



Site Condition Report

Endolys Plastics to Oil Facility

12 December 2025

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December 2025

Site Condition Report

Endolys Plastics to Oil Facility

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Acronyms and Abbreviations

Name	Description
BAT	Best Available Technology
BGS	British Geological Society
DAA	Directly Associated Activities
EA	Environment Agency
EPR	Environmental Permitting
GIA	Gross Internal Area
GMP	Good Manufacturing Practice
IBC	Intermediate bulk container
IED	Industrial Emissions Directive
LNR	Local Nature Reserve
LPG	Liquefied petroleum gas
LWS	Local Wildlife Site
MWth	Megawatt thermal
NGR	National Grid Reference
NNR	National Nature Reserve
NWL	Northumbrian Water Limited
QMS	Quality Management System
RoFMS	Risk of Flooding from Multiple Sources
RoFRS	Risk of Flooding from Rivers and the Sea
SAC	Special Area of Conservation
SINC	Sites of Importance for Nature Conservation
SCR	Site Condition Report
SPA	Special Protection Area
SPZ	Source Protection Zone
SSSI	Site of Special Scientific Interest
STU	Stationary Technical Unit
UK	United Kingdom
UKAS	United Kingdom Accreditation Service
UXO	Unexploded ordnance

1. INTRODUCTION

1.1 Background

This document has been prepared by Endolys Ltd (“Endolys”) and its environmental consultant Sol Environment (“Sol”) in support of a bespoke permit application as required by the *Environmental Permitting (England and Wales) Regulations 2016* (as amended) concerning proposed activities to be undertaken at Endolys Ltd, Yarm Road, Darlington, DL1 4DE (the “Site”).

This document has been prepared in line with the current Environment Agency (EA) Guidance, i.e. Environmental permitting: H5 Site condition report (Environment Agency, 2013). As this is considered an application Sections 1 to 3, as outlined in the Site Condition Report (SCR) Template, are provided below.

1.2 Current Permitted Activities

There are no current (permitted) on-site operational activities.

The Site was historically operated by the Cleveland Bridge & Engineering Company Limited until it was closed in Q4 2021. When the Site was operational, it held a Part B permit related to coating activities.

Cleveland Bridge & Engineering Company Limited was dissolved on 18 July 2023.

1.3 Proposed Application

The application includes the following key elements associated with Schedule 1 activities listed within the *Environmental Permitting (England and Wales) Regulations 2016* (**Table 1.1**).

Table 1.1 – Listed Activities

Activity listed in EP Regulations 2013	Description of Specified Activity	Limits of Specified Activity	Specified Waste Management Operation
Section 1.2 Gasification, liquefaction and refining activities Part A(1)(f)	Activities involving pyrolysis, carbonisation, distillation, partial oxidation or other heat treatment	The reception, storage and combustion of non-hazardous waste feedstocks to produce syngas condensed into pyrolysis oil Installation includes all ancillary activities, including syngas combustion, emissions abatement, electrical generation and oil production	R1: Use principally as a fuel or other means to generate electricity. R13: Storage of waste pending the operations numbered R1
Section 5.4 Disposal, recovery or a mix of disposal and recovery of non-hazardous waste Part A(1)(b)(ii)	Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day	Pre-treatment of non-hazardous waste feedstocks consisting of shredding, separation, agglomeration and densification for utilisation within the pyrolysis process Waste types as specified in Table 3.1 only.	R3: Recycling/reclamation of organic substances which are not used as solvents R5: Recycling/reclamation of other inorganic materials R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)

Directly Associated Activities			
Steam Generation	Generation of steam for on-site use	From the receipt of syngas to the production of steam for heat use onsite	-
Electricity Generation	Generation of power and heat within CHP Engines – Medium Combustion Plant	From the receipt of natural gas or syngas to the export of heat and electricity for on-site use	-
Back-up Electricity Generation	Standby Diesel generator	Emergency use for a maximum of 500 hours of operation per year.	-

The application permitted installation boundary is outlined in **Figure 1-1**.



Figure 1-1 – Proposed permit boundary and surrounding (off-site) activities

2. SITE DETAILS

The Site details are outlined in Table 2-1.

Table 2-1 – Site details

Required Information	
Name of applicant	Endolys Ltd
Activity Address	Endolys Ltd, Yarm Road, Darlington, DL1 4DE
National Grid Reference (NGR)	Centre of the main permitted area - NZ 32063 13532
Document reference and dates for the Site Condition Report at permit application and surrender	<p>Application 025-2013 Endolys Ltd, Darlington SCR REV00 (this report)</p> <p>Variation N/A</p> <p>Surrender N/A</p>
Document references for site plans (including location and boundaries)	Annexe A: Site Plans Annexe B: Phase I Desktop Assessment Annexe C: Phase II Baseline Assessment

3. CONDITIONS OF LAND AT PERMIT ISSUE

3.1 Environmental Setting

Desk-based research of the local geology, hydrogeology, hydrology, and ecology was carried out to establish the potential for migration of contamination onto or away from the Site, and to assess the surface water and groundwater sensitivity of the surrounding area.

This section should be read in conjunction with the Phase I contaminated land assessment (**Annexe B**) and Phase II contaminated land assessment (**Annexe C**).

3.1.1 Location

The installation is located on the eastern edge of Darlington. The surrounds are summarised below.

- North – To the north of the installation is a car park and office block (previously AMEC) that is utilised for self-storage. Beyond this is the B6280 (Yarm Road), offices, a car hire company and retail outlets.
- East – To the east is a small commercial estate (offices) accessed via Alderman Best Way, beyond which is Whessoe Engineering Limited and the A66.
- South – To the south is a public car park (Alderman Best Way) and a farm beyond which is a railway line and the A66.
- West – To the west is a driving test centre and the large Cummins Ltd facility (manufactures aftertreatment systems for off-highway applications).

3.1.2 Geology

The British Geological Survey (BGS) GeoIndex outlines that the entire permitted area is underlain by Devensian till – Diamicton (unsorted and unstratified glacial drift). This sediment is a mix of clay, sand, gravel, and boulders (Figure 3-1) which in turn is underlain by Roxby Formation Mudstone (Figure 3-2).

The BGS reports no artificial ground.

There are three BGS-listed borehole records for the Site.

- Reference: NZ31SW216, DARLINGTON STEEL FABRICATION PLANT, 43 metres, 1979, Easting: 432047, Northing: 513628.
- Reference: NZ31SW215, DARLINGTON STEEL FABRICATION PLANT, 42 metres, 1979, Easting: 431942, Northing: 513475.
- Reference: NZ31SW217, DARLINGTON STEEL FABRICATION PLANT, 42.3 metres, 1979, Easting: 432119, Northing: 513429.

The borehole logs are provided in the Phase I desktop assessment report (**Annexe B**).

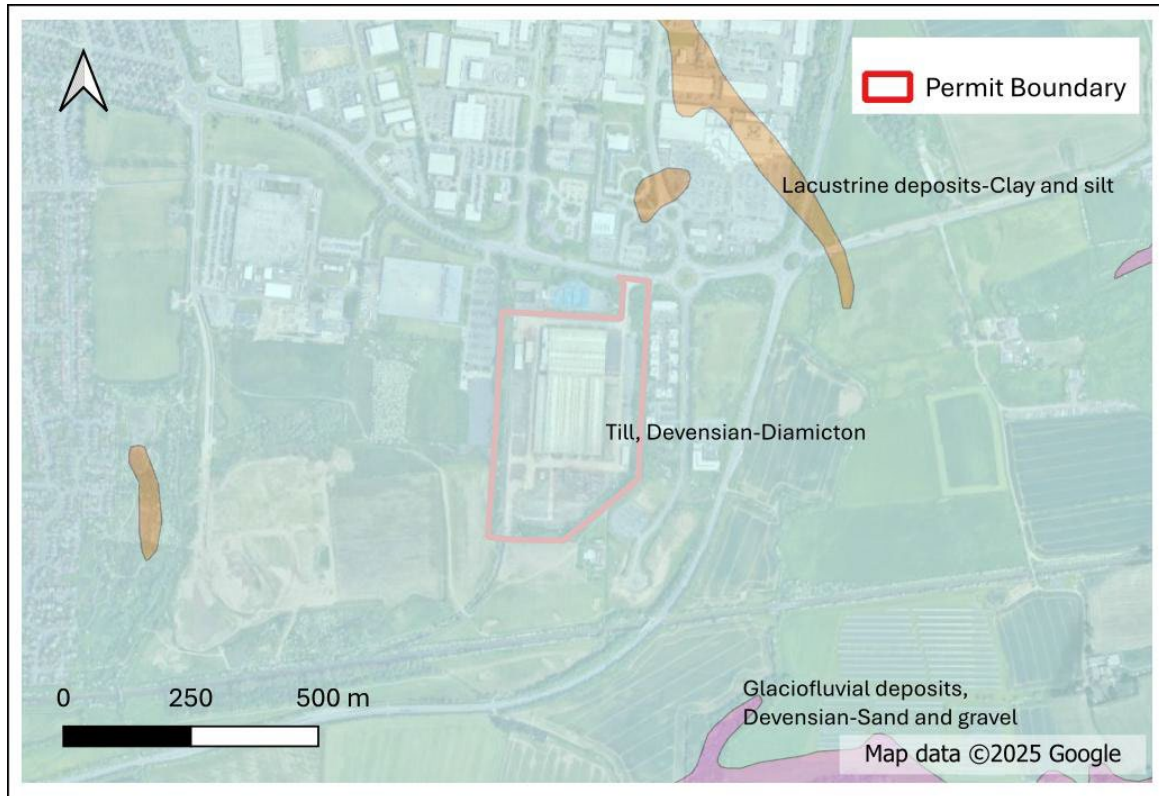


Figure 3-1 – Superficial geology (1:50,000)

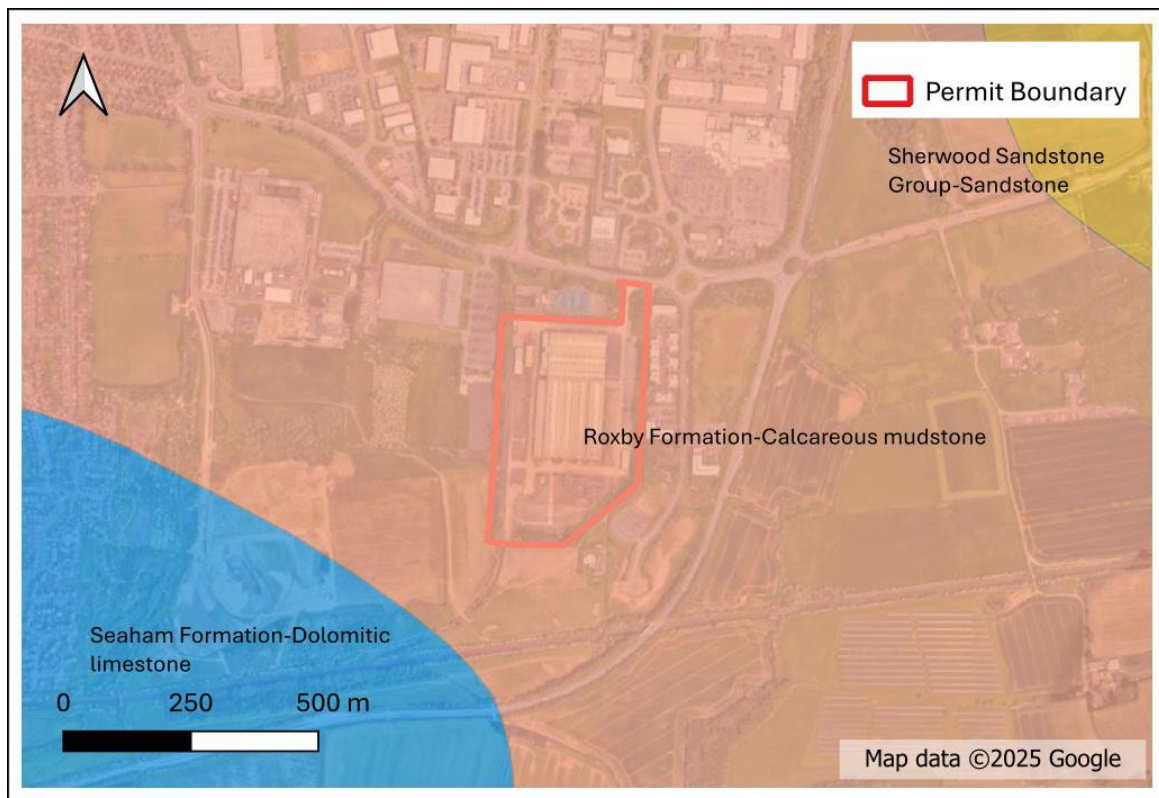


Figure 3-2 – Solid geology (1:50,000)

3.1.3 Hydrogeology

The hydrogeological situation has been classified as:

- **Superficial Deposits (Secondary Undifferentiated Aquifer)** – Secondary Undifferentiated has been assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.
- **Bedrock Deposits (Secondary B Aquifer)** – Secondary B aquifers are predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.

The BGS classifies the groundwater vulnerability as Medium Risk (soluble rock risk).

The permitted installation is not within a Source Protection Zone (SPZ).

3.1.4 Hydrology

According to the EA Catchment Explorer, the installation is located within the Northumbria (River basin District), Tees (Management Catchment), Tees Lower and Estuary (Operational Catchment) and the Neasham Stell Catchment (tributary of the Tees) (GB103025072160) (Water Body) (Figure 3-2).

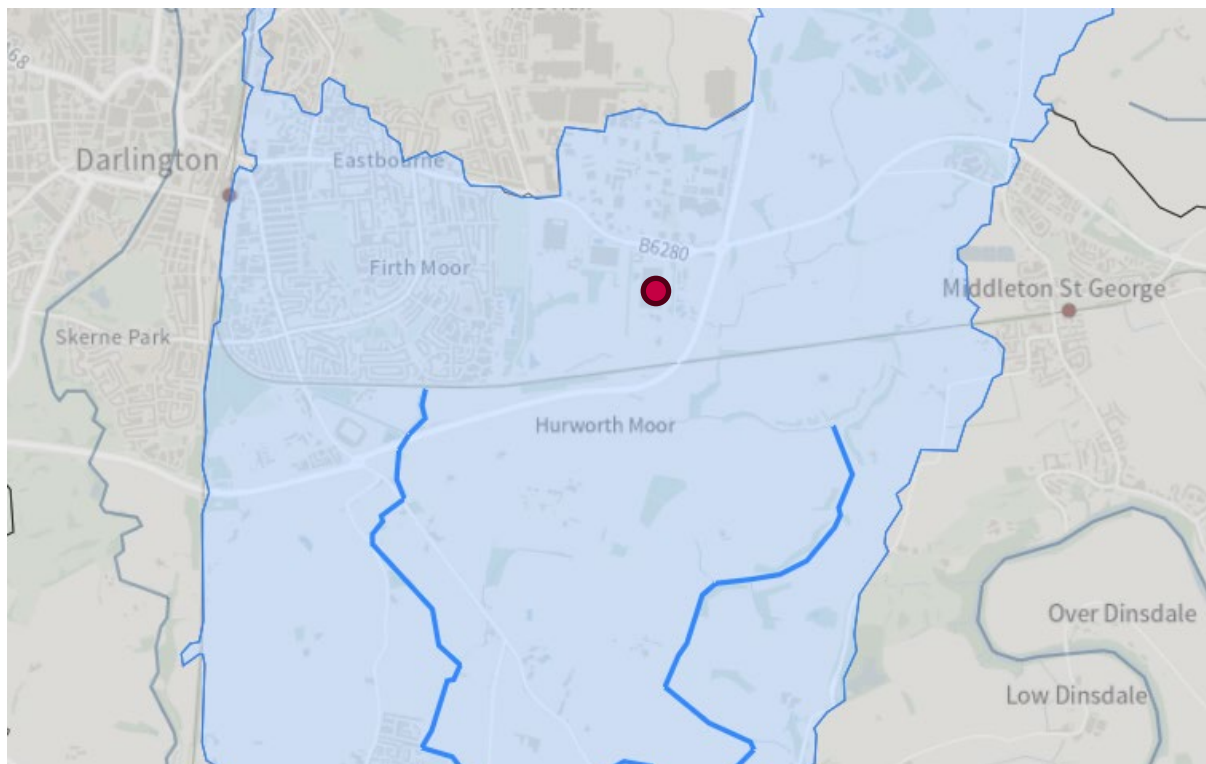


Figure 3-3 – River catchment (EA Catchment Data Explorer)

The 2019 and 2022 assessments classified the water body as having ‘Bad’ ecological quality and ‘Fail’ chemical quality (2019).

3.1.5 Flood Risk

The Risk of Flooding from Multiple Sources (RoFMS) is a EA produced map showing the risk of flooding from multiple sources produced using the EA's national scale products i.e. Risk of Flooding from Surface Water (RoFSW) and Risk of Flooding from Rivers and the Sea (RoFRS), as inputs and created by adding together risk from individual sources (i.e. it attempts to present the combined flood risk). The flood risk bands relate to the overall chance of flooding from any of the potential sources of flooding included in RoFMS. The chance of flooding is (1) greater than 3.3% chance of flooding in any year, (2) between 3.3% and 1% chance of flooding in any year, (3) between 1% and 0.1% chance of flooding in any year and (4) below 0.1% chance of flooding in any year (Figure 3-4).

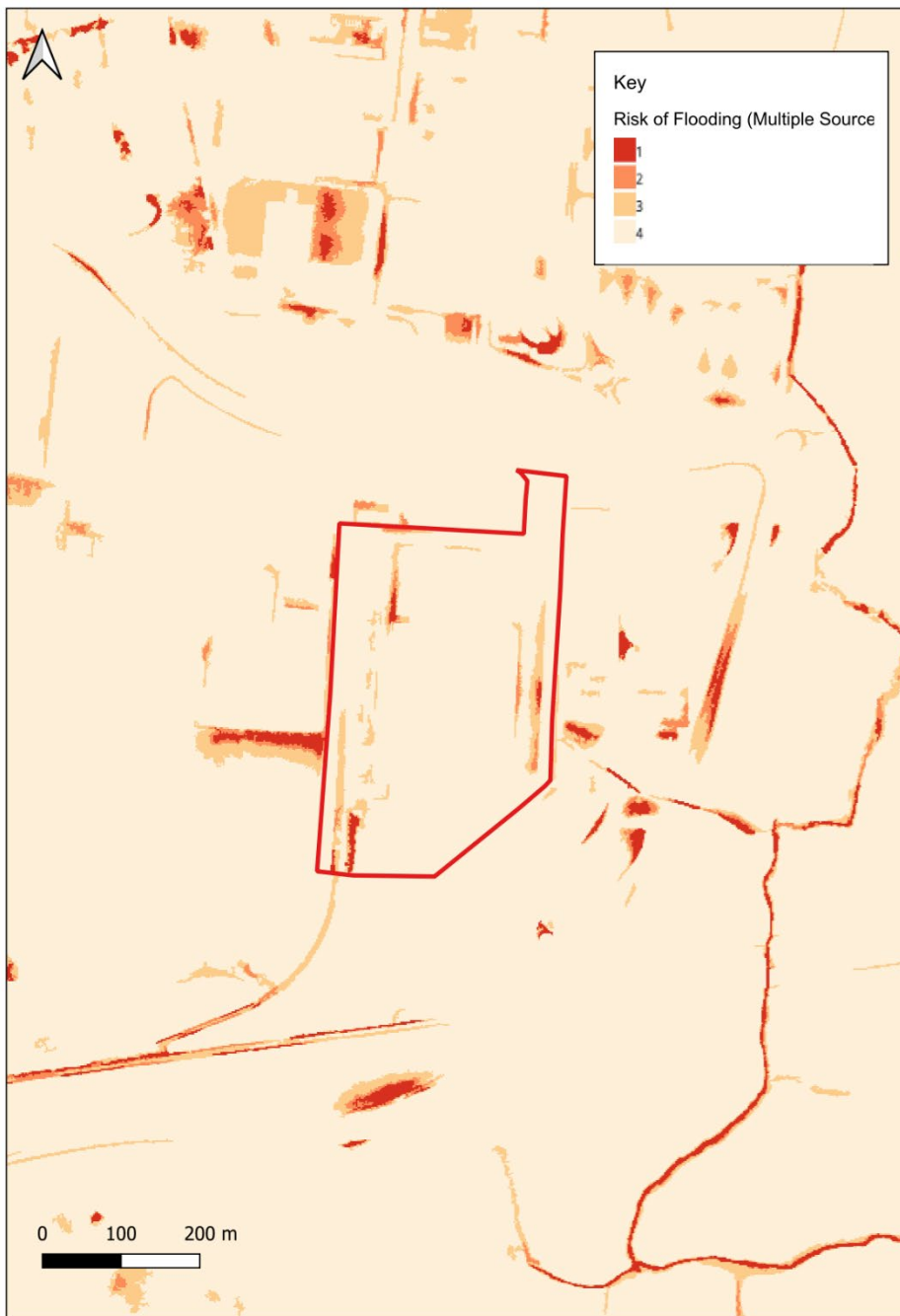


Figure 3-4 – Flood risk (combined sources)

3.1.6 Ecology

The EA and Local Council websites were queried to locate Sites of Special Scientific Interest (SSSI), Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Ramsar sites, National Nature Reserves (NNR), Ancient Woodland, Local Nature Reserves (LNR) and Local Wildlife Sites (LWS) also known as Sites of Interest for Nature Conservation (SINCs) within 1 km to 10 km (depending on the site designation) of the Site. The identified designated areas (within the screening distance) are outlined in **Table 3-1** and **Figure 3-5**.

Table 3-1 – Designated areas

Designation	Screening Distance	Description and Status
Ramsar	10 km	None
SPA	10 km	None
SAC	10 km	None
Marine Conservation Zone	10 km	None
SSSI	2 km	Neasham Fen SSSI (1.9 km south) (Ref. 1003568) A small, infilled kettle hole which provides an important record of Flandrian vegetation history and environmental change.
NNR	2 km	None
LNR	2 km	Maidendale Fishing and Nature Reserve (Ref. 1134137) 8 Ha of former agricultural land, predominantly rough grassland with a small pond, wetland mosaic and remnant old hedgerows. Brankin Moor (Ref. 1083164) A small site with wet woodland and a pond, which is very good for dragonflies.
Ancient Woodlands	2 km	None
LWS/SINCs	2 km	High Firth Moor LWS A1 (Great Crested Newt); I5 (Important Dragonflies); I6 (Seven or more species of Brankin Moor LWS A1 (Great Crested Newt); I5 (Important Dragonflies); I6 (Seven or more species of Dragonfly) Hunger Hill LWS G1 (Neutral Grassland)

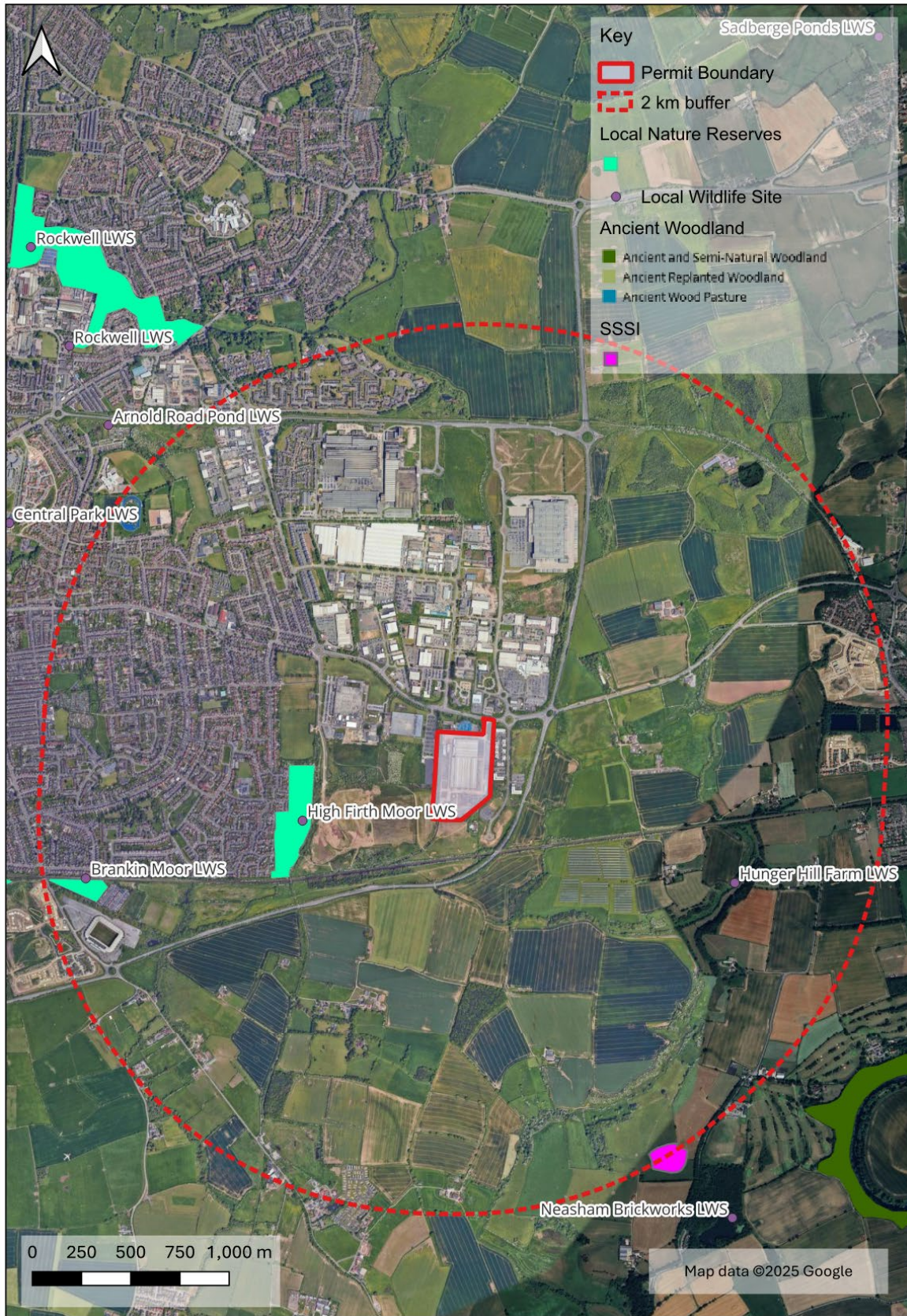


Figure 3-5 – Ecological receptors

3.1.7 Other Sensitive Receptors

There are five schools, two hospitals, four nursing homes and multiple residential receptors located within 2 km of the installation boundary.

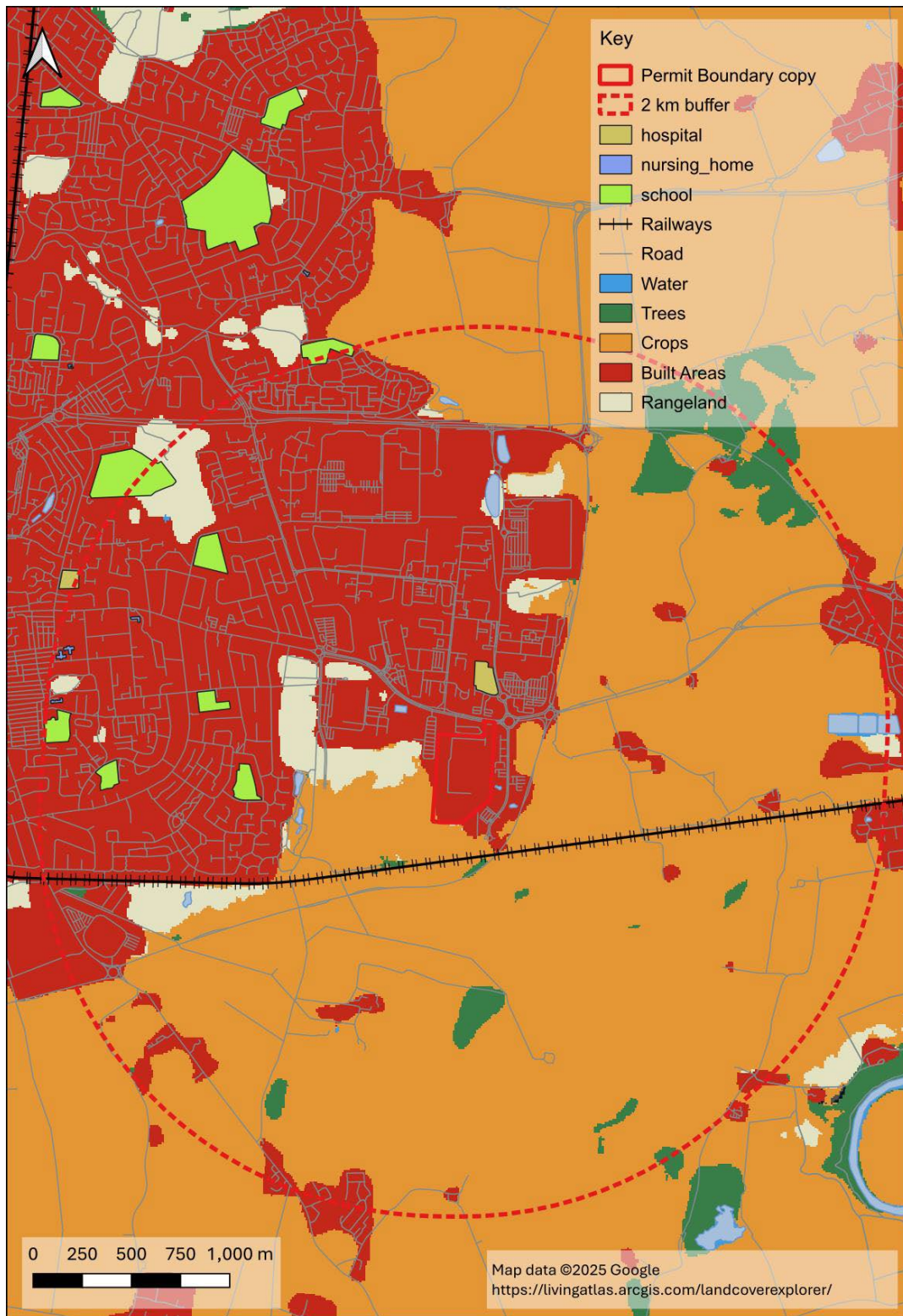


Figure 3-6 – Sensitive receptors

3.1.8 Protected Buildings and Heritage

The National Heritage List for England (NHLE) is the only official and up-to-date database of all nationally designated heritage assets, including listed buildings, scheduled monuments, protected wreck sites, registered parks and gardens, registered battlefields, World Heritage Sites, applications for Certificates of Immunity (COIs) and current Building Preservation Notices (BPNs) in England.

Historic England maintains the NHLE, the public body responsible for all heritage designations in England except World Heritage Sites, which UNESCO designates.

There are no on-site heritage assets. The closest assets within 500 metres are:

- Landscape at Cummins Engine Factory, Darlington (GRADEII), 1467759
- Kerbstones Surrounding Pool in Front of Cummins Engine Factory (Grade II*), 1299427
- Security Fence at Cummins Engine Factory, (Grade II*), 1335834

3.2 Pollution History

3.2.1 Pollution incidents that may have affected land

The Site was historically operated by the Cleveland Bridge & Engineering Company Limited until it was closed in Q4 2021. When the Site was operational, it held a Part B permit related to coating activities.

No records concerning the Cleveland Bridge & Engineering Company Limited operational period were available; thus, no statement regarding pollution incidents that may have affected land can be made.

As part of the due diligence process, a Land Contamination Risk Management (LCRM) compliant Phase I contaminated land assessment was undertaken (**Annexe B**).

3.2.2 Historical land uses and associated contaminants

According to public information, the Cleveland Bridge & Engineering Company was founded in 1877 in Darlington. From small beginnings in fabrication, the company grew rapidly in size and reputation to build bridges and structures on all five continents. Another Company, Dorman Long, established its name as a world-class bridge builder with the Sydney Harbour Bridge. By 1982, these two steel construction names were in common ownership, and, in 1990, they were merged into a single organisation (Cleveland Structural Engineering)¹.

Cleveland Bridge started construction of its new works on Yarm Road Industrial Estate during the early 1980s, before which the Site was greenfield.

Given the lack of historical information, a works layout plan (from 2011) was obtained from the Darlington Borough Council planning website (Ref. 11/00326/FUL)² (Figure 3-7).

¹ <https://web.archive.org/web/20010423063108/http://www.clevelandbridge.com/history.html>

² <https://publicaclinorganic.chemcis|cess.darlington.gov.uk/online-applications/applicationDetails.do?activeTab=documents&keyVal=LLHRYSP07U00>

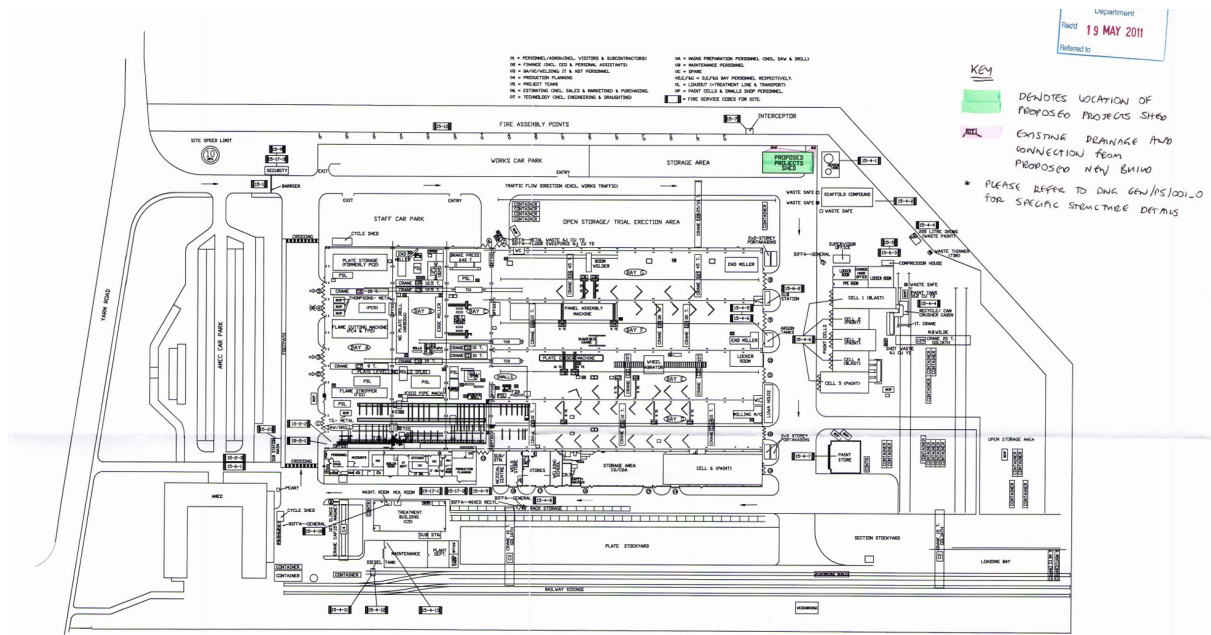


Figure 3-7 – Site layout (circa 2011)



Figure 3-8 – Historic targets based on 2011 site layout

Given the nature of the previous activities (heavy engineering), the following potential contaminants of concern (CoC) have been considered:

- Asbestos
- Metals and their compounds (various types and sources)
- Inorganic chemicals (ammonium chloride (welding areas), boron (corrosion inhibitors. etc.)

- Organic chemicals (e.g. fuel oils, lubricating oils, degreasing solvents (chlorinated/non-chlorinated), volatile organic compounds (VOCs) (paints and thinners), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), etc.).

3.2.3 Any visual/olfactory evidence of existing contamination

The permitted installation has been subject to various phases of investigation (as outlined in Table 3-2) where historic contamination has been identified, assessed and recorded.

As part of the due diligence process, a Land Contamination Risk Management (LCRM) compliant Phase I contaminated land assessment was undertaken (**Annexe B**). This included a visual assessment of potential contamination sources.

These substances have been considered within the baseline assessment.

3.2.4 Evidence of damage to pollution prevention measures

The pollution prevention measures operated within the installation comprise primary, secondary and tertiary containment systems. Due to the nature of the previous activities (bridge building), the Site has been significantly over-engineered, especially within the main building where the proposed feedstock storage/preparation and reactor areas are to be located. Within these areas, reinforced concrete thicknesses of between 400 mm and 4 metres have been encountered.

No damage to current pollution prevention measures has been identified, though upgrades will be required in certain areas as part of the construction phase.

The facility includes a large area at the southern end of the site, which was previously used by the Cleveland Bridge & Engineering Company for painting activities. This area has been identified by the operator as a potential expansion area (i.e. improvements will not be undertaken during the current construction phase).

3.2.5 Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)

The geoenvironmental site investigations that have been conducted on-site (within the permitted area) are outlined in **Table 3-2**.

Table 3-2 – Permitted area site investigation history

Year	Report	Available
1979	Geotechnical Investigation Report No. DU/242 Darlington N501, September 1979, Steel Fabrication Plant. Believed to be the original site investigation undertaken before the construction of the Cleveland Bridge Site.	Partially BH Logs in Annexe B
2025	Jomas Associates Ltd (2025). Geo-environmental & Geotechnical Assessment (Ground Investigation), Report, Cleveland House, Yarm Road, Darlington, DL1 4DE (P6534J3273/JWT, 5 th December 2025) This represents the baseline geoenvironmental investigation for the environmental permit.	Yes Annexe C

No remediation and/or verification reports have been produced for the installation area.

3.2.6 Baseline soil and groundwater reference data

The collection of representative baseline soil and groundwater data is important as it allows an operator to demonstrate soil and groundwater conditions at permit issue and surrender. In addition, since the introduction of the Industrial Emissions Directive (IED), all permits have been reviewed to include a standard requirement:

“Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil unless such monitoring is based on a systematic appraisal of the risk of contamination”.

As stated in the baseline assessment, groundwater was not encountered during the 2025 site investigation apart from at a depth of 4.50 mbgl within borehole WS06. Groundwater was not reported within any of the remaining boreholes during drilling. Groundwater was also not reported within the original 1979 investigation that terminated at a maximum depth of 43.20 mbgl (BGS borehole 18609261 (NZ31SW217)).

The location of the investigation points is summarised within **Table 3-3**. The soil baseline conditions are outlined in **Annexe C**.

Table 3-3 – Baseline investigation points

Location	Justification	Assessment Type
WS01	Area of historic diesel above-ground storage tank. Outside the proposed site maintenance building.	Environmental
WS02	General site coverage (previously used as a car park).	Environmental
WS03	General site coverage (previous stock yard).	Environmental/Geotechnical
WS04	Current HGV MOT/servicing (third-party operator). The area may be used for maintenance activities.	Environmental
WS05	General site coverage (previous stock yard).	Environmental
WS06	Area of the previous paint cells.	Environmental/Geotechnical
WS07	The operator does not plan to use this area. However, it has been designated as a future expansion area. Further baseline assessment may be required upon removal of the existing paint cell buildings.	Environmental/Geotechnical
WS08		Environmental/Geotechnical
WS09		Environmental/Geotechnical
WS10		Environmental/Geotechnical
WS11		Environmental/Geotechnical
WS12		Environmental
WS13		Environmental
WS14		Environmental/Geotechnical
WS15	Permitted activities to be located along the western side of the main building (includes ground flares, boilers, cooling towers and storage tanks).	Environmental/Geotechnical
WS16		Environmental/Geotechnical
WS17		Environmental/Geotechnical
WS18		Environmental/Geotechnical

Note: Due to the nature of the previous activities (bridge building), the Site has been significantly over-engineered, especially within the main building where the proposed feedstock storage/preparation and reactor areas are to be located. Within these areas, reinforced concrete thicknesses of between 400 mm and 4 metres have been encountered.

4. PERMITTED ACTIVITIES

4.1 Current and Proposed Activities

The permitted activities associated with the installation are outlined in Section 1.3.

4.2 Non-permitted activities undertaken

The site has various ancillary operations that are not directly connected to the stationary technical units (STUs), including:

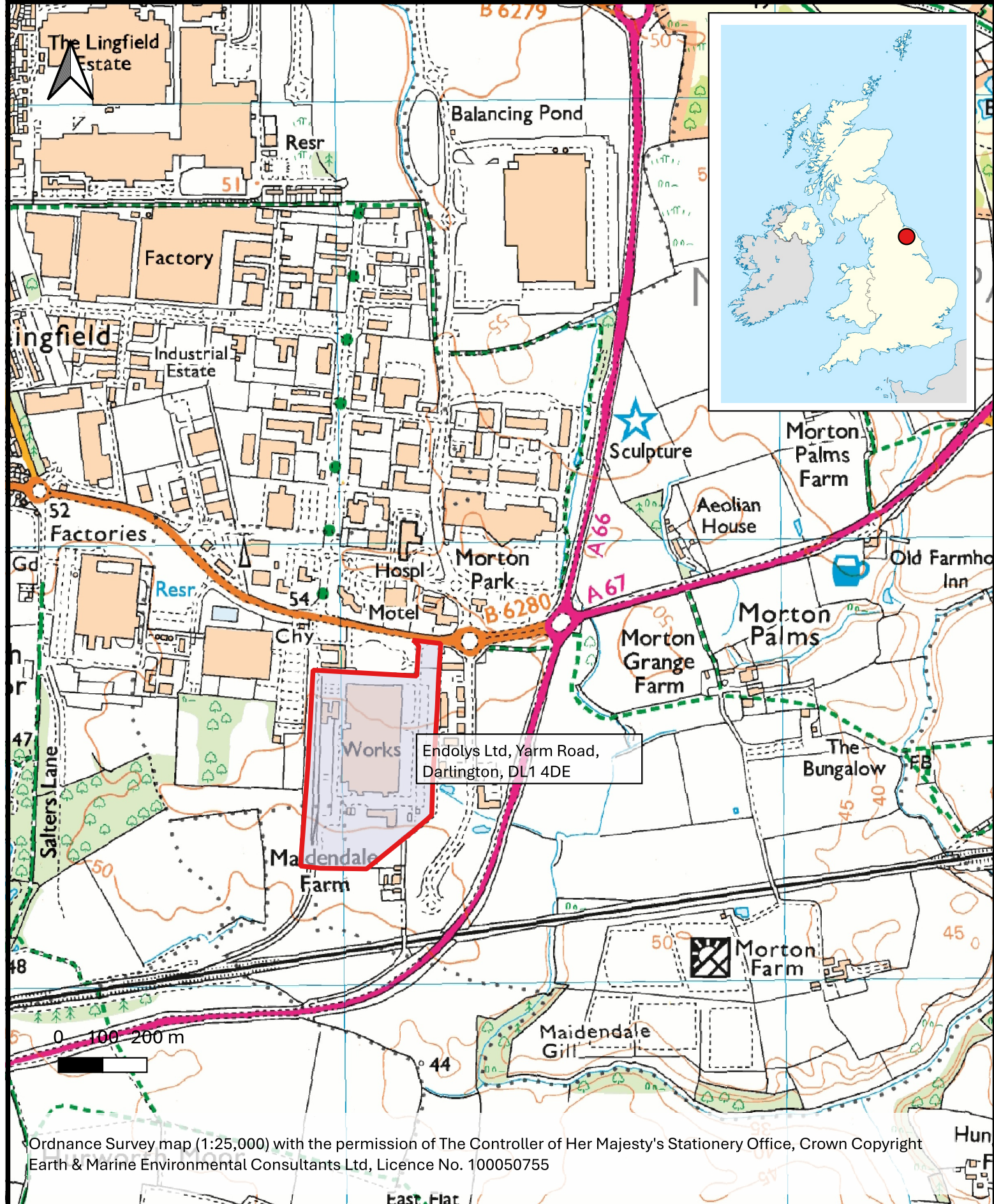
- Offices.
- Employee car parking.

4.3 Other requirements


Plans showing activity location and layout are provided in **Annexe A**. The environmental risk assessment is outlined within the main application support document.

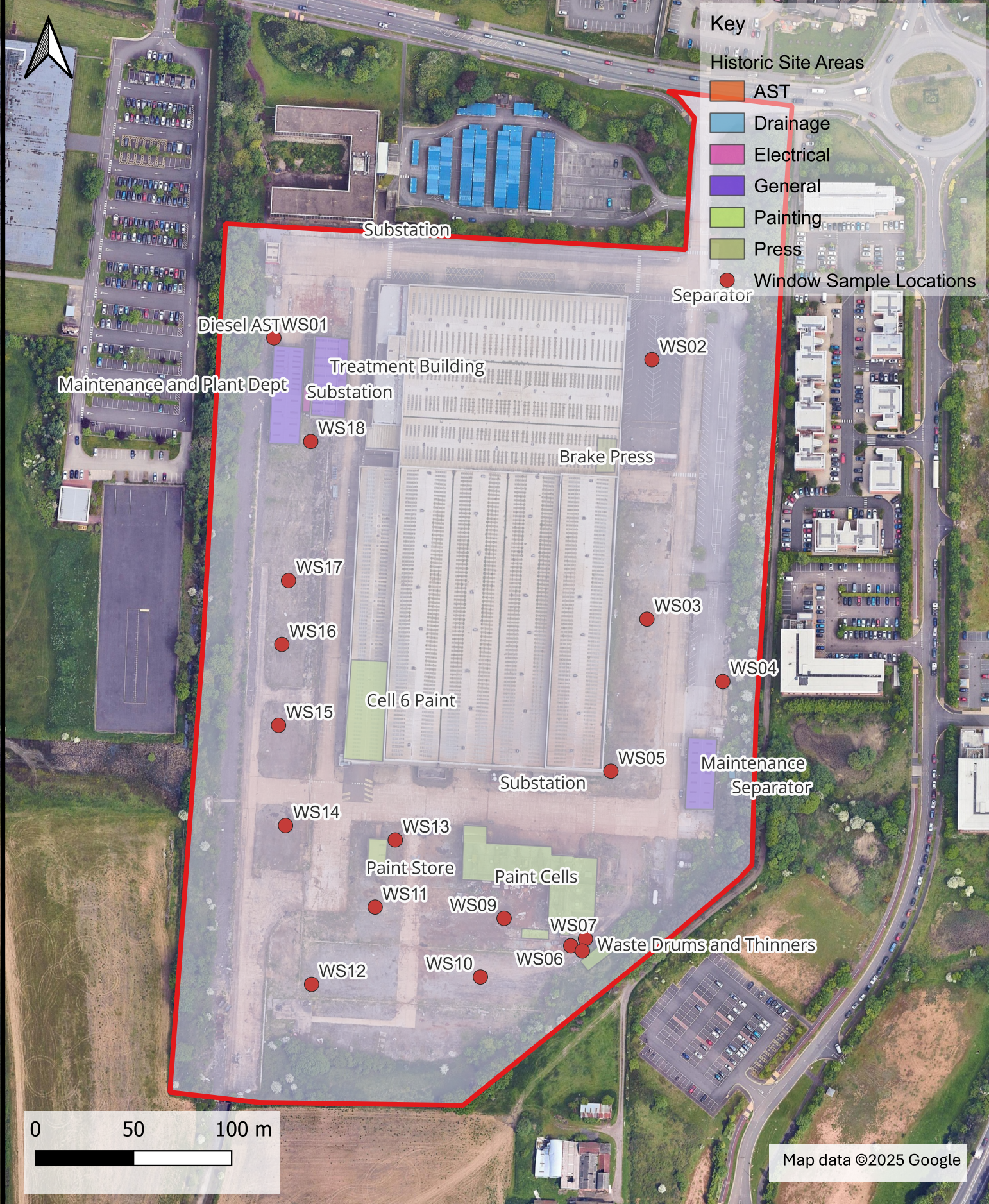
APPENDIX A

FIGURE AND PLANS



Ordnance Survey map (1:25,000) with the permission of The Controller of Her Majesty's Stationery Office, Crown Copyright Earth & Marine Environmental Consultants Ltd, Licence No. 100050755

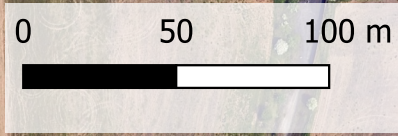
	Title: Figure A1 - Site Location	Revision: REV00
	Client: Endolys Ltd	Scale: As Stated
	Job Reference: 025-2013	Drawn by: MS
	Date: 08/12/2025	Checked by: SPR



Key

Historic Site Areas

- AST
- Drainage
- Electrical
- General
- Painting
- Press
- Window Sample Locations



Map data ©2025 Google

EAME
Earth & Marine Environmental Consultants

Title: Figure A2 - Historic Site Activities (Cleveland Bridge) and WS Locations

Client: Endolys Ltd

Job Reference: 025-2013

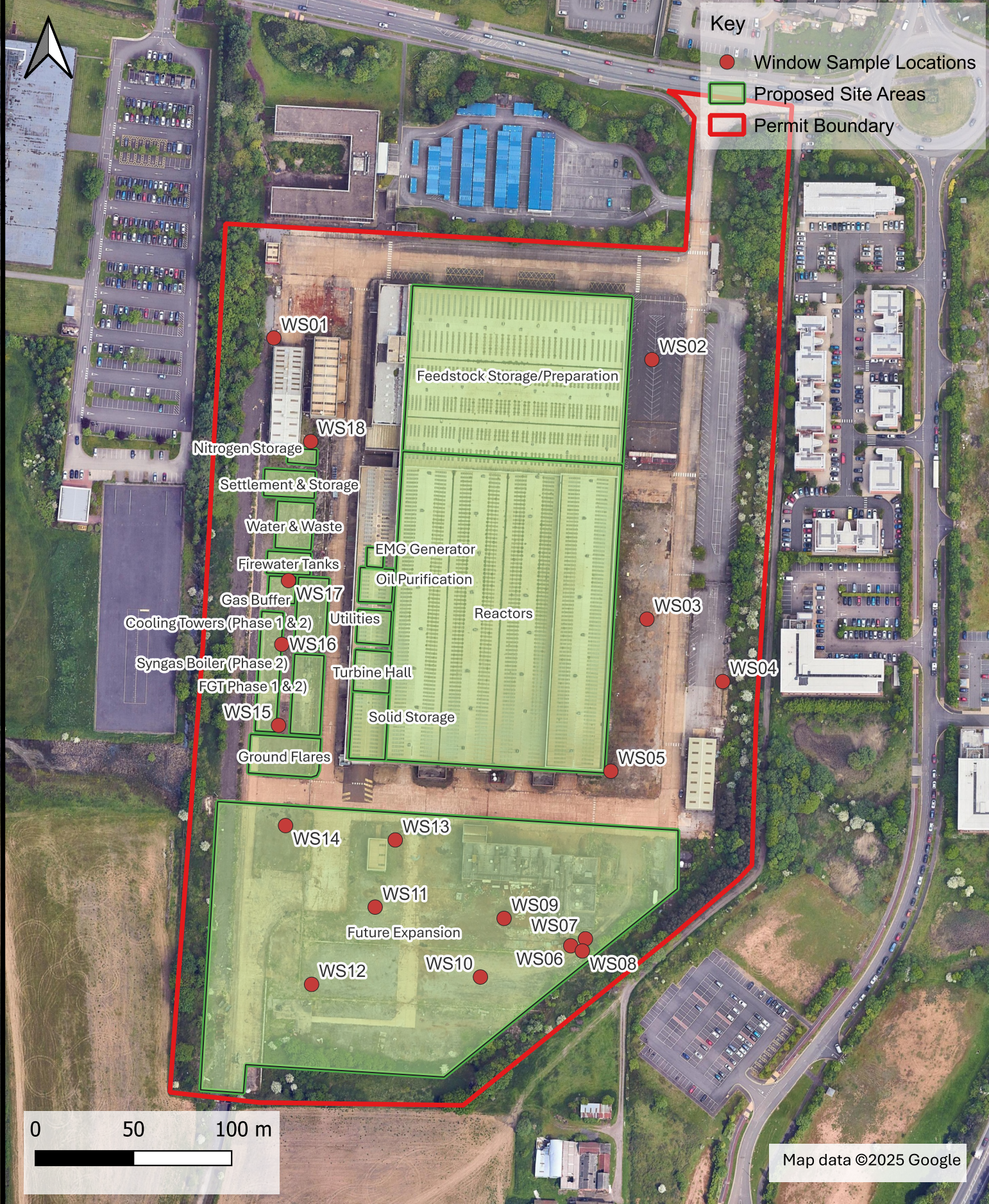
Date: 08/12/2025

Revision: REV00

Scale: As Stated

Drawn by: MS

Checked by: SPR



Title: Figure A3 - Proposed Site Activities and WS Locations

Client: Endolys Ltd

Job Reference: 025-2013

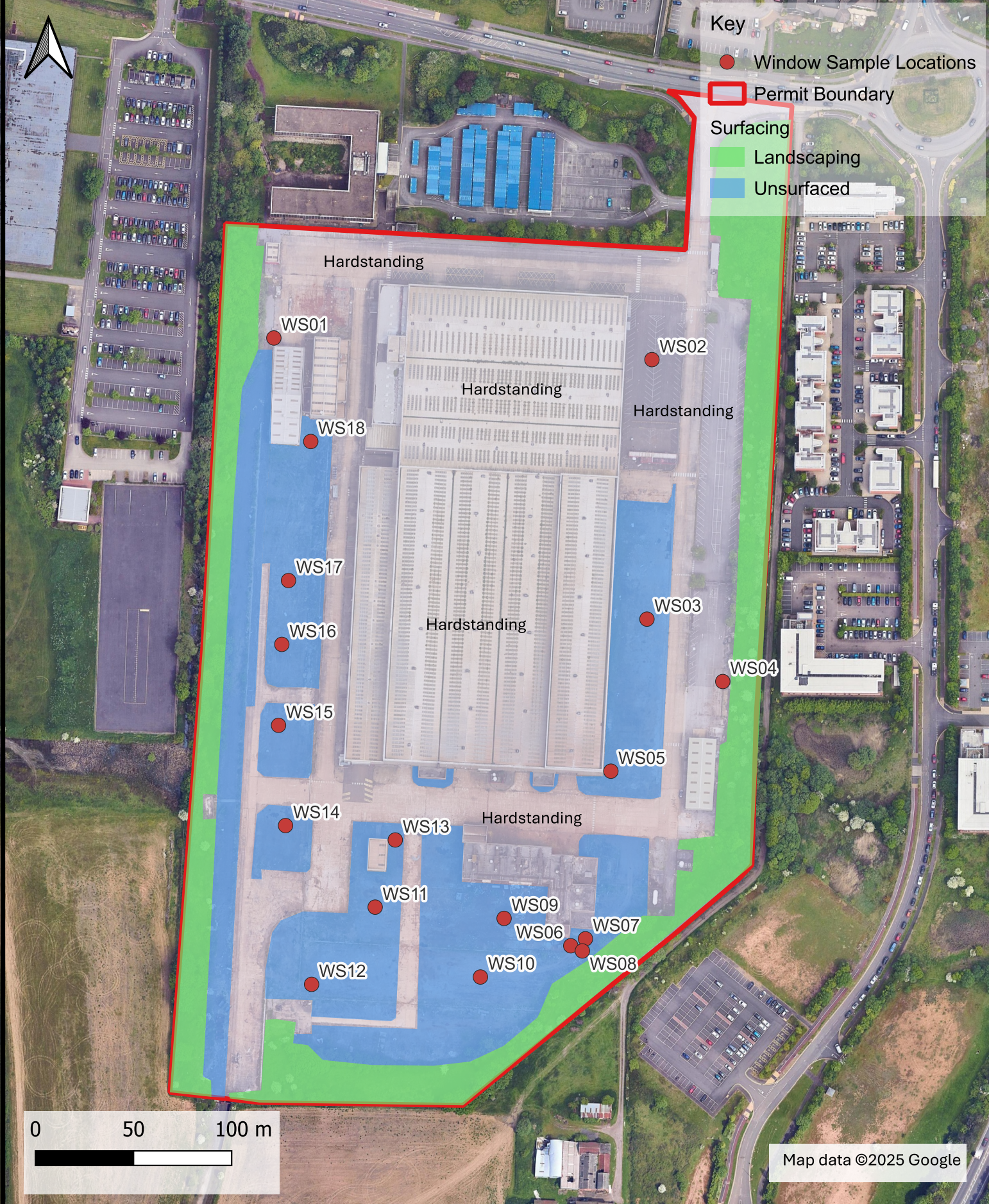
Date: 08/12/2025

Revision: REV00

Scale: As Stated

Drawn by: MS

Checked by: SPR



Title: Figure A4 - Current Surfacing (before construction) and WS Locations

Client: Endolys Ltd

Job Reference: 025-2013

Date: 08/12/2025

Revision: REV00

Scale: As Stated

Drawn by: MS

Checked by: SPR



APPENDIX B

PHASE I DESKTOP ASSESSMENT

WE LISTEN, WE PLAN, WE DELIVER

Geotechnical Engineering and Environmental Services across the UK

DESK STUDY / PRELIMINARY RISK ASSESSMENT REPORT

CLEVELAND HOUSE
YARM ROAD
DARLINGTON
DL1 4DE



Report Title: Desk Study/Preliminary Risk Assessment Report for Cleveland House, Yarm Road, Darlington DL1 4DE

Report Status: Final

Job No: P6534J3273/JWT

Date: 20 October 2025

Quality Control: Revisions

Version	Date	Issued By	Comment
v1.1	12/12/2025	JWT	Minor update to include information supplied by local EHO, latest proposed development plan, and to address comments from client.

Prepared by: JOMAS ASSOCIATES LTD **For:** EARTH & MARINE ENVIRONMENTAL CONSULTANTS LTD

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Senior Principal Geo-
Environmental Engineer



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EXECUTIVE SUMMARY

Earth & Marine Environmental Consultants Ltd ('The client') commissioned Jomas Associates Ltd to undertake a desk study and preliminary risk assessment at Cleveland House, Yarm Road, Darlington DL1 4DE. The principal objectives of the study were as follows:

- To determine the nature and where possible the extent of contaminants potentially present at the site.
- To establish the presence of significant contaminant linkages, in accordance with the procedures set out within the Environment Agency (EA) land contamination risk management (LCRM) guidance and relevant guidance within the National Planning Policy Framework (NPPF).
- To assess whether the site is safe and suitable for the purpose for which it is intended or can be made so by remedial action.

It should be noted that the table below is an executive summary of the findings of this report and is for briefing purposes only. Reference should be made to the main report for detailed information and analysis.

Desk Study	
Current Site Use	Commercial site undergoing redevelopment.
Proposed Site Use	The proposed development is understood to comprise redevelopment of the former Cleveland Bridge UK Ltd site into a plastic pyrolysis plant. It is understood that 'the process' will be fully within the existing building, but there will need to be an external tank farm and an associated tanker loading area.
Site History	<p>A review of earliest available (1855) historical maps indicates that the site comprised undeveloped agricultural land at that time. By the early 1980's the site had been developed and was shown to be occupied by an industrial-style building identified as a works, the footprint of which covers much of the site. A number of smaller buildings were located to the south and west of the main works building, along with two electricity substations, and a series of travelling cranes adjacent to the western boundary of site. A railway track was shown adjacent to the west of site at this time, which is presumed to have been for transportation of finished products that were loaded on to freight wagons by the travelling cranes.</p> <p>Aerial photography indicates that the site was inactive by 2019, with stock having been cleared from external yards and the travelling cranes removed by this time. The site appears to have remained in this configuration until time of writing.</p> <p>The surrounding area comprised largely agricultural land until undergoing urbanisation during the 1970's and 1980's and has since been used for predominantly industrial and commercial purposes. Industrial features of note include the historical railway adjacent to the west, a factory beyond this, and an industrial estate approximately 125m northwest of the site.</p> <p>During the site walkover an above ground fuel storage tank and oil tank were observed in the southeast of the site.</p>

Desk Study	
Site Setting	<p>The British Geological Survey indicates that the site is directly underlain by superficial till deposits. These superficial deposits are underlain by solid deposits of the Roxby Formation. No artificial deposits are reported within the site.</p> <p>Borehole records from a borehole drilled onsite in August 1979, indicated underlying ground conditions to comprise topsoil to a depth of around 0.18mbgl, overlying sequences of stiff clay and silt to around 5.00mbgl, underlain by dense becoming medium dense sands to around 24.30mbgl, underlain by variable sequences of stiff to very stiff clay and medium dense sand to around 41.10mbgl, which in turn was underlain by siltstone and mudstone to the base of the borehole (at approximately 43.00mbgl).</p> <p>The superficial deposits underlying the site are identified as a Secondary Undifferentiated Aquifer, with the underlying solid deposits identified as a Secondary B Aquifer.</p> <p>A review of the Enviro+Geoinsight Report indicates that there are no source protection zones within 500m of the site.</p> <p>There are no groundwater, surface water or potable water abstractions reported within 2km of the site.</p> <p>23No surface water features are reported within 250m of the site, with the nearest being identified as an inland river 28m east.</p> <p>There are no Environment Agency Zone 2 or 3 floodplains reported within 50m of the site.</p>
Potential Sources	<ul style="list-style-type: none"> • Potential for contaminated ground associated with current/previous site use (1980’s – recent) – on site (S1) <ul style="list-style-type: none"> ○ Unspecified works ○ Steel fabrication/bridge manufactory ○ Above ground fuel storage/oil tanks ○ Electricity substations ○ Interceptor ○ Unspecified heap ○ Railway sidings ○ Traveling cranes • Potential for Made Ground associated with previous development operations – on site (S2) • Current and previous industrial/commercial use –off site (S5) <ul style="list-style-type: none"> ○ Historical railway adjacent to the west ○ Unspecified factories 24m-28m west ○ Yarm Industrial Estate 125m northwest
Potential Receptors	<ul style="list-style-type: none"> • Construction workers (R1) • Maintenance workers (R2) • Neighbouring site users (R3) • Future site users (R4)

Desk Study	
	<ul style="list-style-type: none"> • Building foundations and on site buried services (water mains, electricity and sewer) (R5) • Controlled waters (R6) <ul style="list-style-type: none"> ○ Secondary Undifferentiated aquifer (onsite) ○ Secondary B aquifer (onsite) ○ Principal aquifer (236m southwest) ○ Inland river 28m east
Preliminary Risk Assessment	<p>The risk estimation matrix indicates a “moderate” to “moderate/low” risk in the context of the proposed continued commercial site use.</p> <p>Due to the potential presence of asbestos containing materials within the existing buildings on site, an asbestos survey should be undertaken with any asbestos containing materials found removed under suitably controlled conditions. There should be no risk to end users from asbestos if the potential asbestos containing materials are removed by suitably qualified and experienced specialists under controlled conditions.</p> <p>It is recommended that an intrusive investigation is undertaken to clarify potential risks to the identified receptors and establish baseline conditions as part of the anticipated environmental permitting required for the intended site use. This investigation will also further advise potential environmental liabilities associated with the site.</p> <p>Soil gas monitoring is not considered necessary unless a significant thickness of Made Ground or putrescible material is encountered during the intrusive investigation, in which case this should be undertaken in accordance with CIRIA C665.</p> <p>The above conclusions are made subject to approval by the statutory regulatory bodies.</p>
Potential Geological Hazards	<p>The Groundsure data identifies a “moderate” risk from ground dissolution of soluble rocks on site, and a ground investigation is recommended to further assess this risk. See Section 4 for further details.</p> <p>In addition, should any new foundations be proposed:</p> <ul style="list-style-type: none"> • Foundations should not be formed within Made Ground or organic rich material (e.g. topsoil) due to the unacceptable risk of total and differential settlement. • Foundations must be designed so as not to load nor undermine adjacent boundary walls and buildings. • A geotechnical investigation is recommended to inform foundation design.
Recommended Further Work	<p>An intrusive investigation is recommended to confirm the preliminary geo-environmental risks identified and to provide geotechnical information.</p> <p>The investigation should assess the thickness of any Made Ground, and allow samples of Made Ground and natural soils to be taken for laboratory analysis.</p> <p>Soil gas monitoring is not considered necessary unless a significant thickness of Made Ground or putrescible material is encountered during the intrusive investigation, in which case this should be undertaken in accordance with CIRIA C665.</p>

1 INTRODUCTION

1.1 Terms of Reference

1.1.1 Earth & Marine Environmental Consultants Ltd (“The Client”) has commissioned Jomas Associates Ltd, to assess the risk of contamination posed by the ground conditions at a site referred to as Cleveland House, Yarm Road, Darlington DL1 4DE, prior to redevelopment of the site.

1.1.2 To this end a desk-based assessment has been undertaken in accordance with Jomas Associates Limited’s proposal dated 12 September 2025.

1.2 Proposed Development

1.2.1 The proposed development is understood to comprise redevelopment of the former Cleveland Bridge UK Ltd site into a plastic pyrolysis plant. It is understood that ‘the process’ will be fully within the existing building, but there will need to be an external tank farm and an associated tanker loading area.

1.2.2 A site investigation is required for environmental due diligence, to provide factual information to establish the baseline conditions for an environmental permit and provide geo-environmental and geotechnical information for the development.

1.2.3 A plan of the proposed development is included in Figure 4, Appendix 1.

1.2.4 For the purposes of the contamination risk assessment, the proposed development is classified as “Commercial”.

1.2.5 For the purpose of geotechnical assessment, it is considered that the project could be classified as a Geotechnical Category (GC) 2 site in accordance with BS EN 1997 Part 1. GC 2 projects are defined as involving:

- Conventional structures.
- Quantitative investigation and analysis.
- Normal risk.
- No difficult soil and site conditions.
- No difficult loading conditions.
- Routine design and construction methods.

1.2.6 This will be reviewed at each stage of the project.

1.3 Objectives

1.3.1 The objectives of Jomas Associates Limited’s investigation were as follows:

- To present a description of the present site status, based upon the published geology, hydrogeology and hydrology of the site and surrounding area.

- To review readily available historical information (i.e., Ordnance Survey maps and database search information) for the site and surrounding areas, with respect to potentially contaminative land uses.
- To provide an assessment of the environmental sensitivity at the site and the surrounding area, in relation to any suspected or known contamination which may significantly affect the site and the proposed development.
- To assess the potential presence of significant pollutant linkages, in accordance with the procedures set out within Part IIA of the Environmental Protection Act 1990, associated statutory guidance and current best practice including the EA land contamination risk management (LCRM) guidance.
- To identify and assess geotechnical issues that may affect the site.

1.4 Scope of Works

1.4.1 The following tasks were undertaken to achieve the objectives listed above:

- A walkover survey of the site.
- A desk study, which included the review of third party historical Ordnance Survey maps and an environmental database report (attached in Appendix 2 and Appendix 3).
- The compilation of this report, which collects and discusses the above data, and presents an assessment of the site conditions, conclusions and recommendations.

1.5 Supplied Documentation

1.5.1 Jomas Associates have not been supplied with any previously produced reports at the time of writing this report.

1.6 Limitations

1.6.1 Jomas Associates Ltd has prepared this report for the sole use of Earth & Marine Environmental Consultants Ltd in accordance with the generally accepted consulting practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon by any other party without the explicit written agreement of Jomas Associates Limited. No other third-party warranty, expressed or implied, is made as to the professional advice included in this report. This report must be used in its entirety.

1.6.2 The records search was limited to information available from public sources; this information is changing continually and frequently incomplete. Unless Jomas Associates Limited has actual knowledge to the contrary, information obtained from public sources or provided to Jomas Associates Limited by site personnel and other information sources, have been assumed to be correct. Jomas Associates Limited does not assume any liability for the misinterpretation of information or for items not visible, accessible, or present on the subject property at the time of this study.

- 1.6.3 Whilst effort has been made to ensure the accuracy of the data supplied, and analysis derived from it, there may be conditions at the site that have not been disclosed by the investigation and could not therefore be taken into account. As with any site, there may be differences in soil conditions between exploratory hole positions. Furthermore, it should be noted that groundwater conditions may vary due to seasonal and other effects and may at times be significantly different from those measured by the investigation. No liability can be accepted for any such variations in these conditions.
- 1.6.4 Any reports provided to Jomas Associates Limited have been reviewed in good faith. Jomas Associates Limited cannot be held liable for any errors or omissions in these reports, or for any incorrect interpretation contained within them.
- 1.6.5 This investigation and report have been carried out in accordance with the relevant standards and guidance in place at the time of the works. Future changes to these may require a re-assessment of the recommendations made within this report.
- 1.6.6 *Our investigations exclude surveys to identify the presence of injurious and invasive weeds.*
- 1.6.7 ***This report is not an engineering design and the figures and calculations contained in the report should be used by the Structural Engineer, taking note that variations may apply, depending on variations in design loading, in techniques used, and in site conditions. Our recommendations should therefore not supersede the Engineer's design.***

2 SITE SETTING

2.1 Site Information

2.1.1 The site location plan is appended to this report in Figure 1, Appendix 1.

Table 2.1: Site Information

Name of Site	Cleveland House
Address of Site	Yarm Road Darlington DL1 4DE
Approx. National Grid Ref.	432060 513501
Site Area (Approx)	9.63ha
Site Occupation	Commercial site undergoing redevelopment
Local Authority	Darlington Borough Council

2.2 Walkover Survey

2.2.1 A site walkover survey was undertaken by Jomas Associates on 08 October 2025.

Table 2.2: Site Description

Area	Item	Details
On-site:	Current Uses:	<p>The site comprises a large plot of land situated to the south of Yarm Road, Darlington.</p> <p>It is understood that the site was formerly operated by Cleveland Bridge UK Ltd, a bridge manufacturing company.</p> <p>A substantial commercial-style building, which is understood to have been the main manufactory, occupies a large portion of the site footprint and is surrounded by access roads and external yard areas. At the time of the walkover this building was undergoing internal redevelopment as part of the proposed change of use to a plastic pyrolysis plant.</p> <p>Smaller units, which are understood to have been a treatment building and maintenance and plant depot are located in the northwest of the site. An electricity substation was observed in between these two buildings.</p> <p>Another group of smaller buildings located in the south of the site is understood to have been used as an area for painting of manufactured products. These buildings are understood to include a number of former paint cells, and a paint store. A paint can crusher and area for storing of waste drums and thinners were noted to the south and southeast of these buildings, and a large amount of metal debris was noted in the ground surface in the general area.</p>

Area	Item	Details
		There is warehouse-style unit in the southeast of the site, which at the time of the walkover was being temporarily used as a vehicle maintenance unit.
	Evidence of historic uses:	As mentioned above, the site is understood to have to have formerly been operated as a bridge manufacturing company and various features associated with this use were observed during the site walkover.
	Surfaces:	Most of the site is covered by hard surfacing formed by the building footprints, access roads, parking areas, and external yards, which are surfaced with a mixture of concrete and asphalt. The roadways appear to be well engineered, as would be expected given the known previous site use. There are limited areas of soft landscaping, located mainly around the site perimeter, which are covered by turf, weeds, shrubs and trees.
	Vegetation:	The vegetation onsite comprises turf, weeds, shrubs and trees, located mainly around the perimeter of site. None of the vegetation seen appeared to be exhibiting any obvious evidence of distress.
	Topography/Slope Stability:	The site is generally flat and level. An area of sloping ground was noted in the northwest of site.
	Drainage:	The site appears to be connected to normal drainage facilities. Drain covers are situated around the site. No obvious evidence of drainage issues was observed.
	Services:	2No electricity substations are present onsite, one in the northwest located in between the former treatment building and maintenance and plant depot, and another directly adjacent to the south of the main former manufactory building. Other services are anticipated however the operational status of these is unknown.
	Controlled waters:	No controlled waters were noted on site.
	Tanks:	An above ground green plastic tank, which appears to be used for storing fuel oil, was observed adjacent to the southeastern corner of the vehicle maintenance unit in the southeast of the site. Another above ground orange metal tank, which appears to be used for temporary fuel storage, was observed to the north of the vehicle maintenance unit.
Neighbouring land:	North:	A self-storage depot is present adjacent to the north of site, with Yarm Road further north and commercial property beyond it.
	East:	Several commercial-style properties, occupied by various companies, are located adjacent to the east of site, with agricultural land and the A66 further east.
	South:	The site is bounded to the south by a car park and open agricultural land. There is railway further south.

Area	Item	Details
	West:	There is a mixture of agricultural land, car parks, and commercial-style property to the west of site.

2.2.2 Key features noted during the walkover are shown on a site walkover plan in Figure 2, together with site photos, in Figure 3, Appendix 1.

2.1 Anecdotal Information

2.1.1 During Jomas' site visit, anecdotal information was provided by the site contact, Mr Michael Sylvester.

2.1.2 Mr Sylvester confirmed that an above ground tank, used for storing diesel, was formerly present adjacent to the northwest of the former maintenance and plant depot in the northwest of the site.

2.1.3 It was also confirmed that there is an interceptor/separator to the east of the vehicle maintenance unit in the southeast of the site, close to the eastern site boundary.

2.1.4 The locations of the above features are indicated on the site constraints plan in Figure 2, Appendix 1.

2.2 Historical Mapping Information

2.2.1 The historical development of the site and its surrounding areas was evaluated following the review of a number of Ordnance Survey historic maps, procured from Groundsure, and provided in Appendix 3 of this report.

2.2.2 A summary produced from the review of the historical map is given in Table 2.3 below. Distances are taken from the site boundary.

Table 2.3: Historical Development

Dates and Scale of Map	Relevant Historical Information	
	On Site	Off Site
1855-57 1:2,500 1:10,560	The site is undeveloped and appears to comprise agricultural land. A bridle path traverses the site in a north to south orientation, alongside a hedgerow. 3No small ponds are shown in the middle section of the site, one just to the west of the bridle path, and the other two are near the western site boundary. A drain is also shown in the southwest of the site.	The area surrounding the site comprises predominantly undeveloped agricultural fields bordered with hedgerows. A residential-style property, possibly a farm, identified as 'Maidendale' is located 50m south of site. A pond is shown 60m east. There is a road 100m north. There is a watercourse, running broadly north to south, 300m east of site.
1896-97 1:2,500	No significant change.	Additional buildings appear to have been developed at Maidendale 50m south of site.

Dates and Scale of Map	Relevant Historical Information	
	On Site	Off Site
1:10,560		A railway has been developed 200m south of site.
1916-23 1:2,500 1:10,560	No significant change.	No significant change.
1938-39 1:2,500 1:10,560	No significant change.	A sports ground, with associated pavilions, has been developed 250m west. Large scale development is shown to be underway 750m-1km northwest.
1954-56 1:1,250 1:2,500 (above maps are incomplete) 1:10,560	No significant change.	A clay pit and brick works are shown 1km northwest.
1967-68 1:1,250 (incomplete mapping) 1:2,500 1:10,560	The pond in the east of site appears to have been infilled.	There has been large scale urbanisation 750m-1km west.
1971 – 1978 1:1,250 (incomplete mapping) 1:10,000	No significant change.	An engine components factory , with an associated chimney , has been developed 100m northwest. External yards/parking areas extend from this building eastwards towards the site, and a reservoir is shown to the north of the building. Another factory has been developed 400m northwest. An engineering works has been developed 500m northwest of site.
1980 1:10,000	No significant change.	There has been significant commercial/industrial development 200m-1km north. Depots have been developed 200m, 450m and 500m north of site. Works have been developed 275m, 500m and 600m north of site.
1983-88 1:1,250 1:2,500 (incomplete mapping)	The site has undergone development and is now occupied by an industrial-style building identified as a works , the footprint of which covers much of the site.	Embankments have been constructed along the eastern, southern, and western site boundaries. A railway track has been developed adjacent to the west of site. A commercial -style building has been developed adjacent to the north of site,

Dates and Scale of Map	Relevant Historical Information	
	On Site	Off Site
	<p>A number of smaller buildings are located to the south and west of the main works building.</p> <p>Electricity substations are shown adjacent to the south of the main works building, and adjacent to a smaller building in the northwest of site.</p> <p>A series of travelling cranes are present adjacent to the western boundary of site.</p> <p>The site appears to be in its current configuration</p>	<p>along with ground workings that appear to be mounds.</p> <p>A new road is shown to be undergoing development 300m to the south.</p>
<p>1990-95 1:1,250 1:2,500 (incomplete mapping) 1:10,000</p>	<p>No significant change.</p>	<p>Yarm Road industrial estate has been developed 125m northwest of site, including an electricity substation 250m northwest of site.</p> <p>The road development 300m south of site has now been completed.</p> <p>The industrial style buildings north of site have undergone some minor redevelopments.</p>
<p>2001-10 1:10,000</p>	<p>No significant change.</p>	<p>Pioneer Court has been developed adjacent to the east.</p> <p>Small ponds are shown 30m and 100m to the east of site.</p> <p>Further development has occurred to the north of site, including construction of a hotel and hospital 150m and 250m north respectively.</p>
<p>2025 1:10,000</p>	<p>No significant change.</p>	<p>No significant changes.</p>

Potentially polluting/contaminating uses/activities shown in **bold**

2.2.3 Aerial photographs supplied as part of the Groundsure Enviro+GeoInsight report range from 1999 to 2022. These show only a few minor changes at the site between these years. The aerial photograph from 1999 shows large storage areas in the south and west of site, which appear to be used for storing fabricated steel products. The travelling cranes are still visible in 1999. From 2019 the site seems to be inactive. By 2022 the site appears to have been cleared of stock and the travelling cranes removed. Between 1999 and 2012 office style buildings were developed adjacent to the east of site. From 2019 to the most recent photograph in 2022 there were no significant changes off site.

2.3 Past Land Use

2.3.1 Groundsure provide some information on past land use on and in the vicinity of the site. Table 2.4 below summarises the information provided, which is presented in further detail in the Enviro+Geoinsight in Appendix 2. Where the identified features have appeared on more than one map they have been counted multiple times and therefore the reported numbers may be higher than the actual count.

Table 2.4: Past Land Use

Type of Use	On site	Off-site (within 500m of site, unless stated otherwise)	Potential to Impact Site*
Historical Industrial Land Uses	3No reported; unspecified works, unspecified heap, and railway sidings (1990)	31No reported; nearest identified as unspecified factories 24m-28m west (1971-1990)	✓
Historical Tanks	None reported, however above ground fuel storage tank and oil tanks observed during walkover	2No reported; identified unspecified tanks 289m north (1979, and 474m northeast (1995)	✓
Historical Energy Features	6No reported; identified as electricity substations (1982-1995)	14No reported; nearest identified as an electricity substation 2m north (1993-1995), followed by a gas meter house and gas governor 68m north (1984-1988)	✓
Historical Petrol Stations	None reported	None reported	X
Historical Garages	None reported	None reported	X
Historical Military Land	None reported	None reported	X

* From a land contamination/site development perspective

2.4 Landfill, Waste and Potentially Infilled Surface Ground Workings

2.4.1 The Groundsure Enviro+Geoinsight Report provides information on active and historical landfills and waste sites. It also provides information on historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface; these features may or may not have been subsequently infilled. The following section summarises the information collected from the available sources.

Table 2.5: Landfill, Waste and Potentially Infilled Ground Surface Workings

Type of Consent/Authorisation	On site	Off-site (within 500m of site, unless stated otherwise)	Potential to Impact Site*
Active or Recent Landfill	None reported	None reported	X

Type of Consent/Authorisation	On site	Off-site (within 500m of site, unless stated otherwise)	Potential to Impact Site*
Historical Landfill	None reported	None reported	X
Historical Waste Sites	None reported	1No reported 475m north; identified as a waste recycling development	X
Licensed Waste Sites	None reported	1No reported 479m north; identified as a special waste transfer station	X
Waste Exemptions	None reported	74No reported; nearest identified 255m northwest for crushing waste fluorescent tubes	X
Potentially Infilled Surface Ground Workings	1No reported, identified as an unspecified heap (1990)	17No reported; nearest identified as an unspecified heap 33m north (1990)	X

* From a land contamination/site development perspective.

2.5 Current Industrial Land Use

2.5.1 The Groundsure Enviro+Geosight Report also provides information on various records relating to current industrial land use on and in the vicinity of the site. The following section summarises the information collected from the available sources.

Table 2.6: Current Industrial Land Use

Type of Consent/Authorisation	On site	Off-site (within 500m of site, unless stated otherwise)	Potential to Impact Site*
Recent Industrial Land Uses	7No reported; identified as works, travelling cranes, and electricity sub stations	17No reported within 250m - nearest is an electricity substation 2m north. Other entries include a self-storage depot 31m north, gas governors 72m north and 109m east, and a chimney 162m northwest	✓
Current or Recent Tanks	1No reported; identified as a roofed storage tank. An above ground fuel tank and oil tank were also observed during the site walkover	None reported within 250m	✓
Current or Recent Petrol Stations	None reported	1No reported; identified as Morrisons filling station 233m northeast. Operational status is 'open'	X
High Voltage Electricity Cables	None reported	None reported	X
High Pressure Gas Pipelines	None reported	1No reported; located 377m east	X

Type of Consent/Authorisation	On site	Off-site (within 500m of site, unless stated otherwise)	Potential to Impact Site*
Sites Determined as Contaminated Land	None reported	None reported	X
Control of Major Accident Hazards (COMAH) and Notification of Installations Handling Hazardous Substances (NIHHS) Sites	None reported	1No reported; identified as Protim Solignum Ltd 302m north. Operational status is 'historical COMAG site'	X
Regulated Explosive Sites	None reported	None reported	X
Hazardous Substance Storage/Usage	None reported	None reported	X
Historical Licensed Industrial Activities	None reported	6No reported; every entry relates to Protim Solignum Ltd 496m north	X
Licensed Industrial Activities	None reported	7No reported; nearest identified 396m north	X
Licensed Pollutant Release	1No reported; identified as a historical permit for coating processes	3No reported; nearest identified 208m northeast at Morrisons filling station for unloading of petrol into storage	✓
Radioactive Substance Authorisations	None reported	None reported	X
Licensed Discharge to Controlled Waters	None reported	1No reported; located 344m west for sewage discharges	X
Pollutant Release to Surface Waters (Red List)	None reported	None reported	X
Pollutant Release to Public Sewer	None reported	None reported	X
List 1 and List 2 Dangerous Substances	None reported	None reported	X
Pollution Incidents	None reported	1No reported; identified as a contaminated water (suspended solids) located 226m east. No impact (Category 4) to water, air or land.	X
Pollution Inventory Substances	None reported	1No reported; identified as Protim Solignum Ltd 396m north	X
Pollution Inventory Waste Transfers	None reported	2No reported; nearest identified as Protim Solignum Ltd 396m north	X
Pollution Inventory Radioactive Waste	None reported	None reported	X

* From a land contamination/site development perspective

2.6 Tunnels and Railways

2.6.1 The Groundsure Enviro+Geosight Report provides information on railway tunnels and railways on and within the vicinity of the site, as summarised in the table below.

Table 2.7: Tunnels and Railways

Feature	On site	Off-site (within 250m of site, unless stated otherwise)	Potential to Impact Site*
Underground Railways (London)	None reported	None reported	X
Underground Railways (Non-London)	None reported	None reported	X
Railway Tunnels	None reported	None reported	X
Historical Railway and Tunnel Features	8No reported; identified as railway sidings (1982 – 1990), and abandoned railway	None reported	X
Royal Mail Tunnels	None reported	None reported	X
Railways, Crossrail and HS2	None reported	4No reported; nearest identified as the Tees Valley Line 200m south	X

* From a land contamination/site development perspective

2.7 Previous Site Investigations

2.7.1 Jomas Associates are not aware of any previous site investigations undertaken at the site prior to the writing of this report.

2.8 Local Authority Information

2.8.1 Jomas have made a request to Darlington Borough Council for information relating to contamination on the site and surrounding areas.

2.8.2 A response was received from Carol Whelan, Environmental Health Manager (Environmental Protection) at Darlington Borough Council, on 30th October 2025.

2.8.3 It was confirmed that the Council has no records of any landfilling within 250 metres of the site, and there are no private water supplies in the site vicinity.

2.8.4 The following information was also provided:

- A copy of the Part B permit previously held by Cleveland Bridge. The Permit was revoked on the 6 December 2022.
- A scanned site layout plan which was previously an attachment to the Part B permit.
- Copies of the most recent petroleum licences Environmental Health hold on file, which date back to 2001. No plans showing tank locations or any record of a petroleum certificate were identified on the Council's database and so it was presumed that prior to Cleveland Bridge closing, the premises was no longer storing petroleum.

2.8.5 The response refers to a historical site investigation report; however, the report itself was not received, possibly due to issues with transfer because of the file size. Following subsequent telephone correspondence, it was determined that the publicly available BGS borehole records (see Section 3.3 below) relate to boreholes drilled as part of the site investigation, which was undertaken in the late 1970's prior to construction of the Cleveland Bridge premises.

2.8.6 A copy of the correspondence and supplied documents is included in Appendix 6.

2.9 Planning Information

2.9.1 A review of the local authority's planning portal was undertaken on 10 October 2025 at <https://publicaccess.darlington.gov.uk/online-applications/>

2.9.2 Various planning applications made at the site and within the site's postcode area were identified. However, no supporting documents pertaining to ground conditions or land contamination were found.

3 GEOLOGICAL & ENVIRONMENTAL SETTING

3.1 Introduction

3.1.1 The following section summarises the principal environmental resources (geological, hydrogeological and hydrological) of the site and its surroundings.

3.1.2 The data discussed herein is generally based on the information given within the Enviro+Geosight Report and published information provided by the Environment Agency and British Geological Survey.

3.2 Superficial and Solid Geology

3.2.1 The British Geological Survey indicates that the site is directly underlain by superficial deposits of Till.

3.2.2 The BGS describes the Till as:

“Unsorted and unstratified drift, generally overconsolidated, deposited directly by and underneath a glacier without subsequent reworking by water from the glacier. It consists of a heterogenous mixture of clay, sand, gravel, and boulders varying widely in size and shape (diamicton)”

3.2.3 These superficial deposits overlie solid deposits of the Roxby Formation. These are indicated by the BGS to consist of:

“Mudstone and siltstone, reddish brown, with subordinate sandstone. Sulphates (gypsum, anhydrite) common towards base.”

3.2.4 Although artificial deposits are not reported within the site, given the identified site history a thickness of Made Ground should be expected.

3.2.5 BS5930:2015 defines Made Ground as anthropogenic ground in which the material has been placed without engineering control and/or manufactured in some way, such as through crushing or washing, or arising from an industrial process. Great variations in material type, thickness and degree of compaction invariably occur.

3.2.6 No bedrock faults or other linear features are reported within 500m of the site.

3.3 British Geological Survey (BGS) Borehole Data

3.3.1 As part of the assessment, publicly available BGS borehole records were obtained and reviewed from the surrounding area. The local records obtained are presented in Appendix 5.

3.3.2 The nearest such record was located onsite, from August 1979.

3.3.3 This showed the underlying ground conditions to comprise topsoil to a depth of around 0.18mbgl, overlying sequences of stiff clay and silt to around 5.00mbgl,

underlain by dense becoming medium dense sands to around 24.30mbgl, underlain by variable sequences of stiff to very stiff clay and medium dense sand to around 41.10mbgl, which in turn was underlain by siltstone and mudstone to the base of the borehole (at approximately 43.00mbgl).

- 3.3.4 No groundwater strikes are reported on the borehole record.
- 3.3.5 All depths and measurements should be viewed as approximate due to the age of the borehole.

3.4 Hydrogeology & Hydrology

- 3.4.1 General information about the hydrogeology of the site was obtained from the Enviro+GeoInsight and / or the DEFRA "MAGIC" website.

Groundwater Vulnerability

- 3.4.2 The EA operates a classification system to categorise the importance of groundwater resources (aquifers) and their sensitivity to contamination. Aquifers were formerly classified as major, minor and non-aquifers, based on the amenity value of the resource. A major aquifer is a significant resource capable of producing large quantities of water suitable for potable supply. Minor aquifers produce water in varying quantities or qualities, and if utilised are of local importance. Non aquifers are low permeability strata, which contain no significant exploitable groundwater and have very limited capacity to transmit contaminants.
- 3.4.3 Since 1 April 2010, the EA's Groundwater Protection Policy uses aquifer designations that are consistent with the Water Framework Directive. These comprise:
- **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.
 - **Secondary B** - predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.
 - **Secondary Undifferentiated** - has been assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.
 - **Principal Aquifer** – this is a formation with a high primary permeability, supplying large quantities of water for public supply abstraction.
 - **Unproductive Strata** - These are rock layers or superficial deposits with low permeability that have negligible significance for water supply or river base flow.

Source Protection Zones (SPZ)

3.4.4 In terms of aquifer protection, the EA generally adopts a three-fold classification of SPZs for public water supply abstraction wells.

- Zone I - or 'Inner Protection Zone' is located immediately adjacent to the groundwater source and is based on a 50-day travel time. It is designed to protect against the effects of human activity and biological/chemical contaminants that may have an immediate effect on the source.
- Zone II - or 'Outer Protection Zone' is defined by a 400-day travel time to the source. The travel time is designed to provide delay and attenuation of slowly degrading pollutants.
- Zone III - or 'Total Catchment' is the total area needed to support removal of water from the borehole, and to support any discharge from the borehole.

Hydrology

3.4.5 The hydrology of the site and the area covers water abstractions, rivers, streams, other water bodies and flooding.

3.4.6 The Environment Agency defines a floodplain as the area that would naturally be affected by flooding if a river rises above its banks, or high tides and stormy seas cause flooding in coastal areas.

3.4.7 There are two different kinds of area shown on the Flood Map for Planning. They can be described as follows:

Areas that could be affected by flooding, either from rivers or the sea, if there were no flood defences. This area could be flooded:

- from the sea by a flood that has a 0.5 per cent (1 in 200) or greater chance of happening each year;
- or from a river by a flood that has a 1 per cent (1 in 100) or greater chance of happening each year.

(For planning and development purposes, this is the same as Flood Zone 3, in England only.)

- The additional extent of an extreme flood from rivers or the sea. These outlying areas are likely to be affected by a major flood, with up to a 0.1 per cent (1 in 1000) chance of occurring each year.

