHOLE No.4.
G.L. 98.90	G.L. 99.80	G.L. 97.60	G.L. 97.75

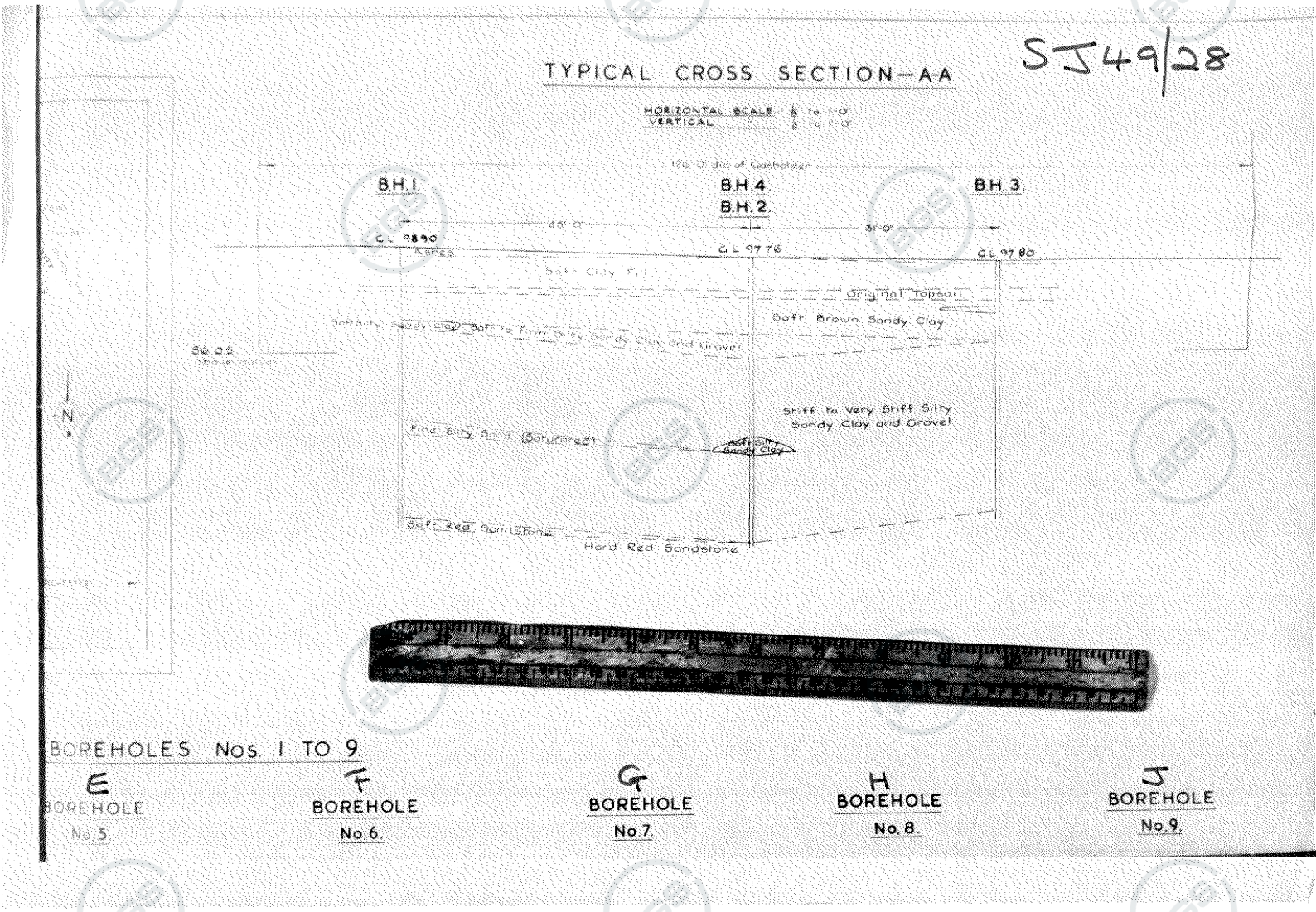
Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165631 : BGS Reference: SJ49SE9/B
British National Grid (27700) : 348172,391280

Lancs 107 SE
11-19
Maps 1

Contact BGS: ngdc@bgs.ac.uk


SJ49/28
TYPICAL CROSS SECTION—A-A
HORIZONTAL SCALE
VERTICAL
B.H.1.
B.H.4.
B.H.2.
B.H.3.
C.L. 98.90
C.L. 97.76
C.L. 97.80
Soft Clay Fill
Original Topsoil
Soft Brown Sandy Clay
Soft Silty Sandy Clay
Soft to Firm Silty Sandy Clay and Gravel
Stiff to Very Stiff Silty Sandy Clay and Gravel
Fine Silty Sand (Saturated)
Soft Silty Sandy Clay
Soft Red Sandstone
Hard Red Sandstone
N
BOREHOLES Nos. 1 TO 9.
E BOREHOLE No. 5.
F BOREHOLE No. 6.
G BOREHOLE No. 7.
H BOREHOLE No. 8.
J BOREHOLE No. 9.

British Geological Survey

BGS ID: 165631 : BGS Reference: SJ49SE9/B
British National Grid (27700) : 348172,391280

Lancs 107 SE

11-19

Maps 2

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165632 : BGS Reference: SJ49SE9/C
British National Grid (27700) : 348172,391280

Institute of Geological Sciences

*

Name and Number of Shaft or Borehole :

6-in or 1:10 000 Map Registration No.
SJ49 SE/9

National Grid Reference
4818 9129

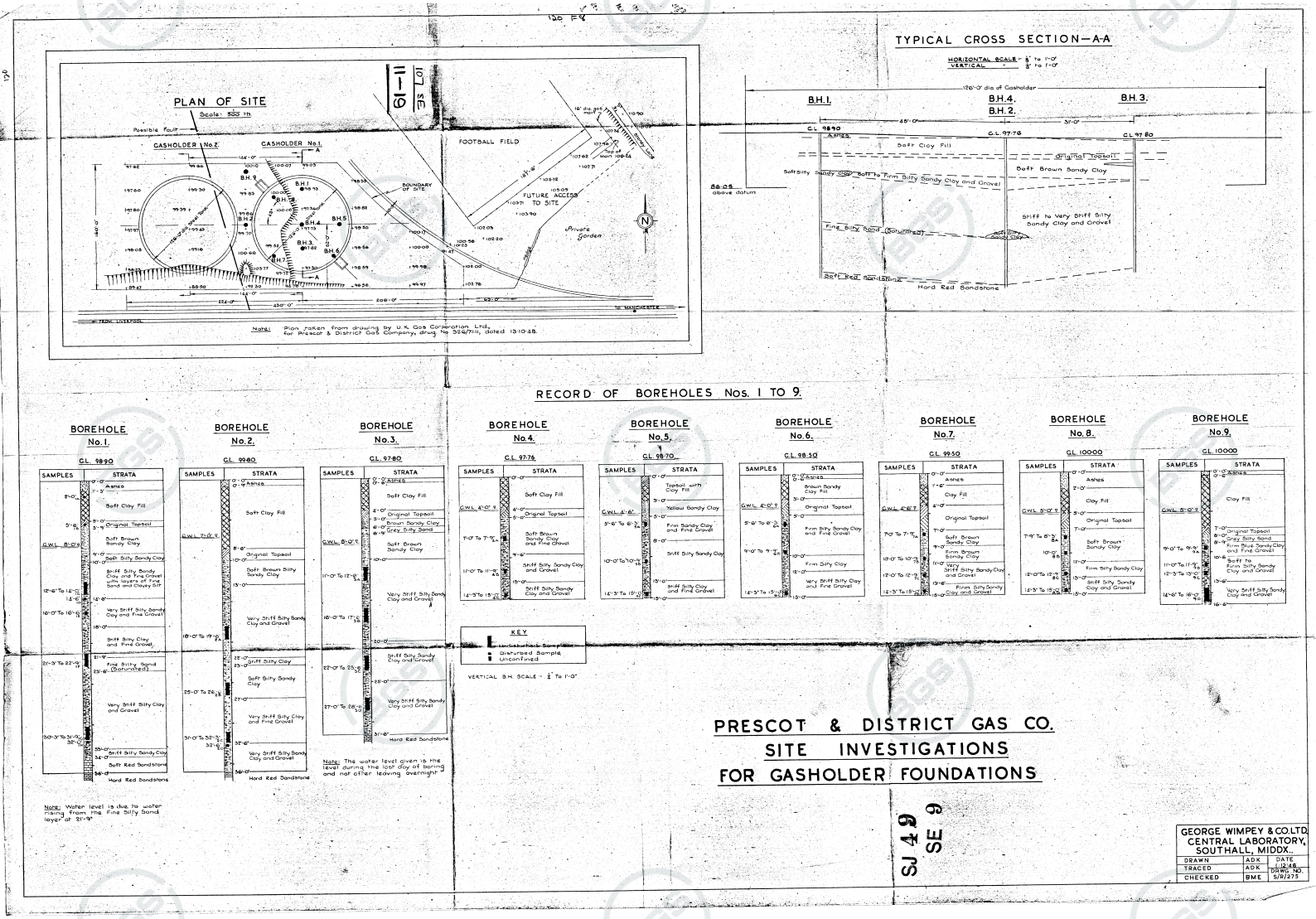
Page

Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
	Brought Forward		
no. ③. SJ 49 SE/9c	Subsoil	0.15	0.15
	Soft clay fill	1.07	1.22
	Original topsoil	0.30	1.52
	Brown, sandy clay	0.31	1.83
	Grey, silty gravel	0.23	2.06
	Soft brown sandy clay	0.99	3.05
	Very stiff, silty, sandy, clay & gravel	3.05	6.10
	Stiff, silty sandy clay & gravel.	1.52	7.62
	Very stiff silty sandy clay & gravel	1.98	9.60
	Hard red sandstone.		
no. ④ SJ 49SE/9d	Soft clay fill	1.22	1.22
	Original Topsoil	0.30	1.52
	Soft brown sandy clay & fine gravel.	1.38	2.90
	Stiff silty sandy clay & gravel	1.06	3.96
	" " " " " "		
no. ⑤ SJ 49 SE/9e	Topsoil with clay fill	0.91	0.91
	Yellow sandy clay	0.61	1.52
	Firm sandy clay & fine gravel	0.92	2.44
	Stiff, silty, sandy clay	1.52	3.96
	Stiff silty clay & fine gravel.	0.61	4.57

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

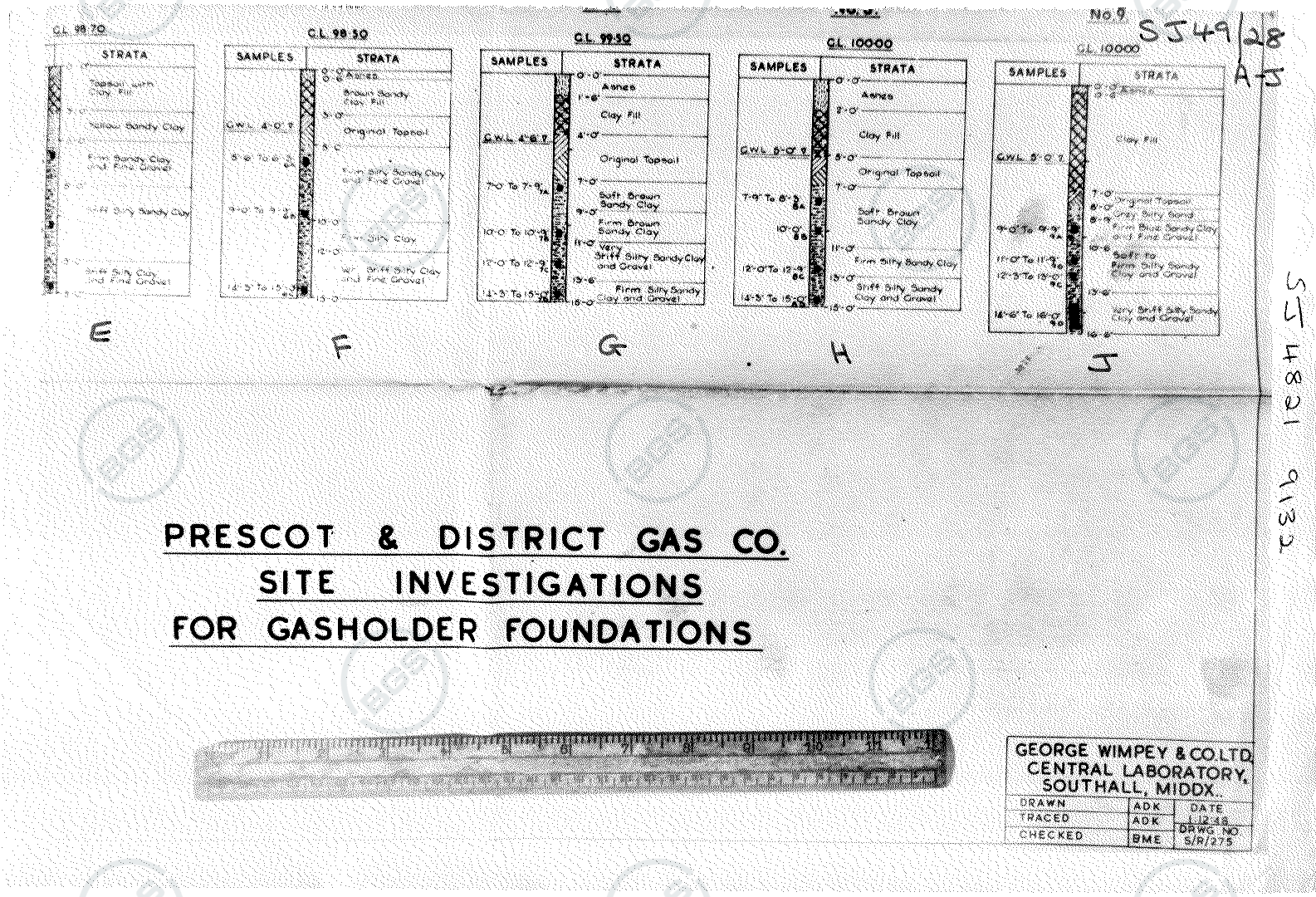
BGS ID: 165632 : BGS Reference: SJ49SE9/C
British National Grid (27700) : 348172,391280



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165632 : BGS Reference: SJ49SE9/C
British National Grid (27700) : 348172,391280



Contact BGS: ngdc@bgs.ac.uk

Lancs 107 SE page 66M

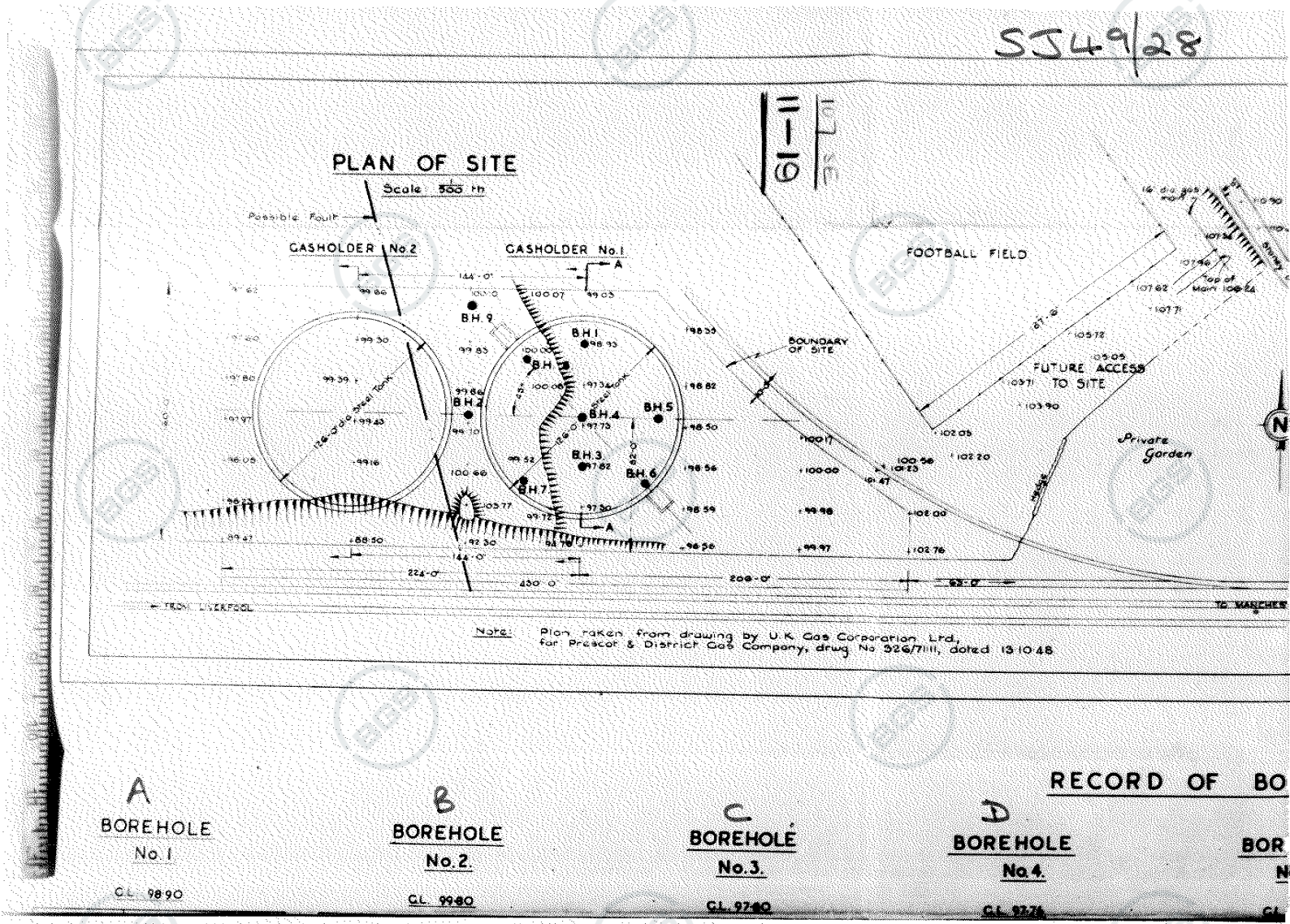
Lancs 107 SE / 11-19

Maps 4

British Geological Survey

BGS ID: 165632 : BGS Reference: SJ49SE9/C
British National Grid (27700) : 348172,391280

SJ49/28



RECORD OF BO

A
BOREHOLE
No.1
G.L. 98.90

B
BOREHOLE
No.2.
G.L. 99.80

C
BOREHOLE
No.3.
G.L. 97.60

D
BOREHOLE
No.4.
G.L. 97.76

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165632 : BGS Reference: SJ49SE9/C
British National Grid (27700) : 348172,391280

Lancs 107 SE / 11-19

Maps 1

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165632 : BGS Reference: SJ49SE9/C
British National Grid (27700) : 348172,391280

SJ49/28

TYPICAL CROSS SECTION—A-A

HORIZONTAL SCALE 8 to 1-0"
VERTICAL 8 to 1-0"

126-0 dia of Gasholder

B.H.1 B.H.4 B.H.2 B.H.3

45'-0" 51'-0"

G.L. 98.90 AMSL G.L. 97.76 G.L. 97.80

Soft Clay Fill

Original Topsoil

Soft Brown Sandy Clay

Soft Silty Sandy Clay Soft to Firm Silty Sandy Clay and Gravel

58.05 approx

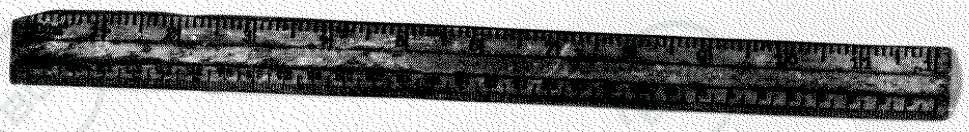
Stiff to Very Stiff Silty Sandy Clay and Gravel

Firm Silty Sandy (Saturated)

Soft Silty Sandy Clay

Soft Red Sandstone

Hard Red Sandstone



BOREHOLES Nos. 1 TO 9

E BOREHOLE No. 5

F BOREHOLE No. 6

G BOREHOLE No. 7

H BOREHOLE No. 8

J BOREHOLE No. 9

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165632 : BGS Reference: SJ49SE9/C
British National Grid (27700) : 348172,391280

Lancs 107 SE

11-19

Maps 2

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165633 : BGS Reference: SJ49SE9/D
British National Grid (27700) : 348172,391280

Institute of Geological Sciences

Name and Number of Shaft or Borehole :

6-in or 1:10 000 Map Registration No.
SJ49 SE/9

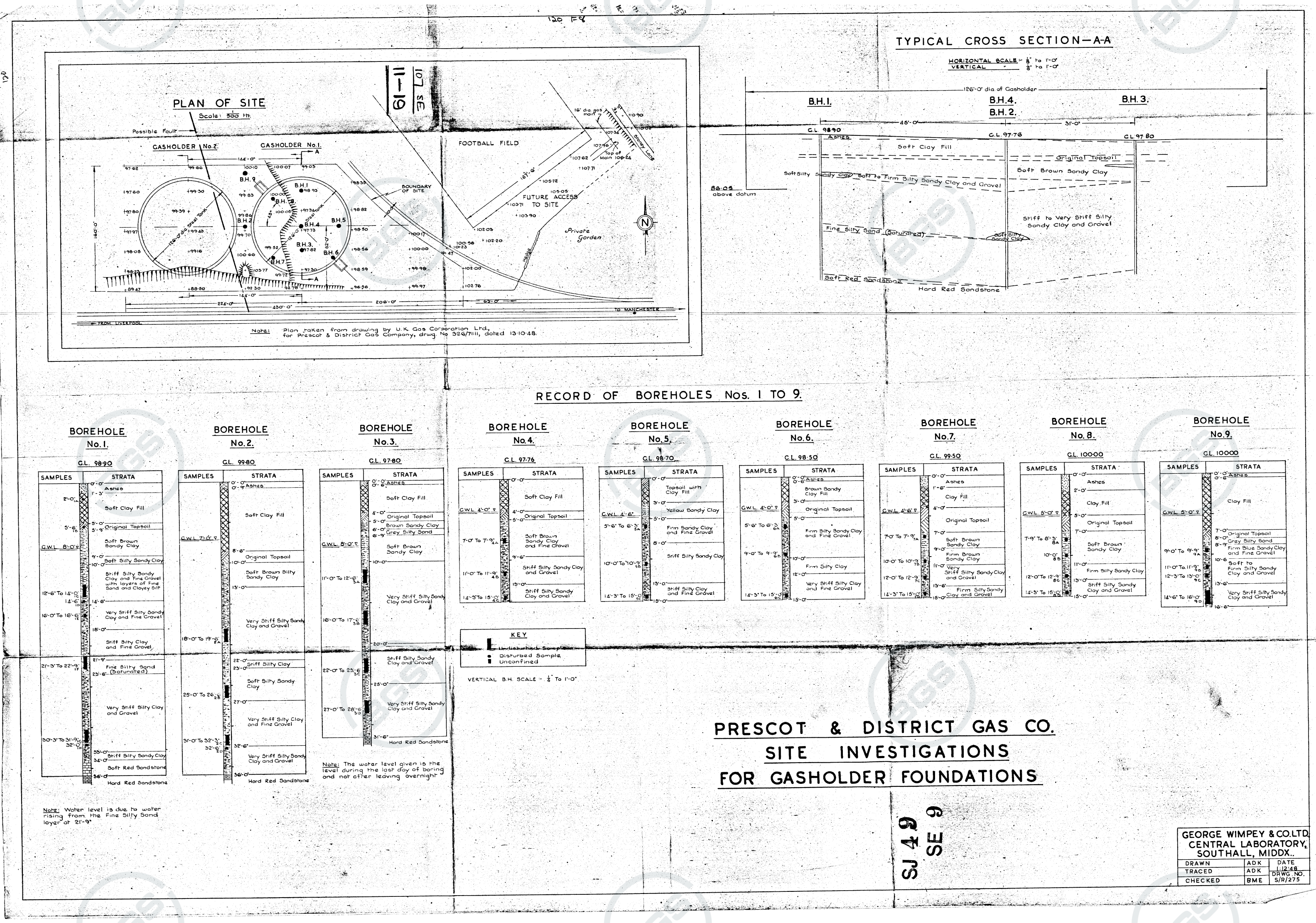
National Grid Reference
4818 9129

Page

Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
	Brought Forward		
no. ③. SJ 49 SE/9c	Rubbish	0.15	0.15
	Soft clay fill	1.07	1.22
	Original topsoil	0.30	1.52
	Brown, sandy clay	0.31	1.83
	Grey, silty gravel	0.23	2.06
	Soft brown sandy clay	0.99	3.05
	Very stiff, silty, sandy, clay & gravel	3.05	6.10
	Stiff, silty sandy clay & gravel.	1.52	7.62
	Very stiff silty sandy clay & gravel	1.98	9.60
	Hard red sandstone.		
no. ④ SJ 49 SE/9d	Soft clay fill	1.22	1.22
	Original Topsoil	0.30	1.52
	Soft brown sandy clay & fine gravel.	1.38	2.90
	Stiff silty sandy clay & gravel	1.06	3.96
	" " " " " "		
no. ⑤ SJ 49 SE/9e	Topsoil with clay fill	0.91	0.91
	Yellow sandy clay	0.61	1.52
	Firm sandy clay & fine gravel	0.92	2.44
	Stiff, silty, sandy clay	1.52	3.96
	Stiff silty clay & fine gravel.	0.61	4.57

Contact BGS: ngdc@bgs.ac.uk

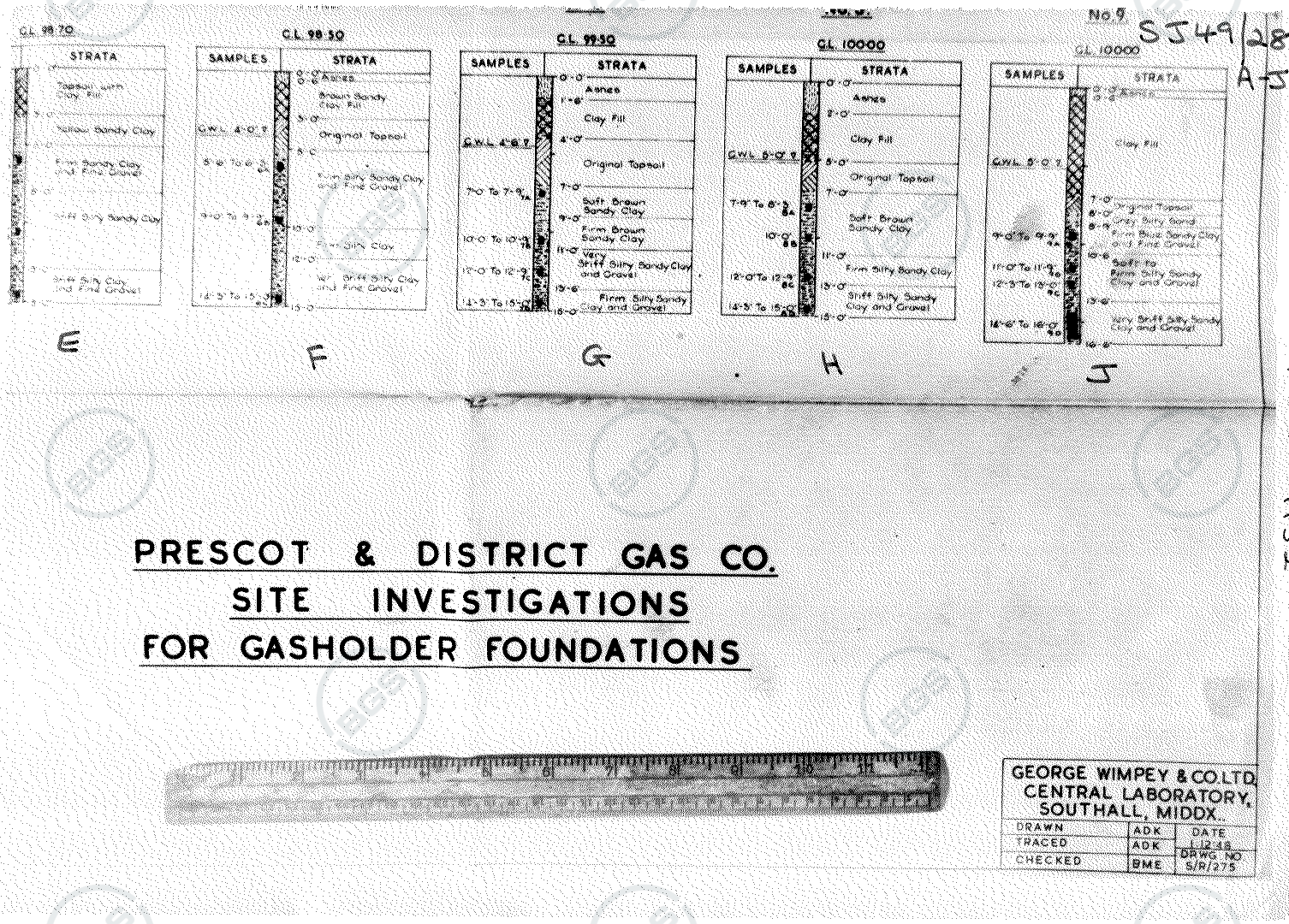
British Geological Survey
BGS ID: 165633 : BGS Reference: SJ49SE9/D
British National Grid (27700) : 348172,391280



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165633 : BGS Reference: SJ49SE9/D
British National Grid (27700) : 348172,391280



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165633 : BGS Reference: SJ49SE9/D
British National Grid (27700) : 348172,391280

[illegible] Lancs 107 SE page 66n

Lancs 107 SE / 11-19

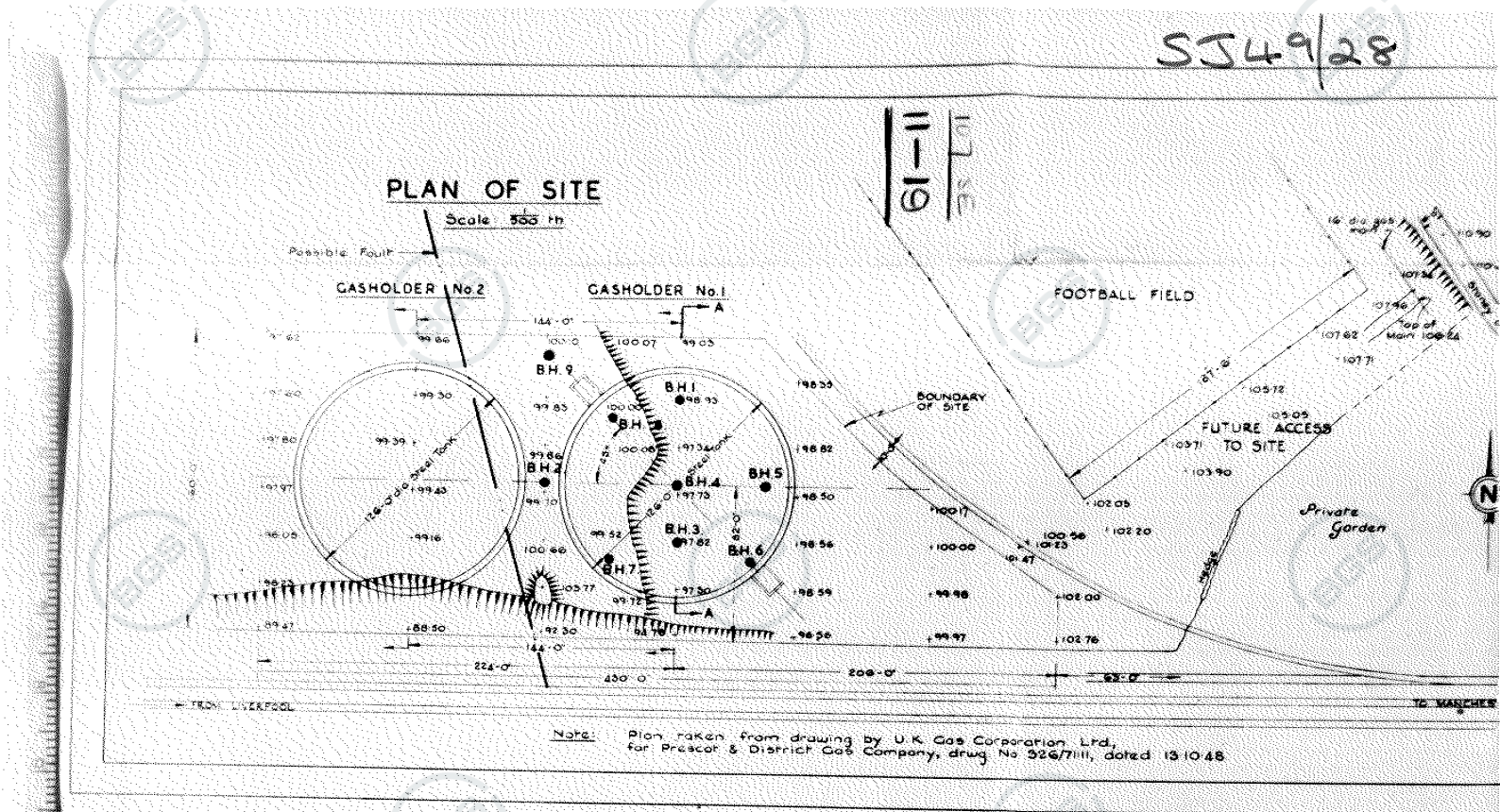
Maps 4

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165633 : BGS Reference: SJ49SE9/D
British National Grid (27700) : 348172,391280

SJ49/28



RECORD OF BO

A
BOREHOLE
No.1
G.L. 98.90

B
BOREHOLE
No.2.
G.L. 99.80

C
BOREHOLE
No.3.
G.L. 97.60

D
BOREHOLE
No.4.
G.L. 97.75

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165633 : BGS Reference: SJ49SE9/D
British National Grid (27700) : 348172,391280

Lancs 107 SE /
11-19

Maps 1

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165633 : BGS Reference: SJ49SE9/D
British National Grid (27700) : 348172,391280

SJ49/28

TYPICAL CROSS SECTION—A-A

HORIZONTAL SCALE 8 to 1-0"
VERTICAL 8 to 1-0"

126-0 dia of Gasholder

B.H.1 B.H.4 B.H.2 B.H.3

45'-0" 51'-0"

C.L. 98.90 AMSD C.L. 97.76 C.L. 97.80

Soft Clay Fill

Original Topsoil

Soft Brown Sandy Clay

Soft Silty Sandy Clay Soft to Firm Silty Sandy Clay and Gravel

58.05 approx

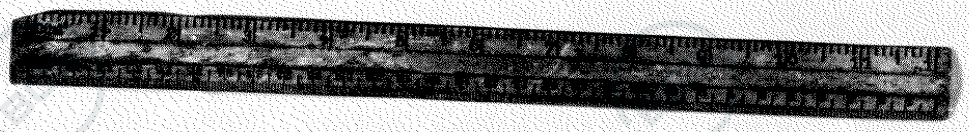
Stiff to Very Stiff Silty Sandy Clay and Gravel

Firm Silty Sandy (Saturated)

Soft Silty Sandy Clay

Soft Red Sandstone

Hard Red Sandstone



BOREHOLES Nos. 1 TO 9

E BOREHOLE No. 5

F BOREHOLE No. 6

G BOREHOLE No. 7

H BOREHOLE No. 8

J BOREHOLE No. 9

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165633 : BGS Reference: SJ49SE9/D
British National Grid (27700) : 348172,391280

Lancs 107 SE

11-19

Maps 2

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165634 : BGS Reference: SJ49SE9/E
British National Grid (27700) : 348172,391280

Institute of Geological Sciences

Name and Number of Shaft or Borehole :

6-in or 1:10 000 Map Registration No.
SJ49 SE/9

National Grid Reference
4818 9129

Page

Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
	Brought Forward		
no. ③. SJ 49 SE/9c	Rubbish	0.15	0.15
	Soft clay fill	1.07	1.22
	Original topsoil	0.30	1.52
	Brown, sandy clay	0.31	1.83
	Grey, silty gravel	0.23	2.06
	Soft brown sandy clay	0.99	3.05
	Very stiff, silty, sandy, clay & gravel	3.05	6.10
	Stiff, silty sandy clay & gravel.	1.52	7.62
	Very stiff silty sandy clay & gravel	1.98	9.60
	Hard red sandstone.		
no. ④ SJ 49 SE/9d	Soft clay fill	1.22	1.22
	Original Topsoil	0.30	1.52
	Soft brown sandy clay & fine gravel.	1.38	2.90
	Stiff silty sandy clay & gravel	1.06	3.96
no. ⑤ SJ 49 SE/9e	Topsoil with clay fill	0.91	0.91
	Yellow sandy clay	0.61	1.52
	Firm sandy clay & fine gravel	0.92	2.44
	Stiff, silty, sandy clay	1.52	3.96
	Stiff silty clay & fine gravel.	0.61	4.57

