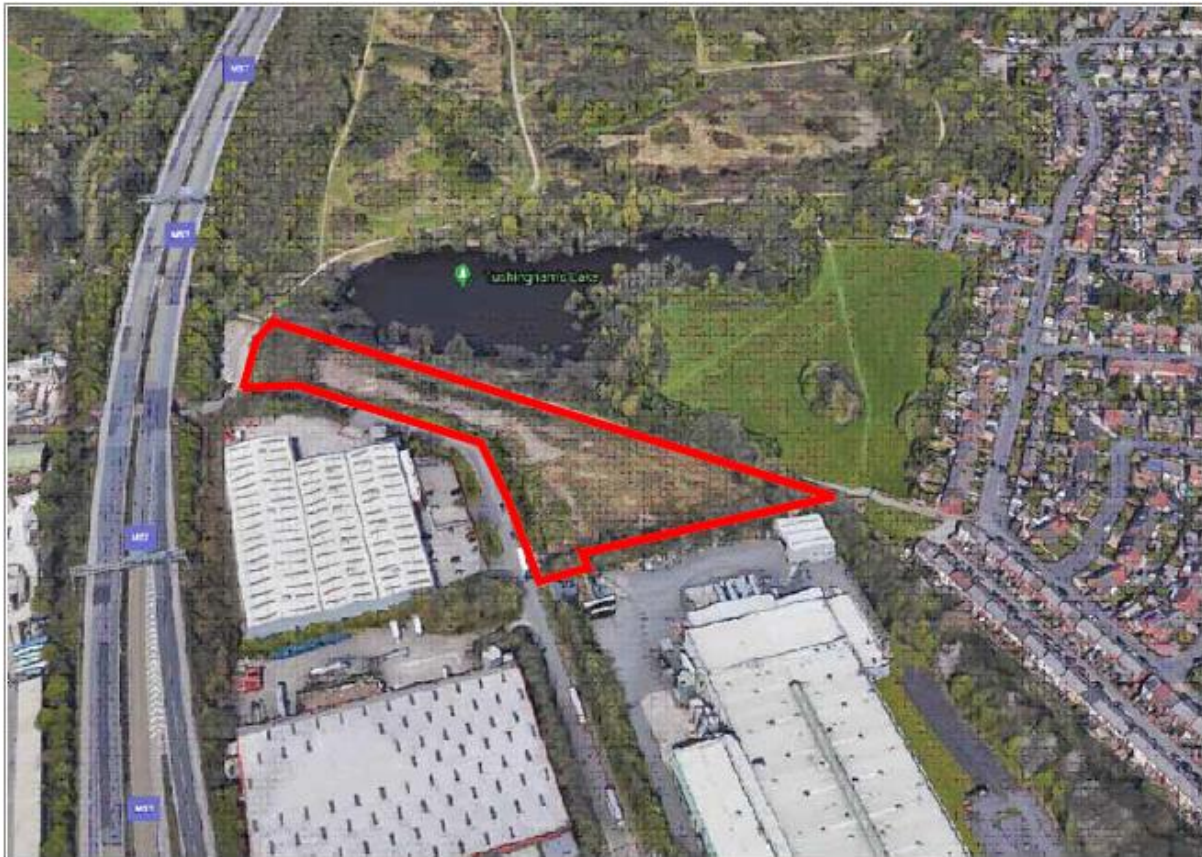


ALLIED PROPERTIES
FALLOWS WAY, PRESCOT, L35 1RZ

edward
architecture

GROUND INVESTIGATION STAGE 1 DESKTOP STUDY



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1. INTRODUCTION

1.1 Terms of Reference

- 1.1.1 This report has been produced based on the information provided by e-geo Solutions Ltd who were commissioned to undertake a desk based ground contamination study and risk assessment at Fallows Way, Prescott, Merseyside as part of a previous application for a coach park.
- 1.1.2 The objective of the study was to collate and assess information on the sites history, the environmental (contamination), geological, and hydro-geological characteristics of the site, to undertake a preliminary hazard assessment in terms of potential contamination and develop a Preliminary Conceptual Model to indicate potential contamination risks associated with the site and its redevelopment.
- 1.1.3 The study has been undertaken with reference to guidance in the 'Model Procedures for the Management of Land Contamination' (CLR11) and the BSI Publication 'Investigation of Potentially Contaminated Sites' – Code of Practice (BS10175). This report presents the findings of the preliminary site assessment, detailing the particular site characteristics and identifying potential contamination, environmental and geo environmental factors which could impact upon the redevelopment proposals.
- 1.1.4 This report has been prepared for the sole use of the Client, for the purposes described and no extended duty of care applies to other parties. Any other party using this report for any purpose whatsoever do so at their own risk and any duty of care to that party is specifically excluded.
- 1.1.5 The comments given, and opinions expressed, in this report are based on the information available at the time the report was compiled, however there may be additional information and data which becomes available at a later date which has an impact on the report content. Where data supplied by others has been used it has been assumed that the information is correct. No responsibility can be accepted by e-geo Solutions Ltd for inaccuracies within the data supplied by others.
- 1.1.6 The copyright of this report and its contents prepared by e-geo Solutions Ltd is solely owned by e-geo Solutions Ltd. Neither this report nor contents prepared by e-geo Solutions Ltd may be reproduced, published or adapted without the express written approval of e-geo Solutions Ltd.

1.2 Report Contents

1.2.1 The report includes sections on:-

- Sources of Information
- Current and historical land use, including site inspection observations
- The sites geological, hydro-geological, hydrological and environmental setting
- Potential contaminants, receptors and pathways and the significance of pollutant linkages
- Risk assessment and recommendations for further quantification of risk and collection of additional data

1.3 Information Sources

- 1.3.1 Information on the site and its immediate surroundings has been collected from a range of sources including:-
- British Geological Survey Map Nr 097 1:50,000 Solid and Drift Edition
 - BGS Memoirs
 - Historical Ordnance Survey Maps
 - Aerial photographs and Google Earth
 - Information held by the Environment Agency on landfill sites, regulated industries, water abstractions and discharges, water quality, source protection zones, flood risk and incidents
 - The Environment Agency Groundwater Vulnerability Maps
 - GroundSure EnviroInsight Report, Reference HMD – 165 – 5106719

- GroundSure GeolInsight Report HMD – 165 – 5106720
- The Coal Authority Mining Report 51001695880001
- The Coal Authority Mine Entry Interpretative Report 51001855187001
- A site inspection and walkover survey.
- Report: E0922.GGCI.R1 (19/07/17) Site on Fallows Way, Prescott, L35 1RZ Geotechnical and Ground Contamination Investigation Report. e-geo Solutions Ltd

2. SITE CHARACTERISTICS AND HISTORY

2.1 Site Location

- 2.1.1 The area of investigation is located off Fallows Way between Huyton Park and Whiston near Prescott. The site location is shown on Figure 1 and Figure 2. The site is bordered by industrial units to the south, residential development to the east and by open greenfield land to the north. The overall site is centred at Grid Reference 346192,390214.