(For planning and development purposes, this is the same as Flood Zone 2, in England only.)

3.4.8 These two areas show the extent of the natural floodplain if there were no flood defences or certain other manmade structures and channel improvements.

- 3.4.9 Outside of these areas flooding from rivers and the sea is very unlikely. There is less than a 0.1 per cent (1 in 1000) chance of flooding occurring each year. The majority of England and Wales falls within this area. (For planning and development purposes, this is the same as Flood Zone 1, in England only.)
- 3.4.10 Some areas benefit from flood defences, and these are detailed on Environment Agency mapping.
- 3.4.11 Flood defences do not completely remove the chance of flooding, however, and can be overtopped or fail in extreme weather conditions.

Table 3.1: Summary of Hydrogeology & Hydrology

Feature	On Site	Off Site	Potential Receptor?
Aquifer	Superficial:	Secondary Undifferentiated	Secondary Undifferentiated Unproductive – 194m north Secondary A – 481m southeast ✓
	Solid:	Secondary B	Secondary B Principal - 236m southwest ✓
Abstractions	Groundwater	None reported	None reported within 2km X
	Surface water	None reported	None reported within 2km X
	Potable	None	None reported within 2km X
Source Protection Zone	None reported	None reported within 500m X	
Surface Water Features	None reported	23No reported within 250m; nearest is identified as an inland river 28m east ✓	
Flood Risk	EA Flood Zone 2	None reported	None reported within 50m -
	EA Flood Zone 3	None reported	None reported within 50m -
	RoFRaS	N/A	- -
	Historical Flood Events	None reported within 250m of the site. -	
	Flood Defences	There are no areas benefiting from flood defences within 250m of the study site. -	
	Groundwater Flooding	The highest risk reported onsite and within 50m of the site is 'low' -	

3.5 Sensitive Land Uses

- 3.5.1 Landscape at Cummins Engine Factory 25m west is listed under “Registered Parks and Gardens”.

- 3.5.2 2No listed buildings are reported within 250m of the site, located 185m west and 237m west of site both related to the Cummins Engine Factory.
- 3.5.3 2No Local Nature Reserves are reported within 2km. These are identified as Maidendale Fishing and Nature Reserve, and Brankin Moor, located 639m west and 1714m west respectively.
- 3.5.4 A Nitrate Vulnerable Zone (NVZ), identified as Skerne NVZ, is reported 743m west. However, the site itself is not located within a NVZ.
- 3.5.5 Neasham Fen Site of Special Scientific Interest (SSSI) is reported 1951m southeast.
- 3.5.6 No other sensitive land use was identified within 2km of the site.

3.6 Radon

- 3.6.1 As reported, the site is not within a radon affected area, as less than 1% of properties are above the action level.
- 3.6.2 Consequently, no radon protective measures are necessary in the construction of new dwellings or extensions as described in publication BR211 (BRE, 2023).

4 POSSIBLE GEOLOGICAL HAZARDS

4.1 Database Information Review

4.1.1 The following are brief findings extracted from the Groundsure Enviro+Geoinsight Report, that relate to factors that may have a potential impact upon the engineering of the proposed development.

Table 4.1: Geological Hazards

Potential Hazard	Site check Hazard Rating	Details	Further Action Required?
Shrink swell clays	Very low (northwestern section of site)	Ground conditions predominantly low plasticity.	No
	Low (remainder of site)	Ground conditions are predominantly medium plasticity.	
Running sands	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.	No
Compressible deposits	Negligible	Compressible strata are not thought to occur.	No
Collapsible deposits	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.	No
Landslides	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.	No
Ground dissolution soluble rocks	Moderate	Soluble rocks are present within the ground. Many dissolution features may be present. Potential for difficult ground conditions are at a level where they should be considered. Potential for subsidence is at a level where it may need to be considered.	Yes - GI recommended
Coal mining	None	The study site is not located within the specified search distance of an identified coal mining area.	No
Non-coal mining	None	The study site is not located within the specified search distance of an identified non-coal mining area.	No

4.1.2 In addition, the Enviro+Geoinsight report notes the following:

- 18No. historical surface ground working features are reported within 250m of the site. Nearest reported on site for an unspecified heap (1990).
- No historical underground working features within 1km of the site.
- No BritPits (a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings) are reported within 500m of the site.

-
- 4.1.3 As outlined above, a moderate risk of ground dissolution soluble rocks has been reported onsite, and a ground investigation is recommended to further assess this risk.
- 4.1.4 Should any new foundations be proposed:
- Foundations should not be formed within Made Ground or organic rich material (e.g. topsoil) due to the unacceptable risk of total and differential settlement.
 - Foundations must be designed so as not to load nor undermine adjacent boundary walls and buildings.
 - A geotechnical investigation is recommended to inform foundation design.

5 QUALITATIVE RISK ASSESSMENT

5.1 Legislative Framework

5.1.1 A qualitative risk assessment has been prepared for the site, based on the information collated. This highlights the potential sources, pathways and receptors. Intrusive investigations will be required to confirm the actual site conditions and risks.

5.1.2 Under Part IIA of the Environmental Protection Act 1990, the statutory definition of contaminated land is:

“land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that:

(a) significant harm is being caused or there is a significant possibility of such harm being caused; or

(b) significant pollution of controlled waters is being caused, or there is significant possibility of such pollution being caused.”

5.1.3 The Statutory Guidance provided in the DEFRA Circular 04/2012 lists the following categories of significant harm to **human health**:

- death; life threatening diseases (e.g. cancers); other diseases likely to have serious impacts on health; serious injury; birth defects; and impairment of reproductive functions.

5.1.4 Other health effects may also be considered by the local authority to constitute significant harm with a wide range of conditions that may or may not constitute significant harm (alone or in combination) including: physical injury; gastrointestinal disturbances; respiratory tract effects; cardio-vascular effects; central nervous system effects; skin ailments; effects on organs such as the liver or kidneys; or a wide range of other health impacts.

5.1.5 In deciding whether or not land is contaminated land on grounds of significant possibility of significant harm to human health there are four categories to be considered. Categories 1 and 2 would encompass land which is capable of being determined as contaminated land on grounds of significant possibility of significant harm to human health. Categories 3 and 4 would encompass land which is not capable of being determined on such grounds.

5.1.6 For non-human receptors the following types of harm should be considered to be significant harm:

Ecological System Effects

- Harm which results in an irreversible adverse change, or in some other substantial adverse change, in the functioning of the ecological system within any substantial part of that location; or

- Harm which significantly affects any species of special interest within that location and which endangers the long-term maintenance of the population of that species at that location.
- In the case of European sites, harm should also be considered to be significant harm if it endangers the favourable conservation status of natural habitats at such locations or species typically found there. In deciding what constitutes such harm, the local authority should have regard to the advice of Natural England and to the requirements of the Conservation of Habitats and Species Regulations 2010.

Property Effects

- Crops: A substantial diminution in yield or other substantial loss in their value resulting from death, disease or other physical damage. For domestic pets, death, serious disease or serious physical damage. For other property in this category, a substantial loss in its value resulting from death, disease or other serious physical damage.
- Buildings: Structural failure, substantial damage or substantial interference with any right of occupation. The local authority should regard substantial damage or substantial interference as occurring when any part of the building ceases to be capable of being used for the purpose for which it is or was intended. In the case of a scheduled Ancient Monument, substantial damage should also be regarded as occurring when the damage significantly impairs the historic, architectural, traditional, artistic or archaeological interest by reason of which the monument was scheduled.

5.1.7 Contaminated land will only be identified when a ‘pollutant linkage’ has been established.

5.1.8 A ‘pollutant linkage’ is defined in Part IIA as:

“A linkage between a contaminant Source and a Receptor by means of a Pathway”.

5.1.9 Therefore, this report presents an assessment of the potential pollutant linkages that may be associated with the site, in order to determine whether additional investigations are required to assess their significance.

5.1.10 In accordance with the National Planning Policy Framework, where development is proposed, the developer is responsible for ensuring that the development is safe and suitable for use for the purpose for which it is intended, or can be made so by remedial action. In particular, the developer should carry out an adequate investigation to inform a risk assessment to determine:

- whether the land in question is already affected by contamination through source – pathway – receptor pollutant linkages and how those linkages are represented in a conceptual model;

- whether the development proposed will create new linkages, e.g. new pathways by which existing contaminants might reach existing or proposed receptors and whether it will introduce new vulnerable receptors; and
- what action is needed to break those linkages and avoid new ones, deal with any unacceptable risks and enable development and future occupancy of the site and neighbouring land.

5.1.11 A potential developer will need to satisfy the Local Authority that unacceptable risk from contamination will be successfully addressed through remediation without undue environmental impact during and following the development.

5.2 Conceptual Site Model

5.2.1 On the basis of the information summarised above, a conceptual site model (CSM) has been developed for the site. The CSM is used to guide the investigation activities at the site and identifies potential contamination sources, receptors (both on and off-site) and exposure pathways that may be present. The identification of such potential “pollutant linkages” is a key aspect of the evaluation of potentially contaminated land.

5.2.2 The site investigation is then undertaken in order to prove or disprove the presence of these potential source-pathway-receptor linkages. Under current legislation an environmental risk is only deemed to exist if there are proven linkages between all three elements (source, pathway and receptor).

5.2.3 This part of the report lists the potential sources, pathways and receptors at the site, and assesses based on current and future land use, whether pollution linkages are possible.

5.2.4 Potential pollutant linkages identified at the site are detailed below:

Table 5.1: Potential Sources, Pathways and Receptors

Source(s)	Pathway(s)	Receptor(s)
<ul style="list-style-type: none"> • Potential for contaminated ground associated with current/previous site use (1980's – recent) – on site (S1) <ul style="list-style-type: none"> ○ Unspecified works ○ Steel fabrication/bridge manufactory ○ Above ground fuel storage/oil tanks ○ Electricity substations ○ Interceptor ○ Unspecified heap ○ Railway sidings ○ Traveling cranes • Potential for Made Ground associated with previous development operations – on site (S2) • Current and previous industrial/commercial use –off site (S5) <ul style="list-style-type: none"> ○ Historical railway adjacent to the west ○ Unspecified factories 24m-28m west ○ Yarm Industrial Estate 125m northwest 	<ul style="list-style-type: none"> • Ingestion and dermal contact with contaminated soil (P1) • Inhalation or contact with potentially contaminated dust and vapours (P2) • Leaching through permeable soils, migration within the vadose zone (i.e., unsaturated soil above the water table) and/or lateral migration within surface water, as a result of cracked hardstanding or via service pipe/corridors and surface water runoff (P3) • Horizontal and vertical migration of contaminants within groundwater (P4) • Accumulation and Migration of Soil Gases (P5) • Permeation of water pipes and attack on concrete foundations by aggressive soil conditions (P6) 	<ul style="list-style-type: none"> • Construction workers (R1) • Maintenance workers (R2) • Neighbouring site users (R3) • Future site users (R4) • Building foundations and on site buried services (water mains, electricity and sewer) (R5) • Controlled waters (R6) <ul style="list-style-type: none"> ○ Secondary Undifferentiated aquifer (onsite) ○ Secondary B aquifer (onsite) ○ Principal aquifer (236m southwest) ○ Inland river 28m east

5.3 Qualitative Risk Estimation

5.3.1 Based on information previously presented in this report, a qualitative risk estimation was undertaken.

5.3.2 For each potential pollutant linkage identified in the conceptual model, the potential risk can be evaluated, based on the following principle:

Overall contamination risk = Probability of event occurring x Consequence of event occurring

5.3.3 In accordance with CIRIA C552, the consequence of a risk occurring has been classified into the following categories:

- Severe
- Medium
- Mild
- Minor

5.3.4 The probability of a risk occurring has been classified into the following categories:

- High Likelihood
- Likely
- Low Likelihood
- Unlikely

5.3.5 This relationship can be represented graphically as a matrix (Table 5.2).

Table 5.2: Overall Contamination Risk Matrix

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate/Low Risk
	Likely	High Risk	Moderate Risk	Moderate/Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate/Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate/Low Risk	Low Risk	Very Low Risk	Very Low Risk

5.3.6 The risk assessment process is based on guidance provided in CIRIA C552 (2001) *Contaminated Land Risk Assessment – A Guide to Good Practice*. Further information including definitions of descriptive terms used in the risk assessment process is included in Appendix 4.

5.3.7 The degree of risk is based on a combination of the potential sources and the sensitivity of the environment. The risk classifications can be cross checked with reference to Table A4.4 in Appendix 4.

5.3.8 Hazard assessment was also carried out, the outcome of which could be:

- Urgent Action (UA) required to break existing source-pathway-receptor link.
- Ground Investigation (GI) required to gather more information
- Watching Brief there is no evidence of potential contamination but the possibility of it exists and so the site should be monitored for local and olfactory evidence of contamination.
- No action required (NA)

5.3.9 The preliminary risk assessment for the site is presented in Table 5.3 overleaf.

**SECTION 5
QUALITATIVE RISK ASSESSMENT**

Table 5.3: Preliminary Risk Assessment for the Site

Sources	Pathways (P)	Receptors	Consequence of Impact	Probability of Impact	Risk Estimation	Hazard Assessment
<ul style="list-style-type: none"> Potential for contaminated ground associated with current/previous site use (1980's – recent) – on site (S1) <ul style="list-style-type: none"> Unspecified works Steel fabrication/bridge manufactory Above ground fuel storage/oil tanks Electricity substations Interceptor Unspecified heap Railway sidings Traveling cranes Potential for Made Ground associated with previous development operations – on site (S2) Current and previous industrial/commercial use –off site (S5) <ul style="list-style-type: none"> Historical railway adjacent to the west Unspecified factories 24m-28m west Yarm Industrial Estate 125m northwest 	<ul style="list-style-type: none"> Ingestion and dermal contact with contaminated soil (P1) Inhalation or contact with potentially contaminated dust and vapours (P2) Permeation of water pipes and attack on concrete foundations by aggressive soil conditions (P6) Accumulation and migration of soil gases (P5) Leaching through permeable soils, migration within the vadose zone (i.e., unsaturated soil above the water table) and/or lateral migration within surface water, as a result of cracked hardstanding or via service pipe/corridors and surface water runoff (P3) Horizontal and vertical migration of contaminants within groundwater (P4) 	<ul style="list-style-type: none"> Construction workers (R1) Maintenance workers (R2) Neighbouring site users (R3) Future site users (R4) Building foundations and on site buried services (water mains, electricity and sewer) (R5) Neighbouring site users (R3) Building foundations and on site buried services (water mains, electricity and sewer) (R5) Controlled waters (R6) <ul style="list-style-type: none"> Secondary Undifferentiated aquifer (onsite) Secondary B aquifer (onsite) Principal aquifer (236m southwest) Inland river 28m east 	Medium	Low	Moderate/Low Risk	GI – Ground Investigation
			Severe for Asbestos	Low	Moderate for Asbestos	
			Severe	Unlikely	Moderate/Low Risk	
			Medium	Low	Moderate/Low Risk	

5.3.10 It should be noted that the identification of potential pollutant linkages does not necessarily signify that the site is unsuitable for its current or proposed land use. It does however act as a way of focussing data collection at the site in accordance with regulatory guidance in LCRM.

5.4 Outcome of Risk Assessment

5.4.1 The proposed development is understood to comprise redevelopment of the former Cleveland Bridge UK Ltd site into a plastic pyrolysis plant. It is understood that ‘the process’ will be fully within the existing building, but there will need to be an external tank farm and an associated tanker loading area.

5.4.2 The risk estimation matrix indicates a “moderate” to “moderate/low” risk in the context of the proposed continued commercial site use.

5.4.3 Due to the potential presence of asbestos containing materials within the existing buildings on site, an asbestos survey should be undertaken with any asbestos containing materials found removed under suitably controlled conditions. There should be no risk to end users from asbestos within the fabric of the existing building if the potential asbestos containing materials are removed by suitably qualified and experienced specialists under controlled conditions.

5.4.4 A review of earliest available (1855) historical maps indicates that the site comprised undeveloped agricultural land at that time. By the early 1980’s the site had been developed and was shown to be occupied by an industrial-style building identified as a works, the footprint of which covers much of the site. A number of smaller buildings were located to the south and west of the main works building, along with two electricity substations, and a series of travelling cranes adjacent to the western boundary of site. A railway track was shown adjacent to the west of site at this time, which is presumed to have been for transportation of finished products that were loaded on to freight wagons by the travelling cranes.

5.4.5 Aerial photography indicates that the site was inactive by 2019, with stock having been cleared from external yards and the travelling cranes removed by this time. The site appears to have remained in this configuration until time of writing.

5.4.6 The surrounding area comprised largely agricultural land until undergoing urbanisation during the 1970’s and 1980’s and has since been used for predominantly industrial and commercial purposes. Industrial features of note include the historical railway adjacent to the west, a factory beyond this, and an industrial estate approximately 125m northwest of the site.

5.4.7 During the site walkover an above ground fuel storage tank and oil tank were observed in the southeast of the site.

5.4.8 Whilst potentially infilled ground workings have been identified onsite in the form of the small ponds mentioned above, along with unspecified heaps reported to the north and possibly encroaching on to site, given the limited size and likely age of infilling

materials, these features are not considered to represent a significant source of soil gas generation that could adversely impact the site.

5.4.9 It is recommended that an intrusive investigation is undertaken to clarify potential risks to the identified receptors and establish baseline conditions as part of the anticipated environmental permitting required for the intended site use. This investigation will also further advise potential environmental liabilities associated with the site.

5.4.10 Soil gas monitoring is not considered necessary unless a significant thickness of Made Ground or putrescible material is encountered during the intrusive investigation, in which case this should be undertaken in accordance with CIRIA C665.

5.4.11 The above conclusions are made subject to approval by the statutory regulatory bodies.

5.5 List of Key Contaminants

5.5.1 The possible contamination implications for both on-site and off-site sources have been assessed based on the information presented in the report. This has been achieved using guidance publications by the Environment Agency, together with other sources.

5.5.2 In the case of the site uses identified as part of the desk study research, reference to has been made to the DoE industry profile for metal manufacturing, refining, and finishing works, along with the miscellaneous industries profile.

5.5.3 Based on recommendations within the guidance publications, an initial soil and water chemical testing suite would need to consider a range of contaminants as follows:

- *Metals*: cadmium, chromium, copper, lead, mercury, nickel, zinc.
- *Semi-metals and non-metals*: arsenic, boron, sulphur.
- *Inorganic chemicals*: cyanide, nitrate, sulphate and sulphide.
- *Organic chemicals*: aromatic hydrocarbons, aliphatic hydrocarbons, petroleum hydrocarbons, phenol, polycyclic aromatic hydrocarbons, volatile organic compounds (VOCs)
- *Others*: pH, Asbestos, Polychlorinated biphenyls (PCBs)

6 REFERENCES

BRE Report BR211; Radon: Guidance on protective measures for new buildings, 2023

Code of Practice for Ground Investigations BS 5930:2015+A1:2020

CL:AIRE; Petroleum Hydrocarbons in Groundwater, 2017

Environment Agency (June 2025); *Land Contamination Risk Management (LCRM)*.
<https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>

Groundsure Enviro+GeoInsight Report Ref GS-MHI-LFJ-OY3-F14 October 2025

Investigation of Potentially Contaminated Sites – Code of Practice BS 10175:2011+A2:2017

Ministry of Housing, Communities & Local Government: *National Planning Policy Framework*. February 2025

Department of Environment Industry Profiles (1996) - Metal manufacturing, refining, and finishing works ISBN 1 85112 278 8

Department of Environment Industry Profiles (1996) - Miscellaneous Land ISBN 1 85112 313 X

APPENDICES

APPENDIX 1 – FIGURES

APPENDIX 2 – GROUNDSURE REPORT

APPENDIX 3 – OS HISTORICAL MAPS

APPENDIX 4 – QUALITATIVE RISK ASSESSMENT METHODOLOGY

APPENDIX 5 – BGS BOREHOLE RECORDS

APPENDIX 6 – LOCAL AUTHORITY CORRESPONDENCE

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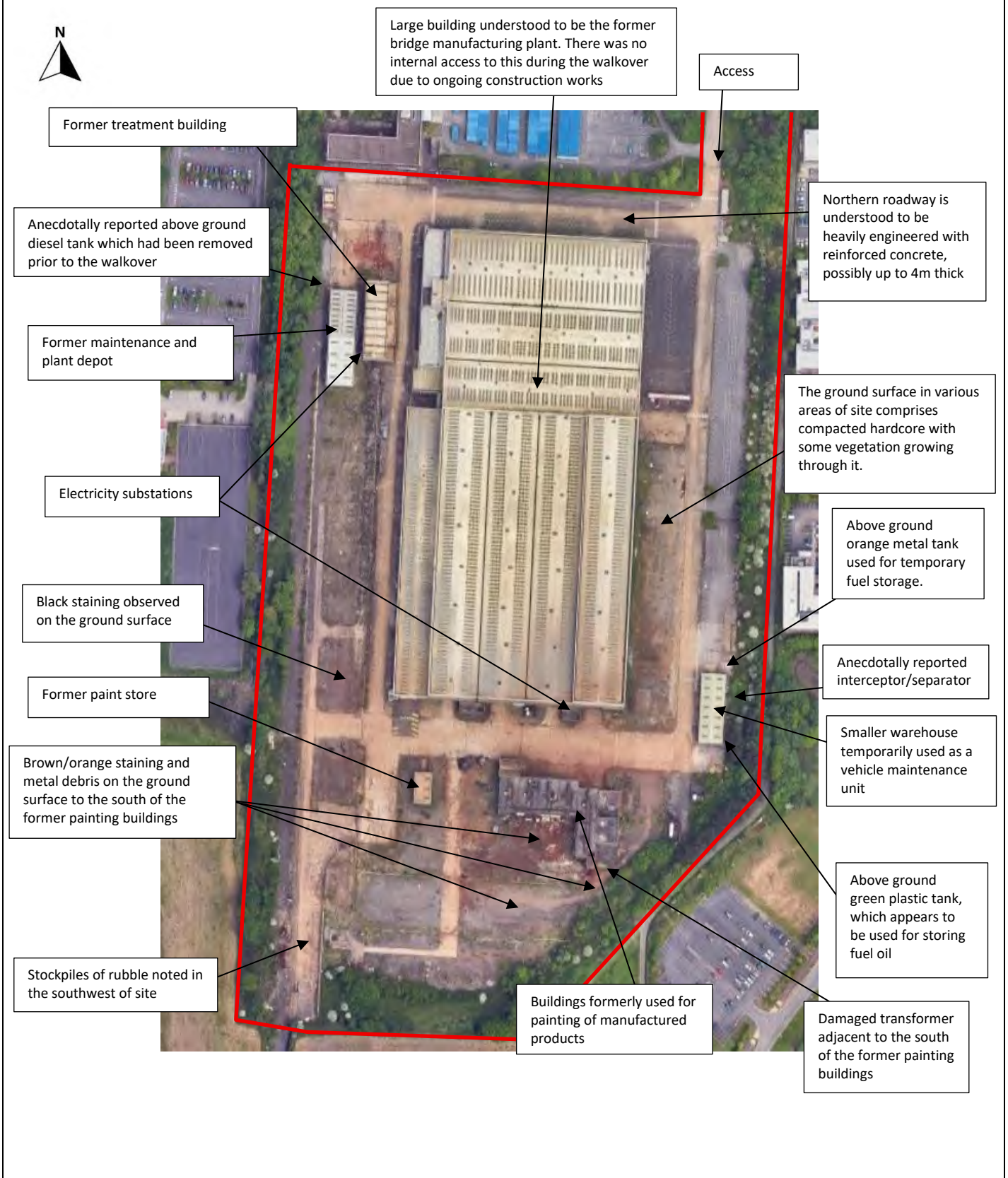
APPENDICES

APPENDIX 1 – FIGURES

PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Site Location Plan	PROJECT NO.	P6534J3273
DATE	October 2025	FIGURE NO.	1



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Site Constraints Plan	PROJECT NO.	P6534J3273
DATE	October 2025	FIGURE NO.	2



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 1: Overview of site from the main access point looking south.		Photo 2: Roadway to the north of the main building looking east.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 3: West of main building looking south.		Photo 4: West of main building looking northwest.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 5: Buildings in the northwest of site, understood to be a former treatment building, and maintenance and plant depot.		Photo 6: Parking area/yard to the east of the main building looking south.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 7: Roadway to the east of the main building looking south.		Photo 8: Fenced area directly adjacent to the east of the main building.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3

Photo 9: Temporary vehicle maintenance building in the southeast of site.

Photo 10: Southeast of main building looking west



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 11: Southeast of the main building looking south.		Photo 12: Roadway/path in the southeast of site.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3

Photo 13: Former plant room adjacent to the south of the former painting buildings in the southeast of site.	Photo 14: Barrels to the south of the painting buildings.
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PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 15: Brown staining and metal debris on ground surface to the south of paint workshop.		Photo 16: Another image of brown staining and metal debris on ground surface to the south of paint workshop.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 17: Open area in the southwest of the site. Ground surfaced with compacted hardcore.		Photo 18: Stockpiles of rubble in the southwest of site looking north.	
			

PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 19: Roadway to the southwest of the main building.		Photo 20: General waste stored by former painting area.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 21: Electrical substation in the centre of site, adjacent to the south of the main building.		Photo 22: Former paint workshops in the south of the site.	
			

PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 23: Open area to the west of the main building looking north.		Photo 24: Black staining observed in the open area to the west of the main building.	



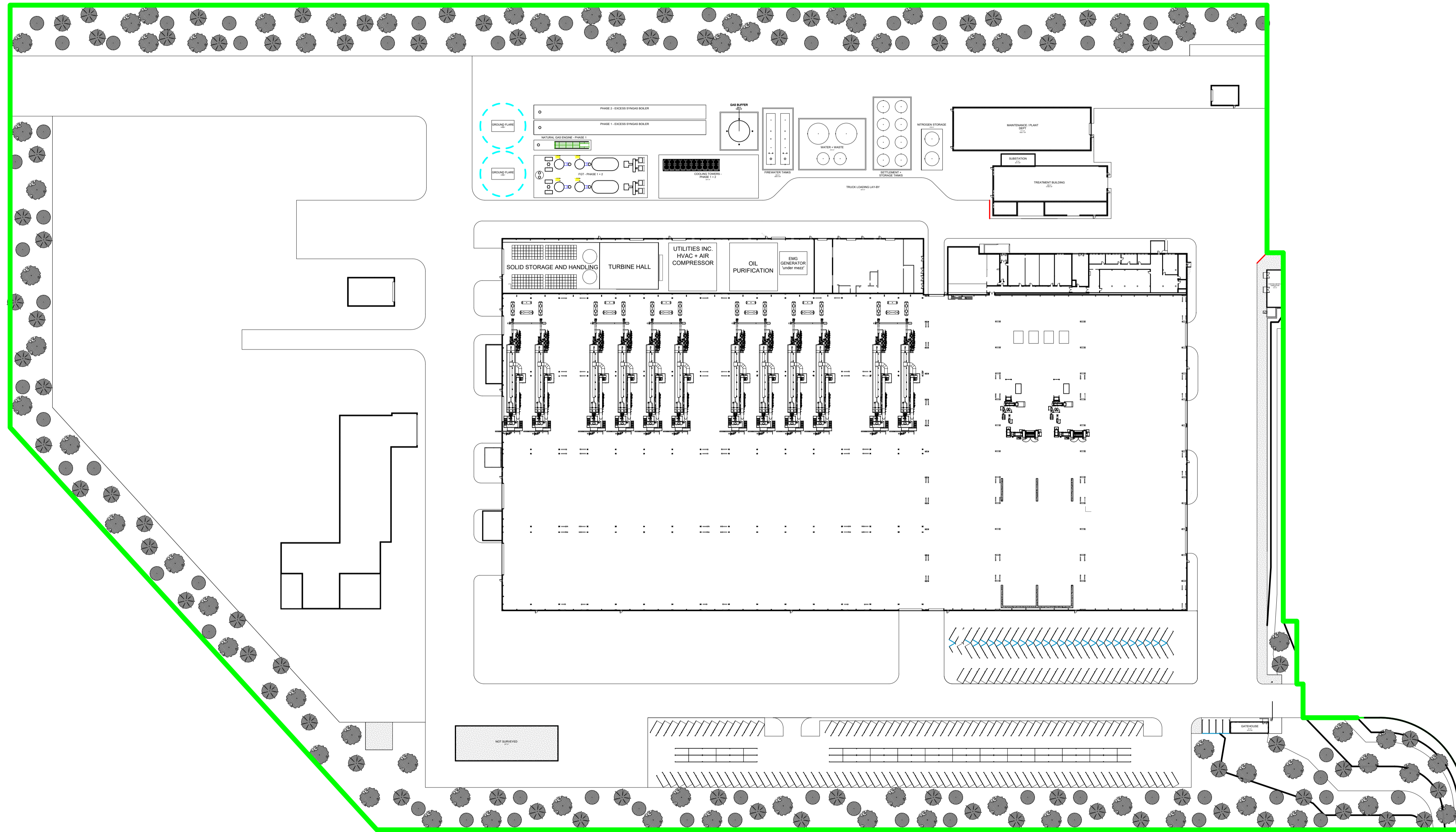
PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 25: Substation in between the former treatment building and plant and maintenance depot in the northwest of the site.		Photo 26: Area to the west of the plant and maintenance depot, where an above ground fuel tank is understood to have been formerly present.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 27: An above ground tank, which appears to be used for storing fuel oil, adjacent to the east of the vehicle maintenance unit in the southeast of site.		Photo 28: An above ground tank, which appears to be used for storing diesel, to the north of the vehicle maintenance unit in the southeast of site.	



Figure 4: Proposed Pyrolysis Plant



NOTES:

REV	DATE	NOTES	BY	CHK
A	29/08/2025	FIRST ISSUE	LC	JG
B	09/10/2025	REVISED ISSUE	KB	LC
C	20/11/2025	ISSUED FOR PLANNING	RE	LC



PROJECT TITLE
PYROLYSIS PLANT

DRAWING TITLE
PYROL BOUNDARY

DRAWING NUMBER
J-14215-30-B-1-C

JOB NUMBER
14215/30

SCALE
N/A DATE
09/10/2025

REVISION
C DRAWN BY
KB PAGE
1 OF
1

CLIENT

APPENDIX 2 – GROUNDSURE REPORT

Cleveland House, Yarm Road, Darlington DL1 4DE

Order Details

Date: 02/10/2025
Your ref: P6534J3273 - Cleveland House
Our Ref: GS-MHI-LFJ-OY3-F14

Site Details

Location: 432060 513501
Area: 9.63 ha
Authority: [Darlington Borough Council](#) ↗



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[Summary of findings](#)

[p.2 > Aerial image](#)

[p.9 >](#)

[OS MasterMap site plan](#)

[p.14 > Insight User Guide](#) ↗

Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	3	5	14	12	-
17 >	1.2 >	Historical tanks >	0	0	0	2	-
17 >	1.3 >	Historical energy features >	6	1	6	7	-
18	1.4	Historical petrol stations	0	0	0	0	-
19	1.5	Historical garages	0	0	0	0	-
19	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
20 >	2.1 >	Historical industrial land uses >	3	5	18	16	-
22 >	2.2 >	Historical tanks >	0	0	0	2	-
22 >	2.3 >	Historical energy features >	10	3	11	12	-
24	2.4	Historical petrol stations	0	0	0	0	-
24	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
25	3.1	Active or recent landfill	0	0	0	0	-
25	3.2	Historical landfill (BGS records)	0	0	0	0	-
26	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
26	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
26 >	3.5 >	Historical waste sites >	0	0	0	1	-
27 >	3.6 >	Licensed waste sites >	0	0	0	1	-
27 >	3.7 >	Waste exemptions >	0	0	0	74	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
34 >	4.1 >	Recent industrial land uses >	7	2	15	-	-
36 >	4.2 >	National Geographic Database (NGD) - Current or recent tanks >	1	0	0	-	-
36 >	4.3 >	Current or recent petrol stations >	0	0	1	0	-
37	4.4	Electricity cables	0	0	0	0	-
37 >	4.5 >	Gas pipelines >	0	0	0	1	-



37	4.6	Sites determined as Contaminated Land	0	0	0	0	-
37 >	4.7 >	<u>Control of Major Accident Hazards (COMAH) ></u>	0	0	0	1	-
38	4.8	Regulated explosive sites	0	0	0	0	-
38	4.9	Hazardous substance storage/usage	0	0	0	0	-
38 >	4.10 >	<u>Historical licensed industrial activities (IPC) ></u>	0	0	0	6	-
39 >	4.11 >	<u>Licensed industrial activities (Part A(1)) ></u>	0	0	0	7	-
40 >	4.12 >	<u>Licensed pollutant release (Part A(2)/B) ></u>	1	0	1	2	-
41	4.13	Radioactive Substance Authorisations	0	0	0	0	-
41 >	4.14 >	<u>Licensed Discharges to controlled waters ></u>	0	0	0	1	-
42	4.15	Pollutant release to surface waters (Red List)	0	0	0	0	-
42	4.16	Pollutant release to public sewer	0	0	0	0	-
42	4.17	List 1 Dangerous Substances	0	0	0	0	-
42	4.18	List 2 Dangerous Substances	0	0	0	0	-
43 >	4.19 >	<u>Pollution Incidents (EA/NRW) ></u>	0	0	1	0	-
43 >	4.20 >	<u>Pollution inventory substances ></u>	0	0	0	1	-
44 >	4.21 >	<u>Pollution inventory waste transfers ></u>	0	0	0	2	-
46	4.22	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	<u>Hydrogeology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
47 >	5.1 >	<u>Superficial aquifer ></u>	Identified (within 500m)				
49 >	5.2 >	<u>Bedrock aquifer ></u>	Identified (within 500m)				
51 >	5.3 >	<u>Groundwater vulnerability ></u>	Identified (within 50m)				
52 >	5.4 >	<u>Groundwater vulnerability- soluble rock risk ></u>	Identified (within 0m)				
52	5.5	Groundwater vulnerability- local information	None (within 0m)				
54	5.6	Groundwater abstractions	0	0	0	0	0
54	5.7	Surface water abstractions	0	0	0	0	0
54	5.8	Potable abstractions	0	0	0	0	0
54	5.9	Source Protection Zones	0	0	0	0	-
55	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	<u>Hydrology ></u>	On site	0-50m	50-250m	250-500m	500-2000m



56 >	6.1 >	Water Network (OS MasterMap) >	0	1	13	-	-
58 >	6.2 >	Surface water features >	0	2	7	-	-
58 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
58 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
59 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
60	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
60	7.2	Historical Flood Events	0	0	0	-	-
60	7.3	Flood Defences	0	0	0	-	-
61	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
61	7.5	Flood Storage Areas	0	0	0	-	-
62	7.6	Flood Zone 2	None (within 50m)				
62	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
63 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
65 >	9.1 >	Groundwater flooding >	Low (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
66 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	1
67	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
67	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
67	10.4	Special Protection Areas (SPA)	0	0	0	0	0
67	10.5	National Nature Reserves (NNR)	0	0	0	0	0
68 >	10.6 >	Local Nature Reserves (LNR) >	0	0	0	0	2
68	10.7	Designated Ancient Woodland	0	0	0	0	0
68	10.8	Biosphere Reserves	0	0	0	0	0
68	10.9	Forest Parks	0	0	0	0	0
69	10.10	Marine Conservation Zones	0	0	0	0	0
69	10.11	Green Belt	0	0	0	0	0



69	10.12	Proposed Ramsar sites	0	0	0	0	0
69	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
69	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
70	10.15	Nitrate Sensitive Areas	0	0	0	0	0
70 >	10.16 >	<u>Nitrate Vulnerable Zones ></u>	0	0	0	0	1
71	10.17	SSSI Impact Risk Zones	0	-	-	-	-
72 >	10.18 >	<u>SSSI Units ></u>	0	0	0	0	1
Page	Section	<u>Visual and cultural designations ></u>	On site	0-50m	50-250m	250-500m	500-2000m
73	11.1	World Heritage Sites	0	0	0	-	-
74	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
74	11.3	National Parks	0	0	0	-	-
74 >	11.4 >	<u>Listed Buildings ></u>	0	0	2	-	-
75	11.5	Conservation Areas	0	0	0	-	-
75	11.6	Scheduled Ancient Monuments	0	0	0	-	-
75 >	11.7 >	<u>Registered Parks and Gardens ></u>	0	1	0	-	-
Page	Section	<u>Agricultural designations ></u>	On site	0-50m	50-250m	250-500m	500-2000m
76 >	12.1 >	<u>Agricultural Land Classification ></u>	Grade 3b (within 250m)				
77	12.2	Open Access Land	0	0	0	-	-
77 >	12.3 >	<u>Tree Felling Licences ></u>	0	0	7	-	-
78	12.4	Environmental Stewardship Schemes	0	0	0	-	-
78 >	12.5 >	<u>Countryside Stewardship Schemes ></u>	0	0	1	-	-
Page	Section	<u>Habitat designations ></u>	On site	0-50m	50-250m	250-500m	500-2000m
79	13.1	Priority Habitat Inventory	0	0	0	-	-
79	13.2	Habitat Networks	0	0	0	-	-
80 >	13.3 >	<u>Open Mosaic Habitat ></u>	0	0	1	-	-
80	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	<u>Geology 1:10,000 scale ></u>	On site	0-50m	50-250m	250-500m	500-2000m
81 >	14.1 >	<u>10k Availability ></u>	Identified (within 500m)				
82	14.2	Artificial and made ground (10k)	0	0	0	0	-



83 >	14.3 >	Superficial geology (10k) >	1	0	1	3	-
84	14.4	Landslip (10k)	0	0	0	0	-
85 >	14.5 >	Bedrock geology (10k) >	1	0	2	0	-
86 >	14.6 >	Bedrock faults and other linear features (10k) >	0	0	0	1	-
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) >	1	0	1	2	-
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) >	1	0	1	0	-
92 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
92	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
93 >	16.1 >	BGS Boreholes >	2	4	36	-	-
Page	Section	Natural ground subsidence >					
96 >	17.1 >	Shrink swell clays >	Low (within 50m)				
97 >	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 >	Moderate (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	0	-
104 >	18.2 >	Surface ground workings >	1	2	15	-	-
105	18.3	Underground workings	0	0	0	0	0
105	18.4	Underground mining extents	0	0	0	0	-



105	18.5	Historical Mineral Planning Areas	0	0	0	0	-
105	18.6	Non-coal mining	0	0	0	0	0
105	18.7	JPB mining areas	None (within 0m)				
106	18.8	The Coal Authority non-coal mining	0	0	0	0	-
106	18.9	Researched mining	0	0	0	0	-
106	18.10	Mining record office plans	0	0	0	0	-
106	18.11	BGS mine plans	0	0	0	0	-
107	18.12	Coal mining	None (within 0m)				
107	18.13	Brine areas	None (within 0m)				
107	18.14	Gypsum areas	None (within 0m)				
107	18.15	Tin mining	None (within 0m)				
107	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
108	19.1	Natural cavities	0	0	0	0	-
108	19.2	Mining cavities	0	0	0	0	0
108	19.3	Reported recent incidents	0	0	0	0	-
108	19.4	Historical incidents	0	0	0	0	-
Page	Section	Radon >					
110 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
112 >	21.1 >	BGS Estimated Background Soil Chemistry >	6	0	-	-	-
112	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
113	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
114	22.1	Underground railways (London)	0	0	0	-	-
114	22.2	Underground railways (Non-London)	0	0	0	-	-
115	22.3	Railway tunnels	0	0	0	-	-
115 >	22.4 >	Historical railway and tunnel features >	5	0	0	-	-
115	22.5	Royal Mail tunnels	0	0	0	-	-



116 >	22.6 >	Historical railways >	3	0	0	-	-
116 >	22.7 >	Railways >	0	0	4	-	-
116	22.8	Crossrail 2	0	0	0	0	-
117	22.9	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 23/09/2022

Site Area: 9.63ha



Recent site history - 2019 aerial photograph



Capture Date: 26/08/2019

Site Area: 9.63ha



Recent site history - 2016 aerial photograph



Capture Date: 09/05/2016

Site Area: 9.63ha



Recent site history - 2012 aerial photograph



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Capture Date: 30/03/2012

Site Area: 9.63ha



Recent site history - 1999 aerial photograph



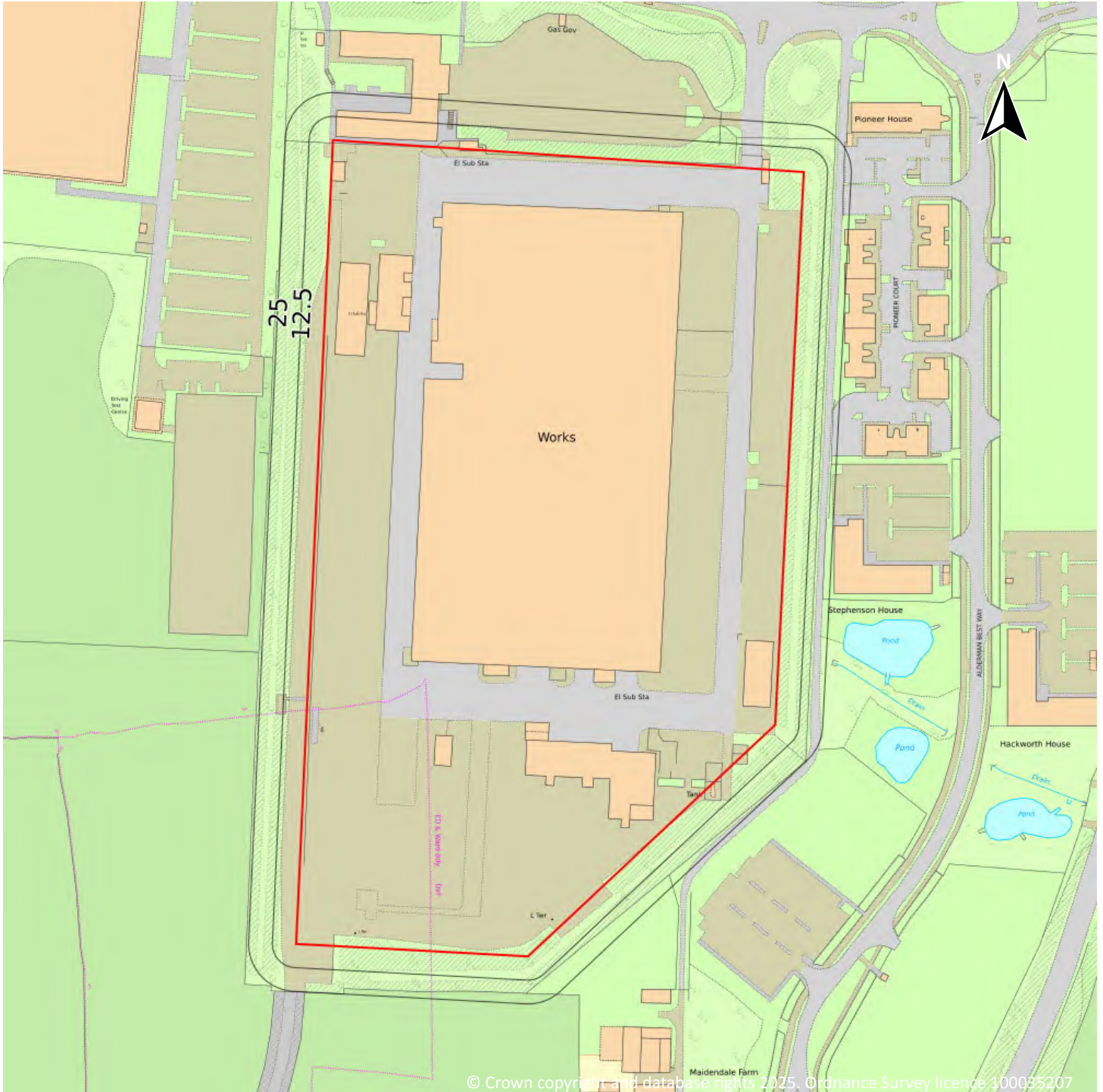
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2025. All Rights Reserved.

Capture Date: 10/07/1999

Site Area: 9.63ha



OS MasterMap site plan



Site Area: 9.63ha



1 Past land use



— Site Outline

Search buffers in metres (m)

- Historical industrial land uses
- Historical tanks
- Historical energy features

1.1 Historical industrial land uses

Records within 500m **34**

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 Works	1990	1345683

ID	Location	Land use	Dates present	Group ID
2	On site	Unspecified Heap	1990	1350868
3	On site	Railway Sidings	1990	1359726
D	24m W	Unspecified Factories	1990	1420618
D	26m W	Unspecified Factories	1980	1379477
D	28m W	Unspecified Factories	1971	1402791
4	33m N	Unspecified Heap	1990	1350867
E	38m N	Unspecified Heap	1990	1350869
F	72m N	Unspecified Heap	1990	1350866
6	166m NW	Chimney	1971 - 1990	1387329
G	183m S	Cuttings	1938 - 1939	1366985
G	183m S	Cuttings	1923	1403252
G	184m S	Cuttings	1954	1407847
G	189m S	Cuttings	1896	1425608
8	195m SE	Cuttings	1990	1418093
G	196m S	Cuttings	1923	1388329
9	202m N	Unspecified Depot	1980	1336536
H	239m NW	Unspecified Commercial/Industrial	1990	1337188
H	239m NW	Engineering Works	1971 - 1980	1403382
G	242m S	Cuttings	1968 - 1971	1415294
I	242m S	Cuttings	1990	1371270
I	242m S	Cuttings	1980	1389608
12	273m SE	Cuttings	1990	1376897
J	285m N	Unspecified Commercial/Industrial	1990	1337190
J	285m N	Unspecified Works	1980	1345631
15	417m SW	Cuttings	1968 - 1971	1397007
K	428m N	Unspecified Commercial/Industrial	1990	1337189
L	430m SE	Cuttings	1923 - 1939	1411757
L	434m SE	Cuttings	1923	1372302



ID	Location	Land use	Dates present	Group ID
L	435m SE	Cuttings	1954	1425032
16	436m N	Unspecified Depot	1980	1336535
K	464m N	Unspecified Works	1980	1345630
L	467m SE	Cuttings	1896	1366765
18	482m SW	Cuttings	1990	1328105

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

2

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

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

ID	Location	Land use	Dates present	Group ID
14	389m N	Unspecified Tank	1979	209684
N	474m NE	Unspecified Tank	1995	209683

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

20

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

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

ID	Location	Land use	Dates present	Group ID
A	On site	Electricity Substation	1984	129896



ID	Location	Land use	Dates present	Group ID
A	On site	Electricity Substation	1988 - 1995	138362
B	On site	Electricity Substation	1993	130495
B	On site	Electricity Substation	1982 - 1989	139540
C	On site	Electricity Substation	1984	136130
C	On site	Electricity Substation	1988	136468
C	2m N	Electricity Substation	1993 - 1995	141012
E	68m N	Gas Governor	1988	135486
E	68m N	Gas Meter House	1984	129332
E	71m N	Gas Governor	1993 - 1995	133818
F	124m N	Gas Governor	1988 - 1993	136720
5	150m NE	Electricity Substation	1995	137337
7	182m NE	Electricity Substation	1995	138963
10	252m N	Electricity Substation	1993	128202
11	265m N	Electricity Substation	1995	133175
13	330m NE	Electricity Substation	1995	135959
M	432m N	Electricity Substation	-	127386
M	432m N	Electricity Substation	1970 - 1993	141535
17	445m NE	Electricity Substation	1995	128701
N	460m NE	Electricity Substation	1995	128702

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



1.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

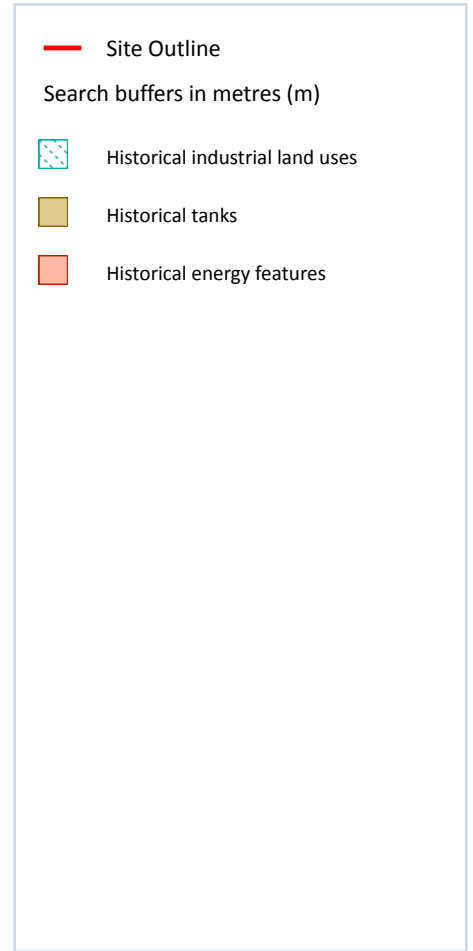
0

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

42

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 20](#) >

ID	Location	Land Use	Date	Group ID
1	On site	Unspecified Works	1990	1345683
2	On site	Railway Sidings	1990	1359726
3	On site	Unspecified Heap	1990	1350868

ID	Location	Land Use	Date	Group ID
D	24m W	Unspecified Factories	1990	1420618
D	26m W	Unspecified Factories	1980	1379477
D	28m W	Unspecified Factories	1971	1402791
4	33m N	Unspecified Heap	1990	1350867
E	38m N	Unspecified Heap	1990	1350869
F	72m N	Unspecified Heap	1990	1350866
H	166m NW	Chimney	1980	1387329
H	166m NW	Chimney	1971	1387329
H	166m NW	Chimney	1990	1387329
J	183m S	Cuttings	1938	1366985
J	183m S	Cuttings	1939	1366985
J	183m S	Cuttings	1923	1403252
J	184m S	Cuttings	1954	1407847
J	189m S	Cuttings	1896	1425608
5	195m SE	Cuttings	1990	1418093
J	196m S	Cuttings	1923	1388329
6	202m N	Unspecified Depot	1980	1336536
K	239m NW	Engineering Works	1980	1403382
K	239m NW	Unspecified Commercial/Industrial	1990	1337188
J	242m S	Cuttings	1968	1415294
J	242m S	Cuttings	1971	1415294
L	242m S	Cuttings	1980	1389608
L	242m S	Cuttings	1990	1371270
8	273m SE	Cuttings	1990	1376897
N	285m N	Unspecified Works	1980	1345631
N	285m N	Unspecified Commercial/Industrial	1990	1337190
P	417m SW	Cuttings	1968	1397007
P	417m SW	Cuttings	1971	1397007



ID	Location	Land Use	Date	Group ID
K	422m NW	Engineering Works	1971	1403382
Q	428m N	Unspecified Commercial/Industrial	1990	1337189
R	430m SE	Cuttings	1938	1411757
R	430m SE	Cuttings	1939	1411757
R	434m SE	Cuttings	1923	1372302
R	435m SE	Cuttings	1954	1425032
R	435m SE	Cuttings	1923	1411757
10	436m N	Unspecified Depot	1980	1336535
Q	464m N	Unspecified Works	1980	1345630
R	467m SE	Cuttings	1896	1366765
12	482m SW	Cuttings	1990	1328105

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	2
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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 20](#) >

ID	Location	Land Use	Date	Group ID
9	389m N	Unspecified Tank	1979	209684
T	474m NE	Unspecified Tank	1995	209683

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	36
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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 20 >](#)

ID	Location	Land Use	Date	Group ID
A	On site	Electricity Substation	1988	136468
A	On site	Electricity Substation	1984	136130
B	On site	Electricity Substation	1988	138362
B	On site	Electricity Substation	1984	129896
B	On site	Electricity Substation	1995	138362
B	On site	Electricity Substation	1993	138362
B	On site	Electricity Substation	1995	138362
C	On site	Electricity Substation	1982	139540
C	On site	Electricity Substation	1989	139540
C	On site	Electricity Substation	1993	130495
A	2m N	Electricity Substation	1995	141012
A	2m N	Electricity Substation	1993	141012
A	2m N	Electricity Substation	1995	141012
E	68m N	Gas Governor	1988	135486
E	68m N	Gas Meter House	1984	129332
E	71m N	Gas Governor	1995	133818
E	71m N	Gas Governor	1993	133818
E	71m N	Gas Governor	1995	133818
F	124m N	Gas Governor	1993	136720
F	124m N	Gas Governor	1988	136720
G	150m NE	Electricity Substation	1995	137337
G	150m NE	Electricity Substation	1995	137337
I	182m NE	Electricity Substation	1995	138963
I	182m NE	Electricity Substation	1995	138963
7	252m N	Electricity Substation	1993	128202
M	265m N	Electricity Substation	1995	133175
M	265m N	Electricity Substation	1995	133175



ID	Location	Land Use	Date	Group ID
O	330m NE	Electricity Substation	1995	135959
O	330m NE	Electricity Substation	1995	135959
S	432m N	Electricity Substation	-	127386
S	432m N	Electricity Substation	1993	141535
S	433m N	Electricity Substation	1970	141535
S	433m N	Electricity Substation	1980	141535
S	433m N	Electricity Substation	1988	141535
11	445m NE	Electricity Substation	1995	128701
T	460m NE	Electricity Substation	1995	128702

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

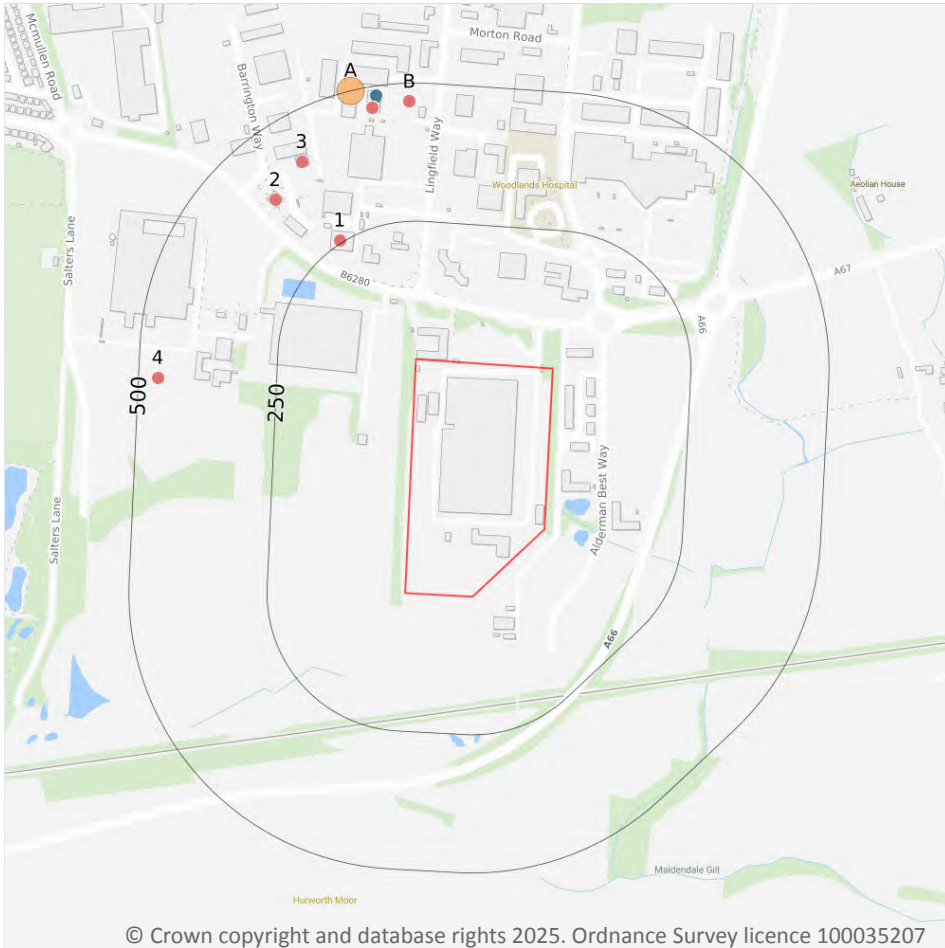
0

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'.

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

1

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

Features are displayed on the Waste and landfill map on [page 25 >](#)

ID	Location	Address	Further Details	Date
A	475m N	Site Address: Former Taylor Woodrow Compound, Lingfield Way, DARLINGTON, County Durham, DL1 4PS	Type of Site: Waste Recycling Development Planning application reference: 11/00045/FUL Description: Scheme comprises construction of 2 industrial buildings and refurbishment works to waste recycling facility and office. Construction - metal cladding, rendered walls; pitched roof; aluminium framed windows; industrial doors (unspecified) doors; composite frame; concrete paving, fencing site works. An application (ref: 11/00045/FUL) for detailed planning permission was granted by Darlington B.C. The start date, contract period and project value are for guideline only. Detailed plans approved. Data source: Historic Planning Application Data Type: Point	03/10/2011

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 25 >](#)

ID	Location	Details		
A	479m N	Site Name: Lingfield Way Recycling and Treatment Centre EPR/NP3330CU Site Address: Lingfield Way Recycling and Treatment Centre, Lingfield Way, Darlington, County Durham, DL1 4PS Correspondence Address: -	Type of Site: Special Waste Transfer Station Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 653845 EPR reference: EA/EPR/NP3330CU Operator: Total Recycling Services Limited Waste Management licence No: 104396 Annual Tonnage: 74999	Issue Date: 01/06/2012 Effective Date: 11/03/2014 Modified: 11/03/2014 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

74

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 25 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
1	255m NW	Yesss Electrical Unit 1 Barrington Way Darlington DL1 4wf	EPR/UF0338DX/A001	Treating waste exemption	Non-agricultural waste only	Crushing waste fluorescent tubes
2	385m NW	1 Barrington Way Darlington County Durham DL1 4wf	EPR/EE5546CW/A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in a secure place
3	413m NW	Unit 1 Barrington Way Durham DL1 4wf	EPR/TE5643LZ/A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in a secure place



ID	Location	Site	Reference	Category	Sub-Category	Description
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Treating waste exemption	Not on a farm	Recovery of monopropylene glycol from aircraft antifreeze fluids
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Treating waste exemption	Not on a farm	Mechanical treatment of end-of-life tyres
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Treating waste exemption	Not on a farm	Cleaning, washing, spraying or coating relevant waste
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Treating waste exemption	Not on a farm	Treatment of waste toner cartridges by sorting, dismantling, cleaning or refilling
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Treating waste exemption	Not on a farm	Recovery of silver
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Treating waste exemption	Not on a farm	Recovery of textiles
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Treating waste exemption	Not on a farm	Crushing waste fluorescent tubes
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Treating waste exemption	Not on a farm	Recovery of scrap metal
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Using waste exemption	Not on a farm	Use of waste to manufacture finished goods
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Treating waste exemption	Not on a farm	Treatment of waste aerosol cans
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Treating waste exemption	Not on a farm	Crushing and emptying waste vehicle oil filters



ID	Location	Site	Reference	Category	Sub-Category	Description
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Disposing of waste exemption	Not on a farm	Depositing samples of waste for the purposes of testing or analysing them
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Treating waste exemption	Not on a farm	Manual treatment of waste
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Treating waste exemption	Not on a farm	Screening and blending of waste
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX142672	Treating waste exemption	Not on a farm	Sorting mixed waste
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Treating waste exemption	Not on a farm	Cleaning, washing, spraying or coating relevant waste
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Treating waste exemption	Not on a farm	Recovery of textiles
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Treating waste exemption	Not on a farm	Mechanical treatment of end-of-life tyres
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Treating waste exemption	Not on a farm	Treatment of waste toner cartridges by sorting, dismantling, cleaning or refilling
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Treating waste exemption	Not on a farm	Crushing waste fluorescent tubes
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Treating waste exemption	Not on a farm	Recovery of silver
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Treating waste exemption	Not on a farm	Recovery of monopropylene glycol from aircraft antifreeze fluids
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Storing waste exemption	Not on a farm	Storage of waste in a secure place



ID	Location	Site	Reference	Category	Sub-Category	Description
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Using waste exemption	Not on a farm	Use of waste to manufacture finished goods
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Treating waste exemption	Not on a farm	Screening and blending of waste
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Treating waste exemption	Not on a farm	Recovery of scrap metal
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Treating waste exemption	Not on a farm	Sorting mixed waste
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Treating waste exemption	Not on a farm	Manual treatment of waste
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Treating waste exemption	Not on a farm	Crushing and emptying waste vehicle oil filters
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Treating waste exemption	Not on a farm	Treatment of waste aerosol cans
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX282191	Disposing of waste exemption	Not on a farm	Depositing samples of waste for the purposes of testing or analysing them
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX411964	Disposing of waste exemption	Not on a farm	Depositing samples of waste for the purposes of testing or analysing them
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX411964	Treating waste exemption	Not on a farm	Crushing waste fluorescent tubes
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX411964	Treating waste exemption	Not on a farm	Treatment of waste aerosol cans
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX411964	Treating waste exemption	Not on a farm	Crushing and emptying waste vehicle oil filters
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX411964	Treating waste exemption	Not on a farm	Treatment of waste toner cartridges by sorting, dismantling, cleaning or refilling
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX411964	Treating waste exemption	Not on a farm	Recovery of scrap metal
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX411964	Treating waste exemption	Not on a farm	Mechanical treatment of end-of-life tyres
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX411964	Using waste exemption	Not on a farm	Use of waste to manufacture finished goods
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX411964	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)



ID	Location	Site	Reference	Category	Sub-Category	Description
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX411964	Treating waste exemption	Not on a farm	Manual treatment of waste
A	462m N	Lingfield Way, Darlington, DL1 4pz	WEX411964	Treating waste exemption	Not on a farm	Cleaning, washing, spraying or coating relevant waste
4	465m W	-	WEX388763	Using waste exemption	Not on a farm	Use of waste in construction
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DL1 4pz	EPR/UF0908C N/A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in secure containers
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DL1 4pz	EPR/UF0908C N/A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in a secure place
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DL1 4pz	EPR/UF0908C N/A001	Treating waste exemption	Non-agricultural waste only	Cleaning, washing, spraying or coating relevant waste
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DL1 4pz	EPR/UF0908C N/A001	Treating waste exemption	Non-agricultural waste only	Treatment of waste toner cartridges by sorting, dismantling, cleaning or refilling
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DL1 4pz	EPR/UF0908C N/A001	Treating waste exemption	Non-agricultural waste only	Crushing waste fluorescent tubes
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DL1 4pz	EPR/UF0908C N/A001	Treating waste exemption	Non-agricultural waste only	Recovery of textiles
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DL1 4pz	EPR/UF0908C N/A001	Treating waste exemption	Non-agricultural waste only	Sorting and de-naturing of controlled drugs for disposal
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DL1 4pz	EPR/UF0908C N/A001	Treating waste exemption	Non-agricultural waste only	Recovery of monopropylene glycol from aircraft antifreeze fluids



ID	Location	Site	Reference	Category	Sub-Category	Description
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DI1 4pz	EPR/UF0908C N/A001	Treating waste exemption	Non-agricultural waste only	Preparatory treatments (baling, sorting, shredding etc)
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DI1 4pz	EPR/UF0908C N/A001	Treating waste exemption	Non-agricultural waste only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DI1 4pz	EPR/UF0908C N/A001	Disposing of waste exemption	Non-agricultural waste only	Depositing samples of waste for the purposes of testing or analysing them
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DI1 4pz	EPR/UF0908C N/A001	Treating waste exemption	Non-agricultural waste only	Sorting mixed waste
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DI1 4pz	EPR/UF0908C N/A001	Treating waste exemption	Non-agricultural waste only	Manual treatment of waste
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DI1 4pz	EPR/UF0908C N/A001	Treating waste exemption	Non-agricultural waste only	Crushing and emptying waste vehicle oil filters
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DI1 4pz	EPR/UF0908C N/A001	Treating waste exemption	Non-agricultural waste only	Treatment of waste aerosol cans
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DI1 4pz	EPR/UF0908C N/A001	Treating waste exemption	Non-agricultural waste only	Treatment of kitchen waste in a wormery
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DI1 4pz	EPR/UF0908C N/A001	Treating waste exemption	Non-agricultural waste only	Screening and blending of waste
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DI1 4pz	EPR/UF0908C N/A001	Treating waste exemption	Non-agricultural waste only	Recovery of scrap metal

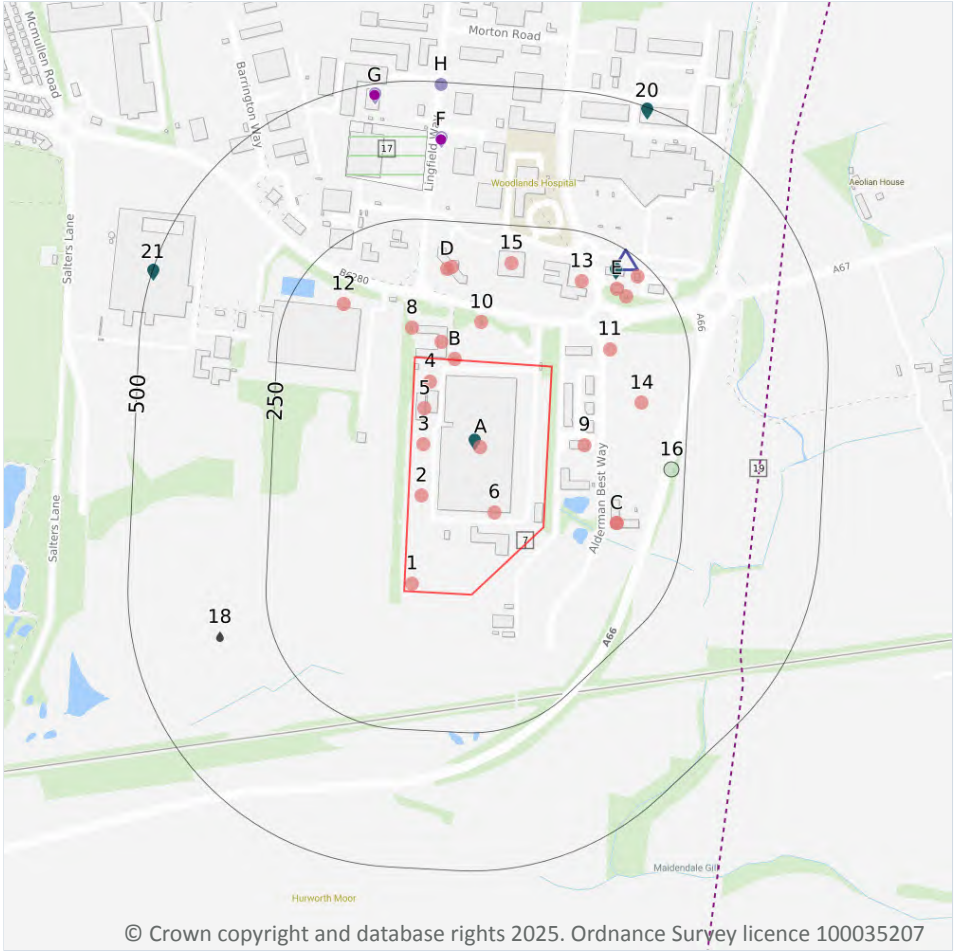


ID	Location	Site	Reference	Category	Sub-Category	Description
B	466m N	Total Recycling Services Limited Lingfield Way Darlington Durham DL1 4pz	EPR/UF0908C N/A001	Using waste exemption	Non-agricultural waste only	Use of waste to manufacture finished goods

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- NGD current or recent tanks
- △ Current or recent petrol stations
- Gas pipelines
- Control of Major Accident Hazards
- Historical licensed industrial activities
- ◇ Part A(1) industrial activities
- ◆ Licensed pollutant release (Part A(2)/B)
- ◆ Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)
- Pollution inventory substances
- Pollution inventory waste transfers

4.1 Recent industrial land uses

Records within 250m **24**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 34](#) >

ID	Location	Company	Address	Activity	Category
1	On site	Travelling Crane	Durham, DL1	Travelling Cranes and Gantries	Industrial Features
2	On site	Travelling Crane	Durham, DL1	Travelling Cranes and Gantries	Industrial Features
3	On site	Travelling Crane	Durham, DL1	Travelling Cranes and Gantries	Industrial Features

ID	Location	Company	Address	Activity	Category
4	On site	Travelling Crane	Durham, DL1	Travelling Cranes and Gantries	Industrial Features
5	On site	Electricity Sub Station	Durham, DL1	Electrical Features	Infrastructure and Facilities
6	On site	Electricity Sub Station	Durham, DL1	Electrical Features	Infrastructure and Facilities
A	On site	Works	Durham, DL1	Unspecified Works Or Factories	Industrial Features
B	2m N	Electricity Sub Station	Durham, DL1	Electrical Features	Infrastructure and Facilities
B	31m N	Quick Self Storage	Dainton Business Park, Yarm Road, Darlington, Durham, DL1 4JN	Container and Storage	Transport, Storage and Delivery
8	54m N	Electricity Sub Station	Durham, DL1	Electrical Features	Infrastructure and Facilities
9	66m E	I A S Medical	8, Pioneer Court, Darlington, Durham, DL1 4WD	Ambulance and Medical Transportation Services	Health Support Services
10	72m N	Gas Governor Station	Durham, DL1	Gas Features	Infrastructure and Facilities
11	109m E	Gas Governor	Durham, DL1	Gas Features	Infrastructure and Facilities
C	131m E	D L T Engineering	Whessoe Technology Centre, Alderman Best Way, Darlington, Durham, DL1 4WB	Structural Engineers	Engineering Services
C	131m E	Whessoe Engineering Ltd	Whessoe Technology Centre, Alderman Best Way, Darlington, Durham, DL1 4WB	Precision Engineers	Engineering Services
12	162m NW	Chimney	Durham, DL1	Chimneys	Industrial Features
D	163m N	Vehicle Hire	Northgate Centre, Darlington, Durham, DL1 4PZ	Vehicle Hire and Rental	Hire Services
13	164m N	Electricity Sub Station	Durham, DL1	Electrical Features	Infrastructure and Facilities
14	166m E	Morton Palms Business Park	Durham, DL1	Business Parks and Industrial Estates	Industrial Features
D	167m N	Northgate Vehicle Hire	Northgate Customer Support Centre, Lingfield Way, Darlington, Durham, DL1 4PZ	Vehicle Hire and Rental	Hire Services



ID	Location	Company	Address	Activity	Category
15	182m N	Made to Measure	Morton Park, Dunelm, Yarm Road, Town Centre, Darlington, Durham, DL1 4PJ	Curtains and Blinds	Consumer Products
E	184m NE	Morrisons Petrol Station	Unit M7, Morton Park Way, Darlington, Durham, DL1 4PJ	Petrol and Fuel Stations	Road and Rail
E	185m NE	Electricity Sub Station	Durham, DL1	Electrical Features	Infrastructure and Facilities
E	226m NE	Morrisons Morton Park	Morton Park Way, Darlington, Durham, DL1 4PJ	Vehicle Cleaning Services	Personal, Consumer and Other Services

This data is sourced from Ordnance Survey.

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

Records within 250m

1

Current or recent tanks identified from the Ordnance Survey NGD.

Features are displayed on the Current industrial land use map on [page 34 >](#)

ID	Location	Tank description	Activity	Date first identified
7	On site	Roofed Storage Tank	Commercial Activity: Distribution Or Storage	09/05/2016

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 34 >](#)

ID	Location	Company	Address	LPG	Status
E	233m NE	MORRISONS	Morton Park Way, Darlington, Darlington, DL1 4PJ	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

1

High pressure underground gas transmission pipelines.

Features are displayed on the Current industrial land use map on [page 34 >](#)

ID	Location	Pipe Name	Details	
19	377m E	BISHOP AUCKLAND TO PANNAL	Pipe Number: - Pipeline Safety Regulations Number: - Ownership: National Grid Maximum Operating Pressure (Bar): -	Pipeline Diameter (mm): 750 Wall Thickness (mm): - Year of commission: Not specified Abandonment Status: Not abandoned

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

1

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.

Features are displayed on the Current industrial land use map on [page 34 >](#)

ID	Location	Company	Address	Operational status	Tier
17	302m N	Protim Solignum	Protim Solignum, Lingfield Way, Fm Rd Ind, Darlington	Historical COMAH Site	-

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

6

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.

Features are displayed on the Current industrial land use map on [page 34 >](#)

ID	Location	Details	
H	496m N	Operator: Protim Solignum Ltd Address: Northern House, Lingfield Way, Yarm Road, Darlington, County Durham, DL1 4PS Process: Pesticide Production Permit Number: AJ4405	Original Permit Number: IPCAPP Date Approved: 10-11-1993 Effective Date: 18-11-1993 Status: Superseded By Variation
H	496m N	Operator: Protim Solignum Ltd Address: Northern House, Lingfield Way, Yarm Road, Darlington, County Durham, DL1 4PS Process: Pesticide Production Permit Number: AN8577	Original Permit Number: IPCMINVAR Date Approved: 2-8-1994 Effective Date: 1-9-1994 Status: Superseded By Variation
H	496m N	Operator: Protim Solignum Ltd Address: Northern House, Lingfield Way, Yarm Road, Darlington, County Durham, DL1 4PS Process: Pesticide Production Permit Number: BA1761	Original Permit Number: IPCMINVAR Date Approved: 11-12-1997 Effective Date: 18-12-1997 Status: Superseded By Variation

ID	Location	Details	
H	496m N	Operator: Protim Solignum Ltd Address: Northern House, Lingfield Way, Yarm Road, Darlington, County Durham, DL1 4PS Process: Pesticide Production Permit Number: BE2158	Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Superseded By Variation
H	496m N	Operator: Protim Solignum Ltd Address: Northern House, Lingfield Way, Yarm Road, Darlington, County Durham, DL1 4PS Process: Pesticide Production Permit Number: BT7329	Original Permit Number: IPCMINVAR Date Approved: 19-12-2002 Effective Date: 19-12-2002 Status: Superseded By Variation
H	496m N	Operator: Protim Solignum Ltd Address: Northern House, Lingfield Way, Yarm Road, Darlington, County Durham, DL1 4PS Process: Pesticide Production Permit Number: BU2985	Original Permit Number: IPCMINVAR Date Approved: 8-10-2003 Effective Date: 25-10-2003 Status: Revoked - Now Ippc

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

4.11 Licensed industrial activities (Part A(1))

Records within 500m

7

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 34 >](#)

ID	Location	Details	
F	396m N	Operator: PROTIM SOLIGNUM LIMITED Installation Name: Darlington Timber Treatment Products EPR/QP3638SJ Process: PLANT HEALTH AND BIOCIDES; PRODUCING PLANT HEALTH PRODUCTS/BIOCIDES Permit Number: QP3638SJ Original Permit Number: QP3638SJ	EPR Reference: EPR/QP3638SJ Issue Date: 03/11/2006 Effective Date: 03/11/2006 Last date noted as effective: 28/04/2025 Status: Effective
G	479m N	Operator: TOTAL RECYCLING SERVICES LIMITED Installation Name: Lingfield Way Recycling and Treatment Centre EPR/NP3330CU Process: OTHER WASTE DISPOSAL; HAZARDOUS WASTE >10T/D Permit Number: NP3330CU Original Permit Number: NP3330CU	EPR Reference: EPR/NP3330CU Issue Date: 01/06/2012 Effective Date: 11/03/2014 Last date noted as effective: 28/04/2025 Status: Effective



ID	Location	Details	
G	479m N	Operator: TOTAL RECYCLING SERVICES LIMITED Installation Name: Lingfield Way Recycling and Treatment Centre EPR/NP3330CU Process: OTHER WASTE DISPOSAL; HAZARDOUS WASTE >10T/D Permit Number: NP3330CU Original Permit Number: NP3330CU	EPR Reference: EPR/NP3330CU Issue Date: 01/06/2012 Effective Date: 11/03/2014 Last date noted as effective: 28/04/2025 Status: Effective
G	479m N	Operator: TOTAL RECYCLING SERVICES LIMITED Installation Name: Lingfield Way Recycling and Treatment Centre EPR/NP3330CU Process: OTHER WASTE DISPOSAL; WASTE OILS >10 T/D Permit Number: NP3330CU Original Permit Number: NP3330CU	EPR Reference: EPR/NP3330CU Issue Date: 01/06/2012 Effective Date: 11/03/2014 Last date noted as effective: 28/04/2025 Status: Effective
G	479m N	Operator: Total Recycling Services Ltd Installation Name: Lingfield Way Recycling and Treatment Centre EPR/NP3330CU Process: OTHER WASTE DISPOSAL; HAZARDOUS WASTE >10T/D Permit Number: UP3730EJ Original Permit Number: NP3330CU	EPR Reference: - Issue Date: 11/03/2014 Effective Date: 11/03/2014 Last date noted as effective: 21/03/2023 Status: Effective
G	479m N	Operator: Total Recycling Services Ltd Installation Name: Lingfield Way Recycling and Treatment Centre EPR/NP3330CU Process: OTHER WASTE DISPOSAL; WASTE OILS >10 T/D Permit Number: UP3730EJ Original Permit Number: NP3330CU	EPR Reference: - Issue Date: 11/03/2014 Effective Date: 11/03/2014 Last date noted as effective: 21/03/2023 Status: Effective
G	479m N	Operator: Total Recycling Services Ltd Installation Name: Lingfield Way Recycling and Treatment Centre EPR/NP3330CU Process: OTHER WASTE DISPOSAL; HAZARDOUS WASTE >10T/D Permit Number: UP3730EJ Original Permit Number: NP3330CU	EPR Reference: - Issue Date: 11/03/2014 Effective Date: 11/03/2014 Last date noted as effective: 21/03/2023 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 34 >](#)



ID	Location	Address	Details	
A	On site	Cleveland Bridge UK Limited, Cleveland House, Yarm Road, Darlington, DL1 4DE	Process: Coating Processes Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
E	208m NE	Morrisons Petrol Station, Morton Park, Darlington, County Durham, DL1 4PJ	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
20	493m N	Restoration Management Ltd (Jonathans), G13-G14 Morton Park Way, DL1 4PQ	Process: Dry Cleaning Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
21	499m W	Cummins Engine Company, Yarm Road, Darlington, County Durham, DL1 4PW	Process: Coating Processes 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

0

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

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

4.14 Licensed Discharges to controlled waters

Records within 500m

1

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

Features are displayed on the Current industrial land use map on [page 34 >](#)



ID	Location	Address	Details	
18	344m W	MAIDENDALE COTTAGES SEWAGE DISPOSAL, MAIDENDALE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 254/E/0105 Permit Version: 1 Receiving Water: CREE BECK	Status: REVOKED - UNSPECIFIED Issue date: 27/01/1956 Effective Date: 27/01/1956 Revocation Date: 30/09/1996

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

1

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

Features are displayed on the Current industrial land use map on [page 34 >](#)

ID	Location	Details	
16	226m E	Incident Date: 21/12/2001 Incident Identification: 49296 Pollutant: Contaminated Water Pollutant Description: Suspended Solids	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

4.20 Pollution inventory substances

Records within 500m

1

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.

Features are displayed on the Current industrial land use map on [page 34 >](#)

ID: F, Location: 396m N, Permit: QP3638SJ
 Operator: PROTIM SOLIGNUM LTD
 Activity: PLANT HEALTH AND BIOCIDES; PRODUCING PLANT HEALTH PRODUCTS/BIOCIDES
 Address: Darlington Timber Treatment Products Lingfield Way Darlington County Durham DL1 4QA
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Ammonia	1000kg	Below Reporting Threshold
Air	Non-methane volatile organic compounds (NMVOCs)	10000kg	Below Reporting Threshold
Air	Particulate matter - total	10000kg	Below Reporting Threshold

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



4.21 Pollution inventory waste transfers

Records within 500m

2

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.

Features are displayed on the Current industrial land use map on [page 34 >](#)

ID: F, Location: 396m N, Permit: QP3638SJ
 Operator: PROTIM SOLIGNUM LTD
 Activity: PLANT HEALTH AND BIOCIDES; PRODUCING PLANT HEALTH PRODUCTS/BIOCIDES
 Address: Darlington Timber Treatment Products Lingfield Way Darlington County Durham DL1 4QA
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Below Reporting Threshold	Below Reporting Threshold	15 01 01	paper and cardboard packaging	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Below Reporting Threshold	Below Reporting Threshold	15 01 02	plastic packaging	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Below Reporting Threshold	Below Reporting Threshold	15 01 05	composite packaging	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Below Reporting Threshold	Below Reporting Threshold	17 02 01	wood	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Below Reporting Threshold	Below Reporting Threshold	20 03 01	mixed municipal waste	No



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	Below Reporting Threshold	Below Reporting Threshold	20 03 01	mixed municipal waste	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	20.285	Absolute Value	15 01 10	packaging containing residues of or contaminated by dangerous substances	Yes

ID: G, Location: 479m N, Permit: NP3330CU
 Operator: Total Recycling Services Ltd
 Activity: OTHER WASTE DISPOSAL; HAZARDOUS WASTE >10T/D
 Address: Lingfield Way Recycling And Treatment Centre Lingfield Way Darlington County Durham DL1 4PS
 Sector: Waste Treatment, Sub-sector: Hazardous Waste
 Releases:

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R3	Recycling/Reclamation of organic substances which are not used as solvents (including composting and other biological transformatin processes)	1.1	Absolute Value	15 01 01	paper and cardboard packaging	No
R3	Recycling/Reclamation of organic substances which are not used as solvents (including composting and other biological transformatin processes)	0.2	Absolute Value	15 01 02	plastic packaging	No
R3	Recycling/Reclamation of organic substances which are not used as solvents (including composting and other biological transformatin processes)	29	Absolute Value	15 01 03	wooden packaging	No
R3	Recycling/Reclamation of organic substances which are not used as solvents (including composting and other biological transformatin processes)	26	Absolute Value	15 01 04	metallic packaging	No



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R3	Recycling/Reclamation of organic substances which are not used as solvents (including composting and other biological transformatin processes)	0.1	Absolute Value	15 01 07	glass packaging	No
R3	Recycling/Reclamation of organic substances which are not used as solvents (including composting and other biological transformatin processes)	112	Absolute Value	20 03 01	mixed municipal waste	No
R9	Oil e-refining or other reuses of oil	3	Absolute Value	13 01 10	mineral based non-chlorinated hydraulic oils	Yes
R9	Oil e-refining or other reuses of oil	0.1	Absolute Value	13 02 05	mineral-based non-chlorinated engine, gear and lubricating oils	Yes
R4	Recycling/reclamation of metals and metal compounds	0.2	Absolute Value	20 01 35	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components (6)	Yes

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

4.22 Pollution inventory radioactive waste

Records within 500m

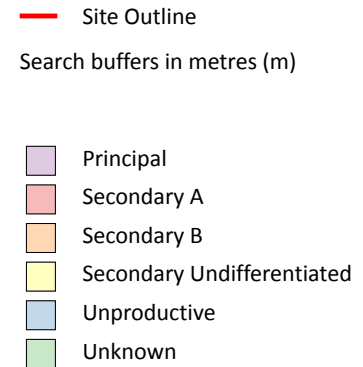
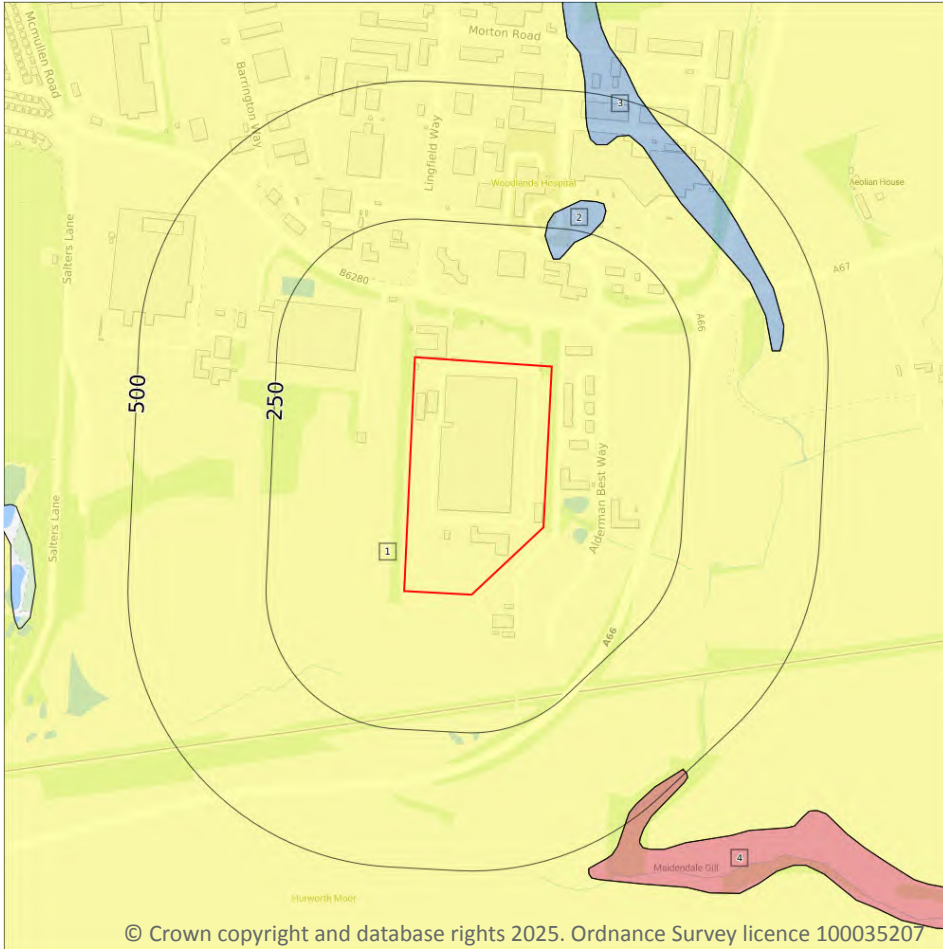
0

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

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



5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m

4

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 47 >](#)

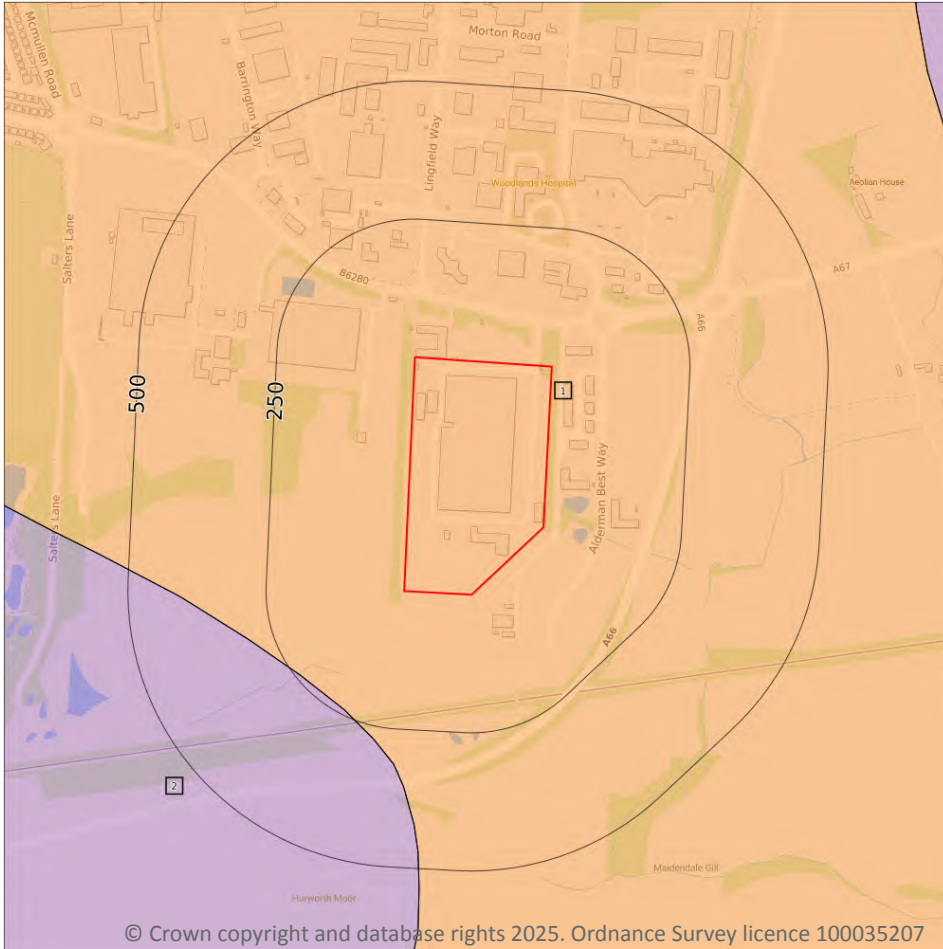
ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	194m N	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

ID	Location	Designation	Description
3	371m NE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
4	481m SE	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.