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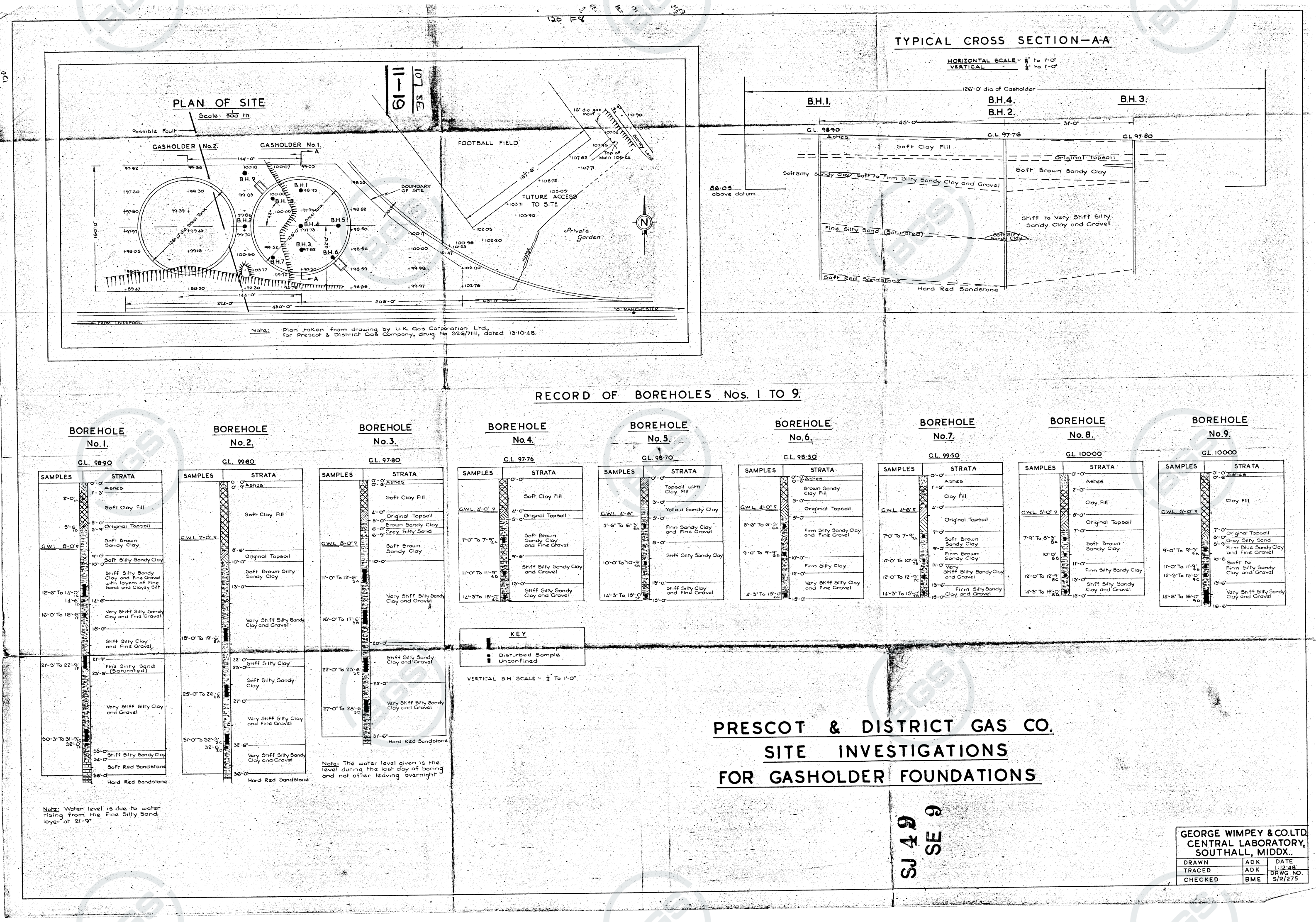
British Geological Survey
BGS ID: 165634 : BGS Reference: SJ49SE9/E
British National Grid (27700) : 348172,391280



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British Geological Survey

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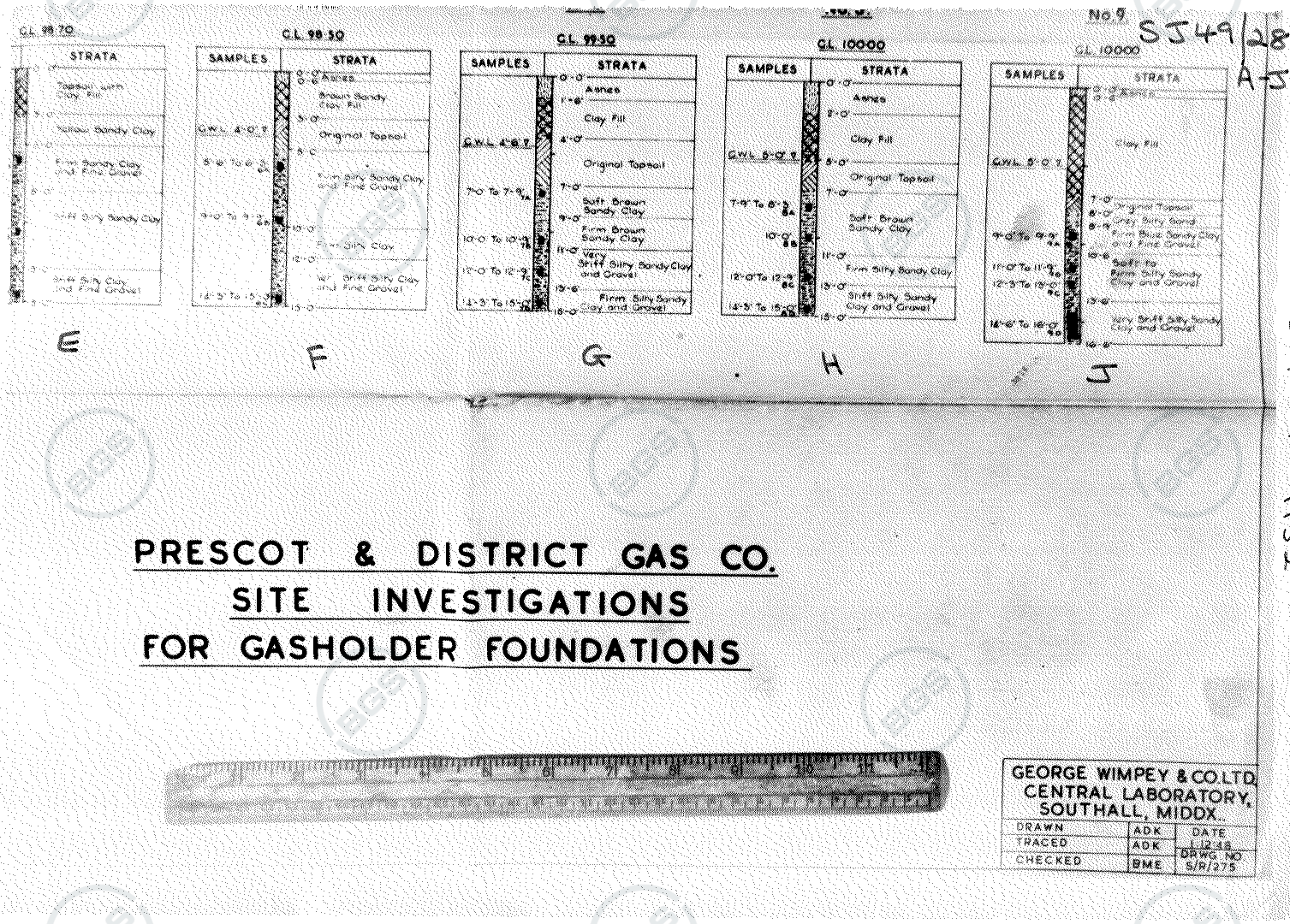
British National Grid (27700) : 348172,391280



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British Geological Survey

BGS ID: 165634 : BGS Reference: SJ49SE9/E
British National Grid (27700) : 348172,391280

[redacted] Lancs 107 SE page 66n

Lancs 107 SE / 11-19

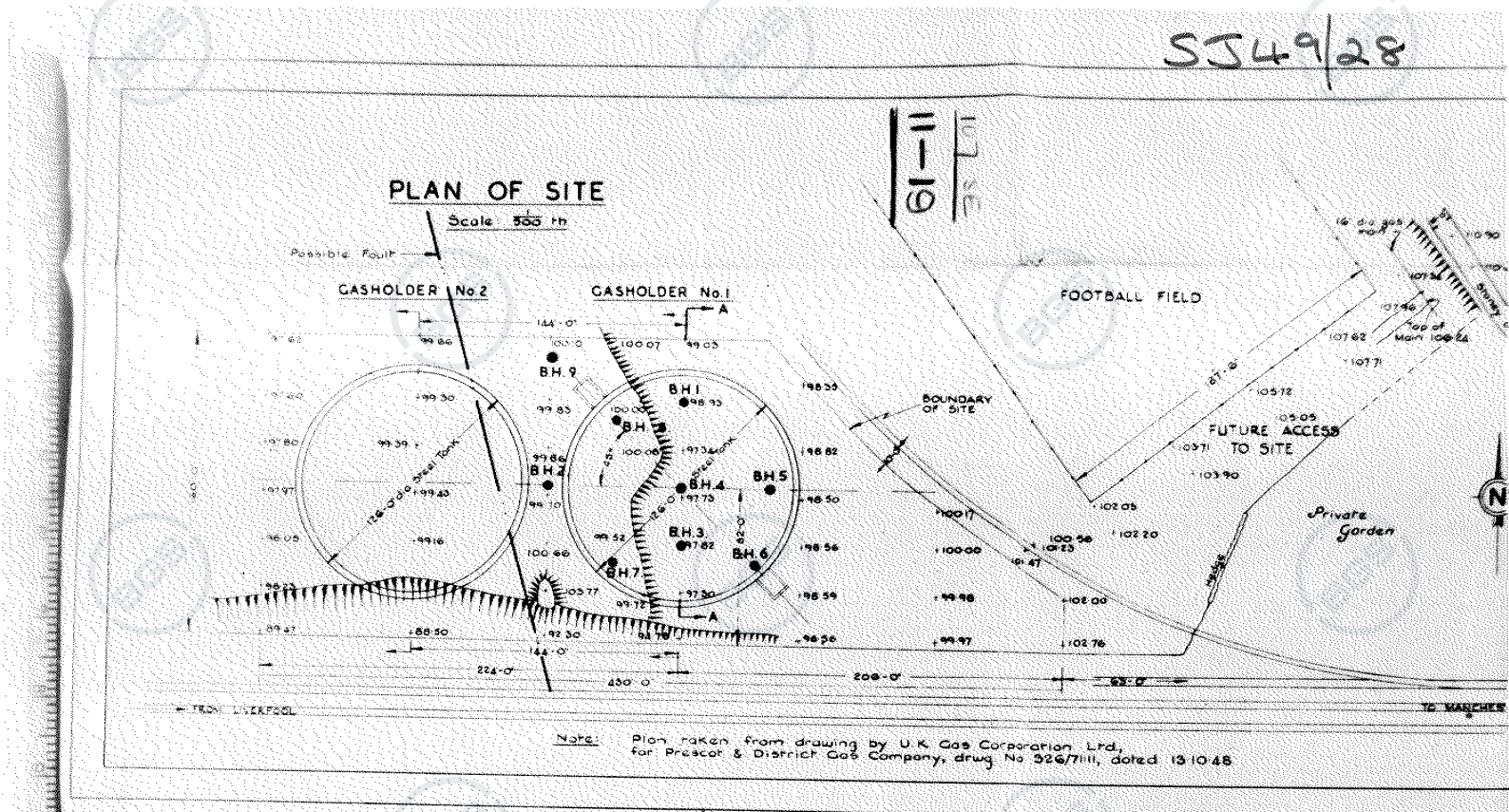
Maps 4

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165634 : BGS Reference: SJ49SE9/E
British National Grid (27700) : 348172,391280

SJ49/28



RECORD OF BO

A	B	C	D
BOREHOLE No.1	BOREHOLE No.2	BOREHOLE No.3.	BOREHOLE No.4.
G.L. 98.90	G.L. 99.80	G.L. 97.60	G.L. 97.75

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165634 : BGS Reference: SJ49SE9/E
British National Grid (27700) : 348172,391280

Lancs 107 SE
11-19
Maps 1

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165634 : BGS Reference: SJ49SE9/E
British National Grid (27700) : 348172,391280

SJ49/28

TYPICAL CROSS SECTION—A-A

HORIZONTAL SCALE 8 to 1-0"
VERTICAL 8 to 1-0"

126-0 dia of Gasholder

B.H.1 B.H.4 B.H.2 B.H.3

45'-0" 51'-0"

C.L. 98.90 AMSD C.L. 97.76 C.L. 97.80

Soft Clay Fill

Original Topsoil

Soft Brown Sandy Clay

Soft Silty Sandy Clay Soft to Firm Silty Sandy Clay and Gravel

58.05 approx

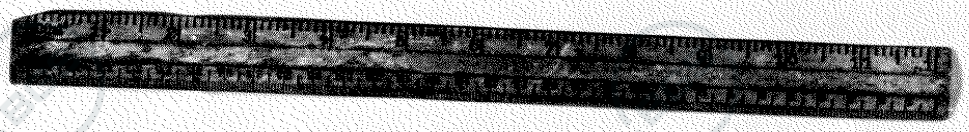
Stiff to Very Stiff Silty Sandy Clay and Gravel

Firm Silty Sandy (Saturated)

Soft Silty Sandy Clay

Soft Red Sandstone

Hard Red Sandstone



BOREHOLES Nos. 1 TO 9

E BOREHOLE No. 5

F BOREHOLE No. 6

G BOREHOLE No. 7

H BOREHOLE No. 8

J BOREHOLE No. 9

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165634 : BGS Reference: SJ49SE9/E
British National Grid (27700) : 348172,391280

Lancs 107 SE

11-19

Maps 2

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165635 : BGS Reference: SJ49SE9/F
British National Grid (27700) : 348172,391280

Institute of Geological Sciences

*

Name and Number of Shaft or Borehole :

6-in or 1:10 000 Map Registration No.
SJ 49 SE/9

National Grid Reference
4818 9129

Page

Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
	Brought Forward		
no. (6) SJ 49 SE/9f	Arbor	0.15	0.15
	Brown sandy clay fill.	0.76	0.91
	Original topsoil	0.61	1.52
	Firm silty sandy clay & fine gravel.	1.53	3.05
	Firm silty clay	0.61	3.66
	Very stiff silty clay & fine gravel.	0.91	4.57
no. (7) SJ 49 SE/9g	Arbor	0.46	0.46
	clay fill	0.76	1.22
	Original topsoil	0.91	2.13
	Soft brown sandy clay	0.61	2.74
	Firm brown sandy clay	0.61	3.35
	Very stiff silty, sandy clay & gravel.	0.76	4.11
	Firm silty sandy clay & gravel.	0.36	4.57
no. (8) SJ 49 SE/9h	Arbor	0.61	0.61
	clay fill	0.91	1.52
	Original Topsoil	0.61	2.13
	Soft brown sandy clay	1.22	3.35
	Firm silty sandy clay	0.61	3.96
	Stiff silty sandy clay & gravel.	0.61	4.57

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

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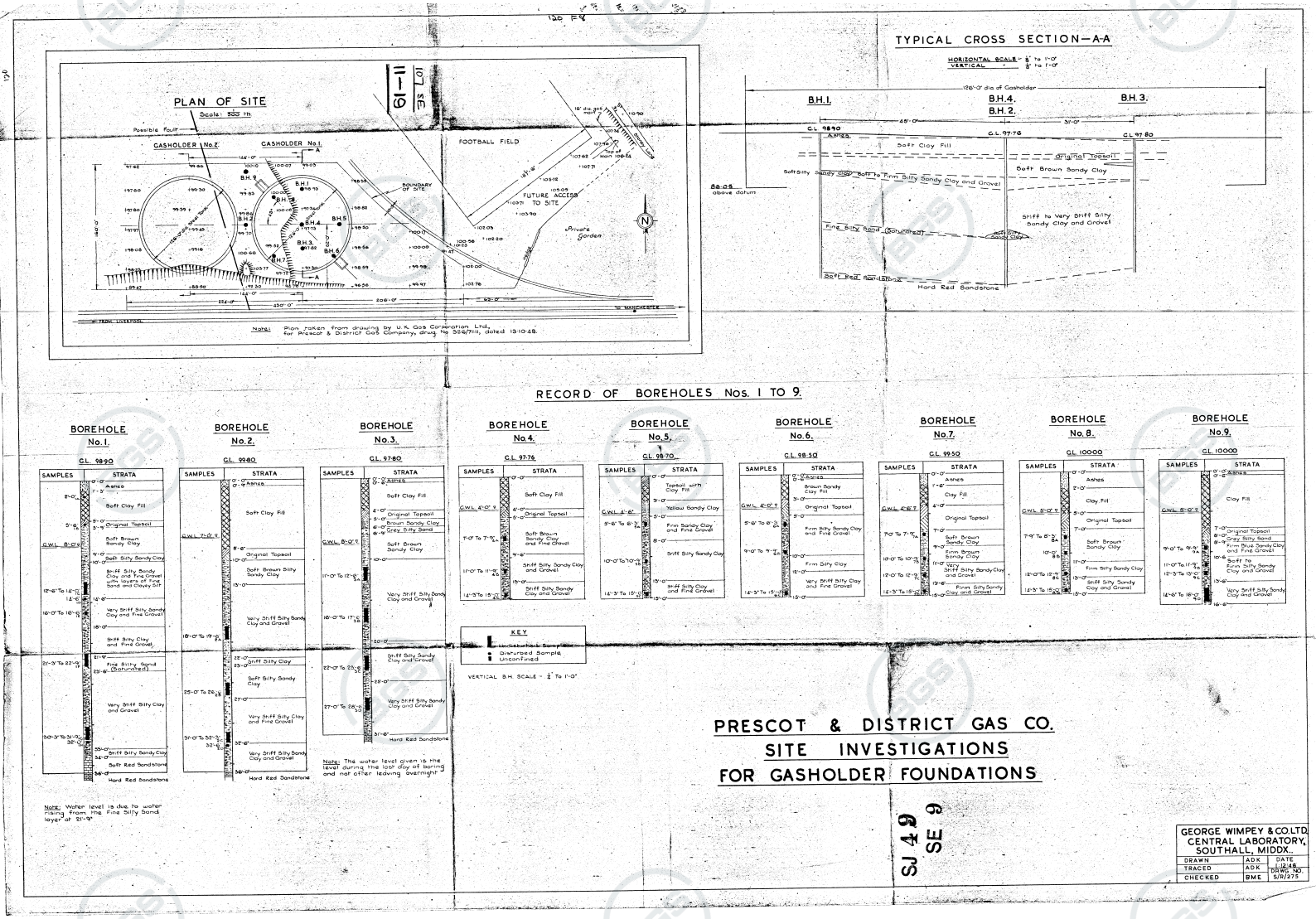
British National Grid (27700) : 348172,391280



RECORD OF BOREHOLES Nos. 1 TO 9.

Note: Water level is due to water rising from the Fine Silty Sand layer at 21'-9"

Note: The water level given is the level during the last day of boring and not after leaving overnight

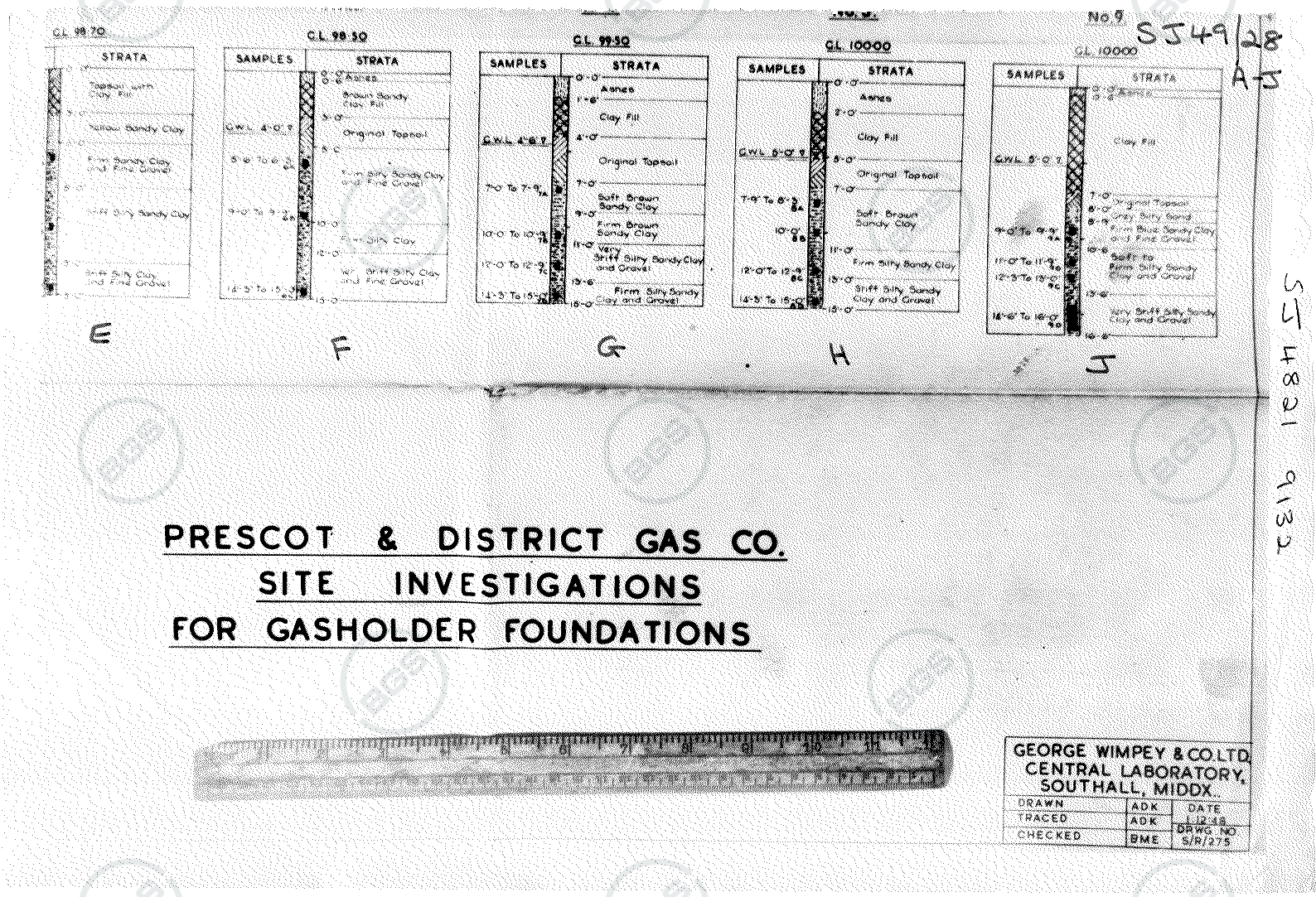
PRESCOT & DISTRICT GAS CO.
SITE INVESTIGATIONS
FOR GASHOLDER FOUNDATIONS

SJ 49 SE 9

GEORGE WIMPEY & CO. LTD.
CENTRAL LABORATORY,
SOUTHALL, MIDDX.

DRAWN	ADK	DATE 1-12-48
TRACED	ADK	DRWG. NO.
CHECKED	BME	9/8/275

Contact BGS: ngdc@bgs.ac.uk


No. 9
SJ49/28
A-J
C.L. 98.70
C.L. 98.50
C.L. 99.50
C.L. 100.00
C.L. 100.00
STRATA
SAMPLES
Topsoil with Clay Fill
Yellow Sandy Clay
Firm Sandy Clay and Fine Gravel
Stiff Silty Sandy Clay
Stiff Silty Clay and Fine Gravel
Ashes
Brown Sandy Clay Fill
Original Topsoil
Firm Silty Sandy Clay and Fine Gravel
Firm Silty Clay
Very Stiff Silty Clay and Fine Gravel
Clay Fill
Soft Brown Sandy Clay
Firm Brown Sandy Clay
Very Stiff Silty Sandy Clay and Gravel
Firm Silty Sandy Clay and Gravel
Firm Silty Sandy Clay
Stiff Silty Sandy Clay and Gravel
Clay Fill
Original Topsoil
Grey Silty Sand
Firm Blue Sandy Clay and Fine Gravel
Soft to Firm Silty Sandy Clay and Gravel
Very Stiff Silty Sandy Clay and Gravel
E
F
G
H
J
SJ 4821 9132
PRESCOT & DISTRICT GAS CO.
SITE INVESTIGATIONS
FOR GASHOLDER FOUNDATIONS
GEORGE WIMPEY & CO. LTD.
CENTRAL LABORATORY,
SOUTHALL, MIDDX.
DRAWN
TRACED
CHECKED
ADK
ADK
BME
DATE
DRWG NO.
S/R/275

British Geological Survey

BGS ID: 165635 : BGS Reference: SJ49SE9/F
British National Grid (27700) : 348172,391280

[redacted] Lancs 107 SE page 66n

Lancs 107 SE / 11-19

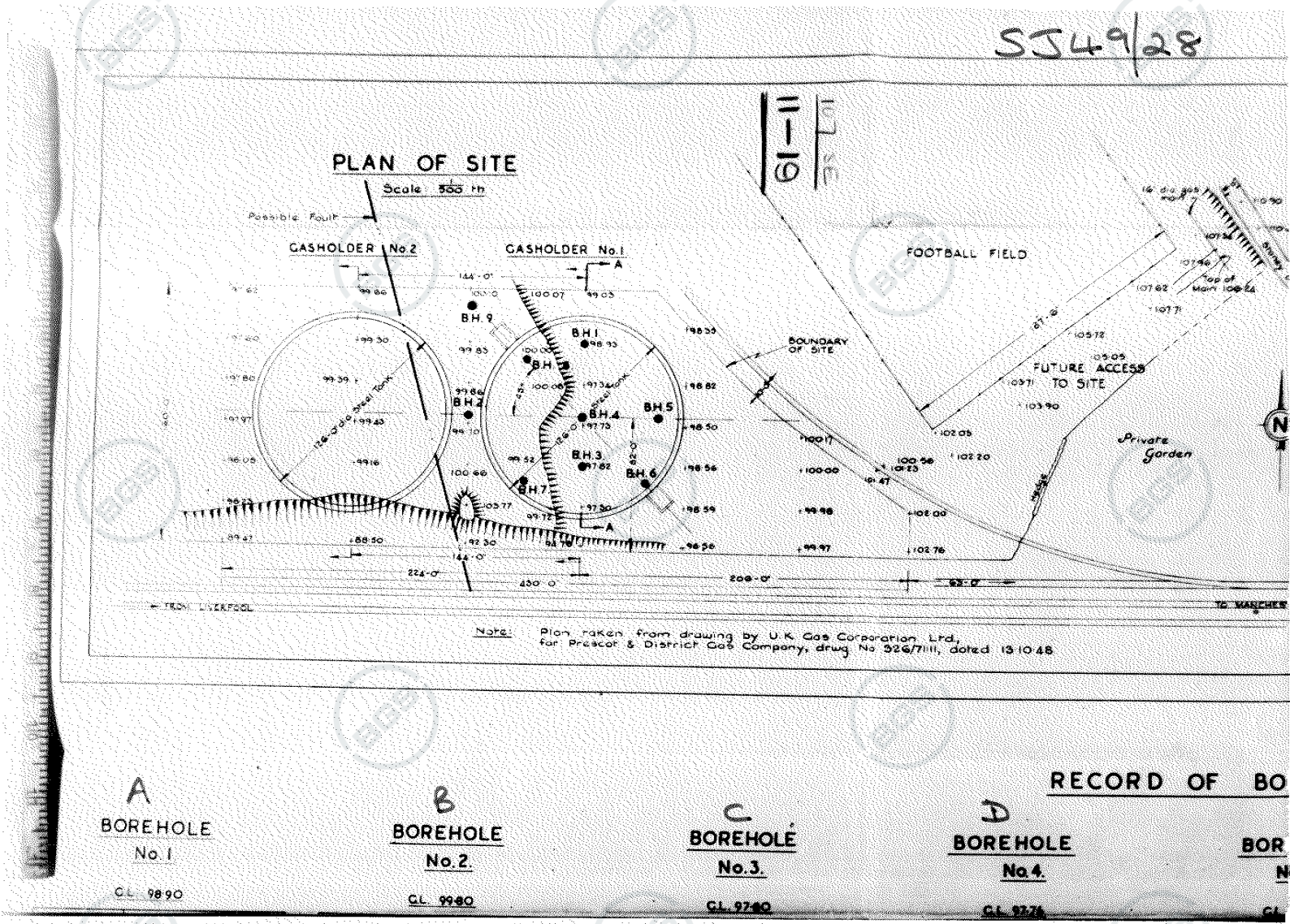
Maps 4

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165635 : BGS Reference: SJ49SE9/F
British National Grid (27700) : 348172,391280

SJ49/28



RECORD OF BO

A
BOREHOLE
No.1
G.L. 98.90

B
BOREHOLE
No.2.
G.L. 99.80

C
BOREHOLE
No.3.
G.L. 97.60

D
BOREHOLE
No.4.
G.L. 97.75

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165635 : BGS Reference: SJ49SE9/F
British National Grid (27700) : 348172,391280

Lancs 107 SE

11-19

Maps 1

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165635 : BGS Reference: SJ49SE9/F
British National Grid (27700) : 348172,391280

SJ49/28

TYPICAL CROSS SECTION—A-A

HORIZONTAL SCALE 8 to 1-0"
VERTICAL 8 to 1-0"

126-0 dia of Gasholder

B.H.1 B.H.4 B.H.2 B.H.3

45'-0" 51'-0"

C.L. 98.90 AMSD C.L. 97.76 C.L. 97.80

Soft Clay Fill

Original Topsoil

Soft Brown Sandy Clay

Soft Silty Sandy Clay Soft to Firm Silty Sandy Clay and Gravel

88.04 approx

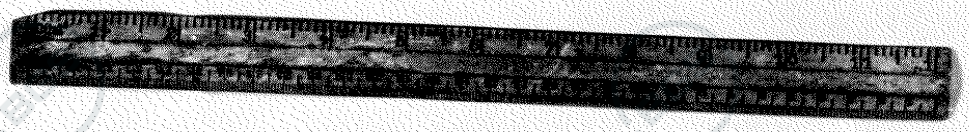
Stiff to Very Stiff Silty Sandy Clay and Gravel

Firm Silty Sandy (Saturated)

Soft Silty Sandy Clay

Soft Red Sandstone

Hard Red Sandstone



BOREHOLES Nos. 1 TO 9

E BOREHOLE No. 5

F BOREHOLE No. 6

G BOREHOLE No. 7

H BOREHOLE No. 8

J BOREHOLE No. 9

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165635 : BGS Reference: SJ49SE9/F
British National Grid (27700) : 348172,391280

Lancs 107 SE

11-19

Maps 2

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165636 : BGS Reference: SJ49SE9/G
British National Grid (27700) : 348172,391280

Institute of Geological Sciences

*

Name and Number of Shaft or Borehole :

6-in or 1:10 000 Map Registration No.
SJ 49 SE/9

National Grid Reference
4818 9129

Page

Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
	Brought Forward		
no. (6) SJ 49 SE/9f	Arbor	0.15	0.15
	Brown sandy clay fill.	0.76	0.91
	Original topsoil	0.61	1.52
	Firm silty sandy clay & fine gravel.	1.53	3.05
	Firm silty clay	0.61	3.66
	Very stiff silty clay & fine gravel.	0.91	4.57
no. (7) SJ 49 SE/9g	Arbor	0.46	0.46
	clay fill	0.76	1.22
	Original topsoil	0.91	2.13
	Soft brown sandy clay	0.61	2.74
	Firm brown sandy clay	0.61	3.35
	Very stiff silty, sandy clay & gravel.	0.76	4.11
	Firm silty sandy clay & gravel.	0.36	4.57
no. (8) SJ 49 SE/9h	Arbor	0.61	0.61
	clay fill	0.91	1.52
	Original Topsoil	0.61	2.13
	Soft brown sandy clay	1.22	3.35
	Firm silty sandy clay	0.61	3.96
	Stiff silty sandy clay & gravel.	0.61	4.57

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British Geological Survey

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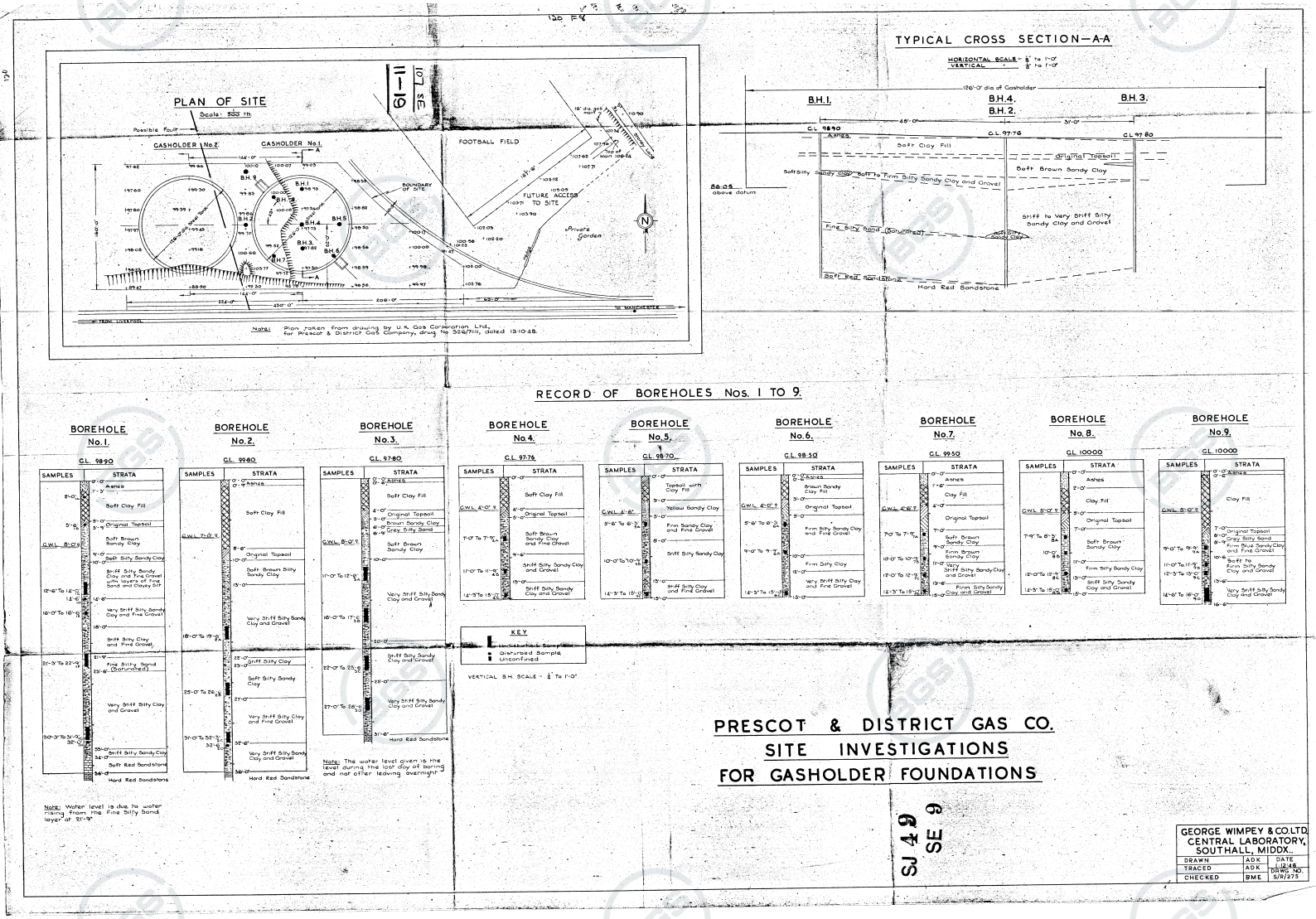
British National Grid (27700) : 348172,391280



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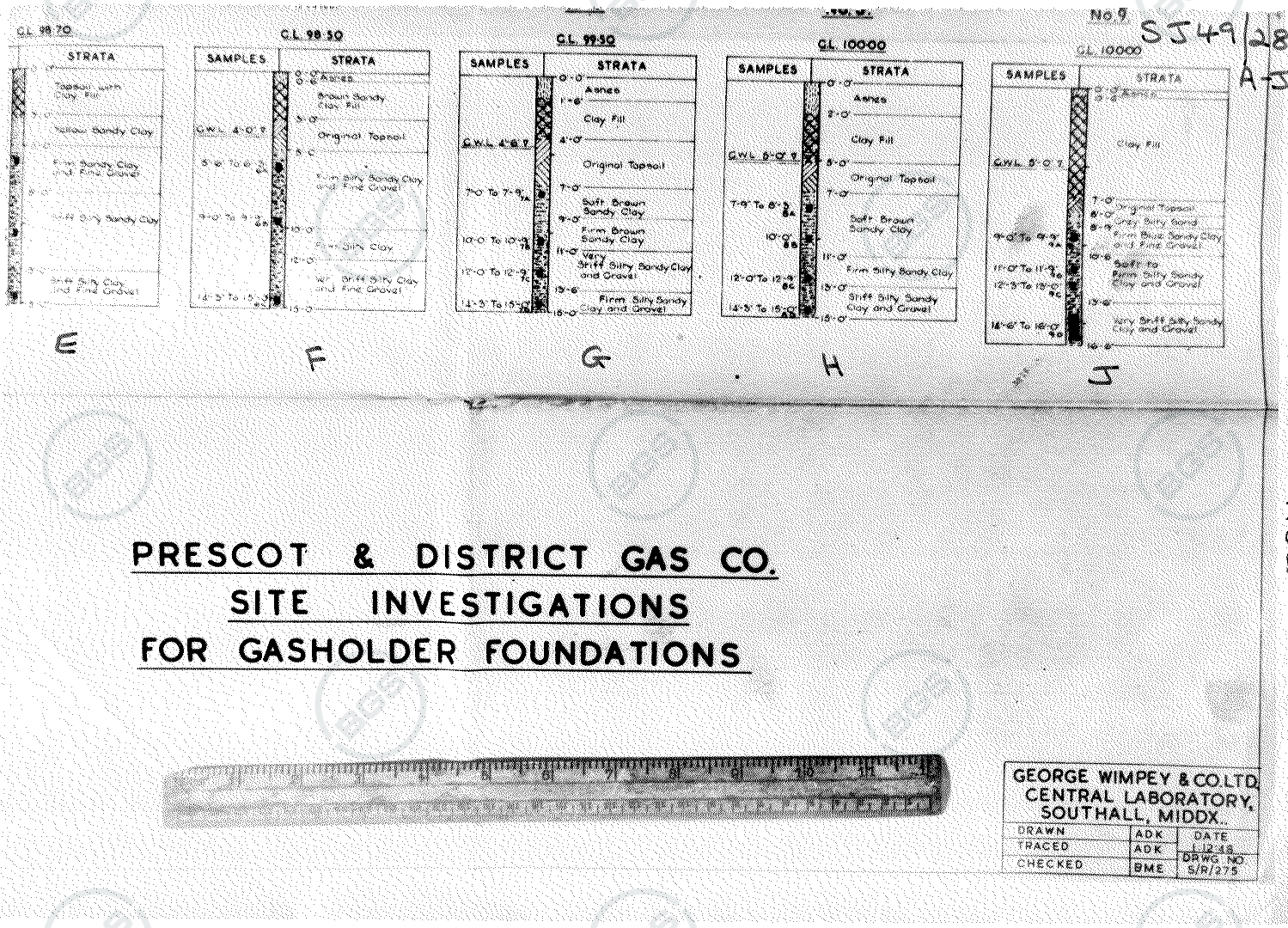

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British National Grid (27700) : 348172,391280