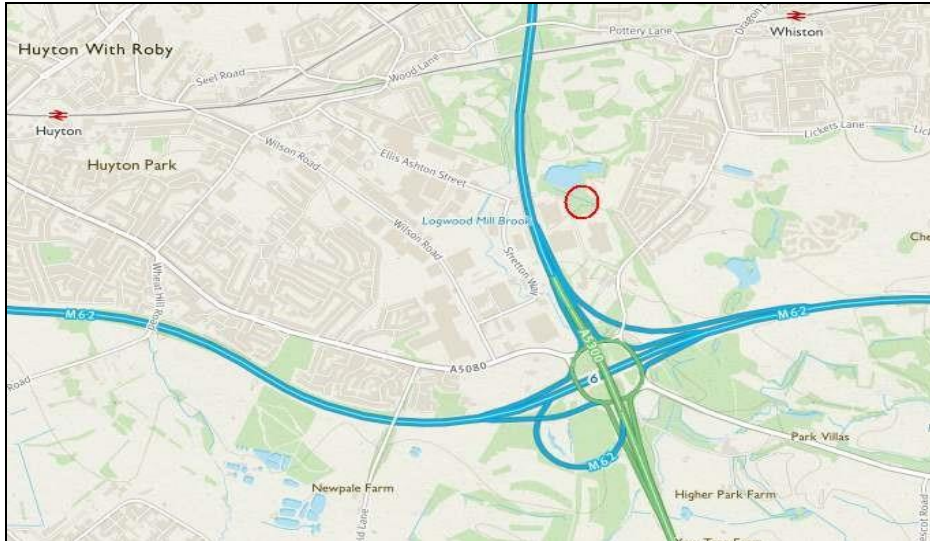


Figure 1 – Site Location

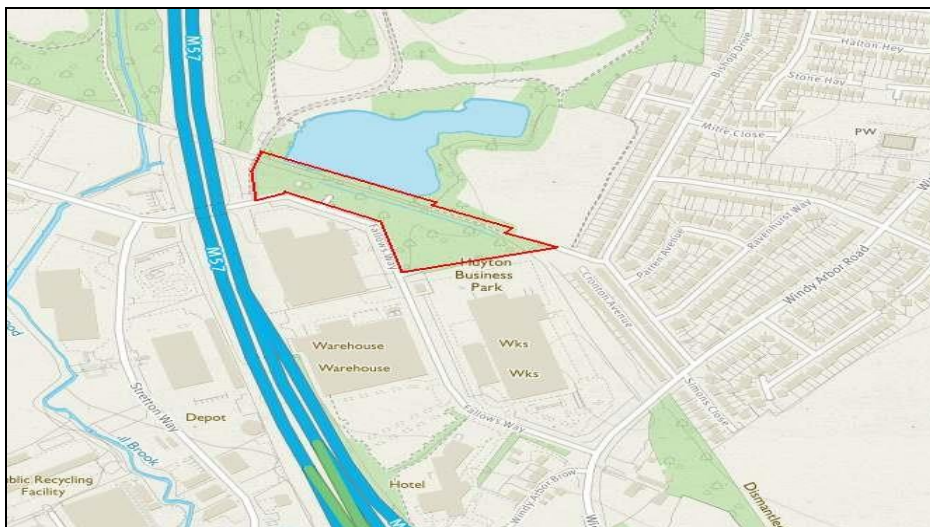


Figure 2 – Proposed Development Site

2.2 General Site Description, Use and Topography

- 2.2.1 The east side of the overall site comprises an area of ground where trees and vegetation have been cleared. The portion of the site at the western end remains densely vegetated. There are no structures on the site or evidence of any past use, although from the topography soils may have been placed on the site.
- 2.2.2 The ground surface in the area of investigation is undulating with a flat central portion with the ground level falling towards the northern boundary. The ground surface is raised above the surrounding land to the south and appears to have been subjected to filling or tipping previously.
- 2.2.3 An aerial photograph of the site is presented as Figure 3 and site photographs are presented in Appendix 1.



Figure 3 – Aerial Photograph and Site Context

2.3 Site Walkover and Inspection

- 2.3.1 An inspection of the site was undertaken in September 2021. Site photographs are presented in Appendix 1. The following features and aspects were noted:

Overall Site

- The overall site is unused at present. The eastern portion comprises open ground covered in grass vegetation. The western portion is densely vegetated with shrubs, trees and bushes. There are no activities on site.
- The ground within the eastern portion of the site is slightly raised above the ground level of the surrounding land.
- There is no evidence of storage of raw materials or wastes on site and no evidence of spills or fires.

Adjacent Land

- To the north is undeveloped land that is densely vegetated in part and with two large ponds.
- To the south and east are large industrial units. To the west is a motorway.

2.4 Site Development History

- 2.4.1 An examination of old Ordnance Survey maps dating from 1892 has been undertaken. Selected map extracts are presented in Appendix 2.

2.4.2 The following site development history has been compiled from the old Ordnance Survey maps:

1892 - Grid Ref: 346192,390214 County Series 1:2,500 On-Site

The majority of the overall site is undeveloped land. In the extreme western portion of the site there is some made up ground from an 'old colliery'. The northern boundary is marked by a 'railway line'. **Surrounding Land** Halsnead Colliery is 100m to the northeast. To the south is undeveloped land.

1907 - Grid Ref: 346192,390214 County Series 1:2,500 On-Site

The site is as in 1892. **Surrounding Land**

The surrounding land is as in 1892 but Halsnead Colliery is disused.

1937 - Grid Ref: 346192,390214 County Series 1:2,500 On-Site

The site is as in 1907.

Surrounding Land

The surrounding land is as in 1907, but there are houses 'Cranton Avenue' 50m east. The land to the north is shown as 'marsh land'.