Bedrock aquifer



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

5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on [page 49](#) >

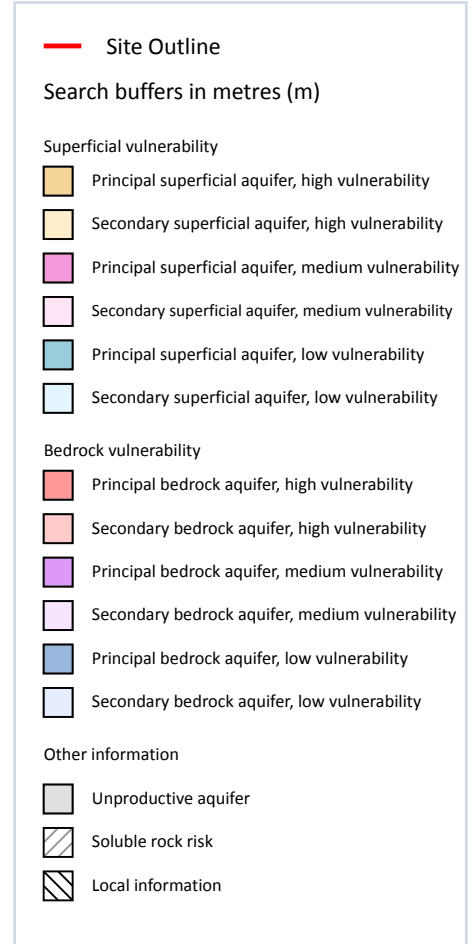
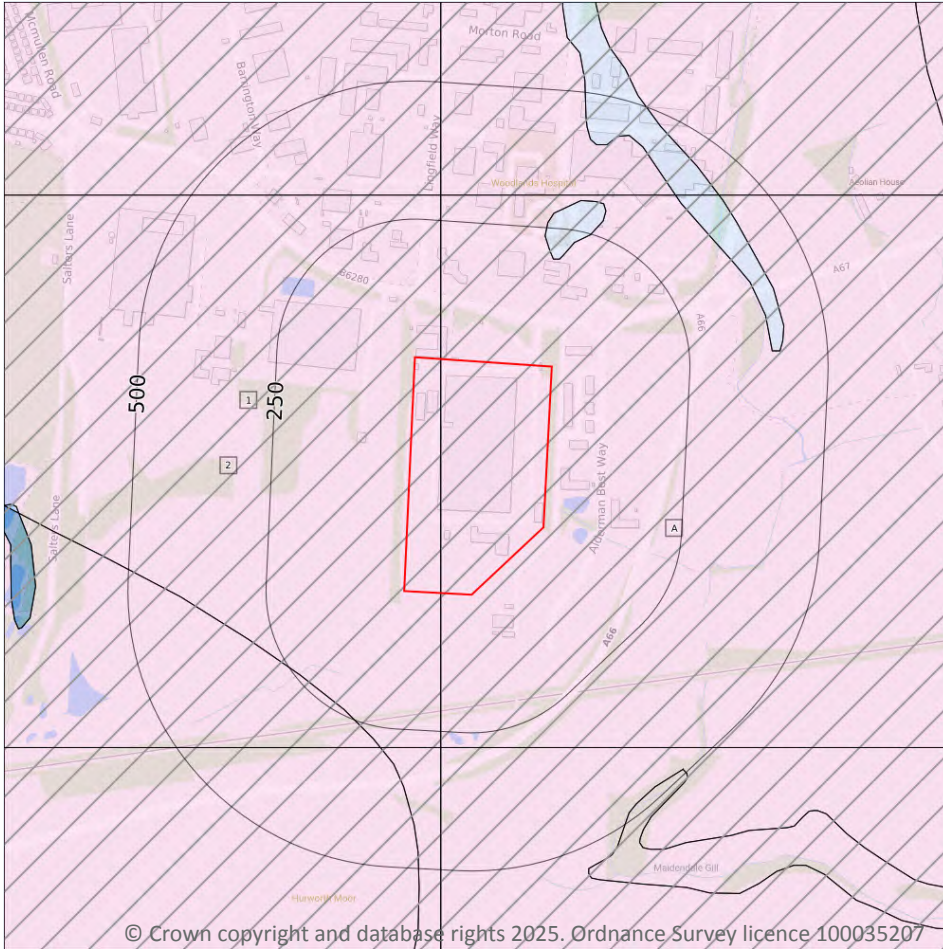
ID	Location	Designation	Description
1	On site	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers
2	236m SW	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



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

2

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 51](#) >

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
A	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	2
------------------------	----------

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

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
2	Very significant soluble rocks are likely to be present with a moderate possibility of localised natural subsidence or dissolution-related degradation of bedrock, especially in adverse conditions such as concentrated surface or subsurface water flow.	97.0%
A	Very significant soluble rocks are likely to be present with a moderate possibility of localised natural subsidence or dissolution-related degradation of bedrock, especially in adverse conditions such as concentrated surface or subsurface water flow.	100.0%

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

5.6 Groundwater abstractions

Records within 2000m

0

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.

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

0

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

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

5.9 Source Protection Zones

Records within 500m

0

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

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



5.10 Source Protection Zones (confined aquifer)

Records within 500m

0

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

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



6 Hydrology



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

6.1 Water Network (OS MasterMap)

Records within 250m

14

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 56 >](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
B	28m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
B	57m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
B	57m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	57m E	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	67m E	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	81m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
B	91m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
B	116m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	146m E	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	156m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
B	162m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	169m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
C	187m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	202m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.



6.2 Surface water features

Records within 250m

9

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 56 >](#)

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 56 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River	Neasham Stell Catchment (trib of Tees)	GB103025072160	Tees Lower and Estuary	Tees

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 56 >](#)



ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	1196m SE	River	Neasham Stell Catchment (trib of Tees)	GB103025072160 ↗	Bad	Fail	Bad	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 56 >](#)

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Skerne Magnesian Limestone	GB40301G704000 ↗	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

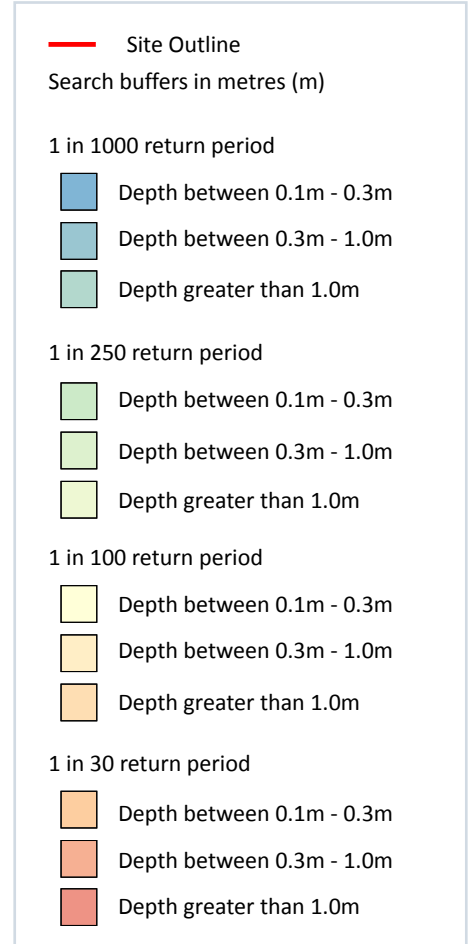
0

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



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, 0.3m - 1.0m

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

Features are displayed on the Surface water flooding map on [page 63 >](#)

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



9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

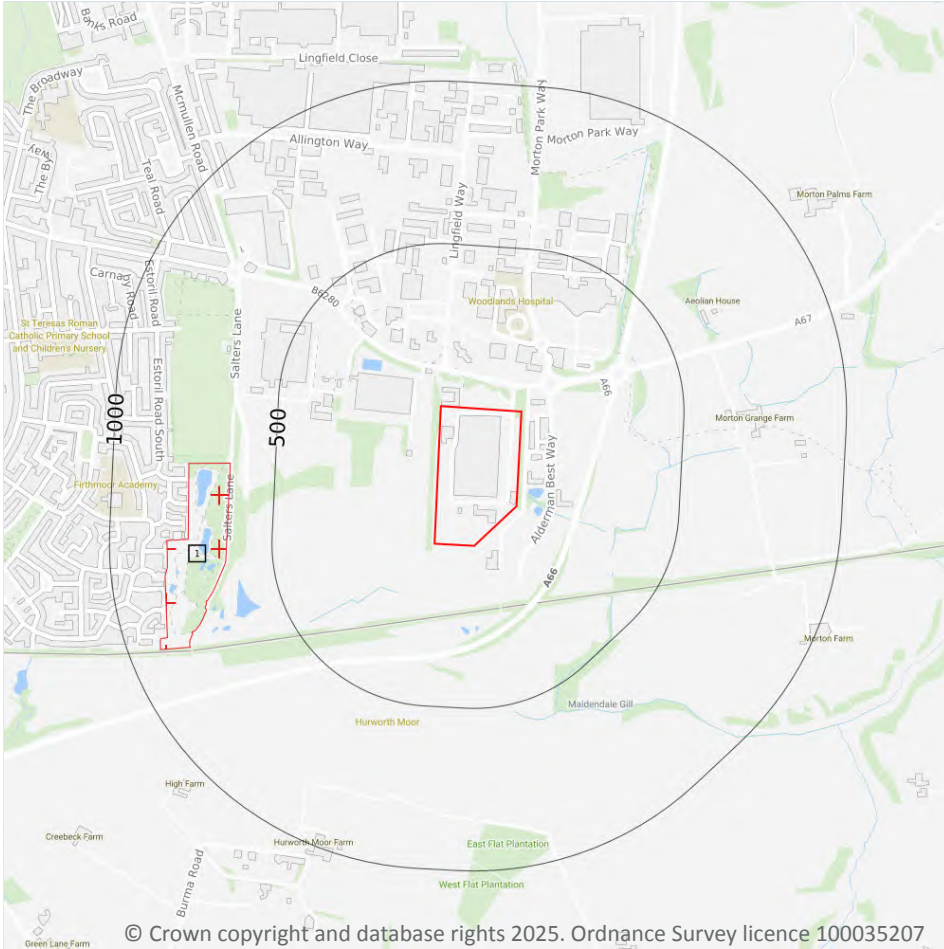
Low

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

Features are displayed on the Groundwater flooding map on [page 65 >](#)

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Sites of Special Scientific Interest (SSSI)
- + Local Nature Reserves (LNR)

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

1

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.

Features are displayed on the Environmental designations map on [page 66](#) >

ID	Location	Name	Data source
-	1951m SE	Neasham Fen SSSI	Natural England



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

2

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

Features are displayed on the Environmental designations map on [page 66 >](#)

ID	Location	Name	Data source
1	639m W	Maidendale Fishing And Nature Reserve	Natural England
-	1714m W	Brankin Moor	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m

0

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.

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

0

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

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

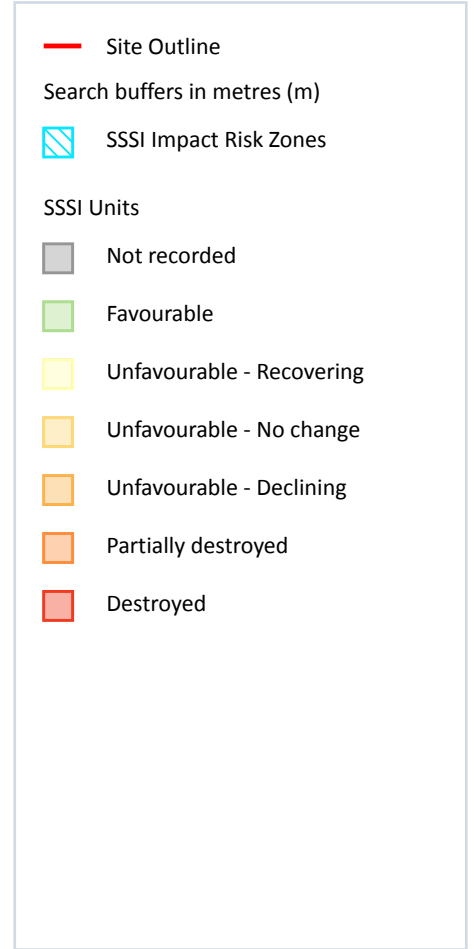
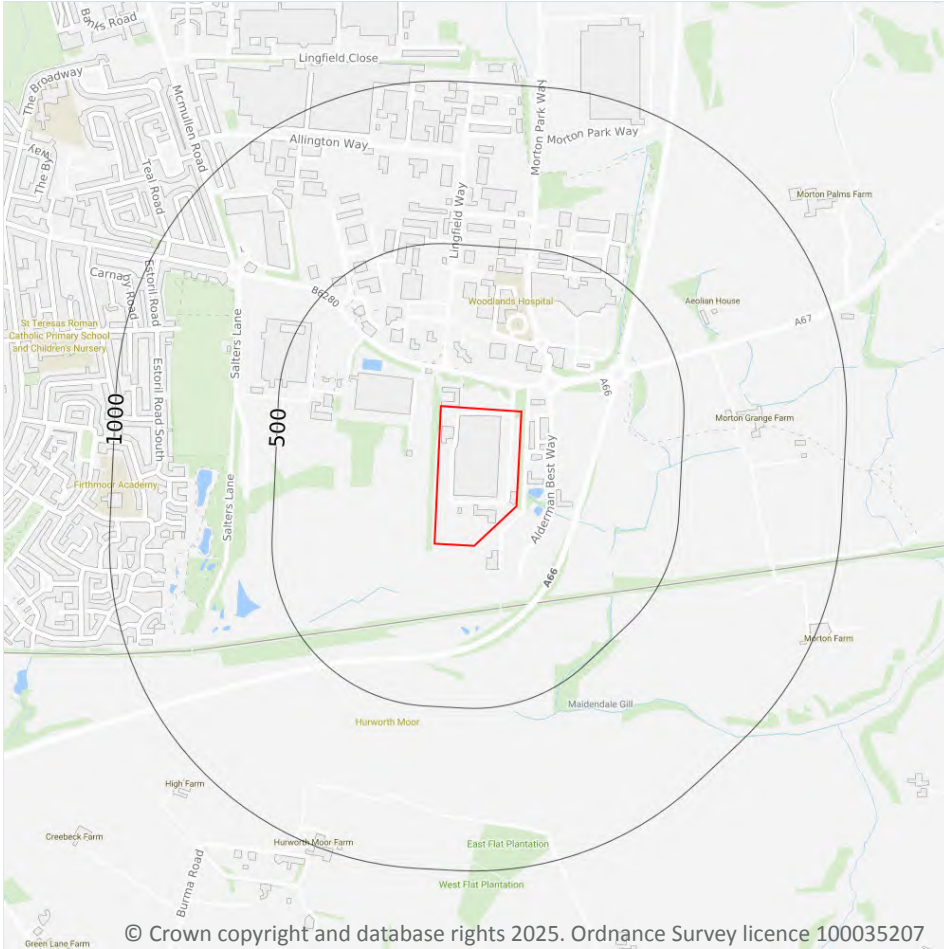
1

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
743m N	SKERNE NVZ	Surface Water	243	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

1

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.

Features are displayed on the SSSI Impact Zones and Units map on [page 71](#) >

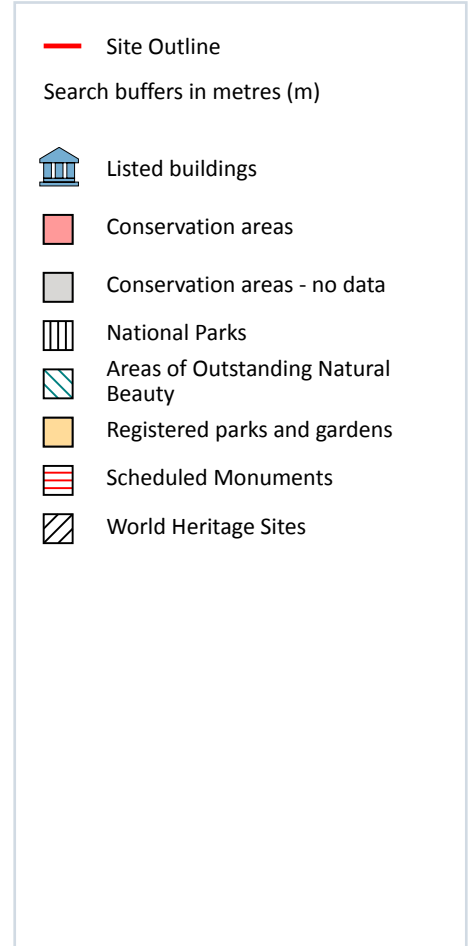
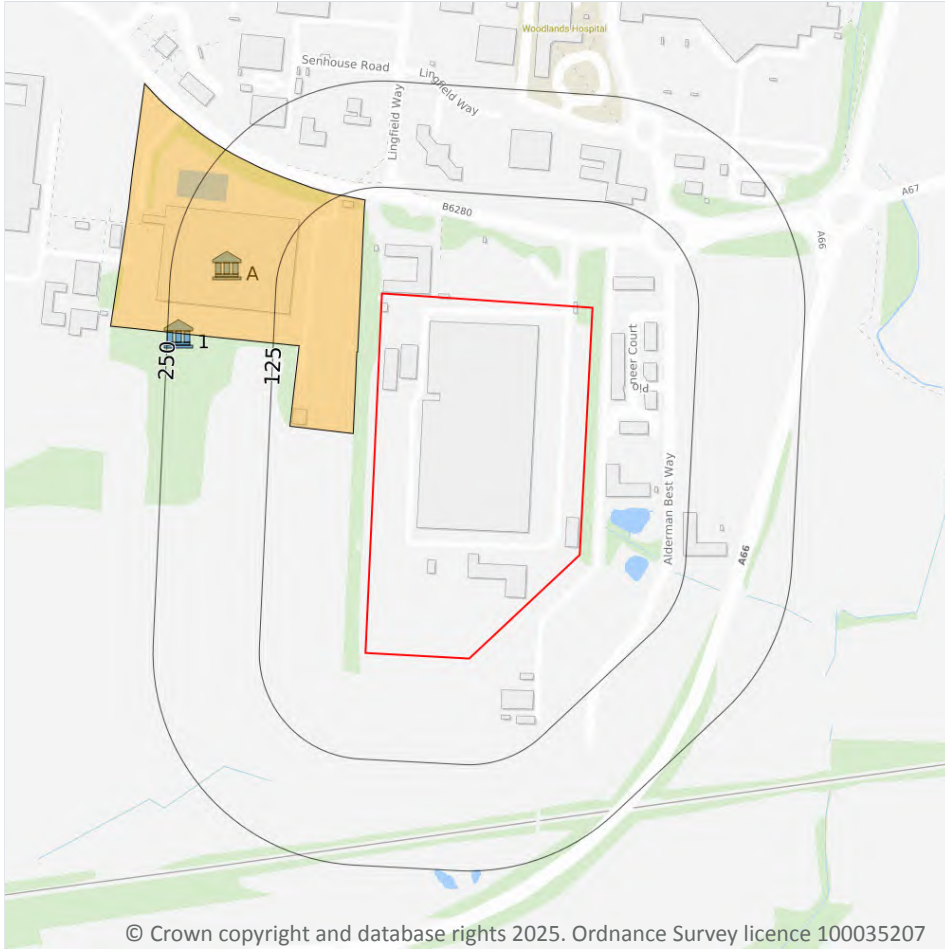
ID: -
Location: 1951m SE
SSSI name: Neasham Fen
Unit name: 1
Broad habitat: Earth Heritage
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
FB - Quaternary of North-East England	Favourable	02/11/2012

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**2**

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

Features are displayed on the Visual and cultural designations map on [page 73 >](#)

ID	Location	Name	Grade	Reference Number	Listed date
A	185m W	The Cummins Engine Factory Including Chimney	II*	1185948	23/09/1992
1	237m W	Security Fence At Cummins Engine Factory	II*	1335834	23/09/1992

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

1

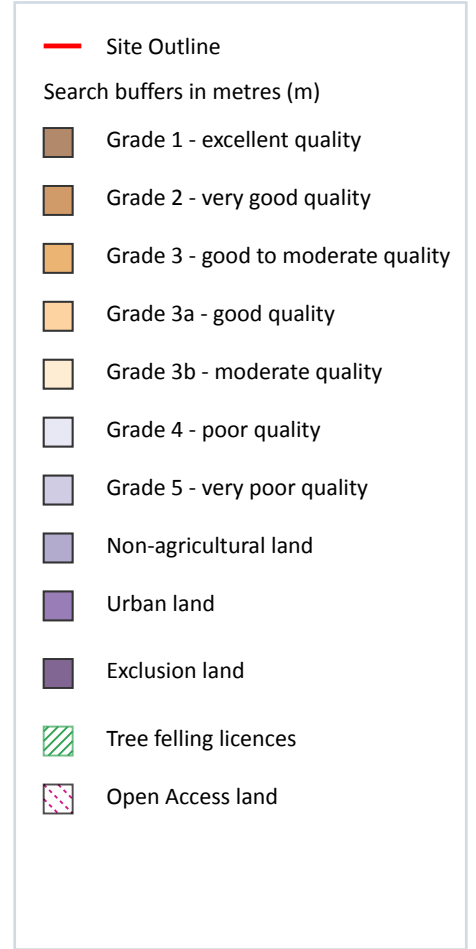
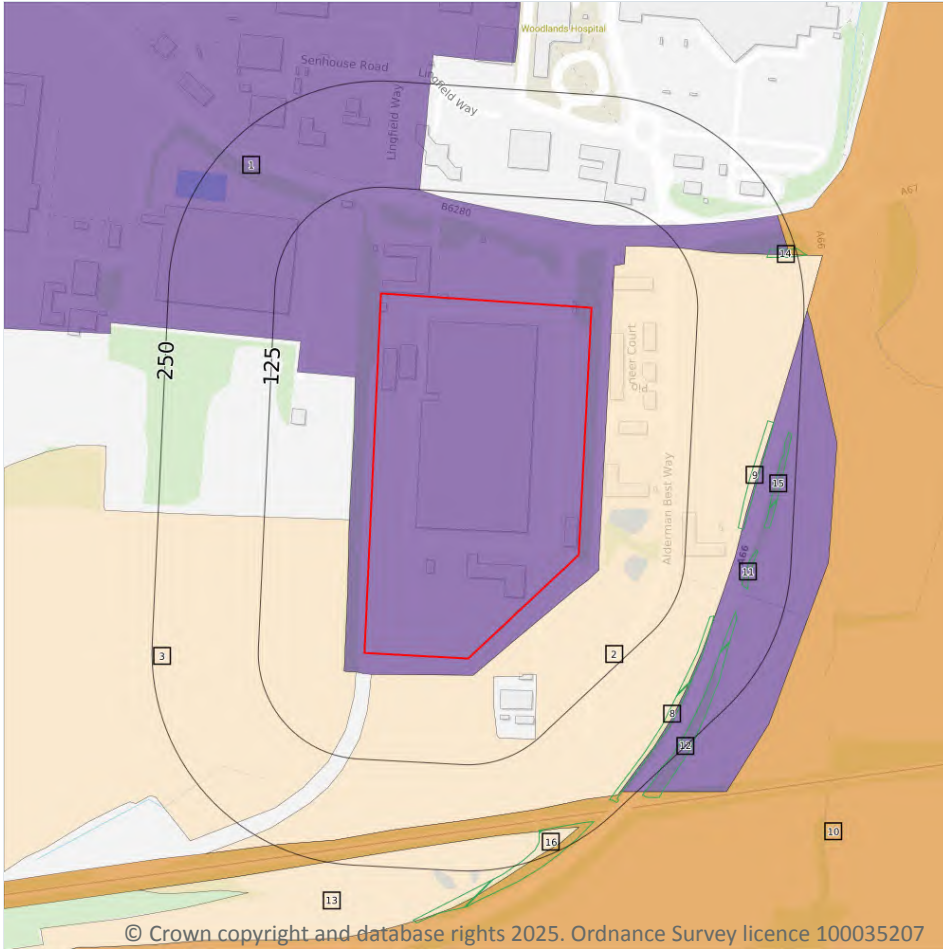
Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the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

Features are displayed on the Visual and cultural designations map on [page 73 >](#)

ID	Location	Name	Grade
A	25m W	Landscape At Cummins Engine Factory, Darlington	II

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

12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m

5

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 76 >](#)

ID	Location	Classification	Description
1	On site	Urban	Non-agricultural/no quality assigned
2	19m SE	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

ID	Location	Classification	Description
3	23m W	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
10	188m S	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.
13	211m S	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

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

7

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

Features are displayed on the Agricultural designations map on [page 76 >](#)

ID	Location	Description	Reference	Application date
8	171m SE	Selective Fell/Thin (Unconditional)	018/366/15-16	-
9	186m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
11	195m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
12	196m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
14	215m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
15	216m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-



ID	Location	Description	Reference	Application date
16	219m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-

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

1

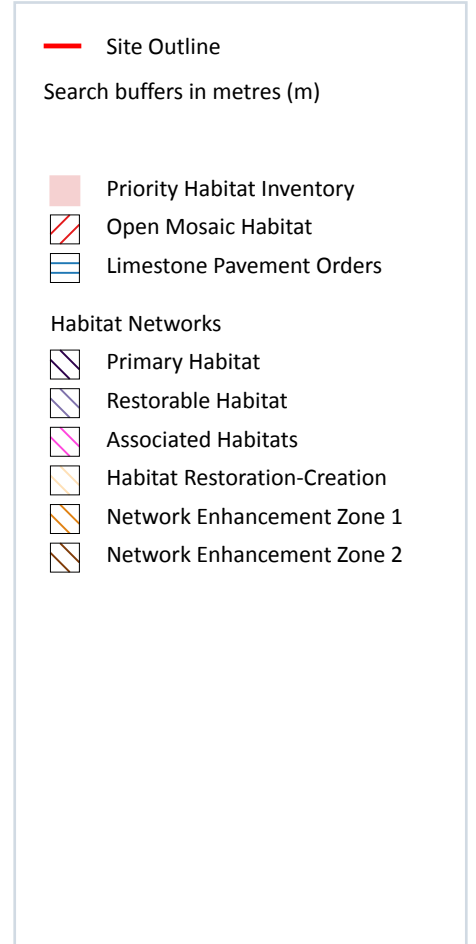
Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

Location	Reference	Scheme	Start Date	End Date
200m E	1461821	Countryside Stewardship (Middle Tier)	01/01/2023	31/12/2027

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

1

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.

Features are displayed on the Habitat designations map on [page 79 >](#)

ID	Location	Site reference	Identification confidence	Primary source	Secondary source	Tertiary source
1	230m NW	NLUD Ref: 135000160	Low	National Land Use Database - Previously Developed Land	UK Perspectives Aerial Photography	-

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

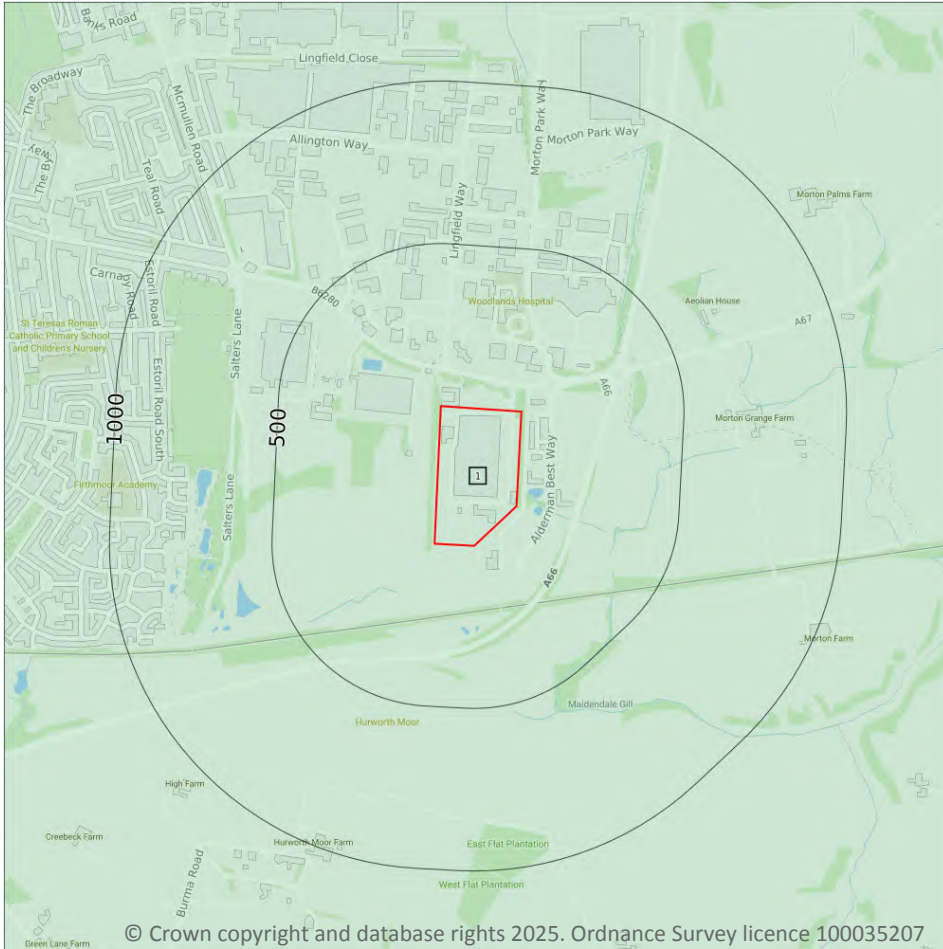
Records within 250m

0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on [page 81](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	NZ31SW

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



- Site Outline
- Search buffers in metres (m)
- Landslip (10k)
- Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m

5

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on [page 83](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
2	173m N	LDE-XCZ	Lacustrine Deposits - Clay And Silt	Clay And Silt
3	258m E	LDE-XCZ	Lacustrine Deposits - Clay And Silt	Clay And Silt



ID	Location	LEX Code	Description	Rock description
4	344m NE	LDE-XCZ	Lacustrine Deposits - Clay And Silt	Clay And Silt
5	459m S	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

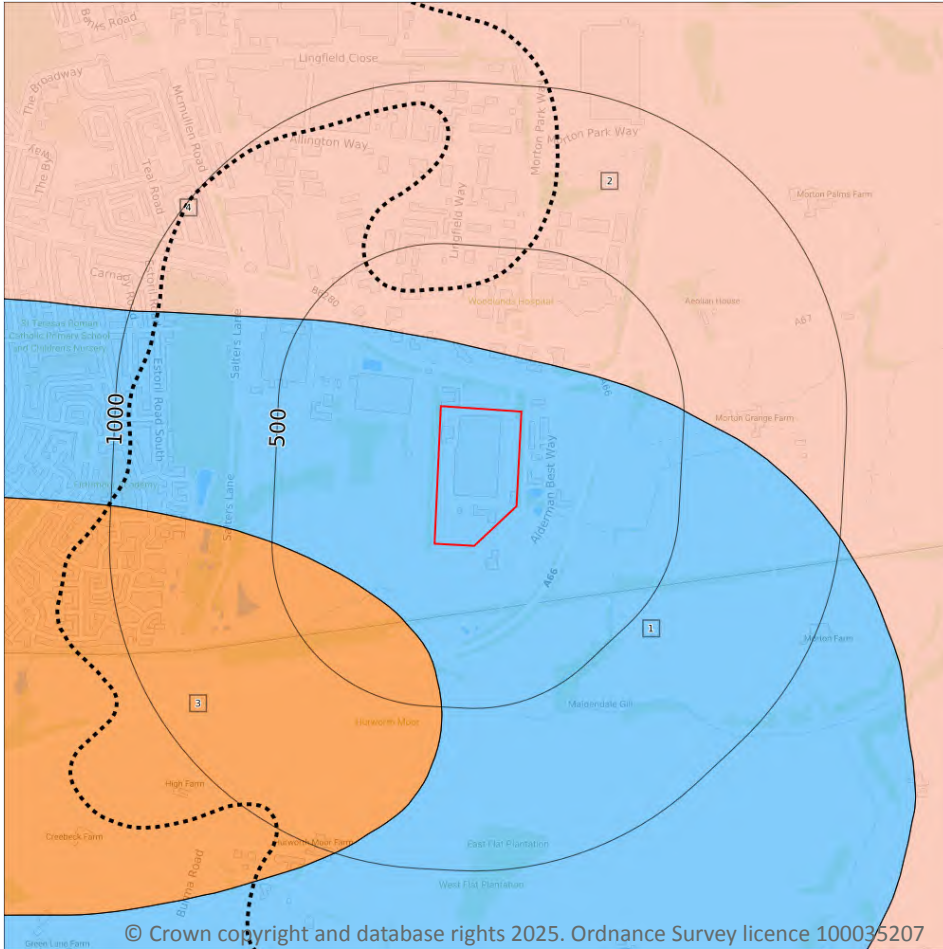
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



- Site Outline
- Search buffers in metres (m)
- - - - Bedrock faults and other linear features (10k)
- Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m

3

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 85](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	SEH-DOLMST	Seaham Formation - Dolomitic Limestone	Late Permian Epoch [Obsolete name]
2	160m N	ROX-CAMDST	Roxby Formation - Calcareous Mudstone	Early Triassic Epoch - Late Permian Epoch [Obsolete name]

ID	Location	LEX Code	Description	Rock age
3	239m SW	EDT- CAMDST	Edlington Formation - Calcareous Mudstone	Late Permian Epoch [Obsolete name]

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	1
----------------------------	----------

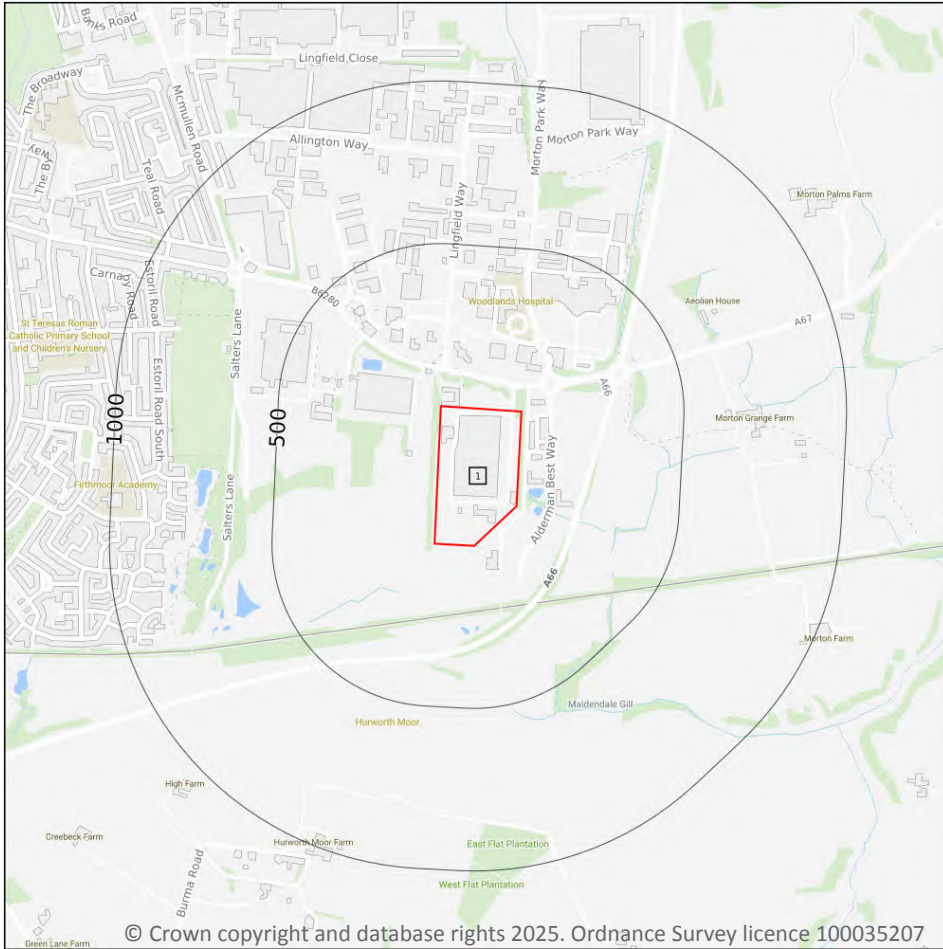
Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 85 >](#)

ID	Location	Category	Description
4	360m N	ROCK	Lithostrat line, inferred ()

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



- Site Outline
- Search buffers in metres (m)
- Geological map tile

15.1 50k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 87](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW033_stockton_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

4

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 89](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON
2	194m N	LDE-XCZ	LACUSTRINE DEPOSITS	CLAY AND SILT
3	371m NE	LDE-XCZ	LACUSTRINE DEPOSITS	CLAY AND SILT



ID	Location	LEX Code	Description	Rock description
4	481m SE	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

1

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	High	Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

Records within 50m

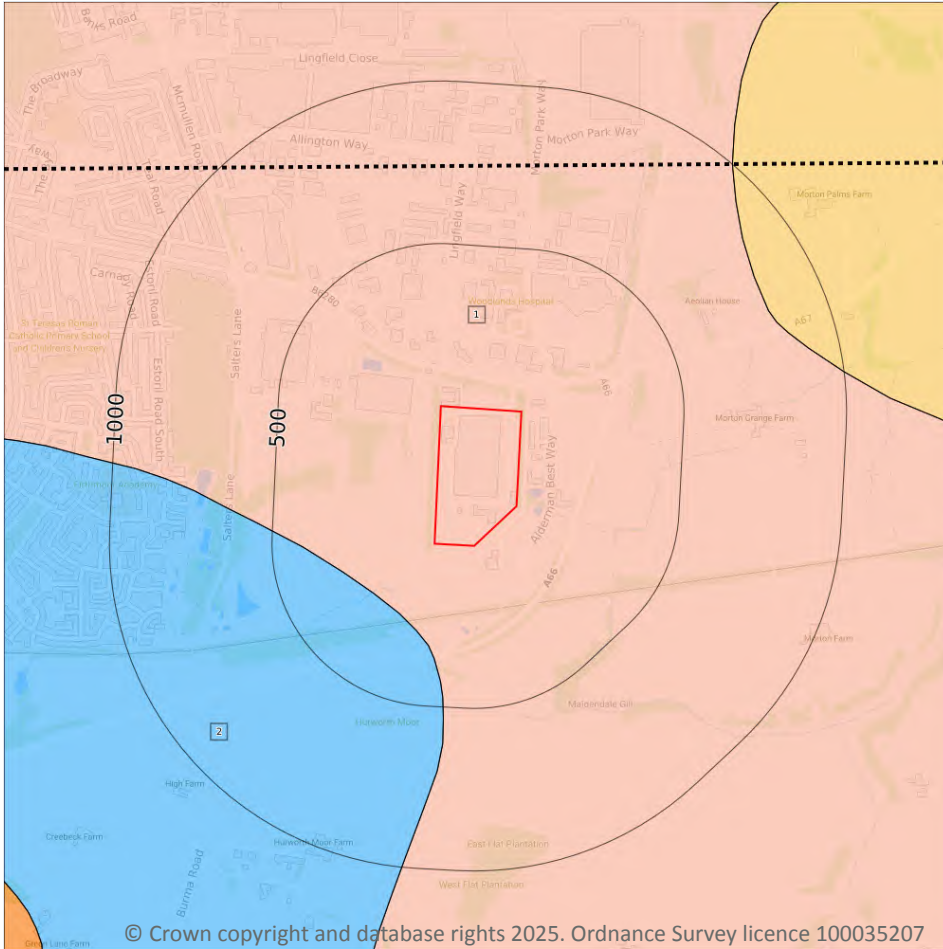
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



- Site Outline
- Search buffers in metres (m)
- - - - Bedrock faults and other linear features (50k)
- Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m

2

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	ROX-CAMDST	ROXBY FORMATION - MUDSTONE, CALCAREOUS	-
2	236m SW	SEH-DOLMST	SEAHAM FORMATION - LIMESTONE, DOLOMITIC	-

This data is sourced from the British Geological Survey.



15.9 Bedrock permeability (50k)

Records within 50m

1

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

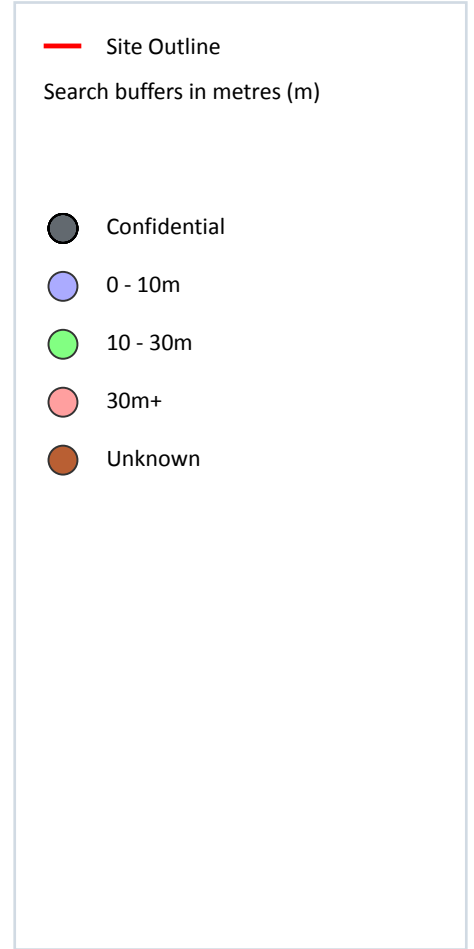
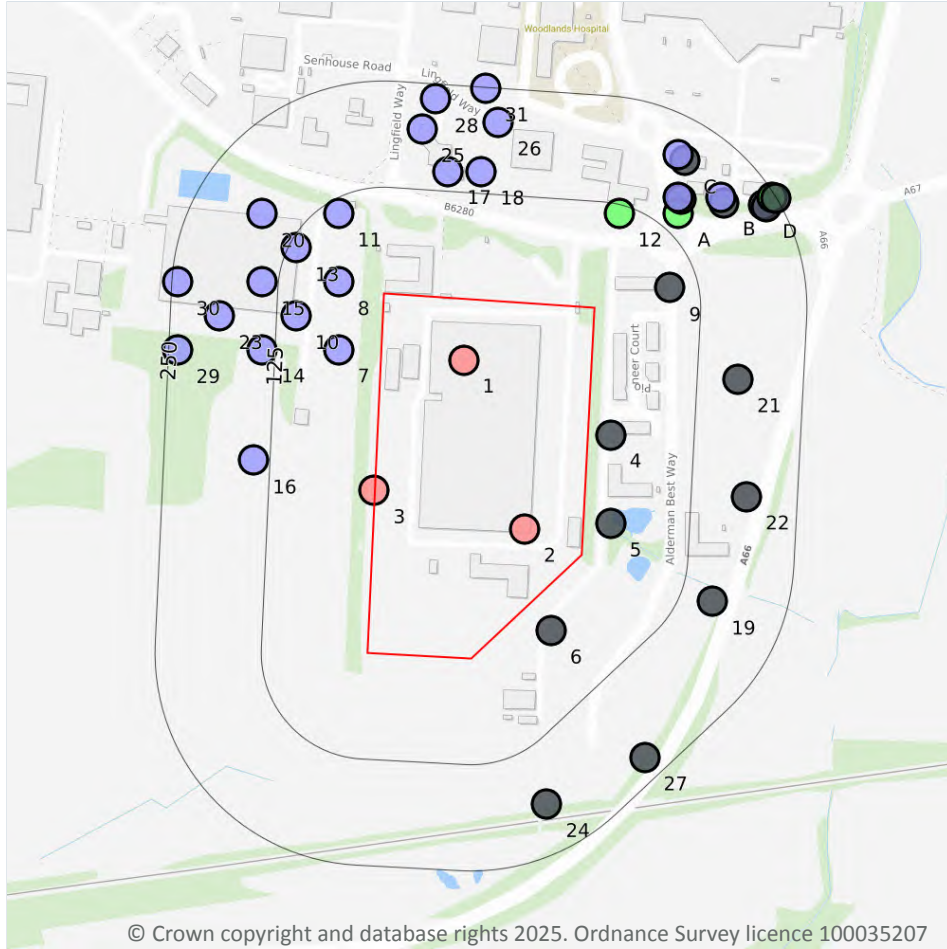
0

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.

This data is sourced from the British Geological Survey.



16 Boreholes



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16.1 BGS Boreholes

Records within 250m

42

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
1	On site	432047 513628	DARLINGTON STEEL FABRICATION PLANT	43.0	N	18609252 ↗
2	On site	432119 513429	DARLINGTON STEEL FABRICATION PLANT	42.3	N	18609261 ↗

ID	Location	Grid reference	Name	Length	Confidential	Web link
3	1m W	431942 513475	DARLINGTON STEEL FABRICATION PLANT	42.0	N	18609213 ↗
4	27m E	432220 513540	DARLINGTON-MORTON PALMS 4	-	Y	N/A
5	32m E	432220 513436	DARLINGTON-MORTON PALMS 6	-	Y	N/A
6	40m SE	432150 513310	DARLINGTON-MORTON PALMS 9	-	Y	N/A
7	50m W	431900 513640	DARLINGTON CUMMINS ENGINE 11	7.62	N	716980 ↗
8	55m W	431900 513720	DARLINGTON CUMMINS ENGINE 10	7.62	N	716979 ↗
9	92m E	432290 513713	DARLINGTON-MORTON PALMS 1	-	Y	N/A
10	102m W	431850 513680	DARLINGTON CUMMINS ENGINE 13	7.62	N	716982 ↗
11	108m NW	431900 513800	DARLINGTON CUMMINS ENGINE 9	7.62	N	716978 ↗
12	114m N	432230 513800	MAIDENDALE DARLINGTON	25.0	N	716865 ↗
13	116m NW	431850 513760	DARLINGTON CUMMINS ENGINE 12	7.62	N	716981 ↗
14	140m W	431810 513640	DARLINGTON CUMMINS ENGINE 3	7.0	N	716972 ↗
15	144m W	431810 513720	DARLINGTON CUMMINS ENGINE 2	7.62	N	716971 ↗
16	144m W	431800 513510	DARLINGTON CUMMINS ENGINE 4	7.62	N	716973 ↗
A	148m NE	432300 513800	DARLINGTON YARM ROAD 9	15.45	N	716915 ↗
17	149m N	432029 513850	LINGFIELD WAY/YARM RD, DARLINGTON 2	7.5	N	18373293 ↗
18	151m N	432068 513850	LINGFIELD WAY/YARM RD, DARLINGTON 1	7.5	N	18373292 ↗
A	163m NE	432303 513817	YARM ROAD DARLINGTON TP 15	-	Y	N/A
19	163m E	432340 513344	DARLINGTON-MORTON PALMS 7	-	Y	N/A
A	164m NE	432300 513820	DARLINGTON YARM ROAD TP15	3.0	N	716930 ↗
20	171m NW	431810 513800	DARLINGTON CUMMINS ENGINE 1	7.62	N	716970 ↗
21	173m E	432370 513605	DARLINGTON-MORTON PALMS 3	-	Y	N/A
22	190m E	432380 513467	DARLINGTON-MORTON PALMS 5	-	Y	N/A
23	192m W	431760 513680	DARLINGTON CUMMINS ENGINE 5	7.62	N	716974 ↗
24	193m SE	432145 513105	DARLINGTON-MORTON PALMS 11	-	Y	N/A
B	196m NE	432353 513813	YARM ROAD DARLINGTON TP 24	-	Y	N/A

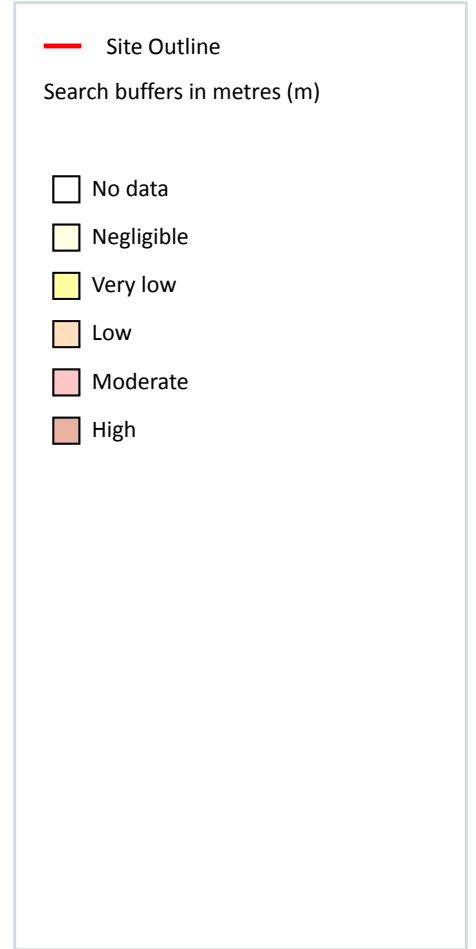
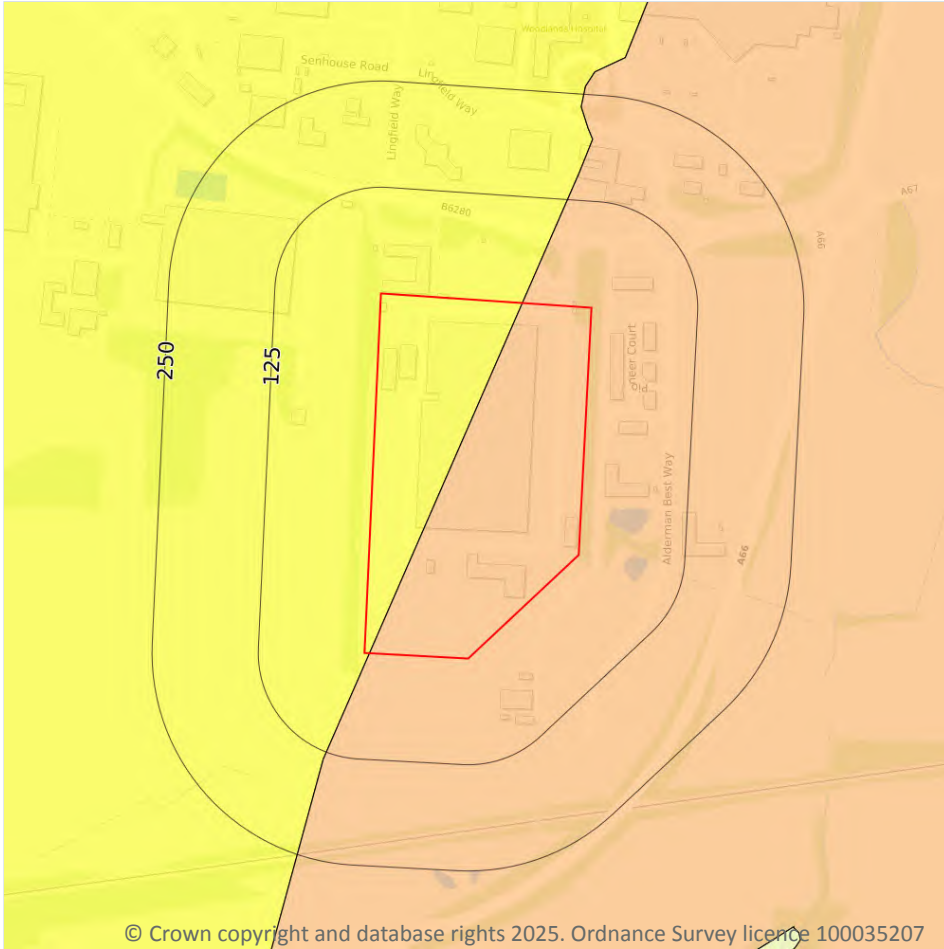


ID	Location	Grid reference	Name	Length	Confidential	Web link
25	196m N	431998 513900	LINGFIELD WAY/YARM RD, DARLINGTON 3	7.5	N	18373294 ↗
B	198m NE	432350 513820	DARLINGTON YARM ROAD TP24	3.6	N	716939 ↗
C	203m NE	432307 513863	YARM ROAD DARLINGTON TP 14	-	Y	N/A
C	206m NE	432300 513870	DARLINGTON YARM ROAD TP14	3.2	N	716929 ↗
26	210m N	432088 513908	LINGFIELD WAY/YARM RD, DARLINGTON 6	2.5	N	18373297 ↗
27	225m SE	432260 513160	DARLINGTON-MORTON PALMS 10	-	Y	N/A
28	232m N	432014 513935	LINGFIELD WAY/YARM RD, DARLINGTON 4	2.5	N	18373295 ↗
D	233m NE	432400 513810	DARLINGTON YARM ROAD TP32	3.1	N	716947 ↗
D	234m NE	432403 513808	YARM ROAD DARLINGTON TP 32	-	Y	N/A
29	240m W	431710 513640	DARLINGTON CUMMINS ENGINE 8	7.62	N	716977 ↗
30	244m W	431710 513720	DARLINGTON CUMMINS ENGINE 7	7.62	N	716976 ↗
D	246m NE	432410 513820	DARLINGTON YARM ROAD 6	12.45	N	716912 ↗
31	249m N	432073 513948	LINGFIELD WAY/YARM RD, DARLINGTON 5	2.5	N	18373296 ↗
D	250m NE	432415 513818	YARM ROAD DARLINGTON 6	-	Y	N/A

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

2

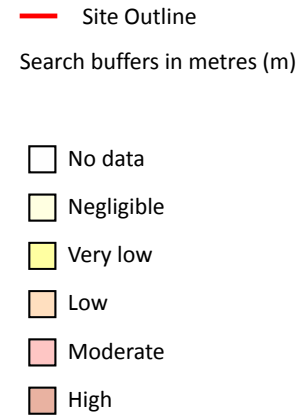
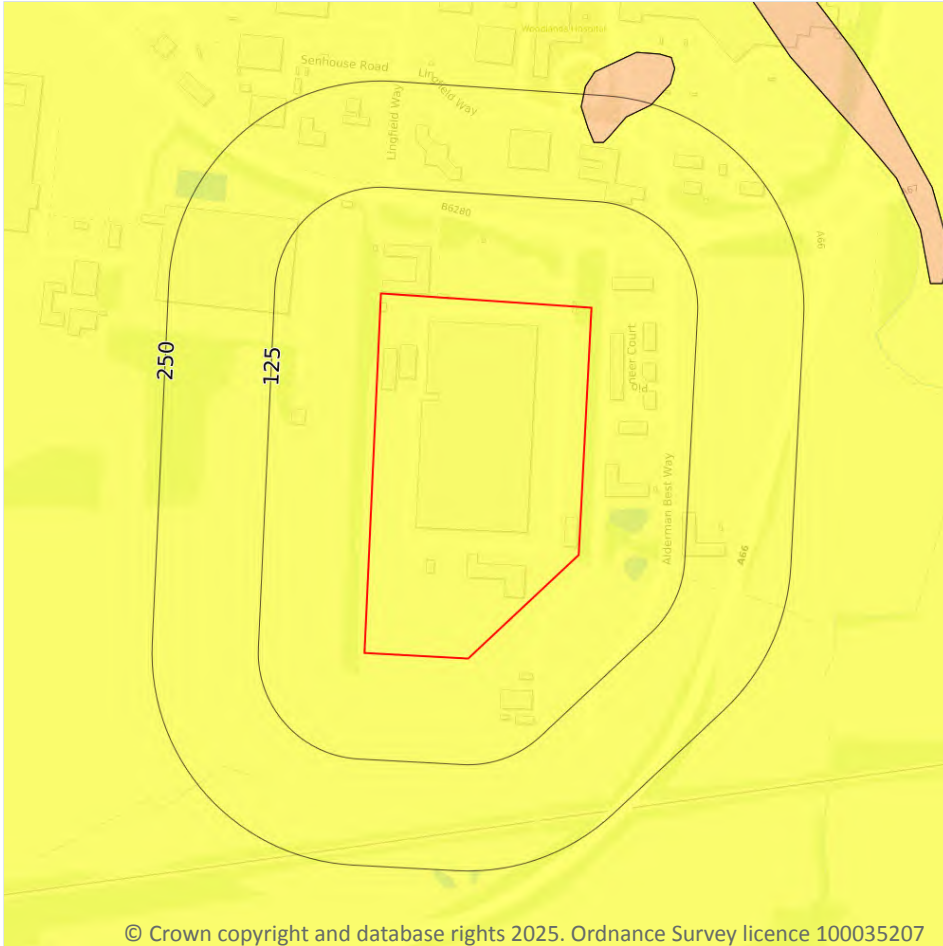
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 96](#) >

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

1

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

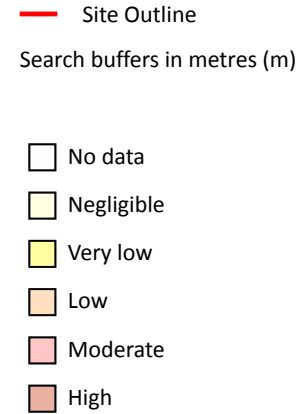
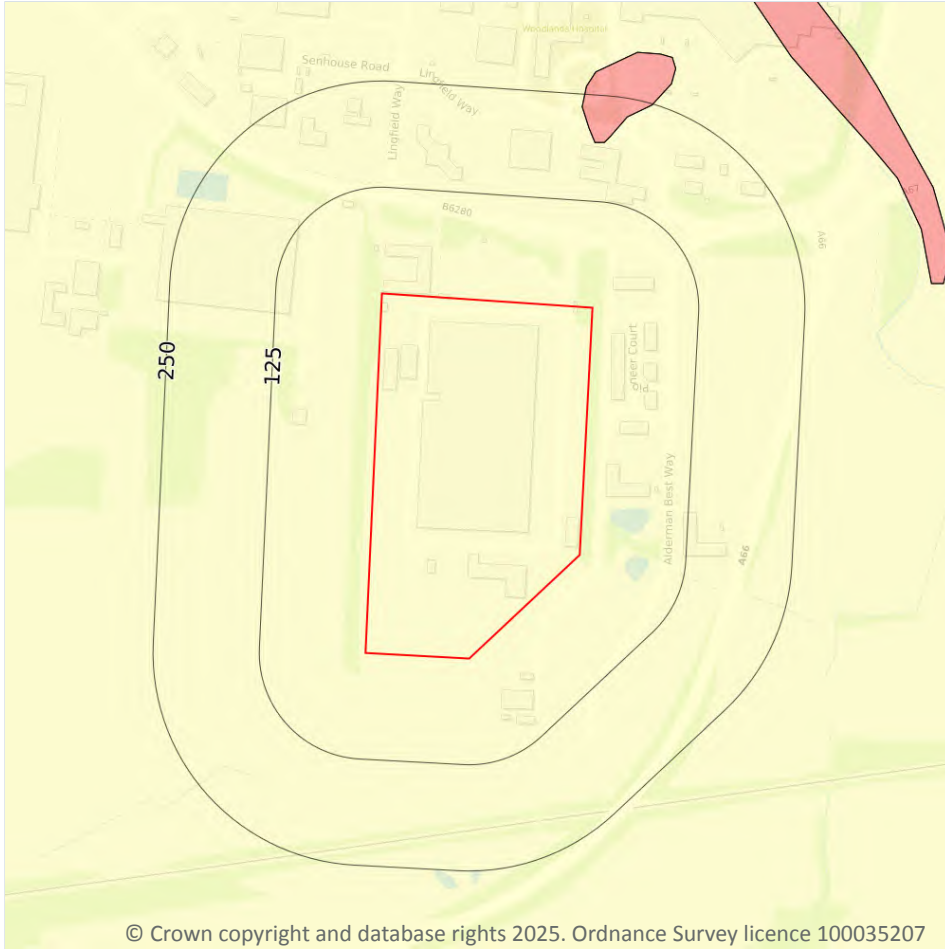
Features are displayed on the Natural ground subsidence - Running sands map on [page 97](#) >

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.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

1

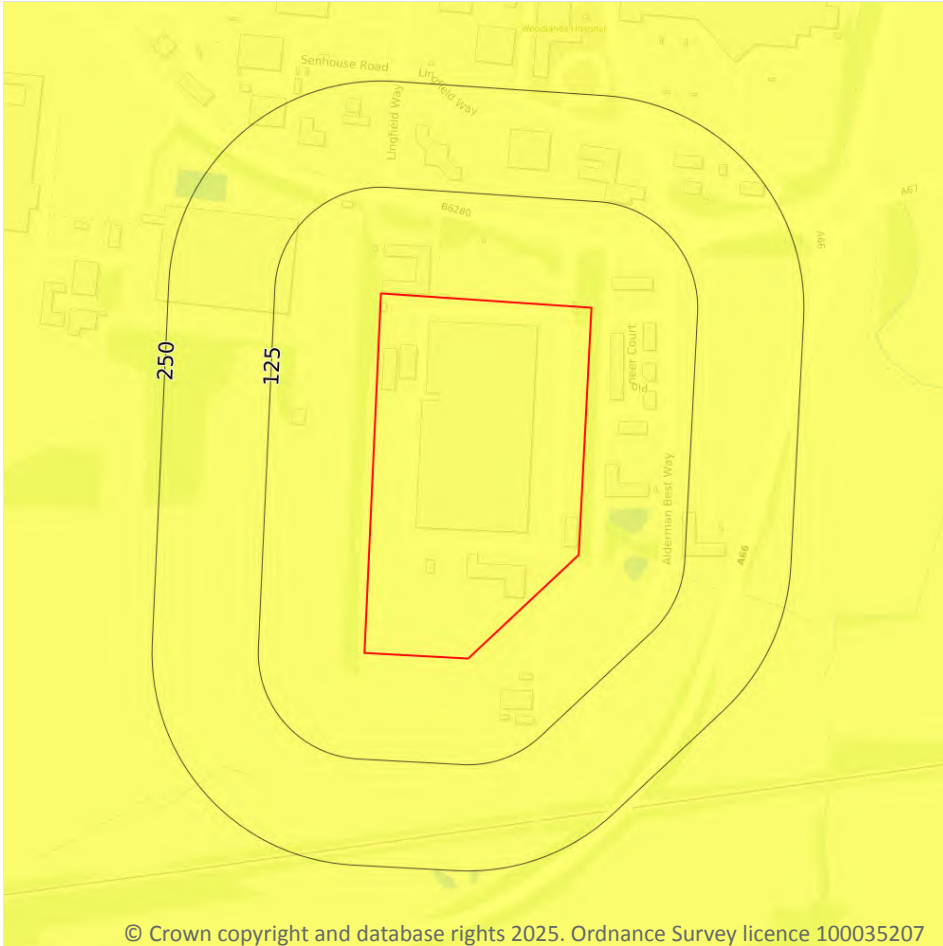
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

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

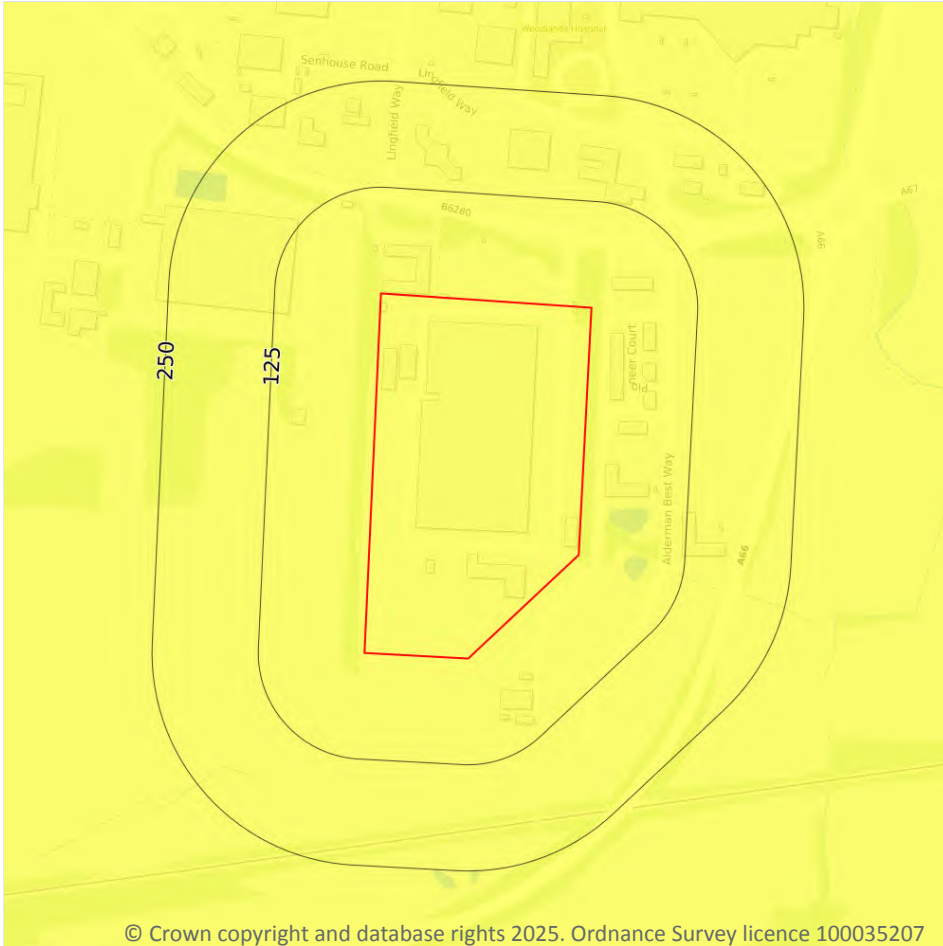
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

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.

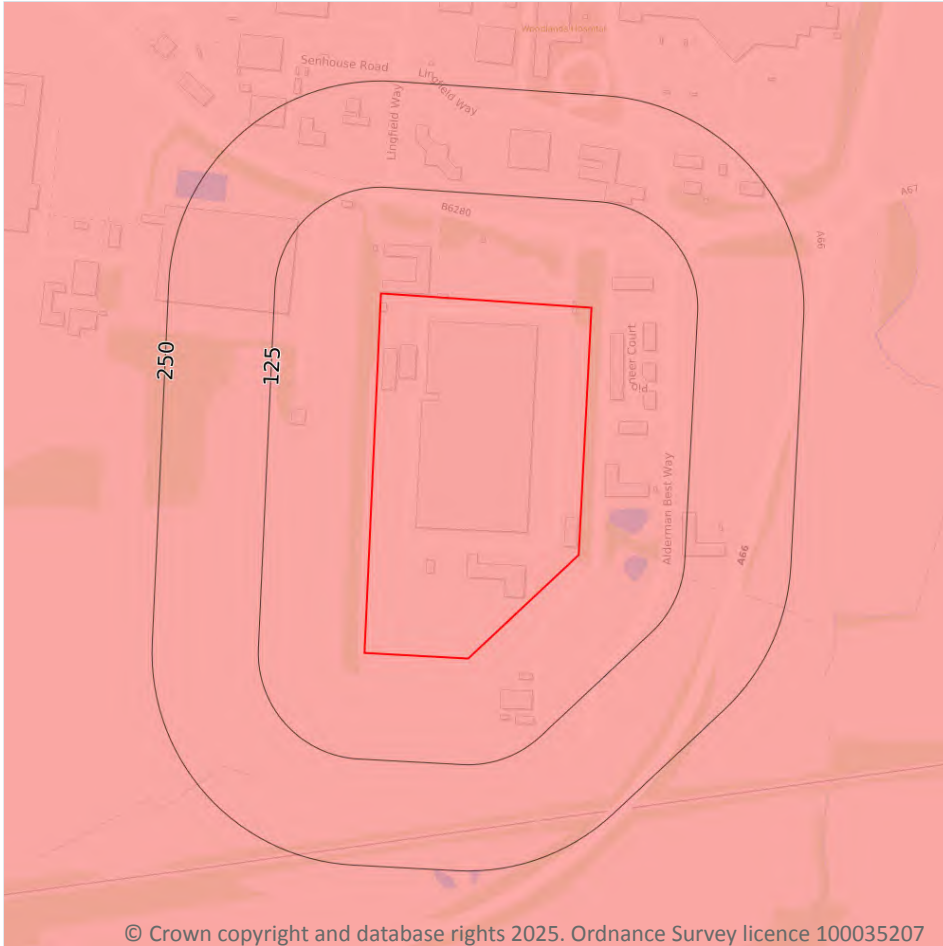
Features are displayed on the Natural ground subsidence - Landslides map on [page 100](#) >

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



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	Moderate	Soluble rocks are present within the ground. Many dissolution features may be present. Potential for difficult ground conditions are at a level where they should be considered. Potential for subsidence is at a level where it may need to be considered.

This data is sourced from the British Geological Survey.



18 Mining and ground workings



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

18.1 BritPits

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m

18

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 Heap	1990	1:10000
2	33m N	Unspecified Heap	1990	1:10000
3	38m N	Unspecified Heap	1990	1:10000
4	72m N	Unspecified Heap	1990	1:10000
A	183m S	Cuttings	1938	1:10560
A	183m S	Cuttings	1939	1:10560
A	183m S	Cuttings	1923	1:10560
A	184m S	Cuttings	1954	1:10560
A	189m S	Cuttings	1896	1:10560
5	195m SE	Cuttings	1990	1:10000
A	196m S	Cuttings	1923	1:10560
B	220m NW	Reservoir	1971	1:10000
B	220m NW	Reservoir	1990	1:10000
B	220m NW	Reservoir	1980	1:10000
A	242m S	Cuttings	1968	1:10560
A	242m S	Cuttings	1971	1:10000
C	242m S	Cuttings	1990	1:10000
C	242m S	Cuttings	1980	1:10000

This is data is sourced from Ordnance Survey/Groundsure.



18.3 Underground workings

Records within 1000m

0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

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

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.



18.8 The Coal Authority non-coal mining

Records within 500m

0

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

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m

0

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

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

0

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m

0

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

This data is sourced from Groundsure.



18.12 Coal mining

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

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

This data is sourced from the Coal Authority.

18.13 Brine areas

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

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

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

18.14 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

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

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

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

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

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

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



This data is sourced from Groundsure.



20 Radon



— 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 110 >](#)

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

6

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 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	30 - 45 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 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	30 - 45 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



21.3 BGS Measured Urban Soil Chemistry

Records within 50m

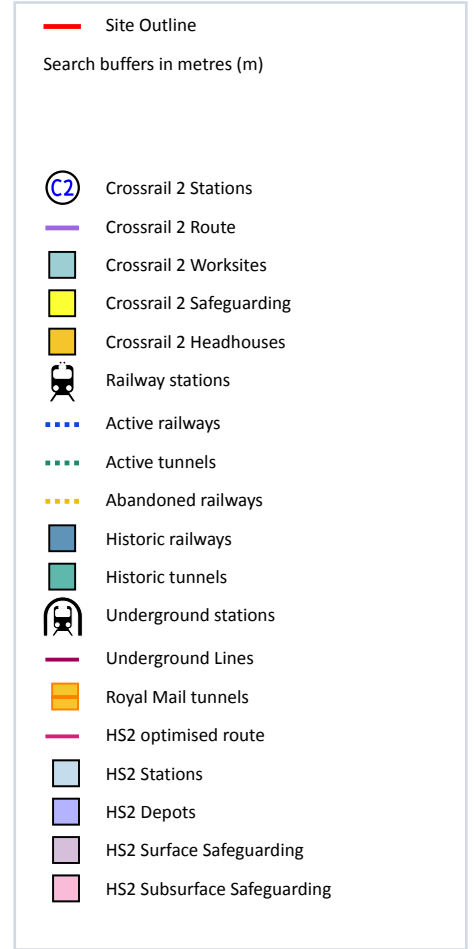
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The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects



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

5

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 114 >](#)

Location	Land Use	Year of mapping	Mapping scale
On site	Railway Sidings	1982	1250
On site	Railway Sidings	1989	1250
On site	Railway Sidings	1993	1250
On site	Railway Sidings	1983	1250
On site	Railway Sidings	1990	10000

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

3

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

Features are displayed on the Railway infrastructure and projects map on [page 114 >](#)

Location	Description
On site	Abandoned
On site	Abandoned
On site	Abandoned

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m

4

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 114 >](#)

Location	Name	Type
200m S	Tees Valley Line	rail
201m S	Not given	Multi Track
204m S	Tees Valley Line	rail
208m SE	Not given	Multi Track

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

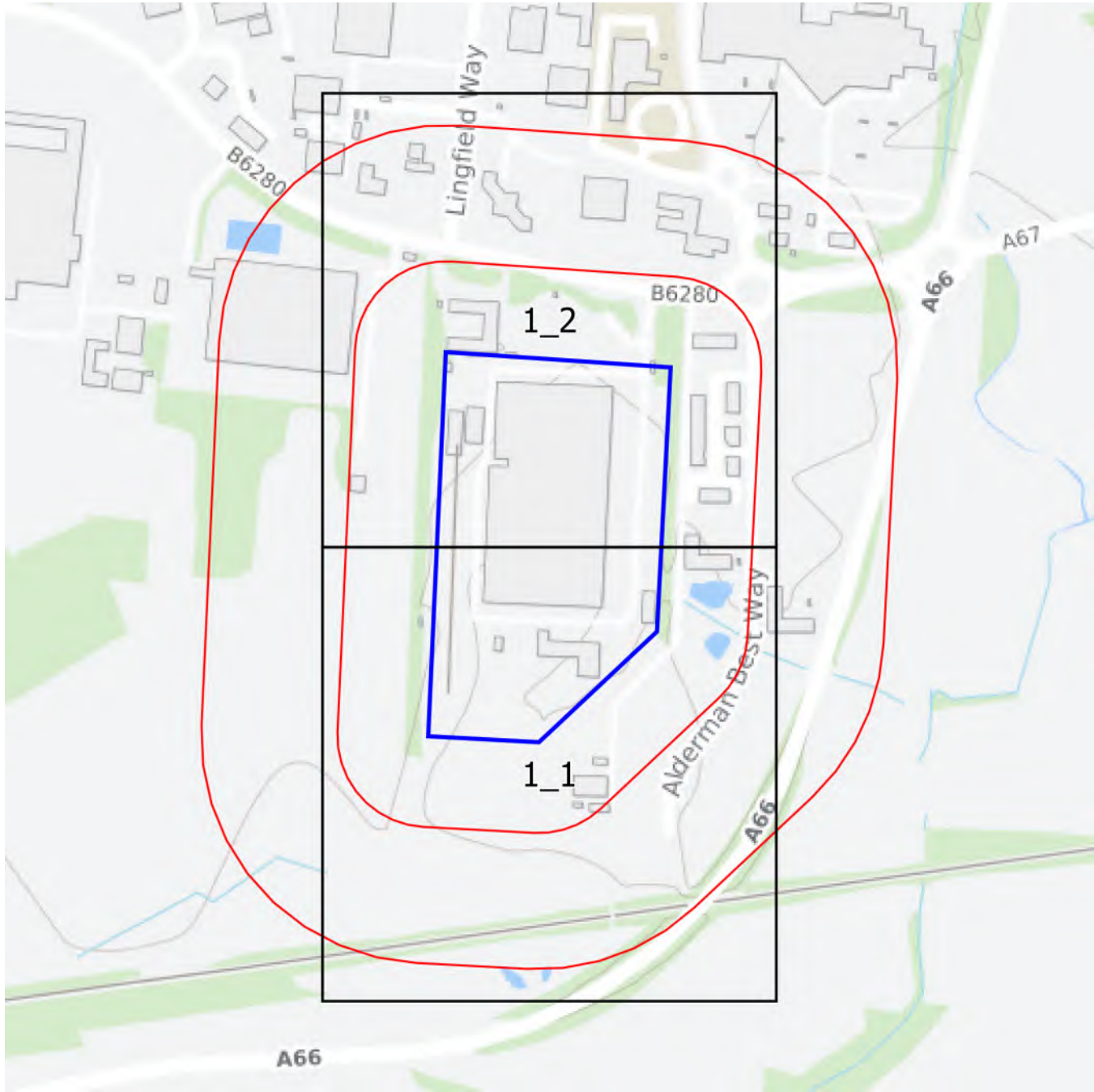
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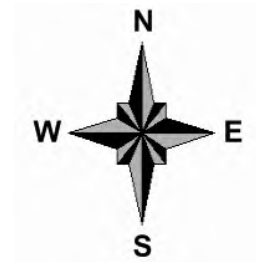
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APPENDIX 3 – OS HISTORICAL MAPS



1:1,250 Scale Grid Index

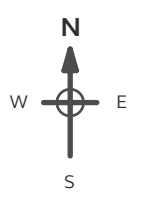


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Darlington DL1 4DE

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Grid Ref: 432067, 513241

Map Name: National Grid
Map date: 1955
Scale: 1:1,250
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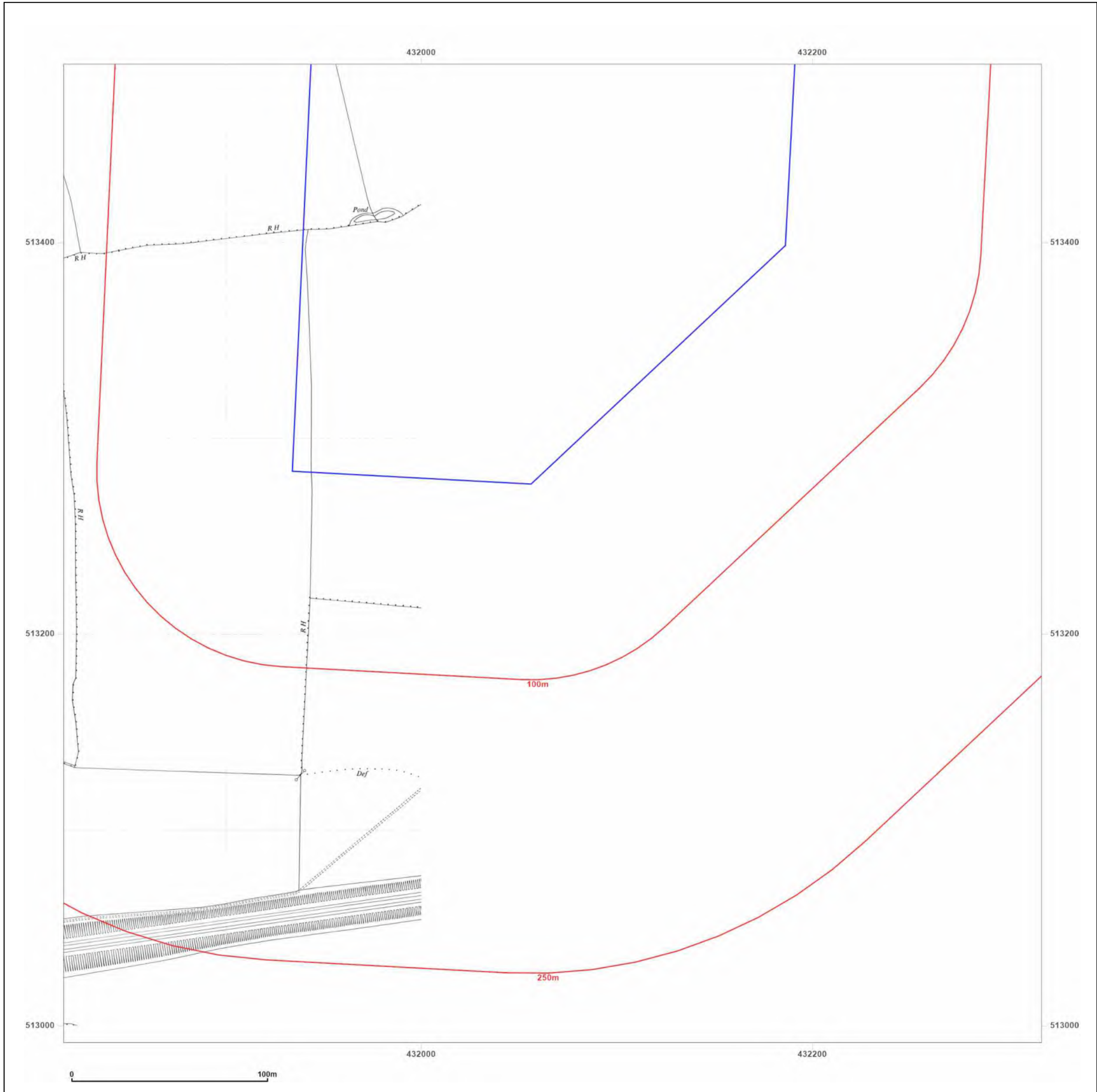


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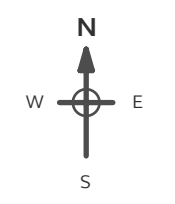
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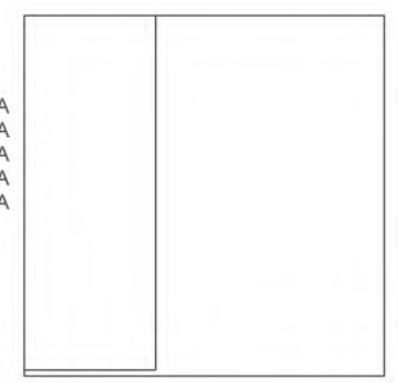
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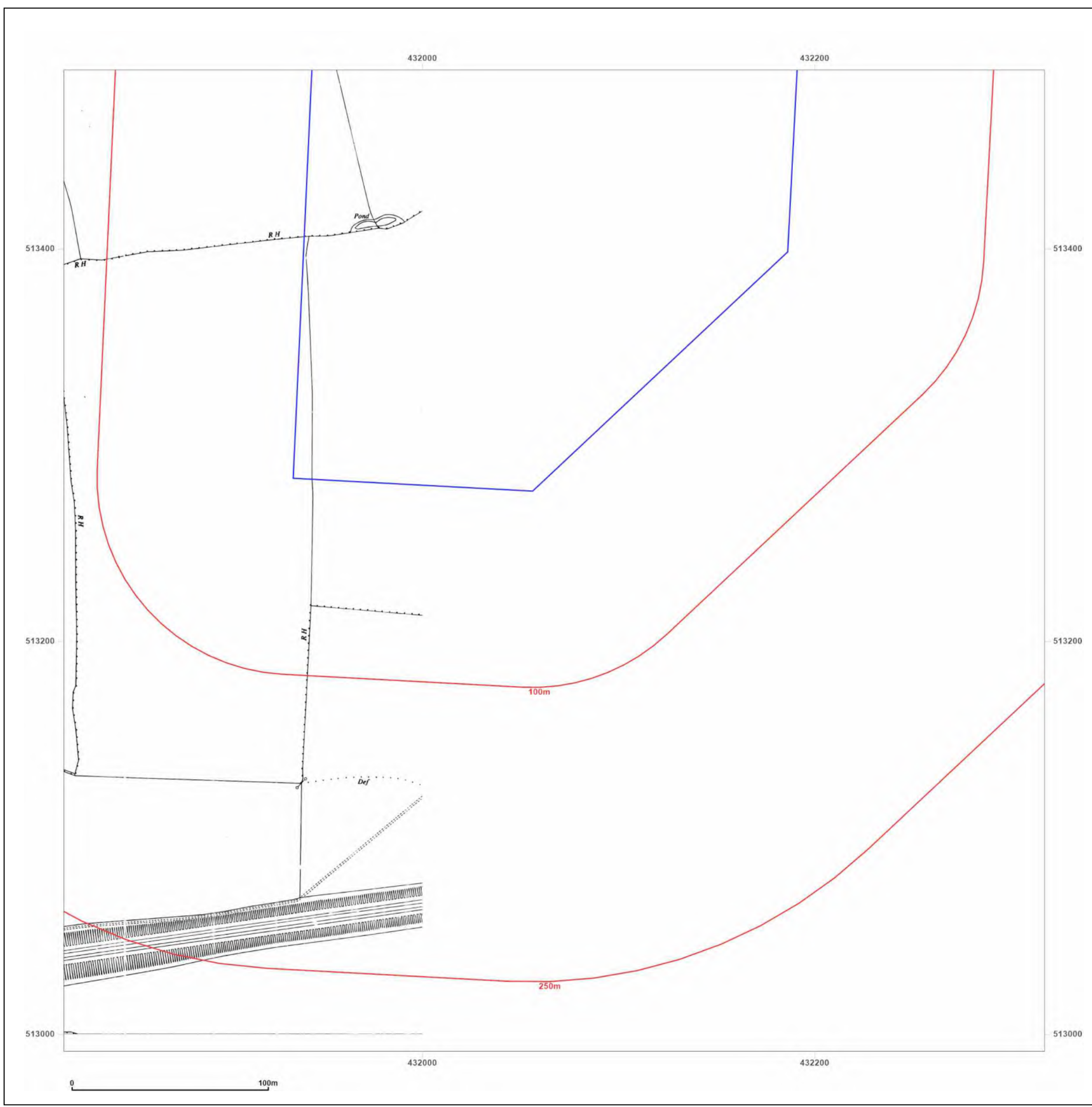


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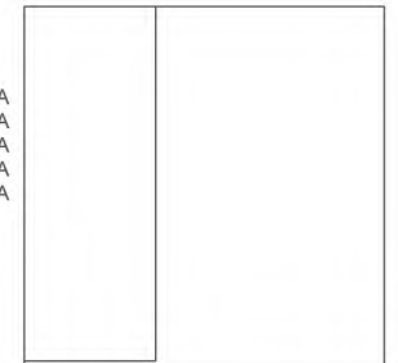
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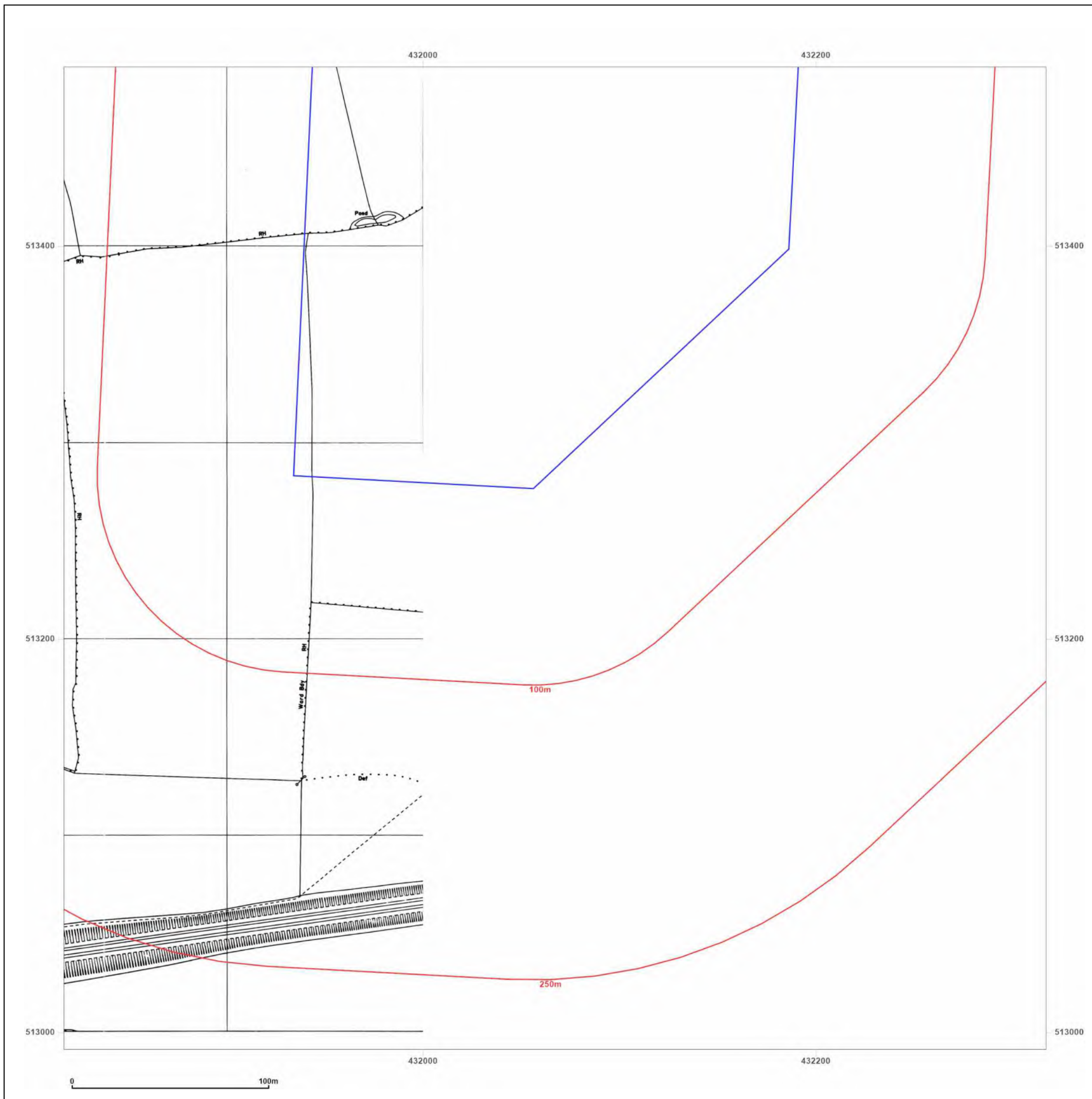


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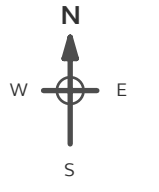
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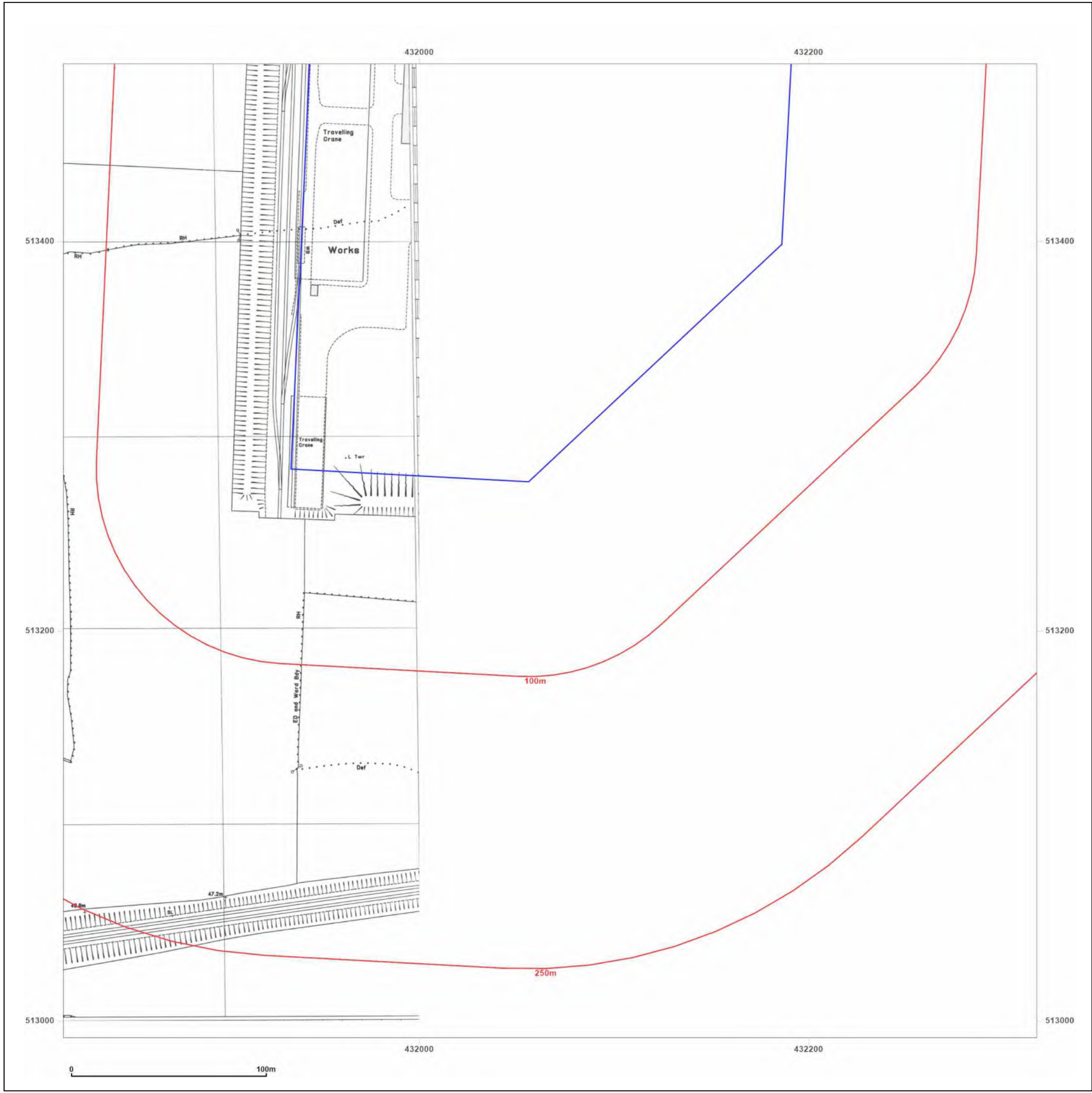
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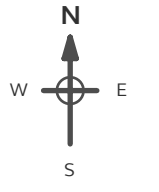
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Grid Ref: 432067, 513241