[redacted] Lancs 107 SE page 66n

Lancs 107 SE / 11-19

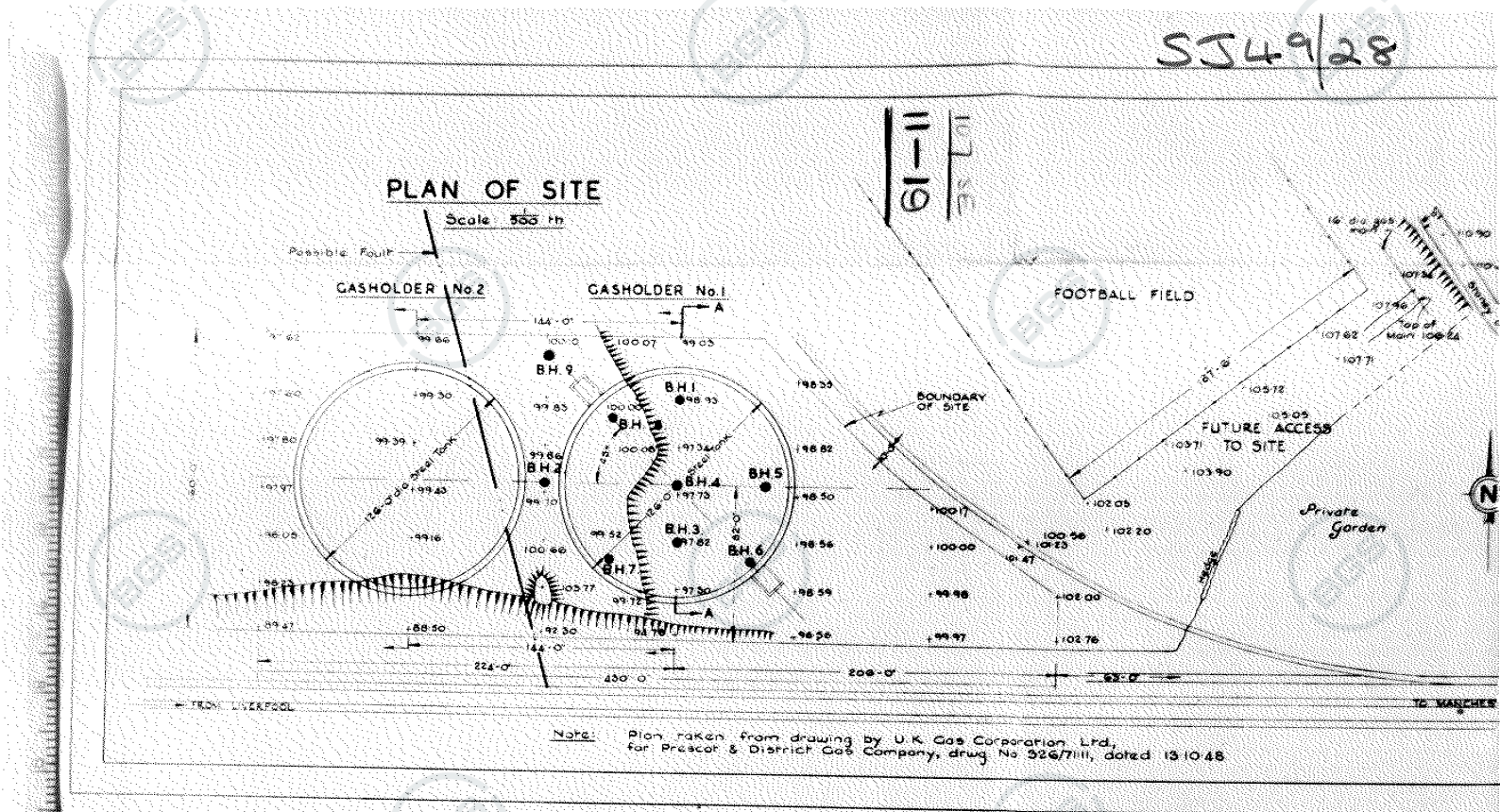
Maps 4

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165636 : BGS Reference: SJ49SE9/G
British National Grid (27700) : 348172,391280

SJ49/28



RECORD OF BO

A
BOREHOLE
No.1
G.L. 98.90

B
BOREHOLE
No.2.
G.L. 99.80

C
BOREHOLE
No.3.
G.L. 97.60

D
BOREHOLE
No.4.
G.L. 97.75

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165636 : BGS Reference: SJ49SE9/G
British National Grid (27700) : 348172,391280

Lancs 107 SE
11-19
Maps 1

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British Geological Survey

BGS ID: 165636 : BGS Reference: SJ49SE9/G
British National Grid (27700) : 348172,391280

SJ49/28

TYPICAL CROSS SECTION—A-A

HORIZONTAL SCALE 8 to 1-0"
VERTICAL 8 to 1-0"

126-0 dia of Gasholder

B.H.1 B.H.4 B.H.2 B.H.3

45'-0" 51'-0"

G.L. 98.90 AMSD G.L. 97.76 G.L. 97.80

Soft Clay Fill

Original Topsoil

Soft Brown Sandy Clay

Soft Silty Sandy Clay Soft to Firm Silty Sandy Clay and Gravel

58.05 approx

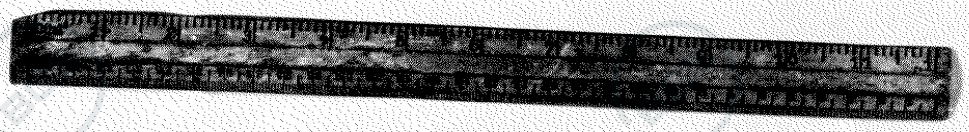
Stiff to Very Stiff Silty Sandy Clay and Gravel

Firm Silty Sandy (Saturated)

Soft Silty Sandy Clay

Soft Red Sandstone

Hard Red Sandstone



BOREHOLES Nos. 1 TO 9

E BOREHOLE No. 5

F BOREHOLE No. 6

G BOREHOLE No. 7

H BOREHOLE No. 8

J BOREHOLE No. 9

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165636 : BGS Reference: SJ49SE9/G
British National Grid (27700) : 348172,391280

Lancs 107 SE

11-19

Maps 2

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165637 : BGS Reference: SJ49SE9/H
British National Grid (27700) : 348172,391280

Institute of Geological Sciences

*

Name and Number of Shaft or Borehole :

6-in or 1:10 000 Map Registration No.
SJ 49 SE/9

National Grid Reference
4818 9129

Page

Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
	Brought Forward		
no. (6) SJ 49 SE/9f	Arbor	0.15	0.15
	Brown sandy clay fill.	0.76	0.91
	Original topsoil	0.61	1.52
	Firm silty sandy clay & fine gravel.	1.53	3.05
	Firm silty clay	0.61	3.66
	Very stiff silty clay & fine gravel.	0.91	4.57
no. (7) SJ 49 SE/9g	Arbor	0.46	0.46
	clay fill	0.76	1.22
	Original topsoil	0.91	2.13
	Soft brown sandy clay	0.61	2.74
	Firm brown sandy clay	0.61	3.35
	Very stiff silty, sandy clay & gravel.	0.76	4.11
	Firm silty sandy clay & gravel.	0.36	4.57
no. (8) SJ 49 SE/9h	Arbor	0.61	0.61
	clay fill	0.91	1.52
	Original Topsoil	0.61	2.13
	Soft brown sandy clay	1.22	3.35
	Firm silty sandy clay	0.61	3.96
	Stiff silty sandy clay & gravel.	0.61	4.57

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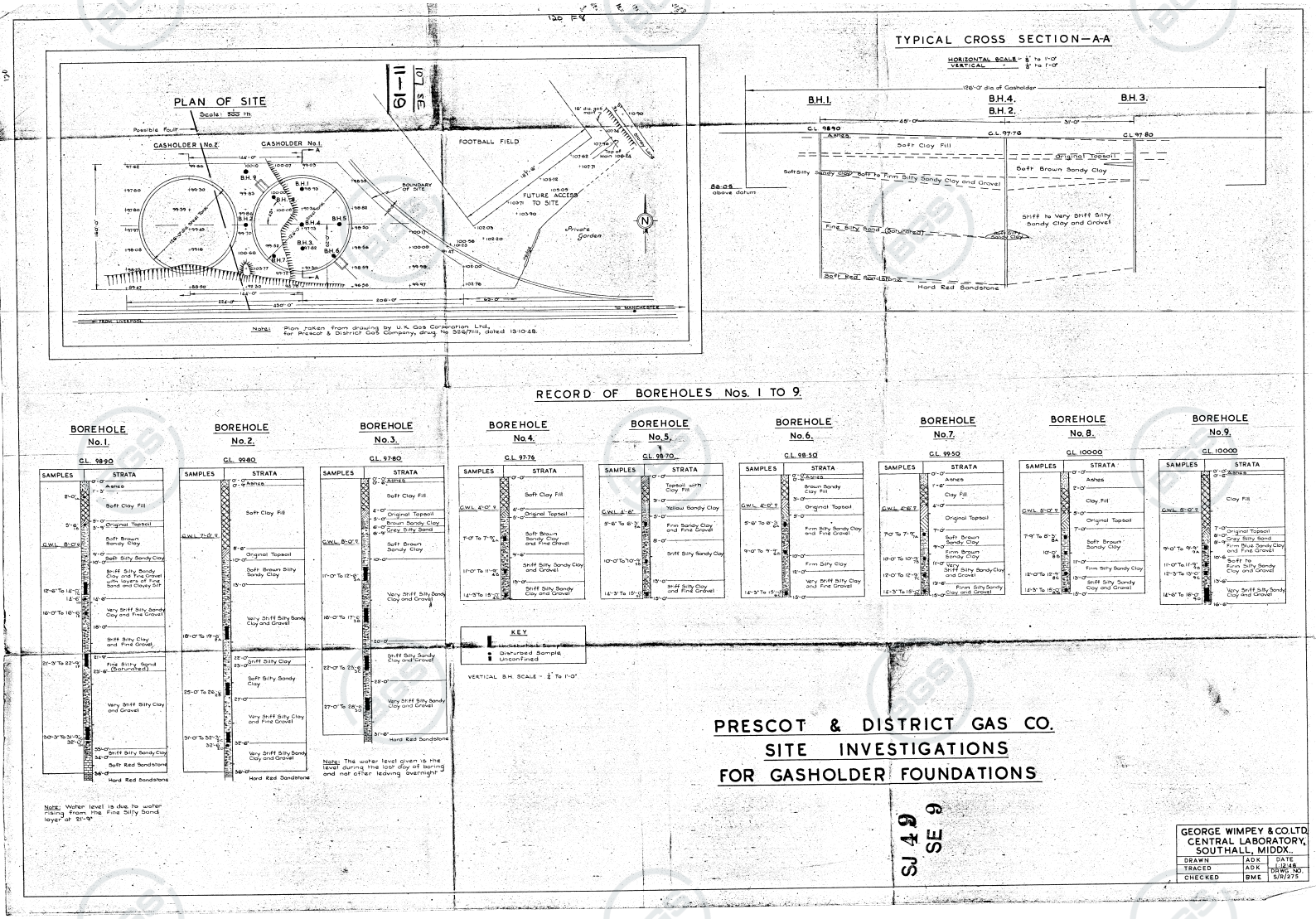


RECORD OF BOREHOLES Nos. 1 TO 9

Note: Water level is due to water rising from the Fine Silty Sand layer at 21'-9"

Note: The water level given is the level during the last day of boring and not after leaving overnight

PRESCOT & DISTRICT GAS CO.
SITE INVESTIGATIONS
FOR GASHOLDER FOUNDATIONS

SJ 49 SE 9

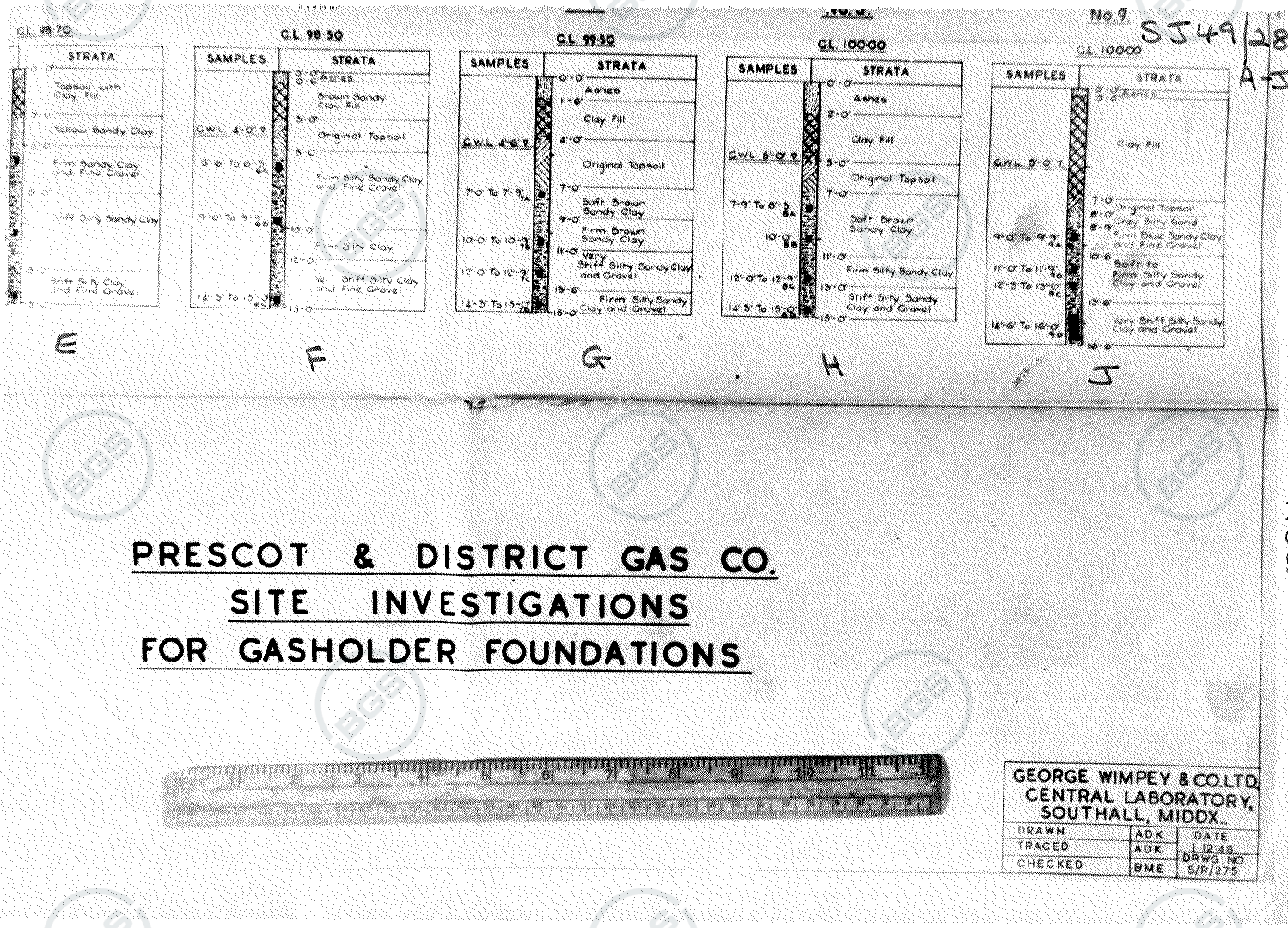
GEORGE WIMPEY & CO. LTD.
CENTRAL LABORATORY,
SOUTHALL, MIDDX.

DRAWN	ADK	DATE	1-12-48
TRACED	ADK	DRWG. NO	
CHECKED	BME		9/8/275

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165637 : BGS Reference: SJ49SE9/H
British National Grid (27700) : 348172,391280



Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165637 : BGS Reference: SJ49SE9/H
British National Grid (27700) : 348172,391280

[illegible] Lancs 107 SE page 66n

Lancs 107 SE / 11-19

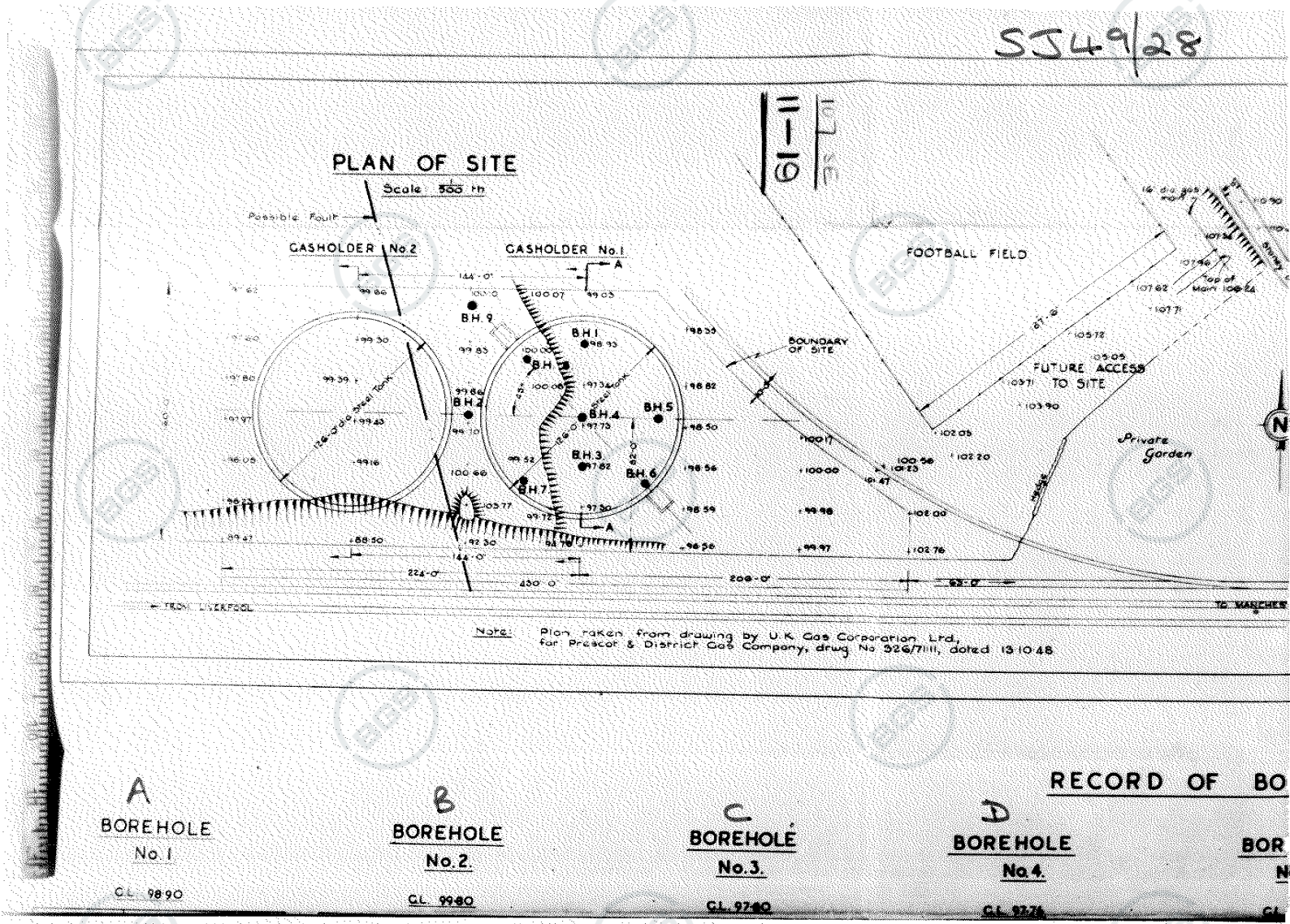
Maps 4

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165637 : BGS Reference: SJ49SE9/H
British National Grid (27700) : 348172,391280

SJ49/28



RECORD OF BO

A
BOREHOLE
No.1
G.L. 98.90

B
BOREHOLE
No.2.
G.L. 99.80

C
BOREHOLE
No.3.
G.L. 97.60

D
BOREHOLE
No.4.
G.L. 97.75

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165637 : BGS Reference: SJ49SE9/H
British National Grid (27700) : 348172,391280

Lancs 107 SE

11-19

Maps 1

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165637 : BGS Reference: SJ49SE9/H
British National Grid (27700) : 348172,391280

SJ49/28

TYPICAL CROSS SECTION—A-A

HORIZONTAL SCALE 8 to 1-0"
VERTICAL 8 to 1-0"

126-0 dia of Gasholder

B.H.1 B.H.4 B.H.2 B.H.3

45'-0" 51'-0"

C.L. 98.90 AMSD C.L. 97.76 C.L. 97.80

Soft Clay Fill

Original Topsoil

Soft Brown Sandy Clay

Soft Silty Sandy Clay Soft to Firm Silty Sandy Clay and Gravel

58.05 approx

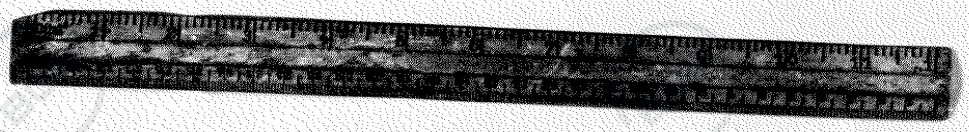
Stiff to Very Stiff Silty Sandy Clay and Gravel

Firm Silty Sandy (Saturated)

Soft Silty Sandy Clay

Soft Red Sandstone

Hard Red Sandstone



BOREHOLES Nos. 1 TO 9

E BOREHOLE No. 5

F BOREHOLE No. 6

G BOREHOLE No. 7

H BOREHOLE No. 8

J BOREHOLE No. 9

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165637 : BGS Reference: SJ49SE9/H
British National Grid (27700) : 348172,391280

Lancs 107 SE

11-19

Maps 2

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165638 : BGS Reference: SJ49SE9/J
British National Grid (27700) : 348172,391280

Institute of Geological Sciences

Name and Number of Shaft or Borehole :

6-in or 1:10 000 Map Registration No.
SJ 49 SE/9

National Grid Reference
4818 9129

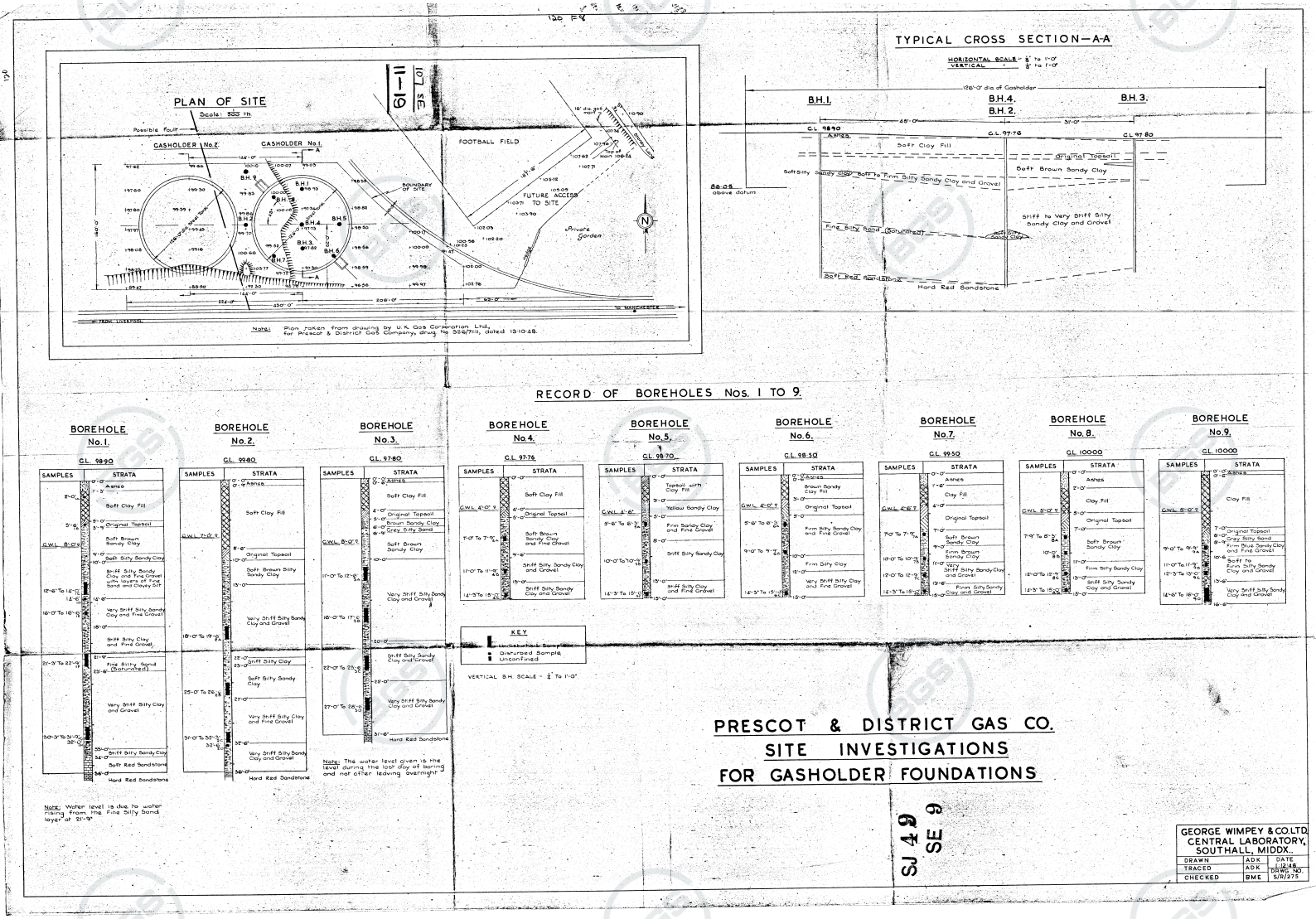
Page

Geological Classification	Description of Strata	Thickness *metres*	Depth *metres*
no. (9)	Brought Forward		
SJ 49 SE/9 J	Made ground	0.15	0.15
	clay fill	1.98	2.13
	Original topsoil	0.31	2.44
	Grey silty sand	0.23	2.67
	Firm blue sandy clay & fine gravel	0.53	3.20
	Soft to firm silty sandy clay & gravel	0.91	4.11
	Very stiff silty sandy clay & gravel.	0.92	5.03

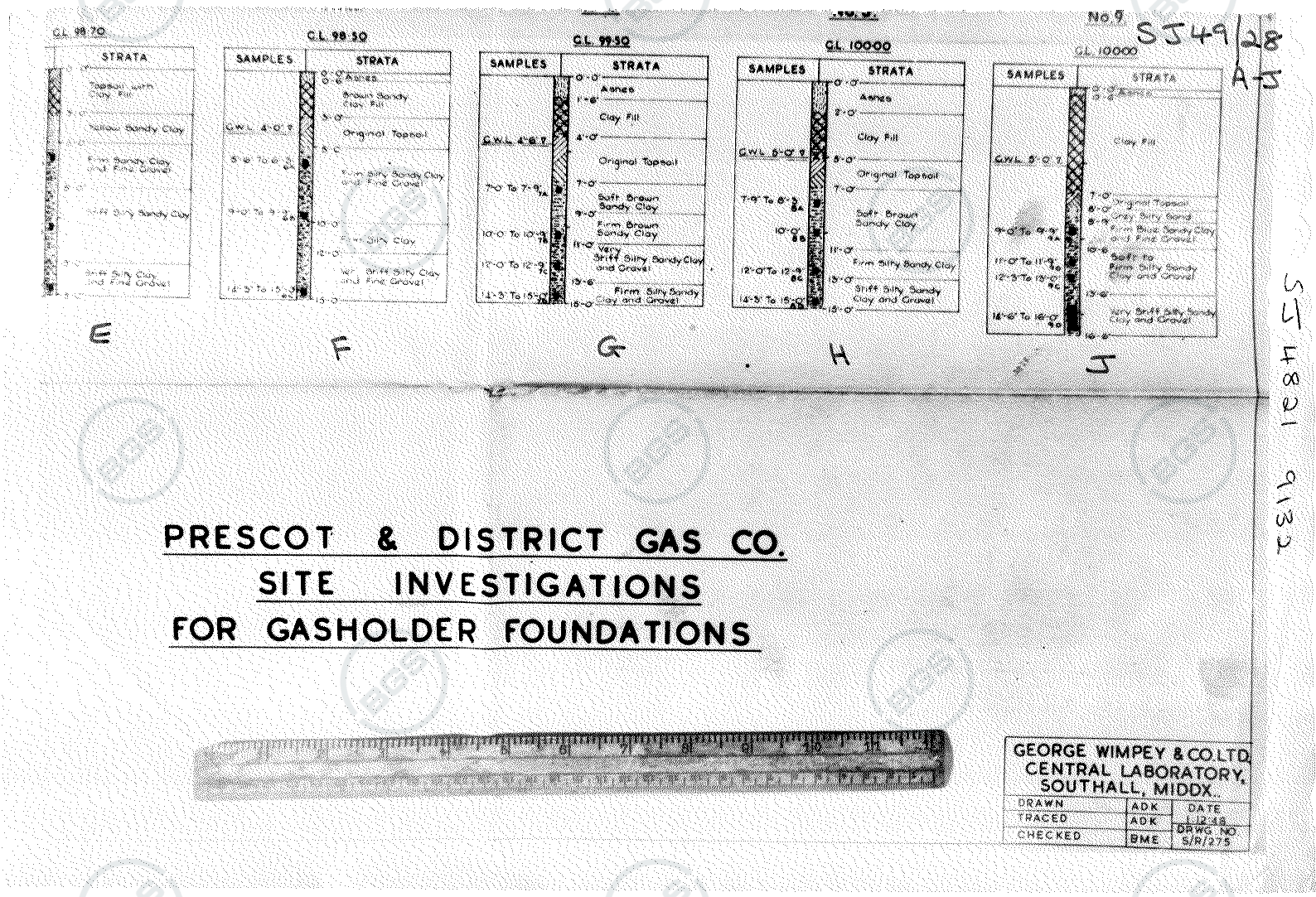
Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165638 : BGS Reference: SJ49SE9/J
British National Grid (27700) : 348172,391280



Contact BGS: ngdc@bgs.ac.uk


No. 9
SJ49/28
A-J
C.L. 98.70
C.L. 98.50
C.L. 99.50
C.L. 100.00
C.L. 100.00
STRATA
SAMPLES
Topsoil with Clay Fill
Yellow Sandy Clay
Firm Sandy Clay and Fine Gravel
Stiff Silty Sandy Clay
Stiff Silty Clay and Fine Gravel
Ashes
Brown Sandy Clay Fill
Original Topsoil
Firm Silty Sandy Clay and Fine Gravel
Firm Silty Clay
Very Stiff Silty Clay and Fine Gravel
Clay Fill
Soft Brown Sandy Clay
Firm Brown Sandy Clay
Very Stiff Silty Sandy Clay and Gravel
Firm Silty Sandy Clay and Gravel
Firm Silty Sandy Clay
Stiff Silty Sandy Clay and Gravel
Clay Fill
Original Topsoil
Grey Silty Sand
Firm Blue Sandy Clay and Fine Gravel
Soft to Firm Silty Sandy Clay and Gravel
Very Stiff Silty Sandy Clay and Gravel
E
F
G
H
J
SJ 4821 9132
PRESCOT & DISTRICT GAS CO.
SITE INVESTIGATIONS
FOR GASHOLDER FOUNDATIONS
GEORGE WIMPEY & CO. LTD.
CENTRAL LABORATORY,
SOUTHALL, MIDDX.
DRAWN
TRACED
CHECKED
ADK
ADK
BME
DATE
DRWG NO.
S/R/275

Lancs 107 SE page 66M

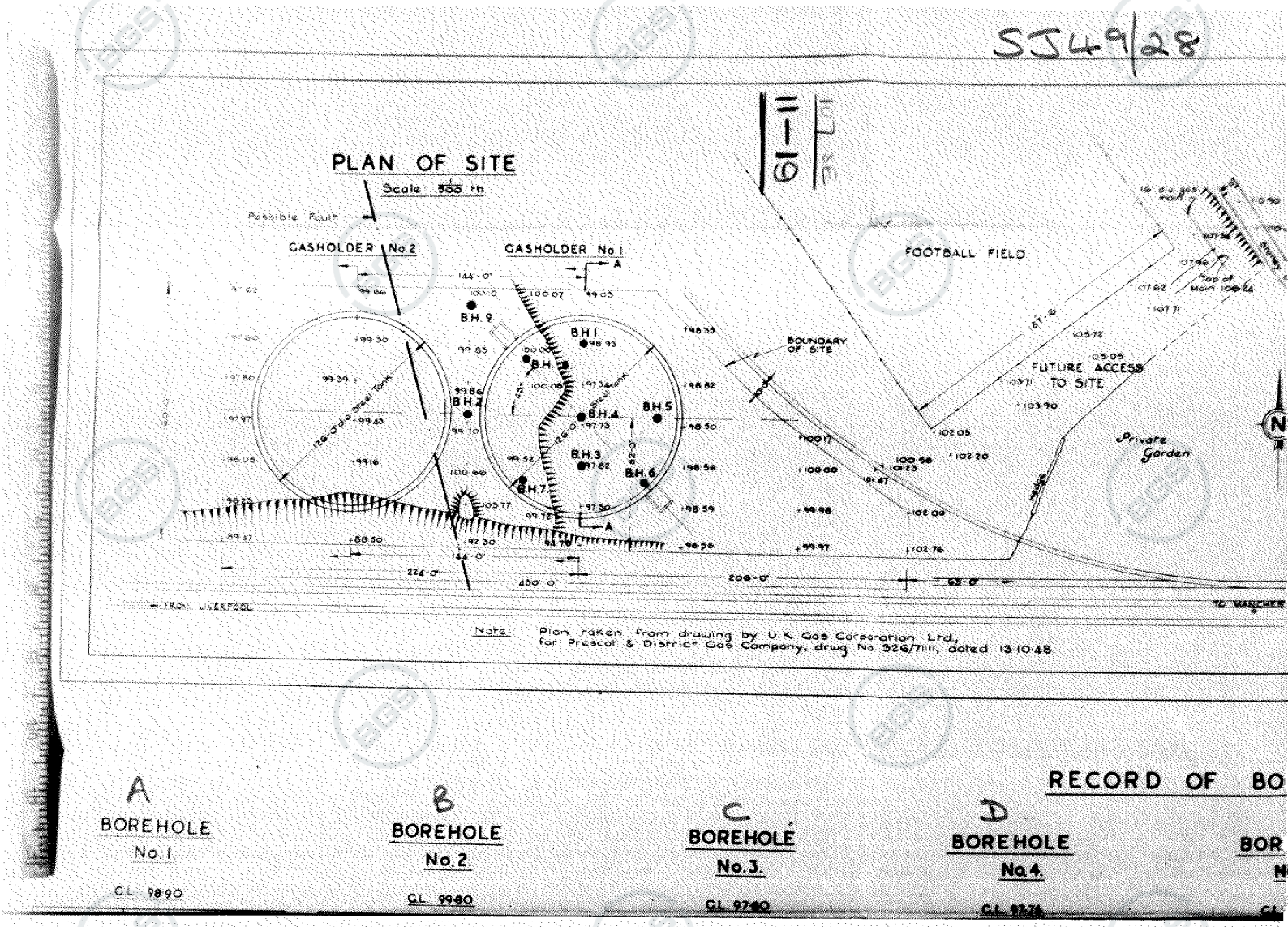
Lancs 107 SE / 11-19

Maps 4

British Geological Survey

BGS ID: 165638 : BGS Reference: SJ49SE9/J
British National Grid (27700) : 348172,391280

SJ49/28



RECORD OF BO

A
BOREHOLE
No.1
G.L. 98.90

B
BOREHOLE
No.2.
G.L. 99.80

C
BOREHOLE
No.3.
G.L. 97.60

D
BOREHOLE
No.4.
G.L. 97.76

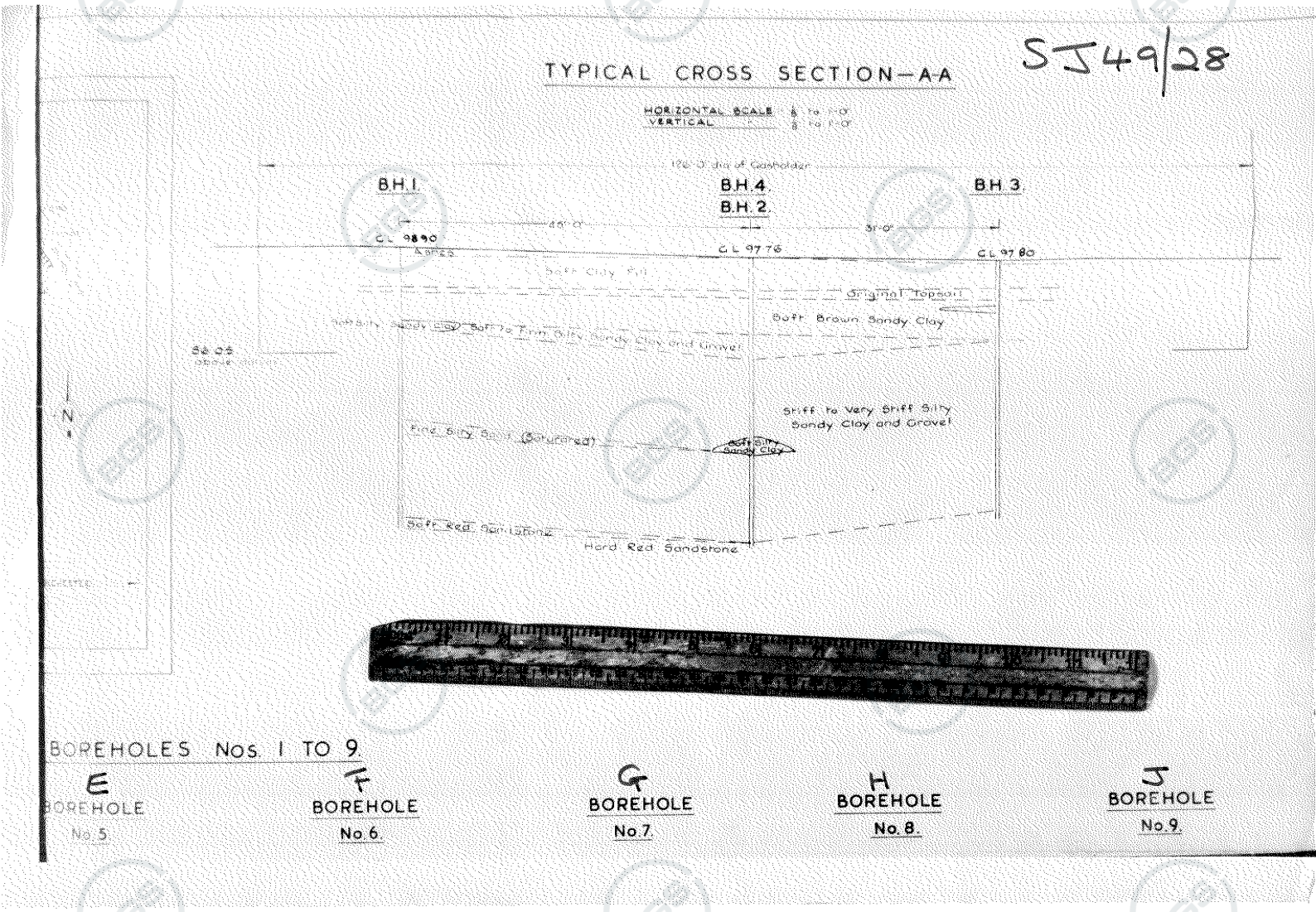
Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165638 : BGS Reference: SJ49SE9/J
British National Grid (27700) : 348172,391280

Lancs 107 SE
11-19
Maps 1

Contact BGS: ngdc@bgs.ac.uk


SJ49/28
TYPICAL CROSS SECTION—A-A
HORIZONTAL SCALE
VERTICAL
B.H.1.
B.H.4.
B.H.2.
B.H.3.
C.L. 98.90
C.L. 97.76
C.L. 97.80
Soft Clay Fill
Original Topsoil
Soft Brown Sandy Clay
Soft Silty Sandy Clay
Soft to Firm Silty Sandy Clay and Gravel
Stiff to Very Stiff Silty Sandy Clay and Gravel
Fine Silty Sand (Saturated)
Soft Silty Sandy Clay
Soft Red Sandstone
Hard Red Sandstone
N
BOREHOLES Nos. 1 TO 9.
E
BOREHOLE
No. 5.
F
BOREHOLE
No. 6.
G
BOREHOLE
No. 7.
H
BOREHOLE
No. 8.
J
BOREHOLE
No. 9.