1958 - Grid Ref: 346192,390214 National Series 1:2,500 On-Site

The site is as in 1937. **Surrounding Land**

The surrounding land is as in 1937.

1973 - Grid Ref: 346192,390214 National Series 1:1,250 On-Site

The site remains as in 1958 but the disused mine in the western portion is not present. There are some 'tanks' in the northeast corner. The drain within the northern boundary appears to have been deepened.

Surrounding Land

There is a 'chemical works' to the southeast. To the north is a pond.

1977 - Grid Ref: 346192,390214 National Series 1:1,250 On-Site

The site remains as in 1973.

Surrounding Land

The surrounding land is as in 1973 but the land north of the pond (immediately north of the site) is shown as a refuse tip.

1987 - Grid Ref: 346192,390214 National Series 1:1,250 On-Site

The site remains as in 1973 but the tanks are no longer present.

Surrounding Land

The surrounding land is as in 1973 but there are additional industrial units to the south. The area to the north is shown as a pond.

1994 - Grid Ref: 297678,378495 National Series 1:1,250 On-Site

The site remains as in 1987 **Surrounding**

Land

The surrounding land remains as in 1987 but there are industrial units to the southwest.

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3. GEOLOGY, GROUND STABILITY AND ENVIRONMENTAL SETTING

3.1 Geology

- 3.1.1 The British Geological Survey Map No. No.097 indicates that the near surface deposits below the site are Glacial Till deposits. The solid geology below the majority of the site comprises sandstone of the Pennine Middle Coal Measures Formation. Below the northwest portion of the site the bedrock is mudstone, siltstone and sandstone of the Pennine Middle Coal Measures Formation.
- 3.1.2 The Glacial Till deposits will comprise clay and silt with varying proportions of sand and gravel of locally derived rock. The deposits are likely to be present to depths of 5 to 10m. The deposits will be of high to low permeability.
- 3.1.3 The bedrock directly below the site comprises fine grained argillaceous rocks of sandstone. The rock will typically be of high permeability with groundwater movement governed by the fracture condition of the bedrock.
- 3.1.4 There are no faults directly below the site.
- 3.1.5 A ground investigation within the eastern portion of the site (Report: E0922.GGCI.R1 (19/07/17) Site on Fallows Way, Prescott, L35 1RZ Geotechnical and Ground Contamination Investigation Report. e-geo Solutions Ltd) indicated that there is made up ground present comprising reworked natural soils. The strata and depths encountered during the investigation was:

Stratum	Description	Depth to base m range (average)	Thickness m (average)
Topsoil	Dark brown sandy TOPSOIL	0.10	0.10
MADE GROUND Silt	Soft medium brown and medium grey to grey brown slightly gravelly sandy SILT. Gravel is fine to coarse angular siltstone. Occasional boulders of concrete sandstone and brick	2.00 to 3.50	3.00
MADE GROUND Sand (WS3 only)	Light brown gravelly silty fine SAND. Gravel is angular fine to coarse sandstone	4.50	4.50
MADE GROUND Clay	Soft medium grey slightly sandy silty CLAY	3.50	1.50
CLAY	Firm light brown and light grey mottled slightly gravelly slightly sandy silty CLAY	4.50+	

3.2 Mining, Mineral Extraction and Ground Workings

- 3.2.1 There are historical surface ground working features within the extreme western portion of the site associated with a colliery. Immediately to the north is a pond and ground workings associated with a colliery.
- 3.2.2 There are historical underground working features associated with the colliery in the western portion of the site. There are numerous historical underground working features associated with coal mining to the east, northeast and southwest.
- 3.2.3 There are current ground workings below the site associated with Cronton Colliery Pit, and numerous other current workings within 300m of the site associated with Halsnead Colliery, Huyton Hey Colliery, Hig Hey Colliery.
- 3.2.4 A non-residential mining report by the Coal Authority (Ref51001695880001) (Appendix 5) indicates the following:

- the properties are in a surface area that could be affected by underground mining in 13 seams of coal at 70m to 430m depth, and last worked in 1903
- any movement in the ground due to coal mining activity should have stopped
the properties are in an area where the Coal Authority believe there is coal at or close to the surface. This coal may have been worked at some time in the past. There may be coal workings at or close to the surface
- the properties are not within a surface area that could be affected by present underground mining
- the properties are not in an area likely to be affected from any planned future underground coal mining
- within, or within 20 metres of, the boundary of the property there is 1 mine entry. Shaft 346390-016 is understood to have been capped at rockhead by Knowsley Borough Council
- 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 31st October 1994
- the Coal Authority has no record of a mine gas emission requiring action

3.2.5 A mine entry interpretative report by the Coal Authority (Ref51001695880001) (Appendix 6) on shaft 346390-016 indicates the following:

- the mine entry was Old Halsnead Colliery No. 9 Shaft
- the depth of the shaft is unknown
- the diameter of the shaft was 2.5m
- the depth of superficial deposits was 1.50m
- the shaft has been capped at rockhead by Knowsley Borough Council
- the Coal Authority concludes that if coal mining subsidence was to occur because of ground movement due to the mine entry, the proposed building is outside the area likely to be affected

3.3 Natural Ground Subsidence and Movement

- 3.3.1 There is a very low risk of ground subsidence from natural hazards within the site boundary. There is a very low risk of ground movement due to landslides.
- 3.3.2 There is a very low risk of shrinkage or swelling of the ground strata as the strata is of low plasticity. There is a negligible risk from compressible deposits being present below the site. There is a negligible risk of running sand deposits being present below the site. There is a negligible risk of ground dissolution. There is a very low risk of collapsible deposits below the site.

3.4 Hydrogeology

- 3.4.1 The superficial (drift) deposits below the site are classed as 'Secondary' undifferentiated aquifer. The aquifer can be either classed A or B depending on the soil type, but were previously classed as a minor or nonaquifer.
- 3.4.2 The bedrock below the site is classed as a 'Secondary A' aquifer. These are 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. They were previously minor aquifers.
- 3.4.3 There are no Groundwater Abstraction Licences within 2000m. The nearest Surface water Abstraction point is 1085m south. There are no source protection zones within 500m of the site.
- 3.4.4 The soil vulnerability is classed as HU with highly permeable soils over a minor aquifer.

3.5 Hydrology

3.5.1 There is no Environment Agency information on rivers within 1500m. There is an inland river on site but this is the ditch at the north boundary. There is a pond immediately north of the site.