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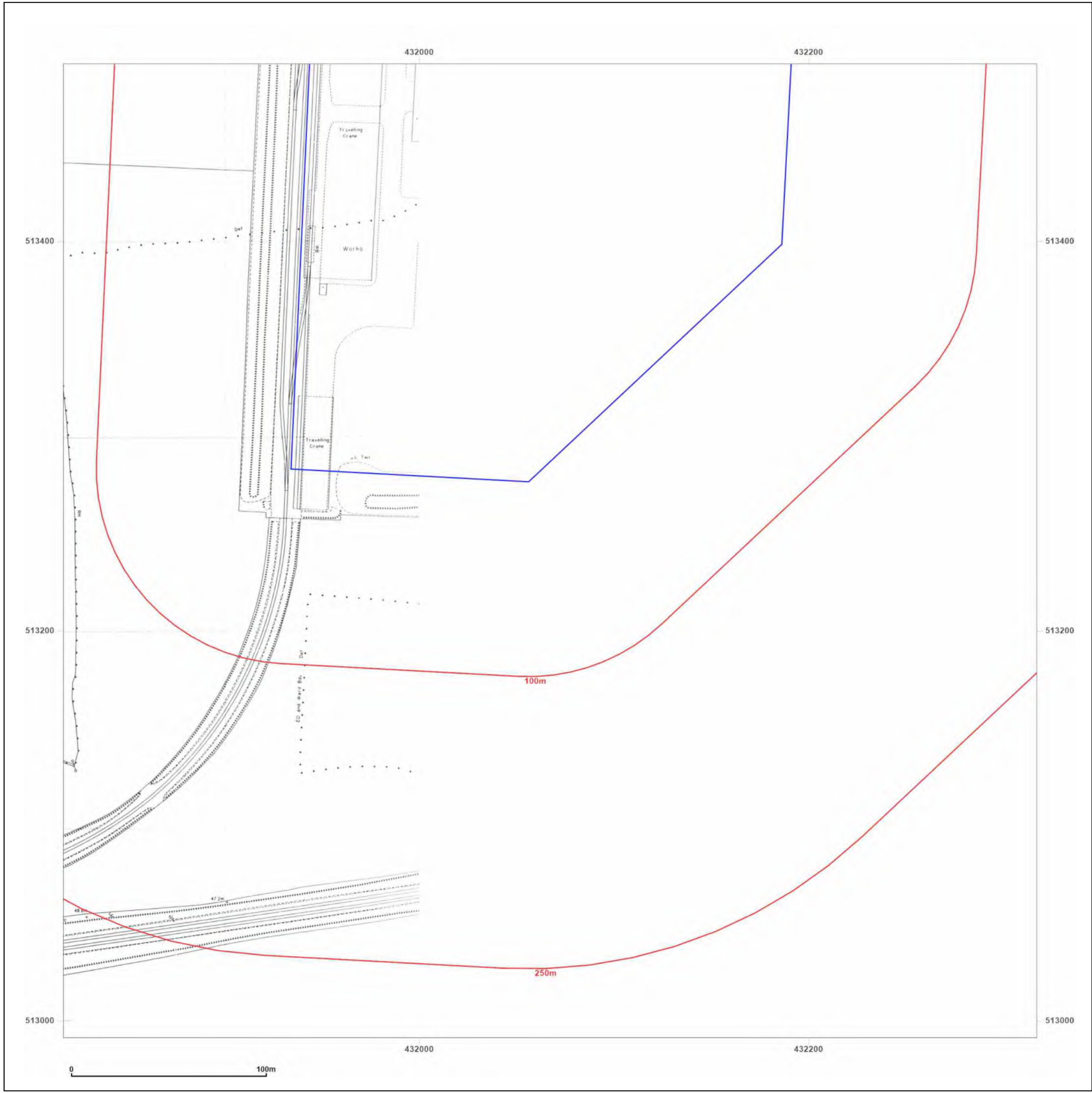
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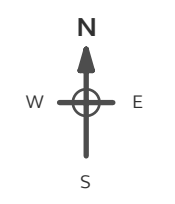
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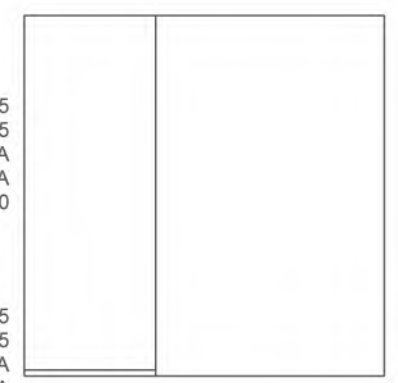
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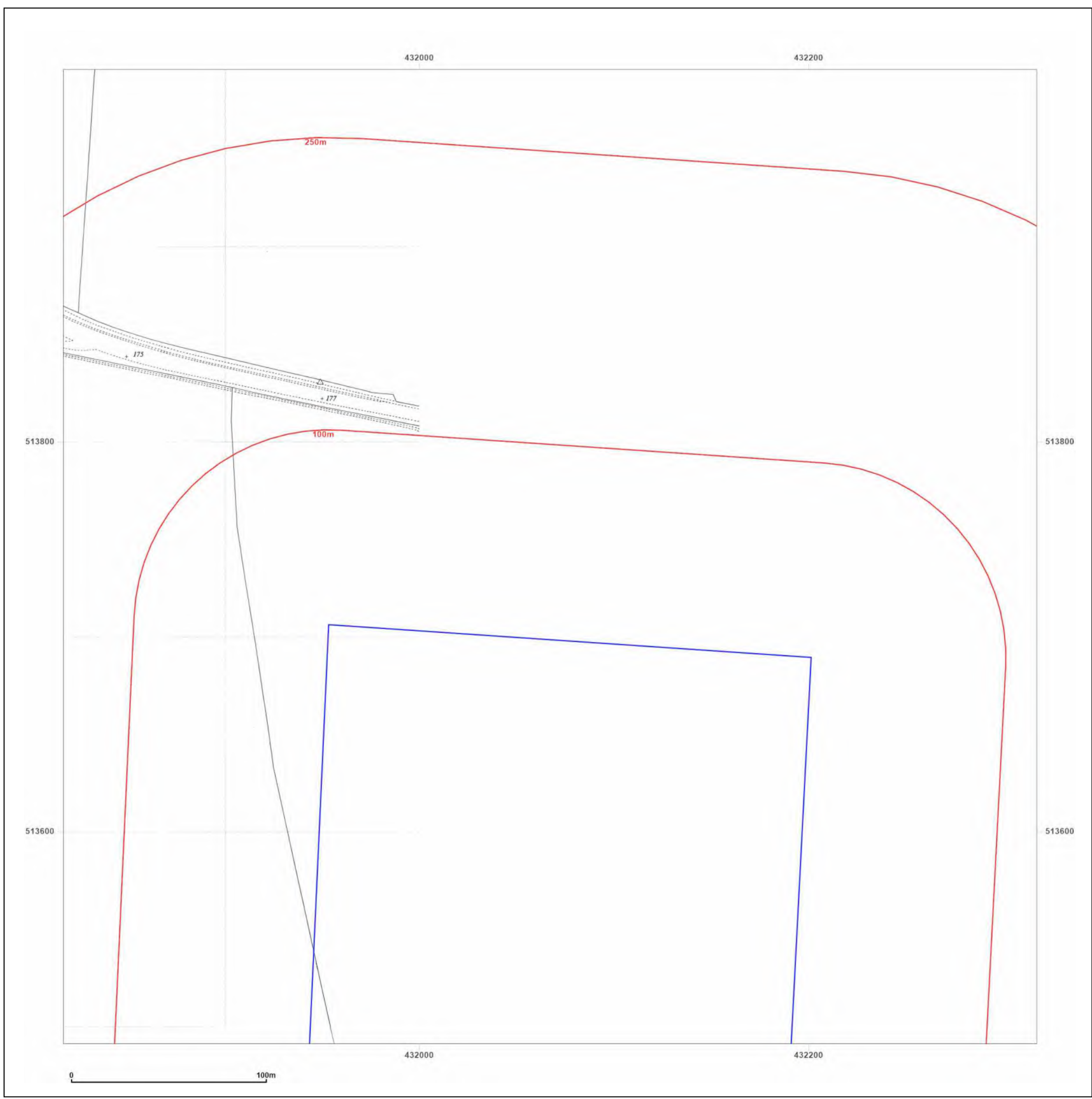


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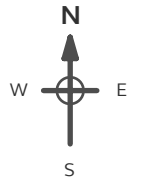
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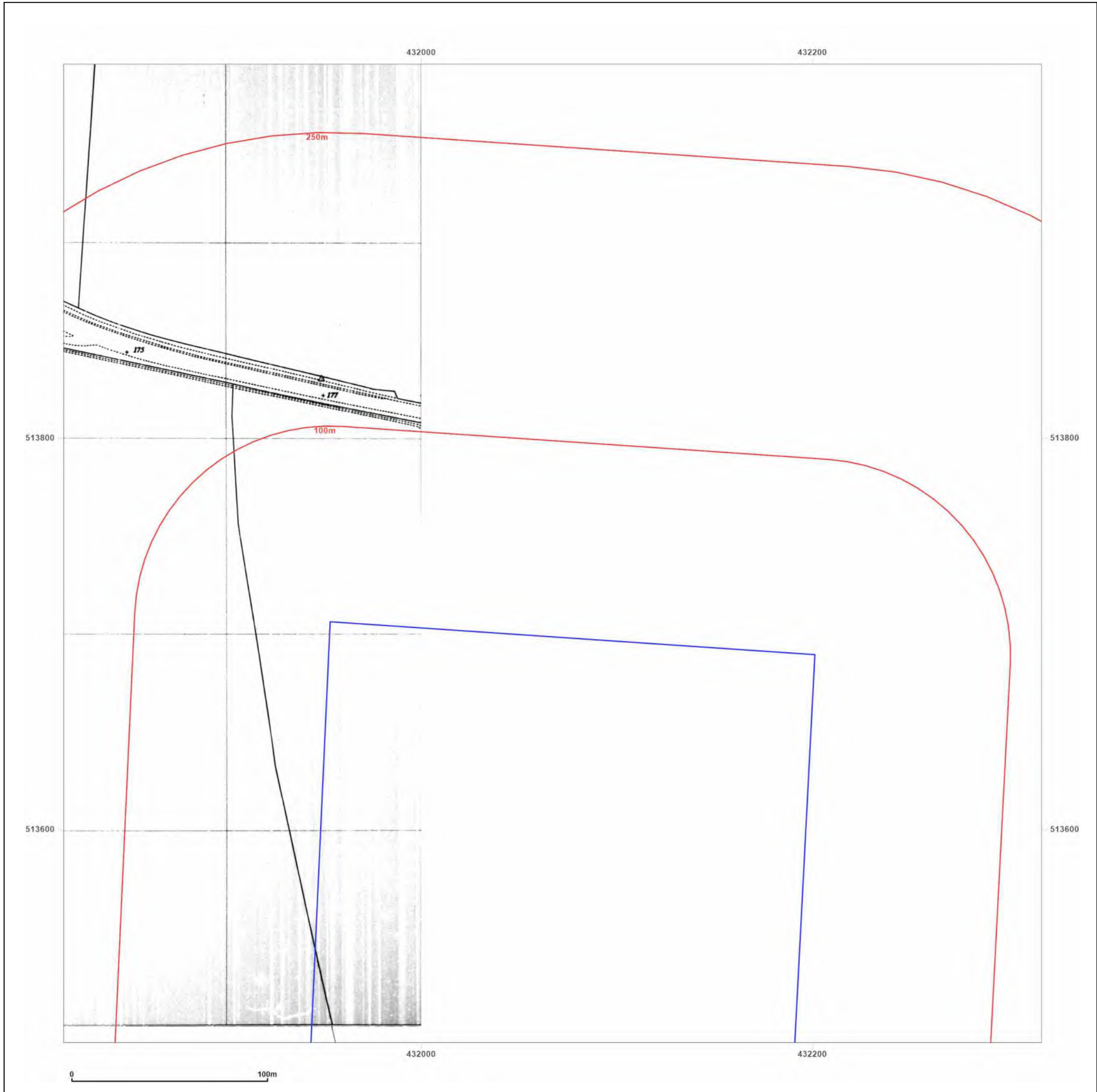
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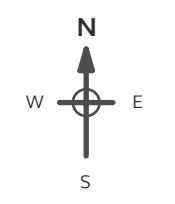
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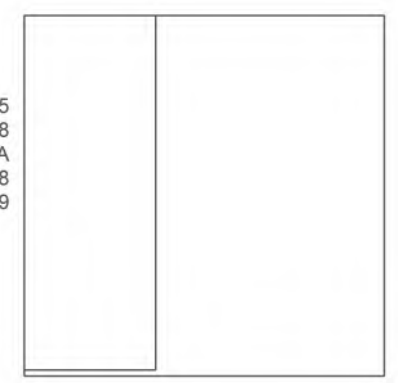
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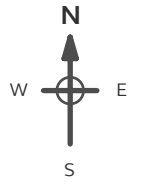
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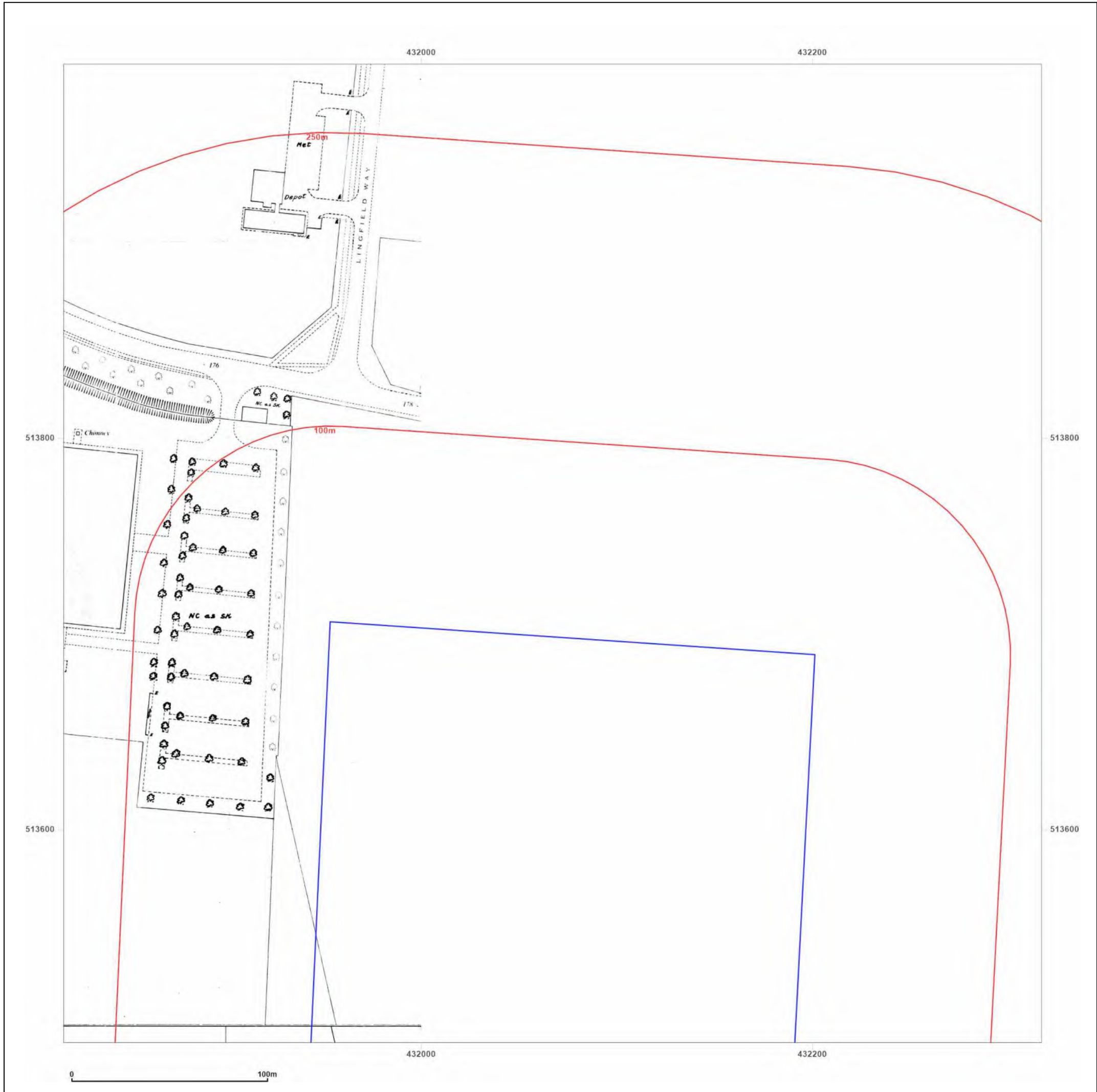
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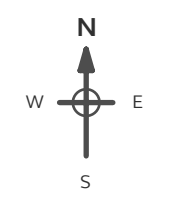


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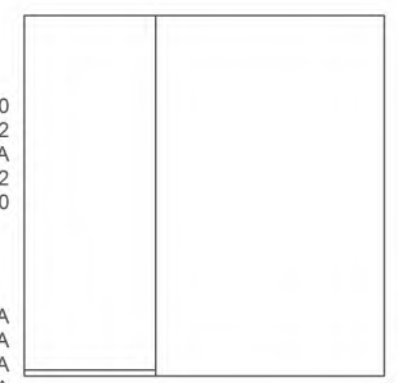
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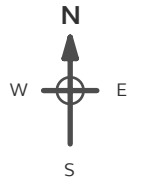
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Scale: 1:1,250
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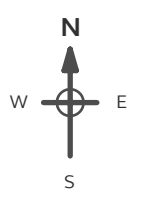


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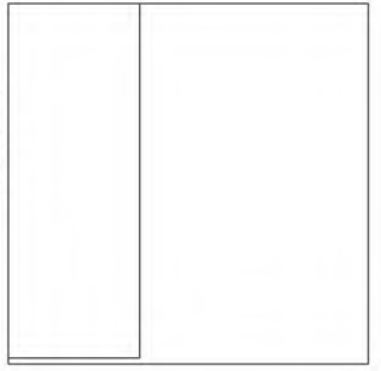
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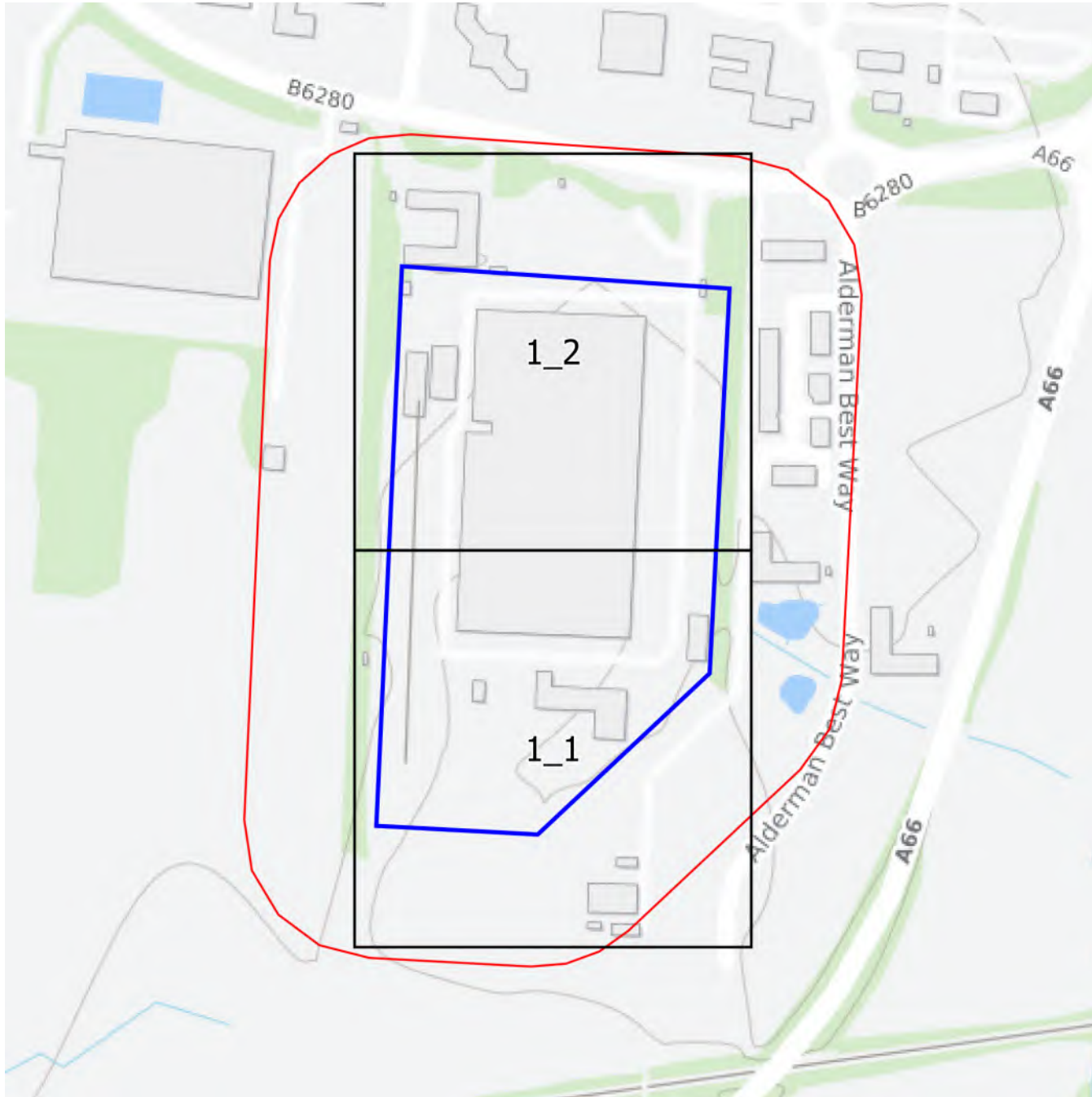
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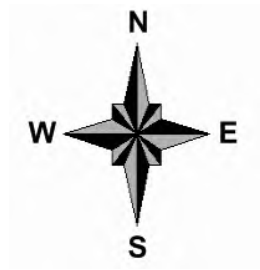
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Landline Scale Grid Index



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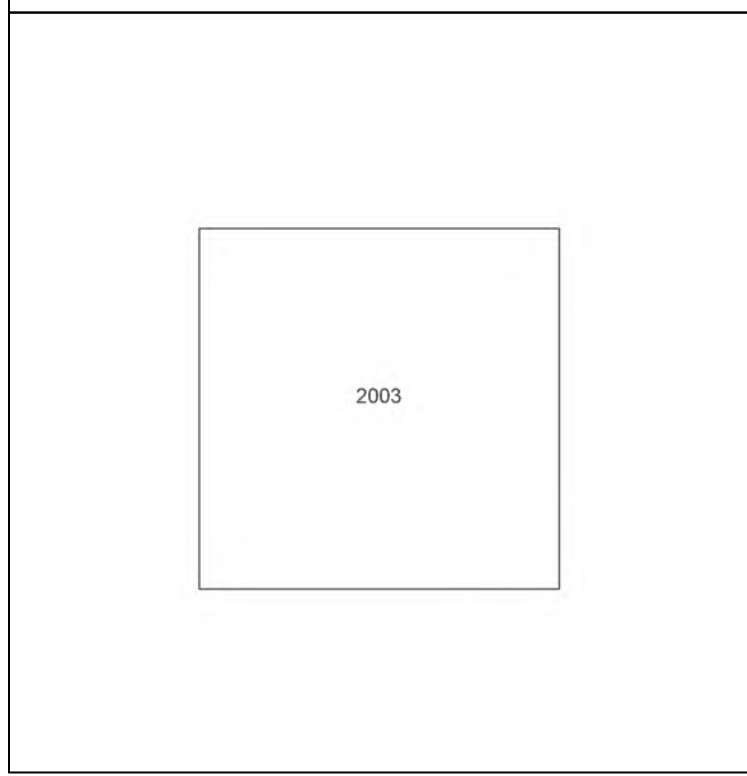
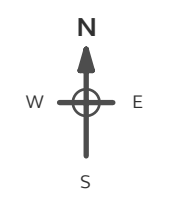
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Map date: 2003

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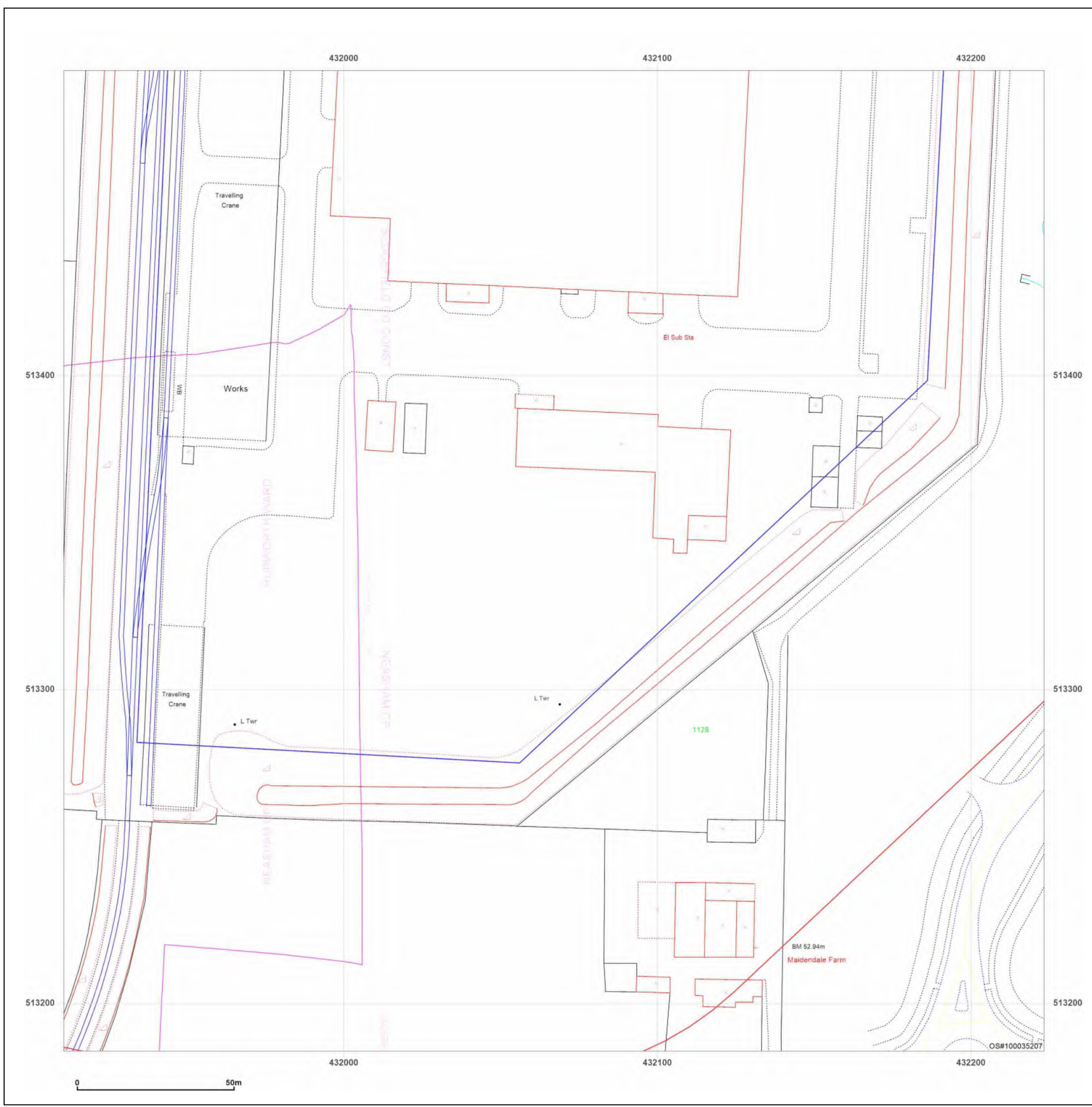


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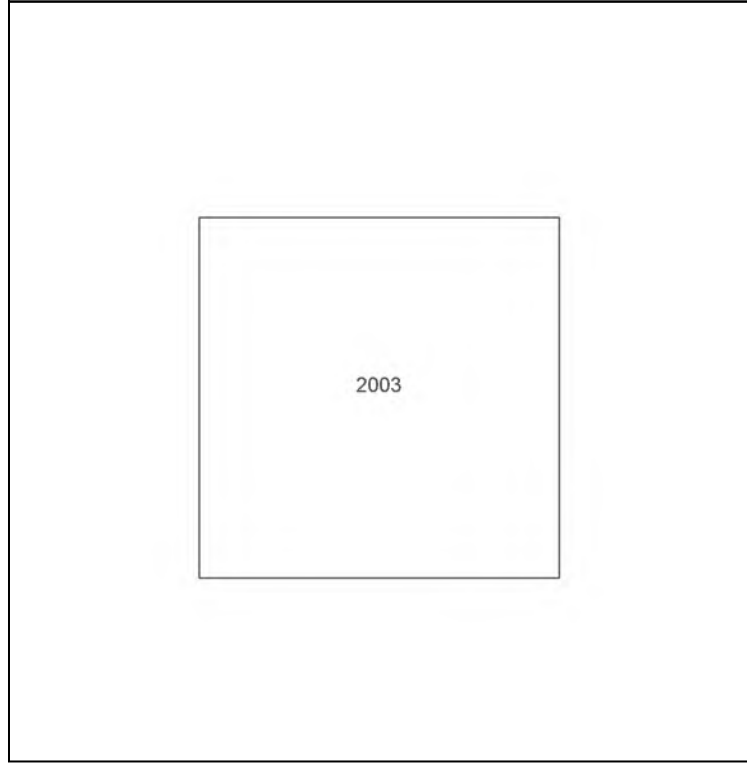
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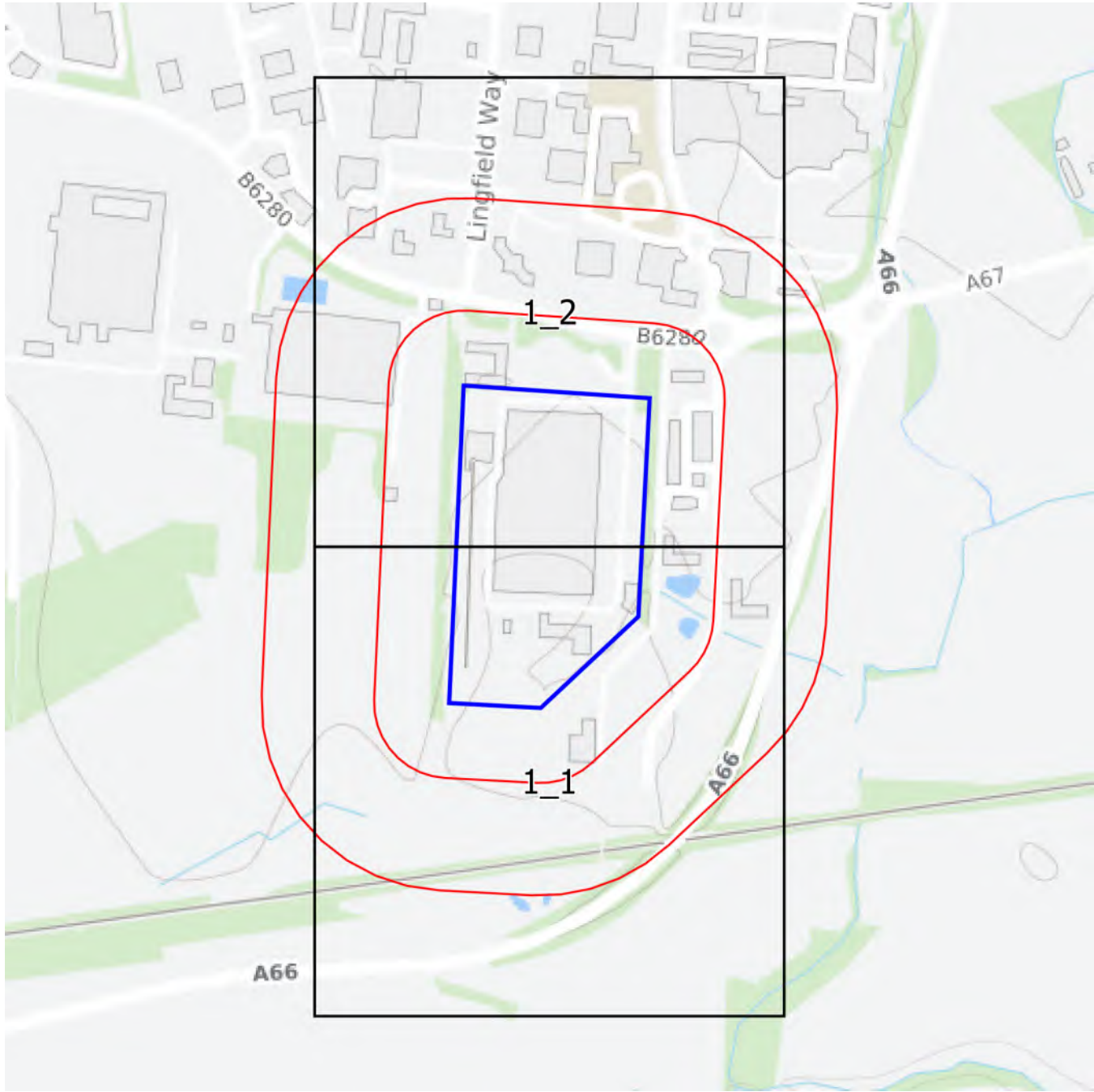


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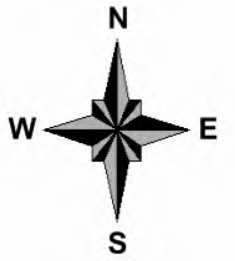
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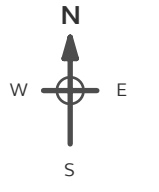
1:2,500 Scale Grid Index



Site Details:
 Cleveland House, Yarm Road,
 Darlington DL1 4DE

Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_1
Grid Ref: 432067, 513178

Map Name: County Series
Map date: 1857
Scale: 1:2,500
Printed at: 1:2,500



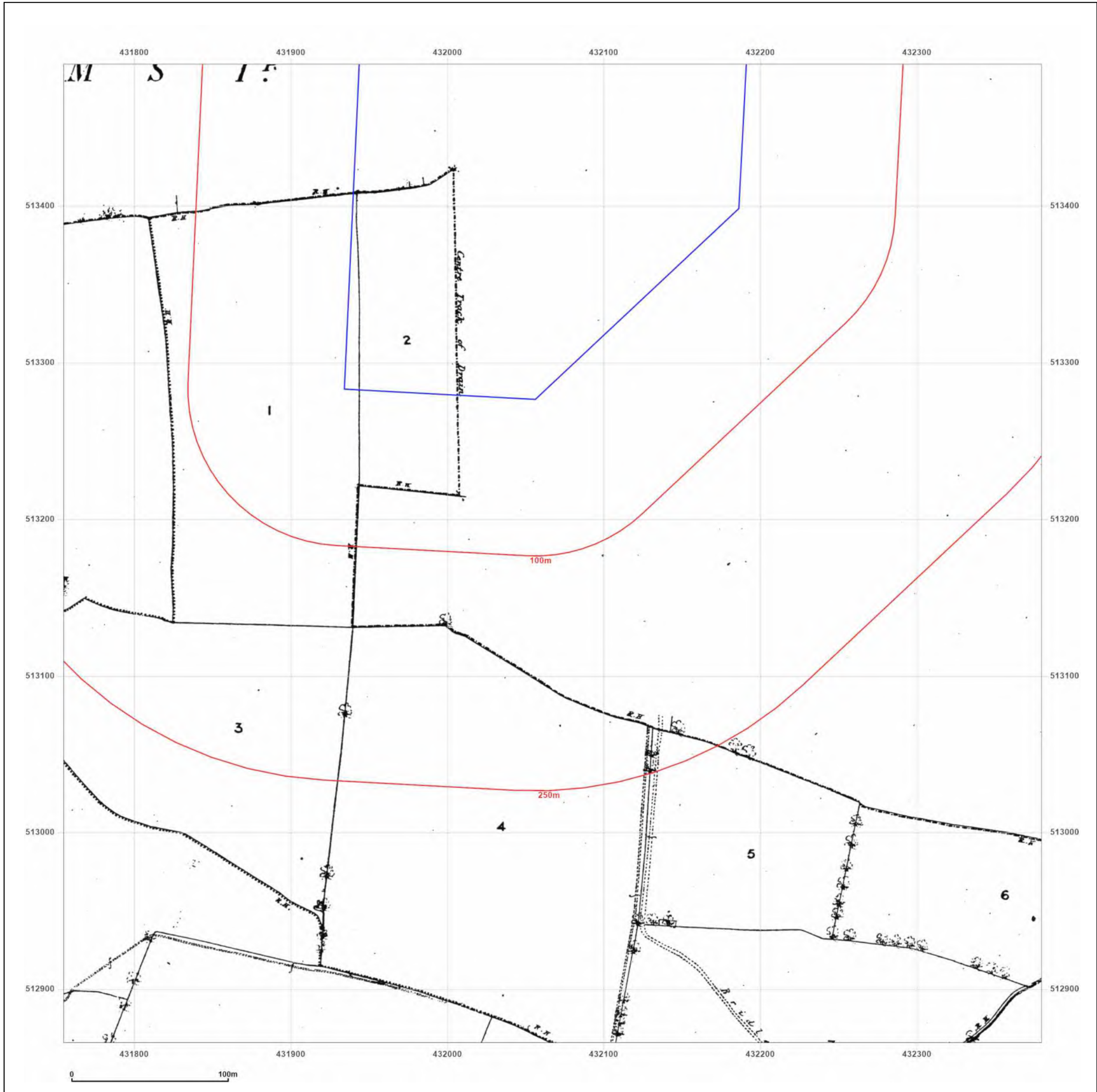
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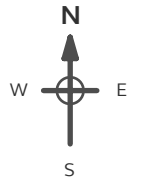
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 Darlington DL1 4DE

Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_1
Grid Ref: 432067, 513178

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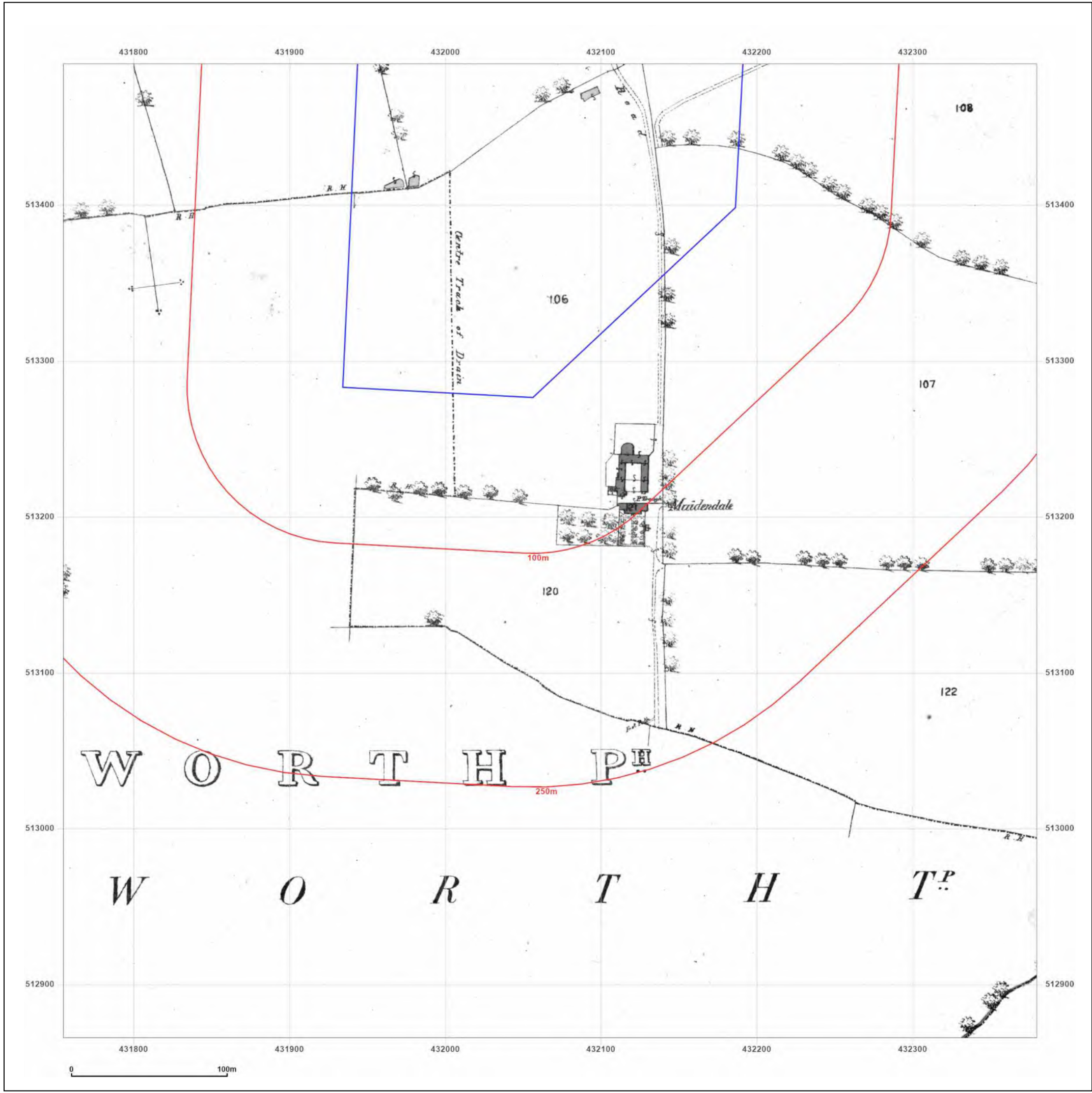
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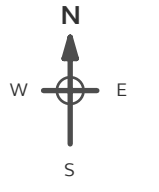
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 Cleveland House, Yarm Road,
 Darlington DL1 4DE

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Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_1
Grid Ref: 432067, 513178

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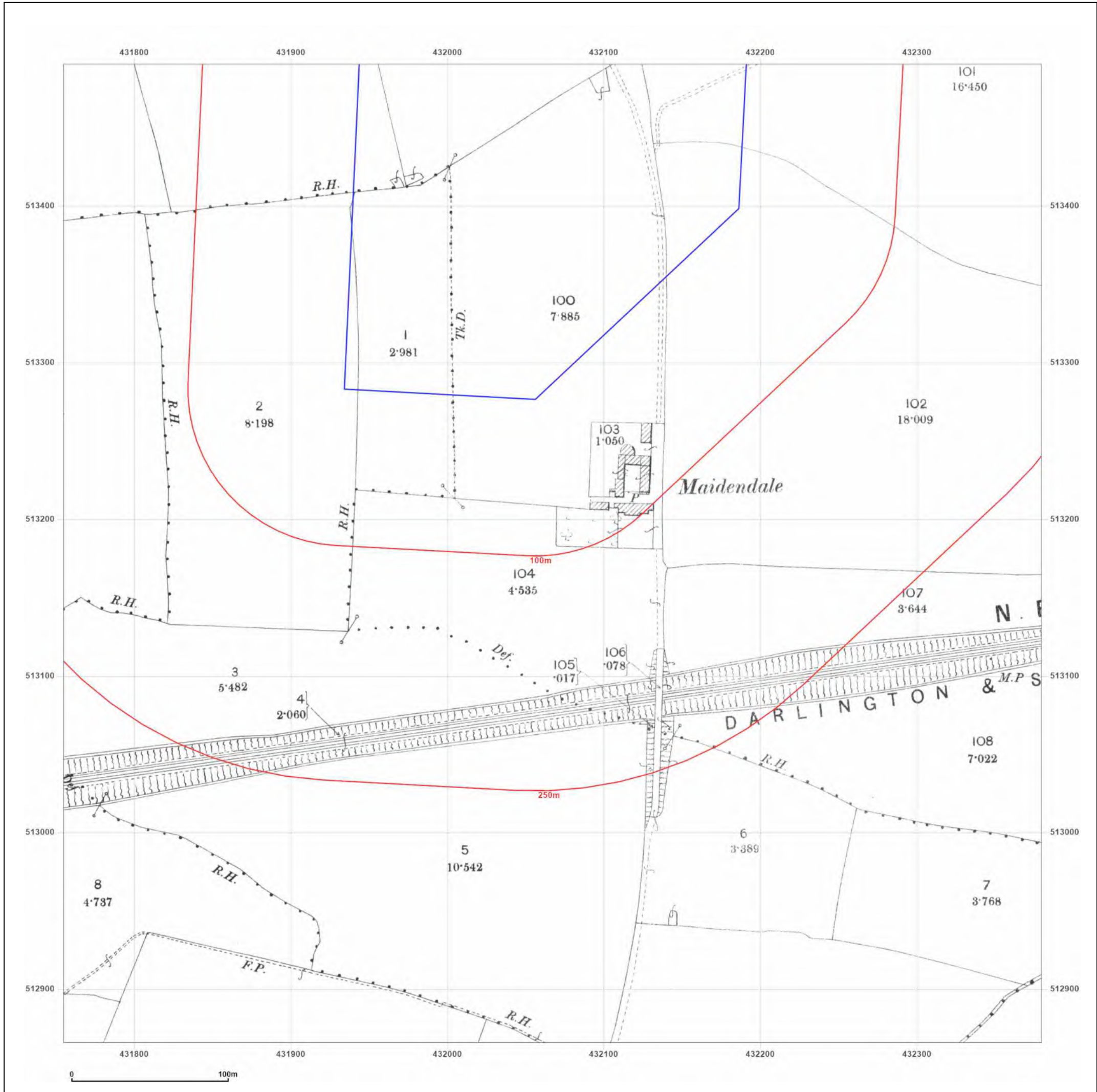
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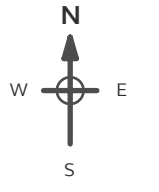
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 Darlington DL1 4DE

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Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_1
Grid Ref: 432067, 513178

Map Name: County Series
Map date: 1916
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Printed at: 1:2,500



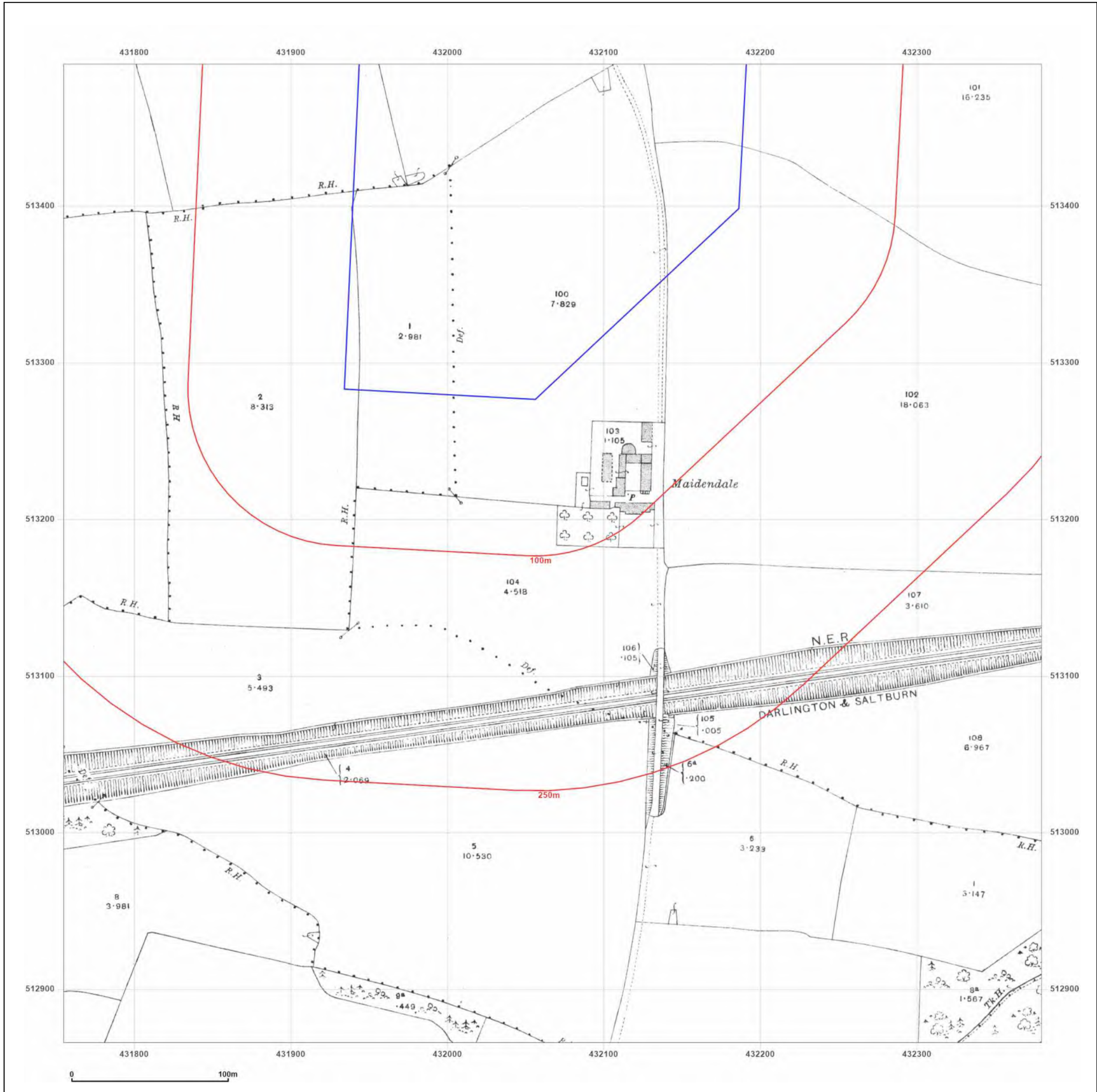
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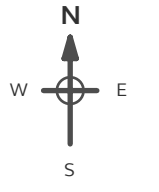
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 Cleveland House, Yarm Road,
 Darlington DL1 4DE

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Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_1
Grid Ref: 432067, 513178

Map Name: County Series
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Printed at: 1:2,500



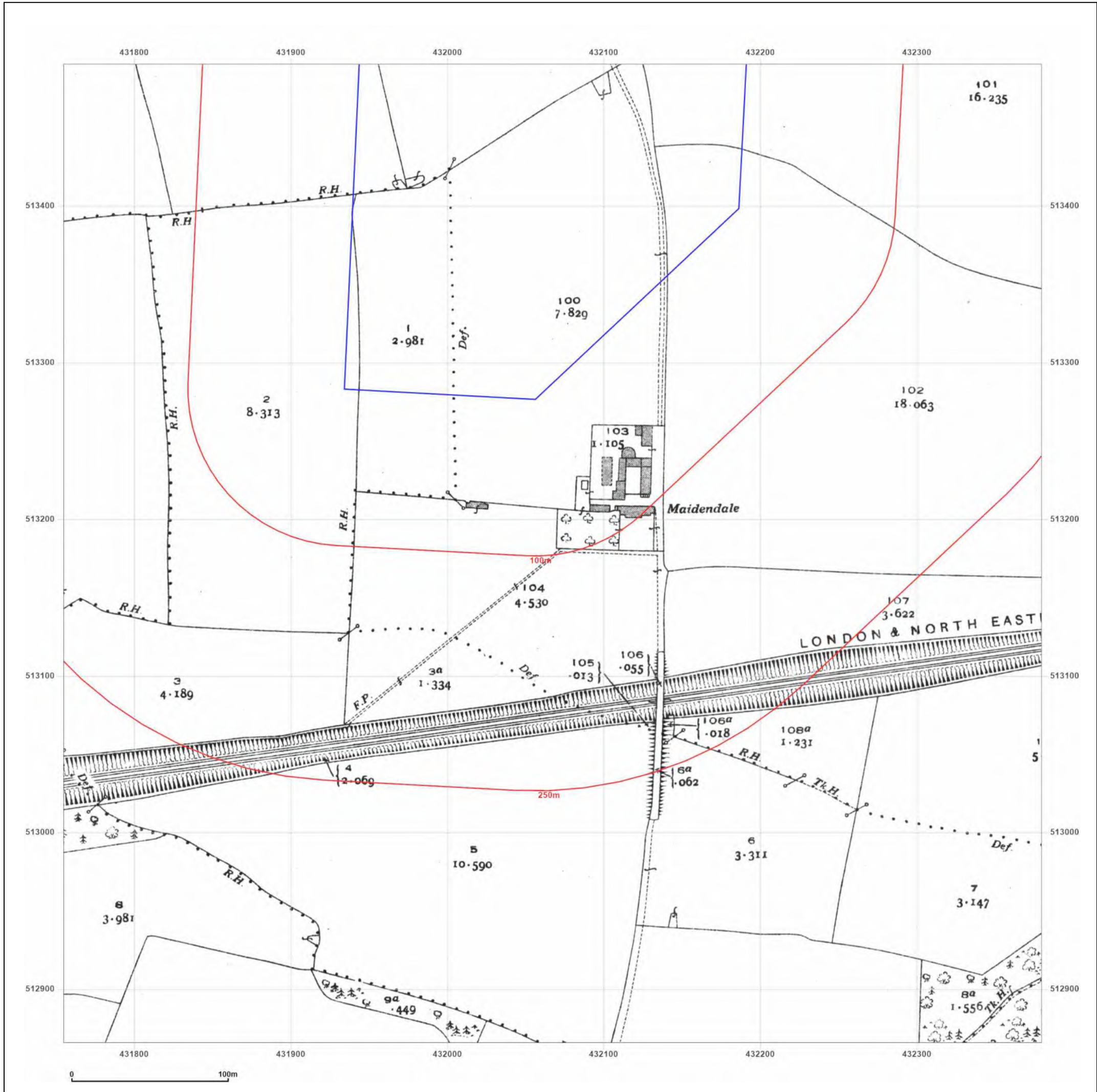
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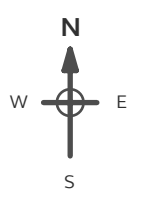


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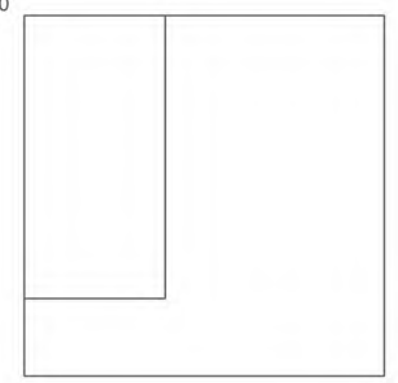
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Darlington DL1 4DE

Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_1
Grid Ref: 432067, 513178

Map Name: National Grid
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Scale: 1:2,500
Printed at: 1:2,500



Surveyed 1955
Revised 1955
Edition 1956
Copyright N/A
Levelled 1940

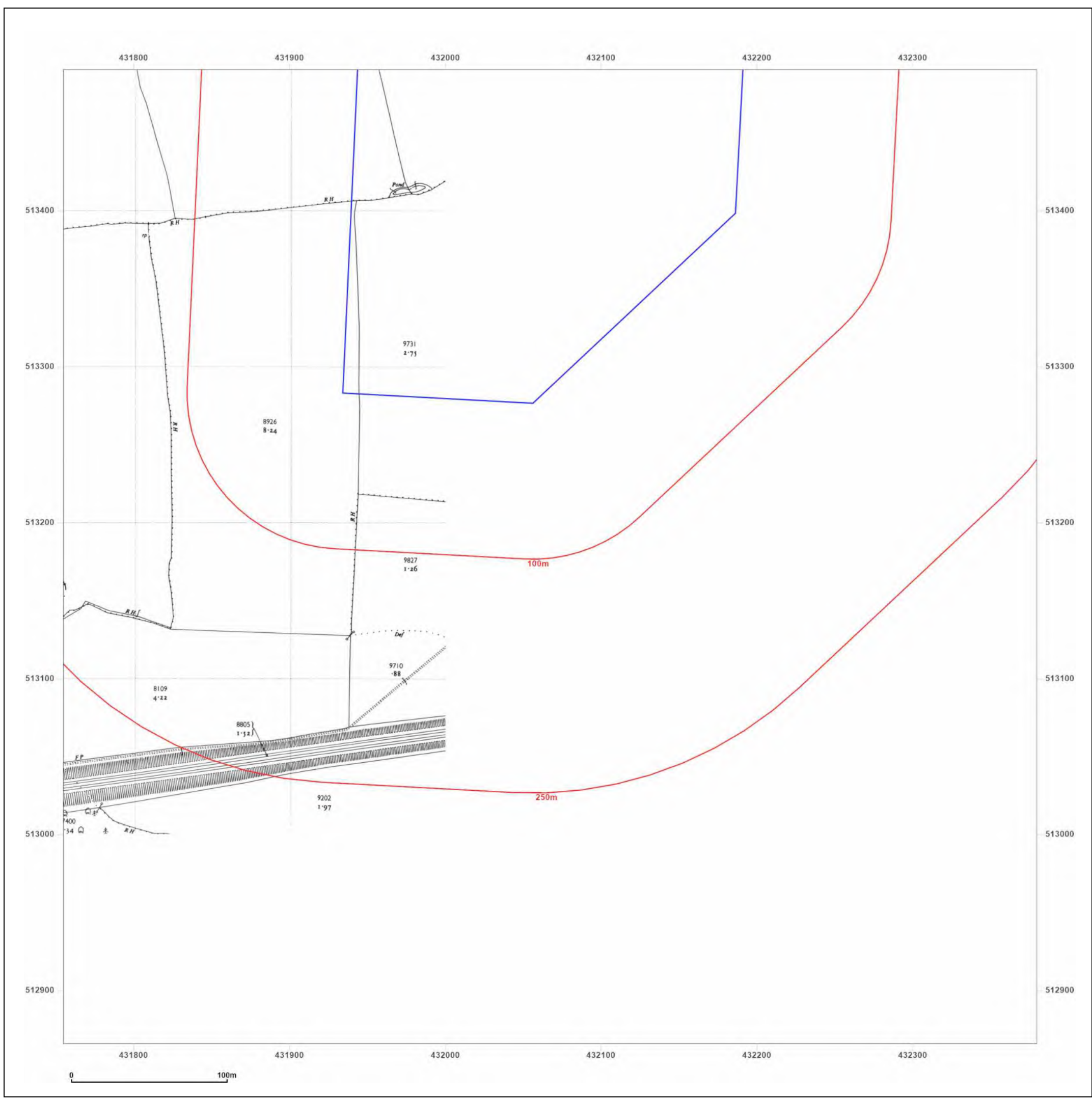


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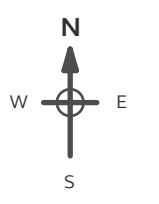


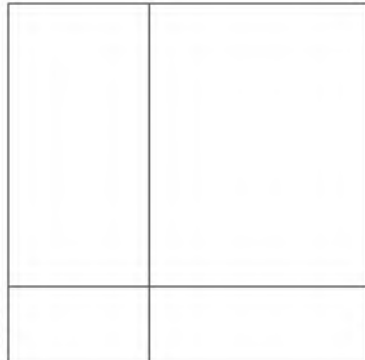
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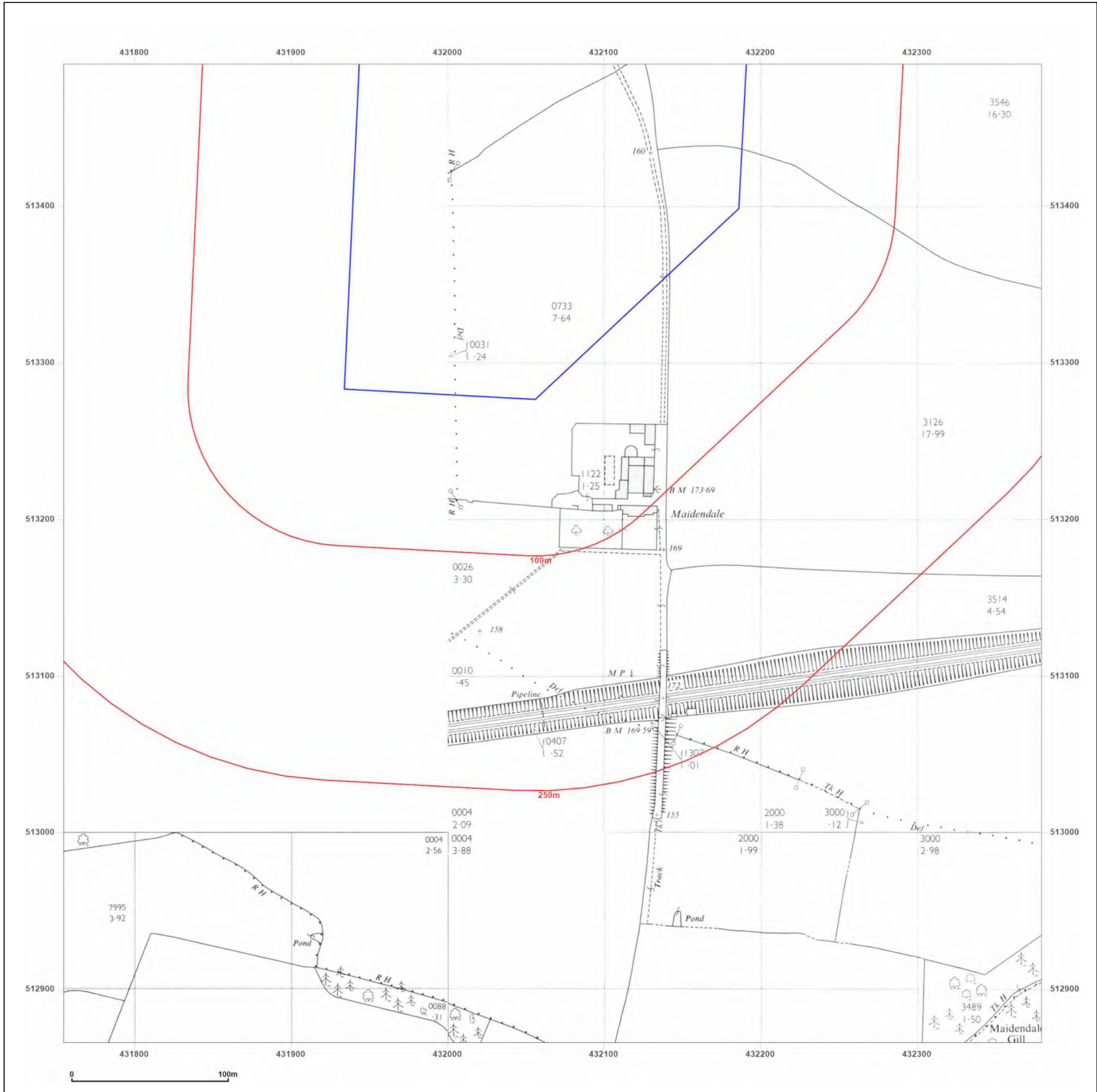
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Darlington DL1 4DE

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Grid Ref: 432067, 513178

Map Name: National Grid
Map date: 1964-1965
Scale: 1:2,500
Printed at: 1:2,500



<p>Surveyed 1964 Revised 1964 Edition N/A Copyright 1965 Levelled 1960</p>		<p>Surveyed 1962 Revised 1962 Edition N/A Copyright 1964 Levelled 1960</p>	<p>Surveyed 1964 Revised 1964 Edition N/A Copyright 1965 Levelled 1959</p>
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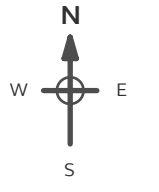
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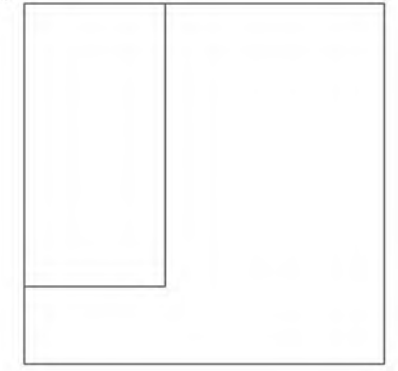
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 Darlington DL1 4DE

Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_1
Grid Ref: 432067, 513178

Map Name: National Grid
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Scale: 1:2,500
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Surveyed 1955
 Revised 1969
 Edition N/A
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 Levelled 1960



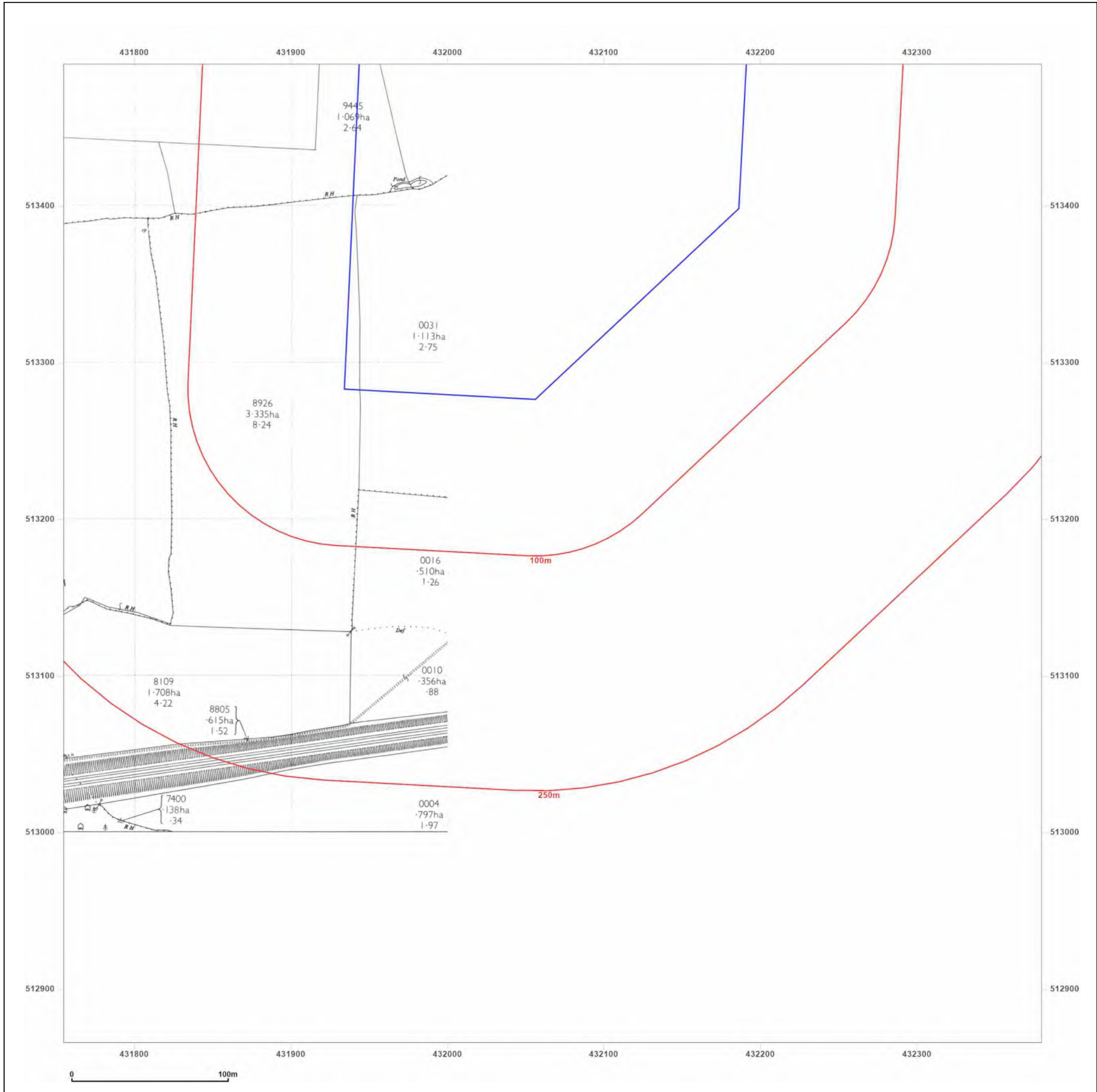
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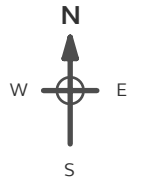
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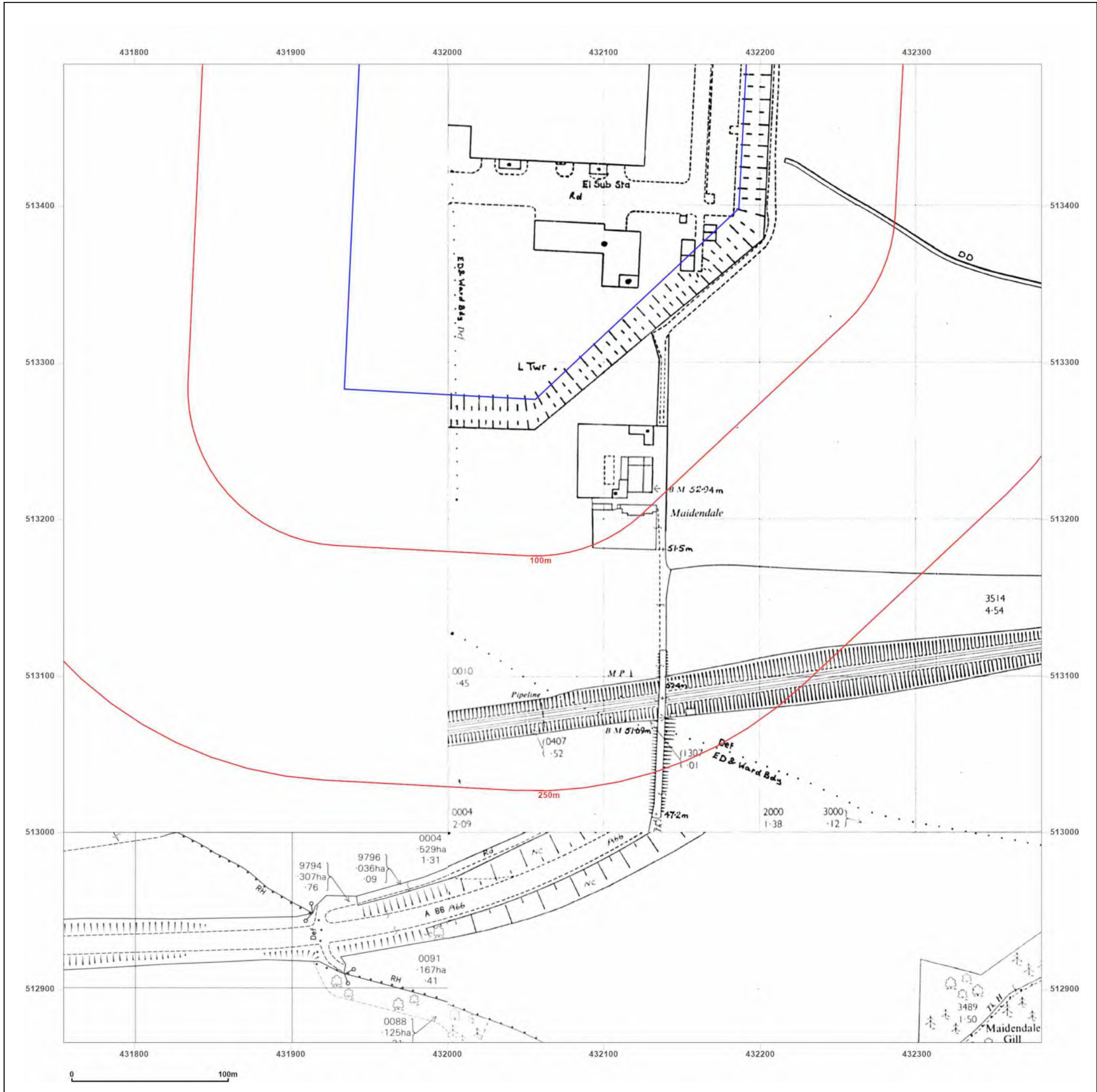
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Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_1
Grid Ref: 432067, 513178

Map Name: National Grid
Map date: 1984-1988
Scale: 1:2,500
Printed at: 1:2,500



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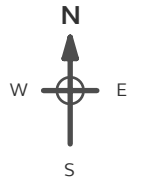
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Site Details:
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Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_1
Grid Ref: 432067, 513178

Map Name: National Grid
Map date: 1993
Scale: 1:2,500
Printed at: 1:2,500



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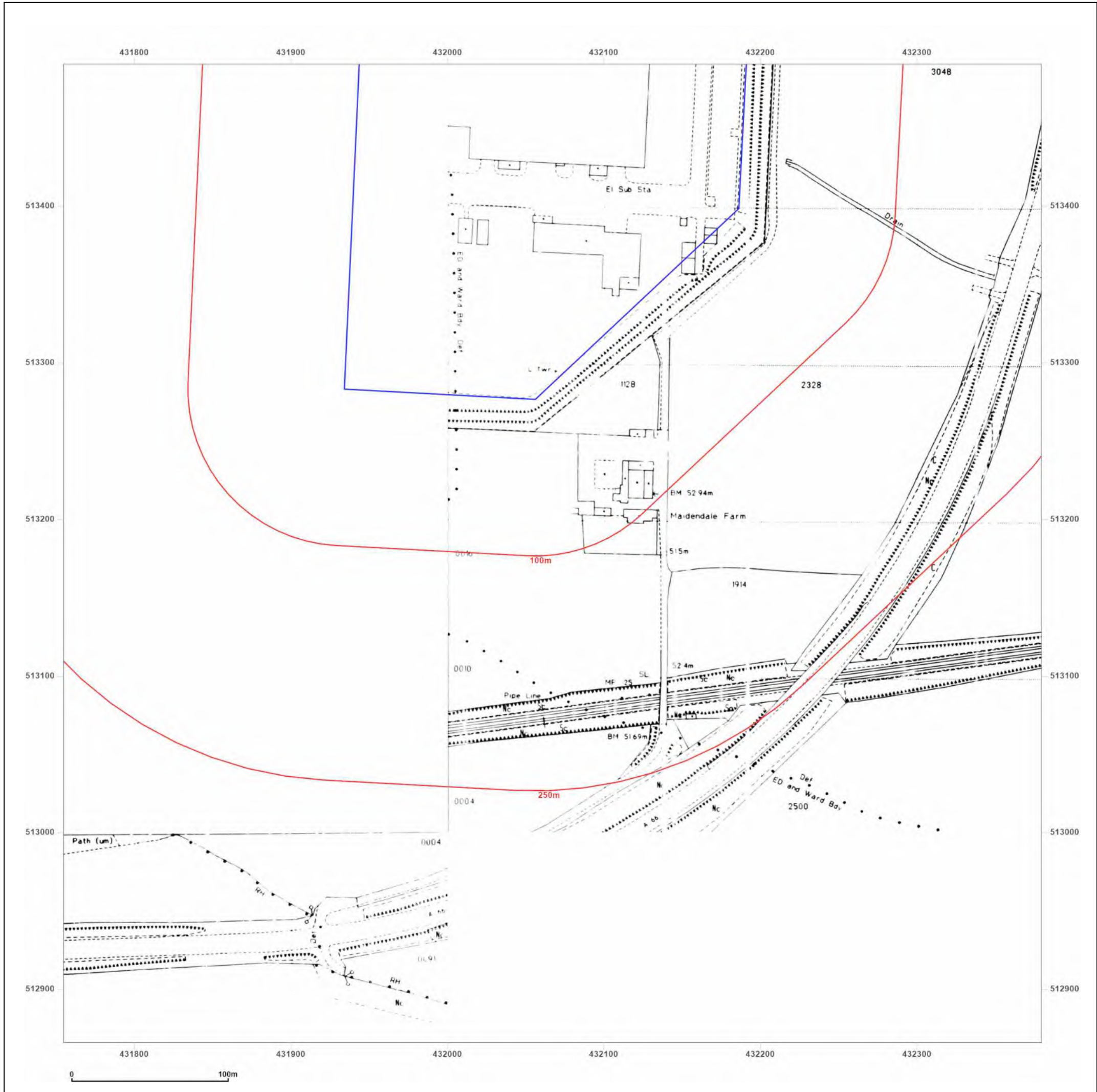
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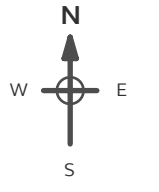
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Grid Ref: 432067, 513178

Map Name: National Grid

Map date: 1988-1993

Scale: 1:2,500

Printed at: 1:2,500



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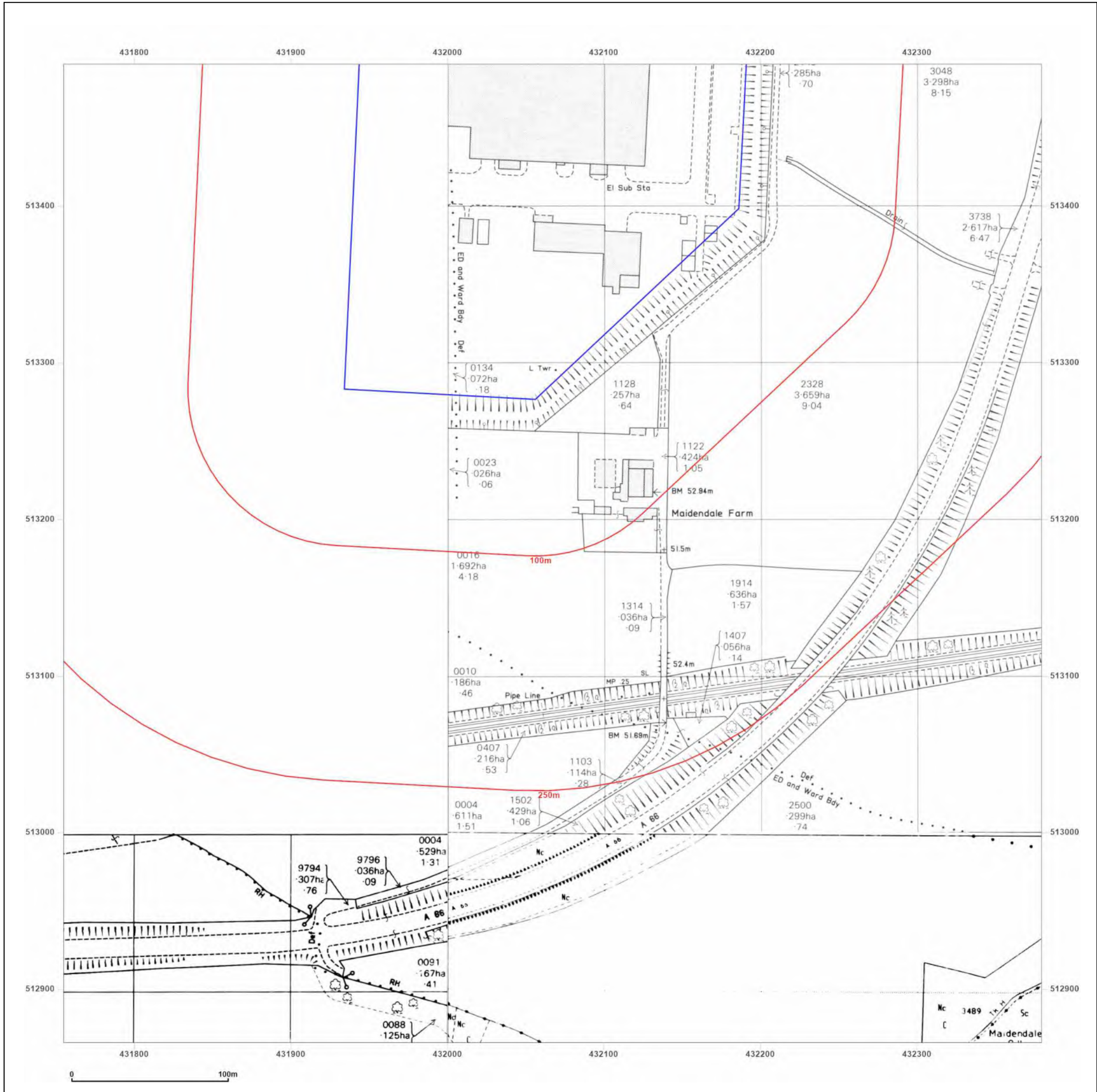


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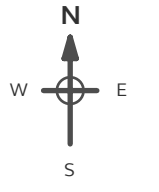
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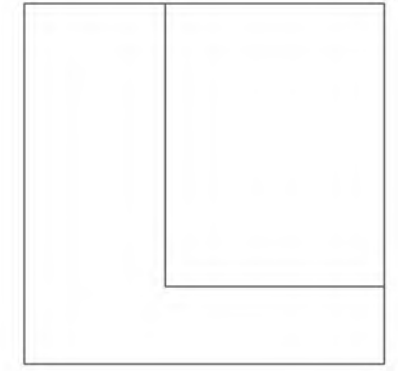
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Grid Ref: 432067, 513178

Map Name: National Grid
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 Edition N/A
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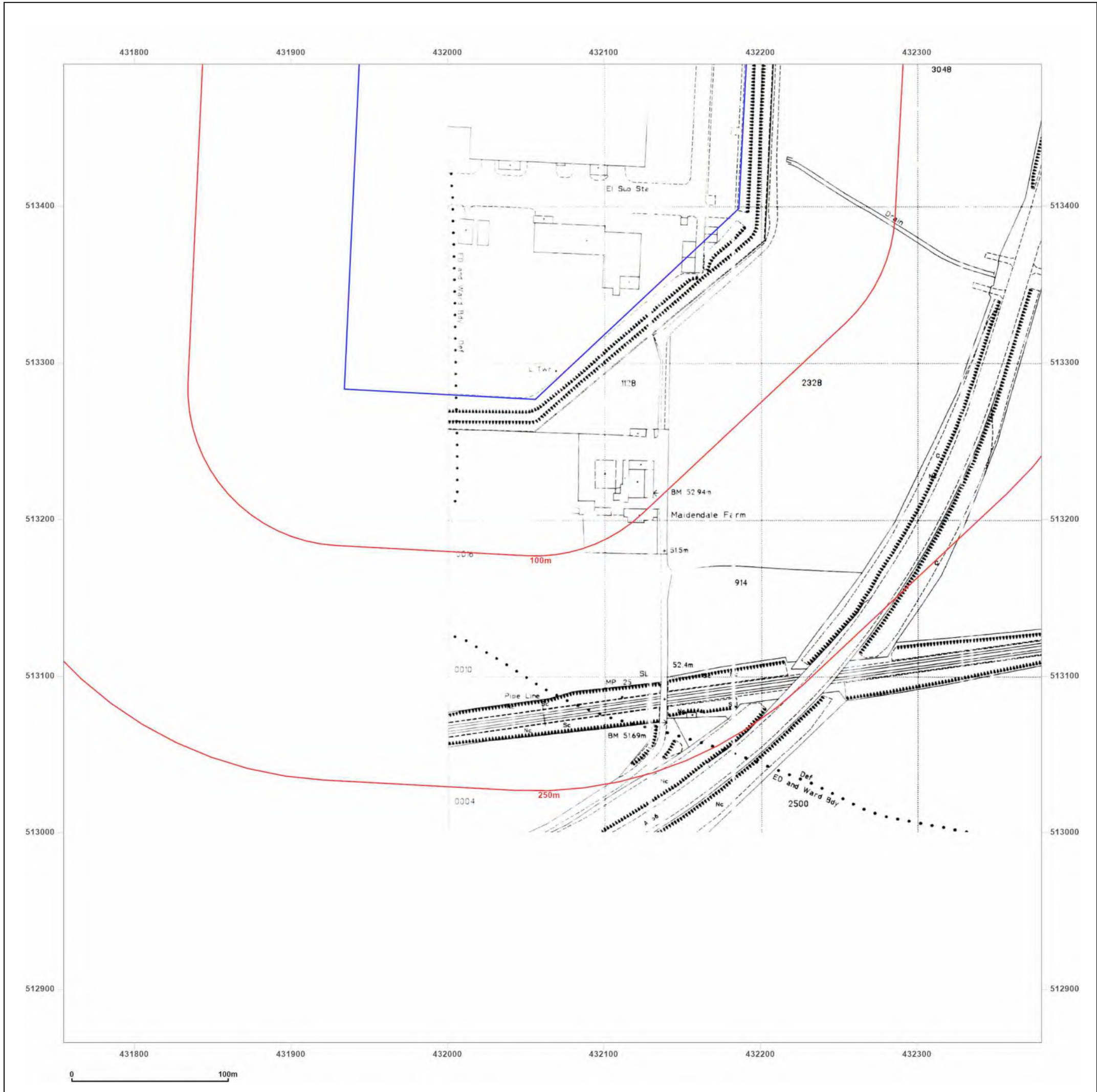


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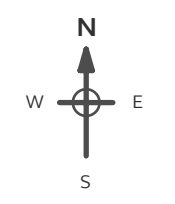
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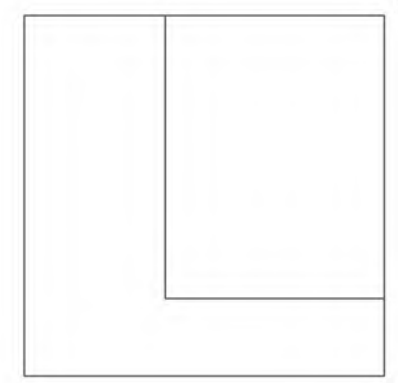
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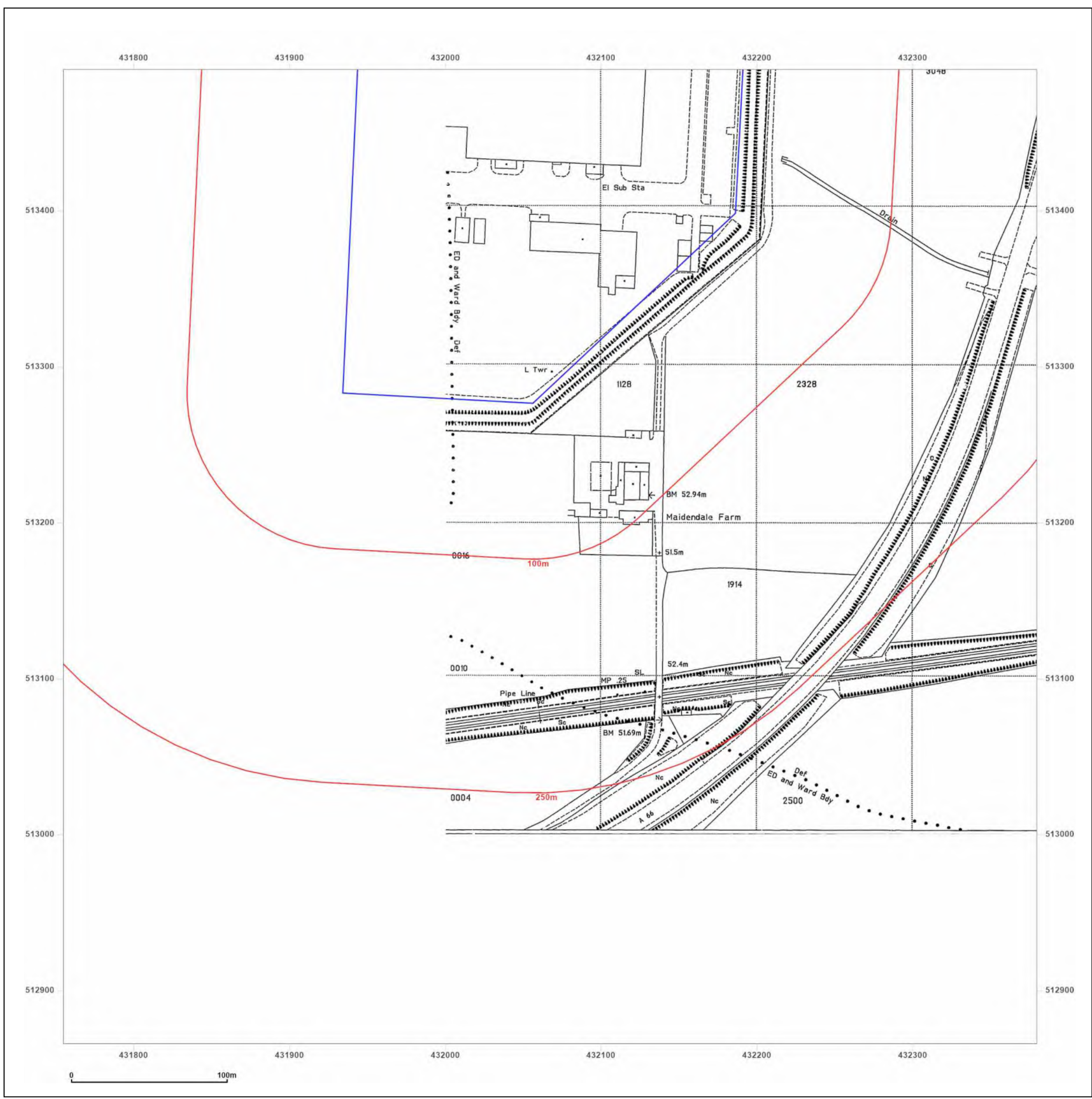