British Geological Survey

BGS ID: 165638 : BGS Reference: SJ49SE9/J
British National Grid (27700) : 348172,391280

Lancs 107 SE

11-19

Maps 2

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165624 : BGS Reference: SJ49SE3
British National Grid (27700) : 348079,391307

97/14 AB SJ a) 4806 4181 b) 4799 9121

97/14

Name and Number of Shaft or Bore given by Geological Survey: Whiston Pumping Station

County LANCASHIRE

6" Quarter Sheet 107SE

WHISTON

St Helens Corporation

A & B

Geological Classification	Description	Thickness	Depth
SJ49/15B	Main well: 200.40 ft. O.D. SJ49/15A B Shaft 224.18 ft. X 9 ft. Bore 224.18 – 312 X 18 in. Unlined Heading (6ft X 5ft) for 720 yards in E.N.E. direction to join auxiliary well: floor level of heading 215.20 ft. deep. Rest water level 126 ft. Suction at 225 ft. 6 in. Yield 13,300 galls per hour. Hardness 10.75° (Smith 1871)		
SJ49/15A	Auxiliary well: 720 yards E.N.E. of the main well. Surface 188.49 ft. O.D. Shaft 225 ft X 10½ ft. Bore 225 – 465 ft 6 in X 18 in. [Joined to main well (A) by heading]		
	Drift Gravel	– 36 0	– 36 0
PERMO-TRIAS	Red sandstone	– 329 0	– 465 0
	Fault		
WESTPHALIAN C	"Ardwick Group" Fine grained purple micaceous sandstone	6	– 465 6

25-4-78

Sited with O on 6" Lancs 107SE/W 20.10.67 RPP

British Geological Survey

BGS ID: 165624 : BGS Reference: SJ49SE3
British National Grid (27700) : 348079,391307

SJ49/5A8 97/107 SE/2

97/14 SJ49/15

91222/16

MINISTRY OF HEALTH

WATER ACTS, 1945 AND 1948.

LICENCE

to construct works in the area defined in the Mersey Area (Conservation of Water), Order, 1948, made under Section 14(1) of the Water Act, 1945.

THE MINISTER OF HEALTH, on the application of the County Borough Council of St. Helens (hereinafter called the "Council") and in pursuance of his powers under section 14(6) of the Water Act, 1945, hereby licences the Council to install at the existing borehole at the Council's Pumping Station at Cumber Lane, Whiston, Lancs, pumping plant for the abstraction of additional quantities of water, subject to the following conditions:-

(1) that the maximum daily quantity of water which shall be abstracted from the said borehole shall be 45,000 gallons; and

(2) that at the earliest practicable date apparatus shall be provided and installed subject to the approval of the Minister, for measuring and recording the quantities of water abstracted in each day from the said borehole, and records shall be kept showing the quantity of water abstracted each day.

GIVEN under the Official Seal of the Minister of Health this 26th day of September, 1949.

S. G. G. WILKINSON

Assistant Secretary.
Ministry of Health.

See Overleaf.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165905 : BGS Reference: SJ49SE276
British National Grid (27700) : 347950,391810

SJ 4795 9181 SJ49 13

(°11982) Wt.30370/0370 10,000 9/39 A.& E.W.Ltd. Gp.685

Name and Number of Shaft or Bore given by Geological Survey:
RAINHILL Poor Law Institution
WHISTON

County Lancashire
6" Quarter Sheet 107SE

Geological Classification	Description	Thickness	Depth
	Lancashire		

107SE 1.

1" map: 97 (Warrington)
6" map: Lancashire 107SE.
Surface c. 220ft. O.D.
Well (now disused) - 196 - - 196 -
Drift on Bunter sandstone.
Yield (1878). 12000 gallons per day.

Contact BGS: ngdc@bgs.ac.uk

British Geological Survey

BGS ID: 165622 : BGS Reference: SJ49SE1
British National Grid (27700) : 347914,391876

(*11932) WL 30370/0370 10,000 9/39 A & E.W.Ltd 68

SJ 49 SE 1

NGR 4939189

Name and Number of Shaft or Bore given by Geological Survey:

RAINHILL Poor Lane Institution

WHISTON

County Lancashire

6" Quarter Sheet 107SE

Geological Classification	Description	Thickness	Depth
	Lancashire		
		107SE 1.	
	1" map: 97 (Warrington)		
	6" map: Lancashire 107SE.		
	Surface c. 220ft. O.D.		
	Well (now disused)	- 196 - (59.74m)	- 196 - (59.74m)
	Drift on Bunter sandstone.		
	Yield (1878). 12000 gallons per day.		

Contact BGS: ngdc@bgs.ac.uk

APPENDIX F

Consultant's Coal Mining Report

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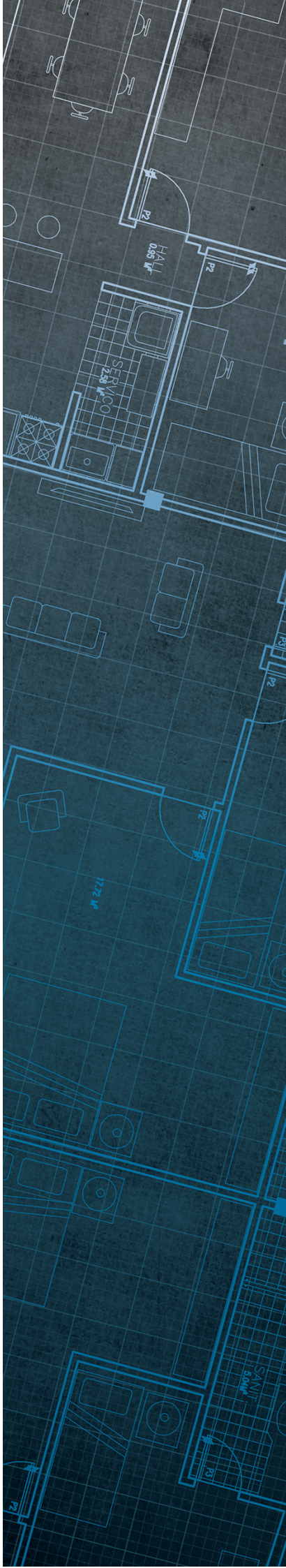
The Coal Authority

Consultants

Coal Mining Report

Glen Dimplex Home Appliances,
Stoney Lane, Whiston, Knowsley,
L35 2xw
Merseyside

Date of enquiry:	**7 October 2025**
Date enquiry received:	**7 October 2025**
Issue date:	**7 October 2025**
Our reference:	**51003529893001**
Your reference:	**GS-QZL-1W8-ACB-DNB**



Consultants
Coal Mining Report

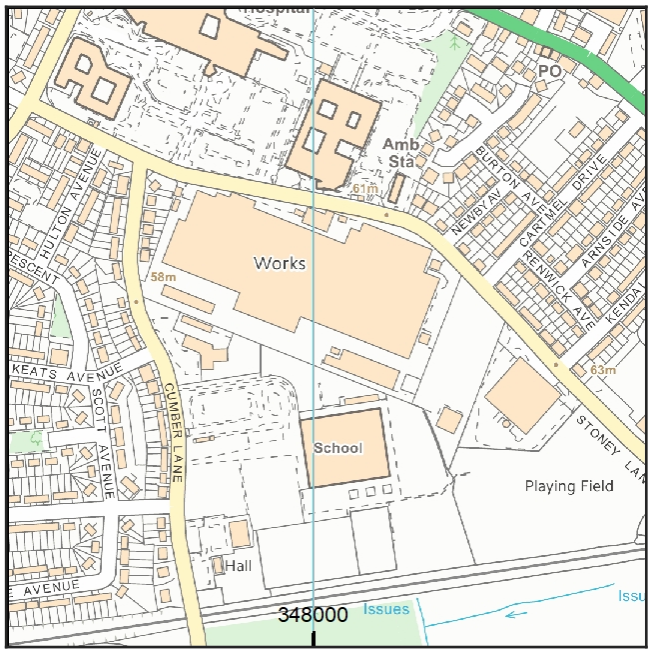
This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

GROUNDSURE LIMITED

Enquiry address

Glen Dimplex Home Appliances, Stoney Lane,
Whiston, Knowsley, L35 2xw
Merseyside



Approximate position of property

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How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

@coalauthority
/company/the-coal-authority
/thecoalauthority
/thecoalauthority

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Section 1 – Mining activity and geology

Past underground mining
No past mining recorded.

Probable unrecorded shallow workings
None.

Spine roadways at shallow depth
No spine roadway recorded at shallow depth.

Mine entries
None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers
The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

16820		

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops
No outcrops recorded.

Geological faults, fissures and breaklines
Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Faults under or close to the property recorded.

Opencast mines
None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips
None recorded within 500 metres of the enquiry boundary.

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Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations
None recorded within 50 metres of the enquiry boundary.

Remediated sites
None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence
The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas
None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes
None recorded within 500 metres of the enquiry boundary.

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Section 3 – Licensing and future mining activity

Future underground mining
None recorded.

Coal mining licensing
None recorded within 200 metres of the enquiry boundary.

Court orders
None recorded.

Section 46 notices
No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices
The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land
The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

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Section 4 – Further information

Based on the responses in this report, no further information has been highlighted.

Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

MINE GAS: Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

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Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk.**

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

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Opencast mines
Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips
Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations
Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites
Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence
Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas
Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

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Mine water treatment schemes
Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining
Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing
Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders
Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices
Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices
Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land
Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

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The Coal Authority

Summary of findings

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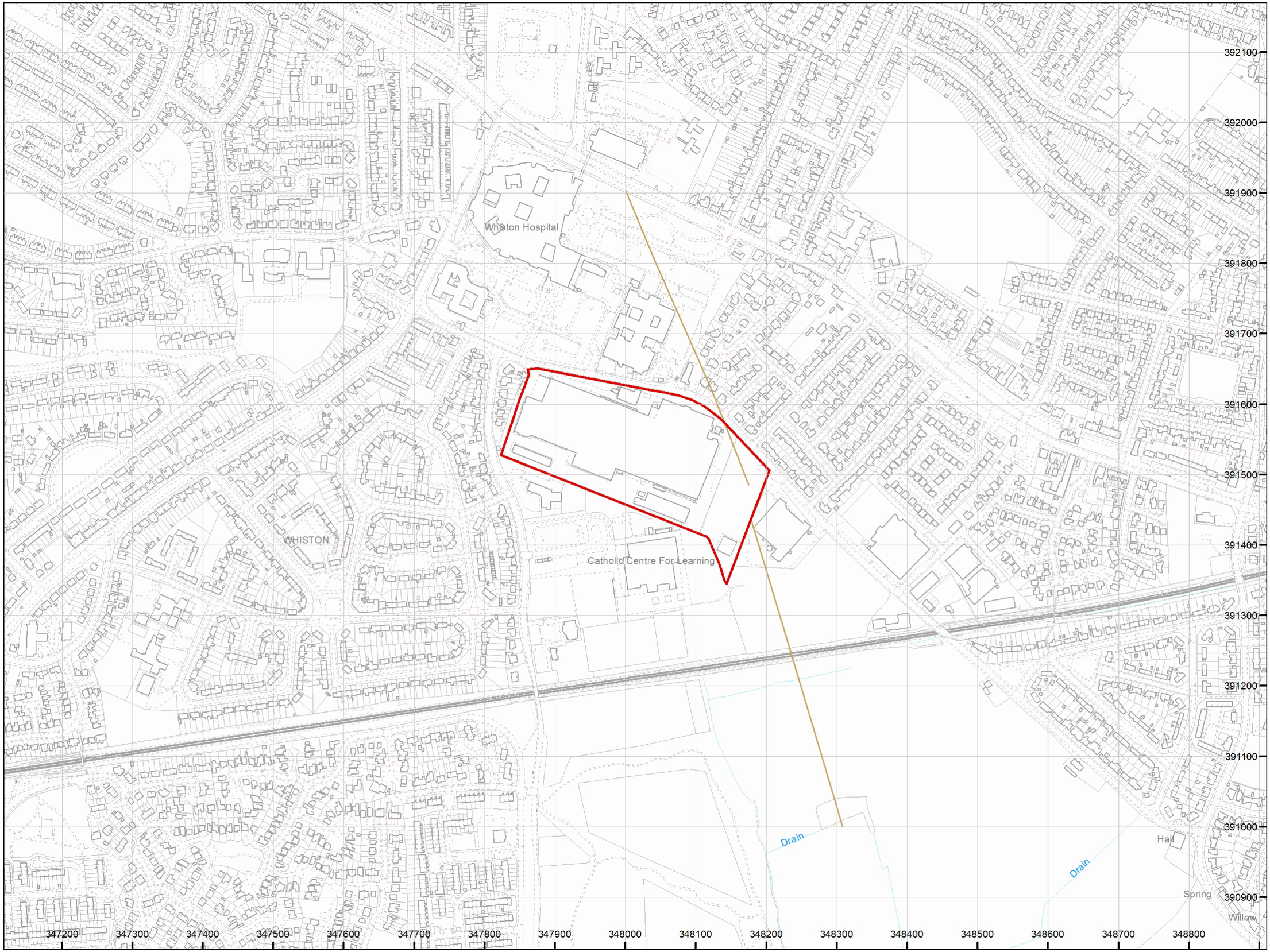
Map data

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

Approximate position of the enquiry boundary shown

Geological faults



How to contact us
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com

APPENDIX G

Part B Permit Surrender Documentation

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Part B Surrender form

Notification for the surrender of a permit

Local Authority Pollution Prevention and Control

Pollution Prevention and Control Act, 1999
Environmental Permitting (England and Wales) Regulations 2010

Introduction

When to use this form:

This environmental permitting regime is known as and referred to as Local Authority Pollution Prevention and Control ('LAPPC'). Installations permitted under this regime are known as Part 'B' installations Use this form if you already have a permit and have ceased to operate, or intend to cease to operate your installation and wish to surrender the permit. You may apply to surrender the whole or part of your permit under the Environmental Permitting (England and Wales) Regulations 2010 ("the EP Regulations").

Before you start to fill in this form:

You are strongly advised to read relevant parts of the Defra general guidance manual issued for LA-IPPC and LAPPC, republished in May 2011. This contains a list of other documents you may need to refer to when you are preparing your application, and explains some of the technical terms used. You will also need to read the relevant sector guidance note, BREF note or Process Guidance note. The EP Regulations can be obtained from www.legislation.gov.uk website.

Which parts of the form to fill in:

You should fill in as much of this form as possible. When complete return to:

Other documents you may need to submit:

There are number of other documents you may need to send us with your application for surrender. Each time a request for a document is made in the form you will need to record a document reference number for the document or documents that you are submitting in the space provided on the form for this purpose. Please also mark the document(s) clearly with your permit reference number and the name of the installation.

Using continuation sheets:

In the case of the questions on the form itself, please use a continuation sheet if you need extra space; but please indicate clearly on the form that you have done so by stating a document reference number for that continuation sheet. Please also mark the continuation sheet itself clearly with the information referred to above.

Copies - *not relevant for e-applications*

You do not need to send multiple copies of this form, consultation is not required to surrender a permit.

If you need help and advice:

We have made the form as straightforward as possible, but please get in touch with us at the local authority address given above if you need any advice on how to set out the information we need.

A1 Applicant details

A1.1 Name of the installation

GLEN DIMPLEX HOME APPLIANCES (POWDER COATING)

A1.2 Please give the address of the site of the installation:

STONEY LANE

PRESCOT

Postcode L35 2XW **Telephone**

A1.3 Permit reference number:

B/0494/6.4/6

A2.1 The Operator – Please provide the full name of company or corporate body:

GLEN DIMPLEX HOME APPLIANCES

Trading/business name (if different)

Registered Office address

STONEY LANE

PRESCOT Postcode L35 2XW

Principal Office address (if different)

Postcode

Company registration number

02692306

A3.1 Who can we contact about your surrender notification?

It will help to have someone who we can contact directly with any questions about your application. The person you name should have the authority to act on behalf of the operator - This can be an agent or consultant:

Name DAVID LAWSON

Position OPERATIONS DIRECTOR

Address STONEY LANE, PRESCOT

Postcode L35 2XW

Telephone number

Fax number

email address

B1 Do you wish to surrender your permit in whole or in part?

Surrender whole permit: ☑

Partial surrender: ☐

In the case of partial surrender only, please fill in the table below with details of which parts of the installation are to remain in operation and which part will cease have ceased to operate, the part of the installation will be known as 'the surrender unit'.

Please fill in the table below with details of all the current activities in operation at the whole installation.

In **Column 1, Box A, *Activities in the stationary technical unit which are to remain in operation.***
Please identify all activities listed in Schedule 1 to the EP Regulations that are, or are proposed, to remain in operation in the stationary technical unit of the installation.

In **Column 1, Box B, *Directly associated activities which are to remain in operation***
Please identify any directly associated activities that are, or are proposed, to remain in operation on the same site which:

- have a technical connection with the activities in the stationary technical unit
- could have an effect on pollution

In **Column 1, Box A(i), *Activities in the stationary technical unit which are to, or have, ceased operation.***
Please identify all activities listed in Schedule 1 to the EP Regulations that are, or are proposed, to cease operation in the stationary technical unit of the installation.

In **Column 1, Box B(i), *Directly associated activities which are to, or have, ceased operation***
Please identify any directly associated activities that are, or are proposed, to cease operation on the same site which:

- have a technical connection with the activities in the stationary technical unit
- could have an effect on pollution

In **Column 2, both Boxes A and B**, please quote the Chapter number, Section number, then paragraph and sub-paragraph number as shown in Part 2 of Schedule 1 to the EP Regulations [For example, *Manufacturing glass and glass fibre where the use of lead or any lead compound is involved*, would be listed as Chapter 3, Section 3.3, Part B(b)].

In the case of mobile plant please list any serial number which apply to plant or equipment.

B1.1 Installation table for partial surrender of permit

COLUMN 1	**COLUMN 2**
Box A Activities to remain in operation in the Stationary Technical Unit	Section in Schedule 1 of the EP Regulations
Box B Directly associated activities to remain in operation in the Stationary Technical Unit	Section in Schedule 1 of the EP Regulations
Box A(i) Activities to cease operation in the Stationary Technical Unit	Section in Schedule 1 of the EP Regulations
Box B(i) Directly associated activities to cease operation in the Stationary Technical Unit	Section in Schedule 1 of the EP Regulations

B.1.3 Site Maps

You do not need to provide a site map in case of a notification to surrender the whole of your permit.

In the case of partial surrender of your permit only please provide:-

* A suitable plan or map showing the activities on the site which are to cease operation (the surrender unit) and the activities to remain in operation within the extent of the installation.

Doc Reference _____

B2 The Installation

B2.1 The date on which the activity's operation will cease

12/07/2024

B2.2 In the case of partial surrender only you may indicate whether you consider certain conditions will require a variation in wording to take account of the surrender of the permit for part of the facility. Please detail the exact conditions you wish to change in your current permit.

Permit condition reference	Proposed new wording of condition

B2.3 Additional information

Please supply any additional information which you would like us to take account of in considering this application for surrender.

Doc Reference _____

C3 Commercial confidentiality

C3.1 Is there any information in this application to surrender, or partially surrender your permit, that you wish to justify being kept from the public register on the grounds of commercial confidentiality?

No ☑

Yes ☐

Please provide full justification, considering the definition of commercial confidentiality within the EP Regulations.

Doc Reference _____

C3.2 Is there any information in the application to surrender, or partially surrender your permit, that you believe should be kept from the public register on the grounds of national security?

No ☑

Yes ☐

Do not write anything about this information on the form. Please provide full details on separate sheets.

C4 Data Protection

The information you give will be used by the Local Authority to determine your application to surrender, or partially surrender your permit. It will be placed on the relevant public register. We may also use and or disclose any of the information you give us in order to:

- consult with the public, public bodies and other organisations,
- carry out statistical analysis, research and development on environmental issues,
- provide public register information to enquirers,
- make sure you keep to the conditions of your permit and deal with any matters relating to your permit
- investigate possible breaches of environmental law and take any resulting action,
- prevent breaches of environmental law,
- offer you documents or services relating to environmental matters,
- respond to requests for information under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004 (if the Data Protection Act allows)
- assess customer service satisfaction and improve our service.

We may pass on the information to agents/ representatives who we ask to do any of these things on our behalf.

It is an offence under EP Regulation 38 for the purpose of obtaining the surrender, or partial surrender of a permit (for yourself or anyone else) to:

- make a false statement which you know to be false or misleading in a material particular,
- recklessly make a statement which is false or misleading in a material particular.

If you make a false statement

- we may prosecute you, and
- if you are convicted, you are liable to a fine or imprisonment (or both).

C5 Declaration

C5.1 Signature of current operator(s)*

I/ ~~We~~ certify that the information in this surrender application is correct. I/ ~~We~~ apply for a permit in respect of the particulars described in this surrender application (including supporting documentation) I / ~~We~~ have supplied.

Please note that each individual operator must sign the declaration themselves, even if an agent is acting on their behalf.

For the surrender application from:

Installation name: POWDER PAINT

Signature ___

Name DAVID LAWSON

Position OPERATIONS DIRECTOR

Date 26.7.24

Signature ___

Name ___

Position ___

Date ___

* Where more than one person is defined as the operator, all should sign. Where a company or other body corporate – an authorised person should sign and provide evidence of authority from the board of the company or body corporate.

APPENDIX H

Regulatory Authority Information

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Our ref: EIR2026/25903

Your ref:

Dear Beverley Lewis,

I am writing in response to your request for information, received 29 May 2026 regarding 260531/PB04 Glen Dimplex, Stoney Lane, Whiston L35 2XW.

The Waste Carriers Licence for the site is found here: View registration CBDL256643. The site has never had a Waste Permit or Waste Exemption. I have checked for confirmed pollution reports and that was a nil return. I also checked for Enforcement Actions at the site in Whiston and that was a nil return as well.

The Environment Agency's records do not indicate that the property has been designated as a Special Site and there is accordingly no entry relating to it on the register maintained by the Environment Agency under section 78R of the Environmental Protection Act 1990. For further information relating to land contamination it is recommended that you contact the relevant local authority.

Local Authorities are the lead regulators for contaminated land with respect to Human Health and hold historic records/reports on potential sources of land contamination and within their boroughs. We recommend that the enquirer contacts The Local Council Contaminated Land/Environmental Health Team to see if they hold any relevant information in relation to the current use and potential sources of contamination on the site and adjacent land.

Please refer to the Open Government Licence which explains the permitted use of this information.

Please get in touch if you have any further queries or contact us within two months if you'd like us to review the information we have sent.

Yours sincerely,

Sarah Walters

GMMC Area Customers and Engagement Team

Environment Agency

Please tell us how we did

To help improve your experience as a customer we are currently gathering feedback. If you would like to take part in a short customer satisfaction survey, please click the link below:

Environment Agency FOI Customer Satisfaction Survey

Knowsley Council

Back to Knowsley.gov.uk

Freedom of Information

Reference number

10567

Subject

EIR request for information relating to Glen Dimplex, Stoney Lane Whiston

Request details

EIR request for information relating to Glen Dimplex, Stoney Lane Whiston

Dear Sir/Madam,

I am writing to request information under the Environmental Information Regulations 2004

Please can you provide the following information:

- 1. Details of pollution events on the site and attributable to the site
  2. EPA Part 2A survey information
  3. Details LAPC/PPC/IPPC/Environmental and other Permits, baseline condition, monitoring and surrender reporting associated with Permits
  4. Details of any waste management licences or permits associated with the site and within a specified distance
  5. Copies of consultee responses to current or historical planning applications for the site and within a specified distance from the EA, natural England, historic England.
  6. Details of pre-application or other consultations for the site and copies of all information submitted and any responses
  7. Details of information submitted for previous planning applications
  8. Any other information relevant to the storage, use or release of pollutants from the site.

This relates to the land associated with Glen Dimplex, off Stoney Lane, Whiston

I would prefer to receive the information electronically by email

Response details

Please see attached

> Below is a list of all documents/files included with the reponse. Click the 'Download Document/File' button to download and view the response.

Related Documents

Press Notice.pdf

Download Document/File

Neighbour Comments.pdf

Download Document/File

Glen Dimplex - Permit Surrender Form_Redacted.pdf

Download Document/File

Copy neighbour letter.pdf

Download Document/File

00672 EA Comments.pdf

Download Document/File

Copy site notices displayed..pdf

Download Document/File

If you are dissatisfied with the handling of your Freedom of Information request, you may request an internal review. Internal review requests should be made within 40 working days of our initial response to your request. After this deadline the Council are not obliged to accept internal reviews. To request an internal view, please email foi@knowsley.gov.uk (mailto:foi@knowsley.gov.uk)

Should you submit a review under this procedure but remain dissatisfied, we are also required to inform you that you can appeal against the decision by contacting the Information Commissioner.

The Commissioner's postal address is Wycliffe House, Water Lane, Wilmslow SK9 5AF. The telephone number for the Information Commissioner's Office is 0303 123 1113 or 01625 545745. The e-mail address is:casework@ico.org.uk (mailto:casework@ico.org.uk)

B (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AB)

C (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AC)

D (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AD)

E (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AE)

F (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AF)

G (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AG)

H (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AH)

I (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AI)

J (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AJ)

K (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AK)

L (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AL)

M (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AM)

N (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AN)

O (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AO)

P (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AP)

Q (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AQ)

R (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AR)

S (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AS)

T (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AT)

U (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AU)

V (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AV)

W (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AW)

X (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AX)

Y (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AY)

Z (https://www.knowsley.gov.uk/sitemap-az?f%5B0%5D=az%3AZ)

Using this site

Accessibility (https://www.knowsley.gov.uk/accessibility-statement)

Contact us (https://www.knowsley.gov.uk/contact-us)

FAO: Lee Osborne
Knowsley Metropolitan Borough Council
Development Control
PO Box 26
Huyton
Liverpool
L36 9FB

Our ref: SO/2026/125642/01-L01
Your ref: 25/00672/FUL

Date: 12 March 2026

Dear Lee,

DEVELOPMENT COMPRISING THE ERECTION OF UP TO 204 DWELLINGS WITH ASSOCIATED PARKING, CONSTRUCTION OF VEHICULAR AND PEDESTRIAN ACCESSES FROM STONEY LANE, PEDESTRIAN ACCESS FROM CUMBER LANE, SUBSTATIONS, SUDS BALANCING POND, PUBLIC OPEN SPACE, LANDSCAPING, AND ASSOCIATED INFRASTRUCTURE

GLEN DIMPLEX SITE STONEY LANE WHISTON KNOWSLEY L35 2XW

Thank you for consulting us on the above application on 2 March 2025.

Environment Agency Position

We have no objection in principle to the proposed development, but we take this opportunity to make the following comments.

Contaminated Land

The previous use of the proposed development site has been identified as presenting an ongoing and significant risk of contamination that could be mobilised during site works and construction to pollute controlled waters. Controlled waters are particularly sensitive in this location because the proposed development site is located upon a principal aquifer and secondary aquifers.

The applications supporting information demonstrates that it will be possible to manage the risks posed to controlled waters by this development. Further detailed information is however required before built development is undertaken. We believe that it would place an unreasonable burden on the developer to ask for more detailed information prior to the granting of planning permission but respect that this is a decision for the LPA. This is required prior to commencement of the development.

In light of the above, the proposed development will be acceptable, if a planning condition is included requiring the submission of a detailed land contamination management strategy. This should be carried out by a competent person in line with paragraph 196 of the NPPF.

Without the following conditions we would object to the proposed development in line with paragraph 187 of the NPPF because it cannot be guaranteed that the development will contribute to and enhance the natural and local environment by remediating and mitigating despoiled, degraded, derelict, contaminated and unstable

land, where appropriate or will not be put at unacceptable risk from, or be adversely affected by, unacceptable levels of water pollution.

Condition

No development approved by this planning permission shall commence until a remediation strategy to deal with the risks associated with contamination of the site in respect of the development hereby permitted, has been submitted to, and approved in writing by, the LPA. This strategy will include the following components:

1. Up to date Preliminary Risk Assessment (PRA) and conceptual model following the results of an exploratory investigation.
2. A detailed site investigation scheme, based on the results from (1) to provide information for a detailed risk assessment to all receptors that may be affected, including those off-site.
3. A tiered risk assessment using the results of the site investigation referred to in (2).
4. An options appraisal including sustainability and treatability studies of the remediation measures required and how they are to be undertaken.
5. A remediation strategy and verification plan providing details of the data that will be collected in order to demonstrate that the works set out in the remediation strategy are complete and identifying any requirements for longer-term monitoring of pollutant linkages, mitigation, maintenance and arrangements for contingency action.

Any changes to these components require the written consent of the LPA. The scheme shall be implemented as approved.

Reasons

To ensure that the development does not contribute to, and is not put at unacceptable risk from or adversely affected by, unacceptable levels of water pollution in line with paragraph 187 of the NPPF.

To ensure the development will contribute to and enhance the natural and local environment by remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate in line with paragraph 187 of the NPPF.

Condition

No drainage systems for the infiltration of surface water to the ground where adverse ground conditions are known or suspected to be present are permitted other than with the written consent of the LPA. Any proposals for such systems must be supported by an assessment of the risks to controlled waters. The development shall be carried out in accordance with the approved details.

Reason

To ensure that the development does not contribute to, and is not put at unacceptable risk from or adversely affected by, unacceptable levels of water pollution caused by mobilised contaminants. This is in line with paragraph 187 of the NPPF.

Cont/d..

Condition

The Piling or other penetrative foundation designs using penetrative method hereby permitted by the LPA may not commence until such time as a scheme has been submitted to, and approved in writing by, the LPA.

The scheme shall be based on the information submitted as part of the application and, where necessary, supported by:

- Foundation Works Risk Assessment.
- A conceptual site model.
- Specification of the type, number and depth of proposed piles/ foundations/ dimensions of shaft/tunnel/ design of heating and cooling system.
- A detailed groundwater monitoring programme including a schedule for submission of interim and final monitoring reports.
- A contingency action plan including the list of potential mitigation measures that will be implemented, should unexpected changes in groundwater quality be noted as a result of the Piling or other penetrative foundation designs works.
- Timing/phasing arrangements.

The scheme shall be fully implemented and subsequently maintained, in accordance with the timing/phasing arrangements contained in the scheme, or any details as may subsequently be agreed, in writing, by the LPA.

Reason

To ensure that the proposed Piling or other penetrative foundation designs, does not harm groundwater resources in line with paragraph 187 of the NPPF and Position Statement J of The Environment Agency's approach to groundwater protection.

Condition

Prior to any part of the permitted development being occupied, a verification report demonstrating the completion of works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to, and approved in writing, by the LPA. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met.

Reason

To ensure that the site does not pose any further risk to the land and water environment by demonstrating that the requirements of the approved verification plan have been met and that remediation of the site is complete. This is in line with paragraph 187 of the NPPF.

Advice to applicant

Model Procedures and good practice

This development site appears to have been the subject of past industrial activity which may pose a risk of pollution to controlled waters.
We recommend that you should:

- Follow the risk management framework provided in Guidance on Land contamination risk management (LCRM) Land contamination risk. management (LCRM) - GOV.UK (www.gov.uk), when dealing with land affected by contamination.
- Refer to the contaminated land pages on gov.uk for more information.
- Refer to 'The Environment Agency's approach to groundwater protection'.

All investigations of land potentially affected by contamination should be carried out by or under the direction of a suitably qualified competent person and in accordance with BS 10175 (2001) Code of practice for the investigation of potentially contaminated sites.

Where the remediation / redevelopment of the site will involve waste management issues we offer the following advice:

Waste on-site

The CL:AIRE Definition of Waste: Development Industry Code of Practice (version 2) provides operators with a framework for determining whether or not excavated material arising from site during remediation and/or land development works is waste or has ceased to be waste.

Under the Code of Practice:

- Excavated materials that are recovered via a treatment operation can be reused on-site providing they are treated to a standard such that they are fit for purpose and unlikely to cause pollution.
- Treated materials can be transferred between sites as part of a hub and cluster project.
- Some naturally occurring clean material can be transferred directly between sites.

Developers should ensure that all contaminated materials are adequately characterised both chemically and physically, and that the permitting status of any proposed on-site operations are clear. If in doubt, the Environment Agency should be contacted for advice at an early stage to avoid any delays.

We recommend that developers should refer to:

- The position statement on the Definition of Waste: Development Industry Code of Practice.
- The waste management page on GOV.UK.

Cont/d..

Waste to be taken off-site

Contaminated soil that is (or must be) disposed of is waste. Therefore, its handling, transport, treatment and disposal are subject to waste management legislation, which includes:

- Duty of Care Regulations 1991.
- Hazardous Waste (England and Wales) Regulations 2005.
- Environmental Permitting (England and Wales) Regulations 2016.
- The Waste (England and Wales) Regulations 2011.

Developers should ensure that all contaminated materials are adequately characterised both chemically and physically in line with British Standard BS EN 14899:2005 'Characterization of Waste - Sampling of Waste Materials - Framework for the Preparation and Application of a Sampling Plan' and that the permitting status of any proposed treatment or disposal activity is clear. If in doubt, the Environment Agency should be contacted for advice at an early stage to avoid any delays.

If the total quantity of hazardous waste material produced or taken off-site is 500kg or greater in any 12 month period, the developer will need to register with us as a hazardous waste producer. Refer to the hazardous waste pages on GOV.UK for more information.

Introduction of SUDS:

Approved Document Part H of the Building Regulations 2000 establishes a hierarchy for surface water disposal, which encourages a SUDS approach. Under Approved Document Part H the first option for surface water disposal should be the use of SUDS, which encourage infiltration such as soakaways or infiltration trenches. In all cases, it should be established that these options are feasible, can be adopted and properly maintained and would not lead to any other environmental problems. For example, using soakaways or other infiltration methods on contaminated land carries groundwater pollution risks and may not work in areas with a high water table. Where the intention is to dispose to soakaway, these should be shown to work through an appropriate assessment carried out under Building Research Establishment (BRE) Digest 365.

Piling and Penetrative ground improvement methods:

Piling or any other foundation designs using penetrative methods can result in risks to potable supplies from, for example, pollution / turbidity, risk of mobilising contamination, drilling through different aquifers and creating preferential pathways. Thus it should be demonstrated that any proposed piling will not result in contamination of groundwater.

Dewatering

Dewatering is the removal/abstraction of water (predominantly, but not confined to, groundwater) in order to locally lower water levels near the excavation. This can allow operations to take place, such as mining, quarrying, building, engineering works or other operations, whether underground or on the surface. Any dewatering

Cont/d..

activities on-site could have an impact upon local wells, water supplies and/or nearby watercourses and environmental interests. This activity was previously exempt from requiring an abstraction licence. Since 1 January 2018, most cases of new planned dewatering operations above 20 cubic metres a day will require a water abstraction licence from us prior to the commencement of dewatering activities at the site.

More information is available on gov.uk:
https://www.gov.uk/guidance/water-management-apply-for-a-water-abstraction-or-impoundment-licence#apply-for-a-licence-for-a-previously-exempt-abstraction.

Regulatory position statements

Discharges from dewatering to surface water or groundwater will require an Environmental Permit unless you can meet the conditions of the RPS or exemptions or exclusions for groundwater activities. The following Regulatory Position Statement will apply: 'Temporary dewatering from excavations to surface water.' https://www.gov.uk/government/publications/temporary-dewatering-from-excavations-to-surface-water.

Installations and Amenity

The proposed development is within 500m of one or more industrial or waste management site that is regulated by the Environment Agency through the Environmental Permitting (England and Wales) Regulations 2016. The location of this site(s) can be found on Defra's Data Services Platform, available at
- https://www.gov.uk/guidance/access-the-public-register-for-environmental information#environmental …

The Environment Agency issues Environmental Permits for installations or waste management operations. A permit will require that operators demonstrate they have taken all reasonable measures to prevent pollution of the environment and harm to human health. Pollution can include air quality impacts, odours, noise, pests water quality and ground water impacts. If prevention is not possible, the operator must take steps to minimise the impact from pollution instead. In some cases, this is unlikely to eliminate all emissions and there could be impacts to the environment which may cause local residents some concern. When a new development is built near to an existing permitted facility this does not automatically trigger a review of the Environmental Permit and we will regulate this in line with our Environment Agency enforcement and sanctions policy - GOV.UK.

Planning authorities must satisfy themselves that in land use terms the proposed development is suitable for this location given the proximity to a regulated site/s as described above and the scope of the permit as granted. Planning policy requirements (paragraph 200 of the NPPF) state that new development should integrate effectively with existing businesses and not place unreasonable restrictions upon them.

Please note that in accordance with national planning policy (paragraph 201 of the NPPF), planning decisions should assume that permitting regimes will operate effectively. Applicants should be advised to consider our 'Environmental Permitting Guidance' which can be found at: Check if you need an environmental permit - GOV.UK.

Cont/d..

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Should you have any queries regarding this response, please do not hesitate to contact me.