3.6 Sensitive Land Uses

3.6.1 There are no Sites of Special Scientific Interest within 2000m of the site.

3.7 Landfill and Landfill Gas

3.7.1 The nearest Environment Agency historic landfill sites is 3m northeast of the site. The landfill was known as Coalgate Lane Landfill and accepted Inert, Industrial, Commercial, Household, Liquid sludge and was operational between 1972 and 1983.

3.8 Flood Risk

- The site is not within a Zone 2 floodplain area as defined by the Environment Agency. A Zone 2 floodplain is one where the annual probability of flooding is 0.1% (one in one thousand) or greater from rivers and the sea but less than 1.0% from rivers or 0.5% from the sea.

3.9 Radon

3.9.1 The site is within a radon affected areas with between 1% and 3% of properties above the Action Level as defined by the Health Protection Agency. No radon protection measures will be necessary.

3.9 Contamination

3.10.1 The analysis of 7 ground samples recovered during an investigation of the eastern portion of the site indicated that the near surface ground materials do not have any elevated concentrations of chemical parameters and:

- The concentrations of all toxic metal, phytotoxic metal and metalloid parameters were below the guideline concentrations.
- Cyanide concentrations were exceedingly low or below detection limits.
- The pH of 8.5 to 10.5 is neutral to alkaline.
- No elevated concentrations of sulphate or soluble sulphate were found.
- No elevated TPH or polyaromatic hydrocarbons were detected in the samples tested with concentrations below the detection limits.
- Based on the available analysis the results indicate that the ground materials do not contain any parameters which would be classed as contaminated.
- Assessment of the results on soils against guideline for the disposal of soils indicates that the soils would be classed as 'inert'.

4. ENVIRONMENTAL DATA SEARCHES

4.1 Registered Waste Treatment and Disposal Sites

- 4.1.1 There is a closed landfill site (EA) immediately north of the site. The site was known as Coalgate Lane Landfill and operated between 1972 and 1983. The landfill received inert, industrial, commercial and household wastes. The nearest Local Authority recorded landfill is 317m northeast of the site.

4.2 Regulated Industries

- 4.2.1 There is an IPPC Authorisation sites 292m southwest operated by FCC recycling. There is one site subject to hazardous substances consents at 204m west operated by Basf printing.

4.3 Radioactive Sources

- 4.3.1 There are no Radioactive Source Authorisations or records of Category 3 or 4 Radioactive Substances within 500m of the site.

4.4 Emissions to Air

- 4.4.1 There are no known sites subject to local air pollution control under Part I of the Environmental Protection Act 1990 within 500m of the site.

4.5 Pollution Incidents

- 4.5.1 There are no records of Environment Agency pollution incidents which occurred on the site. The nearest incident is 93m west related to food and drink and had a significant impact on water did not affect the site.

5. CONCEPTUAL SITE MODEL AND PRELIMINARY RISK ASSESSMENT

5.1 Introduction

- 5.1.1 In accordance with current guidance the information collated during the preliminary site assessment has been reviewed to establish the conceptual model for the site and area of development. The conceptual model is based upon the identification and assessment of potential 'hazards', identified or suspected from the results of the preliminary assessment; the potential 'receptors' that may be affected; and the anticipated 'pathways' to those receptors.
- 5.1.2 The 'Conceptual Model' takes into consideration the proposed development use of the site for residential purposes (caravans and mobile homes), historical and present uses of the site and the sites environmental setting.

5.2 On-Site Contamination Sources and Hazards

- 5.2.1 The main data source for the hazard identification is information on the sites previous and present use and information collected during the site inspection. From the assessment of this data the potential source, type and location of any contamination hazard has been identified.
- 5.2.2 The information indicates that the eastern and central portion of the site has never had any use which could cause contamination other than some 'unknown tanks' in the extreme northeast corner.
- 5.2.3 The western portion of the site was occupied by a 'colliery' with an associated 'shaft' and mine waste.
- 5.2.4 Coal seams were mined below the site at a depth which would not affect the surface and the known shaft in the western portion has been capped and will not affect the proposed development. However there could be unrecorded workings present at shallow depth which could impact on structures on the site.
- 5.2.5 The identified potential on-site contamination sources and hazards include:

On-site

- Colliery spoil and made up ground in the western portion of the site
- Spills and leaks from the 'tanks' in extreme northeast corner
- Unrecorded mine workings

5.3 Off-Site Contamination Sources and Hazards

- 5.3.1 The historical surrounding land use is predominantly associated with coal mining to the north and northwest and with more recent industrial units and a chemical works to the south and east. In addition there was a former 'refuse tip' to the north (but north of the pond immediately north).
- 5.3.2 The presence of solid contamination that could impact on the site is very unlikely however there is a slight possibility that there could be hazardous gasses from the former refuse tip which could migrate towards the development site.

5.4 Receptors and Targets

5.4.1 During and following site redevelopment the principal receptors to any contamination hazard will be:

Receptor Type	Target	Presence (Y/N)	Comment
Humans on site	Future site users, occupiers	Y	Potential contact and ingestion if exposed to contaminated ground strata
Humans on site	Site construction workers	Y	Groundworks required during construction phase
Humans off site	Adjacent site users, occupiers	N	No sensitive development around the site
Buildings and construction materials	New buildings, buried concrete and services	Y	Site to be largely a coach park but office/reception structure on site
Flora and fauna	Crops and livestock	N	Non present on site
Ecosystems	Ecological system or organism	N	Non present
Controlled waters	Surface Water	Y	Pond north of the site
Controlled waters	Ground Water - Shallow	N	Secondary 'minor or non-aquifer.' aquifer in drift
Controlled waters	Ground Water - Deep	Y	Secondary aquifer in bedrock at depth

5.5 Potential Exposure Pathways

5.5.1 The following potential exposure pathways, if contamination is present, during and following site redevelopment have been identified and assessed:

Human Exposure Pathways

Exposure Pathway	Existence/ Likelihood	Comment
Humans future site users – Ingestion of soil	None	Site to be covered with sealed surface
Humans future site users – Ingestion of vegetables	None	Site to be covered with sealed surface
Humans future site users – Ingestion of soil on vegetables	None	Site to be covered with sealed surface
Humans future site users – Ingestion of dust	None	Site to be covered with sealed surface
Humans future site users – Dermal contact with soil	None	Site to be covered with sealed surface
Humans future site users – Dermal contact with dust	None	Site to be covered with sealed surface
Humans future site users – Inhalation of dust	None	Site to be covered with sealed surface
Humans future site users – Inhalation of gasses outside	Unlikely	Extensive external area
Humans future site users – Inhalation of gasses inside	Possible	Structures and services will be constructed within the ground materials
Humans construction workers – dermal contact, ingestion of soils and dust	Unlikely	Construction activities will involve groundworks but controlled by PPE