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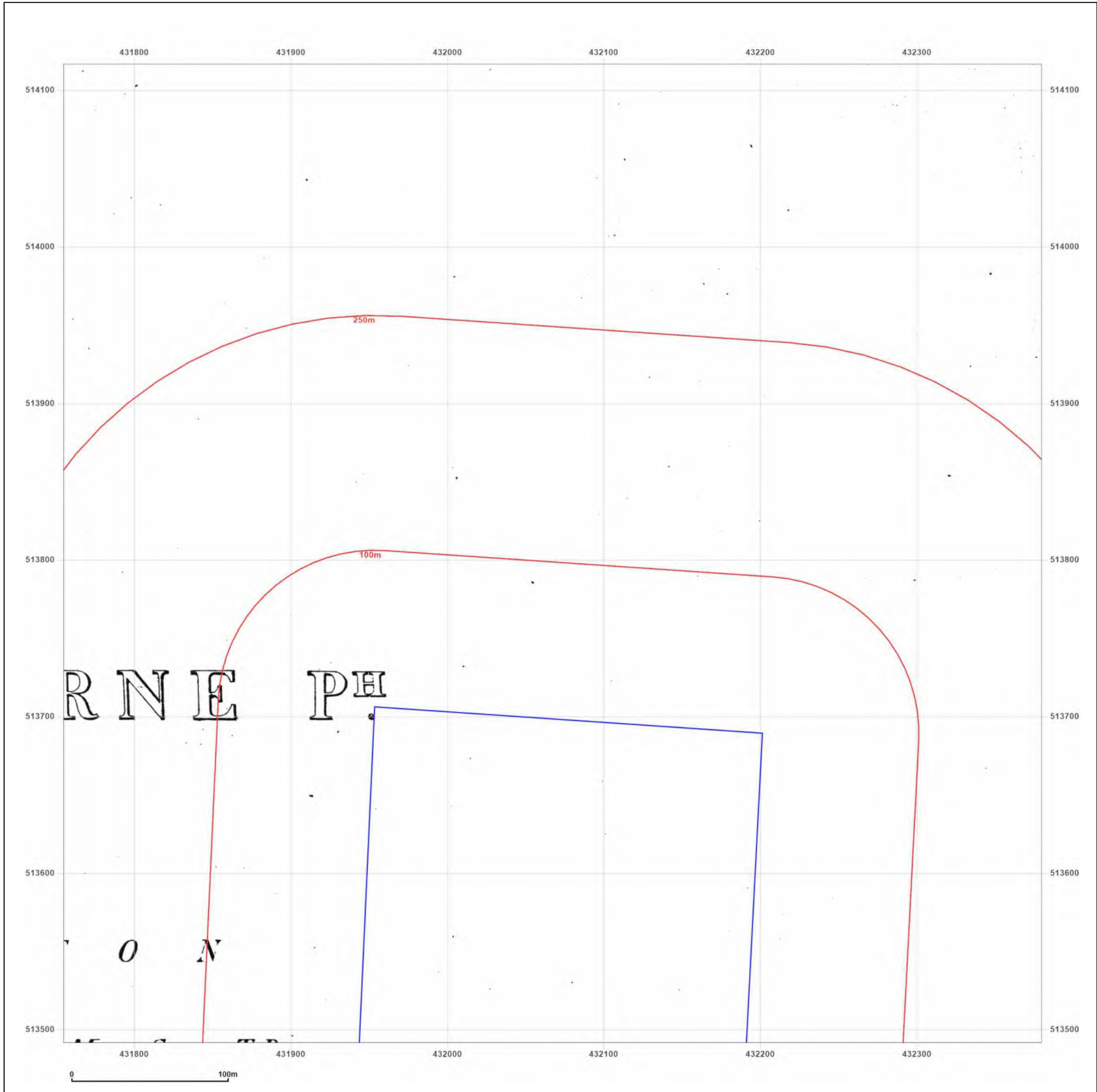
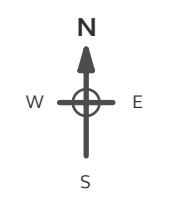
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Grid Ref: 432067, 513804

Map Name: County Series

Map date: 1857

Scale: 1:2,500

Printed at: 1:2,500



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Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_2
Grid Ref: 432067, 513804

Map Name: County Series

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Surveyed 1857
Revised 1857
Edition N/A
Copyright N/A
Levelled N/A

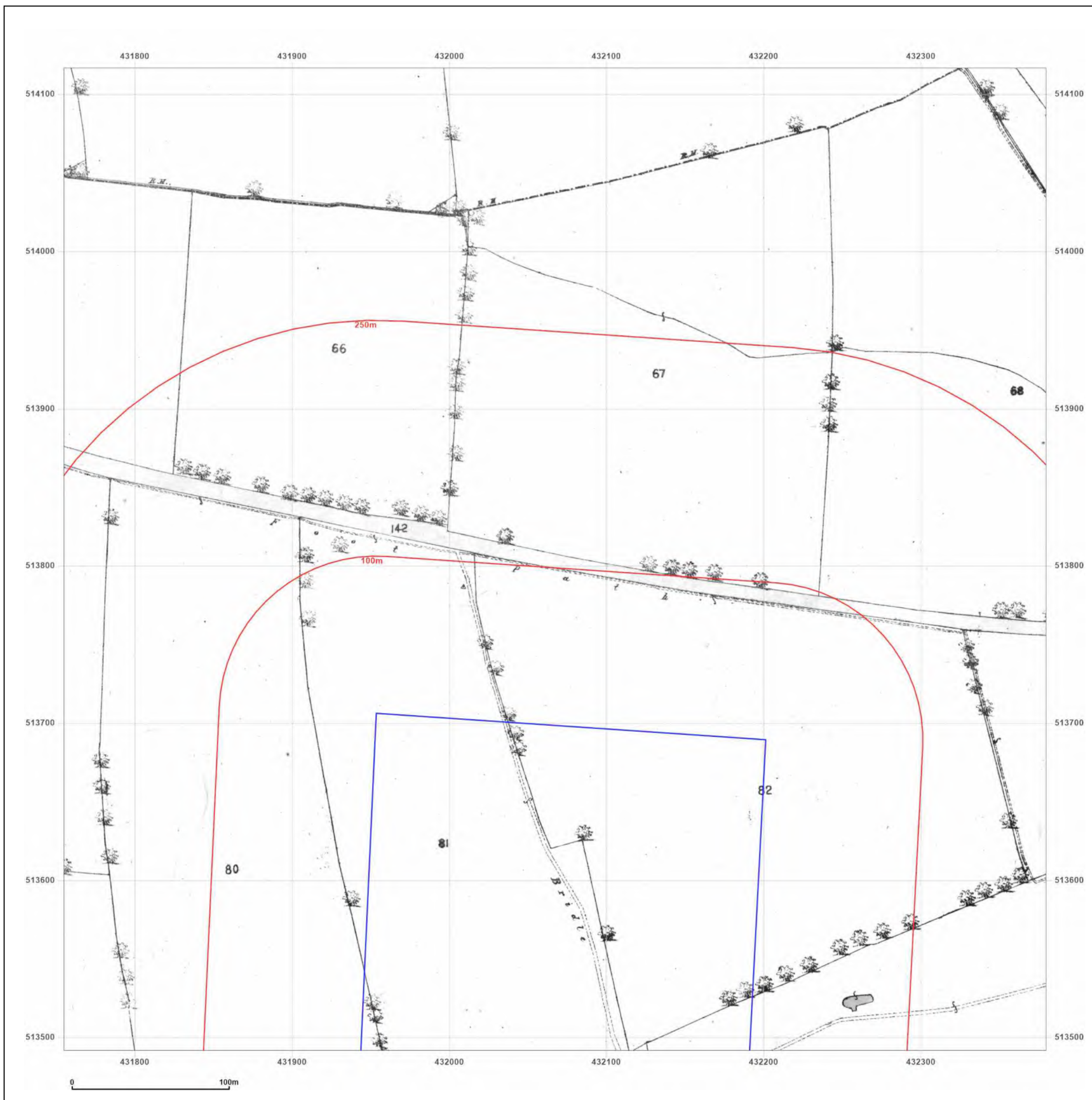


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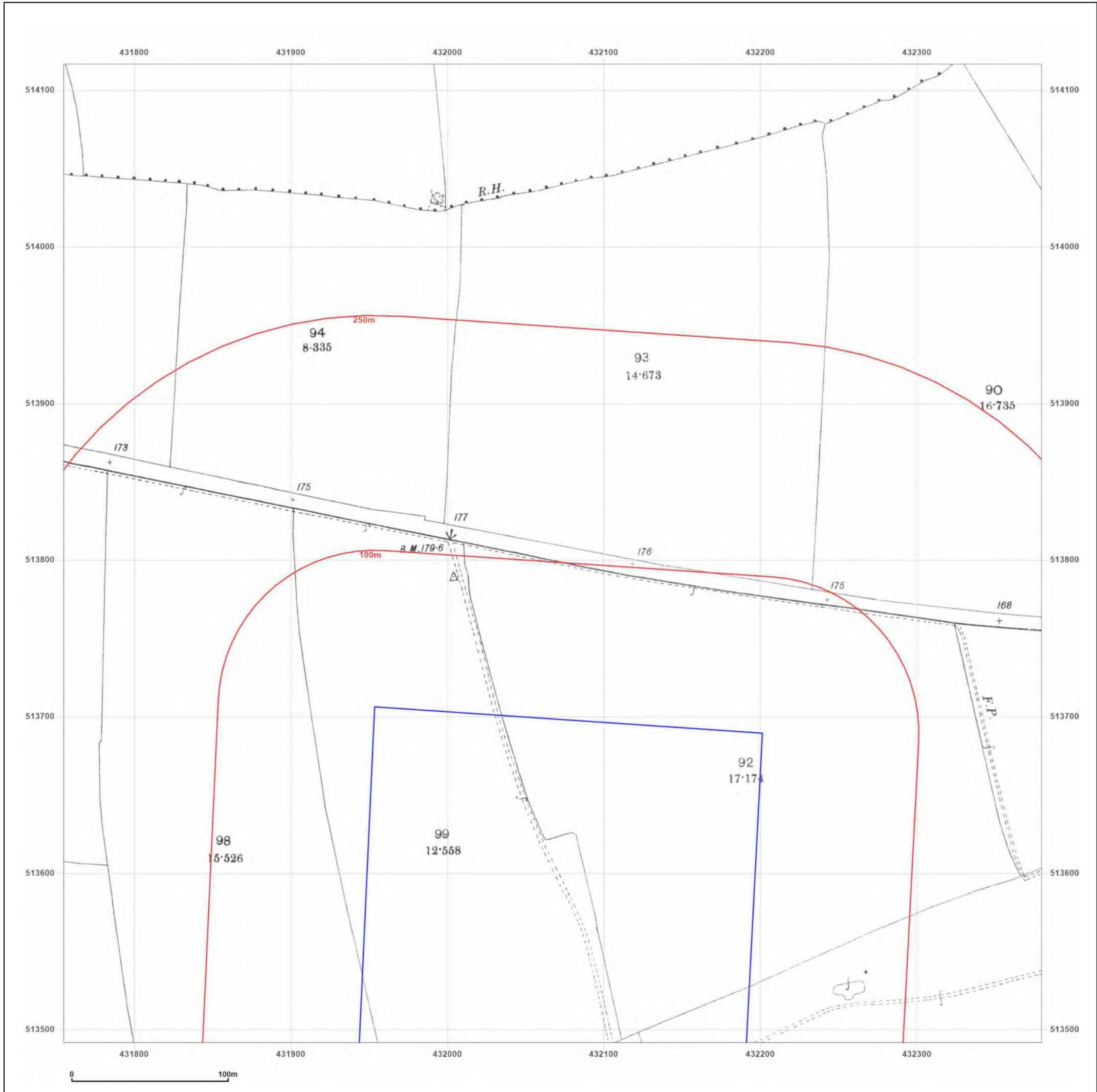
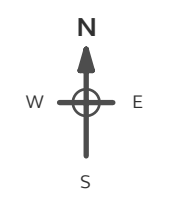
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Grid Ref: 432067, 513804

Map Name: County Series

Map date: 1897

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1897
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Edition N/A
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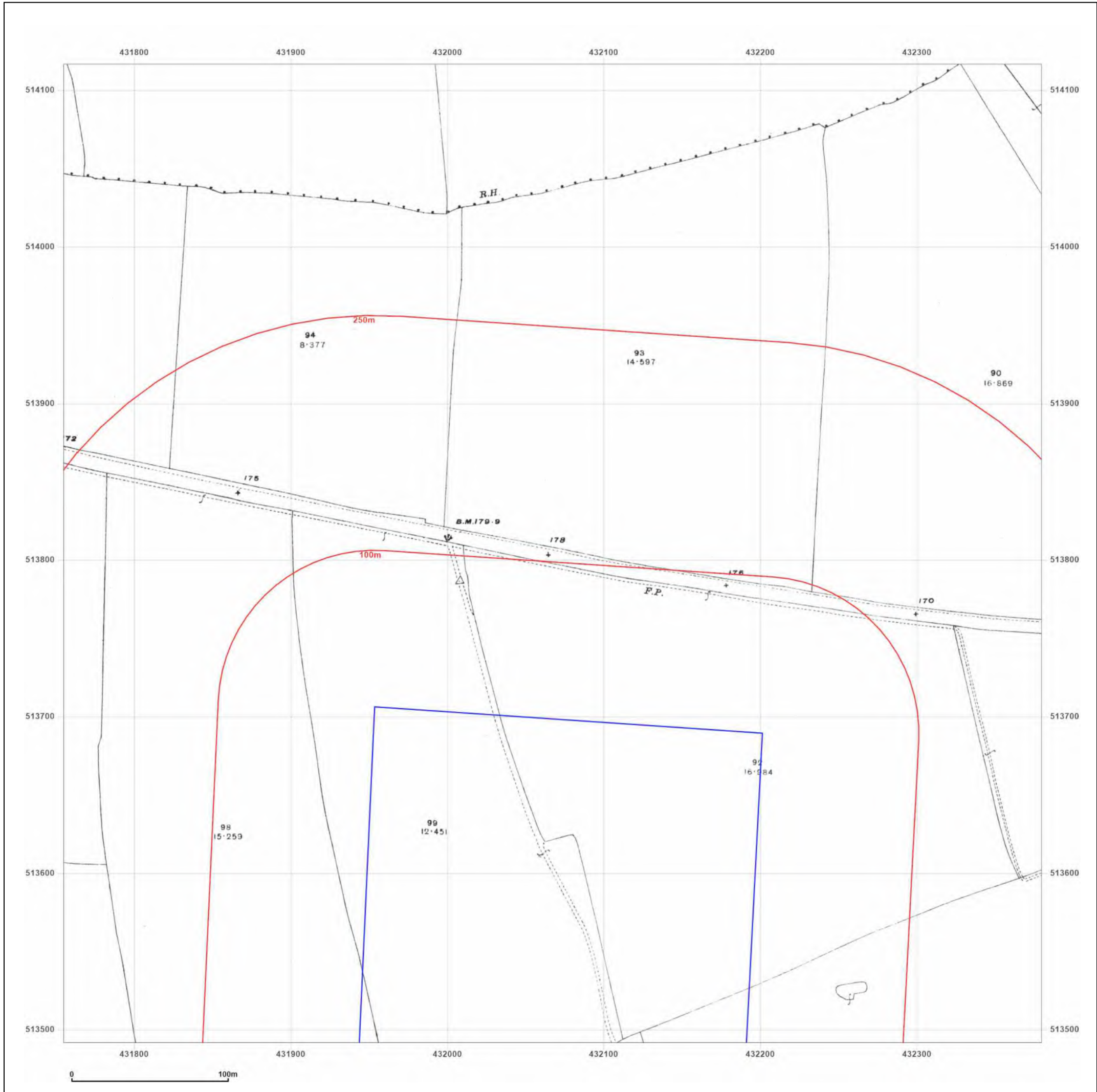
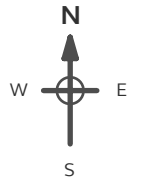
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Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_2
Grid Ref: 432067, 513804

Map Name: County Series
Map date: 1916
Scale: 1:2,500
Printed at: 1:2,500



Surveyed 1916
 Revised 1916
 Edition N/A
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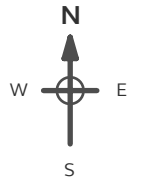
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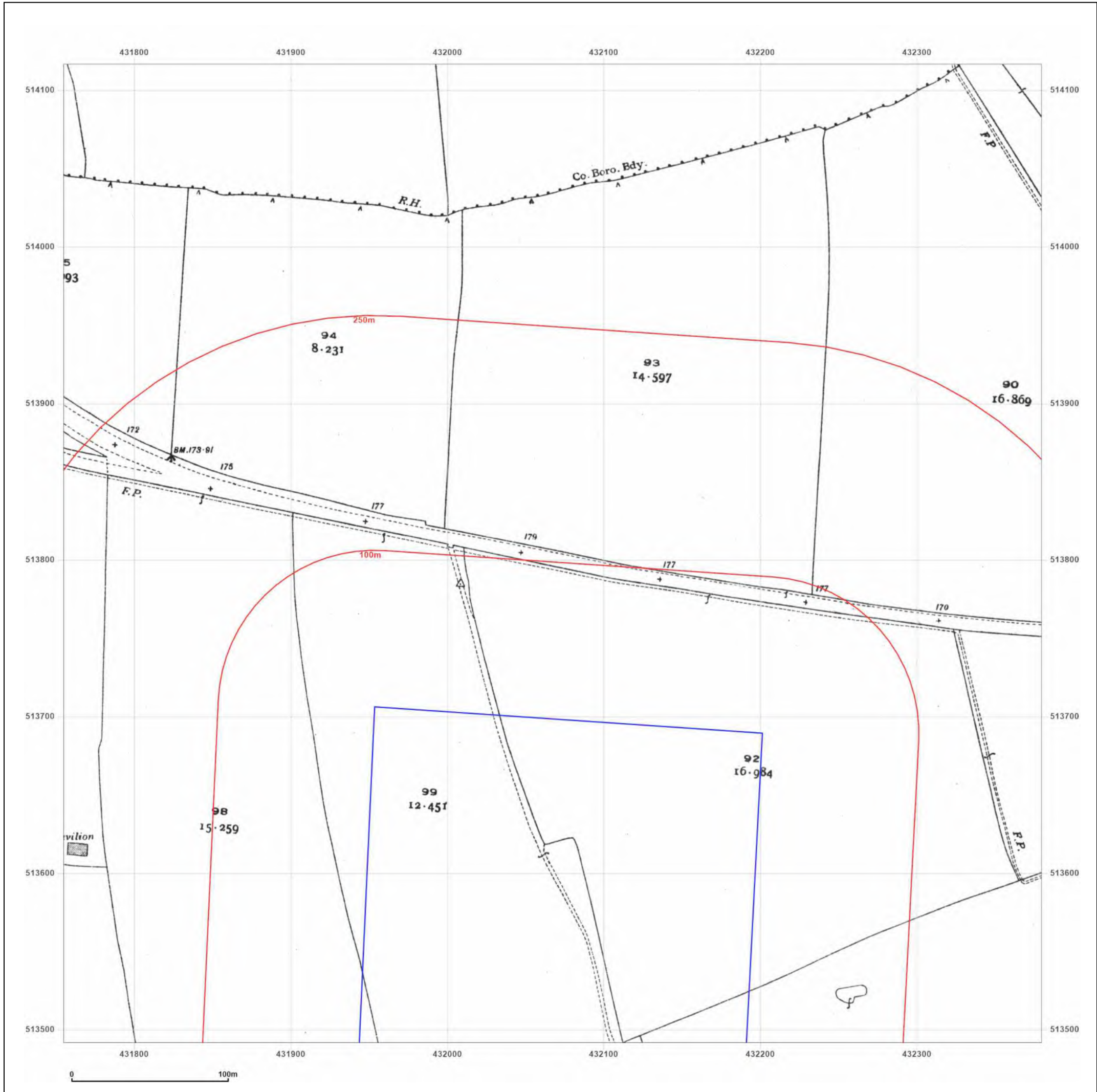


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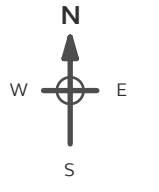
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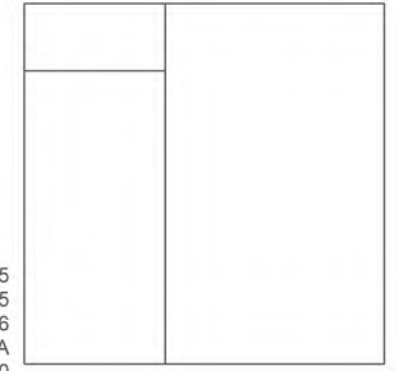
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Grid Ref: 432067, 513804

Map Name: National Grid
Map date: 1956
Scale: 1:2,500
Printed at: 1:2,500



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Surveyed 1955
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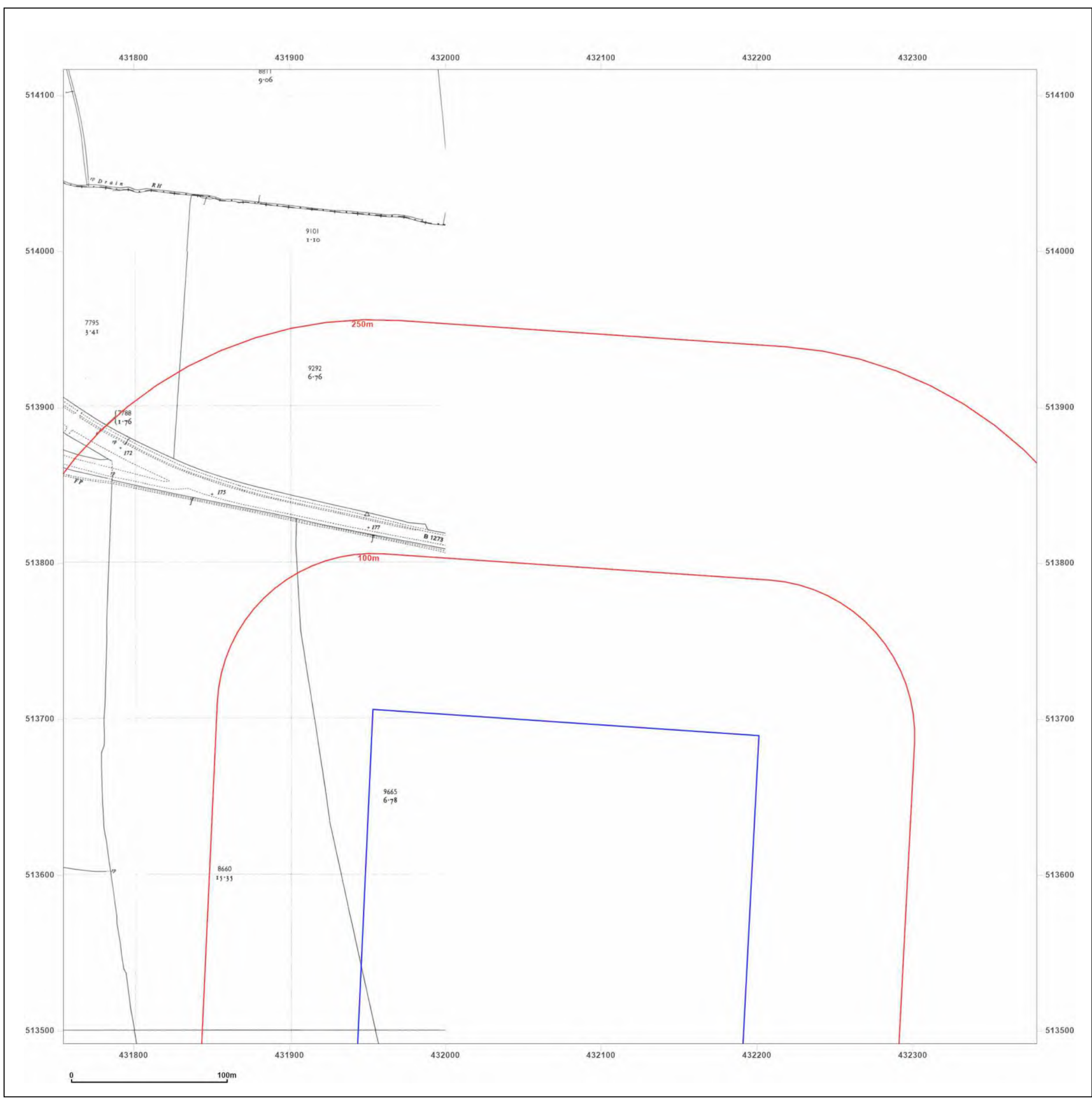


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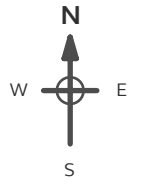
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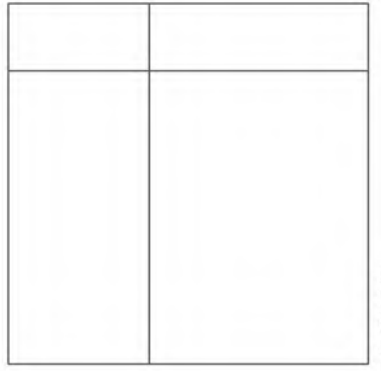
Site Details:
 Cleveland House, Yarm Road,
 Darlington DL1 4DE

Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_2
Grid Ref: 432067, 513804

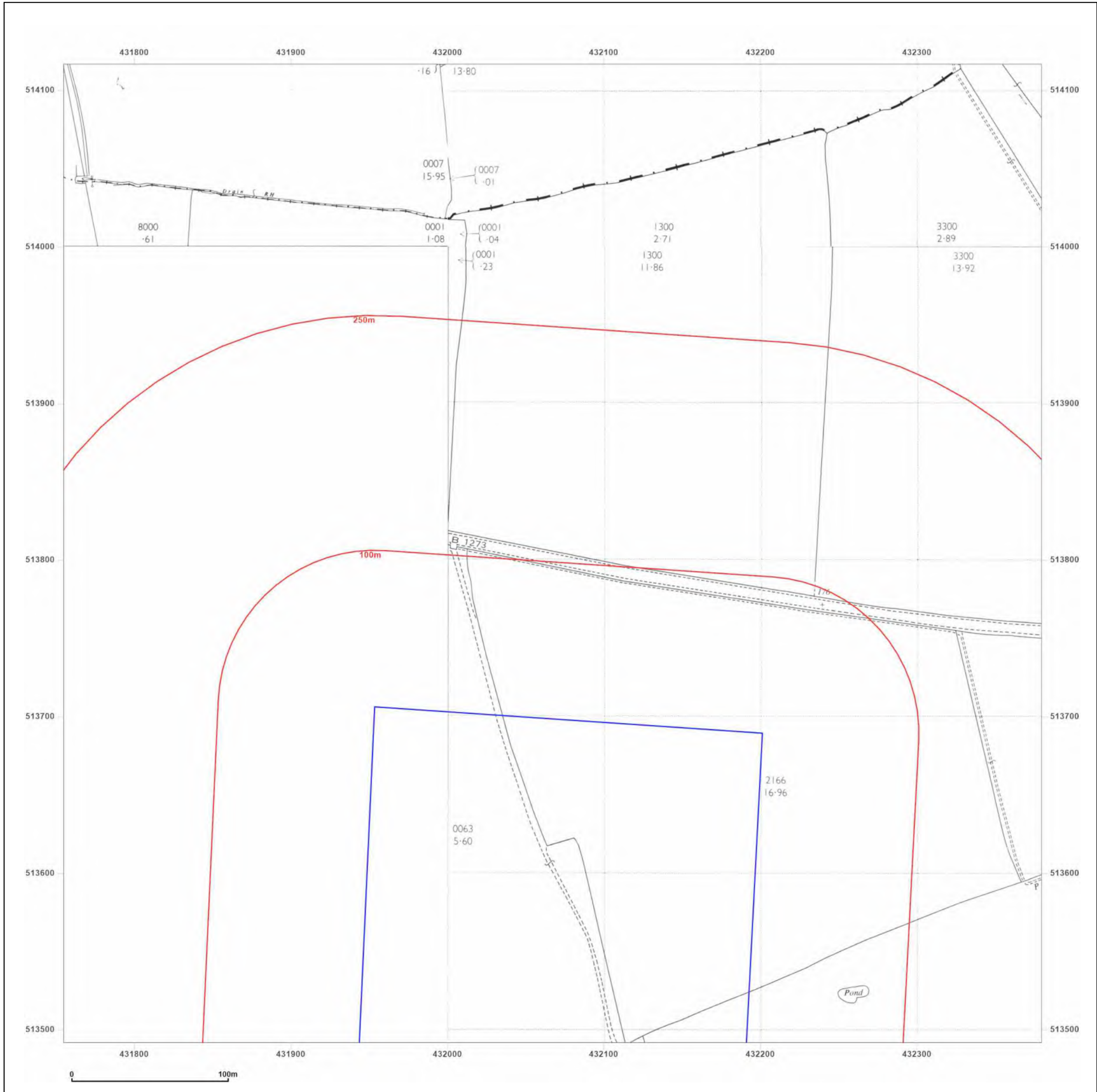
Map Name: National Grid
Map date: 1965-1967
Scale: 1:2,500
Printed at: 1:2,500



Surveyed 1965 Revised 1965 Edition N/A Copyright 1967 Levelled 1960	Surveyed 1964 Revised 1964 Edition N/A Copyright 1965 Levelled 1960
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Surveyed 1964 Revised 1964 Edition N/A Copyright 1965 Levelled 1960

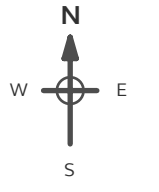
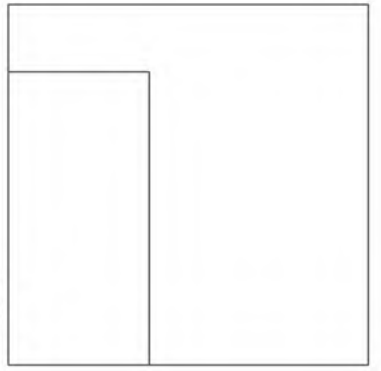


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Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_2
Grid Ref: 432067, 513804

Map Name: National Grid
Map date: 1971
Scale: 1:2,500
Printed at: 1:2,500

Surveyed 1955
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 Edition N/A
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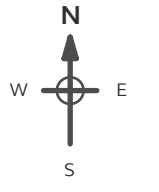
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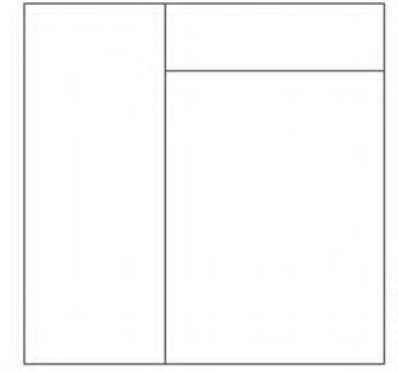
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 Darlington DL1 4DE

Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_2
Grid Ref: 432067, 513804

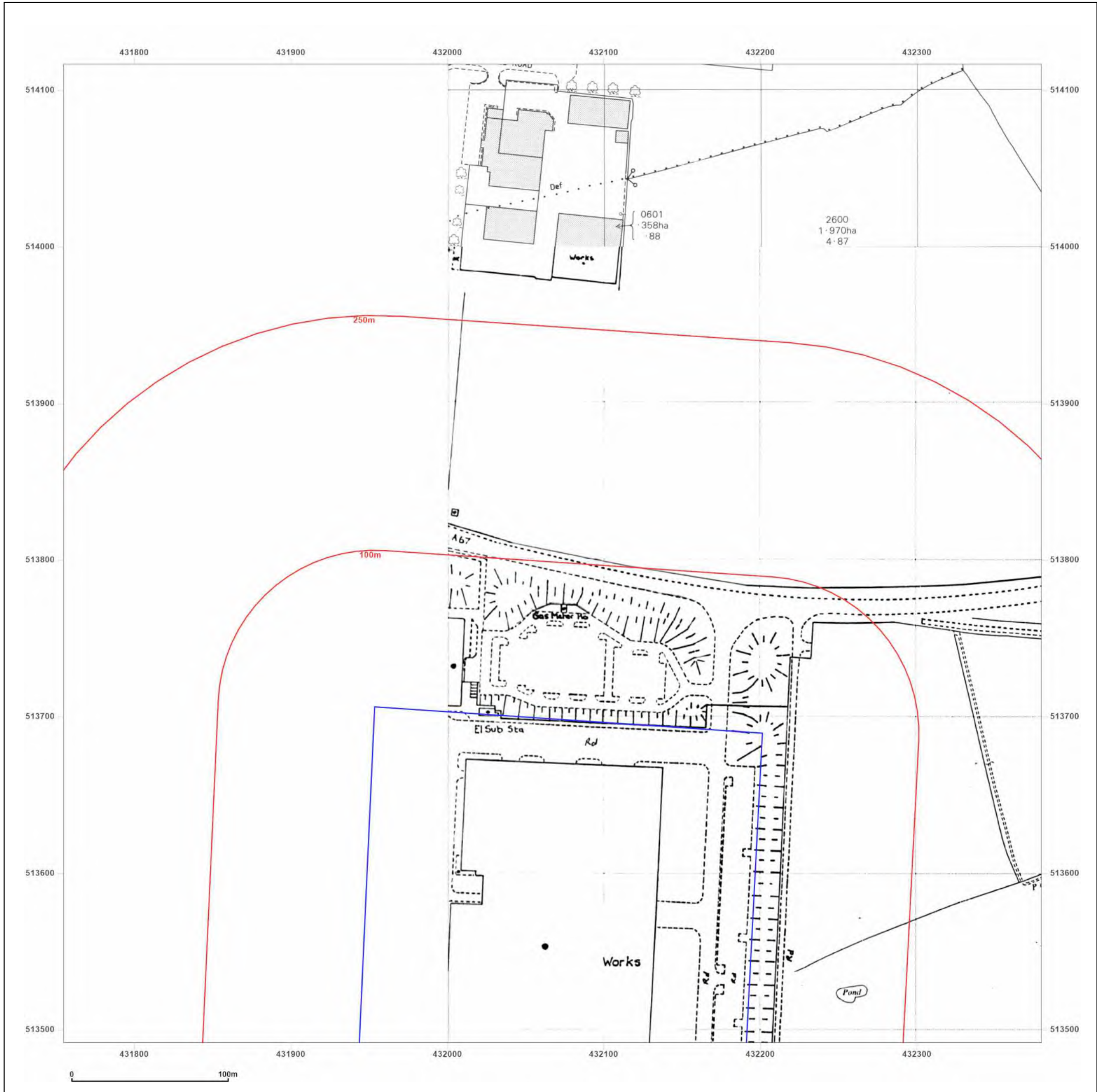
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Map date: 1984-1989
Scale: 1:2,500
Printed at: 1:2,500



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 Revised 1987
 Edition N/A
 Copyright 1989
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Surveyed 1960
 Revised 1984
 Edition N/A
 Copyright 1984
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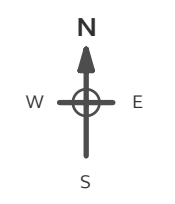
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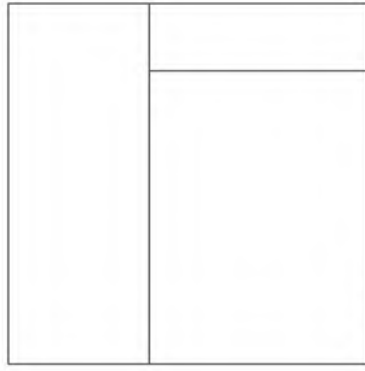
Site Details:

Cleveland House, Yarm Road,
Darlington DL1 4DE

Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_2
Grid Ref: 432067, 513804

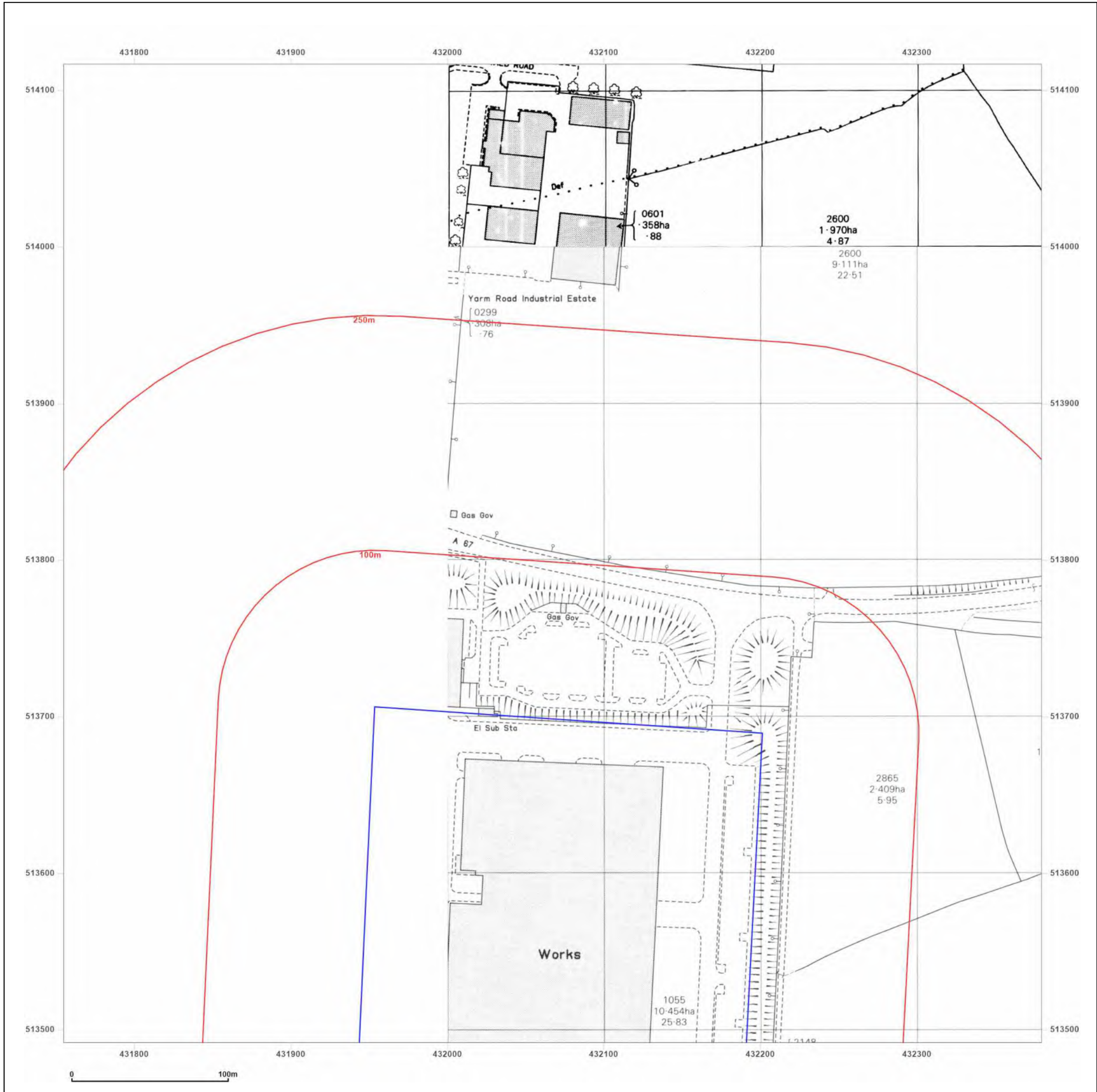
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Map date: 1988-1989
Scale: 1:2,500
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Surveyed N/A
Revised N/A
Edition N/A
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Levelled N/A

Surveyed 1987
Revised 1987
Edition N/A
Copyright 1988
Levelled 1960





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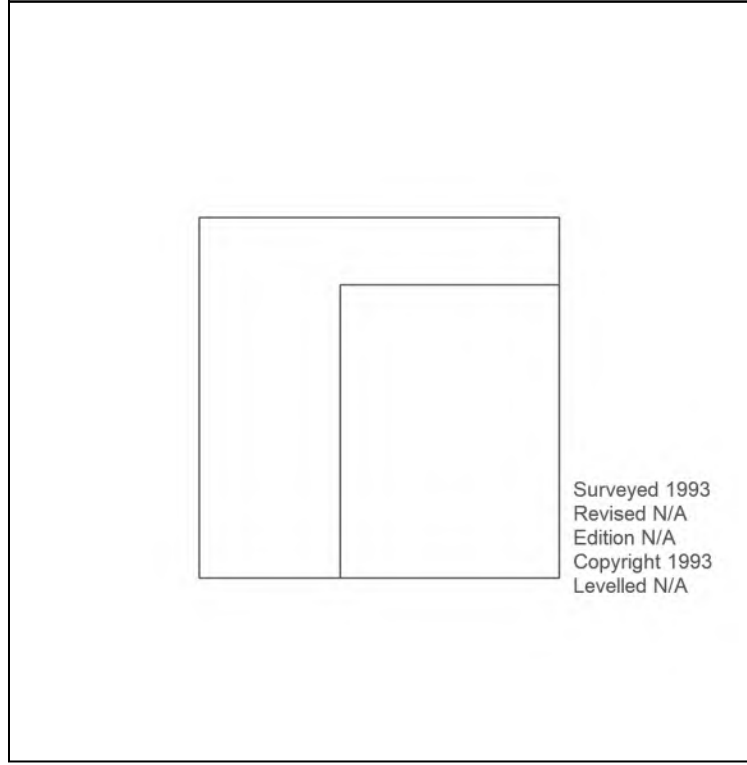
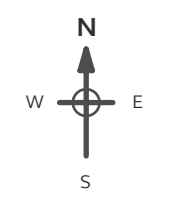
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Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_2
Grid Ref: 432067, 513804

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



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Site Details:

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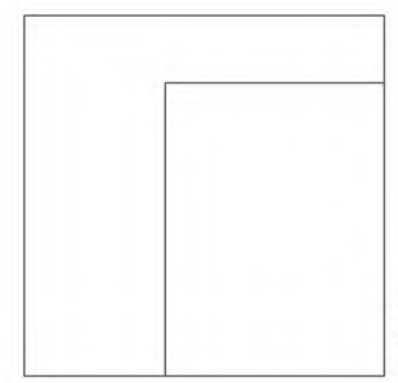
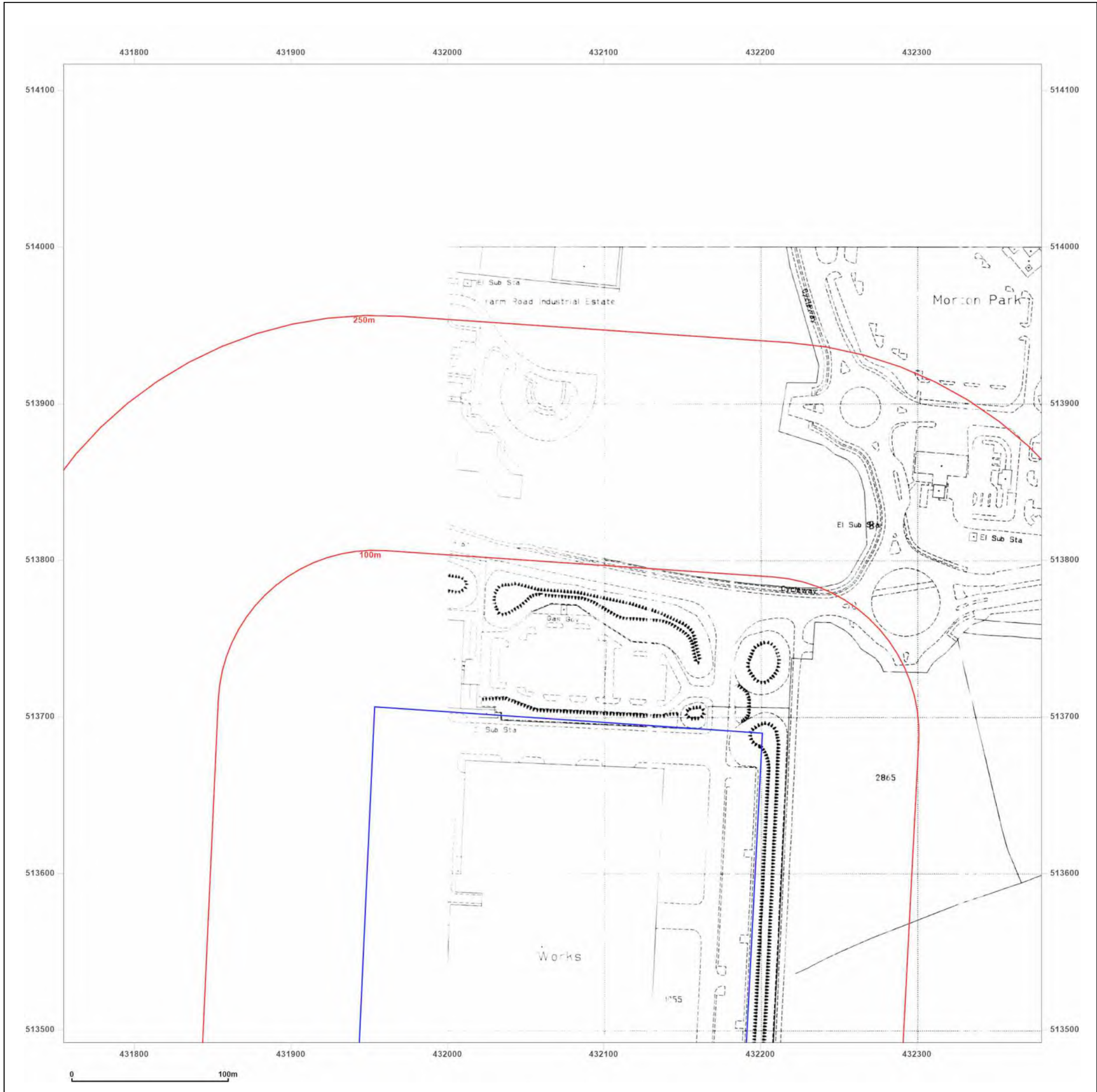
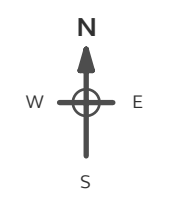
Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB_LS_1_2
Grid Ref: 432067, 513804

Map Name: National Grid

Map date: 1995

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1995
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Edition N/A
Copyright 1995
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Site Details:

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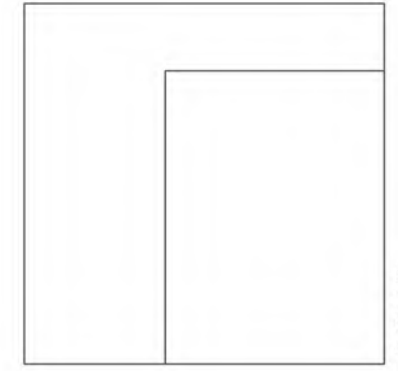
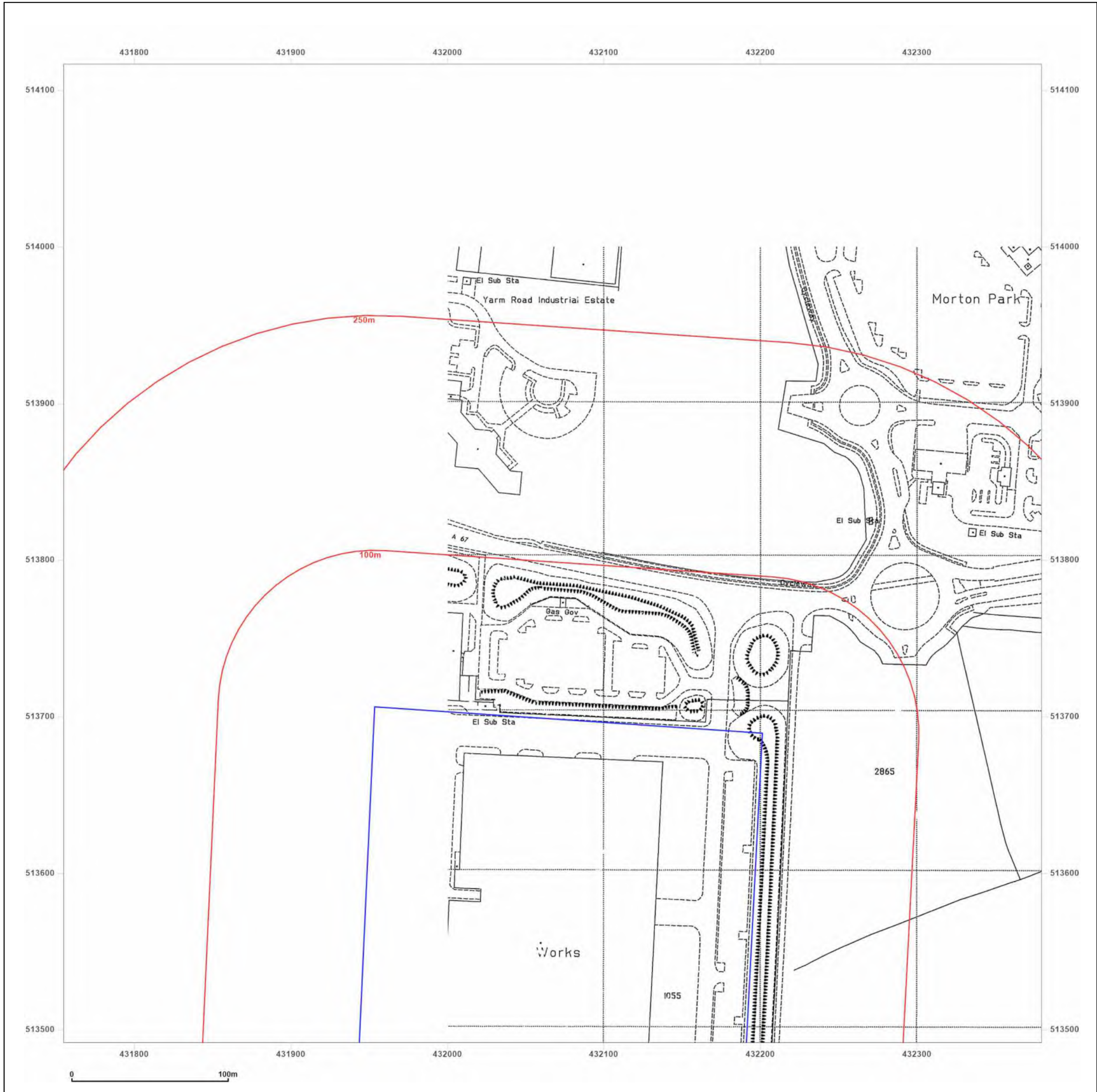
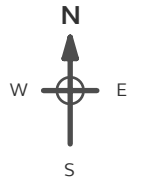
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Grid Ref: 432067, 513804

Map Name: National Grid

Map date: 1995

Scale: 1:2,500

Printed at: 1:2,500



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

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Darlington DL1 4DE

Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB
Grid Ref: 432067, 513491

Map Name: County Series

Map date: 1855

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1855
Revised 1855
Edition N/A
Copyright N/A
Levelled N/A

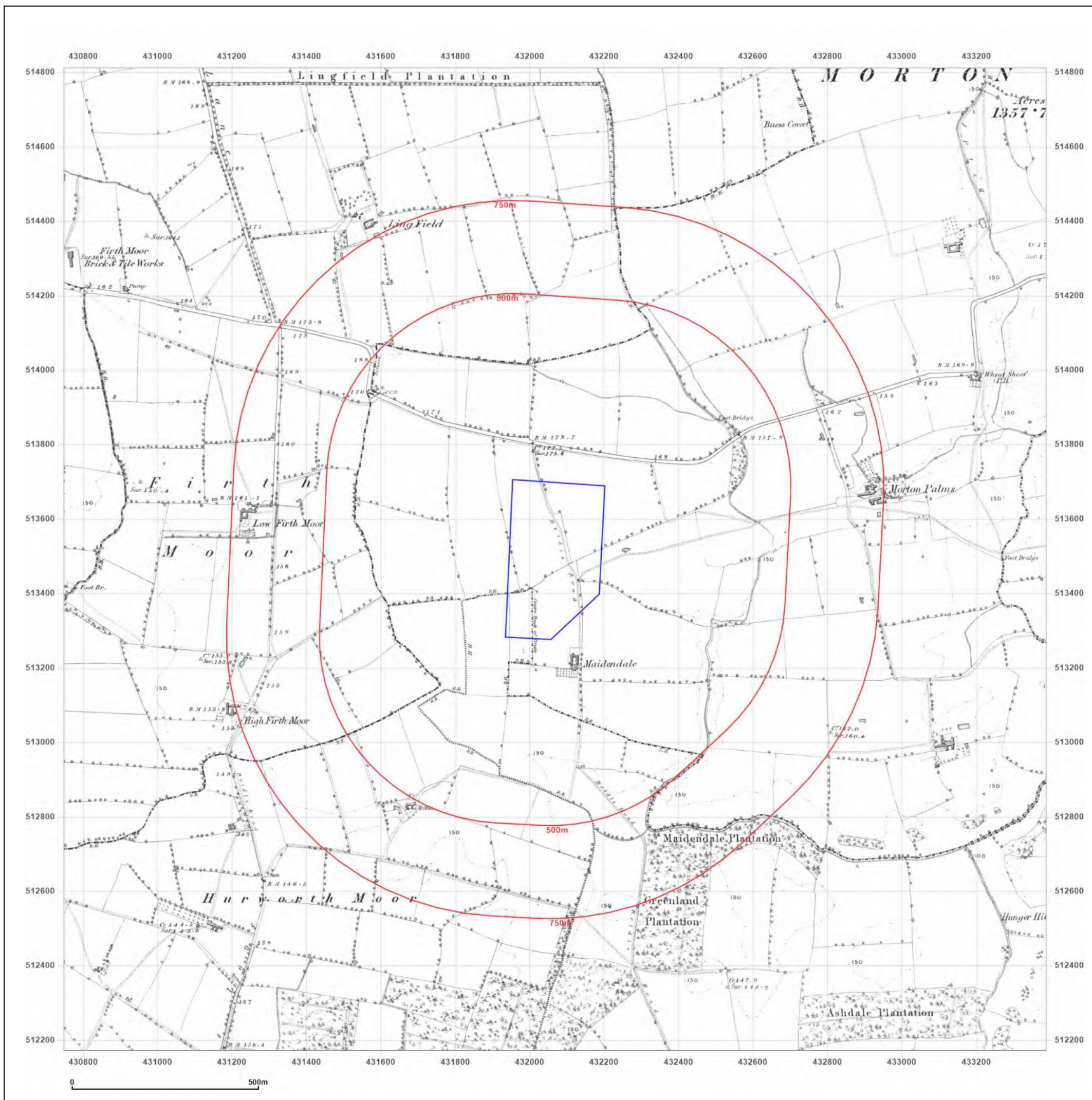


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Site Details:

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Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB
Grid Ref: 432067, 513491

Map Name: County Series

Map date: 1896

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1856
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1855
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1855
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1855
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

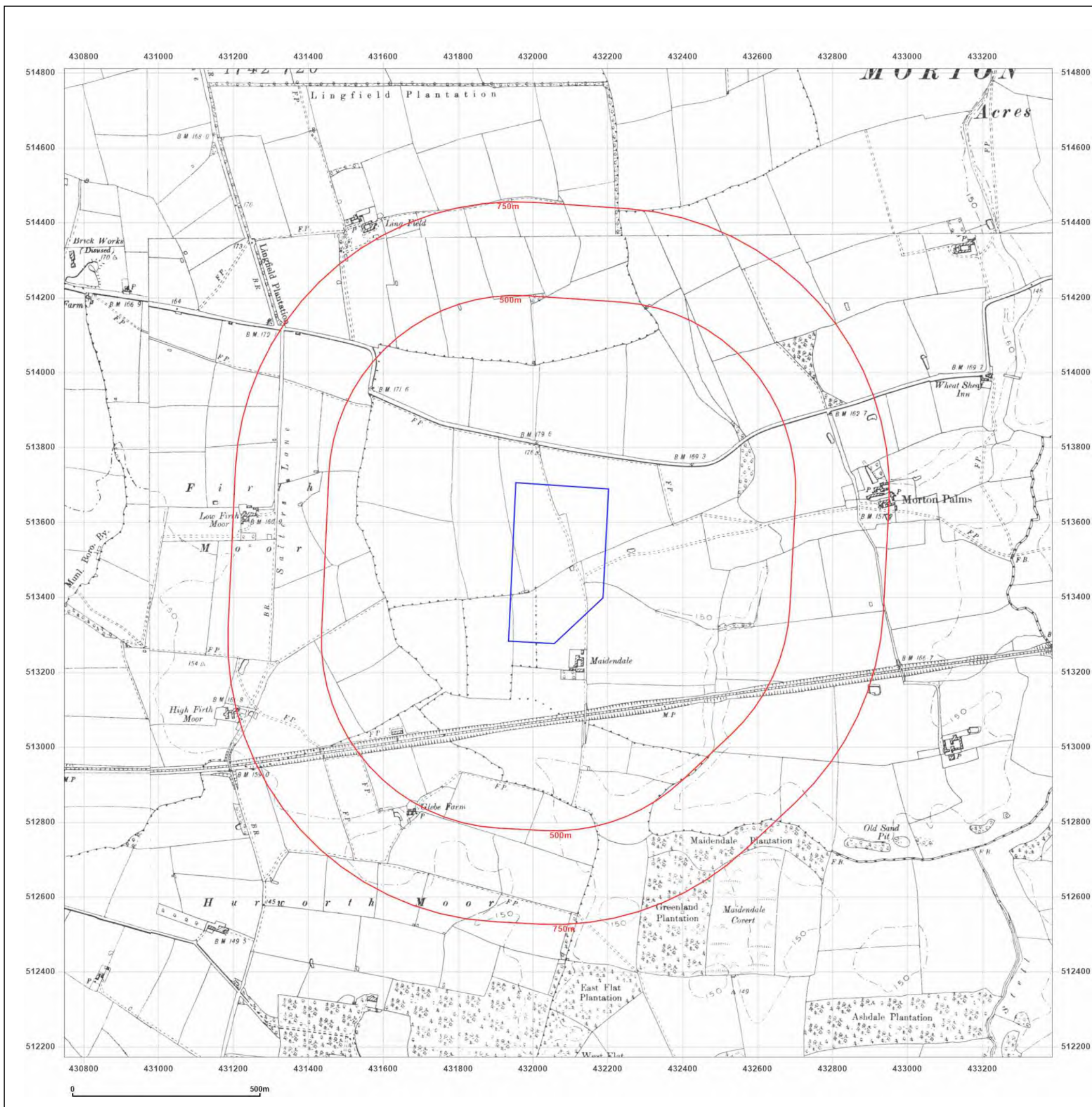


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Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB
Grid Ref: 432067, 513491

Map Name: County Series

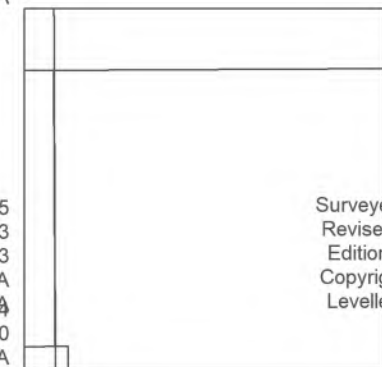
Map date: 1920-1923

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1855
Revised 1923
Edition 1923
Copyright N/A
Levelled N/A



Surveyed 1855
Revised 1923
Edition 1923
Copyright N/A
Levelled N/A

Surveyed 1855
Revised 1923
Edition 1923
Copyright N/A
Levelled N/A

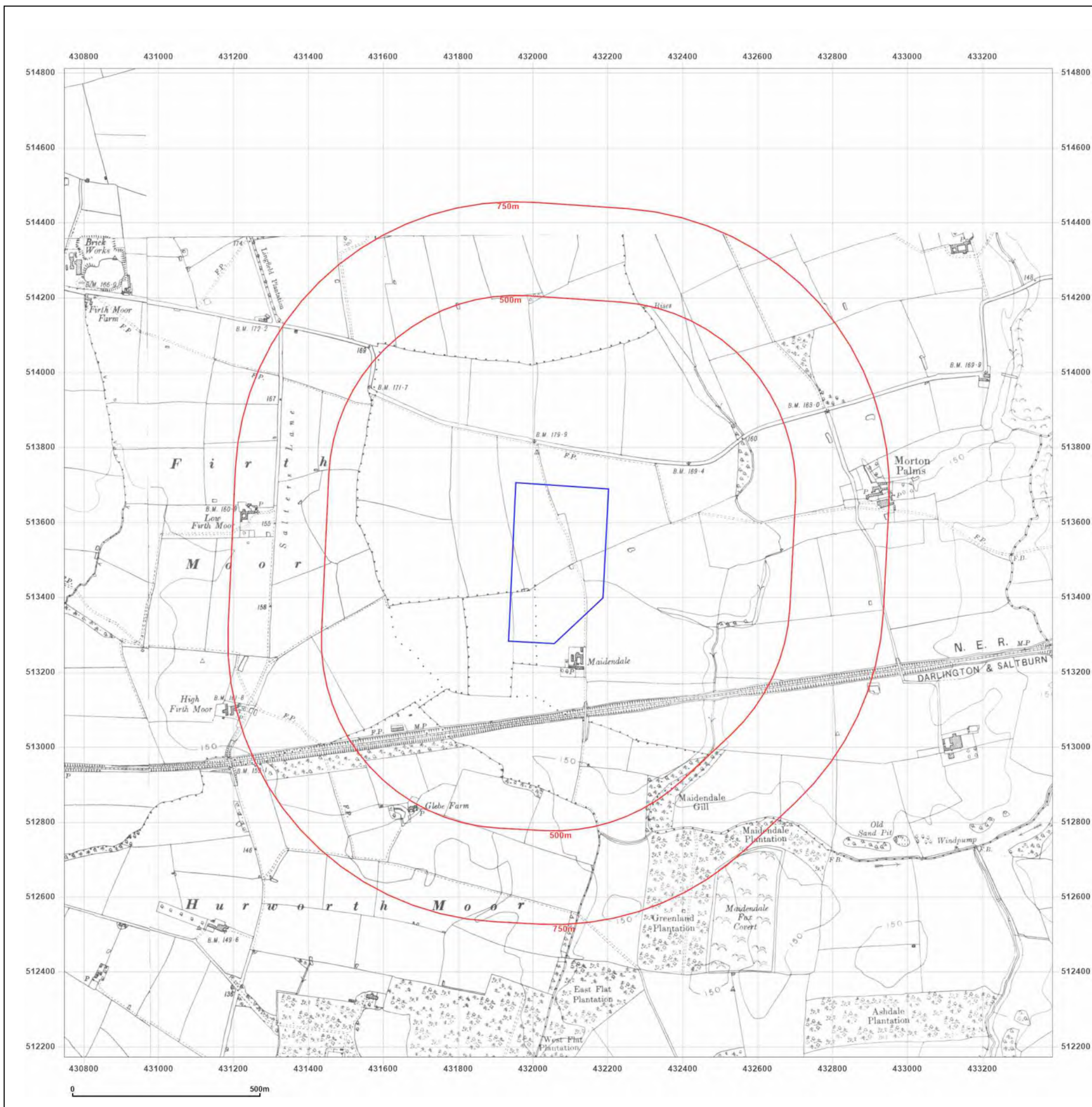


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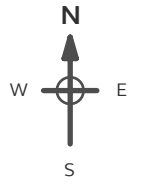
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Report Ref: GS-GYM-AYZ-JMQ-YQB
Grid Ref: 432067, 513491

Map Name: County Series

Map date: 1923

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1855
Revised 1923
Edition N/A
Copyright N/A
Levelled N/A

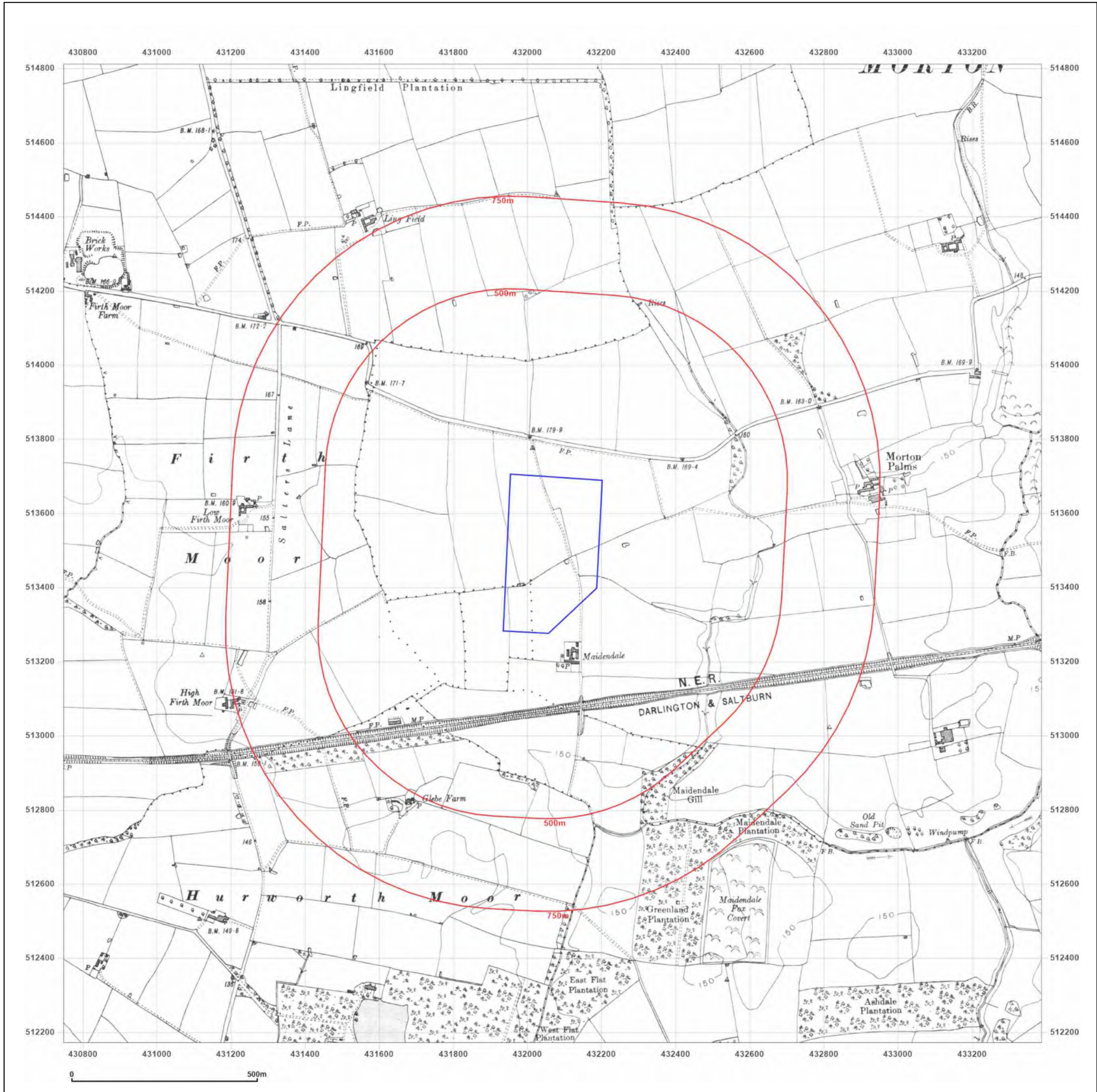


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Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB
Grid Ref: 432067, 513491

Map Name: County Series

Map date: 1938-1939

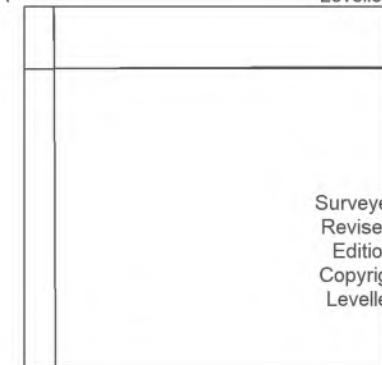
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Surveyed 1855
Revised 1938
Edition N/A
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Levelled N/A

Surveyed 1855
Revised 1939
Edition N/A
Copyright N/A
Levelled 1914



Surveyed 1855
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

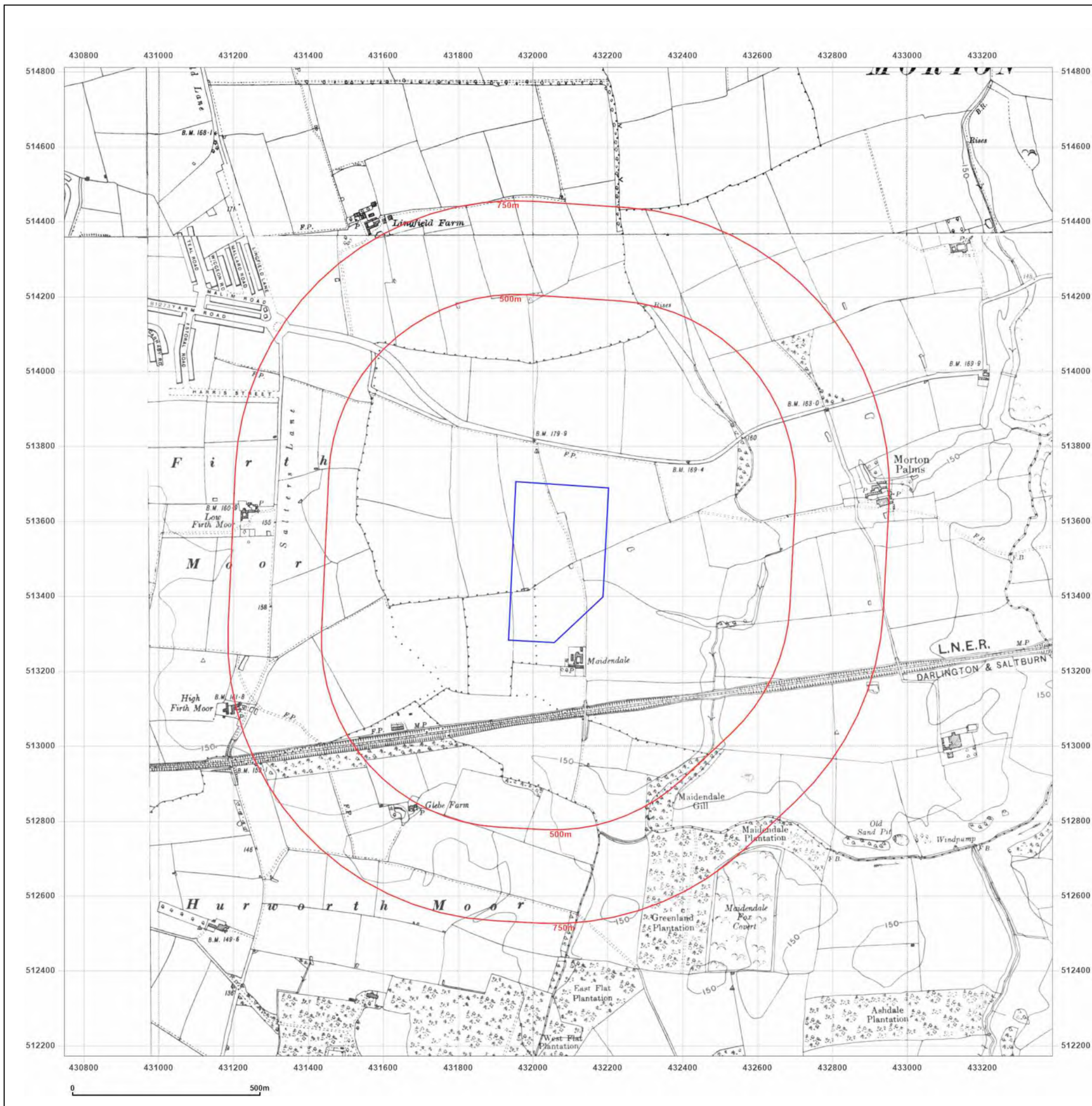


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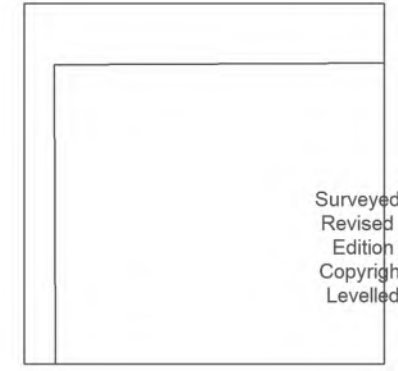
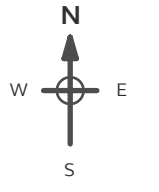
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Report Ref: GS-GYM-AYZ-JMQ-YQB
Grid Ref: 432067, 513491

Map Name: County Series

Map date: 1939

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Printed at: 1:10,560



Surveyed 1855
Revised 1939
Edition N/A
Copyright N/A
Levelled N/A

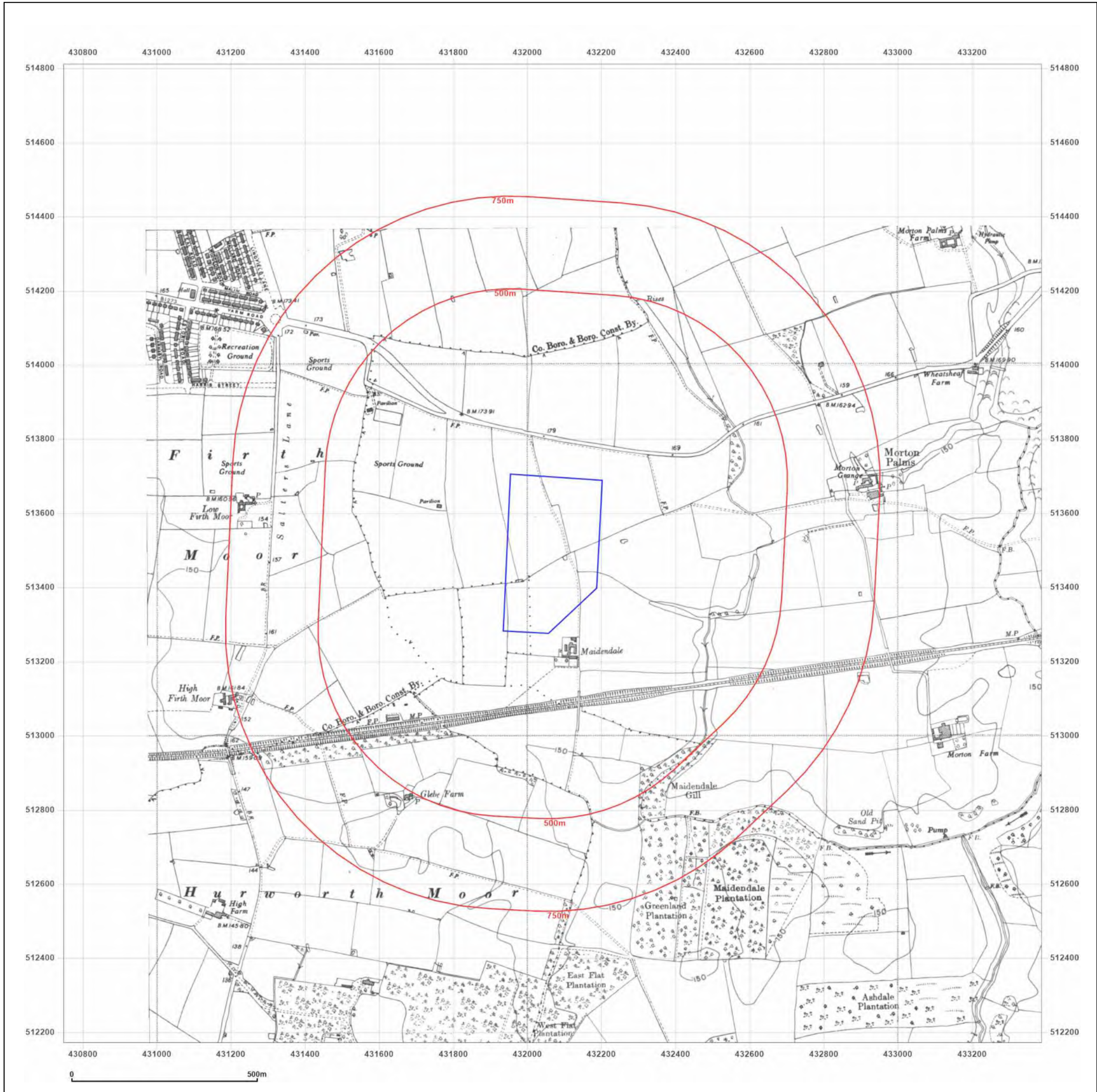


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Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB
Grid Ref: 432067, 513491

Map Name: Provisional

Map date: 1954

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Printed at: 1:10,560



Surveyed N/A
Revised 1953
Edition N/A
Copyright 1954
Levelled N/A

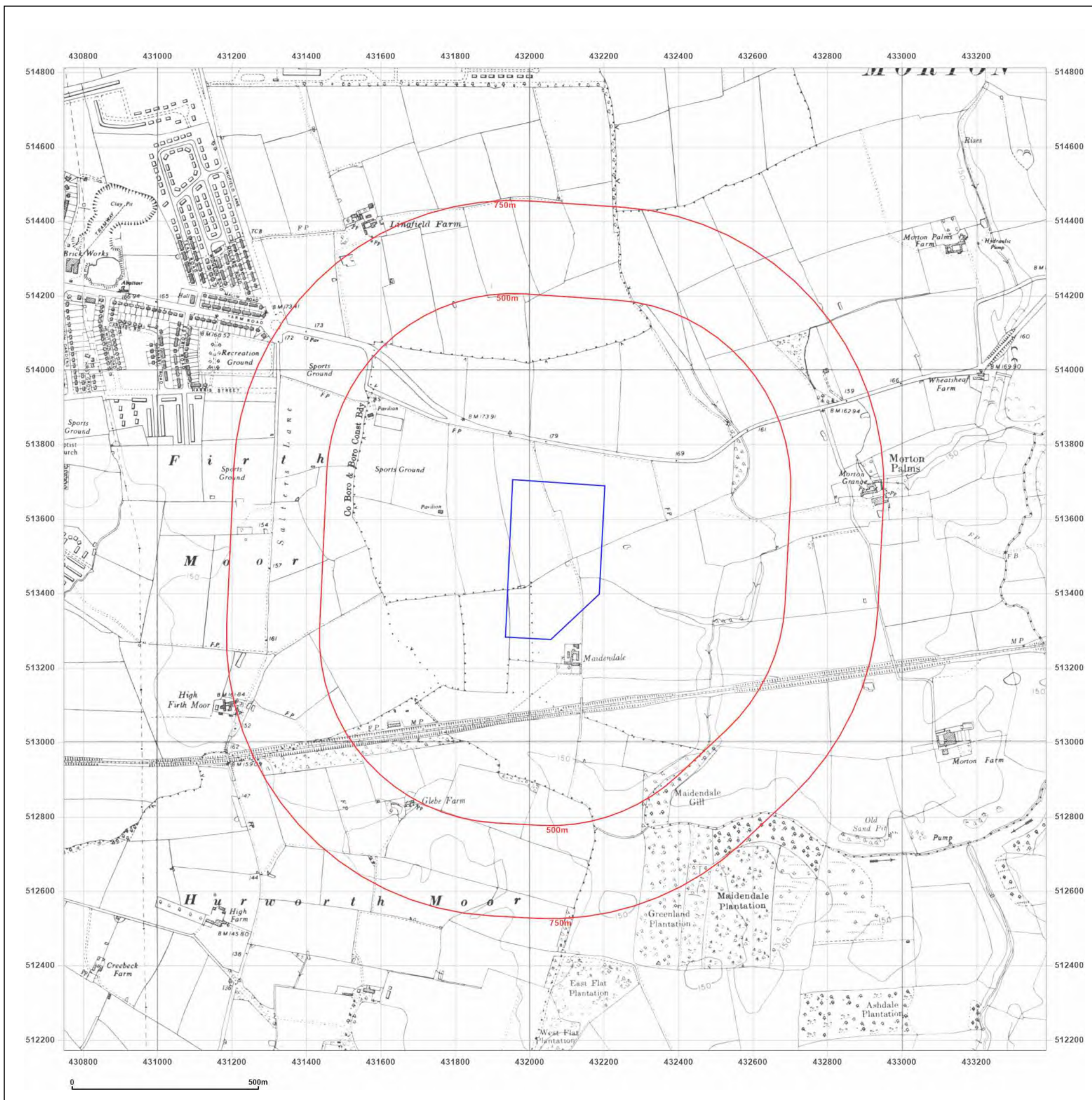


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Site Details:

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Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB
Grid Ref: 432067, 513491

Map Name: Provisional

Map date: 1968

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1968
Revised 1968
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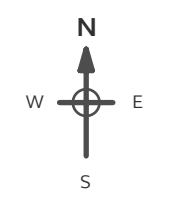
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Report Ref: GS-GYM-AYZ-JMQ-YQB
Grid Ref: 432067, 513491

Map Name: National Grid

Map date: 1971

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1971
Revised 1971
Edition N/A
Copyright N/A
Levelled N/A

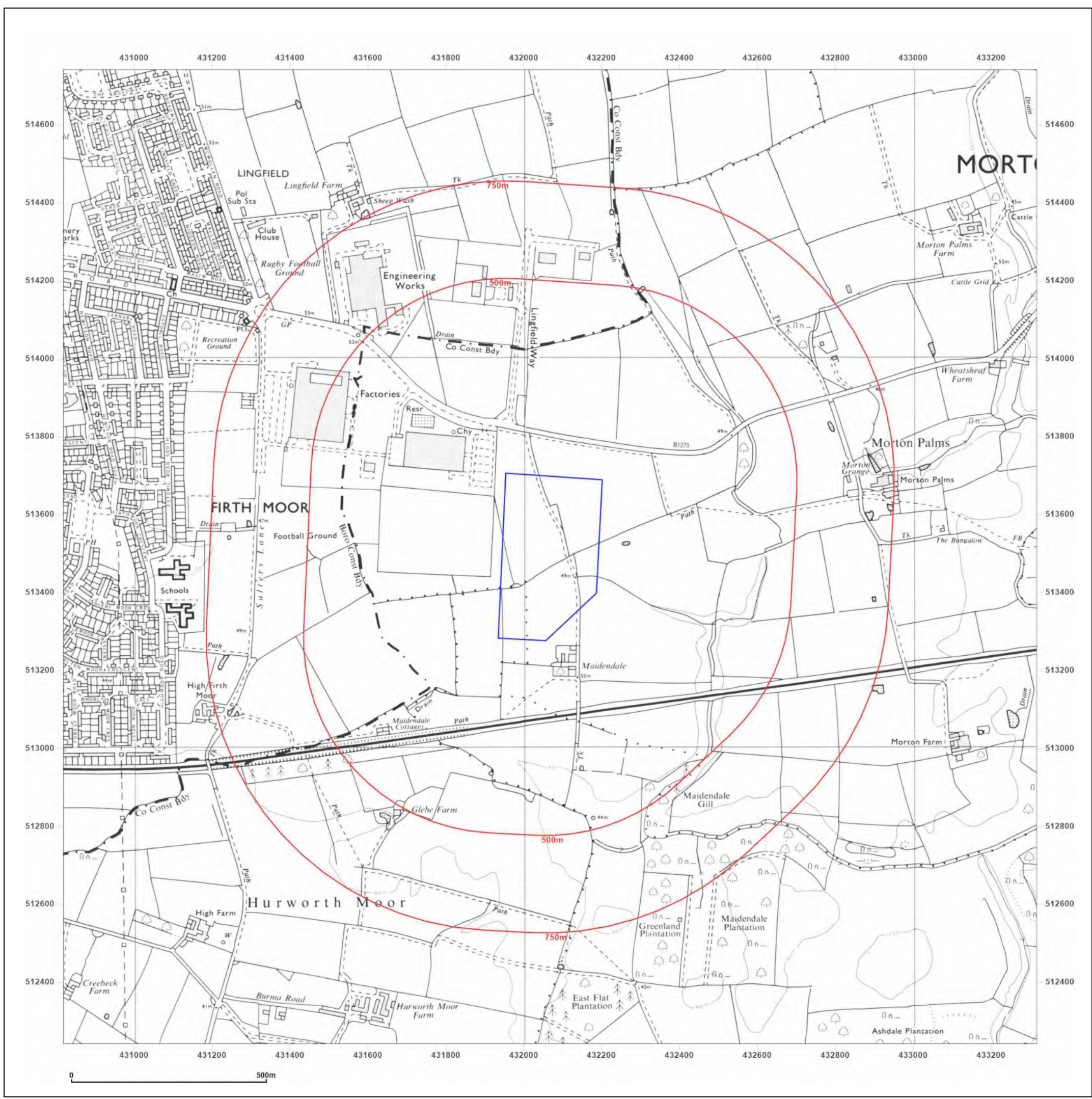


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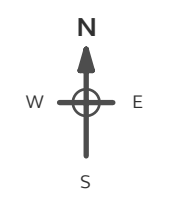
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Report Ref: GS-GYM-AYZ-JMQ-YQB
Grid Ref: 432067, 513491

Map Name: National Grid

Map date: 1980

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1979
Revised 1980
Edition N/A
Copyright N/A
Levelled N/A

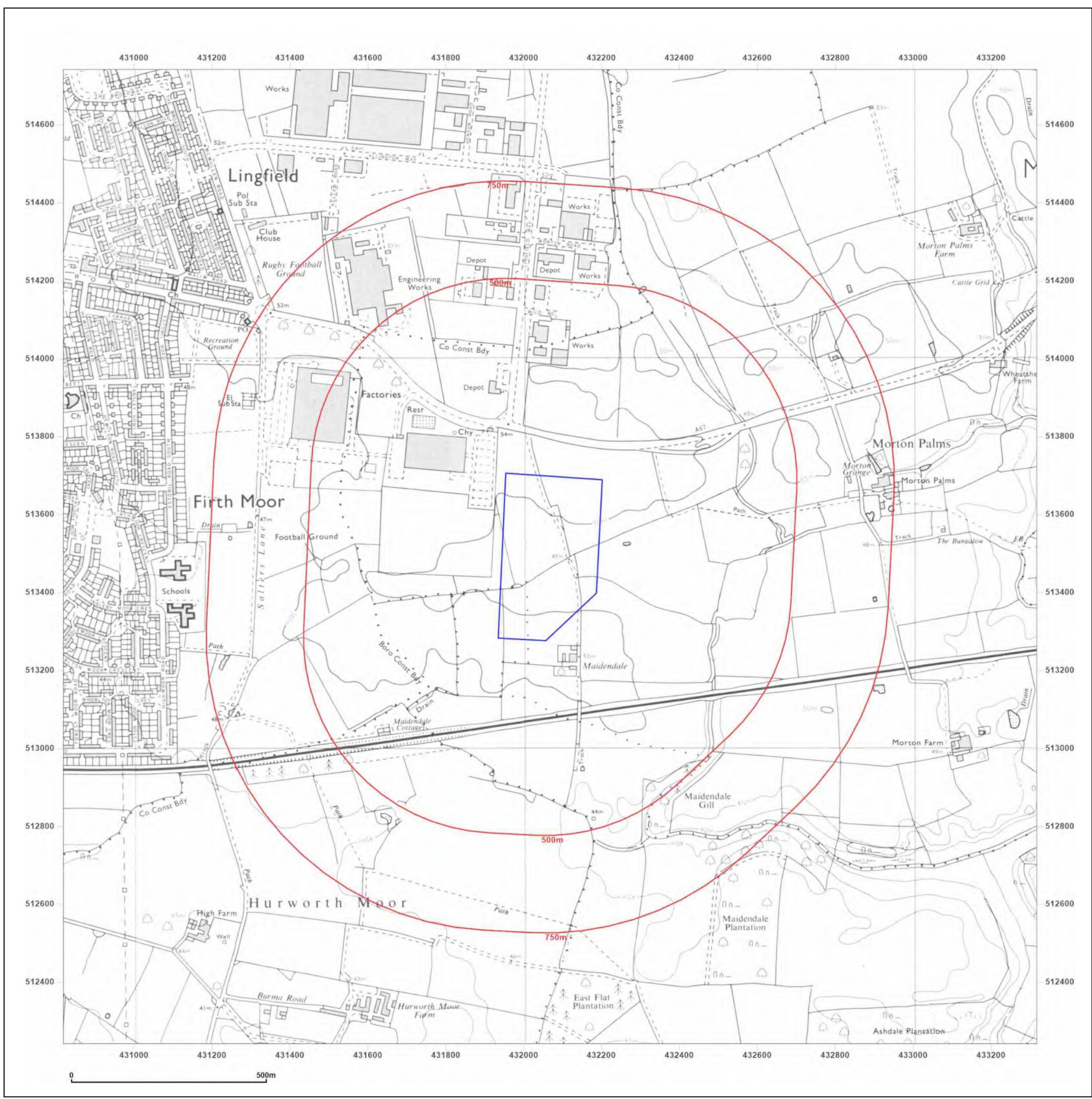


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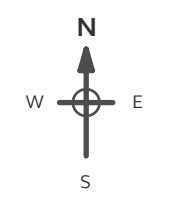
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Report Ref: GS-GYM-AYZ-JMQ-YQB
Grid Ref: 432067, 513491