Yours sincerely,

APPENDIX I

Groundsure Environmental Database Report

© Betts Geo Environmental Ltd 2026

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

GLEN DIMPLEX HOME APPLIANCES, STONEY LANE, WHISTON, KNOWSLEY, L35 2XW

Order Details

Date: 07/10/2025

Your ref: 25TAY078 - BG5993

Our Ref: GS-AYD-VYG-E16-3UW

Site Details

Location: 348022 391529

Area: 5.7 ha

Authority: Knowsley Metropolitan Borough Council ↗, St Helens Metropolitan Borough Council ↗

Summary of findings p. 2 >

OS MasterMap site plan p.14 >

Aerial image p. 9 >

Insight User Guide ↗

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

Certified B Corporation

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	17	5	22	57	-
19 >	1.2 >	Historical tanks >	2	1	2	10	-
20 >	1.3 >	Historical energy features >	4	1	17	16	-
22	1.4	Historical petrol stations	0	0	0	0	-
22 >	1.5 >	Historical garages >	0	0	0	5	-
23	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
24 >	2.1 >	Historical industrial land uses >	21	6	30	68	-
29 >	2.2 >	Historical tanks >	6	2	4	17	-
30 >	2.3 >	Historical energy features >	5	1	30	28	-
33	2.4	Historical petrol stations	0	0	0	0	-
33 >	2.5 >	Historical garages >	0	0	0	7	-
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	0	-
36	3.5	Historical waste sites	0	0	0	0	-
36 >	3.6 >	Licensed waste sites >	0	1	0	0	-
37 >	3.7 >	Waste exemptions >	0	2	4	5	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
38 >	4.1 >	Recent industrial land uses >	5	4	11	-	-
40 >	4.2 >	National Geographic Database (NGD) - Current or recent tanks >	0	2	2	-	-
40 >	4.3 >	Current or recent petrol stations >	0	0	0	1	-
41	4.4	Electricity cables	0	0	0	0	-
41	4.5	Gas pipelines	0	0	0	0	-

41	4.6	Sites determined as Contaminated Land	0	0	0	0	-
41	4.7	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
41	4.8	Regulated explosive sites	0	0	0	0	-
42	4.9	Hazardous substance storage/usage	0	0	0	0	-
42	4.10	Historical licensed industrial activities (IPC)	0	0	0	0	-
42 >	**4.11 >**	**Licensed industrial activities (Part A(1)) >**	0	2	0	0	-
43 >	**4.12 >**	**Licensed pollutant release (Part A(2)/B) >**	1	0	1	2	-
43 >	**4.13 >**	**Radioactive Substance Authorisations >**	0	0	7	0	-
45	4.14	Licensed Discharges to controlled waters	0	0	0	0	-
45	4.15	Pollutant release to surface waters (Red List)	0	0	0	0	-
45	4.16	Pollutant release to public sewer	0	0	0	0	-
45	4.17	List 1 Dangerous Substances	0	0	0	0	-
45	4.18	List 2 Dangerous Substances	0	0	0	0	-
46	4.19	Pollution Incidents (EA/NRW)	0	0	0	0	-
46	4.20	Pollution inventory substances	0	0	0	0	-
46	4.21	Pollution inventory waste transfers	0	0	0	0	-
46 >	**4.22 >**	**Pollution inventory radioactive waste >**	0	0	1	0	-

Page	Section	**Hydrogeology >**	On site	0-50m	50-250m	250-500m	500-2000m
48 >	**5.1 >**	**Superficial aquifer >**	Identified (within 500m)				
50 >	**5.2 >**	**Bedrock aquifer >**	Identified (within 500m)				
52 >	**5.3 >**	**Groundwater vulnerability >**	Identified (within 50m)				
53	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
54	5.5	Groundwater vulnerability- local information	None (within 0m)				
55 >	**5.6 >**	**Groundwater abstractions >**	0	2	1	4	7
59	5.7	Surface water abstractions	0	0	0	0	0
59 >	**5.8 >**	**Potable abstractions >**	0	0	1	2	3
61 >	**5.9 >**	**Source Protection Zones >**	1	0	0	0	-
61	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	**Hydrology >**	On site	0-50m	50-250m	250-500m	500-2000m

62 >	6.1 >	Water Network (OS MasterMap) >	0	0	4	-	-
63 >	6.2 >	Surface water features >	0	0	3	-	-
63 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
64 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
64 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
65	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
65	7.2	Historical Flood Events	0	0	0	-	-
65	7.3	Flood Defences	0	0	0	-	-
66	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
66	7.5	Flood Storage Areas	0	0	0	-	-
67	7.6	Flood Zone 2	None (within 50m)				
67	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
68 >	8.1 >	Surface water flooding >	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
70 >	9.1 >	Groundwater flooding >	Moderate (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
71	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
72	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
72	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
72	10.4	Special Protection Areas (SPA)	0	0	0	0	0
72	10.5	National Nature Reserves (NNR)	0	0	0	0	0
73	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
73 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	1
73	10.8	Biosphere Reserves	0	0	0	0	0
73	10.9	Forest Parks	0	0	0	0	0
74	10.10	Marine Conservation Zones	0	0	0	0	0
74 >	10.11 >	Green Belt >	0	0	1	0	4

74	10.12	Proposed Ramsar sites	0	0	0	0	0
74	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
75	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
75	10.15	Nitrate Sensitive Areas	0	0	0	0	0
75 >	10.16 >	Nitrate Vulnerable Zones >	1	0	0	1	0
76	10.17	SSSI Impact Risk Zones	0	-	-	-	-
76	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
77	11.1	World Heritage Sites	0	0	0	-	-
77	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
77	11.3	National Parks	0	0	0	-	-
77	11.4	Listed Buildings	0	0	0	-	-
78	11.5	Conservation Areas	0	0	0	-	-
78	11.6	Scheduled Ancient Monuments	0	0	0	-	-
78	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
79 >	12.1 >	Agricultural Land Classification >	Grade 2 (within 250m)				
80	12.2	Open Access Land	0	0	0	-	-
80	12.3	Tree Felling Licences	0	0	0	-	-
80	12.4	Environmental Stewardship Schemes	0	0	0	-	-
81	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
82	13.1	Priority Habitat Inventory	0	0	0	-	-
82	13.2	Habitat Networks	0	0	0	-	-
82	13.3	Open Mosaic Habitat	0	0	0	-	-
82	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
83 >	14.1 >	10k Availability >	Identified (within 500m)				
84	14.2	Artificial and made ground (10k)	0	0	0	0	-

85	14.3	Superficial geology (10k)	0	0	0	0	-
85	14.4	Landslip (10k)	0	0	0	0	-
86	14.5	Bedrock geology (10k)	0	0	0	0	-
86	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	**Geology 1:50,000 scale >**	On site	0-50m	50-250m	250-500m	500-2000m
87 >	15.1 >	**50k Availability >**	Identified (within 500m)				
88	15.2	Artificial and made ground (50k)	0	0	0	0	-
88	15.3	Artificial ground permeability (50k)	0	0	-	-	-
89 >	15.4 >	**Superficial geology (50k) >**	2	0	0	1	-
90 >	15.5 >	**Superficial permeability (50k) >**	Identified (within 50m)				
90	15.6	Landslip (50k)	0	0	0	0	-
90	15.7	Landslip permeability (50k)	None (within 50m)				
91 >	15.8 >	**Bedrock geology (50k) >**	2	0	2	1	-
92 >	15.9 >	**Bedrock permeability (50k) >**	Identified (within 50m)				
92 >	15.10 >	**Bedrock faults and other linear features (50k) >**	1	0	1	2	-
Page	Section	**Boreholes >**	On site	0-50m	50-250m	250-500m	500-2000m
93 >	16.1 >	**BGS Boreholes >**	0	4	13	-	-
Page	Section	**Natural ground subsidence >**					
95 >	17.1 >	**Shrink swell clays >**	Very low (within 50m)				
96 >	17.2 >	**Running sands >**	Very low (within 50m)				
98 >	17.3 >	**Compressible deposits >**	Negligible (within 50m)				
99 >	17.4 >	**Collapsible deposits >**	Very low (within 50m)				
100 >	17.5 >	**Landslides >**	Very low (within 50m)				
101 >	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
103 >	18.1 >	**BritPits >**	0	0	0	2	-
104 >	18.2 >	**Surface ground workings >**	9	0	17	-	-
105 >	18.3 >	**Underground workings >**	0	0	0	0	7
106	18.4	Underground mining extents	0	0	0	0	-

106	18.5	Historical Mineral Planning Areas	0	0	0	0	-
106 >	**18.6 >**	**Non-coal mining >**	0	0	1	0	1
107	18.7	JPB mining areas	None (within 0m)				
107	18.8	The Coal Authority non-coal mining	0	0	0	0	-
107	18.9	Researched mining	0	0	0	0	-
108	18.10	Mining record office plans	0	0	0	0	-
108	18.11	BGS mine plans	0	0	0	0	-
108 >	**18.12 >**	**Coal mining >**	Identified (within 0m)				
108	18.13	Brine areas	None (within 0m)				
109	18.14	Gypsum areas	None (within 0m)				
109	18.15	Tin mining	None (within 0m)				
109	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
110	19.1	Natural cavities	0	0	0	0	-
110	19.2	Mining cavities	0	0	0	0	0
110	19.3	Reported recent incidents	0	0	0	0	-
110	19.4	Historical incidents	0	0	0	0	-
Page	Section	**Radon >**					
112 >	**20.1 >**	**Radon >**	Less than 1% (within 0m)				
Page	Section	**Soil chemistry >**	On site	0-50m	50-250m	250-500m	500-2000m
114 >	**21.1 >**	**BGS Estimated Background Soil Chemistry >**	13	1	-	-	-
115	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
115	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
116	22.1	Underground railways (London)	0	0	0	-	-
116	22.2	Underground railways (Non-London)	0	0	0	-	-
117	22.3	Railway tunnels	0	0	0	-	-
117 >	**22.4 >**	**Historical railway and tunnel features >**	12	2	5	-	-
118	22.5	Royal Mail tunnels	0	0	0	-	-

118	22.6	Historical railways	0	0	0	-	-
118 > 22.7 > Railways >			0	0	3	-	-
119	22.8	Crossrail 2	0	0	0	0	-
119	22.9	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 28/09/2022

Site Area: 5.7ha

Recent site history - 2019 aerial photograph

Capture Date: 22/04/2019

Site Area: 5.7ha

Recent site history - 2015 aerial photograph

Capture Date: 11/06/2015

Site Area: 5.7ha

Recent site history - 2005 aerial photograph

Capture Date: 02/09/2005

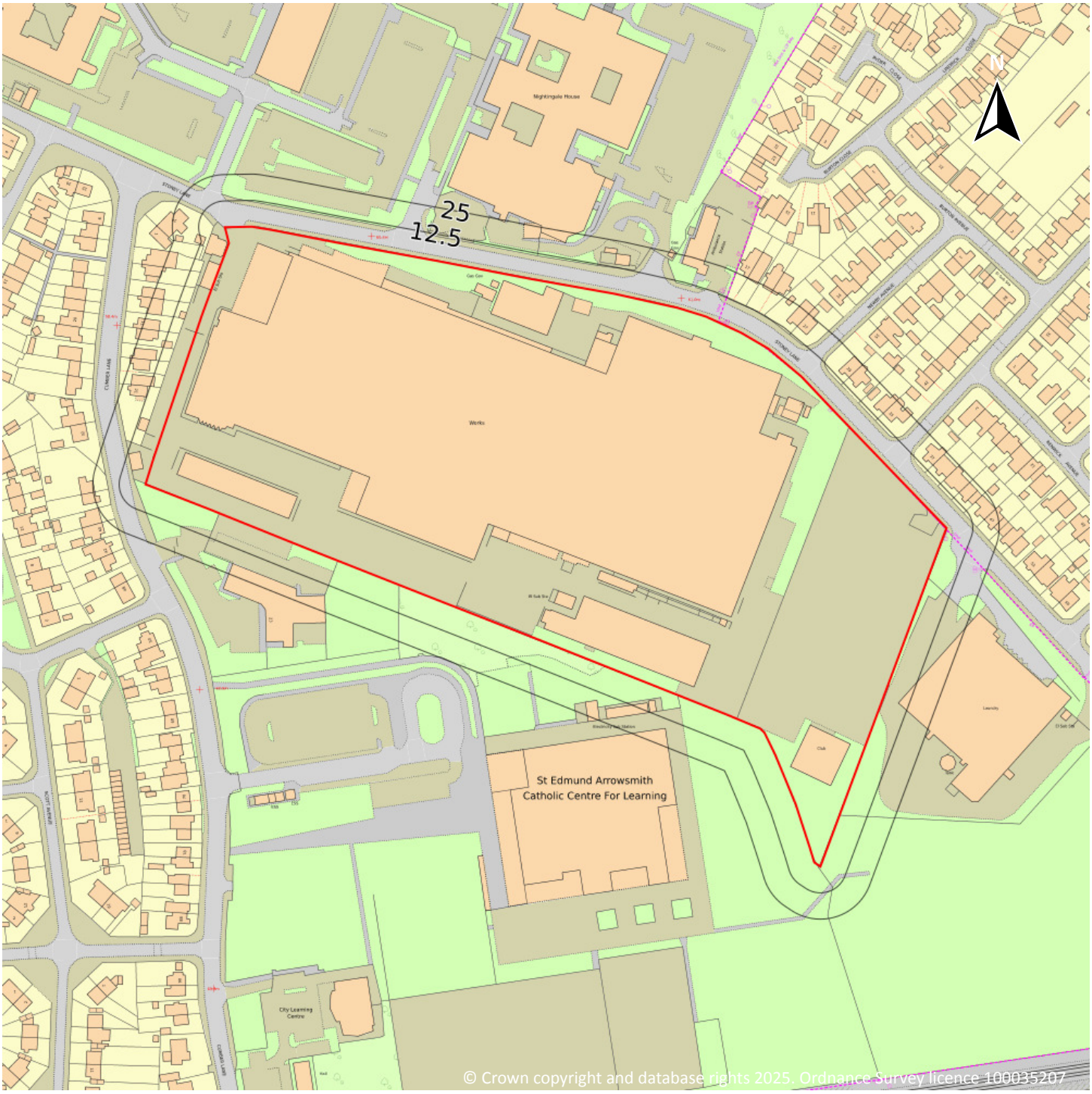
Site Area: 5.7ha

Recent site history - 2000 aerial photograph

Capture Date: 21/07/2000

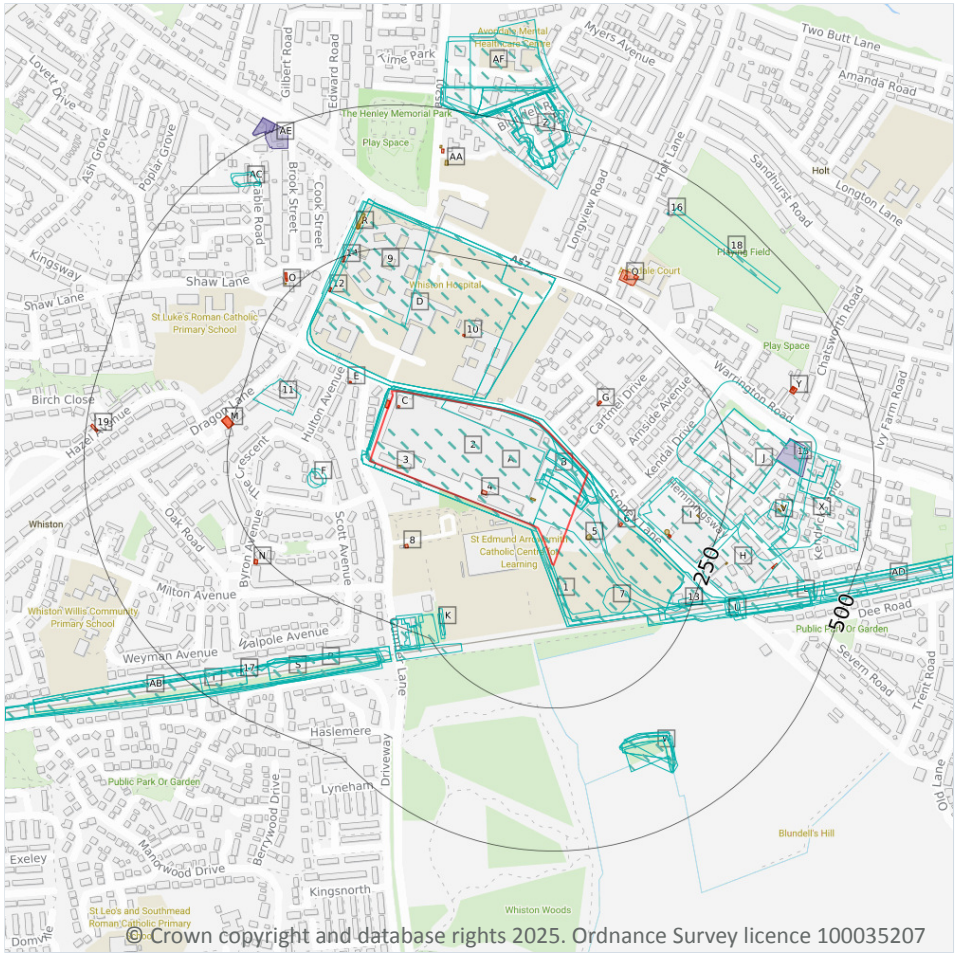
Site Area: 5.7ha

OS MasterMap site plan



Site Area: 5.7ha

1 Past land use



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1.1 Historical industrial land uses

Records within 500m	101

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

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Unspecified Ground Workings**	**1966**	**815777**

ID	Location	Land use	Dates present	Group ID
2	**On site**	**Unspecified Works**	**1990**	**918201**
A	**On site**	**Stove Works**	**1947**	**824365**
A	**On site**	**Unspecified Works**	**1966 - 1978**	**871147**
A	**On site**	**Iron Foundry**	**1925 - 1938**	**914029**
A	**On site**	**Unspecified Works**	**1956**	**1008951**
B	**On site**	**Railway Sidings**	**1966**	**882064**
B	**On site**	**Cuttings**	**1966**	**890616**
B	**On site**	**Railway Sidings**	**1925 - 1938**	**893832**
B	**On site**	**Cuttings**	**1938**	**898699**
B	**On site**	**Cuttings**	**1947**	**914765**
B	**On site**	**Tramway Sidings**	**1947 - 1956**	**917558**
B	**On site**	**Cuttings**	**1925**	**919244**
B	**On site**	**Cuttings**	**1925**	**933558**
B	**On site**	**Cuttings**	**1947**	**947209**
B	**On site**	**Cuttings**	**1938**	**991327**
B	**On site**	**Cuttings**	**1966**	**994324**
D	5m N	Hospital	1947	912513
D	5m N	Unspecified Workhouse	1891 - 1906	912996
D	13m N	Hospital	1966 - 1978	945342
D	13m N	Hospital	1956	947990
D	13m N	Hospital	1990	948158
F	82m W	Unspecified Pit	1956	951595
F	89m W	Unspecified Pit	1906 - 1947	924778
7	103m SE	Unspecified Pit	1966 - 1978	887680
H	107m E	Unspecified Works	1978	883709
9	112m N	Union Workhouse	1850	833153
I	116m E	Unspecified Works	1990	916765
11	151m W	Tan Yard	1850	822881

ID	Location	Land use	Dates present	Group ID
J	160m E	Unspecified Works	1966	978852
J	189m E	Unspecified Factory	1990	880930
J	189m E	Unspecified Factory	1978	993684
K	194m S	Unspecified Ground Workings	1990	982359
L	198m E	Railway Sidings	1956	957426
K	202m S	Unspecified Ground Workings	1978	912363
K	208m S	Pumping Station	1938	965056
L	209m E	Railway Sidings	1906	896305
K	211m SW	Cuttings	1891	808032
K	215m S	Pumping Station	1956	879417
K	224m S	Pumping Station	1891	950461
13	226m E	Railway Building	1891 - 1906	926815
K	234m S	Pumping Station	1906 - 1925	863529
K	234m S	Pumping Station	1947	900069
H	244m E	Unspecified Works	1990	861060
P	289m S	Cuttings	1966 - 1978	948917
P	289m S	Cuttings	1990	1008339
S	298m S	Cuttings	1891	919400
S	300m S	Cuttings	1956	868816
L	302m E	Cuttings	1891	1006157
T	303m S	Cuttings	1906	898121
L	305m E	Cuttings	1947	878255
T	306m S	Cuttings	1938	994779
T	307m S	Cuttings	1947	878646
T	307m S	Cuttings	1925	935669
T	309m S	Cuttings	1850	1009172
U	311m E	Railway Sidings	1891	977314
U	316m E	Railway Building	1947	866113

ID	Location	Land use	Dates present	Group ID
U	316m E	Railway Building	1925	953991
L	320m E	Cuttings	1938	939035
L	323m E	Cuttings	1906	974246
V	323m E	Unspecified Foundry	1938	826705
U	324m E	Railway Building	1850	998093
W	329m SE	Unspecified Pit	1956	911417
L	330m E	Cuttings	1956	982058
W	330m SE	Unspecified Pit	1966 - 1978	966370
W	330m SE	Unspecified Pit	1990	993133
W	335m SE	Unspecified Pit	1938	893559
W	336m S	Unspecified Ground Workings	1947	890028
W	336m S	Unspecified Ground Workings	1891 - 1925	984796
X	342m E	Unspecified Foundry	1956	826701
W	346m S	Old Marl Pit	1850	834871
X	371m E	Brass Foundry	1925	864254
X	371m E	Brass Foundry	1947	955852
Z	398m N	Unspecified Quarry	1990	951536
L	404m E	Railway Building	1850	854861
AB	418m SW	Cuttings	1966 - 1978	959686
AB	418m SW	Cuttings	1990	968645
Z	426m N	Unspecified Quarry	1891 - 1906	965772
AC	427m NW	Old Sand Pit	1906	841021
Z	428m N	Unspecified Old Quarry	1925	873355
Z	428m N	Unspecified Old Quarry	1947	947054
AC	428m NW	Unspecified Pit	1891	829386
16	430m NE	Pump	1850	834436
17	430m SW	Railway Building	1891	854860
Z	430m N	Unspecified Quarry	1966 - 1978	990581

ID	Location	Land use	Dates present	Group ID
Z	430m N	Unspecified Quarry	1938	894851
Z	431m N	Unspecified Old Quarry	1956	963613
18	436m NE	Unspecified Ground Workings	1966	814839
Z	445m N	Sandstone Quarry	1850	820429
L	446m E	Cuttings	1891	963846
AD	453m E	Cuttings	1990	871108
AD	453m E	Cuttings	1966 - 1978	883276
AD	455m E	Cuttings	1850	928890
AF	493m N	Sanatorium	1906	859740
AF	493m N	Small Pox Hospital	1947	935972
AF	493m N	Sanatorium	1925	937807
AF	493m N	Sanatorium	1947	971039
AF	493m N	Small Pox Hospital	1906 - 1925	979641
AF	495m N	Sanatorium	1938	904611
AF	499m N	Laundry	1956	992837
AF	500m N	Hospital	1966 - 1978	900083

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m **15**

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 15 >**

ID	Location	Land use	Dates present	Group ID
3	**On site**	**Unspecified Tank**	**1927 - 1937**	**127116**
A	**On site**	**Unspecified Tank**	**1954 - 1984**	**141599**

ID	Location	Land use	Dates present	Group ID
5	37m E	Unspecified Tank	1984 - 1993	133055
I	161m E	Unspecified Tank	1977 - 1993	137597
I	204m E	Unspecified Tank	1977	114825
O	262m NW	Unspecified Tank	1972	152267
O	263m NW	Unspecified Tank	1980	133185
H	281m E	Unspecified Tank	1977 - 1993	131023
R	289m N	Tanks	1990	154057
R	290m N	Tanks	1972	147395
R	290m N	Tanks	1980 - 1990	136572
V	338m E	Unspecified Tank	1937	117177
V	343m E	Unspecified Tank	1954 - 1963	143139
AA	402m N	Tanks	1975 - 1993	143821
AA	431m N	Unspecified Tank	1975 - 1993	126760

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**38**

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 15 >**

ID	Location	Land use	Dates present	Group ID
4	**On site**	**Electricity Substation**	**1993**	**65741**
C	**On site**	**Electricity Substation**	**1956**	**66097**
C	**On site**	**Electricity Substation**	**1990**	**69909**
C	**On site**	**Electricity Substation**	**1955 - 1972**	**86381**
C	1m W	Electricity Substation	1980	85714

ID	Location	Land use	Dates present	Group ID
E	72m W	Electricity Substation	1967	70012
E	72m W	Electricity Substation	1956	80275
E	73m W	Electricity Substation	1955	80678
6	83m E	Electricity Substation	1984 - 1993	86126
G	94m NE	Electricity Substation	1993	77032
G	98m NE	Electricity Substation	1973	72648
8	111m S	Electricity Substation	1973 - 1995	92236
10	114m N	Electricity Substation	1972 - 1980	83518
I	169m E	Electricity Substation	1977	73090
I	170m E	Electricity Substation	1993	72340
I	170m E	Electricity Substation	1984	90997
12	204m NW	Electricity Substation	1955 - 1956	70185
14	240m N	Electricity Substation	1972 - 1990	69459
M	247m W	Electricity Substation	1990	78904
M	247m W	Electricity Substation	1955 - 1972	79549
M	247m W	Electricity Substation	1980	80987
M	247m W	Electricity Substation	1956	82422
N	262m SW	Electricity Substation	1973 - 1995	86878
N	262m SW	Electricity Substation	1955 - 1956	79719
O	265m NW	Electricity Substation	1990	76634
O	265m NW	Electricity Substation	1972	81327
O	269m NW	Electricity Substation	1980	87418
Q	289m NE	Electricity Substation	1993	74767
Q	294m NE	Electricity Substation	1973	85235
Q	304m NE	Electricity Substation	1984	79466
H	359m E	Electricity Substation	1994	87912
H	359m E	Electricity Substation	1977 - 1996	84929
Y	380m E	Electricity Substation	1954	69811

ID	Location	Land use	Dates present	Group ID
Y	380m E	Electricity Substation	1956	91116
Y	385m E	Electricity Substation	1972	92282
Y	385m E	Electricity Substation	1994	74935
AA	423m N	Electricity Substation	1975 - 1993	87512
19	479m W	Electricity Substation	1970 - 1993	76282

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	5

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

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
15	330m E	Garage	1972 - 1994	25982
AE	462m NW	Garage	1975	30709
AE	498m NW	Garage	1956	26887
AE	499m NW	Garage	1955	30184
AE	499m NW	Garage	1966	30506

This data is sourced from Ordnance Survey / Groundsure.

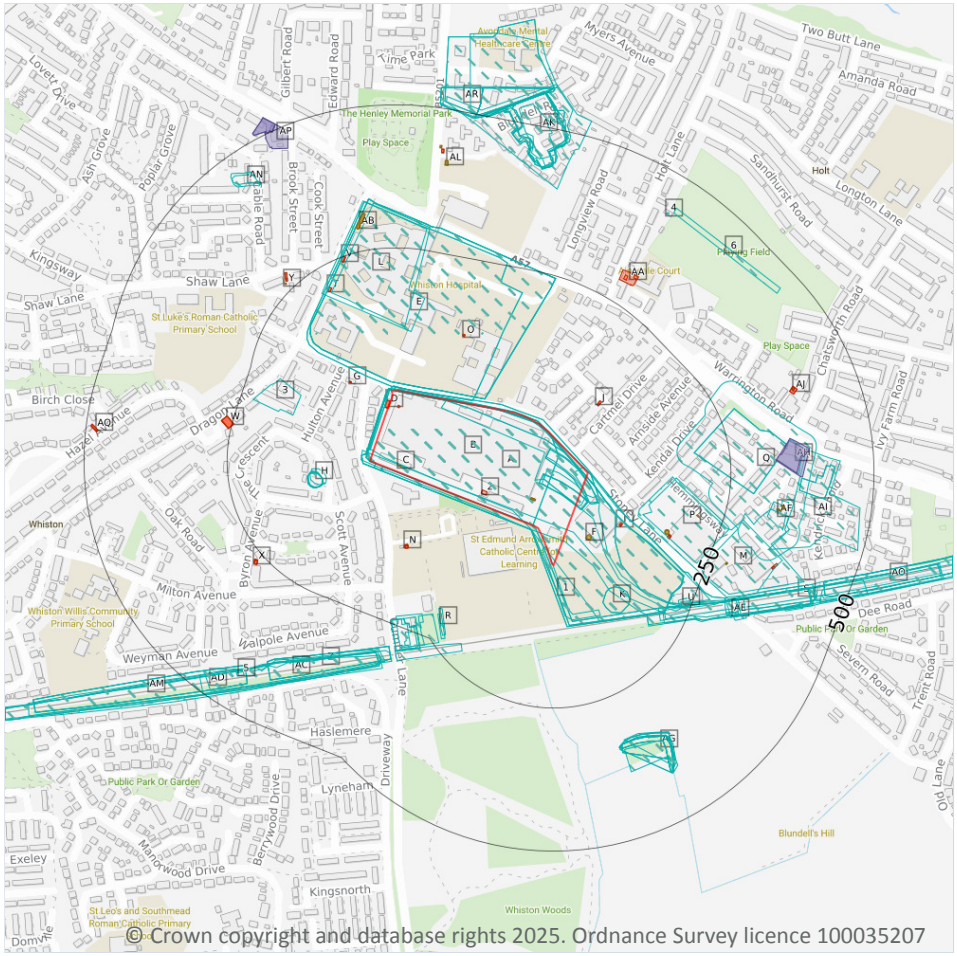
1.6 Historical military land

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



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2.1 Historical industrial land uses

Records within 500m	125

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 24 >**

ID	Location	Land Use	Date	Group ID
1	**On site**	**Unspecified Ground Workings**	**1966**	**815777**
A	**On site**	**Stove Works**	**1947**	**824365**
A	**On site**	**Tramway Sidings**	**1947**	**917558**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Iron Foundry**	**1925**	**914029**
A	**On site**	**Railway Sidings**	**1925**	**893832**
A	**On site**	**Cuttings**	**1966**	**994324**
A	**On site**	**Cuttings**	**1966**	**890616**
A	**On site**	**Unspecified Works**	**1956**	**1008951**
A	**On site**	**Tramway Sidings**	**1956**	**917558**
A	**On site**	**Unspecified Works**	**1966**	**871147**
A	**On site**	**Railway Sidings**	**1966**	**882064**
A	**On site**	**Iron Foundry**	**1938**	**914029**
A	**On site**	**Railway Sidings**	**1938**	**893832**
A	**On site**	**Cuttings**	**1947**	**914765**
A	**On site**	**Cuttings**	**1947**	**947209**
A	**On site**	**Cuttings**	**1925**	**919244**
A	**On site**	**Cuttings**	**1925**	**933558**
A	**On site**	**Cuttings**	**1938**	**898699**
A	**On site**	**Cuttings**	**1938**	**991327**
B	**On site**	**Unspecified Works**	**1978**	**871147**
B	**On site**	**Unspecified Works**	**1990**	**918201**
E	5m N	Hospital	1947	912513
E	5m N	Unspecified Workhouse	1906	912996
E	13m N	Hospital	1956	947990
E	13m N	Hospital	1978	945342
E	13m N	Hospital	1990	948158
E	13m N	Hospital	1966	945342
H	82m W	Unspecified Pit	1956	951595
H	89m W	Unspecified Pit	1938	924778
H	89m W	Unspecified Pit	1938	924778
H	90m W	Unspecified Pit	1947	924778

ID	Location	Land Use	Date	Group ID
H	90m W	Unspecified Pit	1925	924778
H	90m W	Unspecified Pit	1906	924778
K	103m SE	Unspecified Pit	1978	887680
K	103m SE	Unspecified Pit	1966	887680
L	106m N	Unspecified Workhouse	1891	912996
M	107m E	Unspecified Works	1978	883709
L	112m N	Union Workhouse	1850	833153
P	116m E	Unspecified Works	1990	916765
3	151m W	Tan Yard	1850	822881
Q	160m E	Unspecified Works	1966	978852
Q	189m E	Unspecified Factory	1978	993684
Q	189m E	Unspecified Factory	1990	880930
R	194m S	Unspecified Ground Workings	1990	982359
S	198m E	Railway Sidings	1956	957426
R	202m S	Unspecified Ground Workings	1978	912363
R	208m S	Pumping Station	1938	965056
S	209m E	Railway Sidings	1906	896305
R	211m SW	Cuttings	1891	808032
R	215m S	Pumping Station	1956	879417
R	224m S	Pumping Station	1891	950461
U	226m E	Railway Building	1891	926815
U	231m E	Railway Building	1906	926815
R	234m S	Pumping Station	1947	900069
R	234m S	Pumping Station	1925	863529
R	234m S	Pumping Station	1906	863529
M	244m E	Unspecified Works	1990	861060
Z	289m S	Cuttings	1978	948917
Z	289m S	Cuttings	1990	1008339

ID	Location	Land Use	Date	Group ID
Z	289m S	Cuttings	1966	948917
AC	298m S	Cuttings	1891	919400
AC	300m S	Cuttings	1956	868816
S	302m E	Cuttings	1891	1006157
AD	303m S	Cuttings	1906	898121
S	305m E	Cuttings	1947	878255
AD	306m S	Cuttings	1938	994779
AD	307m S	Cuttings	1947	878646
AD	307m S	Cuttings	1925	935669
AD	309m S	Cuttings	1850	1009172
AE	311m E	Railway Sidings	1891	977314
AE	316m E	Railway Building	1947	866113
AE	316m E	Railway Building	1925	953991
S	320m E	Cuttings	1938	939035
S	323m E	Cuttings	1906	974246
AF	323m E	Unspecified Foundry	1938	826705
AE	324m E	Railway Building	1850	998093
AG	329m SE	Unspecified Pit	1956	911417
S	330m E	Cuttings	1956	982058
AG	330m SE	Unspecified Pit	1978	966370
AG	330m SE	Unspecified Pit	1990	993133
AG	330m SE	Unspecified Pit	1966	966370
AG	335m SE	Unspecified Pit	1938	893559
AG	335m SE	Unspecified Pit	1938	893559
AG	336m S	Unspecified Ground Workings	1947	890028
AG	336m S	Unspecified Ground Workings	1925	984796
AG	336m S	Unspecified Ground Workings	1906	984796
AG	336m S	Unspecified Ground Workings	1891	984796

ID	Location	Land Use	Date	Group ID
AI	342m E	Unspecified Foundry	1956	826701
AG	346m S	Old Marl Pit	1850	834871
AI	371m E	Brass Foundry	1947	955852
AI	371m E	Brass Foundry	1925	864254
AK	398m N	Unspecified Quarry	1990	951536
S	404m E	Railway Building	1850	854861
AM	418m SW	Cuttings	1978	959686
AM	418m SW	Cuttings	1990	968645
AM	418m SW	Cuttings	1966	959686
AK	426m N	Unspecified Quarry	1906	965772
AN	427m NW	Old Sand Pit	1906	841021
AK	428m N	Unspecified Old Quarry	1947	947054
AK	428m N	Unspecified Old Quarry	1925	873355
AN	428m NW	Unspecified Pit	1891	829386
AK	430m N	Unspecified Quarry	1891	965772
4	430m NE	Pump	1850	834436
5	430m SW	Railway Building	1891	854860
AK	430m N	Unspecified Quarry	1978	990581
AK	430m N	Unspecified Quarry	1966	990581
AK	430m N	Unspecified Quarry	1938	894851
AK	431m N	Unspecified Old Quarry	1956	963613
6	436m NE	Unspecified Ground Workings	1966	814839
AK	445m N	Sandstone Quarry	1850	820429
S	446m E	Cuttings	1891	963846
AO	453m E	Cuttings	1978	883276
AO	453m E	Cuttings	1990	871108
AO	453m E	Cuttings	1966	883276
AO	455m E	Cuttings	1850	928890

ID	Location	Land Use	Date	Group ID
AR	493m N	Sanatorium	1947	971039
AR	493m N	Small Pox Hospital	1947	935972
AR	493m N	Small Pox Hospital	1925	979641
AR	493m N	Sanatorium	1925	937807
AR	493m N	Sanatorium	1906	859740
AR	493m N	Small Pox Hospital	1906	979641
AR	495m N	Sanatorium	1938	904611
AR	499m N	Laundry	1956	992837
AR	500m N	Hospital	1978	900083
AR	500m N	Hospital	1966	900083

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**29**

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 24 >**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Unspecified Tank**	**1954**	**141599**
A	**On site**	**Unspecified Tank**	**1977**	**141599**
A	**On site**	**Unspecified Tank**	**1956**	**141599**
A	**On site**	**Unspecified Tank**	**1984**	**141599**
C	**On site**	**Unspecified Tank**	**1927**	**127116**
C	**On site**	**Unspecified Tank**	**1937**	**127116**
F	37m E	Unspecified Tank	1993	133055
F	37m E	Unspecified Tank	1984	133055
P	161m E	Unspecified Tank	1977	137597
P	162m E	Unspecified Tank	1984	137597

ID	Location	Land Use	Date	Group ID
P	163m E	Unspecified Tank	1993	137597
P	204m E	Unspecified Tank	1977	114825
Y	262m NW	Unspecified Tank	1972	152267
Y	263m NW	Unspecified Tank	1980	133185
M	281m E	Unspecified Tank	1977	131023
M	281m E	Unspecified Tank	1993	131023
M	281m E	Unspecified Tank	1984	131023
AB	289m N	Tanks	1990	154057
AB	290m N	Tanks	1972	147395
AB	290m N	Tanks	1980	136572
AB	298m N	Tanks	1990	136572
AF	338m E	Unspecified Tank	1937	117177
AF	343m E	Unspecified Tank	1954	143139
AF	343m E	Unspecified Tank	1963	143139
AF	343m E	Unspecified Tank	1956	143139
AL	402m N	Tanks	1975	143821
AL	403m N	Tanks	1993	143821
AL	431m N	Unspecified Tank	1975	126760
AL	431m N	Unspecified Tank	1993	126760

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m **64**

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 24 >**

ID	Location	Land Use	Date	Group ID
2	**On site**	**Electricity Substation**	**1993**	**65741**

ID	Location	Land Use	Date	Group ID
D	**On site**	**Electricity Substation**	**1972**	**86381**
D	**On site**	**Electricity Substation**	**1990**	**69909**
D	**On site**	**Electricity Substation**	**1955**	**86381**
D	**On site**	**Electricity Substation**	**1956**	**66097**
D	1m W	Electricity Substation	1980	85714
G	72m W	Electricity Substation	1956	80275
G	72m W	Electricity Substation	1967	70012
G	73m W	Electricity Substation	1955	80678
I	83m E	Electricity Substation	1993	86126
I	83m E	Electricity Substation	1984	86126
J	94m NE	Electricity Substation	1993	77032
J	98m NE	Electricity Substation	1973	72648
N	111m S	Electricity Substation	1979	92236
N	111m S	Electricity Substation	1985	92236
N	112m S	Electricity Substation	1973	92236
N	113m S	Electricity Substation	1994	92236
N	113m S	Electricity Substation	1994	92236
N	113m S	Electricity Substation	1995	92236
N	113m S	Electricity Substation	1995	92236
O	114m N	Electricity Substation	1972	83518
O	114m N	Electricity Substation	1980	83518
P	169m E	Electricity Substation	1977	73090
P	170m E	Electricity Substation	1993	72340
P	170m E	Electricity Substation	1984	90997
T	204m NW	Electricity Substation	1956	70185
T	205m NW	Electricity Substation	1955	70185
V	240m N	Electricity Substation	1972	69459
V	240m N	Electricity Substation	1990	69459

ID	Location	Land Use	Date	Group ID
V	241m N	Electricity Substation	1980	69459
W	247m W	Electricity Substation	1972	79549
W	247m W	Electricity Substation	1990	78904
W	247m W	Electricity Substation	1955	79549
W	247m W	Electricity Substation	1980	80987
W	247m W	Electricity Substation	1956	82422
W	247m W	Electricity Substation	1956	82422
X	262m SW	Electricity Substation	1979	86878
X	262m SW	Electricity Substation	1985	86878
X	262m SW	Electricity Substation	1956	79719
X	262m SW	Electricity Substation	1955	79719
X	262m SW	Electricity Substation	1973	86878
X	263m SW	Electricity Substation	1994	86878
X	263m SW	Electricity Substation	1994	86878
X	263m SW	Electricity Substation	1995	86878
X	263m SW	Electricity Substation	1995	86878
Y	265m NW	Electricity Substation	1990	76634
Y	265m NW	Electricity Substation	1972	81327
Y	269m NW	Electricity Substation	1980	87418
AA	289m NE	Electricity Substation	1993	74767
AA	294m NE	Electricity Substation	1973	85235
AA	304m NE	Electricity Substation	1984	79466
M	359m E	Electricity Substation	1994	87912
M	359m E	Electricity Substation	1977	84929
M	359m E	Electricity Substation	1994	84929
M	359m E	Electricity Substation	1996	84929
AJ	380m E	Electricity Substation	1954	69811
AJ	380m E	Electricity Substation	1956	91116

ID	Location	Land Use	Date	Group ID
AJ	385m E	Electricity Substation	1972	92282
AJ	385m E	Electricity Substation	1994	74935
AL	423m N	Electricity Substation	1975	87512
AL	424m N	Electricity Substation	1993	87512
AQ	479m W	Electricity Substation	1993	76282
AQ	479m W	Electricity Substation	1970	76282
AQ	480m W	Electricity Substation	1983	76282

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	**7**

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'.