Humans construction workers – Inhalation of gasses	Unlikely	Construction activities will involve groundworks but in open atmosphere
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Environmental Exposure Pathways

Receptor	Pathway	Existence/ Likelihood	Comment
Buildings and construction materials	Materials contact	Possible	Foundations and services in the ground
	Build up of gasses	Possible	Potential for ground gasses to migrate through permeable strata and accumulate in below ground structures
Flora and fauna	Root uptake	None	No crops or livestock will be on site
	Leaf contact	None	
	Ingestion	None	
	Inhalation	None	
	Dermal contact	None	
Ecosystems	Ingestion	None	No sensitive ecosystems on site
	Dermal contact	None	
Controlled water -Surface waters – Pond	Flow via drains	Unlikely	Drains may discharge into pond
	Horizontal migration	None	No hydraulic gradient
Controlled Water – Shallow Ground water	Vertical migration	Unlikely	Low permeability strata may will prevent migration into minor/non aquifer in drift
Controlled Water – Ground water	Vertical migration	None	Depth and overlying low permeability strata will prevent migration

5.6 Preliminary Risk Assessment

- 5.6.1 The Conceptual Model involves the identification of risks associated with the site. In order for there to be any risk to exist, a "Source - Pathway - Receptor" linkage must be established. This linkage requires:
- A source of contamination in, or under the ground which has the potential to cause harm or to cause pollution of controlled waters.
 - A pathway is one or more routes or means by, or through which a receptor is being exposed to or affected by a contaminant or, could be so exposed or affected by a contaminant
 - A receptor that could be a living organism, a group of living organisms, an ecological system or property
- 5.6.2 The identification of each of these three elements is linked to the identification of the others. A pathway can only be identified if it is capable of exposing an identified receptor to an identified contaminant. That particular contaminant should likewise be capable of harming or, in the case of controlled waters, be capable of polluting that particular receptor.
- 5.6.3 If a pollutant source, pathway and receptor are found to be present then there is a risk to the identified receptor. If there is an absence of any part of the source, pathway or receptor process, there is no risk.
- 5.6.4 At the proposed development site potential sources of contamination have been identified. Possible pathways to receptors may exist during and following site redevelopment if elevated concentrations of contaminants are present. An assessment of the 'Source – Pathway – Receptor' linkages is presented in the table below.

Receptor	Pathway	Linkage Probability	Consequence	RISK
Humans future site users	Ingestion of soil	None	Moderate	None
Humans future site users	Ingestion of vegetables	None	Moderate	None
Humans future site users	Ingestion of soil on vegetables	None	Moderate	None
Humans future site users	Ingestion of dust	None	Moderate	None
Humans future site users	Dermal contact with soil	None	Minor	None
Humans future site users	Dermal contact with dust	None	Minor	None
Humans future site users	Inhalation of dust	None	Minor	None
Humans future site users	Inhalation of gasses outside	Unlikely	Minor	Very Low
Humans future site users	Inhalation of gasses inside	Possible	Moderate	Medium to high
Humans construction workers	Dermal contact, ingestion	Unlikely	Minor	Very Low
Humans construction workers	Inhalation of gasses	Unlikely	Moderate	Low
Buildings and construction materials	Materials contact	Possible	Minor	Low to medium
	Build up of gasses	Possible	Major	Medium to High
Flora and fauna	Root uptake	None	Minor	None
	Leaf contact	None	Minor	None
	Ingestion	None	Minor	None
	Inhalation	None	Minor	None
	Dermal contact	None	Minor	None
Ecosystems	Ingestion	None	Minor	None
	Dermal contact	None	None	None
Controlled water -Surface waters	Flow via drains	Unlikely	Minor	Low
	Migration in groundwater	None	None	None
Controlled Water – Ground water	Vertical migration	Unlikely	Minor	Very Low
Controlled Water – Ground water	Vertical migration	None	Minor	None

Descriptor	Description
Almost certain	Likely to occur on many occasions
Likely	Will probably recur but not persistent
Possible	May recur occasionally
Unlikely	Not expected to happen but is possible
None	Will not happen

Descriptor	Description
Catastrophic	Death
Major	Permanent harm
Moderate	Semi-permanent injury/damage
Minor	Short term harm/damage
None	No injury or adverse outcome

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

6.1.1 The information collected has allowed an assessment of the geological, hydro geological, hydrological and potential contamination status of the site to be made. The assessment has identified that contaminants and hazards could be present on site that present a risk to:

- Humans from hazardous gasses
- Buildings and structures from hazardous gasses
- Construction materials buried in the ground
- Structures from unrecorded shallow mine workings

6.2 Recommendations

6.2.1 It is recommended that to prove the current status of any contamination at the site and to establish the actual risks, that an 'Intrusive Contamination Investigation' is undertaken to address the gaps in information. The objectives of this investigation will be to:

Contamination

- Gather additional information needed to refine the site conceptual model.
- Determine the nature of ground materials below the site, the presence, nature and extent of any ground contamination.
- Fully characterise the ground gas regime.
- Provide data and recommendations for the design of any remediation works.

6.2.2 The proposed investigation is detailed below:

Item	Method	Purpose and Specification
Mine Workings Location Rotary Boreholes. 6 Nr rotary boreholes (RBH) to 30m	BS10175 and BS5930	6 Nr RBH to 30m by rotary drilling to investigate unrecorded mine workings.
Gas monitoring wells. 6 Nr	BS10175 and BS5930	Install groundwater and gas monitoring wells within the rotary boreholes response zones within the superficial deposits.
Gas monitoring	NHBC	Monitor all 6 gas wells for ground gasses, concentrations and flow on 6 occasions over an 8 week period with at least 2 visits during low or falling atmospheric pressure.
Trial pit investigation of western portion (former disused mine area) and extreme north east corner (former tanks area)	BS10175 and BS5930	Excavate trial pits to 2 to 3 m depth to expose and sample shallow ground strata in areas not previously investigated.
Chemical analysis	MCETS and UKAS accredited laboratory	Analysis of 6 to 9 soil samples for a range of chemical constituents including. Suite 1 - . pH, arsenic, cadmium, chromium (hexavalent and total), lead, copper, nickel, zinc, mercury, phenol, cyanide, thiocyanate, sulphate, sulphide, sulphur, PAH Suite 2 - sulphate (total and water soluble), Suite 3 - TPH (C10-C40), Benzene, Toluene, Ethyl benzene, Xylenes, Methyl-Tert-Butyl-Ether (MTBE) Suite 4 - TPH Aliphatic/Aromatic split Suite 5 - Asbestos screen

Appendix 1 - Site Photographs



Footpath to northern boundary of the site looking east.