Map Name: National Grid

Map date: 1990

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Printed at: 1:10,000



Surveyed 1988
Revised 1990
Edition N/A
Copyright N/A
Levelled N/A

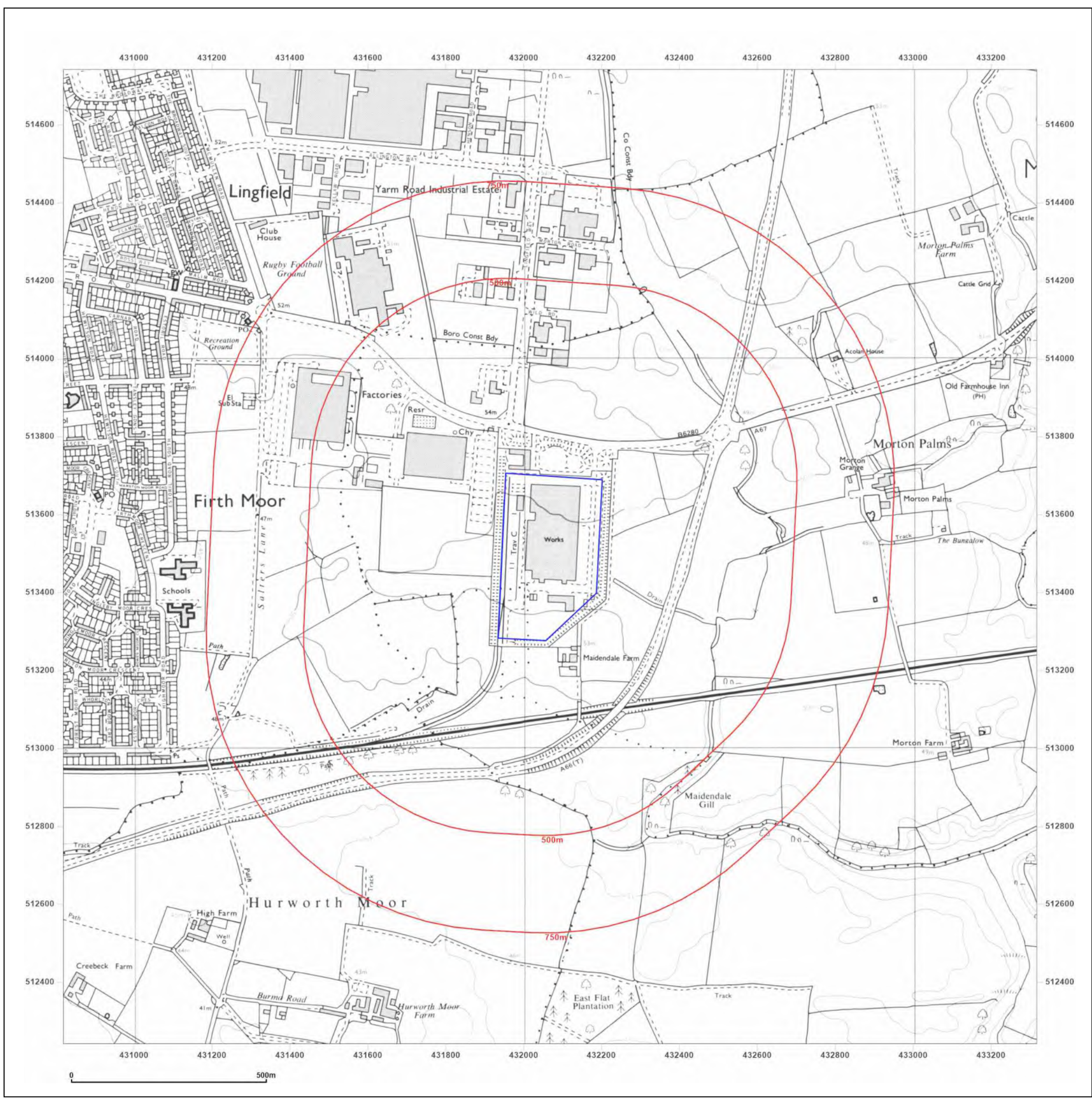


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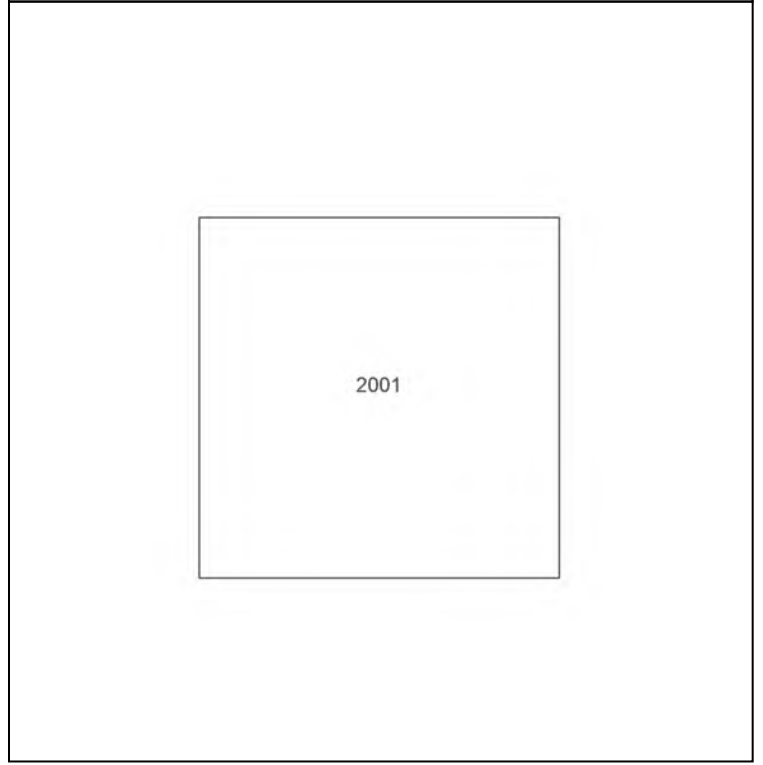
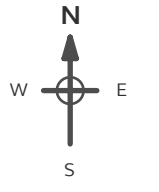
Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:
 Cleveland House, Yarm Road,
 Darlington DL1 4DE

Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB
Grid Ref: 432067, 513491

Map Name: National Grid
Map date: 2001
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Printed at: 1:10,000

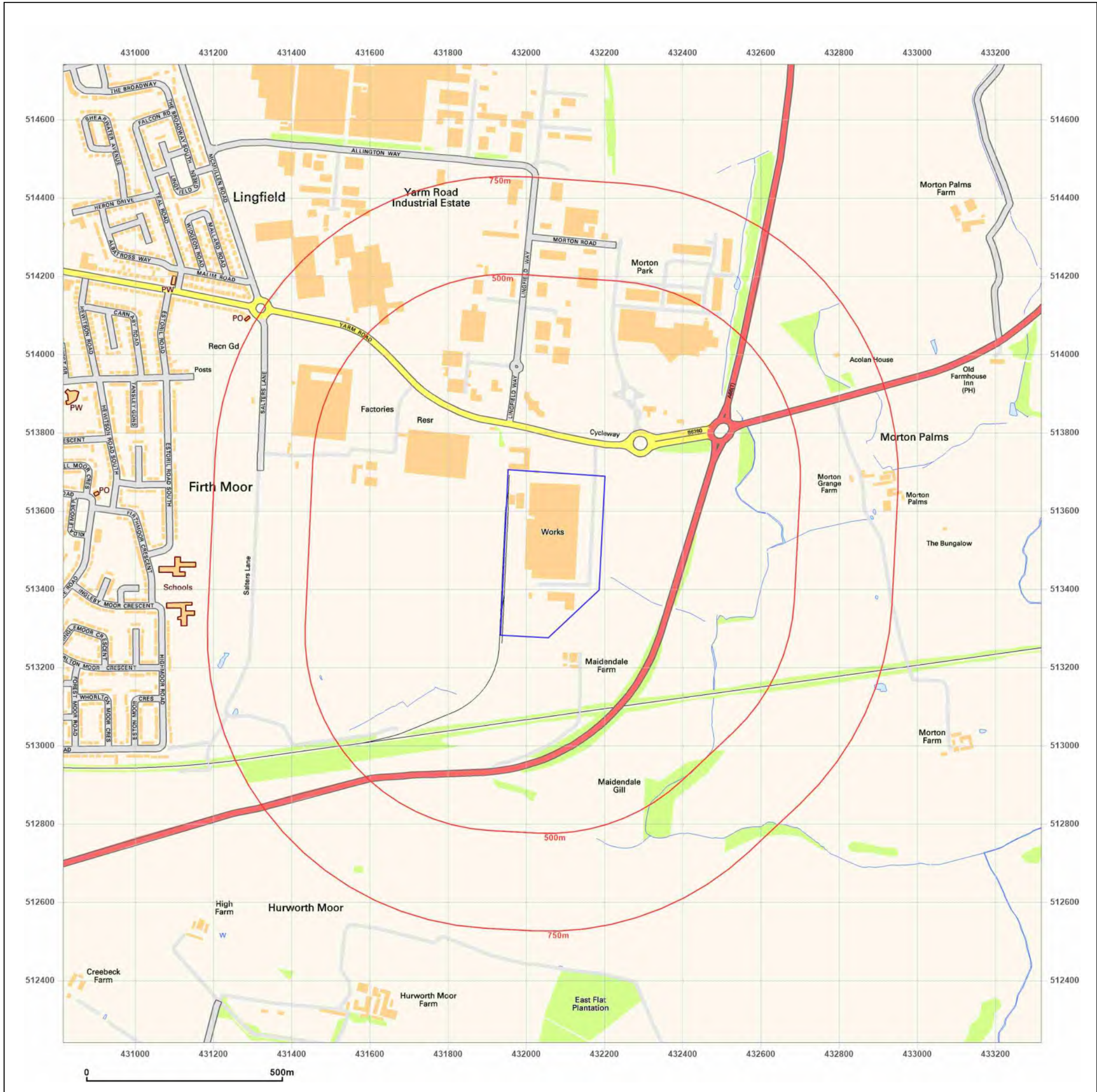


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Production date: 02 October 2025

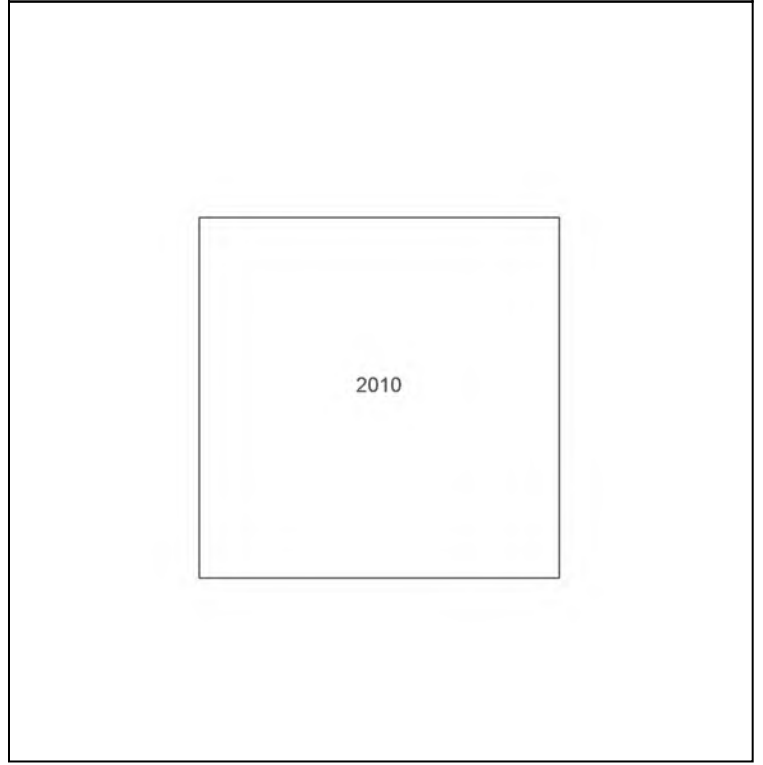
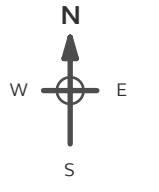
Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:
 Cleveland House, Yarm Road,
 Darlington DL1 4DE

Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB
Grid Ref: 432067, 513491

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



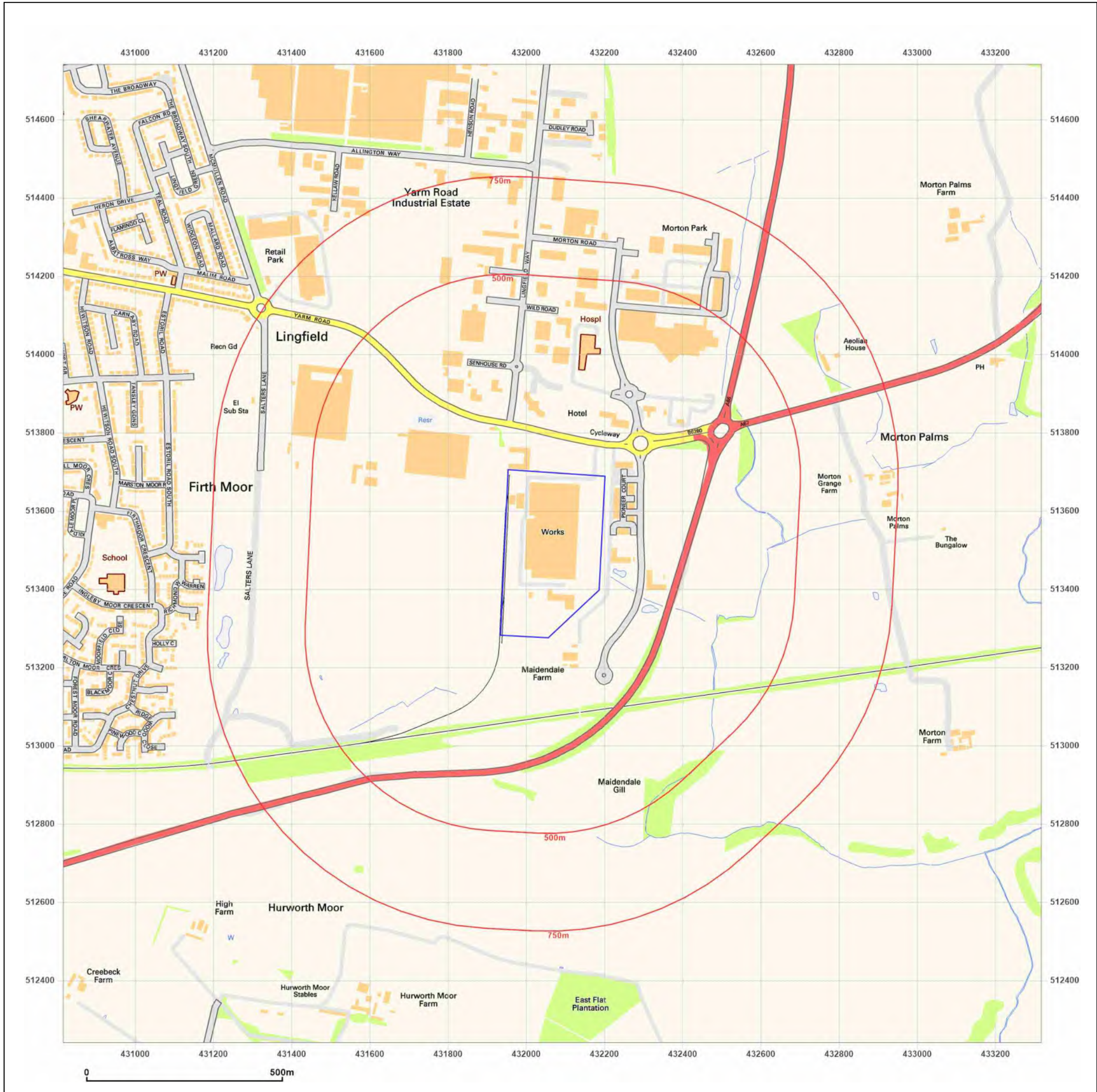
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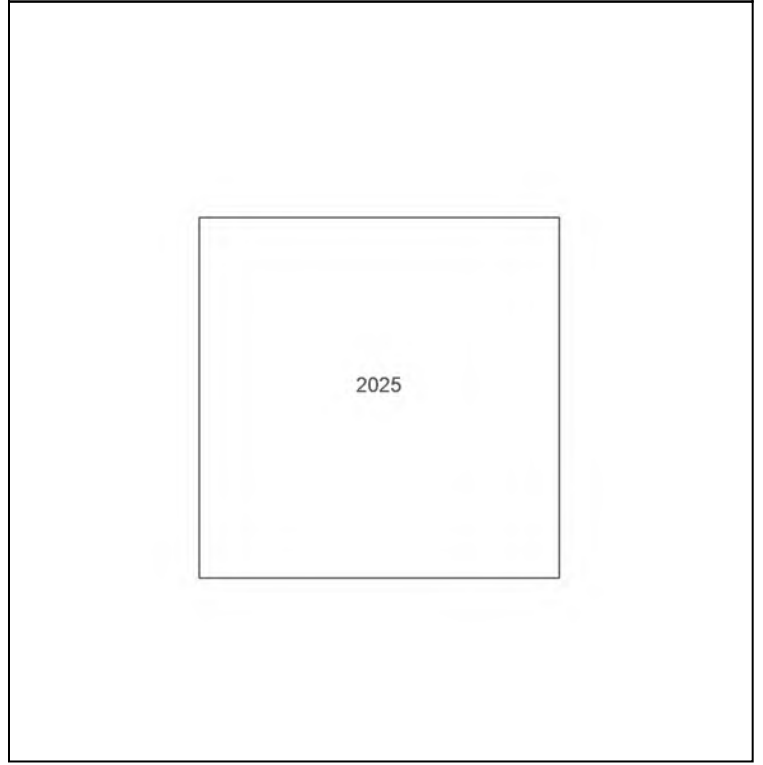
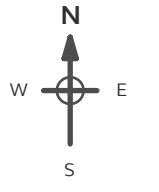
Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:
 Cleveland House, Yarm Road,
 Darlington DL1 4DE

Client Ref: P6534J3273 - Cleveland House
Report Ref: GS-GYM-AYZ-JMQ-YQB
Grid Ref: 432067, 513491

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



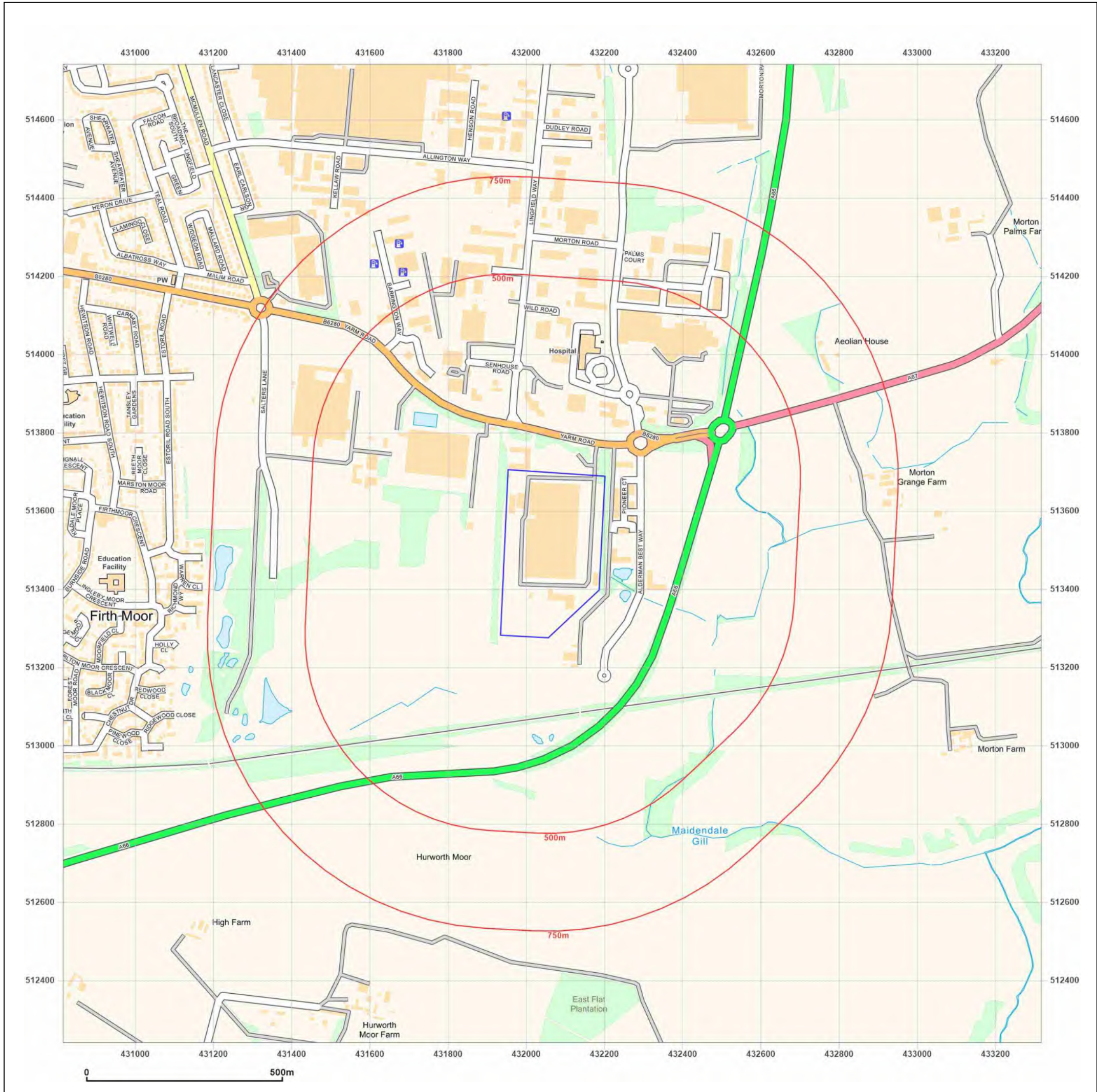
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APPENDIX 4 – QUALITATIVE RISK ASSESSMENT METHODOLOGY

QUALITATIVE RISK ASSESSMENT METHODOLOGY

The following Contaminated Land Risk Assessment methodology is based on CIRIA C552 (2001) *Contaminated Land Risk Assessment – A Guide to Good Practice*, in order to quantify potential risk via **risk estimation** and **risk evaluation**, which can be adopted at the Phase I stage. This will then determine an overall risk category which can be used to identify likely actions. This methodology uses qualitative descriptors and therefore is a qualitative approach.

The methodology requires the classification of:

- the magnitude of the **consequence** (severity) of a risk occurring, and
- the magnitude of the **probability** (likelihood) of a risk occurring.

The potential consequences of contamination risks occurring at this site are classified in accordance with Table A4.1 below, which is adapted from the CIRIA guidance.

Table A4.1: Classification of Consequence

Classification	Definition of Consequence
Severe	<ul style="list-style-type: none">• Short-term (acute) risks to human health.• Short-term risk of pollution of sensitive water resource or ecosystem.• Catastrophic damage to crops/buildings/property/infrastructure, including off-site soils.
Medium	<ul style="list-style-type: none">• Medium/long-term (chronic) risks to human health.• Medium/long-term risk of pollution of sensitive water resource or ecosystem.• Significant damage to crops/buildings/property/infrastructure (on or off-site).• Contamination of off-site soils.
Mild	<ul style="list-style-type: none">• Easily preventable, permanent health effects on humans.• Pollution of non-sensitive water resources.• Localised damage to crops/buildings/property/infrastructure (on or off-site).
Minor	<ul style="list-style-type: none">• Easily preventable, non-permanent health effects on humans, or no effects.• Minor, low-level and localised contamination of on-site soils.• Easily repairable damage to crops/buildings/property/infrastructure.

The probability of contamination risks occurring at this site will be classified in accordance with Table A4.2 below which is also adapted from the CIRIA guidance. Note that for each category, it is assumed that a pollution linkage exists. Where a pollution linkage does not exist, the likelihood is zero, as is the risk.

Table A4.2: Classification of Probability

Classification	Definition of Probability
High Likelihood	Circumstances are such that an event appears very likely in the short-term or almost inevitable in the long-term; or there is already evidence that such an event has occurred.
Likely	Circumstances are such that such an event is not inevitable, but is possible in the short-term and is likely over the long-term.
Low Likelihood	Circumstances are such that it is by no means certain that an event would occur even over a longer period, and it is less likely in the short-term.
Unlikely	Circumstances are such that it is improbable that an event would occur even in the very long-term.

For each possible pollution linkage (source-pathway-receptor) identified, the potential risk can be evaluated, as presented in Table A3.3. Based upon this, CIRIA C552 presents definitions of the risk categories, together with the investigatory and remedial actions that are likely to be necessary in each case, as in Table A3.4. These risk categories apply to each possible pollutant linkage, and not simply to each hazard/source of contamination or sensitive receptor.

Table A4.3: Overall Contamination Risk Matrix

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High likelihood	Very high risk	High risk	Moderate risk	Moderate/Low risk
	Likely	High risk	Moderate risk	Moderate/Low risk	Low risk
	Low likelihood	Moderate risk	Moderate/Low risk	Low risk	Very low risk
	Unlikely	Moderate/Low risk	Low risk	Very low risk	Very low risk

Table A4.4: Definition of Risk Categories and Likely Actions Required

Risk Category	Definition and likely actions required
Very high	<ul style="list-style-type: none">• Severe harm to a defined receptor is very likely, or has already occurred.• The risk is likely to result in a substantial liability.• Urgent investigation (if not already undertaken) is likely to be required.• Urgent remediation is likely to be required.
High	<ul style="list-style-type: none">• Harm to a defined receptor is likely.• The risk, if realised, may result in a substantial liability.• Urgent investigation (if not already undertaken) is likely to be required.• Remediation is likely to be required in the long term, possibly sooner.
Moderate	<ul style="list-style-type: none">• Harm to a defined receptor is possible, but severe harm is unlikely.• Investigation is likely to be required to clarify the level of potential liability and risk.• Some remediation may be required in the longer term
Low	<ul style="list-style-type: none">• Harm to a defined receptor is possible, but is likely to be mild at worst.• Liabilities could theoretically arise, but are unlikely.• Further investigation is not required at this stage• Remediation is unlikely to be required.
Very low	<ul style="list-style-type: none">• Harm to a defined receptor is unlikely, and would be minor at worst.• No liabilities are likely to arise.• Further investigation is not required at this stage• Remediation is very unlikely to be required.

APPENDIX 5 – BGS BOREHOLE RECORDS



NZ31SW/216

Boring Method :		Source :	Project ID :	
Bore Diameter (mm) :			32130601	
Casing Diameter (mm) :		Project : Darlington Sub Region 5	Sheet 1 of 6	
Date Start : 25/08/1979 End : 27/08/1979			GL m AOD 50.00	
		Coordinates E 432047.00 N 513628.00		
Water Strike	Description		Legend	
			Depth (m)	Level (OD)
	DRIFT:		0.00	50.00
	TOPSOIL		0.18	49.82
	Stiff yellowish brown and grey mottled sandy and silty CLAY with occasional fine to medium sub-rounded and angular gravel.		0.75	49.25
1.00	Stiff brown-grey mottled silty CLAY with occasional fine to medium gravel			
2.00				
	Compact brown sandy coarse SILT with fine grained sand partings		2.40	47.60
3.00	Stiff brown silty laminated CLAY with occasional gravel, fine sand lenses and grey fissures.		3.00	47.00
4.00				
5.00	Dense light brown to greyish brown medium to coarse SAND with occasional medium gravel, and coal washings.		5.00	45.00
6.00				
7.00				
			Continued next sheet	
Remarks : BGS Ref: Not Recorded: See Geotechnical Investigation Report No. DU/242 Darlington N501, Sept 1979 - Steel Fabrication Plant.				
NZ31SW BS 216				



Boring Method :		Source :	Project ID :		
Bore Diameter (mm) :			32130601		
Casing Diameter (mm) :		Project : Darlington Sub Region 5	Sheet 3 of 6		
Date Start : 25/08/1979 End : 27/08/1979			GL m AOD 50.00	Coordinates E 432047.00 N 513628.00	
Water Strike	Description		Depth (m)	Legend	Level (OD)
16.60	Medium dense brown silty fine grained SAND with occasional bands of sandy coarse silt.				
17.60					
18.60					
19.60					
20.60					
21.60					
22.60					
<i>Continued next sheet</i>					
Remarks : BGS Ref: Not Recorded: See Geotechnical Investigation Report No. DU/242 Darlington N501, Sept 1979 - Steel Fabrication Plant.					



Boring Method :		Source :	Project ID :	
Bore Diameter (mm) :			32130601	
Casing Diameter (mm) :		Project : Darlington Sub Region 5	Sheet 4 of 6	
Date Start : 25/08/1979 End : 27/08/1979			GL m AOD 50.00	Coordinates E 432047.00 N 513628.00
Water Strike	Description		Depth (m)	Level (OD)
	Medium dense brown silty fine grained SAND with occasional bands of sandy coarse silt.		24.30	25.70
24.40	Stiff grey sandy and silty CLAY with fine to coarse sub-rounded and angular gravel and cobbles.			
25.40	Firm to stiff grey sandy and silty CLAY with fine to coarse gravel.		25.40	24.60
26.40	Medium dense brown silty fine to medium grained SAND		26.50	23.50
27.40				
28.40	Very stiff to hard sandy and silty CLAY with fine to coarse sub-rounded to angular gravel.		28.30	21.70
29.40				
30.40				
<i>Continued next sheet</i>				
Remarks : BGS Ref: Not Recorded: See Geotechnical Investigation Report No. DU/242 Darlington N501, Sept 1979 - Steel Fabrication Plant.				



Boring Method :		Source :	Project ID :	
Bore Diameter (mm) :			32130601	
Casing Diameter (mm) :		Project : Darlington Sub Region 5	Sheet 5 of 6	
Date Start : 25/08/1979 End : 27/08/1979			GL m AOD 50.00	Coordinates E 432047.00 N 513628.00
Water Strike	Description	Depth (m)	Legend	Level (OD)
32.20	Very stiff to hard sandy and silty CLAY with fine to coarse sub-rounded to angular gravel.			
33.20	Very stiff brown silty laminated CLAY with disturbed texture.	33.00		17.00
34.20				
35.20	Very stiff to hard grey sandy and silty CLAY with fine to coarse sub-rounded and angular gravel, and occasional cobbles.	34.50		15.50
36.20				
37.20				
38.20				
<i>Continued next sheet</i>				
Remarks : BGS Ref: Not Recorded: See Geotechnical Investigation Report No. DU/242 Darlington N501, Sept 1979 - Steel Fabrication Plant.				



Boring Method :		Source :	Project ID :		
Bore Diameter (mm) :			32130601		
Casing Diameter (mm) :		Project : Darlington Sub Region 5	Sheet 6 of 6		
Date Start : 25/08/1979 End : 27/08/1979			GL m AOD 50.00	Coordinates E 432047.00 N 513628.00	
Water Strike	Description		Depth (m)	Legend	Level (OD)
	<p>Very stiff to hard grey sandy and silty CLAY with fine to coarse sub-rounded and angular gravel, and occasional cobbles.</p>				
<p>Remarks : BGS Ref: Not Recorded: See Geotechnical Investigation Report No. DU/242 Darlington N501, Sept 1979 - Steel Fabrication Plant.</p>					

APPENDIX 6 – LOCAL AUTHORITY CORRESPONDENCE

Josh Thomas

From: Carol Whelan <Carol.Whelan@darlington.gov.uk>
Sent: 30 October 2025 14:29
To: Josh Thomas
Subject: FW: P6534J3273 - JWT - Cleveland House, Darlington - LA request for information 25/04972/ENVSEA E-mail 1 of 2
Attachments: Cleveland Bridge Permit attachments Jan 2018.pdf; Cleveland Bridge Permit Jan 2018.pdf; Petroleum Licence 0159.pdf; Cleveland Bridge Permit attachments Jan 2018.pdf; Cleveland Bridge Permit Jan 2018.pdf; Petroleum Licence 0159.pdf; Petroleum Licence 0160.pdf; Site layout plan paint cells.pdf; Site layout plan.pdf

Caution: This email originated from outside of the Jomas Associates organisation. Do not open attachments or links unless you recognise the sender and know the content is safe

This document was classified as: OFFICIAL

Good afternoon, Josh

Please see below response to the questions raised and attached documents. The site investigation report to follow separately.

If you have any further queries, please contact me.

Kind regards

Carol Whelan
Environmental Health Manager (Environmental Protection)

ECONOMY AND PUBLIC PROTECTION GROUP

Darlington Borough Council
Town Hall, Darlington, DL1 5QT Room 301
Direct Line 01325 406437/Ext. 6437
carol.whelan@darlington.gov.uk
www.darlington.gov.uk



DARLINGTON
Borough Council

Transforming your council • Delivering success for Darlington

From: Josh Thomas <jwt@jomasassociates.com>
Sent: 14 October 2025 14:59
To: DL Environmental Searches <EnvironmentalSearches@darlington.gov.uk>
Cc: Projects <projects@jomasassociates.com>
Subject: P6534J3273 - JWT - Cleveland House, Darlington - LA request for information

Some people who received this message don't often get email from jwt@jomasassociates.com. [Learn why this is important](#)

Good afternoon,

Jomas Associates Ltd have been appointed as environmental consultants with regards to land contamination issues for a site located at Cleveland House, Yarm Road, Darlington DL1 4DE (432060 513501). The site location and boundary are shown below.



We are currently undertaking a Preliminary Risk Assessment / Phase 1 Desk Study for the site. As part of our investigations, the following information sources will / have been consulted:

- Historical Ordnance survey mapping spanning dates 1855 – 2023
- Environmental database report collating information from EA, BGS, Public Health England, Coal Authority, and Ordnance Survey sources (including recorded pollution incidents and licensing of potentially contaminative activities)
- BGS and EA geological and hydrogeological records
- A site walkover

- Available planning records from the Local Authority planning website

Does the Local Authority possess any additional information or records pertaining to land contamination issues at the site, which are not likely to be obtained via the above sources. Of principal interest would be:

- site investigation or remedial reports pertaining to the site or the site vicinity. **I have attached a copy of a site investigation report which our records show relates to the site in question.**
- information relating to any potential landfilling in the site vicinity. **The Council has no records of any landfilling within 250 metres of the site.**
- details of any private water supplies in the site vicinity. **There are no private water supplies in the site vicinity.**
- any anecdotal information or specific local concerns that the local authority has / is aware of with regards to land contamination in the site vicinity. **I have attached a copy of the Part B permit previously held by Cleveland Bridge. The Permit was revoked on the 6 December 2022.**
- any local mapping resources which are unlikely to be supplied from Ordnance Survey. **Please find attached a scanned site layout plan which was previously an attachment to the Part B permit.**
- Records of tanks or fuel storage at the site. **I have attached copies of the most recent petroleum licences Environmental Health hold on file which date back to 2001. I cannot find any plans showing the tank locations or any record of a petroleum certificate so presume that prior to Cleveland Bridge closing the premises was no longer storing petroleum.**

Kind Regards

JOSH THOMAS
 BSc (Hons) FGS
 Senior Geo-Environmental Engineer

M: 07453 065 944
 T: 03333 059 054
 E: jwt@jomasassociates.com

www.jomasassociates.com  



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*****.



All communications should
should be addressed to:
Environmental Health, Town Hall,
Darlington, DL1 5QT
Tel: 01325 406432
Email: environmentalhealth@darlington.gov.uk

**POLLUTION PREVENTION AND CONTROL ACT 1999
ENVIRONMENTAL PERMITTING (ENGLAND AND WALES)
REGULATIONS 2016**

Application Received: 30 September 1992
Permit Reference No: 033/EPA/WL/92
Name: Cleveland Bridge UK Limited
Address: Yarm Road
Darlington, DL1 4DE
Registered Office: Cleveland Bridge UK Limited
Yarm Road, Darlington, DL1 4DE

Is Hereby Permitted To Carry On an Installation As Described Below, In Accordance With The Attached Conditions.

Address Of Installation: Cleveland Bridge UK Limited
Yarm Road, Darlington, DL1 4DE (as edged in red on the
attached plan ref 033/EPA/92(A)(i))

Description Of Installation: The coating of mild steel products as described in Section 6.4 Part B (a) (iv) of Schedule 1 of the Environmental Permitting (England and Wales) Regulations 2016 involving

- (i) the handling and storage of raw materials including primers, undercoats and other intermediate coatings and aluminium and zinc wire;
- (ii) the use of a Gietart shotblasting machine; a USF Spencer Halstead abrasive blast cleaning machine; and hand held shotblasting equipment for the preparation of mild steel components;
- (iii) the use of solvents, thinners and cleaners;
- (iv) the application of primers, undercoats and other intermediate coatings to mild steel fabrications and components;
- (v) the operation of six paint cells and one metal coating cell; and
- (vi) the handling and storage of waste materials.

Appeal Against Permit Conditions

Anyone who is aggrieved by the conditions attached to a Permit can appeal to the Secretary of State for the Environment. Appeals must be received no later than 6 months from the date of the decision (normally the date on the bottom of the permit).

Appeals have been delegated to the Planning Inspectorate although the Secretary of State has reserved the right to recover certain individual cases. Appeals should be sent to:

The Planning Inspectorate
Environment Appeals team
Room 3/H Hawk Wing
Temple Quay House
2 The Square
Temple Quay
BRISTOL
BS1 6PN

Guidance on the appeal procedures and timing of appeals is contained in "Secretary of State's General Guidance Manual on Policy and Procedures for A2 and Part B Installations", available from DEFRA publications, or at:

<https://www.gov.uk/government/publications/environmental-permitting-general-guidance-manual-on-policy-and-procedures-for-a2-and-b-installations>

OR

<https://www.gov.uk/government/publications/environmental-permit-appeal-form>

The appeal must be in the form of a written notice or letter stating that the person wishes to appeal and listing the condition(s) which is/are being appealed against. The following items must be included:

- (a) written notice of the appeal;
- (b) a statement of the grounds of appeal;
- (c) a statement indicating whether the appellant wishes the appeal to be dealt with by written representations procedure or at a hearing- a hearing must be held if either the appellant or local authority requests this, or an appointed person or the Secretary of State decide to hold one
(appellants must copy the above three items to the local authority when the appeal is made)
- (d) a copy of any relevant application;
- (e) a copy of any relevant permit;
- (f) a copy of any relevant correspondence between the person making the appeal ("the appellant") and the Council (regulator);
- (g) a copy of the decision or notice, which is the subject matter of the appeal

Please note:

- An appeal will not suspend the effect of the conditions appealed against; the conditions must still be complied
- in determining an appeal against one or more conditions, the Act allows the Inspectorate in addition to quash any of the other conditions not subject to the appeal and to direct the local authority either to vary any of these other conditions or to add new conditions.

Withdrawing an Appeal

If the appellant wishes to withdraw an appeal he should do so by notifying the Inspectorate in writing and he should send a copy of the notification to the enforcing authority.

Penalties

It is an offence under Regulation 12(1) of the Environmental Permitting (England and Wales) Regulations 2016 to operate a prescribed installation except under a Permit granted by the Enforcing Authority and in accordance with the conditions to which it is subject. The current penalties for such an offence are:

- (i) on summary conviction, a fine not or to imprisonment for a term not exceeding 12 months or to both;
- (ii) on conviction on indictment, a fine or imprisonment for a term not exceeding five years, or both.

INTRODUCTORY NOTE

This note does not form part of the Permit

1. The following Permit is issued under the Environmental Permitting (England and Wales) Regulations 2016 to operate a metal coating and thermal spraying process. The Permit comprises Part One (Emission Limits, Monitoring and Other Provisions); Part Two (Control Techniques); Schedule 1 (Schedule of Process Outlets); Schedule 2 (Annual Actual Solvent Emission) and Schedule 3 (Determination of Solvent Consumption).
2. For the purpose of these Regulations, "best available techniques" means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that it not practicable, generally to reduce emissions and the impact on the environment as a whole and for the purpose of this definition –

"available techniques" means those techniques which have been developed in a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the operator;

"best" means, in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole;

"techniques" includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.
3. This Permit is given in relation to the requirements of the Environmental Permitting (England and Wales) Regulations 2016. It must not be taken to replace any responsibilities you may have under workplace health and safety legislation or any other such legislation.

In the event of any queries or correspondence please contact:

Environmental Health (Environmental Protection)
Darlington Borough Council
Town Hall
DARLINGTON
DL1 5QT
Email: environmentalhealth@darlington.gov.uk

Tel No: (01325) 406432

Definitions

Activity	See "process"
Adhesive	means any preparation, including all the organic solvents or preparations containing organic solvents necessary for its proper application, which is used to adhere separate parts of the products
Application of continuous film of coating	means the application of a film of coating to the surface of a substrate by continuous methods such as dipping, spraying, air knife coating, application by roller etc, where no repeated pattern of breaks in the coating occur
Authorised person	under section 108 of the Environment Act 1995, "authorised person" has replaced the term "inspector"
Average over 24 Hours	shall mean the arithmetic average of all valid readings taken during the 24-hour period of normal operation
BAT	See notes above
Coating	means any preparation, including all organic solvents or preparations containing organic solvents necessary for its proper application, which is used to provide a decorative, protective or other functional effect on a surface
Coating material	means paint, printing ink, varnish, lacquer, dye, any metal Oxide coating, any adhesive coating and any other coating material
Coating activity	means coating activity in which a single or multiple application of continuous film of coating is applied. If the coating activity includes a step in which the same article is printed by whatever technique is used, that printing step is considered part of the coating activity
Consumption	means the total input of organic solvents into an installation in the last calendar year, or previous 12-month period, less any VOC that are recovered for reuse

Consumption of the installation (SE activities)	means the solvent consumption of the activity determined by the total input of organic solvents into an installation, which includes all directly associated activities (e.g. storage and handling of solvent and solvent containing materials and solvent containing wastes), but excludes all other SE activities (e.g. surface cleaning) less any VOC that are recovered for reuse in the last calendar year, or previous 12-month period
Contained conditions	means conditions under which an installation is operated such that the VOC released from the activity are collected and discharged in a controlled way either via a stack or abatement equipment and are therefore not entirely fugitive
Emission	shall mean any discharge of VOCs from an Installation into the environment
EMS	means environmental management system
Fugitive emissions	shall mean any emissions not in waste gases of VOCs into air, soil and water as well as, solvents contained in any products. They include uncaptured emissions released to the outside environment via windows, doors, vents and similar openings
Halogenated organic solvent	Shall mean an organic solvent which contains at least one atom of bromine, chlorine, fluorine or iodine per molecule.
Hazard Statement	<p>means a halogenated VOC assigned or which needs to carry the hazard statement H341 and H351 or materials designated which because of their content of VOC are assigned or need to carry the risk phrases H340, H350, H350i, H360D or H360F.</p> <ul style="list-style-type: none"> • Note: a preparation may contain substances which are assigned one of the hazard statement H340, H350, H350i, H360D or H360F, but the preparation itself would not be assigned that hazard statement, as the proportion of the hazard statement material is below the relevant classification threshold in the final preparation for the preparation as a whole to carry the risk phrase.
Input	means the quantity of organic solvents and their quantity in preparations used when carrying out an activity, including the solvents recycled inside and outside the installation, and which are counted every time they are used to carry out the activity

Installation	generally has the same meaning as “process” for the purposes of LAPPC and shall mean a stationary technical unit where one or more activities, and any other directly associated activities which have a technical connection with the activities carried out on that site and which could have an effect on emissions
LAPPC	Local Air Pollution Prevention and Control (established by the Pollution Prevention and Control Act 1999)
N	means normal conditions of 273.15K, 101.3 kPa
Organic solvent	means any VOC which is used alone or in combination with other agents, and without undergoing a chemical change, to dissolve raw materials, products or waste material, or is used as a cleaning agent to dissolve contaminants, or as a dissolver, or as a dispersion medium, or as a viscosity adjuster, or as a surface tension adjuster, or as a plasticiser, or as a preservative
Organic compound	means any compound containing at least the element carbon and one or more of hydrogen, halogens, oxygen, sulphur, phosphorus, silicon or nitrogen, with the exception of carbon oxides and inorganic carbonates and bicarbonates
Permit	the written permission to operate an installation prescribed for LAPPC
Process	the term process means “installations” and “activities” under the Pollution Prevention and Control Act 1999, Environmental Permitting (England and Wales) Regulations 2016 and Industrial Emissions Directive 2010/75/EU.
Regulator	means the Environmental Health Section of Darlington Borough Council (the local enforcing authority)

Reuse of organic solvents	means the use of organic solvents recovered from an installation for any technical or commercial purpose and including use as a fuel, but excluding final disposal of such recovered organic solvent as waste
SMP	means solvent management plan
Start-up and shut-down operations	means operations whilst bringing an activity, an equipment item or tank into or out of idling state. Regularly oscillating activity phases are not considered as start-ups and shut-downs
Surface cleaning	any activity except dry cleaning using organic solvents to remove contamination from the surface of material including degreasing
Varnish	means a transparent coating
VOC	Volatile Organic Compound
Volatile Organic Compound	means any organic compound having at 293.15 K a vapour pressure of 0.01 kPa or more, or having a corresponding volatility under the particular conditions of use. For the purpose of the Solvents Directive the fraction of creosote which exceeds this value of vapour pressure at 293.15 K shall be considered as a VOC

These definitions are provided for guidance only and reference should be made to the legislation and Process Guidance Notes PG6/23(11) revised June 2014 'Secretary of State's Guidance for Coating of Metal and Plastic Processes' and PG6/35(13) 'Secretary of State's Guidance for Metal Powder and Other Thermal Spraying'.

PERMIT**PART ONE****EMISSION LIMITS, MONITORING AND OTHER PROVISIONS****1.0 Non-VOC Provisions**

- 1.1 The maximum concentration of particulate matter emissions from the outlets of all contained sources other than outlet A, B, C, F, H, K and N, as specified in Schedule 1 to this Permit shall not exceed 50mg/Nm³ when measured as a 30 minute mean concentration in accordance with the main procedural requirements of the latest applicable monitoring standards¹.
- 1.2 The maximum concentration of particulate matter from outlet reference H (Donaldson Torit Downflo DFT2 – 112 dust arrestment plant) shall not exceed 20 mg/Nm³, when measured in accordance with the main procedural requirements of the latest applicable monitoring standards. For batch processes, where the production process is complete within 2 hours, then the extractive sampling should take place over a complete cycle of the activity or if the batch cycle is not compatible with the time available for sampling, then the data required shall be obtained over a minimum period of 2 hours in total.
- 1.3 The maximum concentration of isocyanate emissions expressed as NCO (excluding particulate matter) from outlet M shall not exceed 0.1mg/Nm³ when measured as a 30-minute mean for contained sources in accordance with the latest applicable monitoring standards.
- 1.4 The coating of steel products with coating materials that contain isocyanates shall only take place in Cell 6 and in no other painting cell unless agreed in advance in writing with the regulator.
- 1.5 The operator shall notify the regulator 21 days in advance of thermal spraying taking place.
- 1.6 The maximum concentration of sulphur in gas oil (as defined in the Sulphur Content of Certain Liquid Fuels Directive 1999/2/EC) used for any metal coating or thermal spraying processes shall not exceed 0.1% wt/wt. Certification shall be obtained from the supplier on every delivery to demonstrate compliance using test method ASTM D86 distillation.
- 1.7 Emissions from the outlet reference K to the dust arrestment plant of the USF Spencer Halstead abrasive blast-cleaning machine, as specified in Schedule 1 to this Permit shall discharge within the factory and comply with the requirements of workplace health and safety.
- 1.8 All pollutant concentrations shall be expressed at reference conditions 273K, 101.3 KPa without correction for water vapour.

2.0 Solvent Reduction Scheme

- 2.1 An Emission Reduction Plan shall be provided to the regulator which shall include, in particular decreases in the average solvent content of the total input and/or increased efficiency in the use of solids, in order to achieve a reduction in total emissions from the installation.
- 2.2 The Annual Actual Solvent Emission, (I1 - O8 -O7 -O6) as defined in Schedule 2 to this Permit, shall be less than or equal to the Target Emission, as shown below:

Target Emission is calculated as follows -

In determining the total mass of solids:

- solids are all materials in coatings that become solid as a result of curing, polymerisation, or the evaporation of the water or solvent

¹ The latest information regarding the monitoring standards applicable can be found at the Source Testing Association website. Further information on monitoring can be found in the Environment Agency publications M1 and M2.
VAR17/033/EPA/WL/92

- all ingredients other than water and organic solvent shall be assumed to form part of the solid coating
- and the target emission figures shown in the table below shall be used to determine the Target Emission

Installation	Target Emission
5-15 tonnes solvent consumption	Total mass of solids x 0.6
15 tonnes or more solvent consumption	Total mass of solids x 0.37

- 2.3 No substance or preparation which contains a halogenated VOC having the hazard statement H341 and H351 or other volatile organic compound assigned one of the following hazard statements – H340, H350, H350i, H360D and H360F – shall be used, except otherwise with the prior approval of the regulator. Where such approval is sought it shall be accompanied by a schedule to demonstrate how the material will be controlled under contained conditions to safeguard public health and the environment. Any approval will be subject to the requirements specified in condition 4.9 and 4.10.

3.0 Determination of Solvent Consumption

- 3.1 A determination of the organic solvent consumption, the total mass of organic solvents inputs minus any solvents sent for reuse/recovery off-site, shall be made and submitted to the regulator annually, in the form of a mass balance calculated in accordance with Schedule 3 to this Permit.

4.0 Monitoring, Investigation and Recording

- 4.1 Emission monitoring of particulate matter from the outlets of all contained sources (except outlet references A, B, C, F, H, K and N), as specified in Schedule 1 to this Permit shall be carried out at least once every two years according to the main procedural provisions of the latest applicable monitoring standards with averages taken over operating periods excluding start-up and shut-down.
- 4.2 Emission monitoring of particulate matter from outlet reference H shall be carried out at least once on each occasion thermal spraying operations take place according to the main procedural requirements of the latest applicable monitoring standards with averages taken over operating periods excluding start-up and shut-down.
- 4.3 Emission monitoring of isocyanates expressed as NCO (excluding particulate matter) from outlet reference M serving Paint Cell 6, as specified in Schedule 1 to this Permit shall be carried out at least once every two years in accordance with the main procedural requirements of the latest applicable monitoring standards with averages taken over operating periods excluding start-up and shut-down.
- 4.4 The operator shall keep a record of inspections, tests and monitoring, including all non-continuous monitoring, inspections and visual assessments. In such cases current records should be kept on site and made available for the regulator to examine and records shall be kept by the operator for at least two years. If any records are kept off-site they shall be made available for inspection within one working week of any request by the regulator.
- 4.5 The operator shall provide a list of key abatement plant and shall have a written plan for dealing with its failure, in order to minimise any adverse effects.

- 4.6 The operator shall notify the regulator at least 7 days before any periodic monitoring exercise to determine compliance with emission limit values. The operator shall state the provisional time and date of monitoring, pollutants to be tested and the methods to be used.
- 4.7 The results of all non-continuous emission testing shall be forwarded to the regulator within 8 weeks of the completion of the sampling.
- 4.8 Adverse results from any monitoring activity shall be investigated by the operator as soon as the monitoring data has been obtained. The operator shall:
- identify the cause and take corrective action
 - clearly record as much detail as possible regarding the cause and extent of the problem, and the remedial action taken by the operator to rectify the situation.
 - retest to demonstrate compliance as soon as possible and inform the regulator of the steps taken and the retest results.
- 4.9 Where approval has been given by the regulator for the use of material designated because of their VOC content in accordance with condition 2.3 the sum of the mass flow of all discharges of all those compounds causing the hazard statement labelling is greater or equal to 10g/h, a limit value of 2mg/Nm³ for the mass sum of the individual compounds shall apply.
- 4.10 Where approval has been given for material designated because of their Halogenated VOC content in accordance with condition 2.3 the sum of the mass flow of all discharges of all those compounds causing the risk phrase/hazard statement labelling is greater or equal to 100g/h, a limit value of 20mg/Nm³ for the mass sum of the individual compounds shall apply.

5.0 Visible and Odorous Emissions

- 5.1 Emissions from combustion processes shall in normal operation be free from visible smoke and in any case shall not exceed the equivalent of Ringlemann shade 1 as described in British Standard BS2742: 2009
- 5.2 All emissions to air, other than condensed water vapour shall be free from persistent visible emissions
- 5.3 All emissions to air shall be free from droplets.
- 5.4 There shall be no offensive odour beyond the process boundary as marked in red on plan reference 033/EPA/92(A)(i) as perceived by the regulator.
- 5.5 No open burning of material shall take place within the process boundary as marked in red on plan reference 033/EPA/92(A)(i) so as to give rise to smoke as dark or darker than Ringlemann shade 2 as described in British Standard BS2742: 2009 or such as to cause nuisance beyond the process boundary.

6.0 Abnormal events

6.1 In the case of abnormal emissions, malfunction or breakdown leading to abnormal emissions the operator shall:

- investigate and undertake remedial action **immediately**
- adjust the process or activity to minimise those emissions and
- promptly record the events and actions taken

6.2 The regulator shall be informed without delay:

- if there is an emission that is likely to have an effect on the local community; or
- in the event of the failure of one of the key arrestment plant for example bag filtration plant

7.0 Start Up and Shut Down

7.1 All appropriate precautions shall be taken to minimise emissions during start-up and shut-down.

8.0 Efficient Capture of Emissions

8.1 The introduction of dilution air to achieve emission concentration limits shall not be permitted.

8.2 Dilution air may be added for waste gas cooling or improved dispersion where justified, but must not be considered when determining the mass concentration of pollutants in the waste gases.

9.0 Sampling Provisions

9.1 The operator shall ensure that relevant stacks or ducts are fitted with facilities for sampling which allow compliance with the sampling standards.

9.2 Sampling points on new plant shall be designed to comply with the British or equivalent standards.

9.3 Where monitoring is not in accordance with the main procedural requirements of the relevant standard, deviations shall be reported as well as an estimation of the likely error.

PART TWO CONTROL TECHNIQUES

10.0 VOC Control Handling

- 10.1 Coatings containing VOC shall be stored in closed storage containers.
- 10.2 All measures shall be taken to minimise VOC emissions during mixing, including the use of covered and/or closed mixing vessels.
- 10.3 Emissions from emptying of mixing vessels and transfer of materials shall be adequately contained, preferably by the use of closed transfer systems, including the use of closed mobile containers, containers with close fitting lids or, preferably closed containers with pipeline delivery as appropriate.
- 10.4 All potentially odorous waste material shall be stored in suitable enclosed containers or bulk storage vessels, where appropriate vented to suitable abatement plant.

11.0 VOC Control Cleaning

- 11.1 Cleaning operations involving organic solvents shall be periodically reviewed, normally at least once every two years, to identify opportunities for reducing VOC emissions such as cleaning steps that can be eliminated or alternative cleaning methods. The regulator shall be provided with a report on the conclusions of the review.
- 11.2 Application of cleaning solvents shall be from a contained device or automatic system when applied directly on to machine rollers; and dispensed by a piston type dispenser or similar contained device when used on wipes.
- 11.3 When organic solvent is used on wipes, pre-impregnated wipes shall be held within an enclosed container prior to use; and where practicable no organic solvent cleaning fluids or significantly less volatile organic solvents cleaning fluids shall be used (with or without the addition of mechanical, chemical or thermal enhancements).
- 11.4 Where practicable, fixed equipment shall be cleaned in-situ, and such equipment shall where practicable, be kept enclosed whilst cleaning is carried out.
- 11.5 Where equipment is cleaned off line, such as screens, plates, drums, rollers and coating trays, cleaning shall be carried out using enclosed cleaning systems, wherever possible. Enclosed cleaning systems shall be sealed to prevent emissions whilst in operation, except during purging at the end of the cleaning cycle. If this is not practicable emissions shall be contained and vented to abatement plant where necessary.
- 11.6 Residual coating materials contained in parts of the application equipment shall be removed prior to cleaning.

12.0 VOC Control Operational

12.1 A programme to monitor and record the consumption of coatings/organic solvent against product produced shall be used to minimise the amount of excess organic solvent/coating used.

13.0 VOC Control Waste

13.1 All reasonably practicable efforts shall be made to minimise the amount of residual organic solvent bearing material left in drums and other containers after use. All organic solvent contaminated waste shall be stored in closed containers.

13.2 Prior to disposal, empty drums and containers contaminated with organic solvent shall be closed to minimise emissions from residues during storage prior to disposal and labelled, so that all that handle them are aware of their contents and hazardous properties.

13.3 Nominally empty drums or drums containing waste contaminated with VOC awaiting disposal shall be stored in accordance with the requirements of full or new containers.

13.4 Prior to disposal, used wipes and other items contaminated with organic solvent shall be placed in a suitably labelled metal bin fitted with a self-closing lid.

14.0 Dust and Spillage Control

14.1 Dusty wastes and other dusty materials shall be stored in closed containers and handled in a manner that avoids emissions.

14.2 All waste materials from the Donaldson Torit DFT2-112 Cartridge Dust Collector marked at location H on plan reference 033/EPA/92(B)(iv) shall discharge to containers suitable for the storage of aluminium and zinc dust. Such containers shall be enclosed and shall be capable of being removed and, where necessary, cleaned in such a way as to prevent the powder dispersing and forming a dust cloud. (Storage, handling and disposal of aluminium and zinc dust and containers which have held such dusts can involve a risk of fire, explosion and/or hazard to health and should be carried out in accordance with Health and Safety advice.)

14.3 Maintenance shall ensure that all filter media serving the Donaldson Torit DFT2-112 Cartridge Dust Collector, Donaldson Torit TDS40 and Donaldson Torit DCE (plasma burning machine) are inspected in accordance with the manufacturers' recommendations for defects or blinding; and

EITHER

a) All filter media be replaced at least every 4 years

OR

b) All filter media are replaced at a frequency agreed by the regulator. This frequency shall be either supported by results of continuous monitoring devices or an inspection report or in accordance with the manufacturer's approved filter maintenance programme.

14.4 Details of filter media replacement serving the Donaldson Torit DFT2-112 Cartridge Dust Collector, Donaldson Torit TDS40, Donaldson Torit DCE (plasma burning machine) shall be recorded.

14.5 All process buildings, and in particular the paint cells shall be made as dust tight as is necessary to prevent visible emissions.

14.6 All process buildings and the area surrounding the paint cells shall be cleaned regularly, according to a written maintenance programme, to minimise fugitive emissions.

- 14.7 Dry sweeping of dusty materials shall not normally be permitted unless there are environmental or health and safety risks in using alternative techniques.
- 14.8 Suitable organic solvent containment and spillage equipment shall be readily available in all organic solvent handling areas.
- 14.9 A high standard of housekeeping shall be maintained.
- 15.0 Stacks, Vents and Process Exhausts**
- 15.1 Adequate insulation shall be provided to minimise the cooling of waste gases and prevent liquid condensation by keeping the temperature of the exhaust gases above the dewpoint.
- 15.2 Stacks and ductwork shall be cleaned to prevent accumulation of materials, as part of the routine maintenance programme.
- 15.3 A minimum discharge velocity of 15 metres per second shall be maintained on the outlets of all plant (except wet arrestment plant) under normal operating conditions in order to prevent the discharged plume being affected by aerodynamic downwash.
- 15.4 The final openings from the outlets of all contained sources (except outlet reference K, M and N), as specified in Schedule 1 to this Permit shall discharge at a height of at least 3 metres above roof ridge level.
- 15.5 Stacks or vents shall not be fitted with any restriction at the final opening such as a plate, cap or cowl, with the exception of a cone, which may be necessary to increase the exit velocity of the emissions.
- 16.0 Management**
- 16.1 Spares and consumables – in particular, those subject to continual wear – shall be held on site, or shall be available at short notice from guaranteed suppliers, so that plant breakdowns can be rectified rapidly.
- 17.0 Training**
- 17.1 Training of all staff with responsibility for operating the process/activity shall include:
- awareness of their responsibilities under the Permit, in particular how to deal with conditions likely to give rise to VOC emission, such as in the event of spillages
 - minimising emissions on start up and shut down
 - action to minimise emissions during abnormal conditions
- 17.2 The operator shall maintain a statement of training requirements for each operational post and keep a record of the training received by each person whose actions may have an impact on the environment. These documents shall be made available to the regulator in request.

18.0 Maintenance

18.1 A written maintenance programme with respect to pollution control equipment and a record of maintenance that has been undertaken shall be made available for inspection by the regulator.

19.0 Other Conditions

19.1 Where any modifications to the process are intended, with the exception of general maintenance, details of the modifications intended shall be notified to the regulator and approval obtained prior to the modification being undertaken.

19.2 The best available techniques (BAT) shall be used to prevent or, where this is not practicable, reduce emissions from the installation in relation to any aspect of the operation of the installation which is not regulated by any other condition of this permit (see the Definitions section for more information concerning BAT).

End of Conditions

Signature Carol Whelan

Date: 16 January 2018

**Carol Whelan
Principal Environmental Health Officer**

Attachments

- Plan reference 033/EPA/92(A)(i)
- Plan reference 033/EPA/92(B)(iv)
- Plan reference 033/EPA/92(C)(i)
- Plan reference 033/EPA/92(D)(ii)
- Schedule 1 – Schedule of Process Outlet Points
- Schedule 2 – Annual Actual Solvent Emission
- Schedule 3 – Determination of Solvent Consumption

**SCHEDULE 1
SCHEDULE OF PROCESS OUTLET POINTS**

Outlet Reference	Serving
A	Chimney Flue to Treatment Line Heating Plant (no longer in use)
B	Chimney Flue to Paint Cells Heating Plant
C	Chimney Flue to Paint Cells Heating Plant
D	Dust Arrestment Plant to Treatment Line Shotblasting Equipment
E	Donaldson Torit TDS40 Dust Arrestment Plant (Shotblasting – Paint Cells 1 and 4)
F	Arrestment Plant to Treatment Line Painting Equipment (water wash) (no longer in use)
G	Arrestment plant to paint cells 1 and 2 (Painting)
H	Donaldson Torit Downflo DFT2-112 Dust Arrestment Plant (Thermal Spraying – Paint Cells 1 and 2)
I	Arrestment Plant to Paint Cell 3 (Painting)
J	Arrestment Plant to Paint Cell 5 (Painting)
K	Dust Arrestment Plant to USF Spencer Halstead Shotblasting Machine (internal outlet)
M	Arrestment Plant to Paint Cell 6 (Painting)
N	Donaldson Torit DCE (plasma burning machine)

SCHEDULE 2
ANNUAL ACTUAL SOLVENT EMISSION

Compliance with the Reduction Scheme is achieved if the Annual Actual Solvent Emission determined from the Solvent Management Plan is less than or equal to the Target Emissions referred to in Part 1 to this Permit where

$$\text{Annual Actual Solvent Emission} = I_1 - O_8 - O_7 - O_6$$

and

I_1 is the total quantity of organic solvents, or their quantity in preparations purchased which are used as input into the process/activity

A calculation of the purchased organic solvent input (I_1), is carried out by recording

- (i) the mass of organic solvent contained in the coatings, diluents and cleaners in the initial stock (IS) at the start of the accounting period, plus
- (ii) the mass of organic solvent contained in the coatings, diluents and cleaners in the purchased stock (PS) during the accounting period
- (iii) minus the mass of organic solvent contained in the coatings, diluents and cleaners in the final stock (FS) at the end of the accounting period

$$\text{Total Organic Solvent Input } (I_1) = \text{IS} + \text{PS} - \text{FS}$$

O_8 is the organic solvents contained in preparations recovered for reuse but not as input into the process/activity, as long as not counted under O_7

O_7 is the organic solvent, or organic solvents contained in preparations, which are sold or are intended to be sold as commercially valuable product

O_6 is the organic solvents contained in collected waste

**SCHEDULE 3
DETERMINATION OF SOLVENT CONSUMPTION**

A determination of the organic solvent consumption, the total mass of organic solvent inputs minus any solvents sent for reuse/recovery off-site, shall be made and submitted to the regulator annually in accordance with condition 3.1 to this Permit, in the form of a mass balance in order to determine the annual actual consumption of organic solvent (C)

where $C = I_1 - O_8$

and

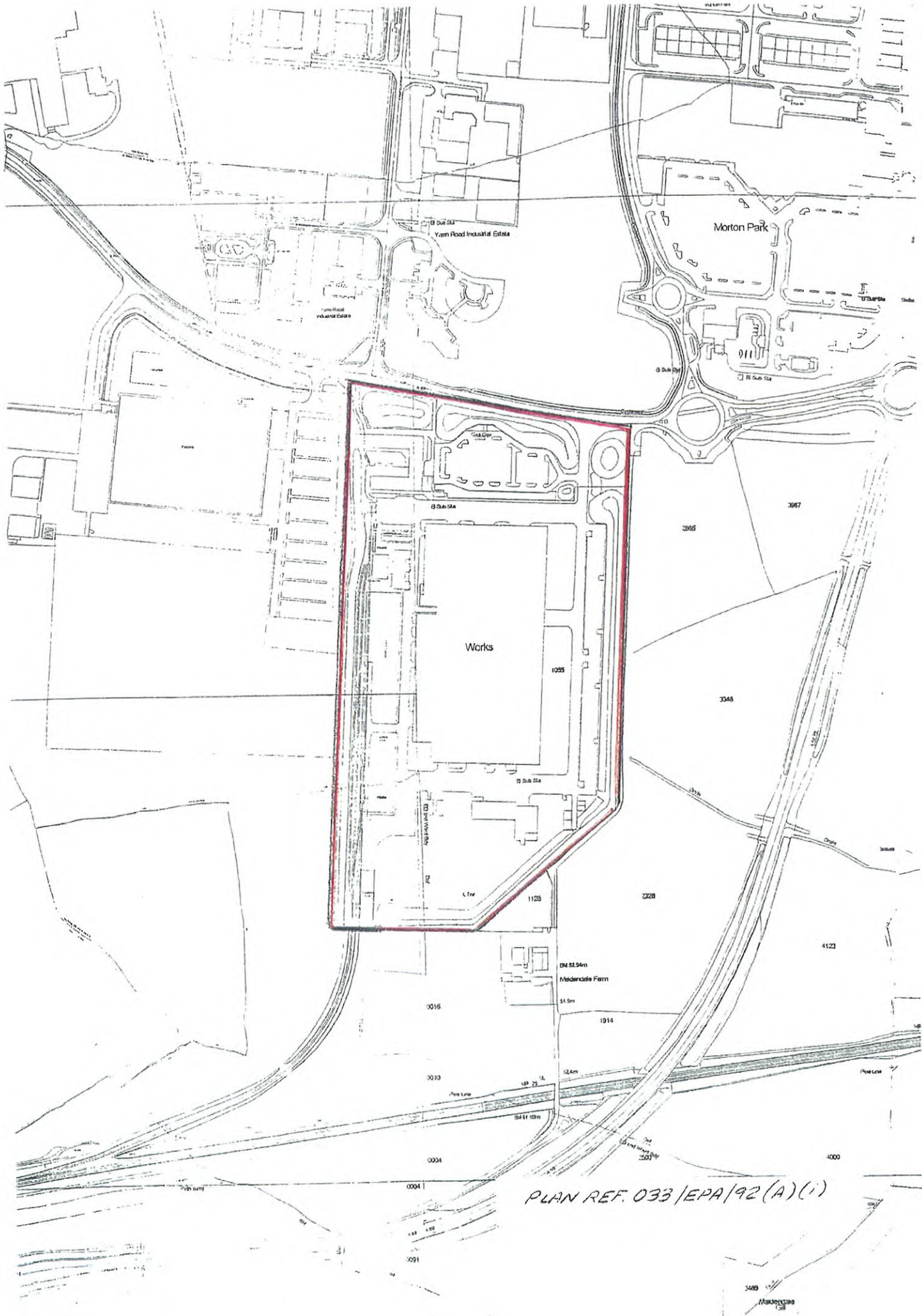
I_1 is the total quantity of organic solvents, or their quantity in preparations purchased which are used as input into the process/activity

A calculation of the purchased organic solvent input (I_1) to the process/activity, is carried out by recording:

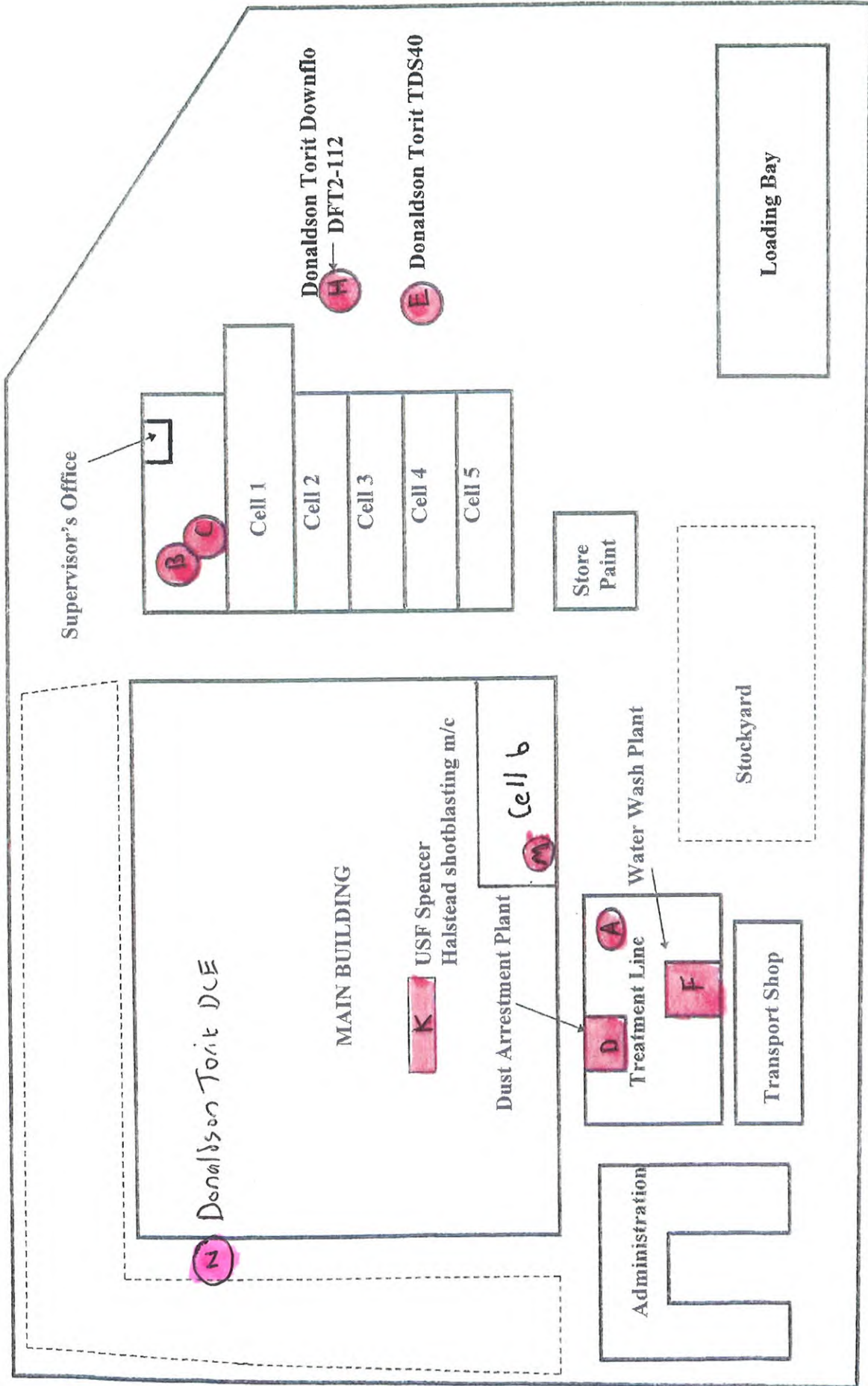
- (i) The mass of organic solvent contained in coatings, diluents and cleaners in the initial stock (IS) at the start of the accounting period, plus
- (ii) The mass of organic solvent contained in coatings, diluents and cleaners in the purchased stock (PS) during the accounting period
- (iii) Minus the mass of organic solvent contained in coatings, diluents and cleaners in the final stock (FS) at the end of the accounting period

Total Organic Solvent Input (I_1) = IS + PS – FS

O_8 Organic solvents contained in preparations recovered for reuse but not as input into the process/activity

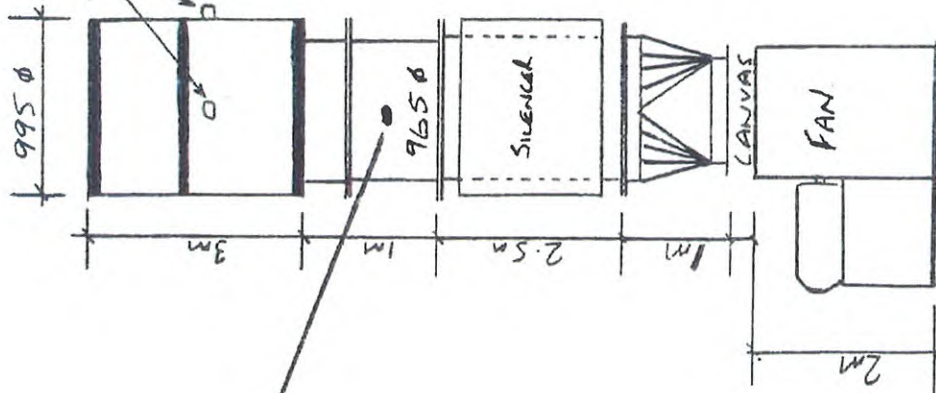


PLAN REF. 033/EPA/92(A)(i)



DONALDSON TORIT DOWNFLO DFT2-112 CARTRIDGE
DUST COLLECTOR (H)

ISOKINETIC SAMPLING POINTS

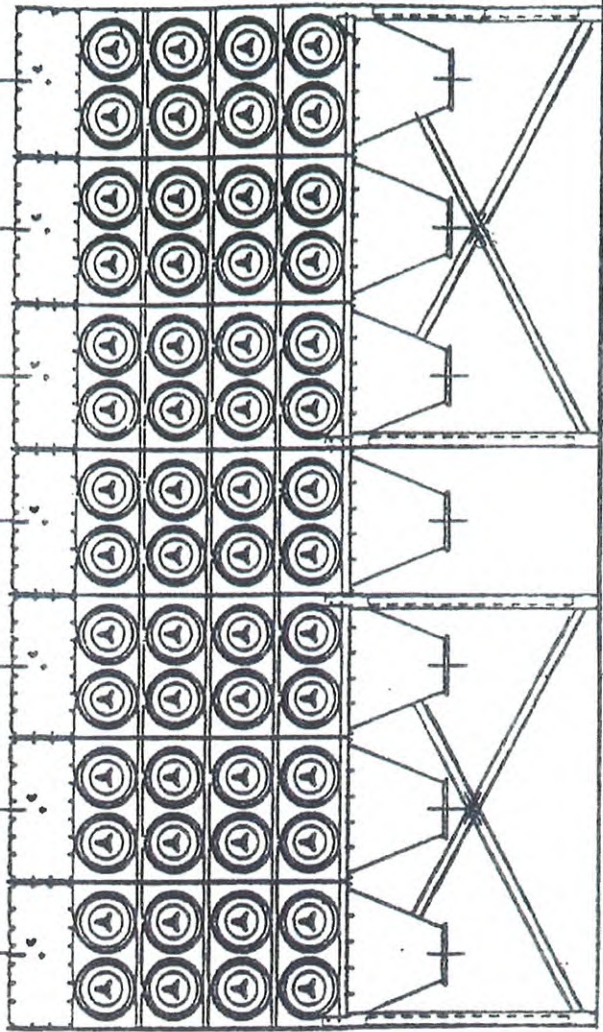


SENSOR PROBE

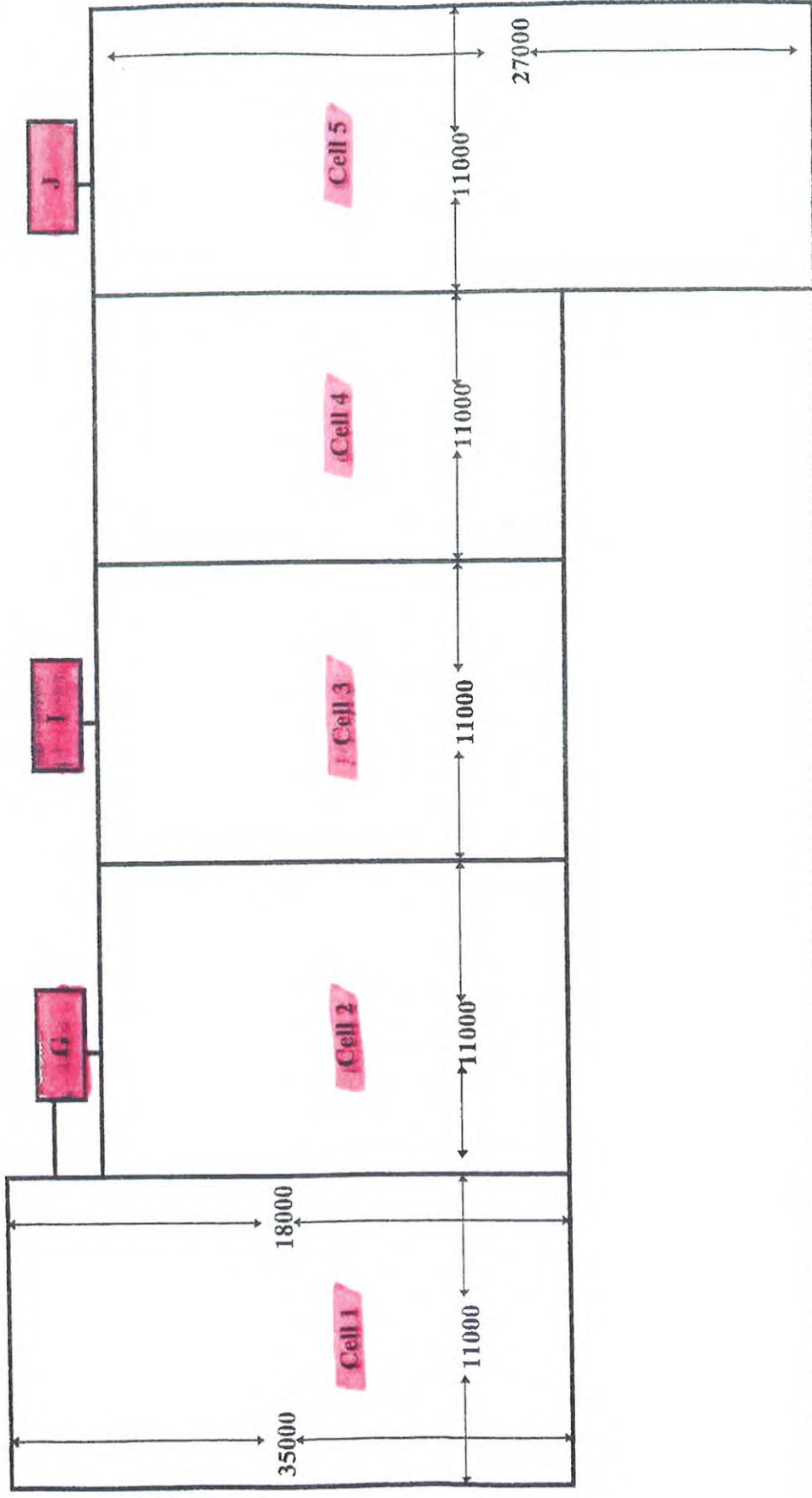
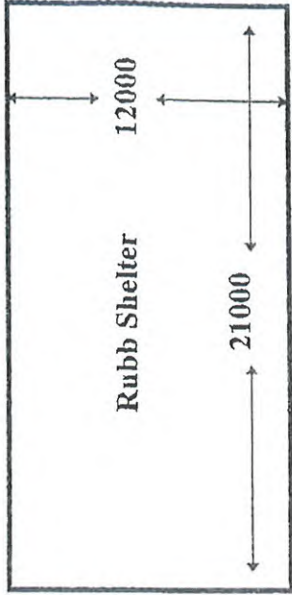
INLET DUCT

1.5m

960 ϕ



FLOOR LEVEL



Petroleum (Regulation) Act 1928 and 1936

Petroleum (Mixtures) Order 1929

**PETROLEUM SPIRIT
LICENCE**

Ref Number : 01/00159/PTRLS

Expiry Date: 31.08.03

Darlington Borough Council Licence

Cleveland Bridge (Uk) Ltd

**to keep 20000 (vol) litres of Petroleum Mixtures on the
premises:**

**Yarm House
Yarm Road
Darlington
DL1 4DE**

in an external brick built store



.....
ASSISTANT DIRECTOR PUBLIC PROTECTION

(Note: This licence is granted subject to the conditions set out in the attached Schedule of Conditions)

Licensed on behalf of Darlington Borough Council by the Assistant Director, Public Protection
11 Houndgate, Darlington, DL1 5RF

Telephone: (01325) 388577 Fax: (01325) 388555 Email: publicprotection@darlingtonco.uk

In case of enquiry or complaint contact the above Department.