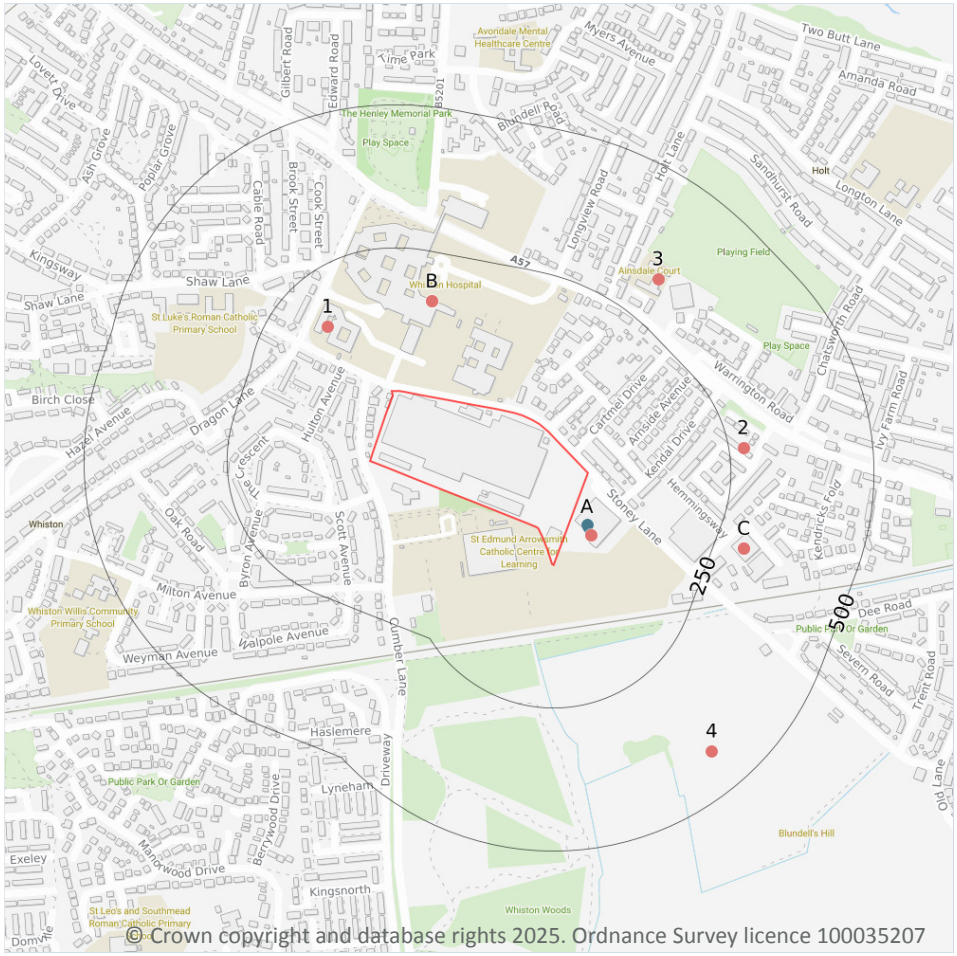
Features are displayed on the Past land use - un-grouped map on **page 24 >**

ID	Location	Land Use	Date	Group ID
AH	330m E	Garage	1994	25982
AH	330m E	Garage	1972	25982
AP	462m NW	Garage	1975	30709
AP	498m NW	Garage	1956	26887
AP	498m NW	Garage	1956	26887
AP	499m NW	Garage	1966	30506

ID	Location	Land Use	Date	Group ID
AP	499m NW	Garage	1955	30184

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	0

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.

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

3.5 Historical waste sites

Records within 500m	0

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

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

3.6 Licensed waste sites

Records within 500m	1

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		
A	31m E	Site Name: Elis UK Ltd Site Address: ELIS UK LTD, STONEY LANE, Rainhill, PRESCOT, KNOWSLEY, L35 9LW Correspondence Address: -	Type of Site: Clinical Waste Transfer Station Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: 665418 EPR reference: EA/EPR/LB3205KC Operator: Elis Uk Limited Waste Management licence No: 408409 Annual Tonnage: 0	Issue Date: 12/08/2024 Effective Date: 31/07/2024 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	11

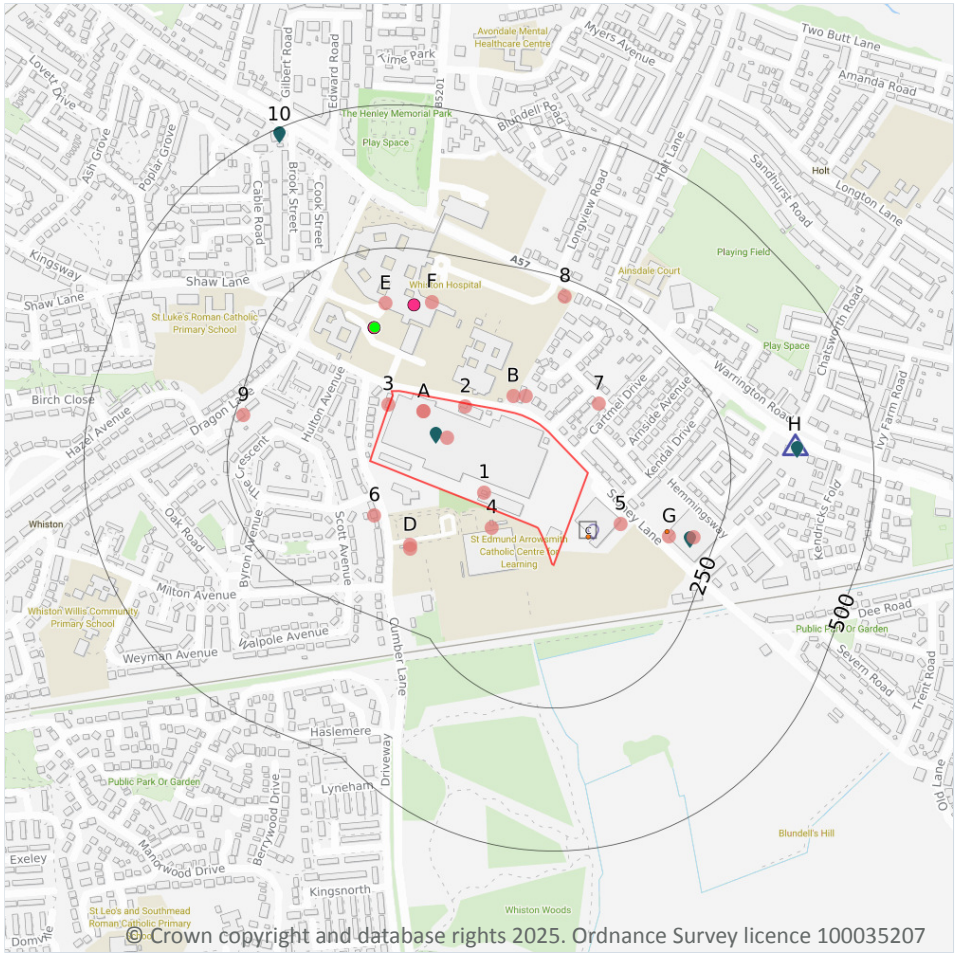
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

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

ID	Location	Site	Reference	Category	Sub-Category	Description
A	43m E	-	WEX419000	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	43m E	-	WEX289713	Storing waste exemption	Not on a farm	Storage of waste in a secure place
1	159m NW	-	WEX412219	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
B	164m N	Whiston Hospital, Warrington Road, Prescot, L35 5dr	WEX149490	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
B	164m N	Whiston Hospital, Warrington Road, Prescot, L35 5dr	WEX286802	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
B	164m N	Whiston Hospital, Warrington Road, Prescot, L35 5dr	WEX417790	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
2	275m E	Oak Tyres Stephenson Grove Rainhill Merseyside L35 9jd	EPR/VE5744KA/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste in construction
C	301m E	Forward House, Hemmingsway, Off Stoney Lane, Rainhill, L35 9lz	WEX230093	Treating waste exemption	Not on a farm	Recovery of scrap metal
C	301m E	Forward House, Hemmingsway, Off Stoney Lane, Rainhill, L35 9lz	WEX356283	Treating waste exemption	Not on a farm	Recovery of scrap metal
3	327m NE	Ainsdale Court Nursing Home, Holt Lane, Rainhill, Prescot, L35 8nb	WEX360873	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
4	427m SE	Norlands Farm Norlands Lane Cheshire Wa8 5at	EPR/FE5848CM/A001	Storing waste exemption	Non-agricultural waste only	Storage of sludge

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	20

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 38 >**

ID	Location	Company	Address	Activity	Category
1	**On site**	**Electricity Sub Station**	**Merseyside, L35**	**Electrical Features**	**Infrastructure and Facilities**
2	**On site**	**Gas Governor Station**	**Merseyside, L35**	**Gas Features**	**Infrastructure and Facilities**

ID	Location	Company	Address	Activity	Category
A	**On site**	**New World Appliances Ltd**	**Stoney Lane, Whiston, Prescot, Merseyside, L35 2XW**	**Electronic Equipment**	**Industrial Products**
A	**On site**	**Glen Dimplex Home Appliances**	**Stoves Group Plc, Stoney Lane, Whiston, Merseyside, L35 2XW**	**Electrical Components**	**Industrial Products**
A	**On site**	**Works**	**Merseyside, L35**	**Unspecified Works Or Factories**	**Industrial Features**
3	2m W	Electricity Sub Station	Merseyside, L35	Electrical Features	Infrastructure and Facilities
B	29m N	Gas Governor	Merseyside, L35	Gas Features	Infrastructure and Facilities
4	30m S	Electricity Sub Station	Merseyside, L35	Electrical Features	Infrastructure and Facilities
B	34m N	Whiston Ambulance Station	Merseyside, L35	Ambulance and Medical Transportation Services	Health Support Services
5	85m E	Electricity Sub Station	Merseyside, L35	Electrical Features	Infrastructure and Facilities
6	85m S	Mabley Electrical Services Ltd	56, Cumber Lane, Whiston, Merseyside, L35 2XS	Electronic Equipment	Industrial Products
7	98m NE	Electricity Sub Station	Merseyside, L35	Electrical Features	Infrastructure and Facilities
D	111m S	Electricity Sub Station	Merseyside, L35	Electrical Features	Infrastructure and Facilities
D	116m S	Electricity Sub Station	Merseyside, L35	Electrical Features	Infrastructure and Facilities
E	154m N	Whiston Hospital	Whiston Hospital, Warrington Road, Prescot, Merseyside, L35 5DR	Accident and Emergency Hospitals	Health Practitioners and Establishments
F	164m N	Whiston Hospital	Whiston Hospital, Warrington Road, Whiston, Merseyside, L35 5DR	Hospitals	Health Practitioners and Establishments
G	172m E	Electricity Sub Station	Merseyside, L35	Electrical Features	Infrastructure and Facilities
G	212m E	Works	Merseyside, L35	Unspecified Works Or Factories	Industrial Features

ID	Location	Company	Address	Activity	Category
8	222m N	Electricity Sub Station	Merseyside, L35	Electrical Features	Infrastructure and Facilities
9	235m W	C W Electrical	41, Dragon Lane, Whiston, Merseyside, L35 2UB	Electrical and Electronic Engineers	Engineering Services

This data is sourced from Ordnance Survey.

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

Records within 250m **4**

Current or recent tanks identified from the Ordnance Survey NGD.

Features are displayed on the Current industrial land use map on **page 38 >**

ID	Location	Tank description	Activity	Date first identified
C	36m E	Roofed Storage Tank	Commercial Activity: Distribution Or Storage	20/06/2014
C	36m E	Roofed Storage Tank	Commercial Activity: Distribution Or Storage	20/06/2014
G	162m E	Roofed Storage Tank	Commercial Activity: Distribution Or Storage	20/06/2014
G	162m E	Roofed Storage Tank	Commercial Activity: Distribution Or Storage	20/06/2014

This data is sourced from Ordnance Survey.

4.3 Current or recent petrol stations

Records within 500m **1**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 38 >**

ID	Location	Company	Address	LPG	Status
H	364m E	SHELL	Warrington Road, Rainhill, Prescot, Merseyside, L35 9JB	No	Open

This data is sourced from Experian.

4.4 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.5 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.6 Sites determined as Contaminated Land

Records within 500m	0

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

This data is sourced from Local Authority records.

4.7 Control of Major Accident Hazards (COMAH)

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.8 Regulated explosive sites

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.9 Hazardous substance storage/usage

Records within 500m	0

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

This data is sourced from Local Authority records.

4.10 Historical licensed industrial activities (IPC)

Records within 500m	0

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

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

4.11 Licensed industrial activities (Part A(1))

Records within 500m	2

Records of Part A(1) 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 38 >**

ID	Location	Details	
C	44m E	Operator: Elis UK Limited Installation Name: Elis Rainhill Process: MCP Permit Number: DP3328SS Original Permit Number: DP3328SS	EPR Reference: EPR/DP3328SS Issue Date: 28/12/2023 Effective Date: 15/12/2023 Last date noted as effective: 28/04/2025 Status: Effective
C	44m E	Operator: Elis UK Limited Installation Name: Elis Rainhill Process: MCP Permit Number: DP3328SS Original Permit Number: DP3328SS	EPR Reference: EPR/DP3328SS Issue Date: 28/12/2023 Effective Date: 15/12/2023 Last date noted as effective: 29/10/2024 Status: Effective

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

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

Records within 500m	4

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 38 >**

ID	Location	Address	Details	
A	**On site**	**Glen Dimplex Home Appliances Ltd, Stoney Lane, Prescot, L35 2XW**	**Process: Coating Processes Status: Current Permit Permit Type: Part B**	**Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified**
G	207m E	Hemsec, Stoney Lane, Rainhill, Prescot, L35 9LL	Process: Di-isocyanate Processes Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
H	367m E	Eurogarages Ltd, Rainhill Service Station, Warrington Road, Rainhill, L35 9BJ	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
10	490m NW	Texaco Petrol Station, 242 Warrington Road, Whiston, L35 2UA	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

This data is sourced from Local Authority records.

4.13 Radioactive Substance Authorisations

Records within 500m	7

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 38 >**

ID	Location	Address	Details	
E	115m N	St Helens And Knowsley Hospital Trust, Whiston Hospital, Prescot, Merseyside, L35 5DR	Operator: St Helens And Knowsley Hospital Trust Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AE6736 Date of approval: 31/03/1991	Effective from: 31/03/1991 Last date of update: 01/01/2015 Status: Superseded By Variation

ID	Location	Address	Details	
E	115m N	St Helens And Knowsley Hospital Trust, Whiston Hospital, Prescot, Merseyside, L35 5DR	Operator: St Helens And Knowsley Hospital Trust Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AE6736 Date of approval: 22/09/1994	Effective from: 22/09/1994 Last date of update: 01/01/2015 Status: Superseded By Variation
E	115m N	St Helens And Knowsley Hospital Trust, Whiston Hospital, Prescot, Merseyside, L35 5DR	Operator: St Helens And Knowsley Hospital Trust Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AE6736 Date of approval: 18/06/1997	Effective from: 16/07/1997 Last date of update: 01/01/2015 Status: Superseded By Variation
E	115m N	St Helens And Knowsley Hospital Trust, Whiston Hospital, Prescot, Merseyside, L35 5DR	Operator: St Helens And Knowsley Hospital Trust Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AE6736 Date of approval: 01/12/2003	Effective from: 01/01/2004 Last date of update: 01/01/2015 Status: Superseded By Variation
E	115m N	Whiston Hospital, Prescot, L35 5DR	Operator: St Helens and Knowsley Teaching Hospitals NHS Trust Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: CC4006 Date of approval: 03/11/2008	Effective from: 01/12/2008 Last date of update: 01/01/2020 Status: Issued
E	115m N	Whiston Hospital, Prescot, L35 5DR	Operator: St Helens and Knowsley Teaching Hospitals NHS Trust Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: CB3845 Date of approval: 10/07/2007	Effective from: 04/10/2010 Last date of update: 01/01/2020 Status: Issued
F	152m N	St Helens And Knowsley Hospital Trust, Whiston Hospital, Prescot, Merseyside, L35 5DR	Operator: St Helens And Knowsley Hospital Trust Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AA4243 Date of approval: 06/07/1999	Effective from: 07/07/1999 Last date of update: 01/01/2015 Status: Superseded By Variation

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

4.14 Licensed Discharges to controlled waters

Records within 500m	0

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

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

4.15 Pollutant release to surface waters (Red List)

Records within 500m	0

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

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

4.16 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

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

4.17 List 1 Dangerous Substances

Records within 500m	0

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

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

4.18 List 2 Dangerous Substances

Records within 500m	0

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

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

4.19 Pollution Incidents (EA/NRW)

Records within 500m	0

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

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

4.20 Pollution inventory substances

Records within 500m	0

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

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

4.21 Pollution inventory waste transfers

Records within 500m	0

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

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

4.22 Pollution inventory radioactive waste

Records within 500m	1

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.

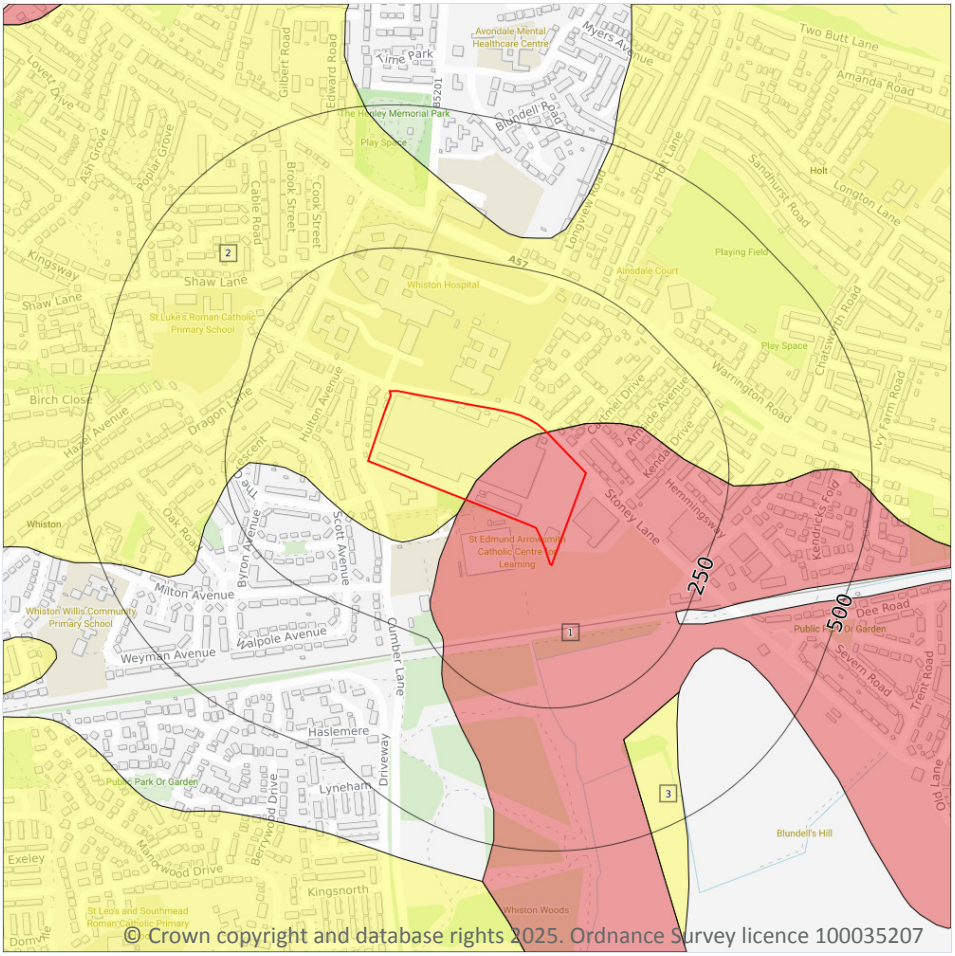
Features are displayed on the Current industrial land use map on **page 38 >**

ID: E, Location: 115m N, Permit: AE6736
Operator: ST HELENS AND KNOWSLEY HOSPITAL TRUST
Address: WHISTON HOSPITAL PRESCOT MERSEYSIDE L35 5DR
Releases:

Route	Substance	Quantity released
Wastewater	Technetium 99m	317290MBq -
Wastewater	Iodine 123	555MBq -

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

5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m	3

Aquifer status of groundwater held within superficial geology.

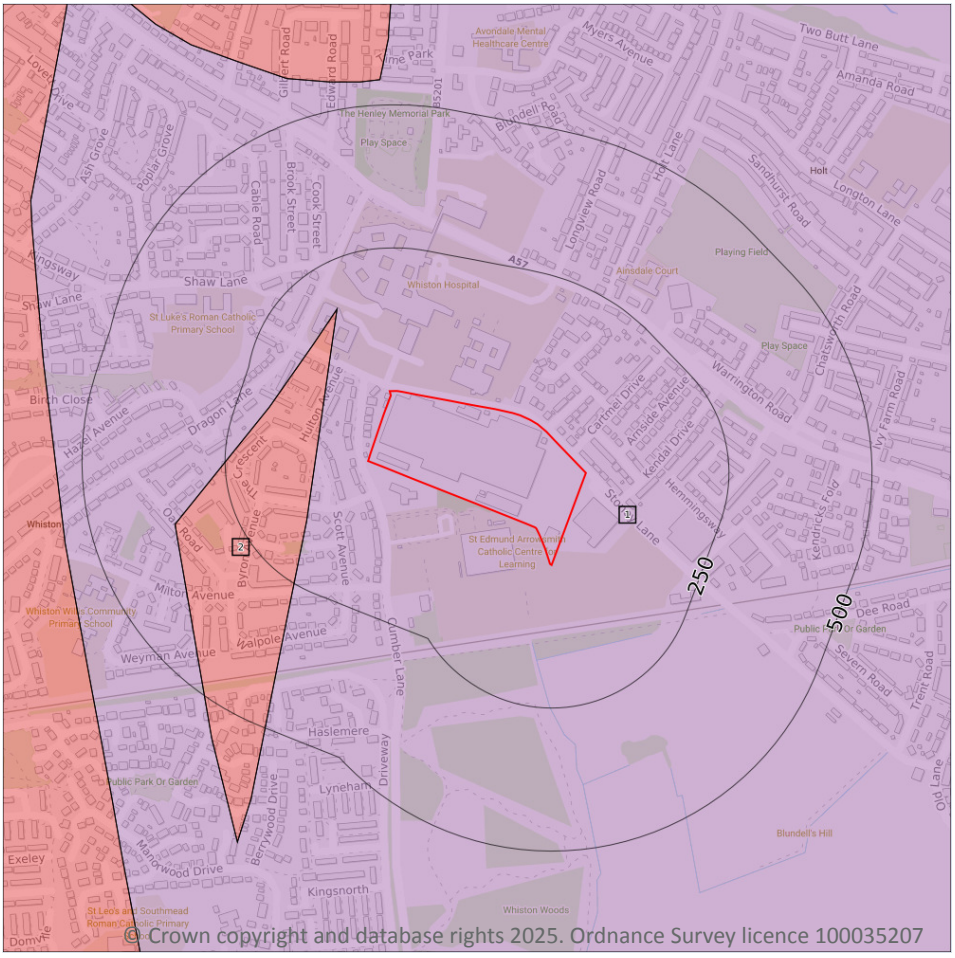
Features are displayed on the Hydrogeology map on **page 48 >**

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

ID	Location	Designation	Description
3	314m 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



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5.2 Bedrock aquifer

Records within 500m	2

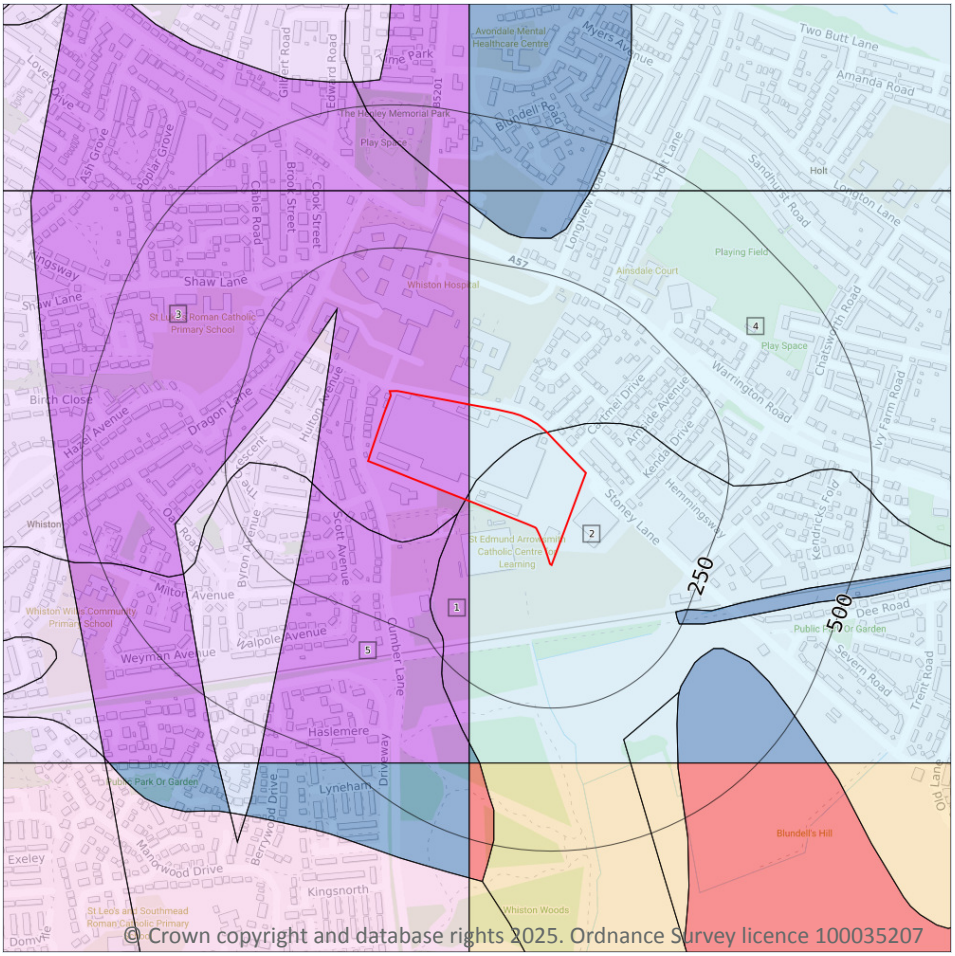
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 50 >**

ID	Location	Designation	Description
1	**On site**	**Principal**	**Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers**
2	92m 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



5.3 Groundwater vulnerability

Records within 50m	5

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 52 >**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Principal bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year**	**Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: Medium**	**Vulnerability: Medium Aquifer type: Principal Flow mechanism: Well connected fractures**
2	**On site**	**Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year**	**Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low**	**Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed**
3	**On site**	**Summary Classification: Principal bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year**	**Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: Medium**	**Vulnerability: Medium Aquifer type: Principal Flow mechanism: Well connected fractures**
4	**On site**	**Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year**	**Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low**	**Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed**
5	28m S	Summary Classification: Principal bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: Medium	Vulnerability: Medium Aquifer type: Principal Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0

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

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

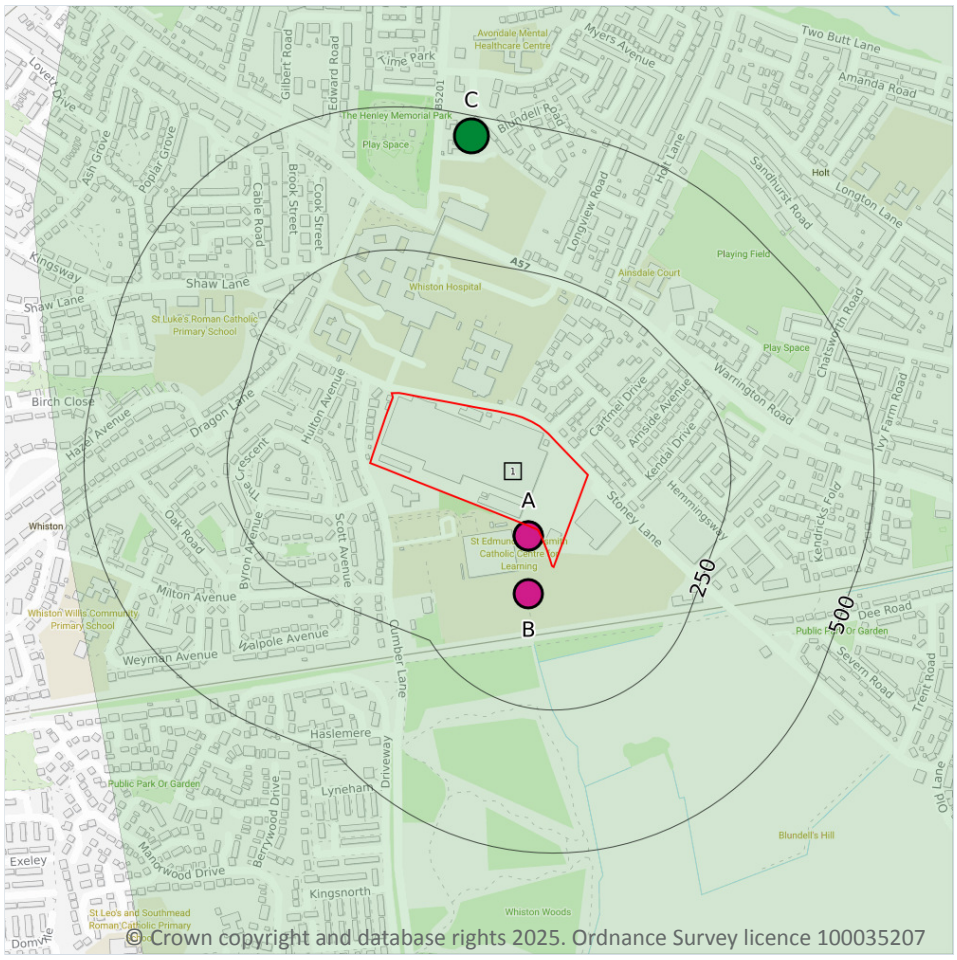
5.5 Groundwater vulnerability- local information

Records on site	0

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

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

Abstractions and Source Protection Zones



Site Outline

Search buffers in metres (m)

- Source Protection Zone 1 — Inner catchment
- Source Protection Zone 2 — Outer catchment
- Source Protection Zone 3 — Total catchment
- Source Protection Zone 4 — Zone of Special Interest
- Source Protection Zone 1c — Inner catchment - confined aquifer
- Source Protection Zone 2c — Outer catchment - confined aquifer
- Source Protection Zone 3c — Total catchment - confined aquifer
- Drinking water abstraction licences
- 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	14

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 55 >**

ID	Location	Details	
A	17m SW	Status: Active Licence No: 2569028020 Details: Laundry Use Direct Source: Ground Water - North West Region Point: BOREHOLE AT STONEY LANE, RAINHILL Data Type: Point Name: Elis UK Limited Easting: 348100 Northing: 391400	Annual Volume (m^3): 118181.82 Max Daily Volume (m^3): 545.46 Original Application No: NPS/WR/042644 Original Start Date: 01/06/1993 Expiry Date: - Issue No: 104 Version Start Date: 26/06/2024 Version End Date: -
A	17m SW	Status: Historical Licence No: 2569028020 Details: Laundry Use Direct Source: Ground Water - North West Region Point: "BOREHOLE AT STONEY LANE, RAINHILL" Data Type: Point Name: THE SUNLIGHT SERVICES GROUP LTD Easting: 348100 Northing: 391400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/06/1993 Expiry Date: - Issue No: 101 Version Start Date: 24/10/1996 Version End Date: -
B	63m SW	Status: Historical Licence No: 2569028008 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: 2 WELLS + CONNECTING B/HOLES, CUMBER LA, WHISTON, MERSEYSIDE Data Type: Point Name: NORTH WEST WATER LTD Easting: 348100 Northing: 391300	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 16/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/03/1966 Version End Date: -
C	466m N	Status: Historical Licence No: 2569025072 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "TWO BOREHOLES AT WHISTON HOSPITAL, PRESCOT, MERSEYSIDE" Data Type: Point Name: ST HELENS AND KNOWSLEY HOSPITALS Easting: 348000 Northing: 392100	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 13/08/1992 Expiry Date: - Issue No: 100 Version Start Date: 13/08/1992 Version End Date: -

ID	Location	Details	
C	466m N	Status: Historical Licence No: 2569025072 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "TWO BOREHOLES AT WHISTON HOSPITAL, PRESCOT, MERSEYSIDE" Data Type: Point Name: ST HELENS AND KNOWSLEY HOSPITALS Easting: 348000 Northing: 392100	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 13/08/1992 Expiry Date: - Issue No: 100 Version Start Date: 13/08/1992 Version End Date: -
C	466m N	Status: Historical Licence No: 2569025072 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: TWO BOREHOLES AT WHISTON HOSPITAL, PRESCOT, MERSEYSIDE Data Type: Point Name: ST HELENS AND KNOWSLEY HOSPITALS Easting: 348000 Northing: 392100	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 13/08/1992 Expiry Date: - Issue No: 100 Version Start Date: 13/08/1992 Version End Date: -
C	466m N	Status: Historical Licence No: 2569025072 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: TWO BOREHOLES AT WHISTON HOSPITAL, PRESCOT, MERSEYSIDE Data Type: Point Name: ST HELENS AND KNOWSLEY HOSPITALS Easting: 348000 Northing: 392100	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 13/08/1992 Expiry Date: - Issue No: 100 Version Start Date: 13/08/1992 Version End Date: -
-	1085m S	Status: Active Licence No: 2569028021 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: B/HOLE AT BLUNDELLS HILL GOLF CLUB, BLUNDELLS LANE, RAINHILL Data Type: Point Name: BLUNDELLS HILL GOLF CLUB LTD Easting: 348550 Northing: 390340	Annual Volume (m^3): 21966.87 Max Daily Volume (m^3): 191.81 Original Application No: NPS/WR/029993 Original Start Date: 06/09/1994 Expiry Date: - Issue No: 103 Version Start Date: 07/11/2018 Version End Date: -

ID	Location	Details	
-	1085m S	Status: Active Licence No: 2569028021 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLE AT BLUNDELLS HILL GOLF CLUB, BLUNDELLS LANE, RAINHILL Data Type: Point Name: BLUNDELLS HILL GOLF CLUB LTD Easting: 348550 Northing: 390340	Annual Volume (m^3): 21966.87 Max Daily Volume (m^3): 191.81 Original Application No: NPS/WR/029993 Original Start Date: 06/09/1994 Expiry Date: - Issue No: 103 Version Start Date: 07/11/2018 Version End Date: -
-	1085m S	Status: Historical Licence No: 2569028021 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "B/HOLE AT BLUNDELLS HILL GOLF CLUB, BLUNDELLS LANE, RAINHILL" Data Type: Point Name: BLUNDELLS HILL GOLF CLUB LTD Easting: 348550 Northing: 390340	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 06/09/1994 Expiry Date: - Issue No: 101 Version Start Date: 19/02/2001 Version End Date: -
-	1085m S	Status: Historical Licence No: 2569028021 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: "B/HOLE AT BLUNDELLS HILL GOLF CLUB, BLUNDELLS LANE, RAINHILL" Data Type: Point Name: BLUNDELLS HILL GOLF CLUB LTD Easting: 348550 Northing: 390340	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 06/09/1994 Expiry Date: - Issue No: 101 Version Start Date: 19/02/2001 Version End Date: -
-	1151m NE	Status: Historical Licence No: 2569025083 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: "BOREHOLE AT ECCLESTON PARK GOLF CLUB, RAINHILL, MERSEYSIDE" Data Type: Point Name: E P GOLF LTD Easting: 348710 Northing: 392580	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 13/07/1999 Expiry Date: 12-Jul-04 Issue No: 2 Version Start Date: 26/10/2000 Version End Date: -

ID	Location	Details	
-	1151m NE	Status: Historical Licence No: 2569025083 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: BOREHOLE AT ECCLESTON PARK GOLF CLUB, RAINHILL, MERSEYSIDE Data Type: Point Name: E P GOLF LTD Easting: 348710 Northing: 392580	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 13/07/1999 Expiry Date: 12/07/2004 Issue No: 2 Version Start Date: 26/10/2000 Version End Date: -
-	1307m N	Status: Historical Licence No: 2569025020 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: BOREHOLE AT ECCLESTON PARK RAILWAY STATION Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 348300 Northing: 392900	Annual Volume (m^3): 295490 Max Daily Volume (m^3): 986.482 Original Application No: - Original Start Date: 31/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 10/07/1975 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	**0**

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.