View within site looking northwest



View within site looking east

Appendix 2 - Historical Ordnance Survey Maps

Site Details:

COACH DEPOT, FALLOWS
WAY, WHISTON, L35 1RZ

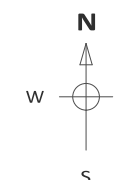
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Report Ref: HMD-165-5106721
Grid Ref: 346199, 390208

Map Name: County Series

Map date: **1892**

Scale: 1:2,500

Printed at: 1:2,500



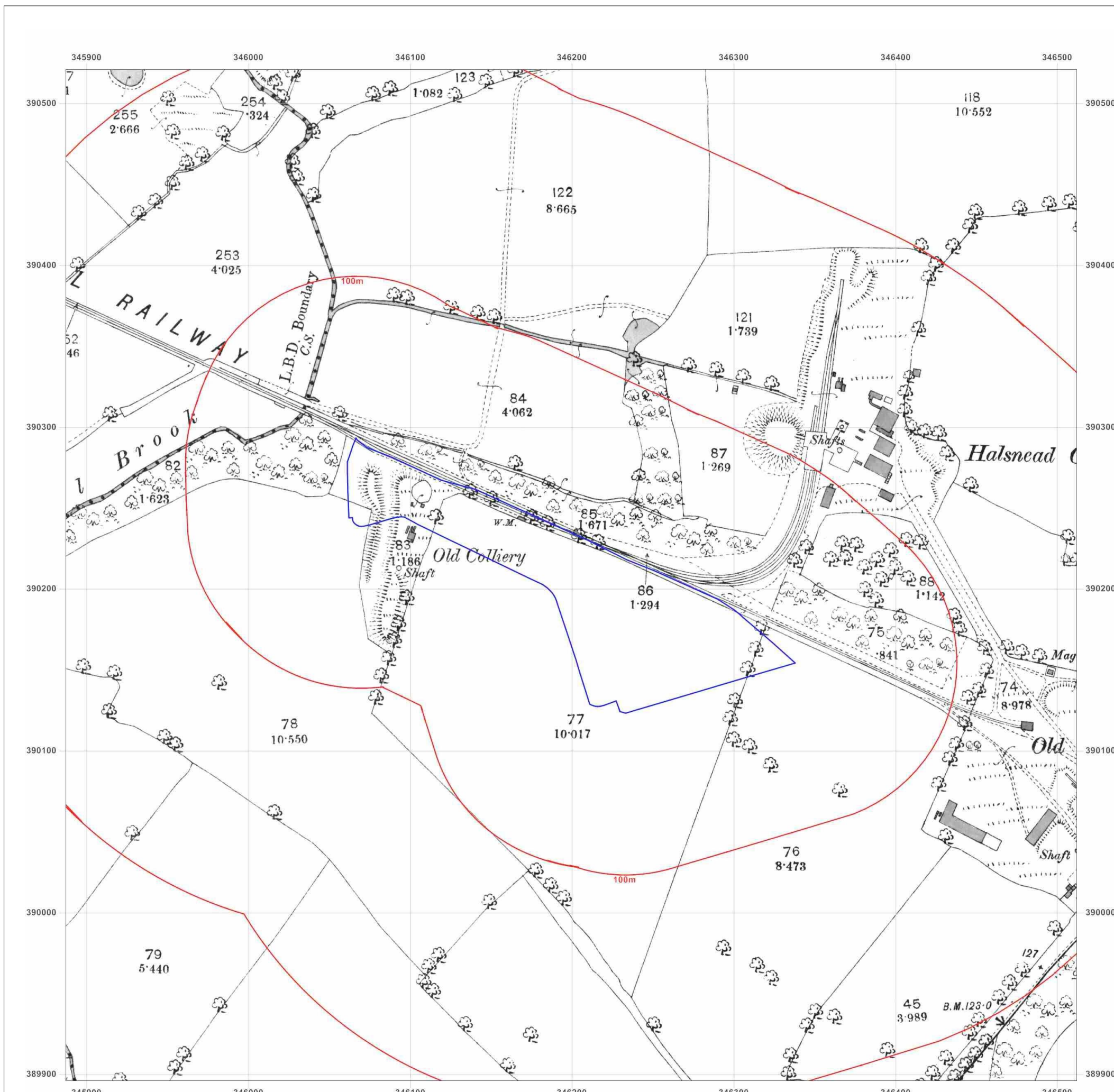
Surveyed 1892
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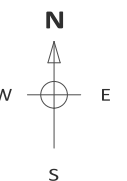
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Report Ref: HMD-165-5106721
Grid Ref: 346199, 390208