Petroleum (Regulation) Act 1928 and 1936

Petroleum (Mixtures) Order 1929

**PETROLEUM SPIRIT
LICENCE**

Ref Number : 01/00160/PTRLS

Expiry Date: 31.08.03

Darlington Borough Council Licence

Cleveland Bridge (Uk) Ltd

**to keep 2500 (vol) litres of Petroleum Mixture on the
premises:**

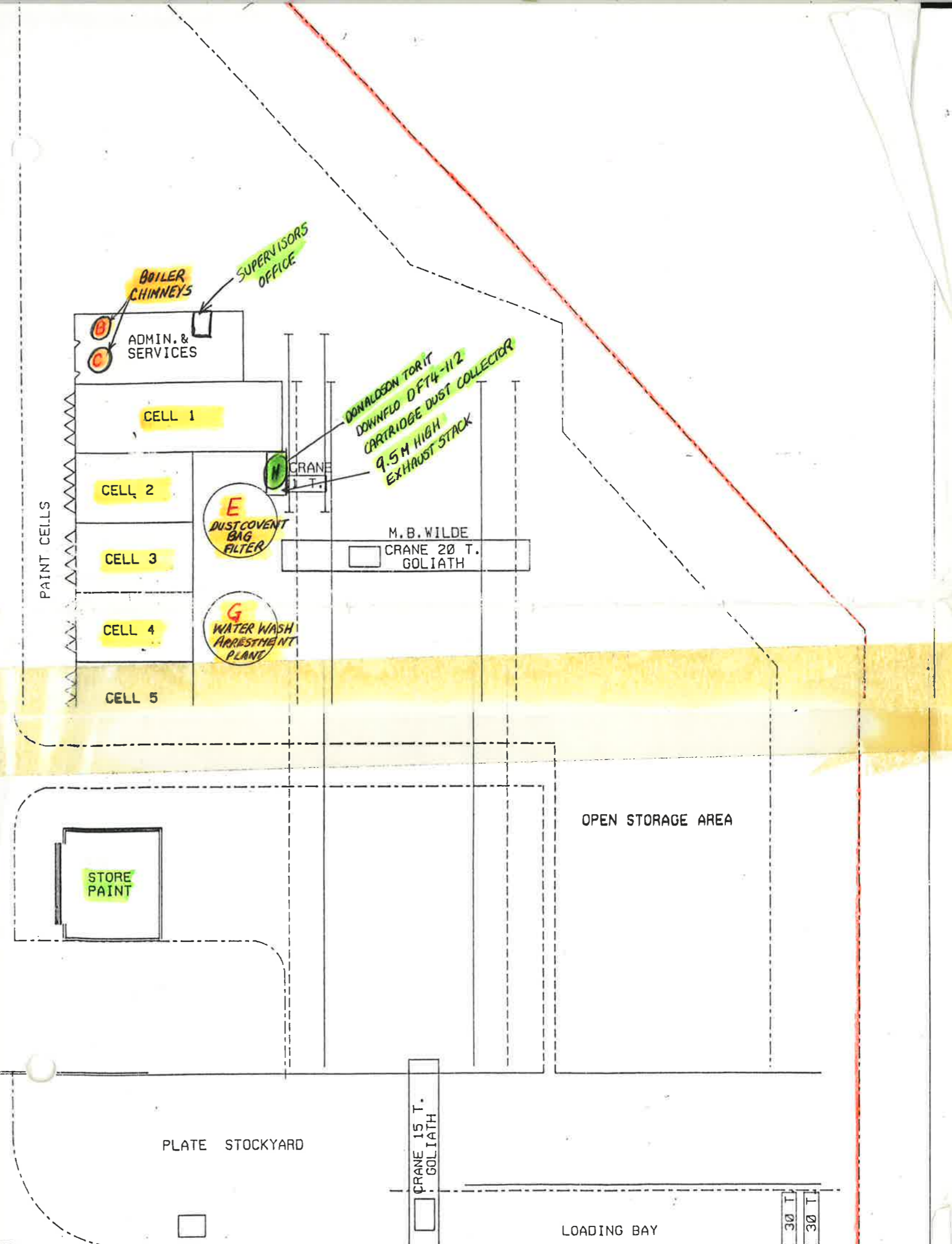
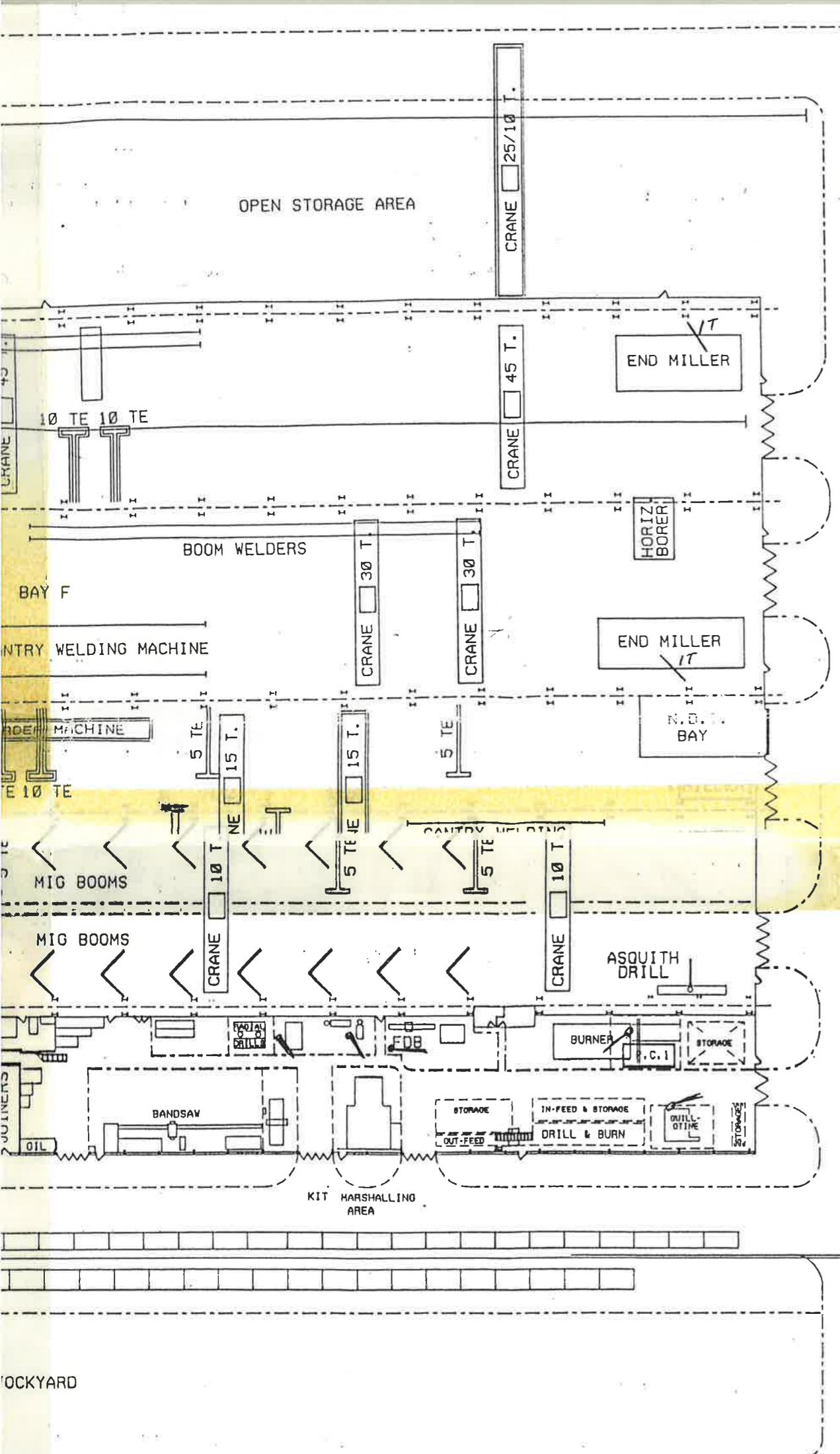
**Yarm House
Yarm Road
Darlington
DL1 4DE**

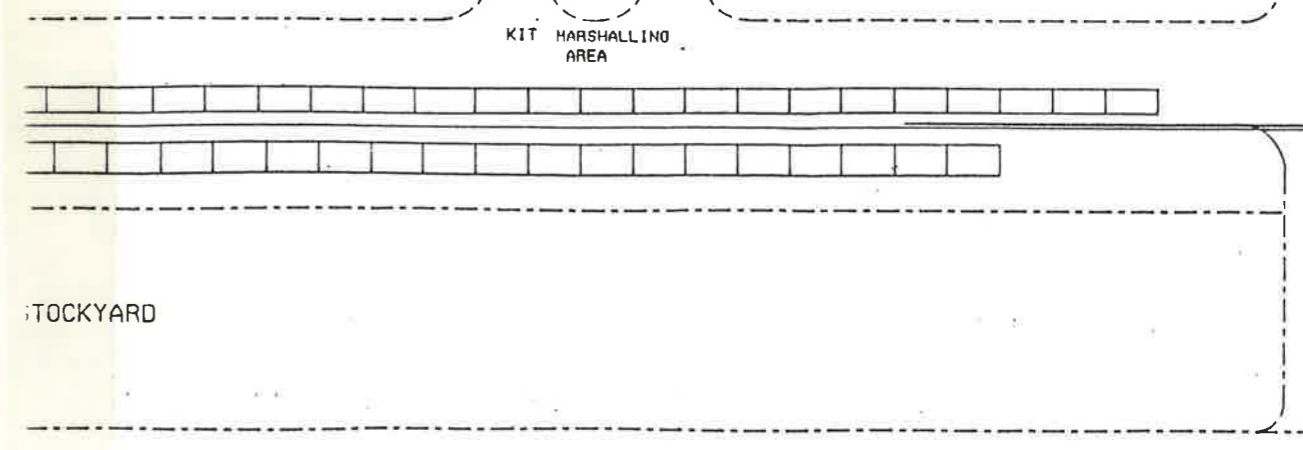
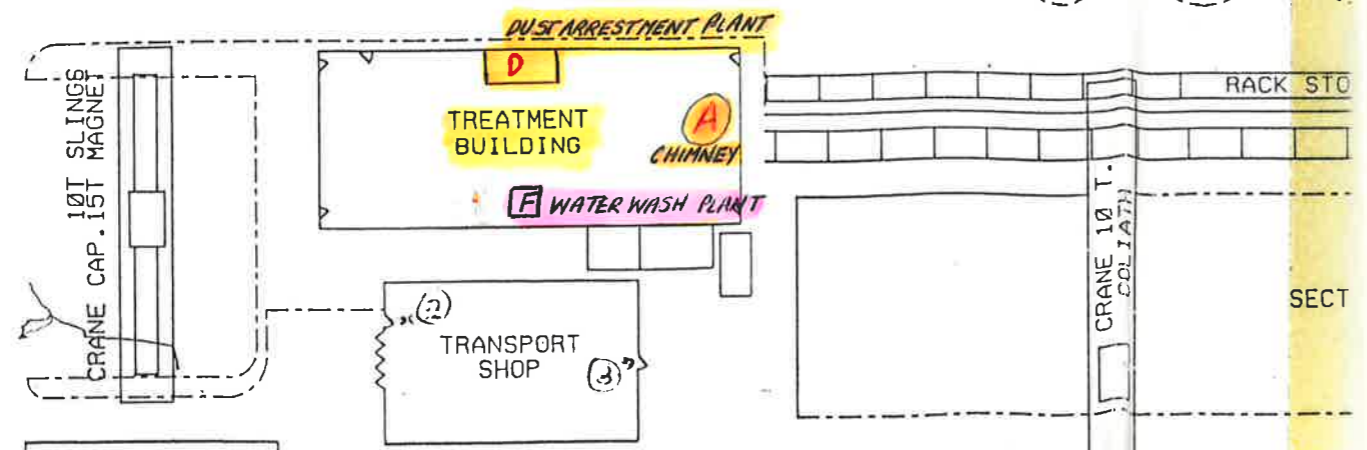
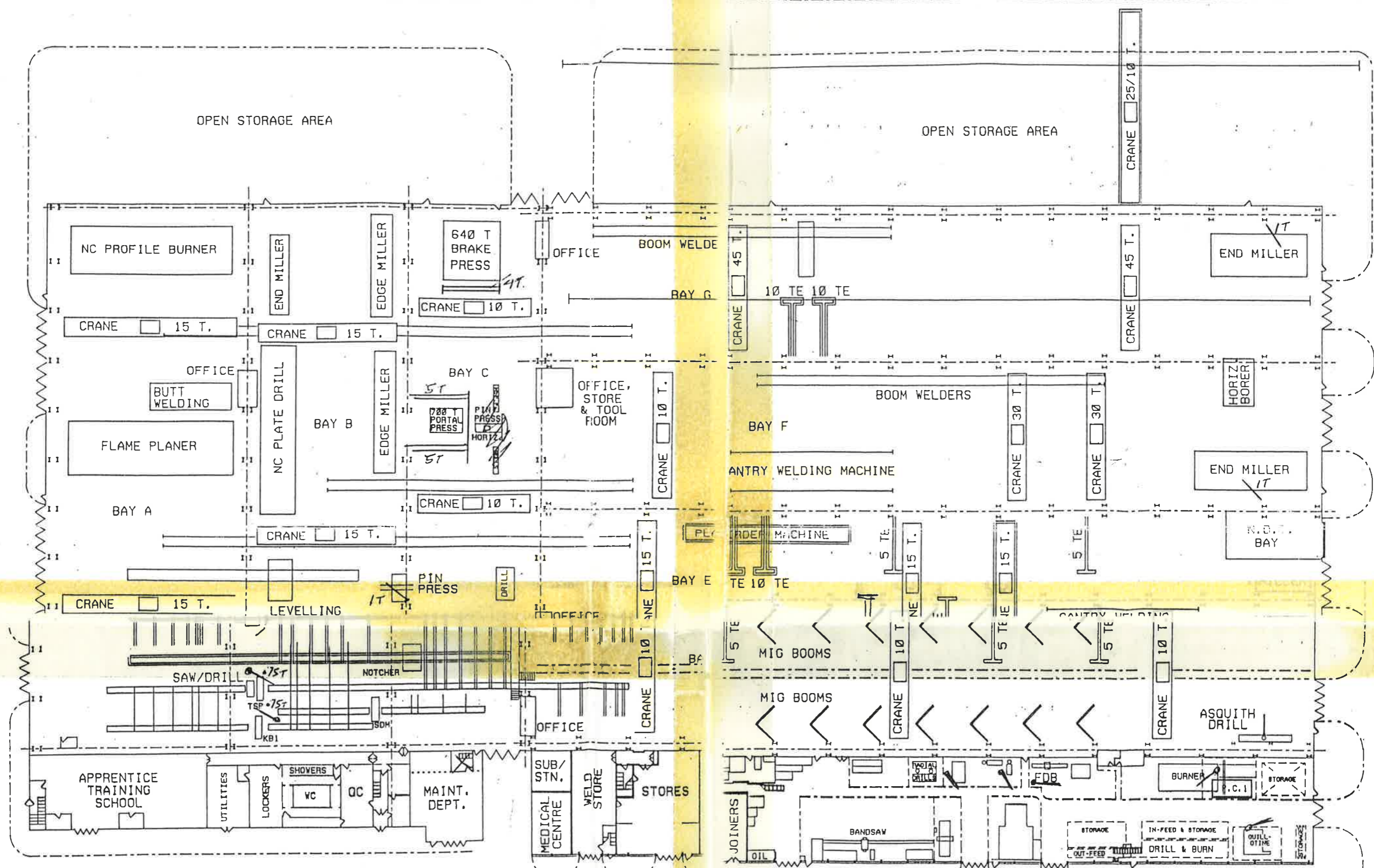
**in an internal brick built store located in the treatment line
area.**



.....
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Geotechnical Engineering and Environmental Services across the UK



The Geological Society



JOMAS ASSOCIATES LTD

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Salisbury Road
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APPENDIX C PHASE II BASELINE ASSESSMENT

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GEO-ENVIRONMENTAL & GEOTECHNICAL ASSESSMENT (GROUND INVESTIGATION) REPORT

CLEVELAND HOUSE
YARM ROAD
DARLINGTON
DL1 4DE



JOMAS ASSOCIATES LTD

Unit 24 Sarum Complex, Salisbury Road, Uxbridge, UB8 2RZ

www.jomasassociates.com 0333-305-9054 info@jomasassociates.com

Report Title: Geo-environmental & Geotechnical Assessment Ground Investigation Report for Cleveland House, Yarm Road, Darlington DL1 4DE

Report Status: Final


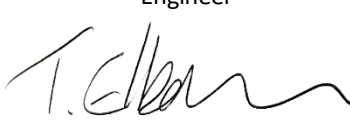

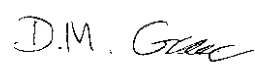
Job No: P6534J3273/JWT

Date: 05 December 2025

QUALITY CONTROL – REVISIONS

Version	Date	Issued By	Comment
v1.1	12/12/2025	JWT	Minor update to include latest proposed development plan.

Prepared by: JOMAS ASSOCIATES LTD **For:** EARTH & MARINE ENVIRONMENTAL CONSULTANTS LTD

<p>Prepared by Joshua Thomas BSc (Hons), FGS Senior Geo-environmental Engineer</p>  <p>.....</p>	<p>Reviewed by Tom Elbourne BSc (Hons), CGeol CSci FGS, RoGEP - Professional Principal Geo-environmental Engineer</p>  <p>.....</p> <p>&</p> <p>Josephine Whitehead MSci (Hons), FGS Senior Geotechnical Engineer</p>  <p>.....</p>	<p>Approved by Derek Grange BSc, MSc, CGeol, FGS, RoGEP - Specialist</p>  <p>.....</p>
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Should you have any queries relating to this report, please contact:

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EXECUTIVE SUMMARY

Site Details	Site Address	Cleveland House, Yarm Road, Darlington DL1 4DE
	National Grid Reference	E:432060, N:513501
	Site Area	9.63Ha (approx.)
	Proposed Development	The proposed development is understood to comprise redevelopment of the former Cleveland Bridge UK Ltd site into a plastic pyrolysis plant. It is understood that ‘the process’ will be fully within the existing building, but there will need to be an external tank farm and an associated tanker loading area.
Encountered Conditions	Scope of Works	The assessment incorporated a desk study to determine the site’s setting to inform a preliminary risk assessment followed by an intrusive investigation to confirm the ground and groundwater conditions and support the development of a geotechnical and geo-environmental assessment.
	Ground Conditions	The ground conditions encountered were broadly consistent with those anticipated from the desk study, and comprised Made Ground, to depths of up to 1.00mbgl, underlain by soft to very stiff clays, and medium dense sands locally at WS03 and WS18, of the Till deposits to the base of the boreholes (maximum depth of 5mbgl).
	Groundwater	During the investigation groundwater was struck at a depth of 4.50mbgl within borehole WS06. Groundwater was not reported within the remaining boreholes during drilling.
Geo-environmental Assessment Summary and Recommendations		<p>Following generic risk assessments, none of the contaminants in the laboratory analytical suites were detected in soils in excess of generic assessment criteria for the protection of human health within a “commercial” end-use scenario.</p> <p>In addition, no asbestos containing materials or fibres were detected in the Made Ground samples analysed in the laboratory.</p> <p>The risk to end users associated with vapour risk inhalation from soils is considered negligible.</p> <p>A significant risk of impact to controlled water receptors has not been identified.</p> <p>No significant sources of soil gas generation were identified at Desk Study stage, or during the subsequent intrusive investigation. On this basis, no formal gas protection measures are considered necessary.</p> <p>A significant risk to plant growth has not been identified.</p> <p>Upgraded potable water supply pipe materials may be required. The water supply pipe requirements for this site should be discussed at an early stage with the relevant utility provider.</p> <p>Following the land contamination assessment, no further assessment or risk mitigation is required, and the site can be considered suitable for the proposed use.</p> <p>As with any ground investigation, the presence of further hotspots between sampling points cannot be ruled out. Should any contamination be encountered, a suitably qualified environmental consultant should be informed immediately, so that adequate measures may be recommended.</p>

Geotechnical Considerations	Foundations	Based on the ground and groundwater conditions encountered, traditional strip/trench-fill foundations up to 1m wide may be formed within the underlying cohesive Till deposits at a minimum depth of 0.9m for an allowable bearing capacity of 120kPa. Alternatively, pad foundations with dimensions of 1.2m x 1.2m could be formed at the same depth for an allowable bearing capacity of 175kPa. Total and differential settlements should be contained within tolerable limits
	Sulphates	Buried concrete for foundations should be designed to Class DS-4 (AC-3s).
	Ground Floor Slabs	Due to the nature of the development, NHBC regulations will not apply. However, due to the presence of shrinkable soils, the potential for heave to affect a ground bearing floor slab should be considered, and measures included within the design to minimise the impact on the finished floor slab.
	Excavations	Temporary excavations are unlikely to remain stable and some form of temporary support or battering back to a safe angle and dewatering are likely to be required. Subject to seasonal variations, surface water/groundwater encountered during site works could likely be dealt with by conventional pumping from a sump used to collate waters.
	Road Pavements	Preliminary CBR design values of 2.5% and 4% are recommended for pavements constructed within the Made Ground and Till deposits, respectively.
Recommended Further Work	<p>The following works are recommended:</p> <ul style="list-style-type: none"> • Seek approval of the Generic Quantitative Risk Assessment from the Local Authority, NHBC and other relevant stakeholders; • Seek confirmation of the water supply pipe requirements by the appropriate service provider. 	
<p><i>This Executive Summary is intended to provide a brief summary of the main findings and conclusions of the investigation. For detailed information, the reader is referred to the main report ref. P6534J3273.</i></p>		

1 INTRODUCTION

1.1 Terms of Reference

1.1.1 Earth & Marine Environmental Consultants Ltd (“The Client”) has commissioned Jomas Associates Ltd (‘Jomas’) to undertake an investigation of the geotechnical and geo-environmental factors pertaining to the proposed development at a site referred to as Cleveland House, Yarm Road, Darlington DL1 4DE (herein referred to as ‘the site’).

1.1.2 A Phase 1 Desk Study has been produced for the site and issued separately (detailed in Table 1.1 below), followed by an intrusive investigation (detailed in this report).

1.1.3 An intrusive investigation has been undertaken in accordance with Jomas’ proposal dated 12 September 2025.

1.2 Proposed Development

1.2.1 The proposed development is understood to comprise redevelopment of the former Cleveland Bridge UK Ltd site into a plastic pyrolysis plant. It is understood that ‘the process’ will be fully within the existing building, but there will need to be an external tank farm and an associated tanker loading area.

1.2.2 A site investigation is required for environmental due diligence, to provide factual information to establish the baseline conditions for an environmental permit and provide geo-environmental and geotechnical information for the development.

1.2.3 For the purpose of geo-environmental assessment and selection of generic assessment criteria, the development is considered “commercial”.

1.2.4 A plan of the proposed development is included in Figure 4, Appendix 1.

1.2.5 For the purpose of geotechnical assessment, it is considered that the project could be classified as a Geotechnical Category (GC) 2 site in accordance with BS EN 1997.

1.3 Objectives

1.3.1 The objectives of Jomas’ investigation are as follows:

- To undertake an intrusive investigation, to determine the ground and groundwater conditions as well as to assess the nature and extent of contaminants (if any) potentially present at the site.
- To establish the presence of significant pollutant linkages, in accordance with the procedures set out within Part IIA of the Environmental Protection Act 1990, associated statutory guidance and current best practice including the EA land contamination risk management (LCRM); and,
- To determine soil properties to inform the preliminary geotechnical assessment for foundations, excavation stability, pavement design and buried concrete and recommendations for further action (if required).

1.4 Scope of Works

1.4.1 The following tasks were undertaken to achieve the objectives listed above:

- Intrusive ground investigation to determine shallow ground conditions, and potential for contamination to be present at the site.
- Undertaking of laboratory chemical and geotechnical testing upon samples obtained.
- The compilation of this report, which collects and discusses the above data, and presents an assessment of the site conditions, conclusions and recommendations.

1.5 Previous/Supplied Documentation

1.5.1 Relevant reports prepared by or supplied to Jomas Associates prior to the commencement of this investigation are detailed in Table 1.1:

Table 1.1: Previous/Supplied Reports

Title	Author	Reference	Date
Desk Study/Preliminary Risk Assessment Report for Cleveland House, Yarm Road, Darlington DL1 4DE	Jomas Associates Ltd	P6534J3273/JWT v1.1	12 December 2025

1.6 Previous Ground Investigations

1.6.1 It is understood that a site investigation was undertaken in the late 1970's prior to construction of the Cleveland Bridge premises, however a copy of the associated report is not available.

1.6.2 Jomas is not aware of any other previous intrusive investigation works that have been undertaken on the site.

1.7 Limitations

1.7.1 Jomas has prepared this report for the sole use of Earth & Marine Environmental Consultants Ltd, in accordance with the generally accepted consulting practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon by any other party without the explicit written agreement of Jomas. No other third party warranty, expressed or implied, is made as to the professional advice included in this report. This report must be used in its entirety.

1.7.2 The records search was limited to information available from public sources; this information is changing continually and frequently incomplete. Unless Jomas has actual knowledge to the contrary, information obtained from public sources or provided to Jomas by site personnel and other information sources, have been assumed to be correct. Jomas does not assume any liability for the misinterpretation of information or for items not visible, accessible or present on the subject property at the time of this study.

1.7.3 Whilst every effort has been made to ensure the accuracy of the data supplied, and any analysis derived from it, there may be conditions at the site that have not been disclosed by the investigation, and could not therefore be taken into account. As with any site, there may

be differences in soil conditions between exploratory hole positions. Furthermore, it should be noted that groundwater conditions may vary due to seasonal and other effects and may at times be significantly different from those measured by the investigation. No liability can be accepted for any such variations in these conditions.

- 1.7.4 Any reports provided to Jomas have been reviewed in good faith. Jomas cannot be held liable for any errors or omissions in these reports, or for any incorrect interpretation contained within them.
- 1.7.5 This investigation and report have been carried out in accordance with the relevant standards and guidance in place at the time of the works. Future changes to these may require a re-assessment of the recommendations made within this report.
- 1.7.6 **This report is not an engineering design and the figures and calculations contained in the report should be used by the Structural Engineer, taking note that variations may apply, depending on variations in design loading, in techniques used, and in site conditions. Our recommendations should therefore not supersede the Engineer's design.**

2 DESK STUDY SUMMARY

2.1 Site Information

2.1.1 The site location plan is appended to this report in Figure 1, Appendix 1.

Table 2.1: Site Information

Name of Site	Cleveland House
Address of Site	Yarm Road Darlington DL1 4DE
Approx. National Grid Ref.	432060 513501
Site Area (Approx)	9.63ha
Site Occupation	Commercial site undergoing redevelopment
Local Authority	Darlington Borough Council
Proposed Site Use	Redevelopment into a plastic pyrolysis plant

2.2 Site Walkover

2.2.1 A site walkover survey was undertaken by Jomas Associates on 08 October 2025.

Table 2.2: Site Description

Area	Item	Details
On-site:	Current Uses:	<p>The site comprises a large plot of land situated to the south of Yarm Road, Darlington.</p> <p>It is understood that the site was formerly operated by Cleveland Bridge UK Ltd, a bridge manufacturing company.</p> <p>A substantial commercial-style building, which is understood to have been the main manufactory, occupies a large portion of the site footprint and is surrounded by access roads and external yard areas. At the time of the walkover this building was undergoing internal redevelopment as part of the proposed change of use to a plastic pyrolysis plant.</p> <p>Smaller units, which are understood to have been a treatment building and maintenance and plant depot are located in the northwest of the site. An electricity substation was observed in between these two buildings.</p> <p>Another group of smaller buildings located in the south of the site is understood to have been used as an area for painting of manufactured products. These buildings are understood to include a number of former paint cells, and a paint store. A paint can crusher and area for storing of waste drums and thinners were noted to the south and southeast of these buildings, and a large amount of metal debris was noted in the ground surface in the general area.</p>

Area	Item	Details
		There is warehouse-style unit in the southeast of the site, which at the time of the walkover was being temporarily used as a vehicle maintenance unit.
	Evidence of historic uses:	As mentioned above, the site is understood to have to have formerly been operated as a bridge manufacturing company and various features associated with this use were observed during the site walkover.
	Surfaces:	<p>Most of the site is covered by hard surfacing formed by the building footprints, access roads, parking areas, and external yards, which are surfaced with a mixture of concrete and asphalt. The roadways appear to be well engineered, as would be expected given the known previous site use.</p> <p>There are limited areas of soft landscaping, located mainly around the site perimeter, which are covered by turf, weeds, shrubs and trees.</p>
	Vegetation:	<p>The vegetation onsite comprises turf, weeds, shrubs and trees, located mainly around the perimeter of site.</p> <p>None of the vegetation seen appeared to be exhibiting any obvious evidence of distress.</p>
	Topography/Slope Stability:	The site is generally flat and level. An area of sloping ground was noted in the northwest of site.
	Drainage:	<p>The site appears to be connected to normal drainage facilities. Drain covers are situated around the site.</p> <p>No obvious evidence of drainage issues was observed.</p>
	Services:	<p>2No electricity substations are present onsite, one in the northwest located in between the former treatment building and maintenance and plant depot, and another directly adjacent to the south of the main former manufactory building.</p> <p>Other services are anticipated however the operational status of these is unknown.</p>
	Controlled waters:	No controlled waters were noted on site.
	Tanks:	<p>An above ground green plastic tank, which appears to be used for storing fuel oil, was observed adjacent to the southeastern corner of the vehicle maintenance unit in the southeast of the site.</p> <p>Another above ground orange metal, which appears to be used for temporary fuel storage, was observed to the north of the vehicle maintenance unit.</p>
Neighbouring land:	North:	A self-storage depot is present adjacent to the north of site, with Yarm Road further north and commercial properties beyond it.
	East:	Several commercial-style properties, occupied by various companies, are located adjacent to the east of site, with agricultural land and the A66 further east.
	South:	The site is bounded to the south by a car park and open agricultural land. There is a railway further to the south.

Area	Item	Details
	West:	There is a mixture of agricultural land, car parks, and commercial-style property to the west of the site.

2.2.2 Site photographs taken during the site walkover can be found as Figure 3, in Appendix 1.

2.3 Summary of Preliminary Risk Assessment (Desk Study)

2.3.1 As detailed in Table 1.1, a Phase 1 Desk Study report has been produced for the site and issued separately (Jomas, P6534J3273/JWT, October 2025). The findings of the Phase 1 Desk Study are presented in the following section. Reference should be made to the original reports and documents for further details. Comments made in the following section regarding possible ground conditions on the site and within the surrounding area are based purely on the desk study. Where appropriate, this information will be used in the later sections of this report as supplementary information to assist in the evaluation of the ground conditions and aid the identification of geotechnical and geo-environmental constraints and hazards that could impact on the scheme.

2.3.2 A review of earliest available (1855) historical maps indicated that the site comprised undeveloped agricultural land at that time. By the early 1980's the site had been developed and was shown to be occupied by an industrial-style building identified as a works, the footprint of which covered much of the site. A number of smaller buildings were located to the south and west of the main works building, along with two electricity substations, and a series of travelling cranes adjacent to the western boundary of site. A railway track was shown adjacent to the west of the site at this time, which is presumed to have been for transportation of finished products that were loaded on to freight wagons by the travelling cranes.

2.3.3 Aerial photography indicated that the site was inactive by 2019, with stock having been cleared from external yards and the travelling cranes removed by that time. The site appeared to have remained in that configuration until time of writing.

2.3.4 The surrounding area comprised largely agricultural land until undergoing urbanisation during the 1970's and 1980's and has since been used for predominantly industrial and commercial purposes. Industrial features of note included the historical railway adjacent to the west, a factory beyond this, and an industrial estate approximately 125m northwest of the site.

2.3.5 During the site walkover an above ground fuel storage tank and oil tank were observed in the southeast of the site.

2.3.6 The British Geological Survey indicated that the site is directly underlain by superficial Glacial Till deposits. These superficial deposits were reportedly underlain by solid deposits of the Roxby Formation. No artificial deposits were reported within the site.

2.3.7 Borehole records from a borehole drilled onsite in August 1979, indicated underlying ground conditions to comprise topsoil to a depth of around 0.18mbgl, overlying sequences of stiff clay and silt to around 5.00mbgl, underlain by dense becoming medium dense sands to around 24.30mbgl, underlain by variable sequences of stiff to very stiff clay and medium dense sand to around 41.10mbgl, which in turn was underlain by siltstone and mudstone to the base of the borehole (at approximately 43.00mbgl).

2.3.8 The superficial deposits underlying the site were identified as a Secondary Undifferentiated Aquifer, with the underlying solid deposits identified as a Secondary B Aquifer.

- 2.3.9 A review of the Enviro+Geosight Report indicated that there were no source protection zones within 500m of the site.
- 2.3.10 There were no groundwater, surface water, or potable water abstractions reported within 2km of the site.
- 2.3.11 23No surface water features were reported within 250m of the site, with the nearest being identified as an inland river 28m east.
- 2.3.12 There were no Environment Agency Zone 2 or 3 floodplains reported within 50m of the site.
- 2.3.13 It was recommended that an intrusive investigation be undertaken to clarify potential risks to the identified receptors and establish baseline conditions as part of the anticipated environmental permitting required for the intended site use. This investigation would also further advise potential environmental liabilities associated with the site.
- 2.3.14 Soil gas monitoring was not considered necessary unless a significant thickness of Made Ground or putrescible material was encountered during the intrusive investigation, in which case this should be undertaken in accordance with CIRIA C665
- 2.3.15 The conceptual site model is reproduced in Table 2.3 overleaf.

Table 2.3: Preliminary Risk Assessment for the Site

Sources	Pathways (P)	Receptors	Consequence of Impact	Probability of Impact	Risk Estimation	Hazard Assessment
<ul style="list-style-type: none"> Potential for contaminated ground associated with current/previous site use (1980's – recent) – on site (S1) <ul style="list-style-type: none"> Unspecified works Steel fabrication/bridge manufactory Above ground fuel storage/oil tanks Electricity substations Interceptor Unspecified heap Railway sidings Traveling cranes 	<ul style="list-style-type: none"> Ingestion and dermal contact with contaminated soil (P1) Inhalation or contact with potentially contaminated dust and vapours (P2) Permeation of water pipes and attack on concrete foundations by aggressive soil conditions (P6) 	<ul style="list-style-type: none"> Construction workers (R1) Maintenance workers (R2) Neighbouring site users (R3) Future site users (R4) Building foundations and on site buried services (water mains, electricity and sewer) (R5) 	Medium	Low	Moderate/Low Risk	GI – Ground Investigation
			Severe for Asbestos	Low	Moderate for Asbestos	
			Severe	Unlikely	Moderate/Low Risk	
<ul style="list-style-type: none"> Potential for Made Ground associated with previous development operations – on site (S2) Current and previous industrial/commercial use –off site (S5) <ul style="list-style-type: none"> Historical railway adjacent to the west Unspecified factories 24m-28m west Yarm Industrial Estate 125m northwest 	<ul style="list-style-type: none"> Leaching through permeable soils, migration within the vadose zone (i.e., unsaturated soil above the water table) and/or lateral migration within surface water, as a result of cracked hardstanding or via service pipe/corridors and surface water runoff (P3) Horizontal and vertical migration of contaminants within groundwater (P4) 	<ul style="list-style-type: none"> Neighbouring site users (R3) Building foundations and on site buried services (water mains, electricity and sewer) (R5) Controlled waters (R6) <ul style="list-style-type: none"> Secondary Undifferentiated aquifer (onsite) Secondary B aquifer (onsite) Principal aquifer (236m southwest) Inland river 28m east 	Medium	Low	Moderate/Low Risk	

3 GROUND INVESTIGATION

3.1 Scope of Works

3.1.1 A ground investigation was undertaken 13 - 17 October 2025.

3.1.2 A summary of the fieldwork carried out at the site, with justifications for exploratory hole positions, is presented in Table 3.1 below.

Table 3.1: Scope of Intrusive Investigation

Investigation Type	Number of Exploratory Holes Achieved	Exploratory Hole Designation	Depth Achieved	Justification
Windowless Sample Boreholes	18	WS01 – WS18	Up to 5.0mbgl	<p>Obtain soil samples for laboratory chemical and geotechnical testing.</p> <p>To allow in-situ geotechnical testing.</p> <p>The exploratory locations were specified by the client to target various onsite sources and to provide general site coverage.</p> <p>WS01 targeted a former fuel tank and maintenance depot.</p> <p>WS04 targeted an interceptor and fuel tank.</p> <p>WS05 and WS18 targeted electricity substations.</p> <p>WS06 – WS10 targeted the former painting area, where a damaged transformer was also present.</p> <p>WS02, WS03, and WS11 – WS17 were positioned to broadly target the former manufactory building, storage areas, and travelling cranes, as well as to provide general site coverage.</p>

3.1.3 The ground investigation was undertaken in accordance with British Standard BS5930:2015+A1:2020 “Code of practice for ground investigations”, British Standard BS10175:2011+A2:2017 “Investigation of potentially contaminated sites - code of practice”, NHBC Standards, Chapter 4.1 and AGS Guidelines for Good Practice in Site Investigations.

3.1.4 Exploratory hole positions are shown on the exploratory hole location plan presented in Figure 4, Appendix 1. The exploratory hole records are included in Appendix 2.

3.1.5 Upon completion the exploratory holes were backfilled with the arisings (in the reverse order in which they were drilled) and the ground surface was reinstated so that no depression was left.

3.2 Sampling Rationale

- 3.2.1 Our soil sampling rationale for the site investigation was developed with reference to EA guidance 'Secondary Model Procedure for the Development of Appropriate Soil Sampling Strategies for Land Contamination' (Technical Report P5-066/TR).
- 3.2.2 The exploratory holes were positioned by applying a combined non-targeted sampling strategy, as well as sample locations positioned with reference to sources identified from the desk study.
- 3.2.3 Soil samples were taken from across the site at various depths as shown in the exploratory hole logs.
- 3.2.4 Jomas Associates Limited's engineers normally collect samples at appropriate depths based on field observations such as:
- appearance, colour and odour of the strata and other materials, and changes in these.
 - the presence or otherwise of sub-surface features such as pipework, tanks, foundations and walls; and.
 - areas of obvious damage, e.g. to the building fabric.
- 3.2.5 A number of the samples were taken from the top 0-1m to aid in the assessment of the pollutant linkages identified at the site. In addition, some deeper samples were taken to aid in the interpretation of fate and transport of any contamination identified.
- 3.2.6 Samples were stored in cool boxes (<4°C) and preserved in accordance with laboratory guidance.
- 3.2.7 Groundwater strikes noted during drilling, are recorded within the exploratory hole records in Appendix 2.

3.3 In-situ Geotechnical Testing

- 3.3.1 In-situ geotechnical testing included Standard Penetration Tests. The determined 'N' values have been used to determine the relative density of granular materials and have been used with standard correlations to infer various other derived geotechnical parameters including the undrained shear strength of the cohesive strata. The results of the individual tests are on the appropriate exploratory hole logs in Appendix 2.
- 3.3.2 In-situ California Bearing Ratios (CBRs) were determined using a TRL dynamic cone penetrometer (DCP) and the methodology laid out in IAN 73/06. The CBR values have then been calculated using the methodology laid out in both IAN 73/06 and TRL 587. Copies of the test results and calculations are provided in Appendix 5.

3.4 Laboratory Analysis

- 3.4.1 A programme of laboratory testing, scheduled by Jomas Associates Limited, was carried out on selected samples of Made Ground and natural strata.

Chemical Testing

3.4.2 Chemical testing of soils was undertaken by Construction Testing Solutions Limited, which holds UKAS and MCERTS accreditations for a wide range of determinands.

3.4.3 The samples were analysed for a wide range of contaminants as shown in Table 3.2 below:

Table 3.2: Chemical Tests Scheduled

Test Suite	No. of tests	
	Made Ground	Natural
Basic Suite 3	13	-
Basic Suite 5	5	1
Hydrocarbon Suite	5	3
Soil Organic Matter	10	-
Jomas Modified BRE SD-1 Suite	5	5
PCBs	4	-
Asbestos Screen & ID	18	-

3.4.4 The determinands contained in the Basic Suite 3 are as detailed in Table 3.3 below. Basic Suite 5 contains the same determinands but without the hydrocarbon compounds to avoid overlapping with the extended hydrocarbon testing.

3.4.5 The Hydrocarbon Suite includes TPHCWG, PAH, phenols and VOCs including BTEX & MTBE.

Table 3.3: Basic Suite of Determinands

DETERMINAND	LIMIT OF DETECTION (mg/kg)	UKAS ACCREDITATION	TECHNIQUE
Arsenic	10	Y (MCERTS)	ICP-EOS
Cadmium	0.2	Y (MCERTS)	ICP-EOS
Chromium	1	Y (MCERTS)	ICP-EOS
Chromium (Hexavalent)	1	N	ICP-EOS
Lead	1.5	Y (MCERTS)	ICP-EOS
Mercury	2.5	Y (MCERTS)	ICP-EOS
Nickel	1	Y (MCERTS)	ICP-EOS
Selenium	8	Y (MCERTS)	ICP-EOS
Copper	2	Y (MCERTS)	ICP-EOS
Zinc	2	Y (MCERTS)	ICP-EOS
Boron (Water Soluble)	2.5	N	ICP-EOS
pH Value	1.0 (pH units)	Y (MCERTS)	Electrometric Measurement
Sulphate (Water Soluble)	0.01g/l	Y (MCERTS)	Ion Chromatography/ICP-EOS
Total Cyanide	1	N	Distillation followed by Chromatography

DETERMINAND	LIMIT OF DETECTION (mg/kg)	UKAS ACCREDITATION	TECHNIQUE
Speciated/Total PAH	0.02	Y (MCERTS)	GC-MS
Phenols	1	N	Distillation followed by Colorimetry
Total Petroleum Hydrocarbons (banded)	5-10	N	GC-FID/Headspace GS-MS

3.4.6 To support the selection of appropriate tier 1 screening values, 10No. samples were analysed for soil organic matter.

3.4.7 The chemical laboratory test results are included in Appendix 3.

Geotechnical Testing

3.4.8 In addition to the contamination assessment, soil samples were submitted to the UKAS accredited Professional Soils Laboratory for a series of geotechnical analyses.

3.4.9 This testing was designed to classify the samples and to obtain parameters (either directly or sufficient to allow relevant correlations to be used) relevant to the technical objectives of the investigation.

3.4.10 The following laboratory geotechnical testing was carried out:

Table 3.4: Laboratory Geotechnical Analysis

Methodology	Test Description	Number of tests
BS1377:1990	Moisture Content Determination	11
BS1377:1990	Liquid and Plastic Limit Determination (Atterberg Limits)	11
BS1377:1990	Particle Size Distribution - Sieving	3

3.4.11 In addition, 10No. soil samples were analysed for a modified BRE Special Digest 1 suite (acid and water-soluble sulphate, total sulphur and pH) to assist with the ACEC classification for buried concrete.

3.4.12 The geotechnical laboratory test results are included in Appendix 4.

4 GROUND CONDITIONS ENCOUNTERED

4.1 General

4.1.1 A factual record of the conditions encountered during the physical investigation of the site is presented in the following section.

4.2 Ground Conditions

4.2.1 The ground conditions encountered were broadly consistent with those anticipated, i.e. a thickness of Made Ground overlying Till, and are summarised in Table 4.1 below.

Table 4.1: Ground Conditions Encountered

Stratum and Description	Encountered from (mbgl)	Base of strata (mbgl)	Thickness range (m)
Concrete/asphalt. (MADE GROUND) <i>Present at WS01, WS02 & WS04.</i>	GL	0.09 – 0.20	0.09 – 0.20
Yellowish brown/light to dark brown/greyish brown/grey to dark grey sandy gravel. Sand is fine to coarse. Gravel consists of fine to coarse, angular to sub-rounded limestone, flint and occasional brick. (MADE GROUND) <i>Encountered to the base of WS02, WS10, and WS16.</i>	GL – 0.20	>0.34 – 1.00	>0.24 – 1.00
Reddish brown silty slightly gravelly SAND. Sand is fine. Gravel consists of fine angular limestone. (TILL – GRANULAR) <i>Encountered in WS01 only</i>	0.60	0.80	0.20
Soft to very stiff consistency** dark brown to reddish brown mottled greyish blue silty to sandy locally gravelly CLAY. Sand is fine (TILL – COHESIVE) <i>Encountered to the base of the WS01, WS03-WS09, and WS11-WS15.</i>	0.35 – 1.00	>2.00 – >5.00 [base not proven]	>1.00 – >4.60 [thickness not proven]
Medium dense brown clayey SAND. (TILL – GRANULAR) <i>Only encountered in WS18.</i>	3.00	4.00	1.00

**Consistency estimated using semi-empirical correlations with SPT N-values, Plasticity Indices and published literature.

4.2.2 The thickness of Made Ground encountered across the site generally ranged from around 0.40m to 1.00m.

4.2.3 Boreholes WS02, WS10, and WS16 terminated at depths ranging from 0.34mbgl to 1.10mbgl, due to equipment refusal on obstructions in the Made Ground.

4.2.4 At the other exploratory locations, the Made Ground was underlain by variable deposits predominantly comprising firm to very stiff clay, along with medium dense to dense sand locally, which are considered to represent superficial Till deposits.

4.3 Groundwater

4.3.1 During the investigation groundwater was struck at a depth of 4.50mbgl within borehole WS06.

4.3.2 Groundwater was not reported within the remaining boreholes during drilling.

4.3.3 It should be noted that changes in groundwater levels can occur for a number of reasons including seasonal effects and variations in drainage. Such fluctuations may only be recorded by the measurement of the groundwater level within a standpipe or piezometer installed within appropriate response zones. Changes in groundwater level can have a direct effect on excavation stability and dewatering requirements, and cohesive soils can soften under rising or high groundwater levels.

4.4 Physical and Olfactory Evidence of Contamination

4.4.1 Black/blackish colouration was reported within the Made Ground at exploratory location WS02 (0.10mbgl to 0.30mbgl), and within the natural soils at WS03 (1.60mbgl to 2.00mbgl) and WS13 (0.40mbgl to 1.00mbgl).

4.4.2 No visual or olfactory evidence of potential contamination was identified within the investigation positions.

4.4.3 A photoionisation detector (PID) was used to screen the soils recovered at each exploratory location for the presence of volatile organic compounds (VOC). The PID readings recorded ranged from 0.0ppm to 0.3ppm.

4.5 Limitations

4.5.1 During the intrusive ground investigation, boreholes WS02, WS10, and WS16 terminated at depths ranging from 0.34mbgl to 1.10mbgl, due to equipment refusal on obstructions in the Made Ground.

4.5.2 In addition, no recovery was possible within WS16 between 0.80mbgl and 1.10mbgl.

4.5.3 Boreholes WS04, WS05, WS07-WS09, WS11, WS13-WS15, and WS17, terminated at depths ranging from 2.00mbgl to 4.60mbgl due to equipment refusal in very stiff clay.

4.5.4 The possible presence of unidentified natural and/or manmade obstructions elsewhere on site cannot be discounted.

5 RISK ASSESSMENT – ANALYTICAL FRAMEWORK

5.1 Context and Objectives

5.1.1 This section seeks to evaluate the level of chronic risk pertaining to human health and the environment which may result from both the existing use and proposed future use of the site. It makes use of the ground investigation findings, as described in the previous sections, to evaluate further the potential pollutant linkages identified in the desk study. A combination of qualitative and quantitative techniques is used, as described below.

5.1.2 The purpose of generic quantitative risk assessment is to compare concentrations of contaminants found on site against generic assessment criteria (GAC) to establish whether there are actual or potential unacceptable risks. It also determines whether further detailed assessment is required. The approaches detailed all broadly fit within a tiered assessment structure in line with the framework set out in the Department of Environment, Food and Rural Affairs (DEFRA), EA and Institute for Environment and Health Publication, Guidelines for Environmental Risk Assessment and Management.

5.2 Analytical Framework – Soils

5.2.1 There is no single methodology that covers all the various aspects of the assessment of potentially contaminated land and groundwater. Therefore, the analytical framework adopted for this investigation is made up of a number of procedures, which are outlined below. All of these are based on a Risk Assessment methodology centred on the identification and analysis of Source – Pathway – Receptor linkages.

5.2.2 The soil analytical test results have been compared to Suitable 4 Use Levels (S4UL) published by the Chartered Institute of Environmental Health in order to assess the potential long-term risks to human health posed by contaminants in the soils. S4UL'S have been derived for a range of land uses and Soil Organic Matter contents. They represent the minimal or tolerable risk, above which further assessment of the risks or remedial action may be required.

5.2.3 In the absence of a S4UL recommended concentration, other available general assessment criteria (GAC), including the Category 4 Screening Levels (C4SL) published by DEFRA have been used. Site-specific assessments are undertaken wherever possible and/or applicable. All assessments are carried out in accordance with the CLEA protocol.

5.2.4 The assessment criteria used for the screening of determinands within soils are identified within Table 5.1.

Table 5.1: Selected Assessment Criteria - Contaminants in Soils

Substance Group	Determinand(s)	Assessment Criteria Selected
<i>Organic Substances</i>		
Non-halogenated Hydrocarbons	Total Petroleum Hydrocarbons (TPHCWG banded)	S4UL
	Total Phenols	S4UL
Polycyclic Aromatic Hydrocarbons (PAH-16)	Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(123-cd)pyrene, Dibenzo(ah)anthracene, Benzo(ghi)perylene	S4UL
Volatile Organic Compounds (VOCs/sVOCs).	Toluene, Ethylbenzene, Benzene, Xylenes	S4UL
<i>Inorganic Substances</i>		
Heavy Metals and Metalloids	Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Zinc	S4UL
	Copper, Zinc, Nickel	BS: 3882 (2015).
Cyanides	Free Cyanide	CLEA v1.06
Sulphates	Water Soluble Sulphate	BRE Special Digest 1:2005

5.2.5 It is understood that the site is to be converted into a plastic pyrolysis plant. As a result, the site has been assessed with regards to a “commercial” end use scenario.

5.2.6 GAC have been selected with consideration to the soil organic matter (SOM) content of the soil. From the soils analytical results, the average value for soil organic matter for the Made Ground is 5.2%. However, published GAC have been selected as those derived assuming a SOM of 1% as this provides the most conservative assessment.

5.3 BRE

5.3.1 The BRE Special Digest 1:2005, ‘Concrete in Aggressive Ground’ is used with soluble sulphate and pH results to assess the aggressive chemical environment of future underground concrete structures at the site.

6 GENERIC QUANTITATIVE RISK ASSESSMENT – SOIL DATA

6.1 Screening of Soil Chemical Analysis Results – Human Health Risk Assessment

6.1.1 Laboratory analysis results for soils is summarised in Table 6.1 to Table 6.4. Raw laboratory data is included in Appendix 3.

6.1.2 Results have been screened against generic assessment criteria for a “commercial” end use, assuming 1% soil organic matter.

Table 6.1: Soil Laboratory Test Results - Metals, Metalloids, Phenol, Cyanide

Determinand	Unit	No. samples tested	Screening Criteria	Min	Max	No. Exceeding
Arsenic	mg/kg	19	S4UL 640	<10	46	0
Cadmium	mg/kg	19	S4UL 190	0.4	12	0
Chromium	mg/kg	19	S4UL 8600	<1.0	510	0
Lead	mg/kg	19	C4SL 2330	10	180	0
Mercury	mg/kg	19	S4UL 320	<2.5	<2.5	0
Nickel	mg/kg	19	S4UL 980	4.2	510	0
Copper	mg/kg	19	S4UL 68000	7.9	870	0
Zinc	mg/kg	19	S4UL 730000	36	15000	0
Total Cyanide ^A	mg/kg	19	CLEA v 1.06 33	<1.0	<1.0	0
Selenium	mg/kg	19	S4UL 12000	<8.0	<8.0	0
Boron Water Soluble	mg/kg	19	S4UL 240000	<2.5	12	0
Phenols	mg/kg	22	S4UL 440	<1.0	<1.0	0

Notes: ^A Generic assessment criteria derived for free inorganic cyanide.

Table 6.2: Soil Laboratory Test Results - Polycyclic Aromatic Hydrocarbons (PAHs)

Determinand	Unit	No. Samples Tested	Screening Criteria	Min	Max	No. Exceeding
Naphthalene	mg/kg	21	S4UL 190	<0.02	<0.02	0
Acenaphthylene	mg/kg	21	S4UL 83000	<0.02	0.07	0
Acenaphthene	mg/kg	21	S4UL 84000	<0.02	0.05	0
Fluorene	mg/kg	21	S4UL 63000	<0.02	0.02	0
Phenanthrene	mg/kg	21	S4UL 22000	<0.02	0.42	0
Anthracene	mg/kg	21	S4UL 520000	<0.02	0.24	0
Fluoranthene	mg/kg	21	S4UL 23000	<0.02	2.4	0
Pyrene	mg/kg	21	S4UL 54000	<0.02	0.42	0
Benzo(a)anthracene	mg/kg	21	S4UL 170	<0.02	1.6	0

Determinand	Unit	No. Samples Tested	Screening Criteria	Min	Max	No. Exceeding
Chrysene	mg/kg	21	S4UL 350	<0.02	1.4	0
Benzo(b)fluoranthene	mg/kg	21	S4UL 44	<0.02	1.5	0
Benzo(k)fluoranthene	mg/kg	21	S4UL 1200	<0.02	0.68	0
Benzo(a)pyrene	mg/kg	21	S4UL 35	<0.02	1.3	0
Indeno(123-cd)pyrene	mg/kg	21	S4UL 500	<0.02	0.74	0
Dibenzo(ah)anthracene	mg/kg	21	S4UL 3.5	<0.02	0.19	0
Benzo(ghi)perylene	mg/kg	21	S4UL 3900	<0.02	0.66	0
Total PAH	mg/kg	21	- -	<0.32	13	-

Table 6.3: Soil Laboratory Test Results - Total Petroleum Hydrocarbons (TPH)

TPH Band	Unit	No. Samples Tested	Screening Criteria	Min	Max	No. Exceeding
C ₈ -C ₁₀	mg/kg	13	S4UL 2000	<5	<5	0
>C ₁₀ -C ₁₂	mg/kg	13	S4UL 9700	<5	<5	0
>C ₁₂ -C ₁₆	mg/kg	13	S4UL 36000	<5	23	0
>C ₁₆ -C ₂₁	mg/kg	13	S4UL 28000	<5	77	0
>C ₂₁ -C ₃₅	mg/kg	13	S4UL 28000	<10	570	0
Total TPH	mg/kg	13	- -	<15	1000	-

Notes: *The lower value of guidelines for Aromatic/Aliphatics has been selected

Table 6.4: Soil Laboratory Analysis Results - Total Petroleum Hydrocarbons (TPHCWG)

TPH Band	Unit	No. Samples Tested	Screening Criteria	Min	Max	No. Exceeding
>C ₅ -C ₆ Aliphatic	mg/kg	8	S4UL 3200	<0.06	0.11	0
>C ₆ -C ₈ Aliphatic	mg/kg	8	S4UL 7800	<0.06	0.29	0
>C ₈ -C ₁₀ Aliphatic	mg/kg	8	S4UL 2000	<0.06	<0.06	0
>C ₁₀ -C ₁₂ Aliphatic	mg/kg	8	S4UL 9700	<1.0	1.2	0
>C ₁₂ -C ₁₆ Aliphatic	mg/kg	8	S4UL 59000	<1.0	6.2	0
>C ₁₆ -C ₃₅ Aliphatic	mg/kg	8	S4UL 1600000	5.8	43	0
>C ₅ -C ₇ Aromatic	mg/kg	8	S4UL 26000	<0.01	0.03	0
>C ₇ -C ₈ Aromatic	mg/kg	8	S4UL 56000	<0.01	0.03	0
>C ₈ -C ₁₀ Aromatic	mg/kg	8	S4UL 3500	<0.06	0.27	0
>C ₁₀ -C ₁₂ Aromatic	mg/kg	8	S4UL 16000	<1.0	<1.0	0
>C ₁₂ -C ₁₆ Aromatic	mg/kg	8	S4UL 36000	<1.0	<1.0	0
>C ₁₆ -C ₂₁ Aromatic	mg/kg	8	S4UL 28000	1.1	6.8	0

TPH Band	Unit	No. Samples Tested	Screening Criteria	Min	Max	No. Exceeding
>C ₂₁ -C ₃₅ Aromatic	mg/kg	8	S4UL 28000	<2.0	47	0
Total TPH (Ali/Aro)	mg/kg	8	- -	<10	73	-

6.2 Asbestos in Soil

6.2.1 No asbestos containing materials (ACM) or fibres were reported in 18No samples of Made Ground analysed in the laboratory.

6.3 Volatile Organic Compounds

6.3.1 In addition to the suites outlined previously, 8No samples were tested for the presence of volatile organic compounds (VOCs) including BTEX compounds (benzene, toluene, ethylbenzene, xylene).

6.3.2 The contaminants reported above laboratory detection limit are summarised in the table below.

Table 6.5: Volatile Organic Compounds

TPH Band	Unit	No. Samples Tested	Screening Criteria	Min	Max	No. Exceeding
Dichloromethane	mg/kg	8	EIC/AGS/ CL:AIRE, Jan 2010	<0.01	0.41	0

6.3.3 As shown above, dichloromethane was detected to a maximum concentration of 0.41mg/kg (within sample WS04 – 2.50m), however this is several orders of magnitude below the commercial screening criteria.

6.3.4 None of the other VOCs included within the analytical suite were reported above laboratory detection limit.

6.4 Polychlorinated Biphenyl (PCB) Concentrations

6.4.1 In addition to the suites outlined previously, 4No samples obtained from the vicinity of the electrical substations/transformers were analysed for the presence of polychlorinated biphenyls (PCBs)

6.4.2 No PCBs were reported above the laboratory method detection limit.

6.5 Summary of Human Health Generic Quantitative Risk Assessment

6.5.1 In summary, no exceedances of contaminants above the commercial GAC were recorded in any of the soil samples tested.

6.6 Screening of Soil Chemical Analysis Results – Potential Risks to Plant Growth

6.6.1 Zinc, copper and nickel are phytotoxins and could therefore inhibit plant growth in soft landscaped areas. Concentrations measured in soil for these determinands have been compared with the pH dependent values given in BS:3882 (2015). This does not constitute a full BS:3882 topsoil test.

6.6.2 Table 6.6 shows the soil analytical results compared with the relevant screening values, adopting a pH value of greater than 7, as indicated by the results of the laboratory analysis.

Table 6.6: Soil Laboratory Analysis Results - Phytotoxic Determinands

Determinand	Threshold level (mg/kg)	Min (mg/kg)	Max (mg/kg)	No. Exceeding
Nickel	110	4.2	510	1No WS09 – 0.25mbgl
Copper	200	7.9	870	1No WS09 – 0.25mbgl
Zinc	300	36	15000	6No WS03 – 0.30mbgl WS05 – 0.10mbgl WS06 – 0.30mbgl WS09 – 0.25mbgl WS09 – 0.45mbgl WS10 – 0.15mbgl

6.6.3 A number of samples have recorded determinands in excess of threshold levels. The current topsoil may not satisfy the requirements of BS:3882 but as no signs of dieback or vegetation distress were observed, it is not considered to be significantly detrimental to plant growth.

6.7 Screening for Water Pipes Materials

6.7.1 The results of the analysis have been assessed for potential impact upon water supply pipes. Table 6.7 below summarises the findings of the assessment:

Table 6.7: Screening Guide for Water Pipes

Determinand	No. of tests	Threshold for Polyethylene Pipes* (mg/kg)	Value for site data (mg/kg)		No of Exceedances
			Min	Max	
Total VOCs	8	0.5	<LOD	0.41	0
BTEX	8	0.1	<0.05	<0.05	0
MTBE	8	0.1	<0.01	<0.01	0
EC5-EC10	21	1	<0.26	6.8	1No WS09 – 0.25mbgl
EC10-EC16	21	10	<4	23	1No WS08 – 0.30mbgl

Determinand	No. of tests	Threshold for Polyethylene Pipes* (mg/kg)	Value for site data (mg/kg)		No of Exceedances
			Min	Max	
EC16-EC40	21	500	<20	997	1No WS08 – 0.30mbgl
Naphthalene	21	5	<0.02	<0.02	0
Phenols	21	2	<1.0	<1.0	0

* UK Water Industry Research (2010) Source Guidance for Selection of Water Supply Pipes to be Used in Brownfield Sites. Report No. 10/WM/03/21.

LOD = Laboratory Limit of Detection.

6.7.2 The above suggests that upgraded pipe work may be required.

6.7.3 Alternatively, it may be possible to utilise other protection methods including (but not limited to):

- Diversion of the pipe,
- Localised remediation
- Embedding the pipe in a sufficient thickness of clean granular material

6.7.4 The water supply pipe requirements for this site should be discussed at an early stage with the relevant utility provider.

6.8 Assessment of Soil Analytical Data with Respect to Controlled Waters

6.8.1 At the Preliminary Risk Assessment (Desk Study) stage, risks to controlled waters were considered moderate/low.

6.8.2 The following controlled waters receptors were identified:

- Secondary Undifferentiated aquifer (onsite)
- Secondary B aquifer (onsite)
- Principal aquifer (236m southwest)
- Inland river 28m east

6.8.3 Pathways for migration of leachable/mobile contamination were considered to be potentially present within the underlying superficial Till deposits, however it should be noted that these deposits are inherently variable.

6.8.4 The deposits of Till encountered onsite during the intrusive investigation were predominantly firm to very stiff clays and as such are likely to be of relatively low permeability.

6.8.5 During the investigation groundwater was struck at a depth of 4.50mbgl within borehole WS06. However, groundwater was not reported within the other exploratory holes.

- 6.8.6 With reference to Section 4.4, no visual/olfactory evidence of potentially mobile contamination was encountered.
- 6.8.7 In addition, with reference to Table 6.1 to Table 6.5, no significantly elevated concentrations of potentially mobile contaminants have been identified through laboratory analysis soils recorded from the site.
- 6.8.8 The only PAHs with stated “moderate” or “high” mobility rankings in groundwater (as per CL:AIRE, 2017) are naphthalene, acenaphthylene, and acenaphthene. Of these compounds, only naphthalene has a statutory water quality standard. As naphthalene has not been detected above laboratory method detection limits, and no visual/olfactory evidence of potentially mobile contamination has been encountered, the concentrations of PAHs detected in soils are not considered to pose a risk to controlled waters.
- 6.8.9 The only elevated concentrations of petroleum hydrocarbons are reported in the grouped C21-C35 band. Petroleum hydrocarbons within this band are reported to be of “very low” aqueous solubility and mobility by CL:AIRE 2017.
- 6.8.10 On the basis of the above, a significant risk of impact to controlled water receptors is not considered to be present.

6.9 Waste Characterisation

- 6.9.1 The classification of materials for waste disposal purposes was outside the scope of this report. Should quantities of material require off-site disposal, waste classification will be required to determine whether soils may be treated as hazardous or non-hazardous.
- 6.9.2 Note that Waste Acceptance Criteria (WAC) analysis may then be required by the landfill operator to determine whether materials can be disposed of at either an inert, stable non-reactive hazardous or hazardous landfill.

7 GEO-ENVIRONMENTAL ASSESSMENT SUMMARY AND RECOMMENDATIONS

7.1 Land Quality Impact Summary

7.1.1 Following the ground investigation, the following is noted:

- The proposed development is understood to comprise redevelopment of the former Cleveland Bridge UK Ltd site into a plastic pyrolysis plant. It is understood that ‘the process’ will be fully within the existing building, but there will need to be an external tank farm and an associated tanker loading area.
- Following generic risk assessments, none of the contaminants in the laboratory analytical suites were detected in soils in excess of generic assessment criteria for the protection of human health within a “commercial” end-use scenario.
- In addition, no asbestos containing materials or fibres were detected in the Made Ground samples analysed in the laboratory.
- The risk to end users associated with vapour risk inhalation from soils is considered negligible.
- A significant risk of impact to controlled water receptors has not been identified.
- No significant sources of soil gas generation were identified at Desk Study stage, or during the subsequent intrusive investigation. On this basis, no formal gas protection measures are considered necessary.
- A significant risk to plant growth has not been identified.
- Upgraded potable water supply pipe materials may be required. The water supply pipe requirements for this site should be discussed at an early stage with the relevant utility provider.
- Following the land contamination assessment, no further assessment or risk mitigation is required, and the site can be considered suitable for the proposed use.
- As with any ground investigation, the presence of further hotspots between sampling points cannot be ruled out. Should any contamination be encountered, a suitably qualified environmental consultant should be informed immediately, so that adequate measures may be recommended.

7.1.2 The above conclusions are made subject to approval by the statutory regulatory bodies.

7.2 Review of Pollutant Linkages Following Ground Investigation

7.2.1 The site CSM has been revised and updated from that suggested in the desk study in view of the ground investigation data, including soil laboratory analysis results. Table 7.1 highlights whether pollutant linkages identified in the original CSM are still relevant following the risk assessment, or whether pollutant linkages, not previously identified, exist.

**SECTION 7
GEO-ENVIRONMENTAL ASSESSMENT SUMMARY AND
RECOMMENDATIONS**

Table 7.1: Plausible Pollutants Linkages Summary (Pre-Remediation)

Potential Source (from desk study)	Pathway	Receptor	Relevant Pollutant Linkage?	Comment
<ul style="list-style-type: none"> • Potential for contaminated ground associated with current/previous site use (1980's – recent) – on site (S1) <ul style="list-style-type: none"> ○ Unspecified works ○ Steel fabrication/bridge manufactory ○ Above ground fuel storage/oil tanks ○ Electricity substations ○ Interceptor ○ Unspecified heap ○ Railway sidings ○ Traveling cranes • Potential for Made Ground associated with previous development operations – on site (S2) • Current and previous industrial/commercial use –off site (S5) <ul style="list-style-type: none"> ○ Historical railway adjacent to the west ○ Unspecified factories 24m-28m west ○ Yarm Industrial Estate 125m northwest 	<ul style="list-style-type: none"> • Ingestion and dermal contact with contaminated soil (P1) • Inhalation or contact with potentially contaminated dust and vapours (P2) • Permeation of water pipes and attack on concrete foundations by aggressive soil conditions (P6) <hr/> <ul style="list-style-type: none"> • Accumulation and migration of soil gases (P5) <hr/> <ul style="list-style-type: none"> • Leaching through permeable soils, migration within the vadose zone (i.e., unsaturated soil above the water table) and/or lateral migration within surface water, as a result of cracked hardstanding or via service pipe/corridors and surface water runoff (P3) • Horizontal and vertical migration of contaminants within groundwater (P4) 	<ul style="list-style-type: none"> • Construction workers (R1) • Maintenance workers (R2) • Neighbouring site users (R3) • Future site users (R4) • Building foundations and on site buried services (water mains, electricity and sewer) (R5) <hr/> <ul style="list-style-type: none"> • Neighbouring site users (R3) • Building foundations and on site buried services (water mains, electricity and sewer) (R5) • Controlled waters (R6) <ul style="list-style-type: none"> ○ Secondary Undifferentiated aquifer (onsite) ○ Secondary B aquifer (onsite) ○ Principal aquifer (236m southwest) ○ Inland river 28m east 	<p>N</p> <hr/> <p>N</p> <hr/> <p>N</p>	<p>No exceedances of commercial GAC, or asbestos, have been identified within soil samples recorded from the site.</p> <p>Contact should be made with relevant utility providers to confirm if upgraded materials are required.</p> <p>The concrete classification to protect buried concrete is discussed in Section 9.3.</p> <hr/> <p>No significant sources of soil gas generation were identified at Desk Study stage, or during the subsequent intrusive investigation.</p> <hr/> <p>A significant risk of impact to controlled waters has not been identified.</p> <p>The concrete classification to protect buried concrete is discussed in Section 9.3.</p>

8 DERIVATION OF GEOTECHNICAL PARAMETERS

8.1 Introduction

8.1.1 A summary of ground conditions obtained from the ground investigation and the derived geotechnical parameters is provided below.

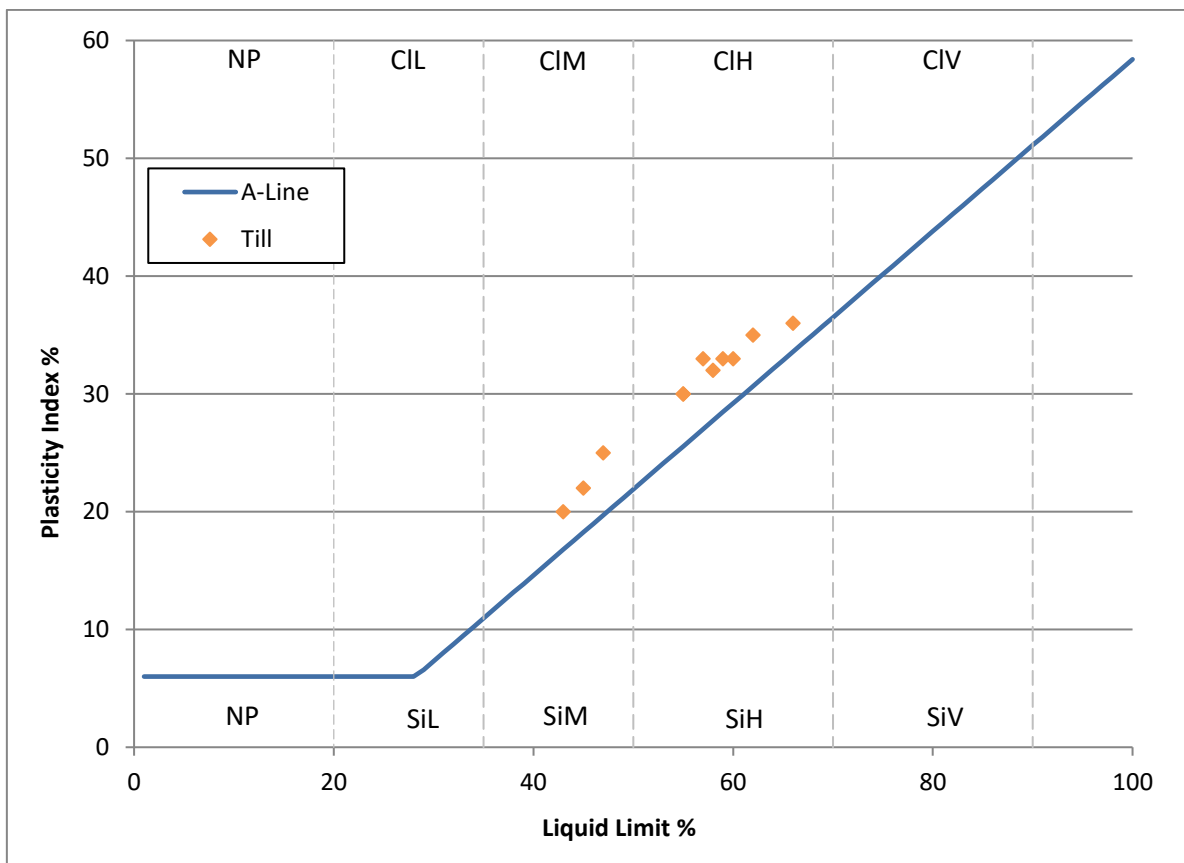
8.2 Plasticity of Cohesive Materials

8.2.1 Atterberg Limit determination was undertaken on 11No samples of the cohesive Till deposits, at depths ranging from 0.80mbgl to 3.85mbgl.

8.2.2 Plasticity index values ranged from 20% to 36% and were indicative of intermediate to high plasticity, as illustrated in Figure 8.1 below.

8.2.3 Modified plasticity index values ranged from 18.4% to 34.9%, indicating soils with low to medium volume change potential.

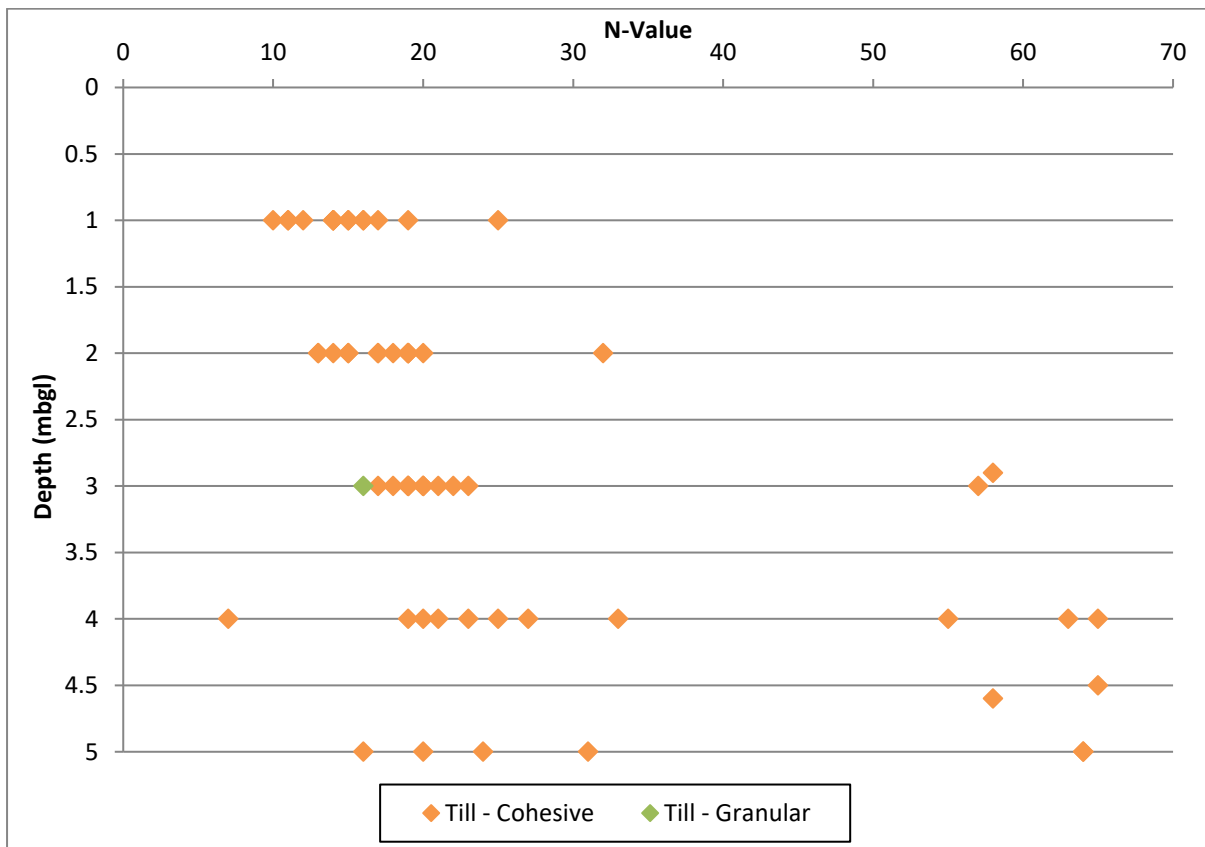
Figure 8.1: Plasticity Chart



8.4 Standard Penetration Tests

- 8.4.1 Standard penetration tests (SPT) were undertaken at regular intervals throughout the windowless sample boreholes. The results of the SPTs are plotted against depth in Figure 8.2 below.
- 8.4.2 N_{equi} results have been calculated where the full 300mm of penetration could not be achieved for 50 or more blows.
- 8.4.3 Where only minimal penetration was achieved, the test was considered to be a 'refusal' and no N_{equi} result was calculated.

Figure 8.2: SPT N-Value v Depth



- 8.4.4 As shown in the above graph, there is a general trend of SPT N-values increasing with depth within the Till deposits.
- 8.4.5 A low SPT-N value (N=7) was recorded within the cohesive Till deposits at a depth of 4.00mbgl within borehole WS18. A stratum of granular Till deposits was encountered above this, and the low SPT N-value may be a result of softening due to the presence of perched groundwater within the granular soils above.

8.5 Undrained Shear Strength

8.5.1 As discussed above, the N-values recorded in the clay vary with depth, this infers that the undrained shear strength of the clay similarly varies. Figure 8.3 below shows the undrained shear strength inferred by the correlation suggested by Stroud (1974);

$c_u = f_1 \times N$ can be applied,

in which

c_u = mass shear strength (kN)

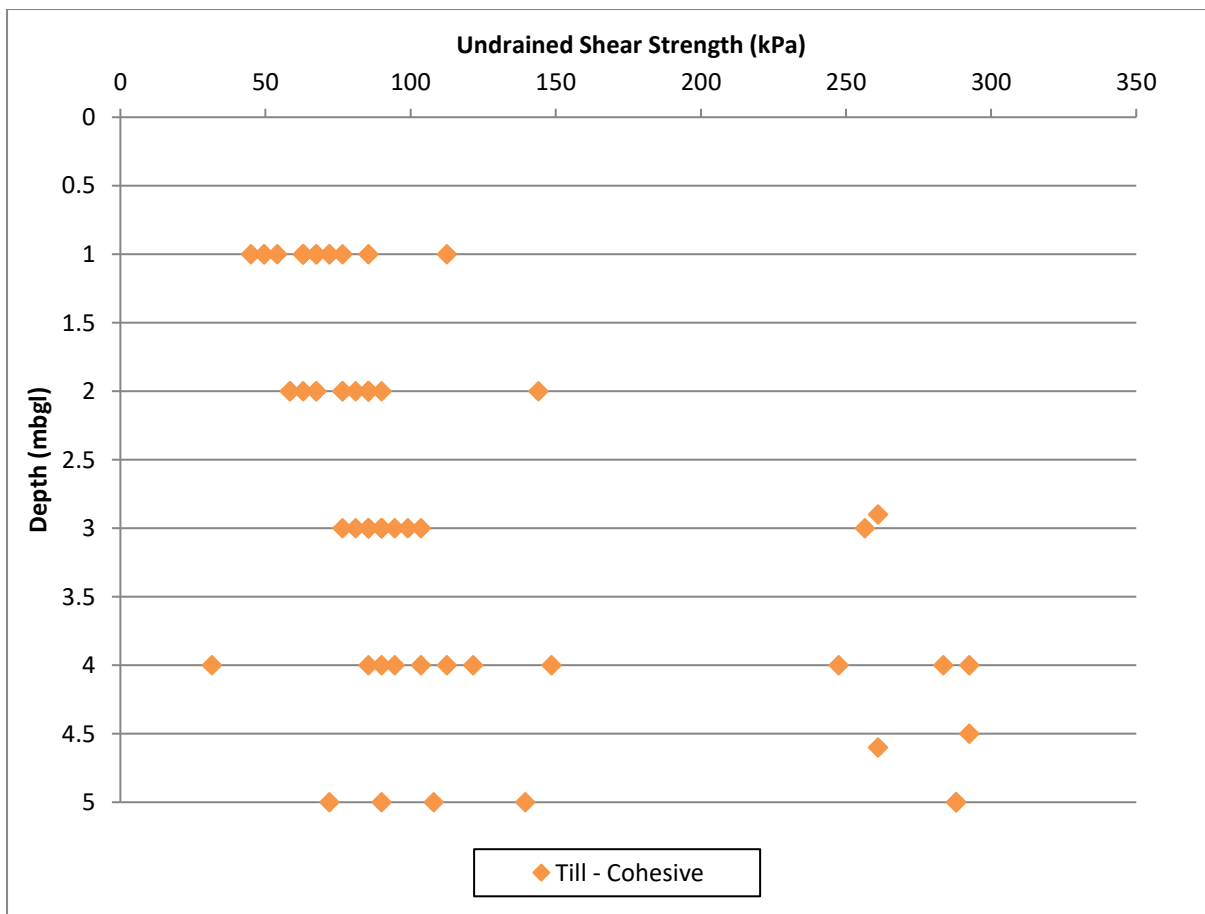
f_1 = constant

N = SPT value achieved during boring operations

8.5.2 In the above equation f_1 is dependent on the plasticity of the material that the SPT is being carried out in. As the plasticity indices were generally shown to be greater than 25% a value for f_1 of 4.5 has been adopted after Tomlinson (2001).

8.5.3 The graph below shows the shear strength profile of the encountered cohesive materials at the site, based on the SPT to shear strength correlation described above

Figure 8.3: Undrained Shear Strength v Depth



8.6 Coefficient of Compressibility

8.6.1 Stroud and Butler (1974) developed a relationship between the coefficient of compressibility (m_v) and SPT N-value.

$m_v = 1 / f_2 \times N$ can be applied,

in which

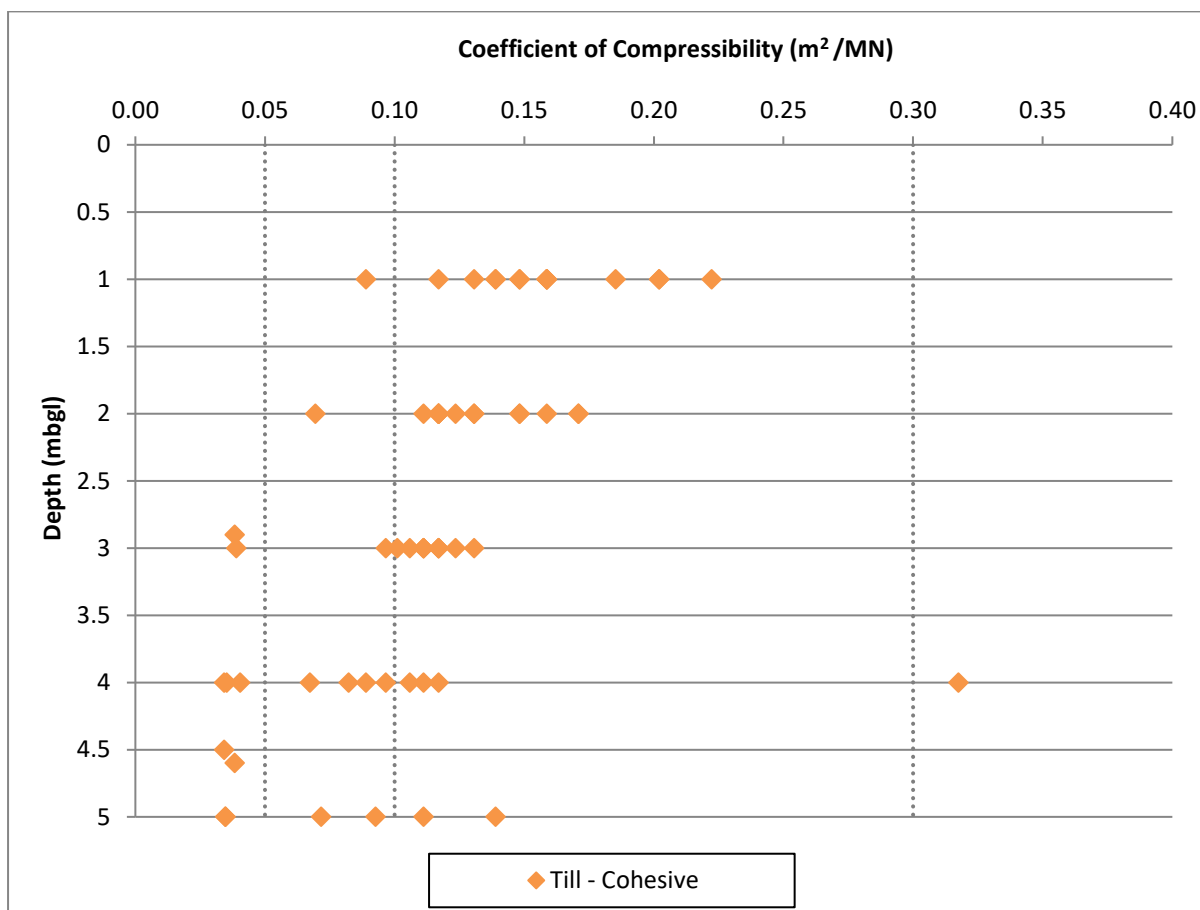
m_v = coefficient of compressibility (m^2/MN)

f_2 = constant dependent on the plasticity index

N = SPT value achieved during boring operations

8.6.2 Using the plasticity indices obtained and the graphs provided in Tomlinson (2001) a value of f_2 of 0.45 has been taken and used with the SPT N-values to infer coefficient of compressibility (m_v).

Figure 8.4: Coefficient of Volume Compressibility (m_v) v Depth



8.6.3 As shown above, the values for the Till deposits reduce with depth as the clay increases in strength and the overburden increases, reducing the potential for compressibility.

8.6.4 The results from the Till deposits are generally of “medium compressibility”, becoming “low compressibility” and “very low compressibility” with depth.

8.6.5 The “medium compressibility” of the shallow deposits is considered to be due to a combination of weathering and softening of the upper horizon of the Till, and the lack of overburden pressure at shallow depth allowing the clays to relax and to compress slightly when loaded.

8.7 Density

8.7.1 In the absence of geotechnical laboratory test results, the correlations and suggested values for both cohesive and granular materials given in BS8004:2015 have been used.

8.7.2 The derived unit weights are summarised below in Table 8.1.

Table 8.1: Derived Unit Weights

Strata	Unit Weight (kN/m ³)
Made Ground	17
Till – Cohesive	19
Till – Granular	19

8.8 Effective Angle of Shearing Resistance / Angle of Friction

8.8.1 In cohesive soils, the effective angle of shearing resistance can be derived from the plasticity index of the soil, using the following equation presented in BS8004:2015.

$$\phi' = 42 - (12.5 \times \text{LOG}_{10}(\text{PI}))$$

Where PI = Plasticity Index.

8.8.2 Values have been calculated for all available plasticity index results and are presented in Table 8.2.

Table 8.2 Derived Angles of Shearing Resistance

Sample	Stratum	Derived Angle of Shearing Resistance (°)
WS11 – 0.80m	Till – Cohesive	23.2
WS15 – 1.00m		22.5
WS06 – 1.20m		25.2
WS01 – 1.50m		23.0
WS09 – 1.80m		23.5
WS13 – 1.90m		23.0
WS04 – 2.00m		22.7
WS14 – 2.50m		23.0

Sample	Stratum	Derived Angle of Shearing Resistance (°)
WS08 – 2.75m		24.5
WS05 – 3.20m		23.5
WS17 – 3.85m		25.7

8.8.3 In granular materials, the effective angle of friction can be derived directly from shear box testing, or indirectly using the methodology outlined in Table 1 of BS8004:2015, using a combination of the SPT N-Values, particle size distribution (PSD) of the soil, and the field descriptions of angularity of the gravel fraction. This method assumes that the fines content of the material is less than 15%. An alternative method is to refer to the correlation between angle of friction and SPT N-values postulated by Peck *et al* (1967) and reproduced in Tomlinson (2001).

8.9 Stiffness Moduli

8.9.1 In cohesive materials, the undrained stiffness modulus (Young's Modulus) can be derived using the correlation with SPT N-values, presented in CIRIA Report R143.

$$E_u = 1.2 * N$$

8.9.2 The drained Young's Modulus for cohesive material can also be derived from the SPT N-values, as follows:

$$E' = 0.9 * N$$

8.9.3 In granular materials, the drained Young's Modulus can be derived using the following correlation:

$$E' = N$$

8.10 Summary of Derived General Properties

8.10.1 Based on the analysis of the ground investigation data and past experience with similar deposits, the following derived general parameters are given in Table 8.3.

Table 8.3 Derived Geotechnical Parameters

Property	Till – Cohesive	Till – Granular
Unit Weight (kN/m ³) ¹⁾	19	19
Drained Friction, ϕ' (°)	22.5 – 25.7 ²⁾	32 ³⁾
Drained Cohesion, c' (kPa)	0	-
SPT N-Value	7 – 65	16
Undrained Young's Modulus, E_u (MPa) ⁴⁾	8.4 – 78	-

**SECTION 8
DERIVATION OF GEOTECHNICAL
PARAMETERS**

Property		Till – Cohesive	Till – Granular
Drained Young's Modulus E' (MPa)		6.3 – 58.5 ⁵⁾	16.0 ⁶⁾
Undrained Shear Strength, c_u (kPa) ⁷⁾		31.5 – 292.5	-
Plasticity Index (%)		20 – 36	-
Modified Plasticity Index (%)		18.4 – 34.9	-
Volume Change Potential [NHBC]		Low to Medium	-
Modulus of Volume Compressibility, m_v (m^2/MN) ⁸⁾		0.034 – 0.317	-
Particle Size Distribution ⁹⁾	Cobbles (%)	0	0
	Gravel (%)	1 – 3	0
	Sand (%)	59 – 65	84
	Silt/Clay (%)	32 – 40	16

¹⁾ Derived from Figures 1 and 2 of BS8004:2015

²⁾ Calculated from: $\phi' = (42^\circ - 12.5 \log_{10} I_p)$ for $5\% \leq I_p \leq 100\%$ Where, I_p is the soil's plasticity index (BS8004:2015)

³⁾ Correlation between N-value and Φ (Relation of N-values and Friction Angle by Peck et al)

⁴⁾ Calculated from: $E_u = 1.2 \times N$ MPa, based on the guidance given in CIRIA Report 143

⁵⁾ Calculated from $E' = 0.9 \times N$ MPa, based on the guidance given in CIRIA Report 143

⁶⁾ Calculated from: $E' = 1.0 \times N$ MPa, based on the guidance given in CIRIA Report 143

⁷⁾ The undrained shear strength (c_u) of the cohesive soils was correlated to the SPT N-values using Stroud (1974), where $c_u = f_1 N$ and f_1 is factor related to the Plasticity Index (PI) of the clay (a value of f_1 equal to 5.0 for $PI \leq 25\%$ and a value of f_1 value equal to 4.5 for $PI > 25\%$)

⁸⁾ Calculated from: $m_v = 1/f_2 \times N$ m^2/MN , f_2 is a coefficient proposed by Stroud and Butler (1975) and varies with Plasticity Index (PI) as presented in Figure 27 of CIRIA Report 27 or $10/c_u$.

⁹⁾ These values have been determined from the particle size distribution testing in accordance with BS1377-2: 2022: Clause 10

9 GEOTECHNICAL ENGINEERING RECOMMENDATIONS

9.1 General

9.1.1 Subsequent to intrusive investigation of the site and receipt of the laboratory test results, the following geotechnical assessments have been made.

9.2 Proposed Foundations

General

9.2.1 The proposed development is understood to comprise redevelopment of the former Cleveland Bridge UK Ltd site into a plastic pyrolysis plant. It is understood that 'the process' will be fully within the existing main building, but there will be an external tank farm and an associated tanker loading area constructed to the west of this building.

9.2.2 It is also understood that the main building may be extended to the south in the future, following demolition of the former painting area buildings in the south of site.

9.2.3 The Made Ground is not considered to provide suitable bearing strata due to its variable bearing properties, and the unacceptable risk of total and differential settlement.

9.2.4 All foundations should be deepened beneath these deposits and any soft/loose soils encountered in order to found within underlying competent strata.

9.2.5 As soils of medium volume change potential are present, heave precautions will be required against the side of foundations and ground beams in accordance with the requirements set out in NHBC Standards Chapter 4.2.

9.2.6 It should be noted that low strength clay was reported at a depth of 4.00mbgl in borehole WS18, located in the north-west of the site. Should any new foundations be proposed in this area, a revised localised allowable bearing capacity should be calculated, however it is understood that this is not the case for current development proposals.

Conventional Foundations

9.2.7 It is considered that traditional strip/trench-fill foundations up to 1m wide may be formed within the underlying cohesive Till deposits at a minimum depth of 0.9m for an allowable bearing capacity of 120kPa. Alternatively, pad foundations with dimensions of 1.2m x 1.2m could be formed at the same depth for an allowable bearing capacity of 175kPa. Total and differential settlements should be contained within tolerable limits.

9.2.8 This depth, however, does not take into account the depth of Made Ground or the distance to and species of any previous, existing and proposed trees, and foundations may need to be deepened further accordingly, in accordance with NHBC requirements, for soils of medium volume change potential.

9.2.9 Where foundations need to change levels as a result, the foundations should be stepped and reinforced. These steps should be no deeper than half of the width of the foundation and each step should not exceed 0.5m.

- 9.2.10 If foundations span different strata, e.g. sand and clay, they should either be deepened to terminate in a single soil stratum, or suitable reinforcement included (to be detailed by the structural engineer).
- 9.2.11 Foundations greater than 2.50m deep would require structure-specific design by a structural engineer. In this instance, consideration could be given to the use of piled foundations instead, which might be preferable in terms of economy and practicality.
- 9.2.12 Where any unexpected or soft ground conditions are encountered during the groundworks, works in that area should cease and the advice of a suitably qualified geotechnical engineer sought.

9.3 Aggressive Ground Conditions

- 9.3.1 Sulphate attack on building foundations occurs where sulphate solutions react with the various products of hydration in Ordinary Portland Cement (OPC) or converted High-Alumina Cement (HAC). The reaction is expansive, and therefore disruptive, not only due to the formation of minute cracks, but also due to loss of cohesion in the matrix.
- 9.3.2 In accordance with BRE Special Digest 1, the characteristic values of sulphate used to determine the concrete classification are determined using the methodology summarised in Table 9.1 below.

Table 9.1: Concrete in the Ground Characteristic Value Determination

No Samples in the dataset	Method for determining the sulphate characteristic value
1 - 4	Highest value
5 - 9	Mean of the top 2No highest results
10 or greater	Mean of the top 20% highest results

- 9.3.3 Table 9.2 summarises the analysis of the aggressive nature of the ground for each of the strata encountered within the ground investigation.

Table 9.2: Concrete in the Ground Class

Stratum	No Samples	pH range	Characteristic WS Sulphate (mg/l)	Characteristic Total Potential Sulphate (%) ¹⁾	Design Sulphate Class	ACEC Class
Made Ground	18	8.4 – 9.6	697	1.455	DS-4	AC-3s
Till	6	7.8 – 8.7	270	n/a	DS-1	AC-1

1) Applies to soils containing more than 0.3% of oxidisable sulphides, calculated in accordance with BRE SD-1

- 9.3.4 Analysis of the results indicates that the Made Ground contains significant concentrations of oxidisable sulphides (e.g. pyrite), which can be oxidised to form additional sulphate on disturbance and exposure to air as outlined in BRE SD-1:2005. The total potential sulphate must therefore also be considered in the designation of a Design Class.

9.3.5 The concrete structures, including foundations, will need to be designed in accordance with BS EN 1992-1-1:2004+A1:2014. It is recommended that the advice of this publication be taken for the design and specification of all sub-surface concrete.

9.4 Ground Floor Slabs

9.4.1 Due to the nature of the development, NHBC regulations will not apply. However, due to the presence of shrinkable soils, the potential for heave to affect a ground bearing floor slab should be considered, and measures included within the design to minimise the impact on the finished floor slab.

9.5 Excavations

9.5.1 Temporary excavations within the Made Ground and granular soils are unlikely to remain stable and some form of temporary support or battering back to a safe angle is likely to be required.

9.5.2 Temporary excavations within the cohesive soils are likely to remain relatively stable in the short term though some spalling may be anticipated.

9.5.3 Ground works should always be designed in such a manner to avoid entry into excavations by construction or maintenance personnel. However, in the event that such works cannot be avoided or designed out, they should only be undertaken in accordance with a safe system of work, following an appropriate risk assessment and in accordance with any legislative requirements, e.g. Confined Spaces Regulations.

9.6 Road Pavements

9.6.1 Table 9.3 summarises the results of the in-situ CBR testing.

Table 9.3: Summary of CBR Test Results

Position	Depth Range (mm)	Stratum	Average DCP CBR (%)
WS03	0 – 200	Made Ground	8.95
	200 – 300		47.65
	300 – 360		227.85
WS06	0 – 200	Made Ground	19.5
	200 – 260		227.85
WS09	0 – 100	Made Ground	18.2
	100 – 300		42.25
	300 – 370		194.6
WS10	0 – 100	Made Ground	31.5
	100 - 200		63.9
	200 – 231		447.55
WS12	0 – 100	Made Ground	20.85

Position	Depth Range (mm)	Stratum	Average DCP CBR (%)
	100 – 200		44.95
	200 – 300		83
	300 – 320		700.9
WS13	0 – 100		10.3
	100 – 200	Made Ground	42.25
	200 – 300		93.95
	300 – 338		363.4
WS15	0 – 300		
	300 – 400	Made Ground	72.1
	400 – 417		292.4
WS17	0 – 200	Made Ground	15.55
	200 – 500	Made Ground / Till	44.95
	500 – 600	Till	18.2
	600 – 1000		8.95
WS18	0 – 100		26.2
	100 – 200	Made Ground	44.95
	200 – 219		738.65

- 9.6.2 The engineering characteristics of Made Ground are variable, and the results of in-situ testing do not predict the overall settlements that may occur. It would therefore be prudent to assume a CBR value of 2.5% for the preliminary design of pavements constructed upon Made Ground.
- 9.6.3 In-situ CBR testing using a TRL DCP gives only a short-term estimated value, which may be influenced by seasonal variations in the moisture content of the soil or due to resistance against local granular inclusions.
- 9.6.4 Based on the test results, and with reference to the equilibrium suction-index CBR values provided in the Transport Road Research Laboratory (TRRL) Laboratory Report 1132 (1984), a preliminary CBR value of 4% is considered suitable for the Till deposits.
- 9.6.5 The near-surface soils are deemed to be of low permeability and should therefore be treated as being not frost susceptible.
- 9.6.6 Additional CBR testing should be undertaken after detailed design is complete to confirm suitability.
- 9.7 Groundwater Control**
- 9.7.1 During the investigation groundwater was struck at a depth of 4.50mbgl within borehole WS06.
- 9.7.2 Groundwater was not reported within the remaining boreholes during drilling.

**SECTION 9
GEOTECHNICAL ENGINEERING
RECOMMENDATIONS**

- 9.7.3 Subject to seasonal variations, any groundwater encountered during site works could be readily dealt with by conventional pumping from a sump used to collate waters.
- 9.7.4 Surface water or rainfall ingress could be similarly dealt with.