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

5.8 Potable abstractions

Records within 2000m	**6**

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 55 >**

ID	Location	Details	
B	63m SW	Status: Historical Licence No: 2569028008 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: 2 WELLS + CONNECTING B/HOLES, CUMBER LA, WHISTON, MERSEYSIDE Data Type: Point Name: NORTH WEST WATER LTD Easting: 348100 Northing: 391300	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 16/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/03/1966 Version End Date: -
C	466m N	Status: Historical Licence No: 2569025072 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "TWO BOREHOLES AT WHISTON HOSPITAL, PRESCOT, MERSEYSIDE" Data Type: Point Name: ST HELENS AND KNOWSLEY HOSPITALS Easting: 348000 Northing: 392100	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 13/08/1992 Expiry Date: - Issue No: 100 Version Start Date: 13/08/1992 Version End Date: -
C	466m N	Status: Historical Licence No: 2569025072 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: TWO BOREHOLES AT WHISTON HOSPITAL, PRESCOT, MERSEYSIDE Data Type: Point Name: ST HELENS AND KNOWSLEY HOSPITALS Easting: 348000 Northing: 392100	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 13/08/1992 Expiry Date: - Issue No: 100 Version Start Date: 13/08/1992 Version End Date: -
-	1085m S	Status: Active Licence No: 2569028021 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLE AT BLUNDELLS HILL GOLF CLUB, BLUNDELLS LANE, RAINHILL Data Type: Point Name: BLUNDELLS HILL GOLF CLUB LTD Easting: 348550 Northing: 390340	Annual Volume (m^3): 21966.87 Max Daily Volume (m^3): 191.81 Original Application No: NPS/WR/029993 Original Start Date: 06/09/1994 Expiry Date: - Issue No: 103 Version Start Date: 07/11/2018 Version End Date: -

ID	Location	Details	
-	1085m S	Status: Historical Licence No: 2569028021 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "B/HOLE AT BLUNDELLS HILL GOLF CLUB, BLUNDELLS LANE, RAINHILL" Data Type: Point Name: BLUNDELLS HILL GOLF CLUB LTD Easting: 348550 Northing: 390340	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 06/09/1994 Expiry Date: - Issue No: 101 Version Start Date: 19/02/2001 Version End Date: -
-	1307m N	Status: Historical Licence No: 2569025020 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: BOREHOLE AT ECCLESTON PARK RAILWAY STATION Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 348300 Northing: 392900	Annual Volume (m^3): 295490 Max Daily Volume (m^3): 986.482 Original Application No: - Original Start Date: 31/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 10/07/1975 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m **1**

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 55 >**

ID	Location	Type	Description
1	**On site**	**3**	**Total catchment**

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

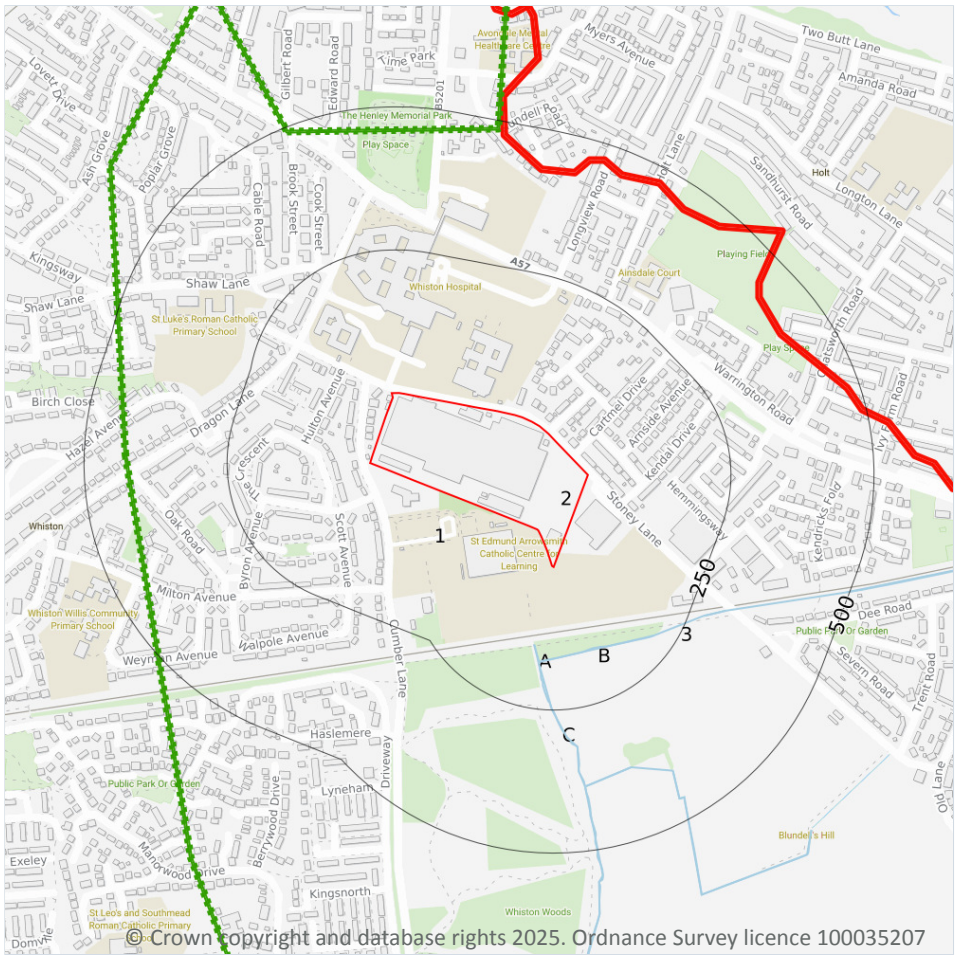
5.10 Source Protection Zones (confined aquifer)

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



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6.1 Water Network (OS MasterMap)

Records within 250m	4

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 62 >**

ID	Location	Type of water feature	Ground level	Permanence	Name
A	140m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Whiston Brook

ID	Location	Type of water feature	Ground level	Permanence	Name
B	156m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	169m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Whiston Brook
3	212m SE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	3

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 62 >**

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 62 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	**On site**	**River**	**Prescot Brook (Logwood Mill Brook)**	**GB112069060710**	**Ditton**	**Mersey Lower**

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

6.4 WFD Surface water bodies

Records identified	1

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

Features are displayed on the Hydrology map on **page 62 >**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	1826m W	River	Prescot Brook (Logwood Mill Brook)	GB112069060710 ↗	Poor	Fail	Poor	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 62 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	**On site**	**Lower Mersey Basin and North Merseyside Permo-Triassic Sandstone Aquifers**	**GB41201G101700 ↗**	**Poor**	**Poor**	**Poor**	**2019**

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

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

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).

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

7.6 Flood Zone 2

Records within 50m	0

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.

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

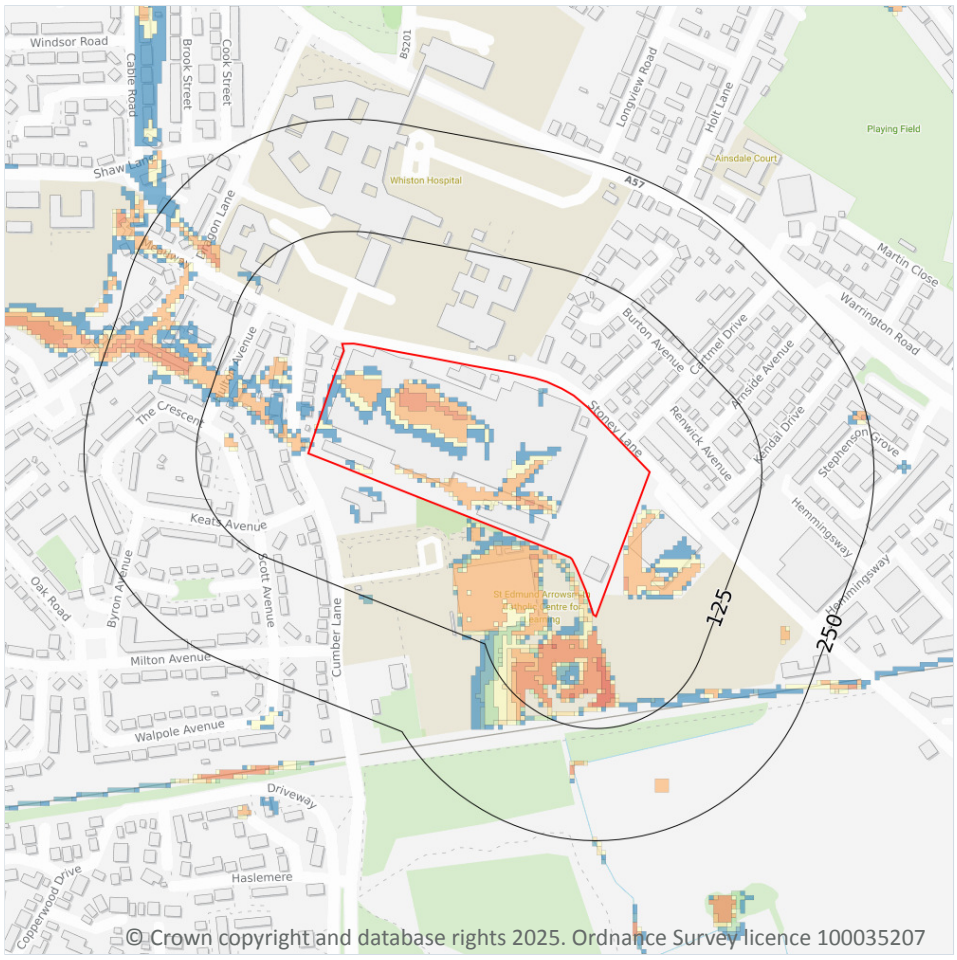
7.7 Flood Zone 3

Records within 50m	0

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.

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 30 year, 0.3m - 1.0m**
Highest risk within 50m	**1 in 30 year, Greater than 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 68 >**

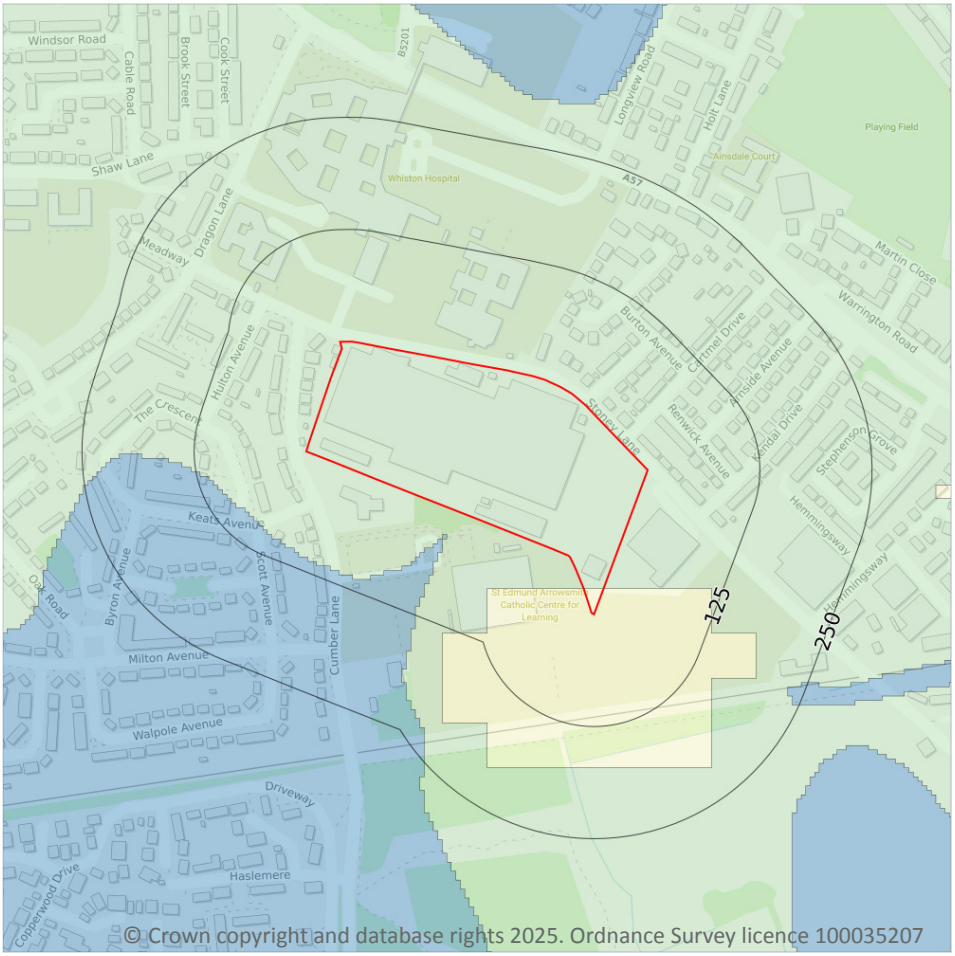
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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 0.3m and 1.0m
1 in 100 year	Between 0.3m and 1.0m
1 in 30 year	Between 0.3m and 1.0m

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

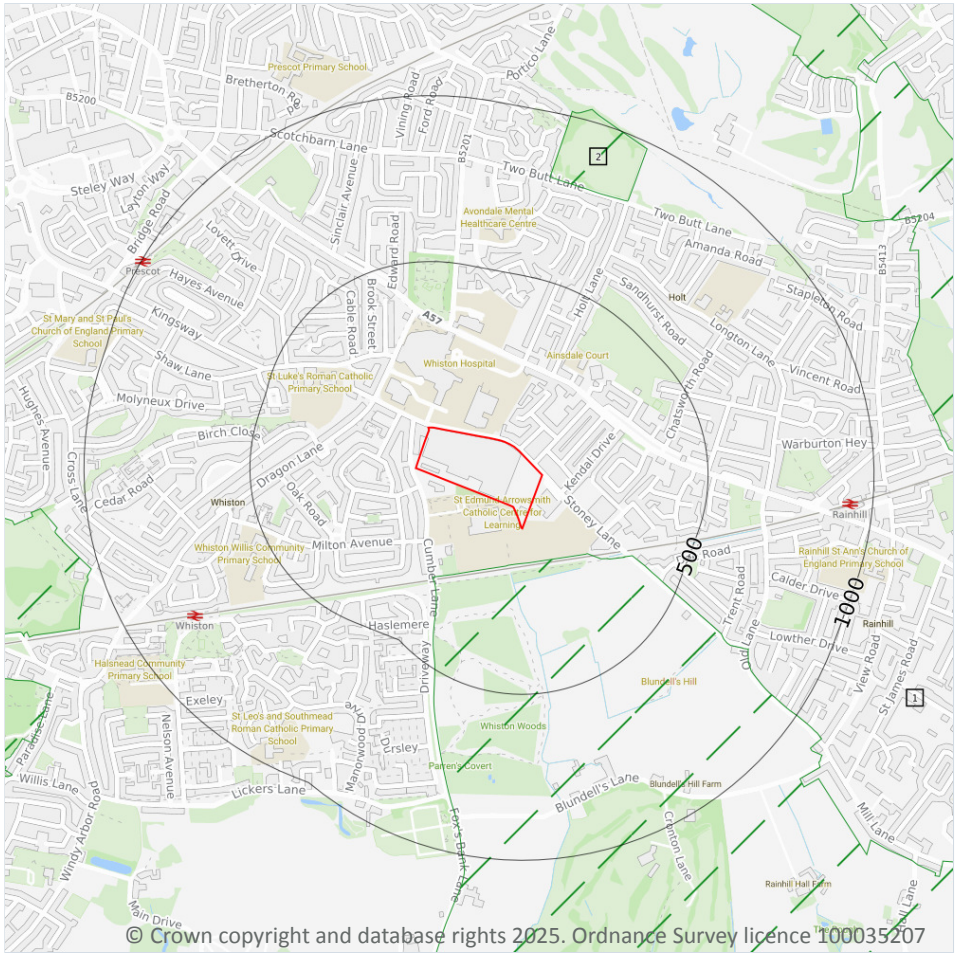
Highest risk on site	**Moderate**
Highest risk within 50m	**Moderate**

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 70 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

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	0

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.

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

10.7 Designated Ancient Woodland

Records within 2000m	1

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 71 >**

ID	Location	Name	Woodland Type
-	1965m SW	The Old Wood	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	5

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

Features are displayed on the Environmental designations map on **page 71 >**

ID	Location	Name	Local Authority name
1	105m S	Merseyside and Greater Manchester Green Belt	St. Helens
2	801m N	Merseyside and Greater Manchester Green Belt	Knowsley
3	1024m W	Merseyside and Greater Manchester Green Belt	Knowsley
-	1706m S	Merseyside and Greater Manchester Green Belt	Knowsley
-	1723m N	Merseyside and Greater Manchester Green Belt	St. Helens

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	2

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.

Location	Name	Type	NVZ ID	Status
On site	**Dittton Brook (Halewood to Mersey Estuary) NVZ**	**Surface Water**	**640**	**Existing**
424m N	Sankey Brook (Black Bk to Mersey) NVZ	Surface Water	639	Existing

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

SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site	0

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.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0

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

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

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

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

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

11.3 National Parks

Records within 250m	0

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

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

11.4 Listed Buildings

Records within 250m	0

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

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

11.5 Conservation Areas

Records within 250m	0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m	0

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

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

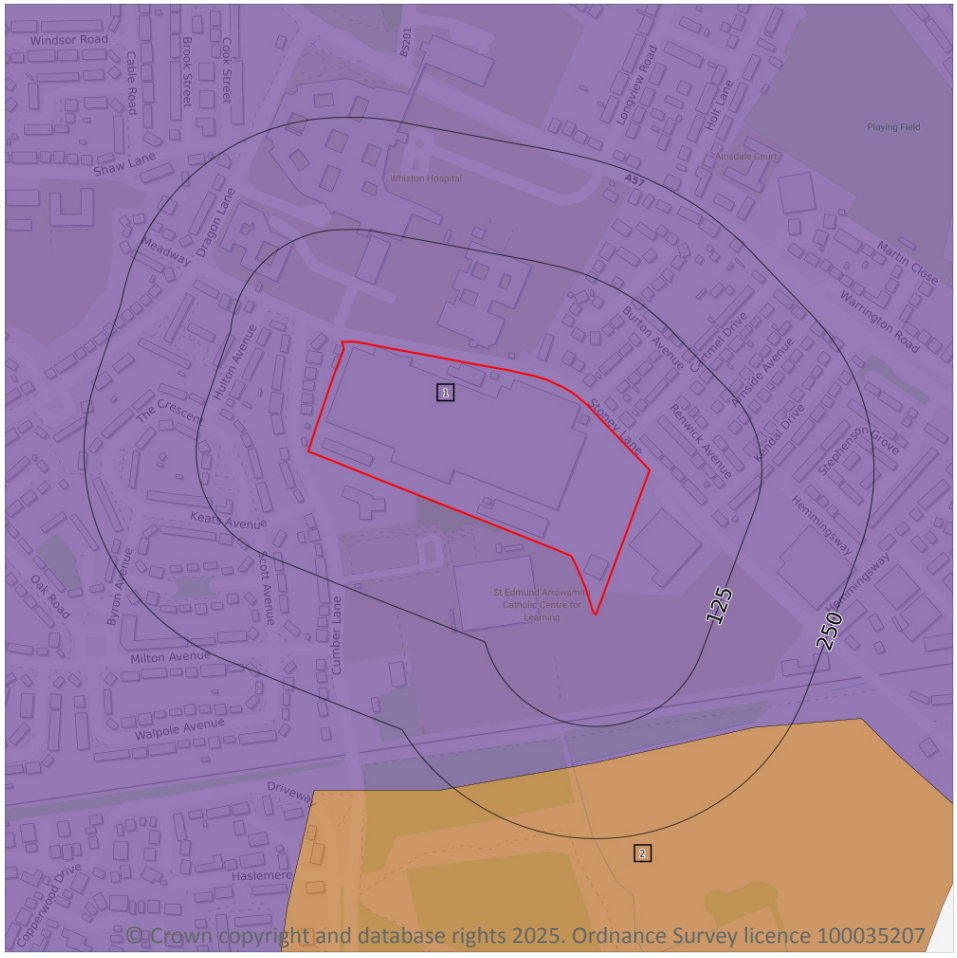
11.7 Registered Parks and Gardens

Records within 250m	0

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

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

12 Agricultural designations



Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	2

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

Features are displayed on the Agricultural designations map on **page 79 >**

ID	Location	Classification	Description
1	**On site**	**Urban**	**Non-agricultural/no quality assigned**

ID	Location	Classification	Description
2	161m S	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.

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

13.1 Priority Habitat Inventory

Records within 250m	0

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

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.

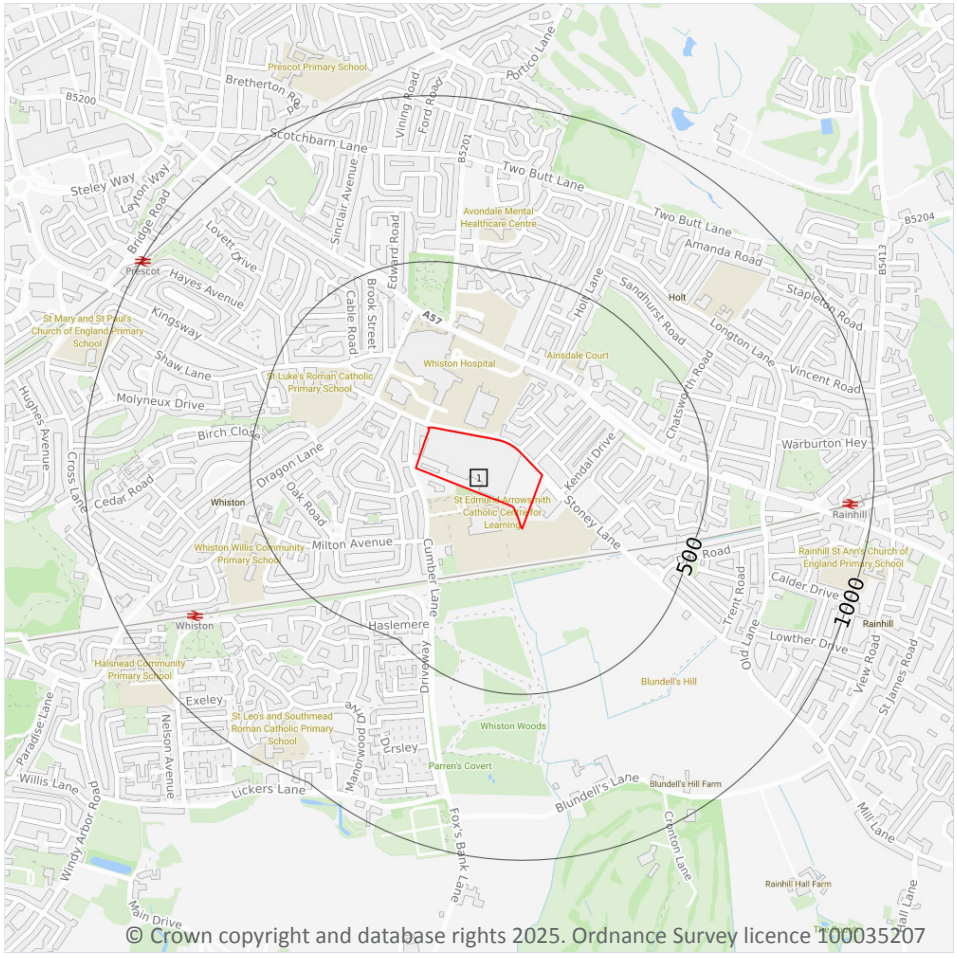
13.4 Limestone Pavement Orders

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



14.1 10k Availability

Records within 500m	1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 83 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**No coverage**	**No coverage**	**No coverage**	**NoCov**

This data is sourced from the British Geological Survey.

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

14.2 Artificial and made ground (10k)

Records within 500m	0

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.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

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.

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

14.5 Bedrock geology (10k)

Records within 500m	0

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.

This data is sourced from the British Geological Survey.

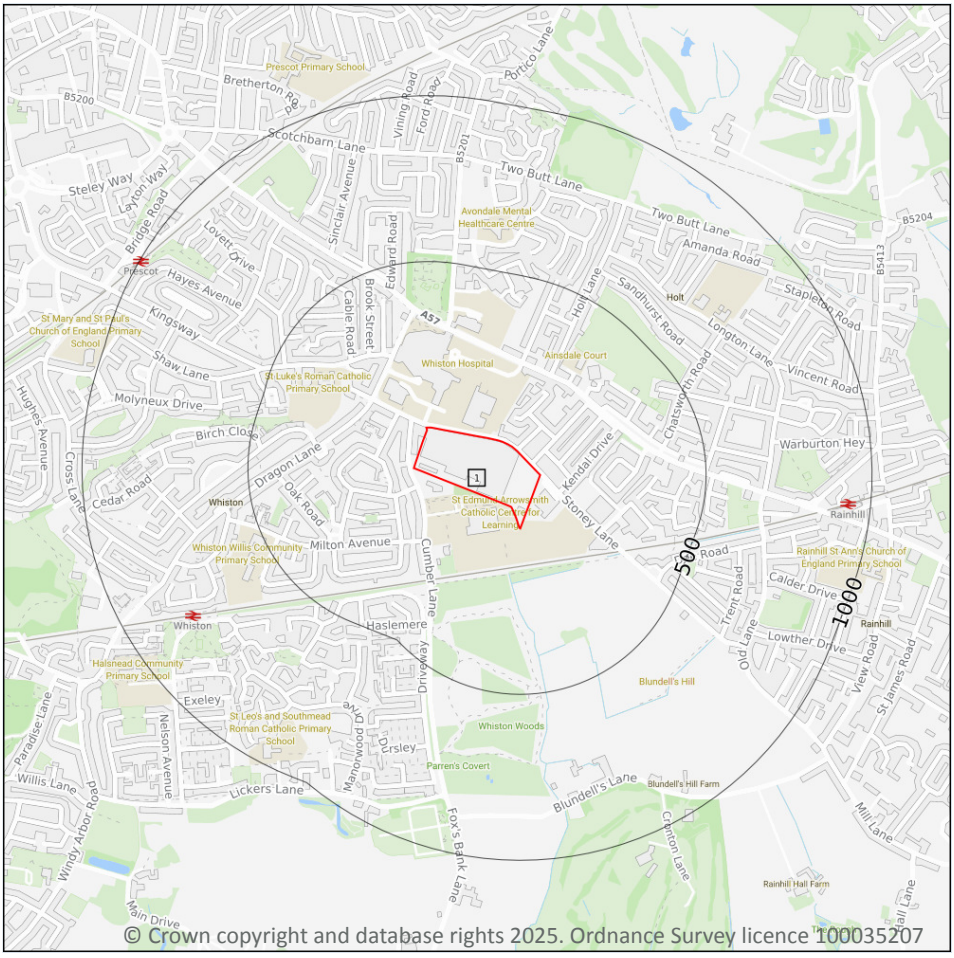
14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

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.

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 87 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**EW097_runcorn_v4**

This data is sourced from the British Geological Survey.

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

15.2 Artificial and made ground (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

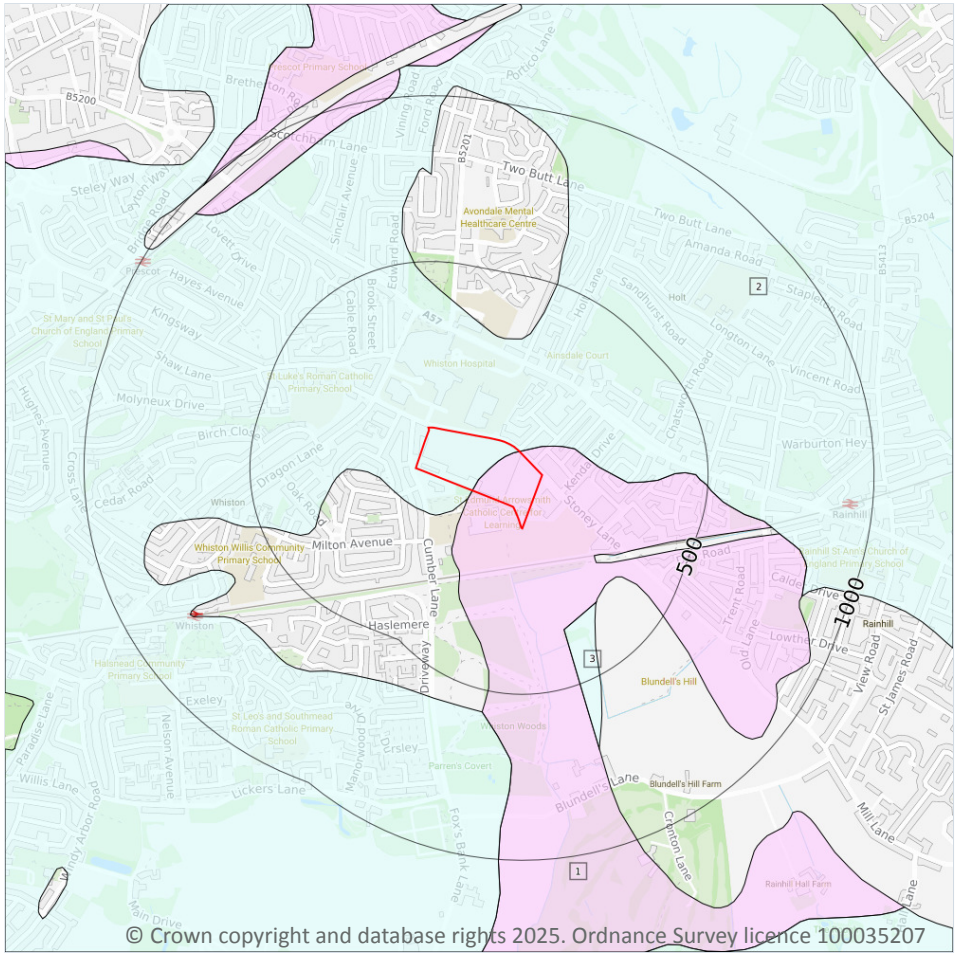
15.3 Artificial ground permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m	3

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 89 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**GFDUD-XSV**	**GLACIOFLUVIAL DEPOSITS, DEVENSIAN**	**SAND AND GRAVEL**
2	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**
3	314m SE	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

This data is sourced from the British Geological Survey.

15.5 Superficial 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 superficial deposits (the zone between the land surface and the water table).

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

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.

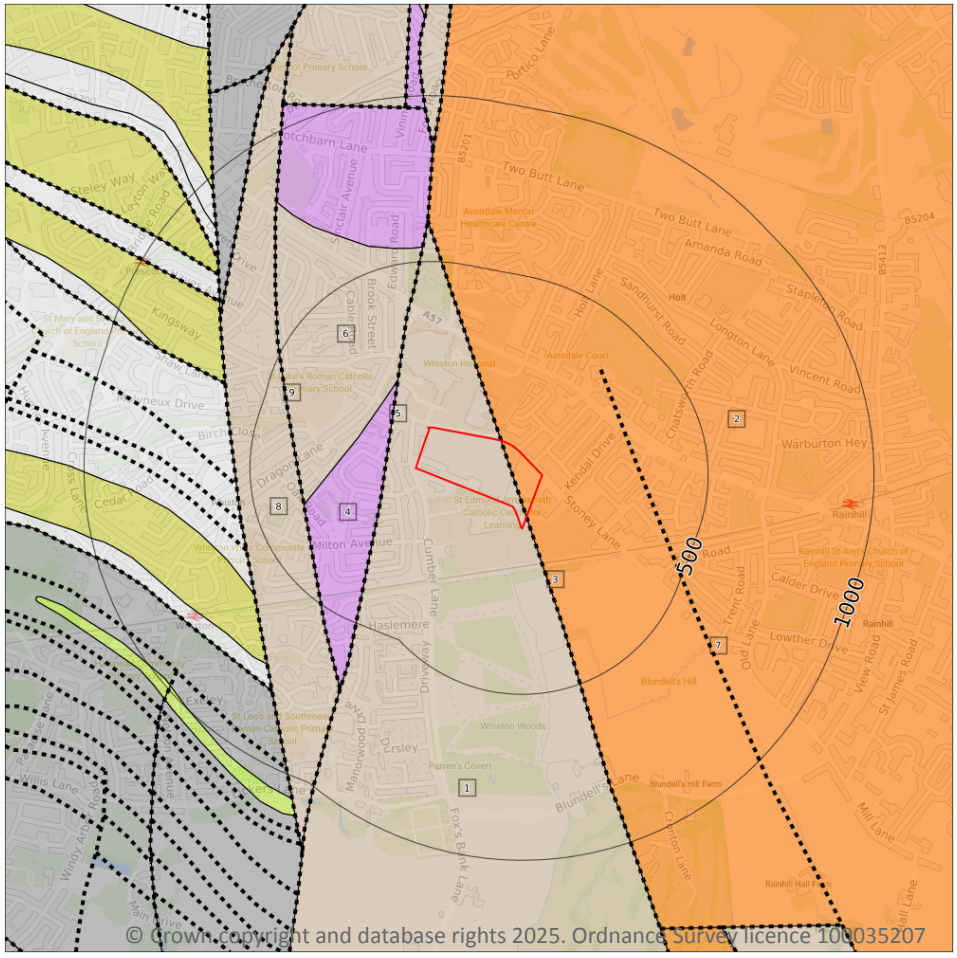
15.7 Landslip permeability (50k)

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



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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	5

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 91 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**KNSF-SDST**	**KINNERTON SANDSTONE FORMATION - SANDSTONE**	**-**
2	**On site**	**CHES-PESST**	**CHESTER FORMATION - SANDSTONE, PEBBLY (GRAVELLY)**	**OLENEKIAN**
4	92m W	ETM-MDSC	ETRURIA FORMATION - MUDSTONE, SANDSTONE AND CONGLOMERATE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
6	156m NW	KNSF-SDST	KINNERTON SANDSTONE FORMATION - SANDSTONE	-
8	351m W	KNSF-SDST	KINNERTON SANDSTONE FORMATION - SANDSTONE	-

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	**Mixed**	**High**	**Moderate**
On site	**Intergranular**	**High**	**High**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	**4**

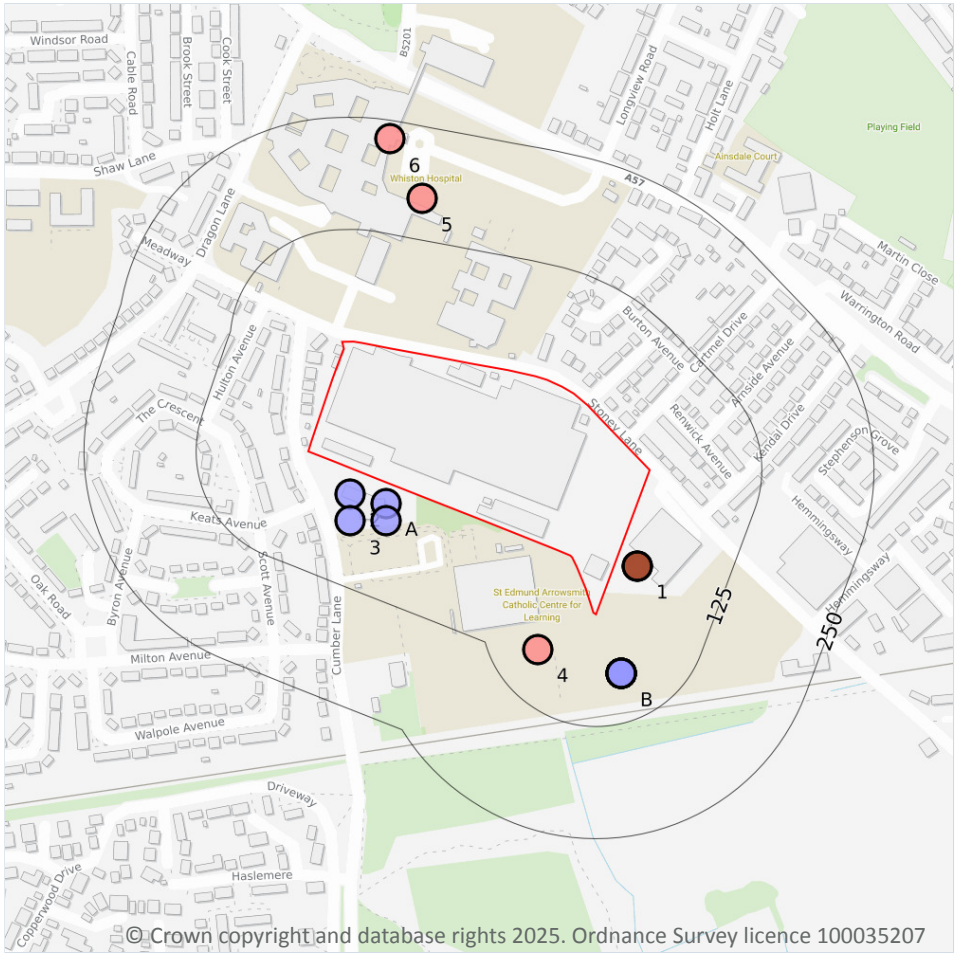
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 91 >**

ID	Location	Category	Description
3	**On site**	**FAULT**	**Fault, inferred**
5	92m W	FAULT	Fault, observed
7	278m E	FAULT	Fault, inferred
9	351m W	FAULT	Fault, observed

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	17

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.