Map Name: County Series

Map date: 1907

Scale: 1:2,500

Printed at: 1:2,500



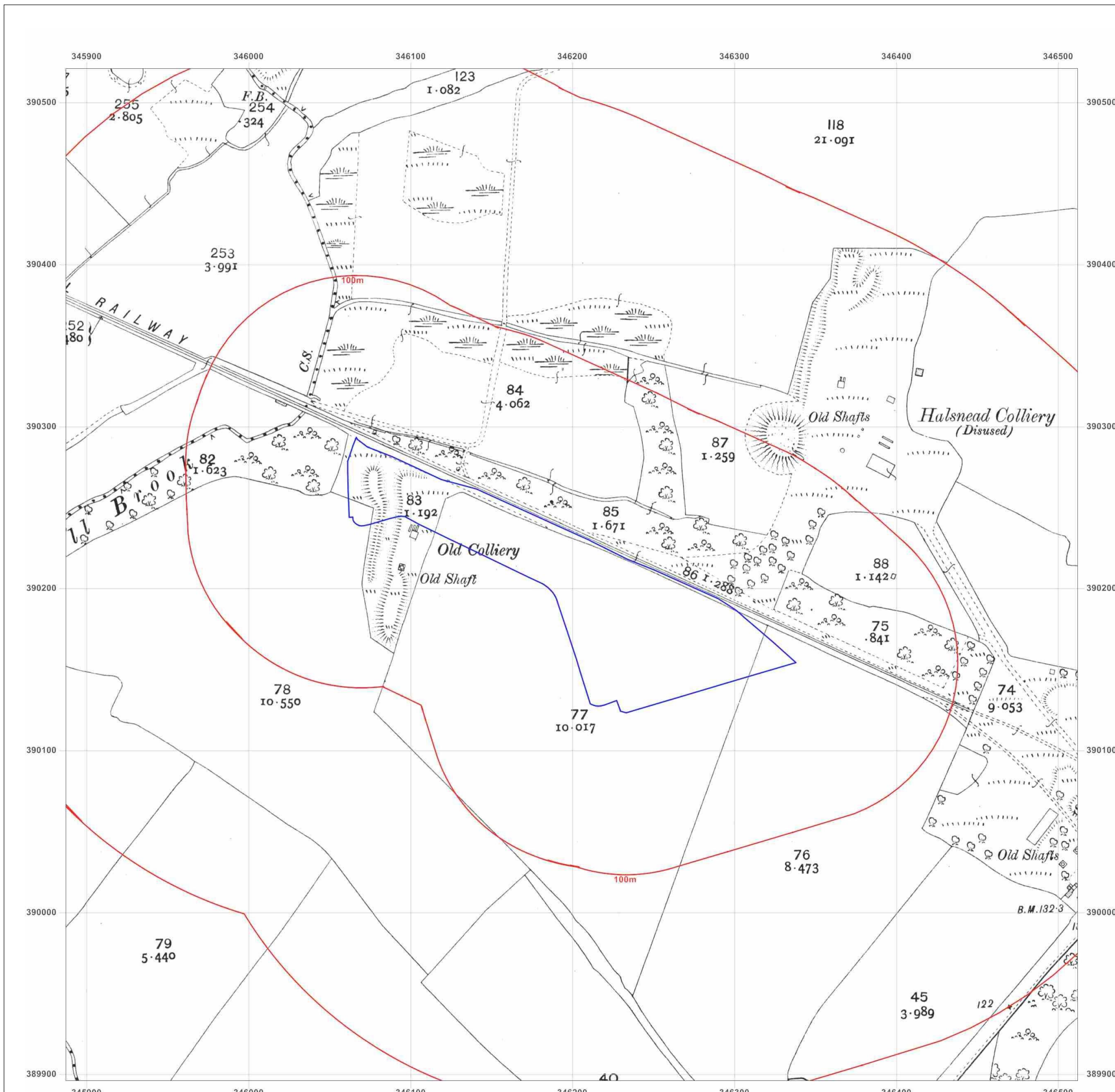
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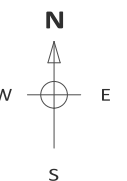
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Grid Ref: 346199, 390208

Map Name: County Series

Map date: **1927**

Scale: 1:2,500

Printed at: 1:2,500



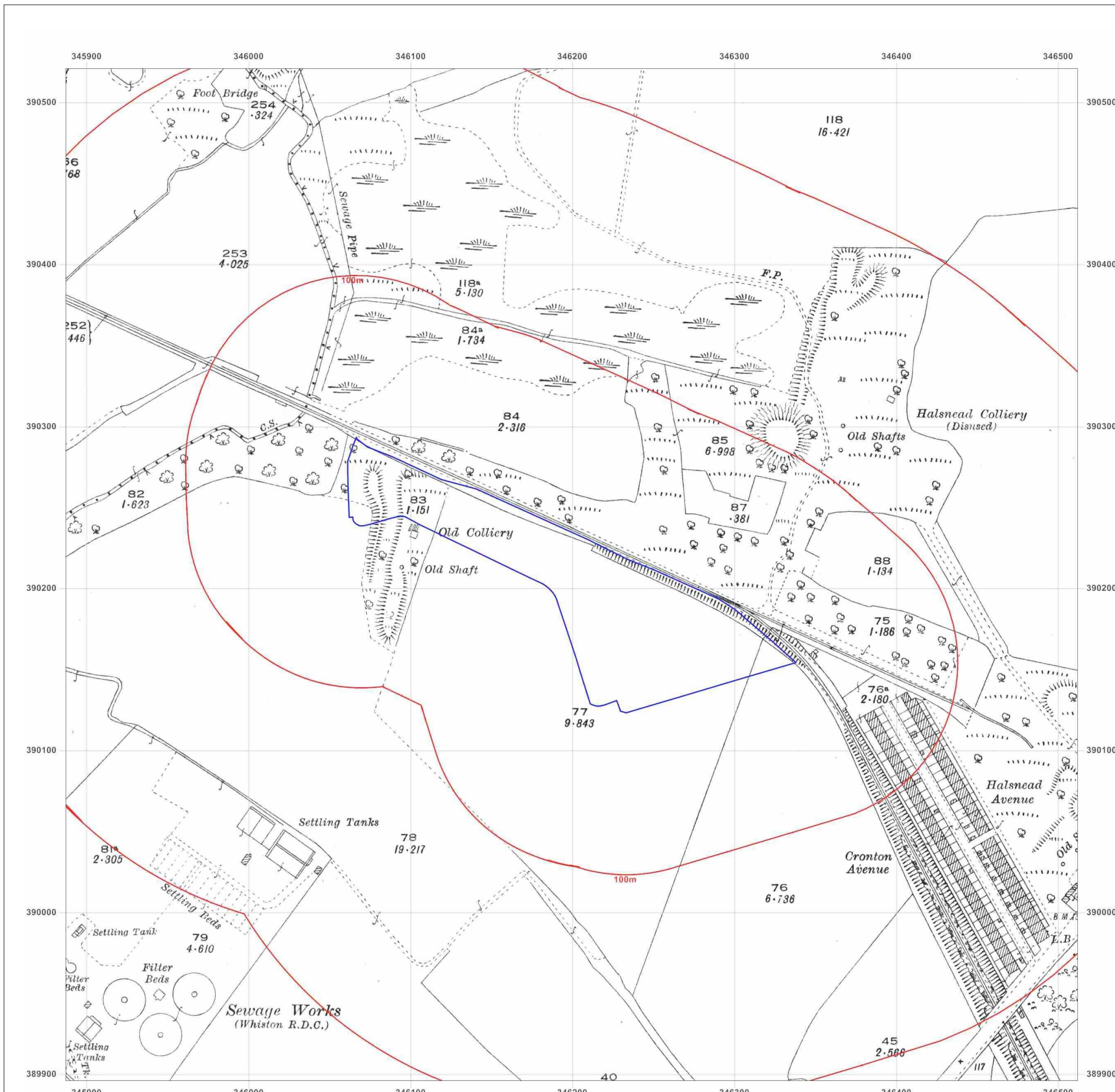
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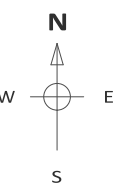
Client Ref: E0922_
Report Ref: HMD-165-5106721
Grid Ref: 346199, 390208