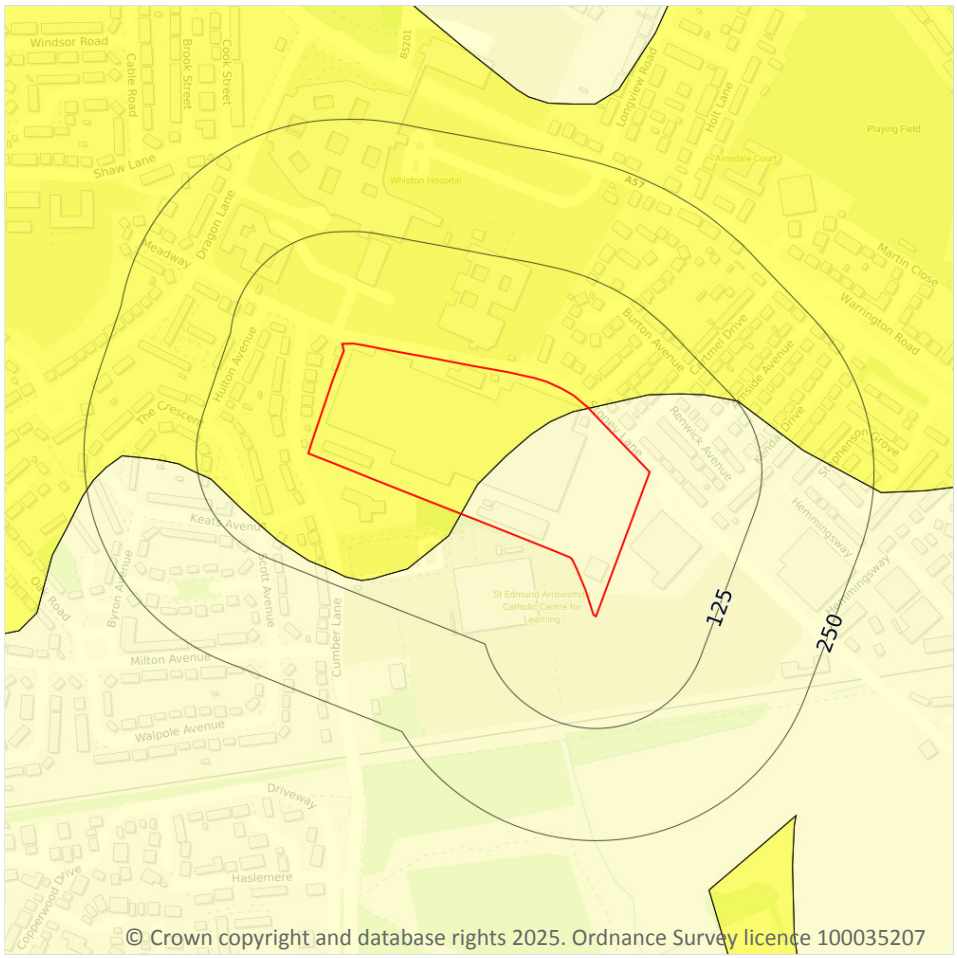
Features are displayed on the Boreholes map on **page 93 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	22m S	347910 391470	LEARNING DIFFICULTIES UNIT TP 2	2.1	N	15047309 ↗
1	24m E	348190 391400	SPRING GROVE SERVICES	-1.0	N	165902 ↗

ID	Location	Grid reference	Name	Length	Confidential	Web link
2	27m S	347870 391480	LEARNING DIFFICULTIES UNIT 1	6.0	N	15047302 ↗
A	40m S	347910 391450	LEARNING DIFFICULTIES UNIT 2	6.0	N	15047306 ↗
3	55m S	347870 391450	LEARNING DIFFICULTIES UNIT TP 1	2.8	N	15047307 ↗
B	72m SE	348172 391280	PRESCOT & DISTRICT GAS CO 1	10.97	N	165630 ↗
B	72m SE	348172 391280	PRESCOT & DISTRICT GAS CO 2	10.97	N	165631 ↗
B	72m SE	348172 391280	PRESCOT & DISTRICT GAS CO 3	9.63	N	165632 ↗
B	72m SE	348172 391280	PRESCOT & DISTRICT GAS CO 4	4.57	N	165633 ↗
B	72m SE	348172 391280	PRESCOT & DISTRICT GAS CO 5	4.57	N	165634 ↗
B	72m SE	348172 391280	PRESCOT & DISTRICT GAS CO 6	4.57	N	165635 ↗
B	72m SE	348172 391280	PRESCOT & DISTRICT GAS CO 7	4.57	N	165636 ↗
B	72m SE	348172 391280	PRESCOT & DISTRICT GAS CO 8	4.57	N	165637 ↗
B	72m SE	348172 391280	PRESCOT & DISTRICT GAS CO 9	5.06	N	165638 ↗
4	74m SW	348079 391307	WHISTON PUMPING STATION AUXILIARY WELL	141.88	N	165624 ↗
5	171m N	347950 391810	POOR LANE INSTITUTE, WHISTON	59.74	N	165905 ↗
6	230m N	347914 391876	RAINHILL POOR LANE INSTITUTION WHISTON	59.74	N	165622 ↗

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

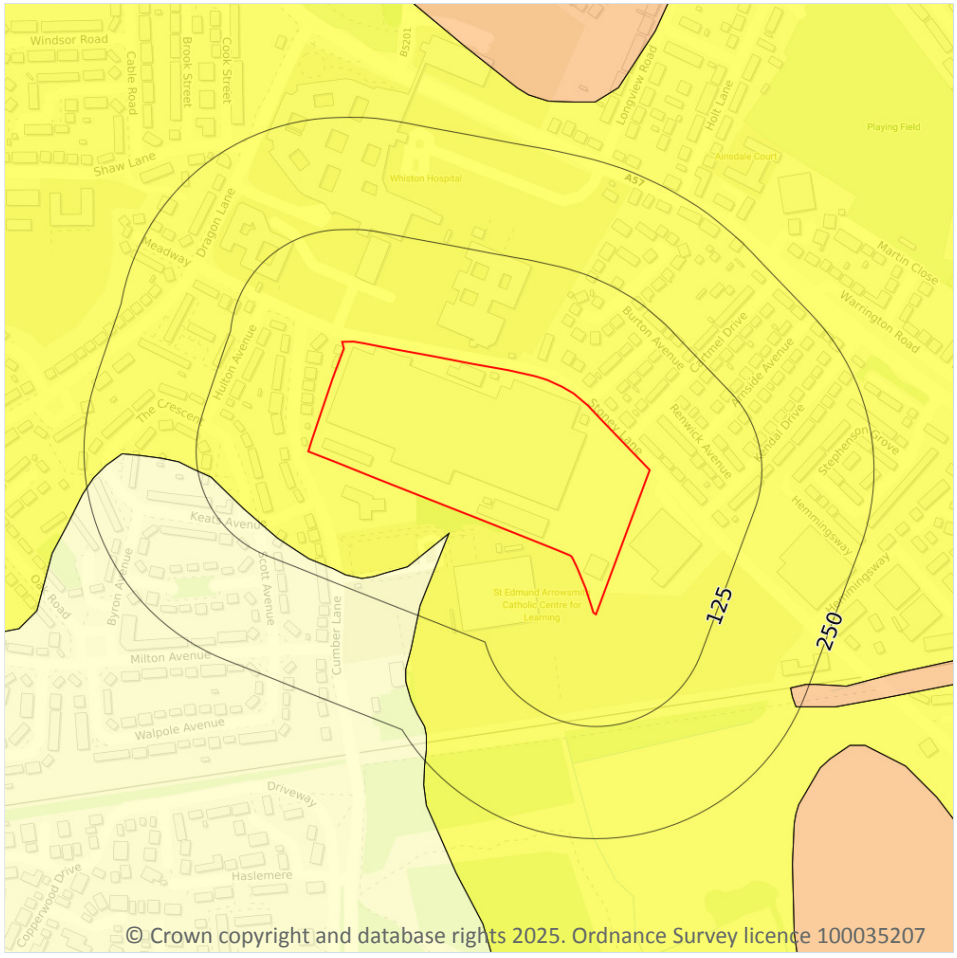
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 95 >**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**
On site	**Very low**	**Ground conditions predominantly low plasticity.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	2

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.

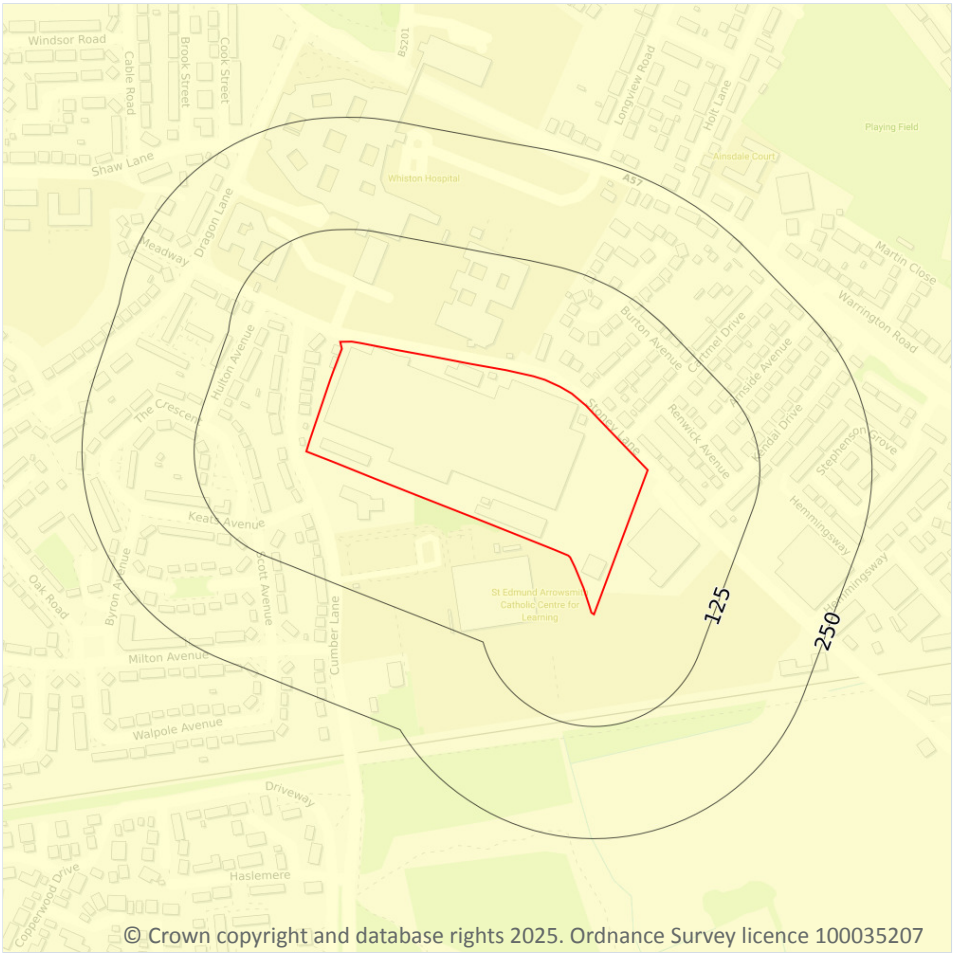
Features are displayed on the Natural ground subsidence - Running sands map on **page 96 >**

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**

Location	Hazard rating	Details
28m S	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	1

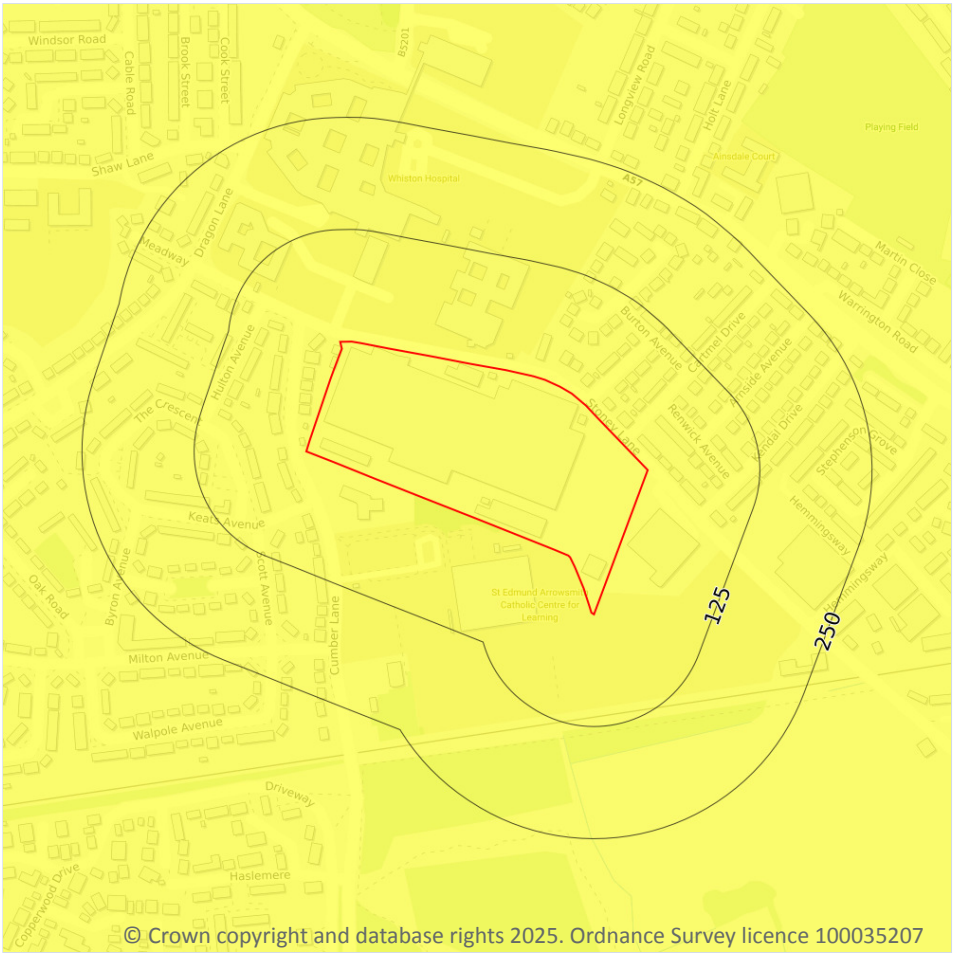
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 98 >**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	1

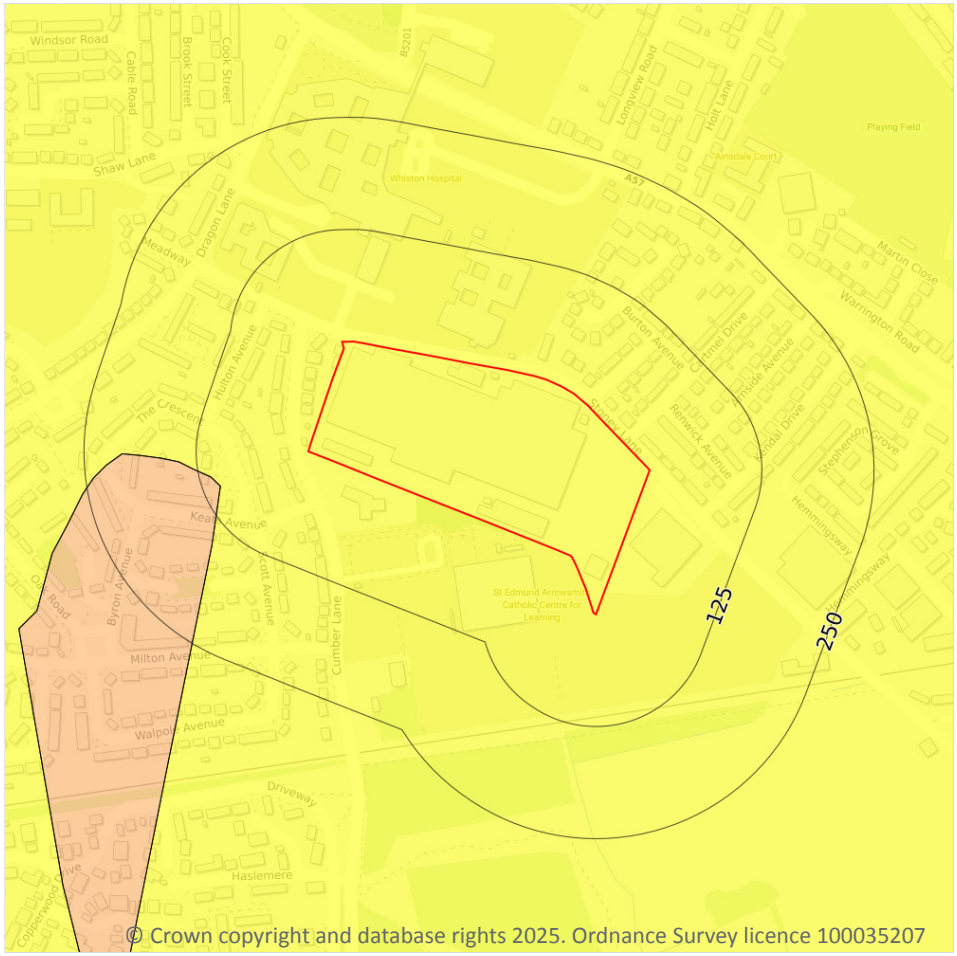
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 99 >**

Location	Hazard rating	Details
On site	**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	1

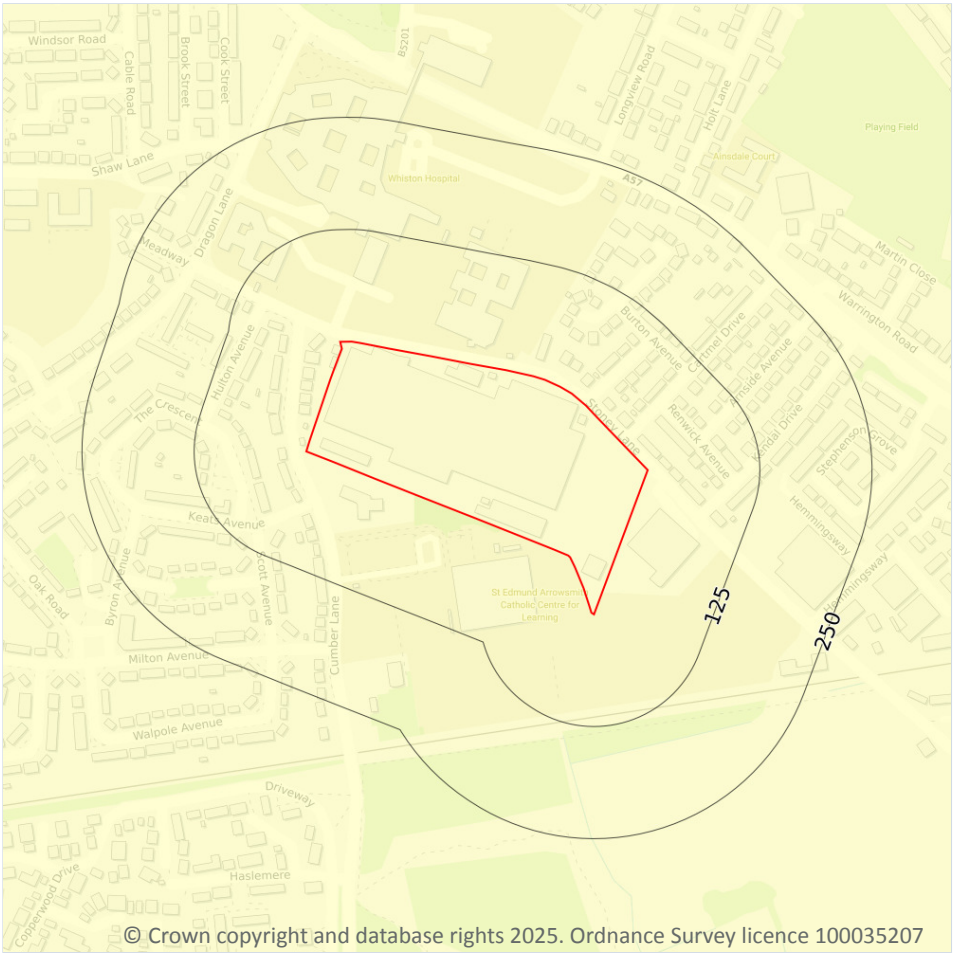
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 100 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

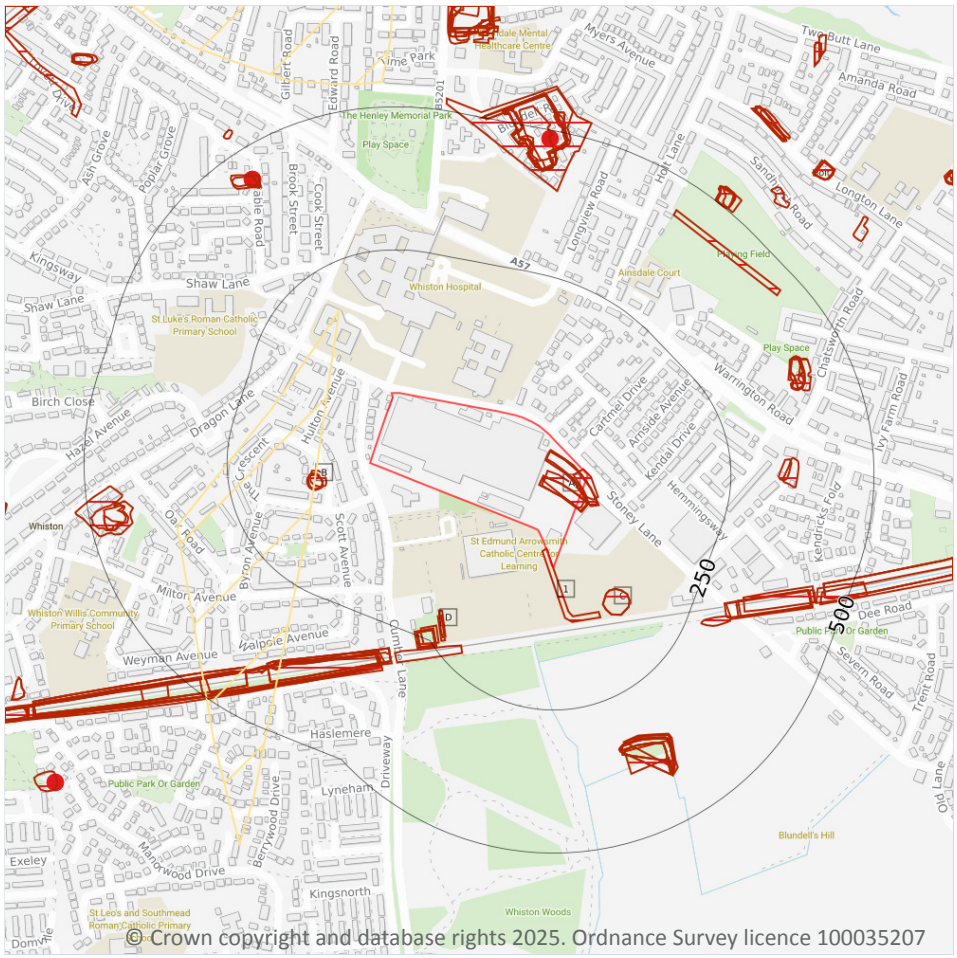
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 101 >**

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

This data is sourced from the British Geological Survey.

18 Mining and ground workings



Site Outline

Search buffers in metres (m)

- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining

Non Coal Mining

- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m	2

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 103 >**

ID	Location	Details	Description
O	445m NW	Name: Brook Street Sand Pit Address: Whiston, PRESCOT, Merseyside Commodity: Sand Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
L	485m N	Name: Holt Quarry Address: Delph Lane, Holt, PRESCOT, Merseyside Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	**26**

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 103 >**

ID	Location	Land Use	Year of mapping	Mapping scale
1	**On site**	**Unspecified Ground Workings**	**1966**	**1:10560**
A	**On site**	**Cuttings**	**1966**	**1:10560**
A	**On site**	**Cuttings**	**1966**	**1:10560**
A	**On site**	**Cuttings**	**1947**	**1:10560**
A	**On site**	**Cuttings**	**1947**	**1:10560**
A	**On site**	**Cuttings**	**1925**	**1:10560**
A	**On site**	**Cuttings**	**1925**	**1:10560**
A	**On site**	**Cuttings**	**1938**	**1:10560**

ID	Location	Land Use	Year of mapping	Mapping scale
A	**On site**	**Cuttings**	**1938**	**1:10560**
B	82m W	Unspecified Pit	1956	1:10560
B	89m W	Unspecified Pit	1938	1:10560
B	89m W	Unspecified Pit	1938	1:10560
B	90m W	Unspecified Pit	1947	1:10560
B	90m W	Unspecified Pit	1925	1:10560
B	90m W	Unspecified Pit	1906	1:10560
C	103m SE	Unspecified Pit	1978	1:10000
C	103m SE	Unspecified Pit	1966	1:10560
D	194m S	Unspecified Ground Workings	1990	1:10000
D	202m S	Unspecified Ground Workings	1978	1:10000
D	211m SW	Cuttings	1891	1:10560
D	222m S	Reservoir	1956	1:10560
D	228m S	Reservoir	1938	1:10560
D	228m S	Pond	1891	1:10560
D	231m S	Reservoir	1947	1:10560
D	231m S	Reservoir	1925	1:10560
D	231m S	Reservoir	1906	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	**7**

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 103 >**

ID	Location	Land Use	Year of mapping	Mapping scale
-	883m SW	Colliery	1891	1:10560
-	891m SW	Disused Colliery	1925	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
-	893m SW	Disused Colliery	1906	1:10560
-	912m SW	Unspecified Old Shafts	1956	1:10560
-	920m SW	Unspecified Old Shafts	1956	1:10560
-	966m SW	Unspecified Old Shafts	1956	1:10560
-	996m SW	Unspecified Disused Shafts	1990	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	2

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).

Features are displayed on the Mining and ground workings map on **page 103 >**

ID	Location	Name	Commodity	Class	Likelihood
2	92m W	Not available	Vein Mineral	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
7	543m N	Not available	Vein Mineral	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

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	0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m	0

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

This data is sourced from Groundsure.

19.4 Historical incidents

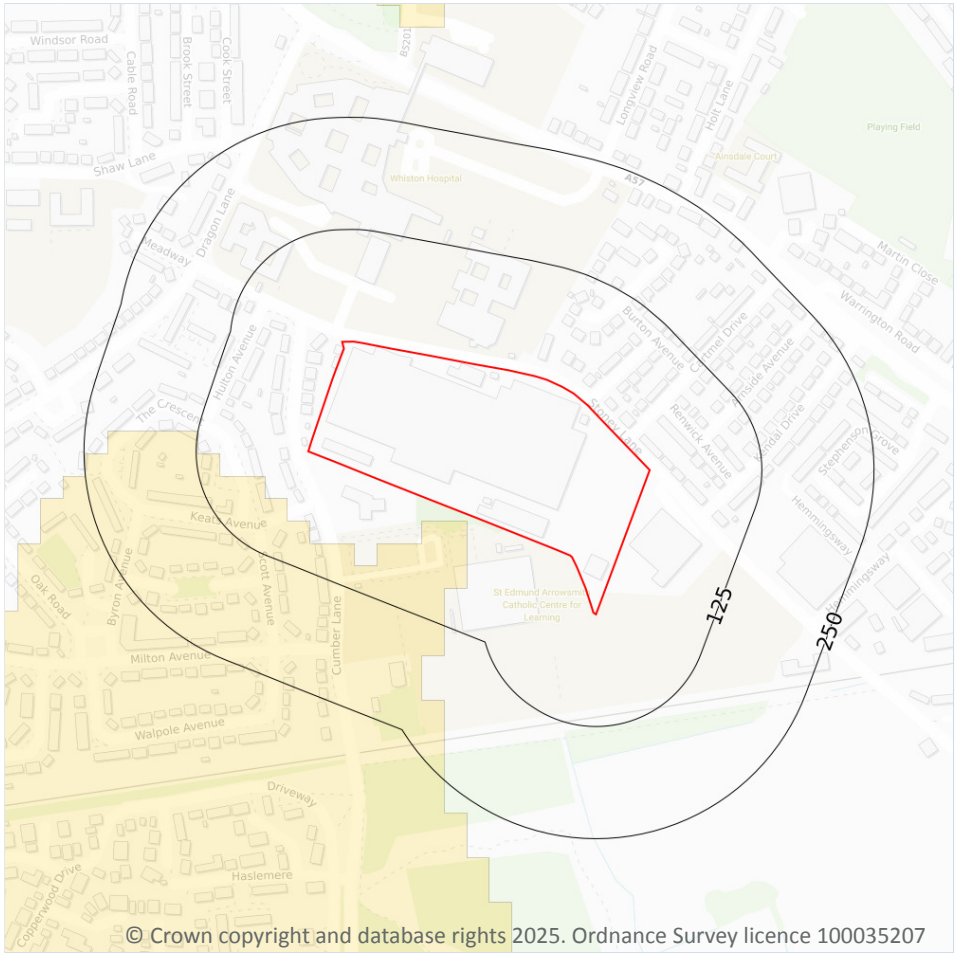
Records within 500m	0

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

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

This data is sourced from Groundsure.

20 Radon



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 112 >**

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	14

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	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	120 - 180 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 - 2.2 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 - 2.2 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 - 2.2 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 mg/kg**	**No data**	**100 - 200 mg/kg**	**60 - 120 mg/kg**	**1.8 - 2.2 mg/kg**	**90 - 120 mg/kg**	**15 - 30 mg/kg**
28m S	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 - 2.2 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m	**0**

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

This data is sourced from the British Geological Survey.

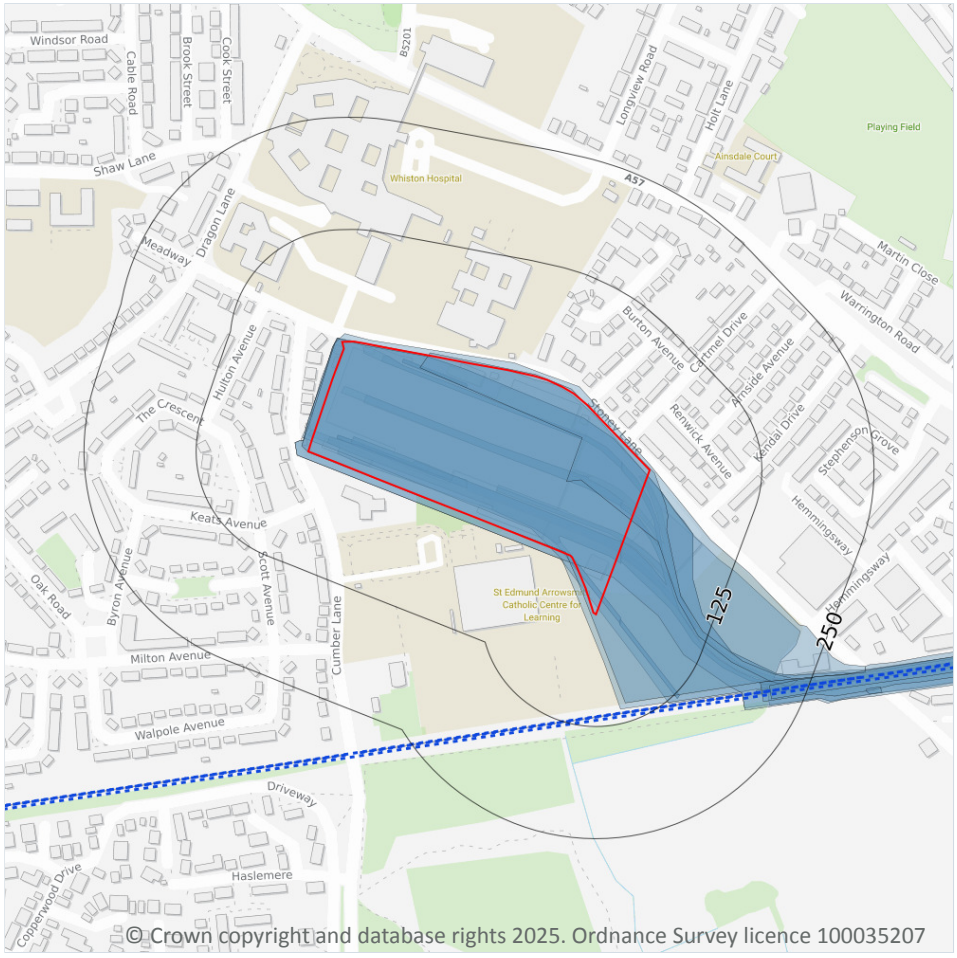
21.3 BGS Measured Urban Soil Chemistry

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 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	19

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 116 >**

Location	Land Use	Year of mapping	Mapping scale
On site	**Railway Sidings**	**1954**	**1250**
On site	**Railway Sidings**	**1955**	**1250**
On site	**Railway Sidings**	**1956**	**2500**
On site	**Railway Sidings**	**1967**	**2500**
On site	**Tramway Sidings**	**1937**	**2500**
On site	**Railway Sidings**	**1927**	**2500**
On site	**Railway Sidings**	**1937**	**2500**
On site	**Railway Sidings**	**1966**	**10560**
On site	**Tramway Sidings**	**1956**	**10560**
On site	**Railway Sidings**	**1925**	**10560**
On site	**Railway Sidings**	**1938**	**10560**
On site	**Tramway Sidings**	**1947**	**10560**
27m E	Railway Sidings	1927	2500
27m E	Railway Sidings	1937	2500
198m E	Railway Sidings	1956	10560
201m SE	Railway Sidings	1956	2500
206m SE	Railway Sidings	1907	2500

Location	Land Use	Year of mapping	Mapping scale
206m SE	Railway Sidings	1892	2500
209m E	Railway Sidings	1906	10560

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	3

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

Features are displayed on the Railway infrastructure and projects map on **page 116 >**

Location	Name	Type
113m S	Liverpool to Manchester Lines	rail
113m S	Not given	Multi Track
117m S	Liverpool to Manchester Lines	rail

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

22.9 HS2

Records within 500m	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 ↗.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: www.groundsure.com/terms-and-conditions-april-2023/ ↗.

APPENDIX J

Conceptual Model

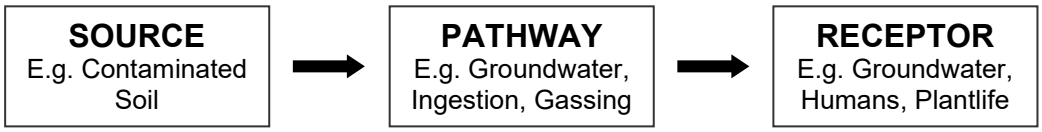
The report aims to identify land which could potentially be affected by contamination, such that it could affect the value or re-use of the land, or such that mitigation would be required for certain proposed end uses of the land.

The assessment also aims to identify land which would be regarded as 'contaminated land' under the terms of the Environmental Protection Act 1990, Part IIa. This act includes a stricter test for contaminated land than that outlined above. Land is considered to be contaminated if either: the land is causing significant harm to people, ecosystems or infrastructure; or there is a significant possibility that such harm could be caused; or pollution of controlled waters is being, or is likely to be, caused.

The following situations are defined as being where harm is to be regarded as significant: chronic or quite toxic effect, serious injury or death to humans; irreversible or other adverse harm to the ecological system; substantial damage to or failure of buildings; death of, or disease or other physical damage affecting, livestock or crops; pollution of controlled waters.

The risk assessment uses a 'Source-Pathway-Receptor' methodology for assessing whether a source of contamination could potentially lead to harmful consequences. This means that there needs to be a pollutant linkage from source to receptor for harm to be caused, this linkage consisting of: a source of pollution; a pathway for the pollutant to move along; a receptor that is affected by the pollutant.

As an example, the pollutant source could be an identified leak of oil or an area of dumped waste.



The pathways could include transport of the contaminant by groundwater, surface water, windblown dust, or vapours, and for human receptors will include the means by which contaminants enter the body, for example skin contact, ingestion and inhalation.

Receptors include people, other living organisms, the built environment and groundwater and surface waters (these latter two also being contaminant pathways).

The source-pathway-receptor methodology relationship allows an assessment of the environmental risk to be determined, based on the nature of the source, the degree of exposure of the receptor to the source and the sensitivity of the receptor.

This section of the report is based on the information set out in the previous sections of the report and should not be read independently of such sections.

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Initial Conceptual Model

From the available information the preliminary conceptual model is visualised as follows:

Target (Receptor)	POTENTIAL SOURCE-PATHWAY LINKAGE
Site Users / Residents	Inhalation of soil gas, odours or dust.
	Ingestion of, and skin contact with, contaminated soil.
	Ingestion of contaminants in vegetables etc. or in soils adhering to vegetables, etc.
Construction/ Maintenance Workers.	Inhalation of soil gas, odours or dust.
	Ingestion of, and skin contact with, contaminated soil
Plants	Adverse effects on growth caused by presence of contaminants in soil
Buildings and Structures	Flow of ground gas into buildings. Asphyxiation, toxicity, explosion and fire hazards
	Sulphate attack of foundations
	Hydrocarbons penetrating plastic water supply pipes
Groundwater	Migration of soluble contaminants into groundwater on or off site. Migration of oils into groundwater on or off site.
Surface water	Migration of soluble contaminants and/or direct run-off of contaminants. Migration of oils into groundwater on or off site.

Initial Environmental Risk Assessment - General

It is accepted that an environmental risk assessment can be based on a source-pathway-target model. An examination is carried out as to whether a target will be at risk from a contamination source, that a source exists, and whether there are any pathways (routes of exposure) which might actually link the source to the target.

Environmental risk assessments rely heavily on numerical trigger concentrations or guidelines because exposure of targets to contamination is difficult to quantify directly. Quantification of risk is therefore mainly undertaken for general scenarios in order to derive trigger levels. These are derived for various contaminants for particular targets and routes of exposure. An example of a sensitive target would be users of a domestic back garden, where routes of exposure might be skin contact, dust inhalation, direct ingestion and indirect ingestion via cultivation and consumption of fruit and vegetables. In March 2002, the first parts of the new CLEA risk assessment guidance were released by DEFRA/Environment Agency.

The risk assessment approach is an extension of the 'fit for use' concept whereby land is cleaned up to a standard fit for the proposed use, that is, so all remaining risks are acceptable. However, as well as being 'fit for use', the environmental risk assessment approach also addresses the soil and water environment so that these are also safeguarded where necessary. For example if a site was contaminated with heavy metals and the development comprised the proposed construction of hard standings and buildings only, the fit-for-use approach might require no remediation for the site. However, consideration of the wider environment needs to address whether groundwater is being contaminated, and if so whether remediation is required for this reason.

The following classification presented by CIRIA has been used in the assessment of risk:

Estimation of risk from consideration of magnitude, consequences and probabilities				
Probability	**Consequences**			
	Severe	**Moderate**	**Mild**	**Minor**
High	Very high	High	Moderate	Moderate / Low
Medium	High	Moderate	Moderate / Low	Low
Low	Moderate	Moderate / Low	Low	Very Low
Unlikely	Moderate / Low	Low	Very Low	Very Low

Reference: Contaminated Land Risk Management; A Guide to Good Practice, CIRIA C552:2001

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APPENDIX K

Notes on Limitations

The desk study report includes examination and provision of historical maps and an environmental database search covering geology, hydrogeology, historical, land use, water abstractions, groundwater source protection zones, landfill sites, radon, trade directory entries, petrol filling stations and nature reserves for the site and surrounding area.

This report does not consider ecological impacts (e.g. bats) or botanical risks (e.g. Japanese knotweed). It is recommended that these are considered as part of the assessment of development constraints for the site.

The assessment and judgements given in this report are directed by both the finite data on which they are based and the proposed works to which they are addressed. The data essentially comprised a study of available documented information from various sources together with discussions with relevant authorities and other interested parties. There may also be circumstances at the site that are not documented. The information reviewed is not exhaustive and has been accepted in good faith as providing representative and true data pertaining to site conditions. If additional information becomes available which might impact our environmental conclusions, we request the opportunity to review the information, reassess the potential concerns and modify our opinion if warranted.

It should be noted that any risks identified in this report are perceived risks based on the available information. Actual risks can only be assessed following a physical investigation of the site.

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