Map Name: County Series

Map date: 1937

Scale: 1:2,500

Printed at: 1:2,500



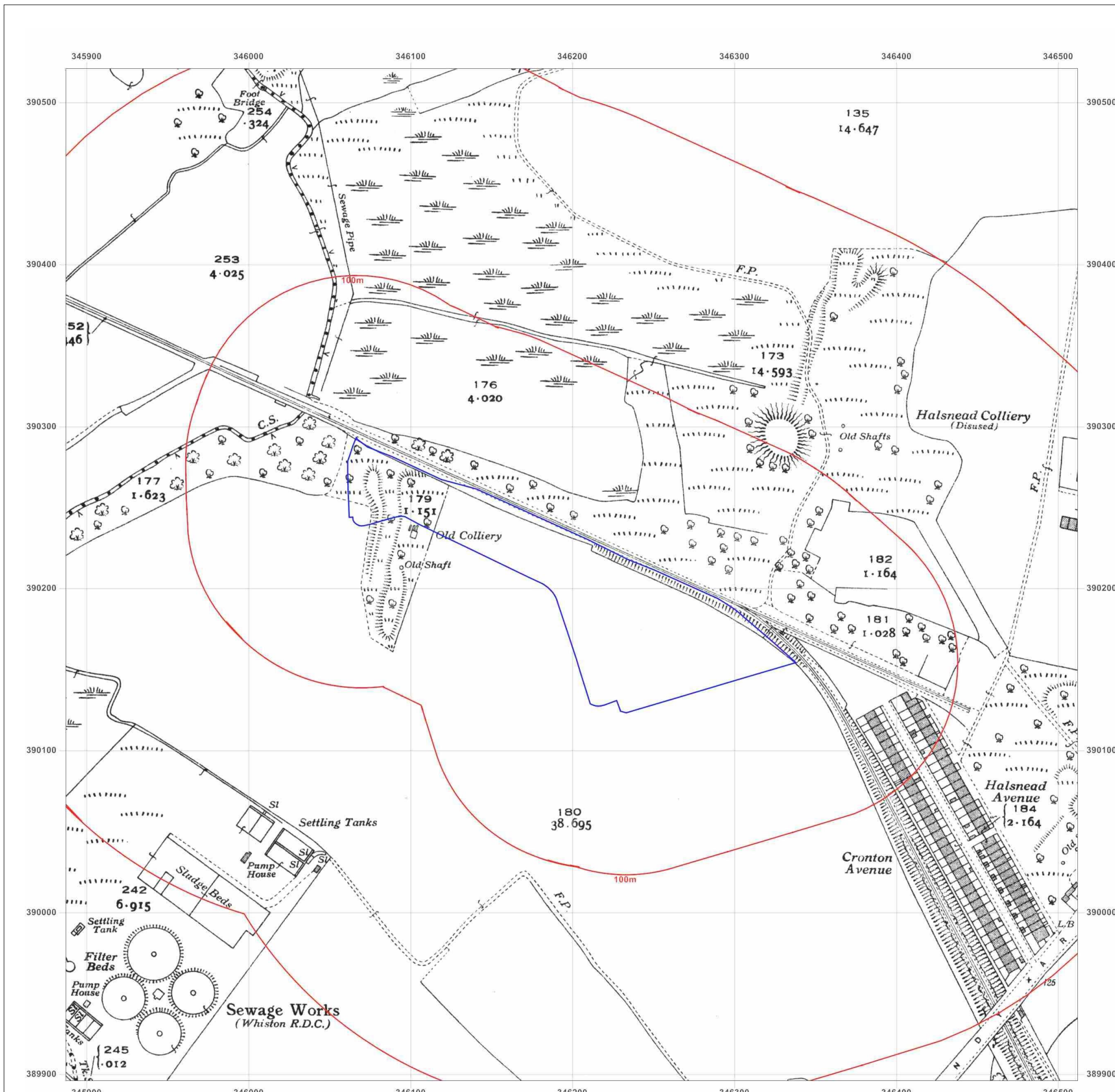
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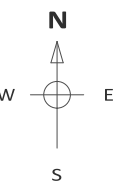
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Grid Ref: 346199, 390208

Map Name: National Grid

Map date: **1956-1958**

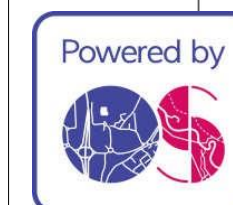
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Revised	1958
<u>Edition</u>	N/A
Copyright	1959
Levelled	1926

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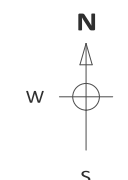
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Report Ref: HMD-165-5106721
Grid Ref: 346199, 390208

Map Name: National Grid

Map date: **1968-1973**

Scale: 1:1,250

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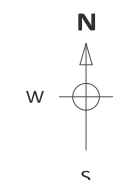
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Report Ref: HMD-165-5106721
Grid Ref: 346199, 390208

Map Name: National Grid

Map date: **1977-1981**

Scale: 1:1,250

Printed at: 1:2,000



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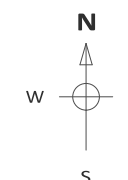
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Report Ref: HMD-165-5106721
Grid Ref: 346199, 390208

Map Name: National Grid

Map date: **1982-1987**

Scale: 1:1,250

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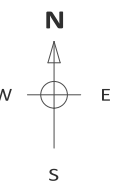
Client Ref: E0922_
Report Ref: HMD-165-5106721
Grid Ref: 346199, 390208

Map Name: National Grid

Map date: **1993**

Scale: 1:1,250

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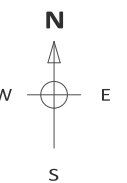
Client Ref: E0922_
Report Ref: HMD-165-5106721
Grid Ref: 346199, 390208

Map Name: National Grid

Map date: **1994**

Scale: 1:1,250

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