10 REFERENCES

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APPENDICES

APPENDIX 1 – FIGURES

PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Site Location Plan	PROJECT NO.	P6534J3273
DATE	October 2025	FIGURE NO.	1



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Exploratory Hole Location Plan	PROJECT NO.	P6534J3273
DATE	October 2025	FIGURE NO.	2



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 1: Overview of site from the main access point looking south.		Photo 2: Roadway to the north of the main building looking east.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 3: West of main building looking south.		Photo 4: West of main building looking northwest.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 5: Buildings in the northwest of site, understood to be a former treatment building, and maintenance and plant depot.		Photo 6: Parking area/yard to the east of the main building looking south.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 7: Roadway to the east of the main building looking south.		Photo 8: Fenced area directly adjacent to the east of the main building.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 9: Temporary vehicle maintenance building in the southeast of site.		Photo 10: Southeast of main building looking west	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 11: Southeast of the main building looking south.		Photo 12: Roadway/path in the southeast of site.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 13: Former plant room adjacent to the south of the former painting buildings in the southeast of site.		Photo 14: Barrels to the south of the painting buildings.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 15: Brown staining and metal debris on ground surface to the south of paint workshop.		Photo 16: Another image of brown staining and metal debris on ground surface to the south of paint workshop.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 17: Open area in the southwest of the site. Ground surfaced with compacted hardcore.		Photo 18: Stockpiles of rubble in the southwest of site looking north.	
			

PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 19: Roadway to the southwest of the main building.		Photo 20: General waste stored by former painting area.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3

Photo 21: Electrical substation in the centre of site, adjacent to the south of the main building.



Photo 22: Former paint workshops in the south of the site.



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 23: Open area to the west of the main building looking north.		Photo 24: Black staining observed in the open area to the west of the main building.	
			

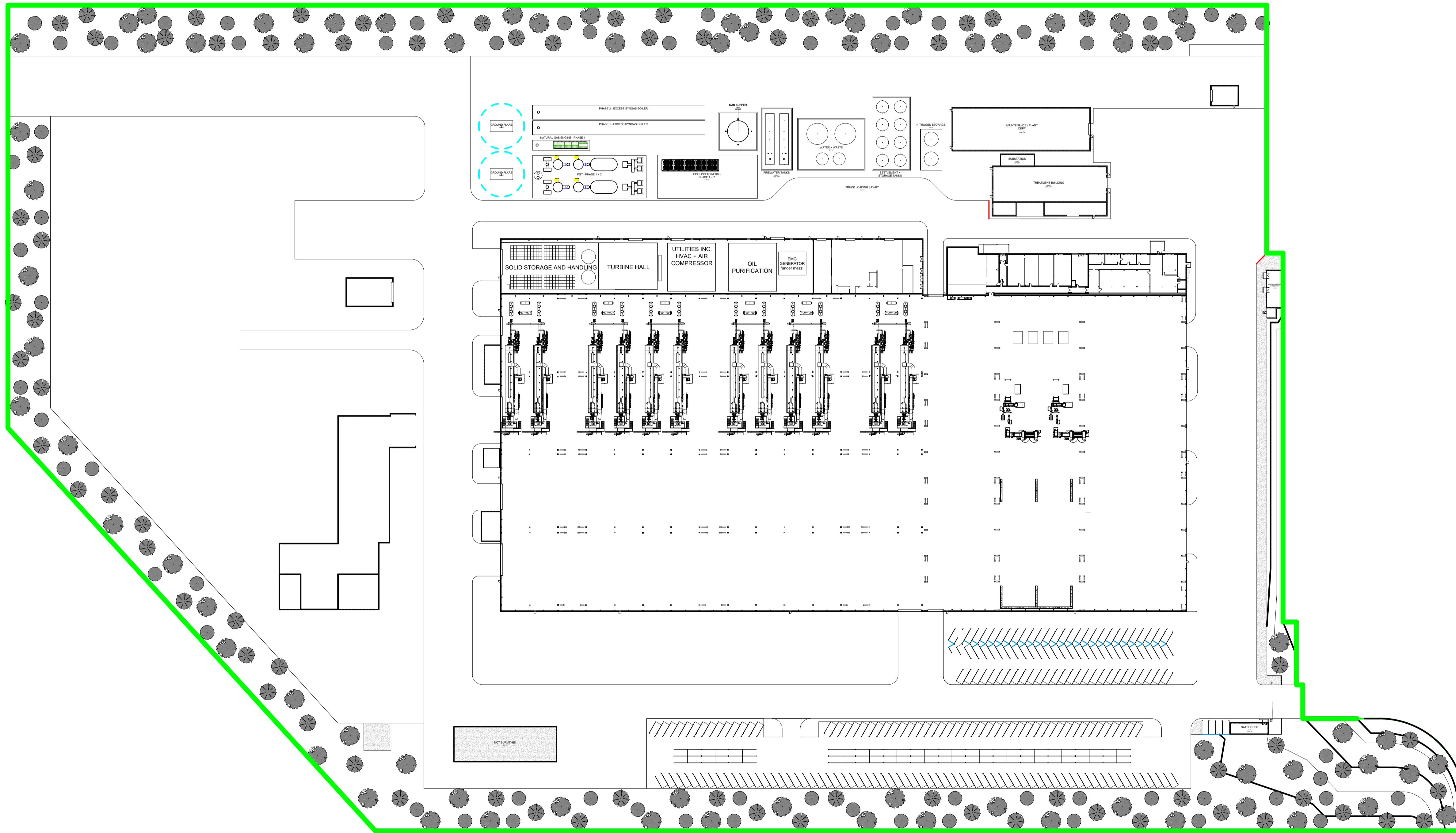
PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 25: Substation in between the former treatment building and plant and maintenance depot in the northwest of the site.		Photo 26: Area to the west of the plant and maintenance depot, where an above ground fuel tank is understood to have been formerly present.	



PROJECT NAME	Cleveland House, Yarm Road, Darlington	CLIENT	Earth & Marine Environmental Consultants Ltd
TITLE	Walkover Photo Plan	FIGURE	3
Photo 27: An above ground tank, which appears to be used for storing fuel oil, adjacent to the east of the vehicle maintenance unit in the southeast of site.		Photo 28: An above ground tank, which appears to be used for storing diesel, to the north of the vehicle maintenance unit in the southeast of site.	



Figure 4: Proposed Pyrolysis Plant



NOTES:

REV	DATE	NOTES	BY	CHK
A	29/08/2025	FIRST ISSUE	LC	JG
B	09/10/2025	REVISED ISSUE	KB	LC
C	20/11/2025	ISSUED FOR PLANNING	RE	LC



PROJECT TITLE
PYROLYSIS PLANT

DRAWING TITLE
PYROL BOUNDARY

DRAWING NUMBER
J-14215-30-B-1-C

JOB NUMBER
14215/30

SCALE
N/A DATE
09/10/2025

REVISION
C DRAWN BY
KB PAGE
1 OF
1

CLIENT

APPENDIX 2 – EXPLORATORY HOLE RECORDS

WINDOWLESS SAMPLER RECORD

Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 15/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E431957.71 N513647.93	
Project No. : P6534J3273		Crew Name: RT		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 50.04m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	49.84		Concrete. (MADE GROUND)
	0.30	ES	PID=0.0		0.30	49.64		Yellowish brown sandy gravel. Sand is medium to coarse. Gravel consists of fine to coarse, sub-angular to sub-rounded limestone. (MADE GROUND)
	0.50	ES	PID=0.0		0.50	49.44		Greyish brown sandy gravel. Sand is fine to coarse. Gravel consists of fine to coarse, sub-angular to sub-rounded limestone. (MADE GROUND)
	0.70	ES	PID=0.1		0.80	49.24		Reddish brown silty slightly gravelly SAND. Sand is fine. Gravel consists of fine angular flint and limestone. (TILL)
	1.00	SPT	N=15		1.00			Firm, becoming stiff** reddish brown mottled greyish blue slightly sandy slightly gravelly CLAY. (TILL)
	1.00	PID	(2,3/3,4,4,4)	PID=0.0	1.30			
	1.30	PID	PID=0.1		1.50			
	1.50	D	PID=0.0		1.55			
	1.55	PID	PID=0.0		1.90			
	1.90	PID	PID=0.0		2.00			
	2.00	SPT	N=19		2.25			
	2.25	PID	(3,4/4,4,5,6)	PID=0.0	2.50			
	2.50	PID	PID=0.0		2.50			
	2.50	D	PID=0.2		2.75			
	2.75	PID	PID=0.0		3.00			
	3.00	SPT	N=20		3.00			
	3.00	PID	(2,3/4,5,5,6)	PID=0.0	3.30			
	3.30	PID	PID=0.0		3.50			
	3.50	ES	PID=0.0		3.55			
	3.55	PID	PID=0.0		3.90			
3.90	PID	PID=0.0		4.00				
4.00	SPT	N=19		4.25				
4.25	PID	(3,4/4,5,4,6)	PID=0.1	4.50				
4.50	PID	PID=0.0		4.55				
4.55	D	PID=0.0		4.85				
4.85	PID	PID=0.0		5.00				
5.00	SPT	N=20		5.00	45.04		End of Borehole at 5.00m	
		(3,3/4,5,5,6)	PID=0.0					

Remarks: No groundwater reported.
 ** Consistency estimated using semi-empirical correlations with SPT N-values, Plasticity Indices and published literature.

Key:
 ES - Environmental Sample
 D - Small Disturbed Sample
 B - Bulk Disturbed Sample
 PID - Photo-ionisation Detector Reading

WINDOWLESS SAMPLER RECORD

Borehole Number
WS02

Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 15/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E432150.38 N513638.28	
Project No. : P6534J3273		Crew Name: BD		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 50.57m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	PID	PID=0.0	0.10	50.47		Asphalt. (MADE GROUND)
		0.30	PID	PID=0.1	0.30	50.27		Black sandy gravel. Sand is fine to coarse. Gravel consists of fine to medium, sub-angular to sub-rounded flint. (MADE GROUND)
		0.34	SPT-C	50 (50 for 0mm)	0.34	50.23		Brown sandy gravel. Sand is fine to coarse. Gravel consists of fine to coarse, sub-angular to sub-rounded flints (MADE GROUND)
								End of Borehole at 0.34m
								1
								2
								3
								4
								5
								6

Remarks: No groundwater reported. Terminated at 0.34mbgl due to equipment refusal on an obstruction in Made Ground.	Key: ES - Environmental Sample D - Small Disturbed Sample B - Bulk Disturbed Sample PID - Photo-ionisation Detector Reading
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WINDOWLESS SAMPLER RECORD

Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 15/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E432148.76 N513506.39	
Project No. : P6534J3273		Crew Name: BD		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 50.04m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.15	PID	PID=0.0	0.40	49.64		Yellowish brown sandy gravel. Sand is fine to medium. Gravel consists of fine to coarse, sub-angular to sub-rounded flint, limestone, and occasional brick. (MADE GROUND)	1 2 3 4 5 6
		0.30	ES						
		0.40	PID	PID=0.1					
		0.50	ES						
		0.75	PID	PID=0.3	4.10	45.94		Firm** becoming stiff** reddish brown mottled greyish blue slightly silty CLAY, with dark brown and black staining from 1.60m to 2.00m. (TILL)	
		1.00	SPT	N=12					
		1.00	PID	(2,2/3,2,3,4)					
		1.10	D	PID=0.0					
		1.25	PID	PID=0.1					
		1.50	PID	PID=0.1					
		1.75	PID	PID=0.1					
		1.80	ES						
		2.00	SPT	N=32					
		2.00	PID	(3,3/15,6,6,5)					
		2.10	D	PID=0.1					
		2.30	PID	PID=0.1					
		2.55	PID	PID=0.1					
		2.95	PID	PID=0.0					
		3.00	SPT	N=21					
		3.15	PID	(3,4/4,5,6,6)					
	3.45	PID	PID=0.1						
	3.50	D							
	3.80	PID	PID=0.1						
	4.00	SPT	N=27						
	4.10	PID	(5,5/6,7,7,7)						
	4.35	PID	PID=0.0						
	4.50	D							
	4.75	PID	PID=0.0						
	4.95	PID	PID=0.0						
	5.00	SPT	N=31						
			(4,6/6,7,9,9)						
End of Borehole at 5.00m									

Remarks: No groundwater reported.
 ** Consistency estimated using semi-empirical correlations with SPT N-values, Plasticity Indices and published literature.

Key:
 ES - Environmental Sample
 D - Small Disturbed Sample
 B - Bulk Disturbed Sample
 PID - Photo-ionisation Detector Reading

WINDOWLESS SAMPLER RECORD

Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 15/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E432187.61 N513474.96	
Project No. : P6534J3273		Crew Name: BD		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 49.63m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
Well		0.15	PID	PID=0.0	0.09	49.54	Asphalt. (MADE GROUND)	Dense* light brown to yellowish brown sandy gravel with low cobble content. Sand is fine to coarse. Gravel consists of fine to coarse, sub-angular to sub-rounded limestone. Cobbles consists of limestone. (MADE GROUND)	
		0.20	ES	PID=0.7					
		0.30	PID	PID=0.0					
		0.50	PID	PID=0.0	0.85	48.78	Stiff* becoming very stiff** reddish brown mottled light grey silty sandy slightly gravelly CLAY. (TILL)		
		0.55	ES	PID=0.0					
		0.80	PID	PID=0.0					
		0.90	ES	PID=0.0	2.90	46.73	End of Borehole at 2.90m		
		1.00	SPT	N=19 (2,4/4,4,5,6)					
		1.20	D	PID=0.1					
		1.20	PID	PID=0.0	2.90	46.73	End of Borehole at 2.90m		
		1.50	PID	PID=0.0					
		1.75	PID	PID=0.2					
		2.00	D	N=18	2.90	46.73	End of Borehole at 2.90m		
		2.00	SPT	(2,3/4,4,5,5)					
		2.00	PID	PID=0.0					
	2.25	PID	PID=0.0	2.90	46.73	End of Borehole at 2.90m			
	2.50	ES	PID=0.0						
	2.50	PID	PID=0.0						
	2.80	D	PID=0.0	2.90	46.73	End of Borehole at 2.90m			
	2.85	PID	PID=0.0						
	2.90	SPT	50 (5,7/50 for 258mm)						

Remarks: No groundwater reported. Terminated at 2.9mbgl due to equipment refusal in very stiff clay. ** Consistency estimated using semi-empirical correlations with SPT N-values, Plasticity Indices and published literature.	Key: ES - Environmental Sample D - Small Disturbed Sample B - Bulk Disturbed Sample PID - Photo-ionisation Detector Reading
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WINDOWLESS SAMPLER RECORD


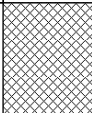
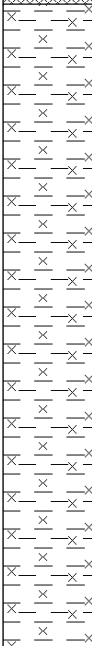
Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 15/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E432130.94 N513429.00	
Project No. : P6534J3273		Crew Name: BD		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 50.13m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10	ES	PID=0.1	0.15	49.98		Dark brown sandy gravel. Sand is fine to medium. Gravel consists of fine to coarse, sub-angular to sub-rounded flint and limestone. (MADE GROUND)	
		0.10	PID	PID=0.1					
		0.25	PID	PID=0.1	0.45	49.68		Yellowish brown sandy gravel. Sand is fine to medium. Gravel consists of fine to coarse, sub-angular to angular limestone. (MADE GROUND)	
		0.30	ES	PID=0.1					
		0.55	PID	PID=0.1	0.90	46.13		Firm** becoming very stiff** reddish brown mottled greyish blue slightly silty slightly sandy slightly gravelly CLAY. (TILL)	
		0.60	ES	PID=0.1					
		0.90	PID	PID=0.1	1.25	46.13			1
		1.00	SPT	N=14 (2,3/3,3,4,4)					
		1.25	PID	PID=0.0	1.50	46.13			
		1.50	PID	PID=0.3					
		1.75	D	PID=0.3	2.00	46.13			
		1.75	PID	PID=0.3					
		2.00	SPT	N=19 (3,3/4,4,5,6)	2.30	46.13			
		2.00	PID	PID=0.0					
		2.30	PID	PID=0.0	2.55	46.13			
		2.55	PID	PID=0.1					
		2.65	D		2.95	46.13			
		2.95	PID	PID=0.0					
		3.00	SPT	N=20 (3,4/4,5,6,5)	3.15	46.13			
		3.15	PID	PID=0.0					
	3.20	D		3.35	46.13				
	3.35	PID	PID=0.0						
	3.65	PID	PID=0.0	3.80	46.13				
	3.80	D							
	3.90	PID	PID=0.0	4.00	46.13				
	4.00	SPT	50 (4,5/50 for 238mm)						
							End of Borehole at 4.00m	4	
								5	
								6	

Remarks: No groundwater reported. Terminated at 4.0mbgl due to equipment refusal in very stiff clay. ** Consistency estimated using semi-empirical correlations with SPT N-values, Plasticity Indices and published literature.	Key: ES - Environmental Sample D - Small Disturbed Sample B - Bulk Disturbed Sample PID - Photo-ionisation Detector Reading
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WINDOWLESS SAMPLER RECORD

Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 16/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E432111.12 N513340.13	
Project No. : P6534J3273		Crew Name: BD		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 49.91m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.25	PID	PID=0.0	0.45	49.46		Dark brown to Yellowish brown sandy gravel. Sand is fine to coarse. Gravel consists of fine to coarse, sub-angular to angular flint and limestone. (MADE GROUND)	
		0.30	ES						
		0.50	PID	PID=0.0	3.00	46.91		Firm** dark brown to reddish brown mottled orangish brown and greyish blue silty sandy slightly gravelly CLAY. (TILL)	1
		0.60	ES						
		0.75	PID	PID=0.0					
		1.00	SPT	N=14					
		1.00	PID	(2,2/3,4,3,4)					
		1.20	D	PID=0.0					
		1.25	PID	PID=0.0					
		1.50	PID	PID=0.1					
		1.75	PID	PID=0.0					
		2.00	SPT	N=13					
		2.00	PID	(3,2/3,3,3,4)					
		2.30	PID	PID=0.0					
		2.50	D	PID=0.0					
		2.55	PID	PID=0.0					
		2.85	PID	PID=0.0					
		3.00	SPT	N=19					
		3.15	PID	(3,3/4,5,5,5)					
		3.45	PID	PID=0.0					
	3.50	D	PID=0.0						
	3.75	PID	PID=0.0						
	4.00	ES	N=33						
	4.00	SPT	(4,5/6,7,9,11)						
	4.00	PID	PID=0.0						
	4.25	PID	PID=0.0						
	4.50	D	PID=0.0						
	4.50	PID	PID=0.0						
	4.75	PID	PID=0.0						
	4.95	PID	PID=0.0						
	5.00	SPT	50 (5,7//50 for 235mm)						
				5.00	44.91		Stiff* becoming very stiff** brown mottled greyish blue sandy CLAY. Sand is fine. (TILL)	3	
								4	
								5	
								6	
								End of Borehole at 5.00m	

Remarks: Groundwater strike at 4.50m.
 ** Consistency estimated using semi-empirical correlations with SPT N-values, Plasticity Indices and published literature.

Key:
 ES - Environmental Sample
 D - Small Disturbed Sample
 B - Bulk Disturbed Sample
 PID - Photo-ionisation Detector Reading

WINDOWLESS SAMPLER RECORD

Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 16/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E432118.57 N513343.74	
Project No. : P6534J3273		Crew Name: BD		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 49.91m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.25	PID	PID=0.0	0.15	49.76		Grey sandy gravel. Sand is fine to medium. Gravel consists of fine to coarse, sub-angular to angular flint. (MADE GROUND)
		0.40	ES					Yellowish brown sandy gravel. Sand is fine to coarse. Gravel consists of fine to coarse, sub-angular to sub-rounded limestone. (MADE GROUND)
		0.50	PID	PID=0.0	0.50	49.41		Firm** becoming stiff** dark brown mottled greyish blue silty CLAY, with sandy pocket present between 2.00m to 2.30m. (TILL)
		0.75	ES	PID=0.1				
		0.75	PID					
		1.00	SPT	N=14				
		1.05	PID	(2,3/3,3,4,4)				
		1.10	D	PID=0.1				
		1.30	PID	PID=0.1				
		1.65	PID	PID=0.1				
		2.00	SPT	N=20				
		2.00	PID	(4,5/4,5,5,6)				
		2.25	ES	PID=0.0				
		2.30	PID	PID=0.0				
		2.55	PID	PID=0.0				
		2.75	D					
		2.95	PID	PID=0.0				
		3.00	SPT	N=19	3.00	46.91		Stiff** becoming very stiff** brown mottled greyish blue slightly sandy CLAY. Sand is fine. (TILL)
	3.20	PID	(3,4/3,4,5,7)					
	3.50	PID	PID=0.0					
	3.65	D						
	3.85	PID	PID=0.0					
	4.00	SPT	50 (6,9/50 for 272mm)	4.00	45.91	End of Borehole at 4.00m		

<p>Remarks:</p> <p>No groundwater reported.</p> <p>Terminated at 4.0mbgl due to equipment refusal in very stiff clay.</p> <p>** Consistency estimated using semi-empirical correlations with SPT N-values, Plasticity Indices and published literature.</p>	<p>Key:</p> <p>ES - Environmental Sample</p> <p>D - Small Disturbed Sample</p> <p>B - Bulk Disturbed Sample</p> <p>PID - Photo-ionisation Detector Reading</p>
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WINDOWLESS SAMPLER RECORD










Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 16/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E432117.05 N513337.54	
Project No. : P6534J3273		Crew Name: BD		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 50.04m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.25 0.30	PID ES	PID=0.0	0.45	49.59		Yellowish brown sandy gravel. Sand is fine to coarse. Gravel consists of fine to coarse, sub-angular to angular limestone and flint. (MADE GROUND)	
		0.50 0.55	PID ES	PID=0.1					
		0.75	PID	PID=0.1				Firm** becoming very stiff** dark brown mottled greyish blue silty slightly sandy slightly gravelly CLAY. Sand is fine. (TILL)	
		1.00 1.00	SPT PID	N=16 (3,2/3,4,5,4)					1
		1.20 1.25	D PID	PID=0.0 PID=0.1					
		1.50	PID	PID=0.0					
		1.80	PID	PID=0.0					
		2.00 2.00 2.10	D SPT PID	N=19 (3,3/4,5,5,5) PID=0.0				2	
		2.40	PID	PID=0.0					
		2.75 2.85	PID D	PID=0.0					
		3.00 3.10	SPT PID	N=22 (4,5/5,5,6,6) PID=0.0				3	
		3.25	D						
		3.45	PID	PID=0.0					
		3.75 3.75 3.95 4.00	ES PID PID SPT	PID=0.0 PID=0.0 50 (5,7/50 for 167mm)	4.00	46.04		4	
								End of Borehole at 4.00m	4
									5
								6	

Remarks: No groundwater reported. Terminated at 4.0mbgl due to equipment refusal in very stiff clay. ** Consistency estimated using semi-empirical correlations with SPT N-values, Plasticity Indices and published literature.	Key: ES - Environmental Sample D - Small Disturbed Sample B - Bulk Disturbed Sample PID - Photo-ionisation Detector Reading
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WINDOWLESS SAMPLER RECORD

Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 15/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E432077.05 N513353.81	
Project No. : P6534J3273		Crew Name: BD		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 49.77m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.25	ES	PID=0.0	0.30	49.47		Grey to dark grey sandy gravel. Sand is fine to medium. Gravel consists of fine to coarse, sub-angular to sub-rounded flint and occasional brick. (MADE GROUND)	
		0.25	PID						
		0.45	ES	PID=0.0				Yellowish brown sandy gravel. Sand is fine to coarse. Gravel consists of fine to coarse, sub-angular to sub-rounded limestone. (MADE GROUND)	
		0.50	PID						
		0.75	PID	PID=0.0					
		0.85	ES						
		1.00	SPT	N=25	1.00	48.77		Stiff* becoming very stiff** dark brown to reddish brown mottled greyish blue slightly silty slightly sandy slightly gravelly CLAY. Sand is fine. (TILL)	1
		1.00	PID	(4,6/6,5,6,8) PID=0.0					
		1.25	PID	PID=0.0					
		1.50	ES	PID=0.1					
		1.50	PID						
		1.75	PID	PID=0.1					
	1.80	D							
	1.95	PID	PID=0.0						
	2.00	SPT	50 (9,12/50 for 172mm)	2.00	47.77		End of Borehole at 2.00m	2	
								3	
								4	
								5	
								6	

Remarks: No groundwater reported. Terminated at 2.0mbgl due to equipment refusal in very stiff clay. ** Consistency estimated using semi-empirical correlations with SPT N-values, Plasticity Indices and published literature.	Key: ES - Environmental Sample D - Small Disturbed Sample B - Bulk Disturbed Sample PID - Photo-ionisation Detector Reading
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WINDOWLESS SAMPLER RECORD

Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 15/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E432011.33 N513359.08	
Project No. : P6534J3273		Crew Name: BD		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 49.52m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description						
		Depth (m)	Type	Results										
		0.25	PID	PID=0.1	0.50	49.02		Yellowish brown sandy gravel. Sand is fine to medium. Gravel consists of fine to coarse, angular to sub-rounded limestone and brick. (MADE GROUND)						
		0.40	ES											
		0.55	PID	PID=0.1	1.00	48.52		Firm* consistency dark reddish brown silty slightly sandy slightly gravelly CLAY with rootlets. (TILL)						
		0.70	ES											
		0.80	D											
		0.90	PID	PID=0.1										
		1.00	SPT	N=16 (3,3/4,3,4,5)	2.00	47.52		Firm** dark brown to reddish brown sandy CLAY. Sand is fine to medium. (TILL)	1					
		1.25	ES	PID=0.1										
		1.25	PID											
		1.55	PID	PID=0.1										
		1.70	D											
		1.85	PID	PID=0.1										
		2.00	SPT	N=19 (4,3/4,5,5,5)						2		Stiff** becoming very stiff** dark brown to reddish brown mottled greyish blue CLAY. (TILL)		
		2.15	PID	PID=0.1										
		2.45	PID	PID=0.1						4.50	45.02		End of Borehole at 4.50m	
		2.50	D											
		2.90	PID	PID=0.1										
		3.00	SPT	N=23 (4,5/4,5,6,8)	3									
		3.30	PID	PID=0.1										
		3.50	D											
	3.65	PID	PID=0.1											
	4.00	SPT	N=25	4										
	4.00	PID	(3,5/5,7,6,7) PID=0.1											
	4.25	D												
	4.30	PID	PID=0.1	5										
	4.50	SPT	50 (6,9/50 for 235mm)											
				6										

Remarks: No groundwater reported.
Terminated at 4.5m bgl due to equipment refusal in very stiff clay.
*Field description.
** Consistency estimated using semi-empirical correlations with SPT N-values, Plasticity Indices and published literature.

Key:
ES - Environmental Sample
D - Small Disturbed Sample
B - Bulk Disturbed Sample
PID - Photo-ionisation Detector Reading

WINDOWLESS SAMPLER RECORD

Borehole Number
WS12

Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 15/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E431979.23 N513319.61	
Project No. : P6534J3273		Crew Name: RT		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 49.44m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.20 0.25	ES PID	PID=0.0	0.30	49.14		Grey to dark grey sandy gravel. Sand is fine to medium. Gravel consists of fine to coarse, sub-angular to sub-rounded limestone and brick. (MADE GROUND)		
		0.50 0.50	ES PID	PID=0.0	0.60	48.84		Light brown to yellowish brown sandy gravel. Sand is fine to coarse. Gravel consists of fine to coarse, angular to sub-rounded limestone. (MADE GROUND)		
		0.75	PID	PID=0.0				Firm** becoming stiff** dark brown to reddish brown mottled greyish blue slightly sandy CLAY. Sand is fine. (TILL)		
		1.00	D	N=15						1
		1.00	SPT	(1,3/3,4,4,4)						
		1.00	PID	PID=0.0						
		1.30	PID	PID=0.0						
		1.50	ES							
		1.55	PID	PID=0.0						
		1.90	PID	PID=0.0						
		2.00	SPT	N=17 (2,3/3,4,4,6)						2
		2.25	D	PID=0.0						
		2.25	PID	PID=0.0						
		2.50	PID	PID=0.0						
		2.80	PID	PID=0.0						
		3.00	SPT	N=20 (3,3/4,5,5,6)					3	
		3.15	PID	PID=0.0						
		3.35	PID	PID=0.0						
		3.40	D							
		3.60	PID	PID=0.0						
	3.95	PID	PID=0.0							
	4.00	SPT	N=21 (4,4/5,5,5,6)					4		
	4.25	PID	PID=0.0							
	4.50	D	PID=0.0							
	4.50	PID	PID=0.0	4.60	44.84		Stiff** dark brown sandy slightly gravelly CLAY. Sand is fine. (TILL)			
	4.75	PID	PID=0.0							
	4.80	D								
	4.95	PID	PID=0.0	5.00	44.44					
	5.00	SPT	N=24 (4,5/5,6,6,7)				End of Borehole at 5.00m	5		
								6		

Remarks: No groundwater reported.
 ** Consistency estimated using semi-empirical correlations with SPT N-values, Plasticity Indices and published literature.

Key:
 ES - Environmental Sample
 D - Small Disturbed Sample
 B - Bulk Disturbed Sample
 PID - Photo-ionisation Detector Reading

WINDOWLESS SAMPLER RECORD

Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 15/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E432021.34 N513393.28	
Project No. : P6534J3273		Crew Name: BD		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 49.60m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.25	ES	PID=0.0	0.40	49.20		Yellowish brown sandy gravel. Sand is fine to coarse. Gravel consists of fine to coarse, angular to sub-rounded flint and limestones (MADE GROUND)		
		0.25	PID	PID=0.1						
		0.40	PID	PID=0.1						
			0.60	ES	PID=0.1	1.00	48.60		Firm* consistency brownish grey to blackish grey silty CLAY with rootlets. (TILL)	
			0.65	PID	PID=0.1					
			0.95	PID	PID=0.1					
			1.00	SPT	N=17					
			1.20	D	(2,4/4,5,4,4)					
			1.25	PID	PID=0.1					
			1.50	PID	PID=0.1					
			1.75	PID	PID=0.1					
			1.90	D						
			2.00	SPT	N=17					
			2.00	PID	(2,3/4,4,4,5)					
			2.25	PID	PID=0.1					
			2.30	ES	PID=0.2					
			2.50	PID	PID=0.1					
			2.75	PID	PID=0.0					
			3.00	D	N=17					
			3.00	SPT	(3,4/3,4,5,5)					
		3.00	PID	PID=0.1						
		3.30	PID	PID=0.1						
		3.60	PID	PID=0.2						
		3.90	PID	PID=0.1						
		4.00	SPT	N=23						
		4.20	PID	(4,3/5,6,6,6)						
		4.30	D	PID=0.1						
		4.50	PID	PID=0.1						
		4.60	SPT	50 (7,10/50 for 259mm)						
					4.60	45.00		End of Borehole at 4.60m		


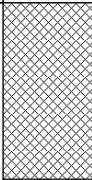
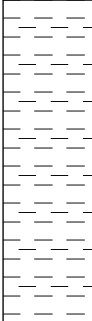
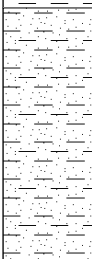
Remarks:
No groundwater reported.
Terminated at 4.6mbgl due to equipment refusal in very stiff clay.
*Field description.
** Consistency estimated using semi-empirical correlations with SPT N-values, Plasticity Indices and published literature.

Key:
ES - Environmental Sample
D - Small Disturbed Sample
B - Bulk Disturbed Sample
PID - Photo-ionisation Detector Reading

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WINDOWLESS SAMPLER RECORD


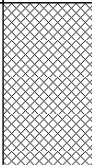
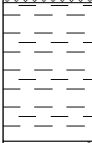
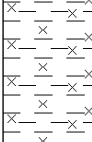
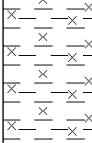
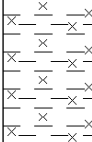
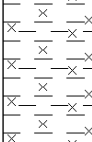
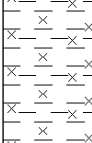
Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 15/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E431965.39 N513400.21	
Project No. : P6534J3273		Crew Name: RT		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 49.37m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.25	PID	PID=0.1	0.70	48.67		Yellowish brown sandy gravel. Sand is fine to coarse. Gravel consists of fine to coarse, sub-angular to sub-rounded limestone and brick. (MADE GROUND)		
		0.50	ES	PID=0.0						
		0.55	PID	PID=0.0						
			0.85	PID	PID=0.0	2.00	47.37		Firm** dark brown to reddish brown mottled greyish blue CLAY. (TILL)	1
			0.90	ES	PID=0.0					
			1.00	SPT	N=10 (1,1/2,2,3,3)					
			1.15	PID	PID=0.0					
			1.45	PID	PID=0.0					
			1.50	D						
			1.75	PID	PID=0.0					
			2.00	SPT	N=14 (2,2/3,3,3,5)					
			2.00	PID	PID=0.0	3.00	46.37		Firm** becoming very stiff** dark brown to reddish brown mottled greyish blue slightly sandy slightly gravelly CLAY. Sand is fine. (TILL)	2
		2.30	PID	PID=0.0						
		2.50	D							
		2.60	PID	PID=0.0						
		2.80	ES	PID=0.0						
		2.90	PID	PID=0.0						
		3.00	SPT	50 (7,10/50 for 265mm)						
		End of Borehole at 3.00m							3	
									4	
									5	
									6	

Remarks: No groundwater reported. Terminated at 3.0mbgl due to equipment refusal in very stiff clay. ** Consistency estimated using semi-empirical correlations with SPT N-values, Plasticity Indices and published literature.	Key: ES - Environmental Sample D - Small Disturbed Sample B - Bulk Disturbed Sample PID - Photo-ionisation Detector Reading
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WINDOWLESS SAMPLER RECORD

Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 15/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E431961.46 N513451.12	
Project No. : P6534J3273		Crew Name: RT		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 49.50m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.25	PID	PID=0.1	0.65	48.85		Yellowish brown to light brown sandy gravel. Sand is fine to medium. Gravel consists of fine to coarse, sub-angular to sub-rounded flint and limestone. (MADE GROUND)	
		0.40	ES						
		0.50	PID	PID=0.1	1.20	48.30		Firm* consistency dark brown to dark grey slightly sandy slightly gravelly CLAY. (TILL)	1
		0.75	PID	PID=0.1					
		0.90	ES						
		1.00	D	N=11	1.40	48.30		Firm** becoming very stiff** dark brown to reddish brown mottled greyish blue silty CLAY, with a sandy pocket present between 1.70m to 2.30m. (TILL)	
		1.00	SPT	(1,2/2,3,3,3)					
		1.10	PID	PID=0.1					
		1.40	PID	PID=0.0					
		1.75	PID	PID=0.0	2.00	48.30			
		1.80	D						
		2.00	SPT	N=15					
		2.10	PID	(2,3/3,4,4,4)					
		2.25	ES	PID=0.1					
		2.45	PID	PID=0.1	3.00	48.30			
		2.75	D						
		2.85	PID	PID=0.1					
		3.00	SPT	N=18					
		3.15	PID	(2,3/4,4,4,6)					
		3.45	PID	PID=0.1					
	3.50	D		4.00	48.30				
	3.80	PID	PID=0.1						
	4.00	SPT	N=20						
	4.20	PID	(3,3/4,5,5,6)						
	4.30	D	PID=0.1	4.50	45.00				
	4.45	PID	PID=0.1						
	4.50	SPT	50 (8,11/50 for 230mm)						
							End of Borehole at 4.50m	5	
								6	

Remarks: No groundwater reported. Terminated at 4.5mbgl due to equipment refusal in very stiff clay. ** Consistency estimated using semi-empirical correlations with SPT N-values, Plasticity Indices and published literature.	Key: ES - Environmental Sample D - Small Disturbed Sample B - Bulk Disturbed Sample PID - Photo-ionisation Detector Reading
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WINDOWLESS SAMPLER RECORD

Borehole Number
WS16


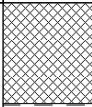


















Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 15/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E431962.85 N513492.26	
Project No. : P6534J3273		Crew Name: RD		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 49.67m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
X		0.15	PID	PID=0.1	0.40	49.27	X	Dark grey sandy gravel. Sand is fine to medium. Gravel consists of fine to coarse, angular to sub-rounded limestone. (MADE GROUND)	
		0.25	ES						
		0.35	PID	PID=0.1					
			0.65	ES	PID=0.1	0.80	48.87	X	Yellowish brown sandy gravel. Sand is fine to coarse. Gravel consists of fine to coarse, sub-angular to sub-rounded limestones. (MADE GROUND)
		0.70	PID					No recovery.	1
		1.00	SPT	50 (25 for 45mm/50 for 20mm)	1.10	48.57		End of Borehole at 1.10m	6

Remarks: No groundwater reported. Terminated at 1.1mbgl due to equipment refusal on an obstruction in Made Ground.	Key: ES - Environmental Sample D - Small Disturbed Sample B - Bulk Disturbed Sample PID - Photo-ionisation Detector Reading
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WINDOWLESS SAMPLER RECORD



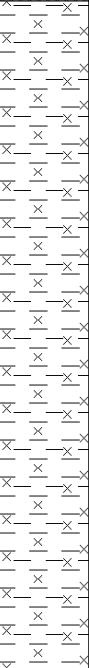
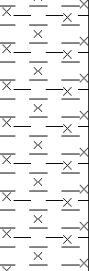
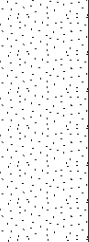

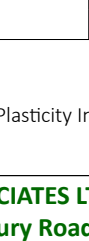
Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 15/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E431966.03 N513524.72	
Project No. : P6534J3273		Crew Name: RT		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 49.62m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.25	PID	PID=0.1	0.40	49.22		Dark grey to yellowish brown sandy gravel. Sand is fine to medium. Gravel consists of fine to medium, angular to sub-rounded flint and limestones. (MADE GROUND)	
		0.30	ES						
		0.50	PID	PID=0.0				Firm** becoming very stiff** dark brown to reddish brown mottled greyish blue silty sandy slightly gravelly CLAY. (TILL)	
		0.70	ES						
		0.75	PID	PID=0.2					
		1.00	SPT	N=14				1	
		1.00	PID	(2,2/3,3,4,4)					
		1.10	D	PID=0.0					
		1.15	PID	PID=0.3					
		1.40	PID	PID=0.0					
		1.70	PID	PID=0.2				2	
		2.00	SPT	N=15					
		2.00	PID	(2,3/3,3,4,5)					
		2.20	D	PID=0.0					
		2.30	PID	PID=0.0					
		2.60	PID	PID=0.2					
		3.00	SPT	N=19				3	
		3.00	PID	(3,4/4,4,5,6)					
		3.25	PID	PID=0.0					
		3.30	ES	PID=0.1					
	3.55	PID	PID=0.1						
	3.85	D	PID=0.0						
	3.85	PID							
	4.00	SPT	50 (7,11/50 for 230mm)	4.00	45.62		4		
End of Borehole at 4.00m									
							5		
							6		

Remarks: No groundwater reported. Terminated at 4.0mbgl due to equipment refusal in very stiff clay. ** Consistency estimated using semi-empirical correlations with SPT N-values, Plasticity Indices and published literature.	Key: ES - Environmental Sample D - Small Disturbed Sample B - Bulk Disturbed Sample PID - Photo-ionisation Detector Reading
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WINDOWLESS SAMPLER RECORD

Project Name: Cleveland House		Client: Earth & Marine Environmental Consultants Ltd		Date: 15/10/2025	
Location: Yarm Road, Darlington DL1 4DE		Logged by: BKS		Co-ords: E431976.88 N513595.46	
Project No. : P6534J3273		Crew Name: RT		Drilling Equipment: Windowless Sampler Rig	
Log Status FINAL	Hole Type WLS	Level 49.72m AoD	Approved By JWT	Scale 1:30	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES	PID=0.0	0.35	49.37		Yellowish brown to dark grey sandy gravel. Sand is fine to medium. Gravel consists of fine to coarse, angular to sub-angular flint, limestone, and brick. (MADE GROUND)	
		0.25	PID	PID=0.0					
		0.45	ES	PID=0.0	1			Firm** dark brown mottled orangish brown and greyish blue silty CLAY. (TILL)	
		0.50	PID	PID=0.0					
		0.75	PID	PID=0.2					
		1.00	D	N=11					
		1.00	SPT	(1,2/2,3,3,3)					
		1.00	PID	PID=0.1					
		1.25	PID	PID=0.0					
		1.50	PID	PID=0.2					
		1.75	PID	PID=0.1					
		1.80	ES						
		2.00	SPT	N=13	2				
		2.00	PID	(2,2/3,3,3,4)					
		2.00	PID	PID=0.0					
		2.30	PID	PID=0.0					
		2.50	D						
		2.55	PID	PID=0.1					
		2.85	PID	PID=0.1					
		3.00	SPT	N=16					
	3.00	PID	(2,3/3,4,4,5)						
	3.30	PID	PID=0.1						
	3.50	D		3			Medium dense brown clayey SAND. Sand is fine. (TILL)		
	3.60	PID	PID=0.2						
	3.90	PID	PID=0.1						
	4.00	SPT	N=7 (3,2/2,1,2,2)						
	4.00	PID	PID=0.1						
	4.20	PID	PID=0.0						
	4.50	D							
	4.50	PID	PID=0.0						
	4.80	PID	PID=0.1						
	5.00	SPT	N=16						4
	5.00	PID	(2,3/3,4,4,5)						
	5.00	PID	PID=0.0						
	5.00	SPT	N=16						
	5.00	PID	(2,3/3,4,4,5)						
	5.00	PID	PID=0.1						
	5.00	PID	PID=0.0						
	5.00	PID	PID=0.0						
	5.00	PID	PID=0.1						
	5.00	PID	PID=0.0						
	5.00	PID	PID=0.1	5			End of Borehole at 5.00m		
	5.00	PID	PID=0.0						
	5.00	PID	PID=0.1						
	5.00	PID	PID=0.0						
	5.00	PID	PID=0.1						
	5.00	PID	PID=0.0						
	5.00	PID	PID=0.1						
	5.00	PID	PID=0.0						
	5.00	PID	PID=0.1						
	5.00	PID	PID=0.0						
	5.00	PID	PID=0.1	6					
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	5.00	PID	PID=0.1						
	5.00	PID	PID=0.0						
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	5.00	PID	PID=0.0						
	5.00	PID	PID=0.1						
	5.00	PID	PID=0.0						
	5.00	PID	PID=0.1						
	5.00	PID	PID=0.0						

Remarks: No groundwater reported.
 ** Consistency estimated using semi-empirical correlations with SPT N-values, Plasticity Indices and published literature.

Key:
 ES - Environmental Sample
 D - Small Disturbed Sample
 B - Bulk Disturbed Sample
 PID - Photo-ionisation Detector Reading

APPENDIX 3 – CHEMICAL LABORATORY TEST RESULTS



4161



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Salisbury Road,
UB8 2RZ

Analytical Test Report: L25/11315/JOM - 25-87824

Your Project Reference:	Cleveland House, Yarm Road, Darlington DL1 4DE J3273		
Your Order Number:	P6534J3273.6	Samples Received / Instructed:	24/10/2025 / 24/10/2025
Report Issue Number:	1	Sample Tested:	24/10 to 05/11/2025
Samples Analysed:	26 sample(s)	Report issued:	05/11/2025

Signed

James Gane
Analytical Services Manager
CTS

Notes:

General

Please refer to Methodologies page for details pertaining to the analytical methods undertaken.

Samples will be retained for 14 days after issue of this report with the exception of the asbestos test portion which is held for 6 months unless otherwise requested.

Moisture Content was determined in accordance with CTS method statement MS - CL - Sample Prep, oven dried at <30°C.

Moisture Content is reported as a percentage of the dry mass of soil, this calculation is in accordance with BS1377, Part 2, 1990, Clause 3.2

Stone Content was determined in accordance with CTS method statement MS - CL - Sample Prep and refers to the percentage of stones retained on a 10mm BS test sieve.

Where specification limits are included these are for guidance only. Where a measured value has been highlighted this is not implying acceptance or failure and certainty of measurement values have not been taken into account.

Uncertainty of measurement values are available on request.

Samples were supplied by customer, results apply to the samples as received.

Asbestos

Please note: Where further analysis is required samples identified as containing asbestos are screened and tested on an as received basis. No correction is made for moisture content and other than the asbestos test(s) these results are not covered by our accreditation

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

Deviating Samples

On receipt samples are compared against our sample holding and handling protocols, where any deviations have been noted these are reported on our deviating sample page (if present)

Accreditation Key

This report shall not be reproduced except in full

UKAS = UKAS Accreditation, MCERTS = MCERTS Accreditation, u = Unaccredited, subUKAS - Subcontracted to a laboratory UKAS accredited for this test, subMCERTS - Subcontracted to a laboratory MCERTS accredited for this test

MCERTS Accreditation only covers the SAND, CLAY and LOAM matrices

UKAS accreditation on waters only covers the Ground water and Surface water matrices

Date of Issue: 27.08.25

Issued by: J. Gane

Issue No: 4

Rev No: 27



L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm
Road, Darlington DL1 4DE J3273

Analytical Test Results - Solid

7 - 11 Harding Street
Leicester
LE1 4DH

Lab Reference	624633	624634	624635	624636	624637	624638	
Client Sample ID	-	-	-	-	-	-	
Client Sample Location	WS01	WS01	WS03	W053	WS04	WS04	
Client Sample Type	ES	ES	ES	ES	ES	ES	
Client Sample Number	-	-	-	-	-	-	
Depth - Top (m)	0.30	0.70	0.30	1.80	0.20	2.50	
Depth - Bottom (m)	0.30	0.70	0.30	1.80	0.20	2.50	
Date of Sampling	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	
Time of Sampling	-	-	-	-	-	-	
Sample Matrix	Sand	Sand	Sand	Clay	Sand	Clay	
Determinant	Units	Accreditation					
Arsenic	(mg/kg)	MCERTS	< 10	-	46	< 10	-
Boron (w/s)	(mg/kg)	u	< 2.5	-	< 2.5	< 2.5	-
Cadmium	(mg/kg)	MCERTS	0.5	-	2.3	0.7	-
Chromium (Total)	(mg/kg)	UKAS	< 1.0	-	9.8	< 1.0	-
Copper	(mg/kg)	MCERTS	13	-	37	52	-
Lead	(mg/kg)	MCERTS	17	-	180	66	-
Mercury	(mg/kg)	UKAS	< 2.5	-	< 2.5	< 2.5	-
Nickel	(mg/kg)	MCERTS	5.2	-	23	5.6	-
Selenium	(mg/kg)	u	< 8.0	-	< 8.0	< 8.0	-
Zinc	(mg/kg)	MCERTS	71	-	810	250	-
Total Phenols	(mg/kg)	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cyanide (Total)	(mg/kg)	MCERTS	< 1.0	-	< 1.0	< 1.0	-
Chromium (Hexavalent)	(mg/kg)	u	< 1.0	-	< 1.0	< 1.0	-
Sulphate (Acid Soluble)	(%)	u	0.15	-	0.66	0.05	-
pH	pH Units	MCERTS	8.6	-	8.6	9.1	-
Sulphate (Water soluble as SO ₄)	(mg/l)	u	360	-	1300	51	-
Acenaphthene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.20
Acenaphthylene	(mg/kg)	UKAS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.20
Anthracene	(mg/kg)	UKAS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.20
Benzo (a) anthracene	(mg/kg)	MCERTS	< 0.02	< 0.02	0.10	< 0.02	0.27
Benzo (a) pyrene	(mg/kg)	MCERTS	< 0.02	< 0.02	0.09	< 0.02	0.23
Benzo (b) fluoranthene	(mg/kg)	MCERTS	< 0.02	< 0.02	0.14	< 0.02	0.25
Benzo (g, h, i) perylene	(mg/kg)	MCERTS	< 0.02	< 0.02	0.08	< 0.02	0.22
Benzo (k) fluoranthene	(mg/kg)	MCERTS	< 0.02	< 0.02	0.05	< 0.02	< 0.20
Chrysene	(mg/kg)	MCERTS	< 0.02	< 0.02	0.12	< 0.02	< 0.20
Dibenzo (a,h) anthracene	(mg/kg)	MCERTS	< 0.02	< 0.02	0.03	< 0.02	< 0.20
Fluoranthene	(mg/kg)	MCERTS	< 0.02	< 0.02	0.13	< 0.02	0.47
Fluorene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.20
Indeno (1, 2, 3,-cd) pyrene	(mg/kg)	MCERTS	< 0.02	< 0.02	0.07	< 0.02	< 0.20
Naphthalene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.20
Phenanthrene	(mg/kg)	MCERTS	< 0.02	< 0.02	0.09	< 0.02	< 0.20
Pyrene	(mg/kg)	MCERTS	< 0.02	< 0.02	0.12	< 0.02	0.40
Total PAH (Sum of USEPA 16)	(mg/kg)	UKAS	< 0.32	< 0.32	1.1	< 0.32	4.0
SOM (via TOC)	(%)	UKAS	8.6	-	6.5	-	1.6
Asbestos	-	UKAS	No Asbestos Detected	-	No Asbestos Detected	-	No Asbestos Detected
PCB 28	(mg/kg)	MCERTS	-	-	-	-	-
PCB 52	(mg/kg)	MCERTS	-	-	-	-	-
PCB 101	(mg/kg)	MCERTS	-	-	-	-	-
PCB 118	(mg/kg)	MCERTS	-	-	-	-	-
PCB 153	(mg/kg)	MCERTS	-	-	-	-	-
PCB 138	(mg/kg)	MCERTS	-	-	-	-	-
PCB 180	(mg/kg)	MCERTS	-	-	-	-	-



L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm
Road, Darlington DL1 4DE J3273

Analytical Test Results - Solid

7 - 11 Harding Street
Leicester
LE1 4DH

Lab Reference	624639	624640	624641	624642	624643	624644		
Client Sample ID	-	-	-	-	-	-		
Client Sample Location	WS05	WS06	WS07	WS08	WS09	WS09		
Client Sample Type	ES	ES	ES	ES	ES	ES		
Client Sample Number	-	-	-	-	-	-		
Depth - Top (m)	0.10	0.30	0.40	0.30	0.25	0.45		
Depth - Bottom (m)	0.10	0.30	0.40	0.30	0.25	0.45		
Date of Sampling	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025		
Time of Sampling	-	-	-	-	-	-		
Sample Matrix	Sand	Sand	Sand	Sand	Sand	Sand		
Determinant	Units	Accreditation						
Arsenic	(mg/kg)	MCERTS	25	< 10	< 10	< 10	< 10	
Boron (w/s)	(mg/kg)	u	< 2.5	< 2.5	3.2	3.9	2.8	< 2.5
Cadmium	(mg/kg)	MCERTS	2.6	2.2	0.5	0.8	12	0.6
Chromium (Total)	(mg/kg)	UKAS	6.0	20	< 1.0	2.2	510	< 1.0
Copper	(mg/kg)	MCERTS	39	61	11	22	870	24
Lead	(mg/kg)	MCERTS	39	22	17	27	120	27
Mercury	(mg/kg)	UKAS	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Nickel	(mg/kg)	MCERTS	23	56	7.2	11	510	8.9
Selenium	(mg/kg)	u	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Zinc	(mg/kg)	MCERTS	1200	390	130	210	15000	400
Total Phenols	(mg/kg)	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cyanide (Total)	(mg/kg)	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chromium (Hexavalent)	(mg/kg)	u	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sulphate (Acid Soluble)	(%)	u	0.60	0.07	0.63	0.31	0.32	0.13
pH	pH Units	MCERTS	8.4	8.8	9.2	9.6	8.7	9.0
Sulphate (Water soluble as SO ₄)	(mg/l)	u	290	120	250	430	210	95
Acenaphthene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02	0.03	< 0.02
Acenaphthylene	(mg/kg)	UKAS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Anthracene	(mg/kg)	UKAS	< 0.02	< 0.02	< 0.02	< 0.02	0.03	< 0.02
Benzo (a) anthracene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	0.04	0.14	< 0.02
Benzo (a) pyrene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	0.02	0.20	< 0.02
Benzo (b) fluoranthene	(mg/kg)	MCERTS	0.03	< 0.02	< 0.02	0.04	0.24	< 0.02
Benzo (g, h, i) perylene	(mg/kg)	MCERTS	0.02	< 0.02	< 0.02	0.02	0.19	< 0.02
Benzo (k) fluoranthene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02	0.10	< 0.02
Chrysene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	0.03	0.13	< 0.02
Dibenzo (a,h) anthracene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02	0.05	< 0.02
Fluoranthene	(mg/kg)	MCERTS	0.03	< 0.02	< 0.02	0.06	0.28	< 0.02
Fluorene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Indeno (1, 2, 3,-cd) pyrene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	0.02	0.20	< 0.02
Naphthalene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	(mg/kg)	MCERTS	0.02	< 0.02	< 0.02	0.04	0.09	< 0.02
Pyrene	(mg/kg)	MCERTS	0.03	< 0.02	< 0.02	0.07	0.24	< 0.02
Total PAH (Sum of USEPA 16)	(mg/kg)	UKAS	0.37	< 0.32	< 0.32	0.51	2.0	< 0.32
SOM (via TOC)	(%)	UKAS	2.6	1.3	-	-	-	-
Asbestos	-	UKAS	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
PCB 28	(mg/kg)	MCERTS	< 0.004	< 0.004	< 0.004	-	-	-
PCB 52	(mg/kg)	MCERTS	< 0.004	< 0.004	< 0.004	-	-	-
PCB 101	(mg/kg)	MCERTS	< 0.004	< 0.004	< 0.004	-	-	-
PCB 118	(mg/kg)	MCERTS	< 0.004	< 0.004	< 0.004	-	-	-
PCB 153	(mg/kg)	MCERTS	< 0.004	< 0.004	< 0.004	-	-	-
PCB 138	(mg/kg)	MCERTS	< 0.004	< 0.004	< 0.004	-	-	-
PCB 180	(mg/kg)	MCERTS	< 0.004	< 0.004	< 0.004	-	-	-



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L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm
Road, Darlington DL1 4DE J3273

Analytical Test Results - Solid

Lab Reference	624645	624646	624647	624648	624649	624650	
Client Sample ID	-	-	-	-	-	-	
Client Sample Location	WS10	WS11	WS12	WS13	WS14	WS15	
Client Sample Type	ES	ES	ES	ES	ES	ES	
Client Sample Number	-	-	-	-	-	-	
Depth - Top (m)	0.15	0.40	0.20	0.25	0.50	0.40	
Depth - Bottom (m)	0.15	0.40	0.20	0.25	0.50	0.40	
Date of Sampling	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	
Time of Sampling	-	-	-	-	-	-	
Sample Matrix	Sand	Sand	Sand	Sand	Sand	Sand	
Determinant	Units	Accreditation					
Arsenic	(mg/kg)	MCERTS	< 10	< 10	< 10	< 10	< 10
Boron (w/s)	(mg/kg)	u	6.4	< 2.5	12	< 2.5	< 2.5
Cadmium	(mg/kg)	MCERTS	1.6	0.5	0.6	0.4	0.4
Chromium (Total)	(mg/kg)	UKAS	12	< 1.0	2.5	< 1.0	< 1.0
Copper	(mg/kg)	MCERTS	63	12	13	7.9	9.5
Lead	(mg/kg)	MCERTS	22	31	10	16	22
Mercury	(mg/kg)	UKAS	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Nickel	(mg/kg)	MCERTS	26	5.6	8.0	4.2	5.4
Selenium	(mg/kg)	u	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Zinc	(mg/kg)	MCERTS	3000	130	87	56	37
Total Phenols	(mg/kg)	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cyanide (Total)	(mg/kg)	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chromium (Hexavalent)	(mg/kg)	u	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sulphate (Acid Soluble)	(%)	u	0.93	0.09	1.27	0.04	0.05
pH	pH Units	MCERTS	9.5	9.2	9.5	9.2	8.9
Sulphate (Water soluble as SO ₄)	(mg/l)	u	220	44	300	35	34
Acenaphthene	(mg/kg)	MCERTS	0.05	< 0.02	< 0.02	< 0.02	< 0.02
Acenaphthylene	(mg/kg)	UKAS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Anthracene	(mg/kg)	UKAS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Benzo (a) anthracene	(mg/kg)	MCERTS	0.07	< 0.02	< 0.02	< 0.02	< 0.02
Benzo (a) pyrene	(mg/kg)	MCERTS	0.07	< 0.02	< 0.02	< 0.02	< 0.02
Benzo (b) fluoranthene	(mg/kg)	MCERTS	0.08	< 0.02	< 0.02	< 0.02	< 0.02
Benzo (g, h, i) perylene	(mg/kg)	MCERTS	0.05	< 0.02	< 0.02	< 0.02	< 0.02
Benzo (k) fluoranthene	(mg/kg)	MCERTS	0.04	< 0.02	< 0.02	< 0.02	< 0.02
Chrysene	(mg/kg)	MCERTS	0.06	< 0.02	< 0.02	< 0.02	< 0.02
Dibenzo (a,h) anthracene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Fluoranthene	(mg/kg)	MCERTS	0.13	< 0.02	0.03	< 0.02	< 0.02
Fluorene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Indeno (1, 2, 3,-cd) pyrene	(mg/kg)	MCERTS	0.05	< 0.02	< 0.02	< 0.02	< 0.02
Naphthalene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	(mg/kg)	MCERTS	0.08	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	(mg/kg)	MCERTS	0.12	< 0.02	0.05	< 0.02	< 0.02
Total PAH (Sum of USEPA 16)	(mg/kg)	UKAS	0.90	< 0.32	0.37	< 0.32	< 0.32
SOM (via TOC)	(%)	UKAS	4.5	9.0	-	-	9.8
Asbestos	-	UKAS	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
PCB 28	(mg/kg)	MCERTS	-	-	-	-	-
PCB 52	(mg/kg)	MCERTS	-	-	-	-	-
PCB 101	(mg/kg)	MCERTS	-	-	-	-	-
PCB 118	(mg/kg)	MCERTS	-	-	-	-	-
PCB 153	(mg/kg)	MCERTS	-	-	-	-	-
PCB 138	(mg/kg)	MCERTS	-	-	-	-	-
PCB 180	(mg/kg)	MCERTS	-	-	-	-	-



L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm
Road, Darlington DL1 4DE J3273

Analytical Test Results - Solid

7 - 11 Harding Street
Leicester
LE1 4DH

Lab Reference	624651	624652	624653	624658		
Client Sample ID	-	-	-	-		
Client Sample Location	WS16	WS17	WS18	WS13		
Client Sample Type	ES	ES	ES	ES		
Client Sample Number	-	-	-	-		
Depth - Top (m)	0.25	0.30	0.20	0.60		
Depth - Bottom (m)	0.25	0.30	0.20	0.60		
Date of Sampling	13/10/2025	13/10/2025	13/10/2025	13/10/2025		
Time of Sampling	-	-	-	-		
Sample Matrix	Sand	Sand	Sand	Clay		
Determinant	Units	Accreditation				
Arsenic	(mg/kg)	MCERTS	18	14	18	< 10
Boron (w/s)	(mg/kg)	u	5.8	5.2	< 2.5	< 2.5
Cadmium	(mg/kg)	MCERTS	3.6	1.1	1.8	1.5
Chromium (Total)	(mg/kg)	UKAS	< 1.0	1.2	2.1	6.5
Copper	(mg/kg)	MCERTS	30	10	23	8.2
Lead	(mg/kg)	MCERTS	33	22	33	19
Mercury	(mg/kg)	UKAS	< 2.5	< 2.5	< 2.5	< 2.5
Nickel	(mg/kg)	MCERTS	20	9.0	15	16
Selenium	(mg/kg)	u	< 8.0	< 8.0	< 8.0	< 8.0
Zinc	(mg/kg)	MCERTS	150	170	160	36
Total Phenols	(mg/kg)	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Cyanide (Total)	(mg/kg)	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Chromium (Hexavalent)	(mg/kg)	u	< 1.0	< 1.0	< 1.0	2.5
Sulphate (Acid Soluble)	(%)	u	0.78	0.47	0.27	0.03
pH	pH Units	MCERTS	9.0	8.9	8.9	7.8
Sulphate (Water soluble as SO ₄)	(mg/l)	u	310	240	170	< 10
Acenaphthene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	-
Acenaphthylene	(mg/kg)	UKAS	< 0.02	0.07	< 0.02	-
Anthracene	(mg/kg)	UKAS	0.06	0.24	< 0.02	-
Benzo (a) anthracene	(mg/kg)	MCERTS	0.41	1.6	0.03	-
Benzo (a) pyrene	(mg/kg)	MCERTS	0.40	1.3	0.02	-
Benzo (b) fluoranthene	(mg/kg)	MCERTS	0.44	1.5	0.03	-
Benzo (g, h, i) perylene	(mg/kg)	MCERTS	0.28	0.66	0.02	-
Benzo (k) fluoranthene	(mg/kg)	MCERTS	0.21	0.68	< 0.02	-
Chrysene	(mg/kg)	MCERTS	0.37	1.4	0.03	-
Dibenzo (a,h) anthracene	(mg/kg)	MCERTS	0.07	0.19	< 0.02	-
Fluoranthene	(mg/kg)	MCERTS	0.63	2.4	0.04	-
Fluorene	(mg/kg)	MCERTS	< 0.02	0.02	< 0.02	-
Indeno (1, 2, 3,-cd) pyrene	(mg/kg)	MCERTS	0.29	0.74	< 0.02	-
Naphthalene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	-
Phenanthrene	(mg/kg)	MCERTS	0.23	0.42	0.02	-
Pyrene	(mg/kg)	MCERTS	0.59	2.0	0.03	-
Total PAH (Sum of USEPA 16)	(mg/kg)	UKAS	4.1	13	0.40	-
SOM (via TOC)	(%)	UKAS	2.4	-	5.8	-
Asbestos	-	UKAS	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	-
PCB 28	(mg/kg)	MCERTS	-	-	< 0.004	-
PCB 52	(mg/kg)	MCERTS	-	-	< 0.004	-
PCB 101	(mg/kg)	MCERTS	-	-	< 0.004	-
PCB 118	(mg/kg)	MCERTS	-	-	< 0.004	-
PCB 153	(mg/kg)	MCERTS	-	-	< 0.004	-
PCB 138	(mg/kg)	MCERTS	-	-	< 0.004	-
PCB 180	(mg/kg)	MCERTS	-	-	< 0.004	-



L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm
Road, Darlington DL1 4DE J3273

Analytical Test Results - Chemical Analysis

7 - 11 Harding Street
Leicester
LE1 4DH

Lab Reference	624635	624636	624642	624645	624649	624653		
Client Sample ID	-	-	-	-	-	-		
Client Sample Location	WS03	W0S3	WS08	WS10	WS14	WS18		
Client Sample Type	ES	ES	ES	ES	ES	ES		
Client Sample Number	-	-	-	-	-	-		
Depth - Top (m)	0.30	1.80	0.30	0.15	0.50	0.20		
Depth - Bottom (m)	0.30	1.80	0.30	0.15	0.50	0.20		
Date of Sampling	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025		
Time of Sampling	-	-	-	-	-	-		
Sample Matrix	Sand	Clay	Sand	Sand	Sand	Sand		
Determinant	Units	Accreditation						
Water soluble sulphate (as SO ₄)	(mg/l)	u	1300	290	430	220	34	170
Acid Soluble Sulphate	(%)	u	0.66	0.15	0.31	0.93	0.05	0.27
Total Sulphur	(%)	UKAS	0.43	0.15	0.11	0.54	< 0.01	0.17
pH Value	pH Units	MCERTS	8.6	8.5	9.6	9.5	8.9	8.9



L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm
Road, Darlington DL1 4DE J3273

Analytical Test Results - Chemical Analysis

7 - 11 Harding Street
Leicester
LE1 4DH

Lab Reference	624654	624655	624656	624657		
Client Sample ID	-	-	-	-		
Client Sample Location	WS15	WS17	WS11	WS15		
Client Sample Type	ES	ES	ES	ES		
Client Sample Number	-	-	-	-		
Depth - Top (m)	0.60	3.30	1.25	2.25		
Depth - Bottom (m)	0.60	3.30	1.25	2.25		
Date of Sampling	13/10/2025	13/10/2025	13/10/2025	13/10/2025		
Time of Sampling	-	-	-	-		
Sample Matrix	Clay	Clay	Clay	Clay		
Determinant	Units	Accreditation				
Water soluble sulphate (as SO ₄)	(mg/l)	u	250	21	12	18
Acid Soluble Sulphate	(%)	u	0.08	0.02	0.01	0.02
Total Sulphur	(%)	UKAS	0.04	0.02	0.01	0.02
pH Value	pH Units	MCERTS	8.4	8.7	8.6	8.5



L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm
Road, Darlington DL1 4DE J3273

Analytical Test Results - VPH / EPH

7 - 11 Harding Street
Leicester
LE1 4DH

Lab Reference	624633	624634	624635	624636	624637	624638	
Client Sample ID	-	-	-	-	-	-	
Client Sample Location	WS01	WS01	WS03	W053	WS04	WS04	
Client Sample Type	ES	ES	ES	ES	ES	ES	
Client Sample Number	-	-	-	-	-	-	
Depth - Top (m)	0.30	0.70	0.30	1.80	0.20	2.50	
Depth - Bottom (m)	0.30	0.70	0.30	1.80	0.20	2.50	
Date of Sampling	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	
Time of Sampling	-	-	-	-	-	-	
Sample Matrix	Sand	Sand	Sand	Clay	Sand	Clay	
Determinant	Units	Accreditation					
Benzene	(mg/kg)	MCERTS	-	< 0.01	-	< 0.01	< 0.01
Toluene	(mg/kg)	MCERTS	-	< 0.01	-	< 0.01	< 0.01
Ethylbenzene	(mg/kg)	MCERTS	-	< 0.01	-	< 0.01	< 0.01
m&p Xylene	(mg/kg)	MCERTS	-	< 0.02	-	< 0.02	< 0.02
o-Xylene	(mg/kg)	MCERTS	-	< 0.01	-	< 0.01	< 0.01
MTBE	(mg/kg)	MCERTS	-	< 0.01	-	< 0.01	< 0.01
Aliphatic >C ₅ to C ₆ [HS_MS_1D_AL]	(mg/kg)	MCERTS	-	< 0.06	-	< 0.06	< 0.06
Aliphatic >C ₆ to C ₈ [HS_MS_1D_AL]	(mg/kg)	MCERTS	-	0.11	-	0.10	< 0.06
Aliphatic >C ₈ to C ₁₀ [HS_MS_1D_AL]	(mg/kg)	MCERTS	-	< 0.06	-	< 0.06	< 0.06
Aliphatic >C ₁₀ to C ₁₂ [EH_2D_AL]	(mg/kg)	MCERTS	-	< 1.0	-	< 1.0	1.2
Aliphatic >C ₁₂ to C ₁₆ [EH_2D_AL]	(mg/kg)	MCERTS	-	< 1.0	-	1.4	2.9
Aliphatic >C ₁₆ to C ₂₁ [EH_2D_AL]	(mg/kg)	MCERTS	-	1.4	-	2.8	2.2
Aliphatic >C ₂₁ to C ₃₅ [EH_2D_AL]	(mg/kg)	MCERTS	-	5.9	-	18	23
Aliphatic >C ₃₅ to C ₄₄ [EH_2D_AL]	(mg/kg)	u	-	< 5.0	-	7.2	8.7
Aromatic >C ₅ to C ₇ [HS_MS_1D_AR]	(mg/kg)	MCERTS	-	< 0.01	-	< 0.01	< 0.01
Aromatic >C ₇ to C ₈ [HS_MS_1D_AR]	(mg/kg)	MCERTS	-	< 0.01	-	< 0.01	< 0.01
Aromatic >C ₈ to C ₁₀ [HS_MS_1D_AR]	(mg/kg)	MCERTS	-	< 0.06	-	< 0.06	< 0.06
Aromatic >C ₁₀ to C ₁₂ [EH_2D_AR]	(mg/kg)	MCERTS	-	< 1.0	-	< 1.0	< 1.0
Aromatic >C ₁₂ to C ₁₆ [EH_2D_AR]	(mg/kg)	MCERTS	-	< 1.0	-	< 1.0	< 1.0
Aromatic >C ₁₆ to C ₂₁ [EH_2D_AR]	(mg/kg)	MCERTS	-	4.1	-	5.1	4.8
Aromatic >C ₂₁ to C ₃₅ [EH_2D_AR]	(mg/kg)	MCERTS	-	< 2.0	-	5.5	29
Aromatic >C ₃₅ to C ₄₄ [EH_2D_AR]	(mg/kg)	u	-	< 5.0	-	< 5.0	17
Total >C ₅ to C ₃₅ [EH_2D+HS_1D_Total]	(mg/kg)	MCERTS	-	11	-	33	62
GRO (>C ₈ to C ₁₀) [EH_1D_Total]	(mg/kg)	MCERTS	< 5.0	-	< 5.0	-	-
Total TPH (>C ₁₀ to C ₁₂) [EH_1D_Total]	(mg/kg)	MCERTS	< 5.0	-	< 5.0	-	-
Total TPH (>C ₁₂ to C ₁₆) [EH_1D_Total]	(mg/kg)	MCERTS	< 5.0	-	< 5.0	-	-
Total TPH (>C ₁₆ to C ₂₁) [EH_1D_Total]	(mg/kg)	MCERTS	< 5.0	-	8.0	-	-
Total TPH (>C ₂₁ to C ₃₅) [EH_1D_Total]	(mg/kg)	MCERTS	< 10.0	-	110	-	-
Total TPH (>C ₃₅ to C ₄₀) [EH_1D_Total]	(mg/kg)	MCERTS	< 5.0	-	55	-	-
DRO (>C ₁₀ to C ₂₁) [EH_1D_Total]	(mg/kg)	MCERTS	< 10	-	14	-	-
MRO (>C ₂₁ to C ₄₀) [EH_1D_Total]	(mg/kg)	MCERTS	< 15.0	-	170	-	-
Total TPH (>C ₈ to C ₄₀) [EH_1D_Total]	(mg/kg)	MCERTS	18	-	190	-	-
Petrol or Diesel Contamination	-	u	Neither Detected	Neither Detected	Neither Detected	Neither Detected	Neither Detected



L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm
Road, Darlington DL1 4DE J3273

Analytical Test Results - VPH / EPH

7 - 11 Harding Street
Leicester
LE1 4DH

Lab Reference	624639	624640	624641	624642	624643	624644		
Client Sample ID	-	-	-	-	-	-		
Client Sample Location	WS05	WS06	WS07	WS08	WS09	WS09		
Client Sample Type	ES	ES	ES	ES	ES	ES		
Client Sample Number	-	-	-	-	-	-		
Depth - Top (m)	0.10	0.30	0.40	0.30	0.25	0.45		
Depth - Bottom (m)	0.10	0.30	0.40	0.30	0.25	0.45		
Date of Sampling	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025		
Time of Sampling	-	-	-	-	-	-		
Sample Matrix	Sand	Sand	Sand	Sand	Sand	Sand		
Determinant	Units	Accreditation						
Benzene	(mg/kg)	MCERTS	-	0.03	< 0.01	-	-	
Toluene	(mg/kg)	MCERTS	-	0.03	< 0.01	-	-	
Ethylbenzene	(mg/kg)	MCERTS	-	0.02	< 0.01	-	-	
m&p Xylene	(mg/kg)	MCERTS	-	0.08	< 0.02	-	-	
o-Xylene	(mg/kg)	MCERTS	-	0.07	< 0.01	-	-	
MTBE	(mg/kg)	MCERTS	-	< 0.01	< 0.01	-	-	
Aliphatic >C ₅ to C ₆ [HS_MS_1D_AL]	(mg/kg)	MCERTS	-	0.11	< 0.06	-	-	
Aliphatic >C ₆ to C ₈ [HS_MS_1D_AL]	(mg/kg)	MCERTS	-	0.29	< 0.06	-	-	
Aliphatic >C ₈ to C ₁₀ [HS_MS_1D_AL]	(mg/kg)	MCERTS	-	< 0.06	< 0.06	-	-	
Aliphatic >C ₁₀ to C ₁₂ [EH_2D_AL]	(mg/kg)	MCERTS	-	< 1.0	< 1.0	-	-	
Aliphatic >C ₁₂ to C ₁₆ [EH_2D_AL]	(mg/kg)	MCERTS	-	1.1	1.8	-	-	
Aliphatic >C ₁₆ to C ₂₁ [EH_2D_AL]	(mg/kg)	MCERTS	-	1.9	9.0	-	-	
Aliphatic >C ₂₁ to C ₃₅ [EH_2D_AL]	(mg/kg)	MCERTS	-	6.6	34	-	-	
Aliphatic >C ₃₅ to C ₄₄ [EH_2D_AL]	(mg/kg)	u	-	< 5.0	6.4	-	-	
Aromatic >C ₅ to C ₇ [HS_MS_1D_AR]	(mg/kg)	MCERTS	-	0.03	< 0.01	-	-	
Aromatic >C ₇ to C ₈ [HS_MS_1D_AR]	(mg/kg)	MCERTS	-	0.03	< 0.01	-	-	
Aromatic >C ₈ to C ₁₀ [HS_MS_1D_AR]	(mg/kg)	MCERTS	-	0.27	< 0.06	-	-	
Aromatic >C ₁₀ to C ₁₂ [EH_2D_AR]	(mg/kg)	MCERTS	-	< 1.0	< 1.0	-	-	
Aromatic >C ₁₂ to C ₁₆ [EH_2D_AR]	(mg/kg)	MCERTS	-	< 1.0	< 1.0	-	-	
Aromatic >C ₁₆ to C ₂₁ [EH_2D_AR]	(mg/kg)	MCERTS	-	5.7	4.7	-	-	
Aromatic >C ₂₁ to C ₃₅ [EH_2D_AR]	(mg/kg)	MCERTS	-	47	8.6	-	-	
Aromatic >C ₃₅ to C ₄₄ [EH_2D_AR]	(mg/kg)	u	-	< 5.0	< 5.0	-	-	
Total >C ₅ to C ₃₅ [EH_2D+HS_1D_Total]	(mg/kg)	MCERTS	-	63	58	-	-	
GRO (>C ₈ to C ₁₀) [EH_1D_Total]	(mg/kg)	MCERTS	< 5.0	-	-	< 5.0	6.8	< 5.0
Total TPH (>C ₁₀ to C ₁₂) [EH_1D_Total]	(mg/kg)	MCERTS	< 5.0	-	-	< 5.0	< 5.0	< 5.0
Total TPH (>C ₁₂ to C ₁₆) [EH_1D_Total]	(mg/kg)	MCERTS	8.4	-	-	23	7.0	< 5.0
Total TPH (>C ₁₆ to C ₂₁) [EH_1D_Total]	(mg/kg)	MCERTS	12	-	-	77	30	< 5.0
Total TPH (>C ₂₁ to C ₃₅) [EH_1D_Total]	(mg/kg)	MCERTS	33	-	-	570	140	13
Total TPH (>C ₃₅ to C ₄₀) [EH_1D_Total]	(mg/kg)	MCERTS	9.3	-	-	350	32	< 5.0
DRO (>C ₁₀ to C ₂₁) [EH_1D_Total]	(mg/kg)	MCERTS	25	-	-	100	41	< 10
MRO (>C ₂₁ to C ₄₀) [EH_1D_Total]	(mg/kg)	MCERTS	42	-	-	920	170	17
Total TPH (>C ₈ to C ₄₀) [EH_1D_Total]	(mg/kg)	MCERTS	70	-	-	1000	220	24
Petrol or Diesel Contamination	-	u	Neither Detected	Neither Detected	Neither Detected	Neither Detected	Neither Detected	Neither Detected



L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm
Road, Darlington DL1 4DE J3273

Analytical Test Results - VPH / EPH

7 - 11 Harding Street
Leicester
LE1 4DH

Lab Reference	624645	624646	624647	624648	624649	624650
Client Sample ID	-	-	-	-	-	-
Client Sample Location	WS10	WS11	WS12	WS13	WS14	WS15
Client Sample Type	ES	ES	ES	ES	ES	ES
Client Sample Number	-	-	-	-	-	-
Depth - Top (m)	0.15	0.40	0.20	0.25	0.50	0.40
Depth - Bottom (m)	0.15	0.40	0.20	0.25	0.50	0.40
Date of Sampling	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025
Time of Sampling	-	-	-	-	-	-
Sample Matrix	Sand	Sand	Sand	Sand	Sand	Sand
Determinant	Units	Accreditation				
Benzene	(mg/kg)	MCERTS	-	-	-	< 0.01
Toluene	(mg/kg)	MCERTS	-	-	-	< 0.01
Ethylbenzene	(mg/kg)	MCERTS	-	-	-	< 0.01
m&p Xylene	(mg/kg)	MCERTS	-	-	-	< 0.02
o-Xylene	(mg/kg)	MCERTS	-	-	-	< 0.01
MTBE	(mg/kg)	MCERTS	-	-	-	< 0.01
Aliphatic >C ₅ to C ₆ [HS_MS_1D_AL]	(mg/kg)	MCERTS	-	-	-	< 0.06
Aliphatic >C ₆ to C ₈ [HS_MS_1D_AL]	(mg/kg)	MCERTS	-	-	-	< 0.06
Aliphatic >C ₈ to C ₁₀ [HS_MS_1D_AL]	(mg/kg)	MCERTS	-	-	-	< 0.06
Aliphatic >C ₁₀ to C ₁₂ [EH_2D_AL]	(mg/kg)	MCERTS	-	-	-	< 1.0
Aliphatic >C ₁₂ to C ₁₆ [EH_2D_AL]	(mg/kg)	MCERTS	-	-	-	< 1.0
Aliphatic >C ₁₆ to C ₂₁ [EH_2D_AL]	(mg/kg)	MCERTS	-	-	-	1.5
Aliphatic >C ₂₁ to C ₃₅ [EH_2D_AL]	(mg/kg)	MCERTS	-	-	-	4.2
Aliphatic >C ₃₅ to C ₄₄ [EH_2D_AL]	(mg/kg)	u	-	-	-	< 5.0
Aromatic >C ₅ to C ₇ [HS_MS_1D_AR]	(mg/kg)	MCERTS	-	-	-	< 0.01
Aromatic >C ₇ to C ₈ [HS_MS_1D_AR]	(mg/kg)	MCERTS	-	-	-	< 0.01
Aromatic >C ₈ to C ₁₀ [HS_MS_1D_AR]	(mg/kg)	MCERTS	-	-	-	< 0.06
Aromatic >C ₁₀ to C ₁₂ [EH_2D_AR]	(mg/kg)	MCERTS	-	-	-	< 1.0
Aromatic >C ₁₂ to C ₁₆ [EH_2D_AR]	(mg/kg)	MCERTS	-	-	-	< 1.0
Aromatic >C ₁₆ to C ₂₁ [EH_2D_AR]	(mg/kg)	MCERTS	-	-	-	1.1
Aromatic >C ₂₁ to C ₃₅ [EH_2D_AR]	(mg/kg)	MCERTS	-	-	-	2.3
Aromatic >C ₃₅ to C ₄₄ [EH_2D_AR]	(mg/kg)	u	-	-	-	< 5.0
Total >C ₅ to C ₃₅ [EH_2D+HS_1D_Total]	(mg/kg)	MCERTS	-	-	-	< 10
GRO (>C ₈ to C ₁₀) [EH_1D_Total]	(mg/kg)	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Total TPH (>C ₁₀ to C ₁₂) [EH_1D_Total]	(mg/kg)	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Total TPH (>C ₁₂ to C ₁₆) [EH_1D_Total]	(mg/kg)	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Total TPH (>C ₁₆ to C ₂₁) [EH_1D_Total]	(mg/kg)	MCERTS	8.8	18	< 5.0	< 5.0
Total TPH (>C ₂₁ to C ₃₅) [EH_1D_Total]	(mg/kg)	MCERTS	34	26	27	< 10.0
Total TPH (>C ₃₅ to C ₄₀) [EH_1D_Total]	(mg/kg)	MCERTS	9.1	< 5.0	7.7	< 5.0
DRO (>C ₁₀ to C ₂₁) [EH_1D_Total]	(mg/kg)	MCERTS	13	22	< 10	< 10
MRO (>C ₂₁ to C ₄₀) [EH_1D_Total]	(mg/kg)	MCERTS	43	29	35	< 15.0
Total TPH (>C ₈ to C ₄₀) [EH_1D_Total]	(mg/kg)	MCERTS	59	52	43	17
Petrol or Diesel Contamination	-	u	Neither Detected	Neither Detected	Neither Detected	Neither Detected



4161



L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm
Road, Darlington DL1 4DE J3273

Analytical Test Results - VPH / EPH

Lab Reference	624651	624652	624653
Client Sample ID	-	-	-
Client Sample Location	WS16	WS17	WS18
Client Sample Type	ES	ES	ES
Client Sample Number	-	-	-
Depth - Top (m)	0.25	0.30	0.20
Depth - Bottom (m)	0.25	0.30	0.20
Date of Sampling	13/10/2025	13/10/2025	13/10/2025
Time of Sampling	-	-	-
Sample Matrix	Sand	Sand	Sand
Determinant	Units	Accreditation	
Benzene	(mg/kg)	MCERTS	< 0.01
Toluene	(mg/kg)	MCERTS	< 0.01
Ethylbenzene	(mg/kg)	MCERTS	< 0.01
m&p Xylene	(mg/kg)	MCERTS	< 0.02
o-Xylene	(mg/kg)	MCERTS	< 0.01
MTBE	(mg/kg)	MCERTS	< 0.01
Aliphatic >C ₅ to C ₆ [HS_MS_1D_AL]	(mg/kg)	MCERTS	< 0.06
Aliphatic >C ₆ to C ₈ [HS_MS_1D_AL]	(mg/kg)	MCERTS	< 0.06
Aliphatic >C ₈ to C ₁₀ [HS_MS_1D_AL]	(mg/kg)	MCERTS	< 0.06
Aliphatic >C ₁₀ to C ₁₂ [EH_2D_AL]	(mg/kg)	MCERTS	< 1.0
Aliphatic >C ₁₂ to C ₁₆ [EH_2D_AL]	(mg/kg)	MCERTS	6.2
Aliphatic >C ₁₆ to C ₂₁ [EH_2D_AL]	(mg/kg)	MCERTS	16
Aliphatic >C ₂₁ to C ₃₅ [EH_2D_AL]	(mg/kg)	MCERTS	24
Aliphatic >C ₃₅ to C ₄₄ [EH_2D_AL]	(mg/kg)	u	< 5.0
Aromatic >C ₅ to C ₇ [HS_MS_1D_AR]	(mg/kg)	MCERTS	< 0.01
Aromatic >C ₇ to C ₈ [HS_MS_1D_AR]	(mg/kg)	MCERTS	< 0.01
Aromatic >C ₈ to C ₁₀ [HS_MS_1D_AR]	(mg/kg)	MCERTS	< 0.06
Aromatic >C ₁₀ to C ₁₂ [EH_2D_AR]	(mg/kg)	MCERTS	< 1.0
Aromatic >C ₁₂ to C ₁₆ [EH_2D_AR]	(mg/kg)	MCERTS	< 1.0
Aromatic >C ₁₆ to C ₂₁ [EH_2D_AR]	(mg/kg)	MCERTS	6.8
Aromatic >C ₂₁ to C ₃₅ [EH_2D_AR]	(mg/kg)	MCERTS	19
Aromatic >C ₃₅ to C ₄₄ [EH_2D_AR]	(mg/kg)	u	< 5.0
Total >C ₅ to C ₃₅ [EH_2D+HS_1D_Total]	(mg/kg)	MCERTS	73
GRO (>C ₈ to C ₁₀) [EH_1D_Total]	(mg/kg)	MCERTS	-
Total TPH (>C ₁₀ to C ₁₂) [EH_1D_Total]	(mg/kg)	MCERTS	-
Total TPH (>C ₁₂ to C ₁₆) [EH_1D_Total]	(mg/kg)	MCERTS	-
Total TPH (>C ₁₆ to C ₂₁) [EH_1D_Total]	(mg/kg)	MCERTS	-
Total TPH (>C ₂₁ to C ₃₅) [EH_1D_Total]	(mg/kg)	MCERTS	-
Total TPH (>C ₃₅ to C ₄₀) [EH_1D_Total]	(mg/kg)	MCERTS	-
DRO (>C ₁₀ to C ₂₁) [EH_1D_Total]	(mg/kg)	MCERTS	-
MRO (>C ₂₁ to C ₄₀) [EH_1D_Total]	(mg/kg)	MCERTS	-
Total TPH (>C ₈ to C ₄₀) [EH_1D_Total]	(mg/kg)	MCERTS	-
Petrol or Diesel Contamination	-	u	Neither Detected



4161



L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm Roac

7 - 11 Harding Street
Leicester
LE1 4DH

Analytical Test Results - VOC

Lab Reference	624634	624636	624637	624638	624640	624641
Client Sample ID	-	-	-	-	-	-
Client Sample Location	WS01	WS03	WS04	WS04	WS06	WS07
Client Sample Type	ES	ES	ES	ES	ES	ES
Client Sample Number	-	-	-	-	-	-
Depth - Top (m)	0.70	1.80	0.20	2.50	0.30	0.40
Depth - Bottom (m)	0.70	1.80	0.20	2.50	0.30	0.40
Date of Sampling	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025
Time of Sampling	-	-	-	-	-	-
Sample Matrix	Sand	Clay	Sand	Clay	Sand	Sand
Determinant	Units	Accreditation				
Benzene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
m&p Xylene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02
o-Xylene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Dichlorodifluoromethane	(mg/kg)	UKAS	< 0.05	< 0.05	< 0.05	< 0.05
Chloromethane	(mg/kg)	UKAS	< 0.02	< 0.02	< 0.02	< 0.02
Vinyl Chloride	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02
Bromomethane	(mg/kg)	u	< 0.05	< 0.05	< 0.05	< 0.05
Chloroethane	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Trichlorofluoromethane	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
1,1-Dichloroethylene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Dichloromethane	(mg/kg)	u	0.22	0.36	0.15	0.41
MTBE	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,2,-dichloroethylene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
1,1-Dichloroethane	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
2,2-Dichloropropane	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,2,-dichloroethylene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	(mg/kg)	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Chloroform	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-Trichloroethane	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
1,1-Dichloropropene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Carbon Tetrachloride	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02
Trichloroethylene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
1,2-Dichloropropane	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02
Bromodichloromethane	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,2-dichloropropylene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropylene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-Trichloroethane	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
1,3-Dichloropropane	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Chlorodibromomethane	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
1,2-Dibromoethane	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	(mg/kg)	UKAS	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	(mg/kg)	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
1,1,2,2-Tetrachloroethane	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-Trichloropropane	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02
n-Propylbenzene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-Trimethylbenzene	(mg/kg)	UKAS	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
tert-butylbenzene	(mg/kg)	UKAS	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	(mg/kg)	UKAS	< 0.01	< 0.01	< 0.01	< 0.01
sec-Butylbenzene	(mg/kg)	UKAS	< 0.01	< 0.01	< 0.01	< 0.01
4-Isopropyltoluene (P-Cymene)	(mg/kg)	UKAS	< 0.01	< 0.01	< 0.01	< 0.01
1,3-Dichlorobenzene	(mg/kg)	u	< 0.01	< 0.01	< 0.01	< 0.01
1,4-Dichlorobenzene	(mg/kg)	u	< 0.01	< 0.01	< 0.01	< 0.01
n-Butylbenzene	(mg/kg)	UKAS	< 0.01	< 0.01	< 0.01	< 0.01
1,2-Dichlorobenzene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
1,2-Dibromo-3-chloropropane	(mg/kg)	u	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	(mg/kg)	u	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	(mg/kg)	u	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	(mg/kg)	u	< 0.05	< 0.05	< 0.05	< 0.05
1,2,3-Trichlorobenzene	(mg/kg)	u	< 0.05	< 0.05	< 0.05	< 0.05



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L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm Roac

Analytical Test Results - VOC

Lab Reference	624650	624651
Client Sample ID	-	-
Client Sample Location	WS15	WS16
Client Sample Type	ES	ES
Client Sample Number	-	-
Depth - Top (m)	0.40	0.25
Depth - Bottom (m)	0.40	0.25
Date of Sampling	13/10/2025	13/10/2025
Time of Sampling	-	-
Sample Matrix	Sand	Sand
Determinant	Units	Accreditation
Benzene	(mg/kg)	MCERTS
Toluene	(mg/kg)	MCERTS
Ethylbenzene	(mg/kg)	MCERTS
m&p Xylene	(mg/kg)	MCERTS
o-Xylene	(mg/kg)	MCERTS
Dichlorodifluoromethane	(mg/kg)	UKAS
Chloromethane	(mg/kg)	UKAS
Vinyl Chloride	(mg/kg)	MCERTS
Bromomethane	(mg/kg)	u
Chloroethane	(mg/kg)	MCERTS
Trichlorofluoromethane	(mg/kg)	MCERTS
1,1-Dichloroethylene	(mg/kg)	MCERTS
Dichloromethane	(mg/kg)	u
MTBE	(mg/kg)	MCERTS
trans-1,2,-dichloroethylene	(mg/kg)	MCERTS
1,1-Dichloroethane	(mg/kg)	MCERTS
2,2-Dichloropropane	(mg/kg)	MCERTS
cis-1,2,-dichloroethylene	(mg/kg)	MCERTS
Bromochloromethane	(mg/kg)	MCERTS
Chloroform	(mg/kg)	MCERTS
1,1,1-Trichloroethane	(mg/kg)	MCERTS
1,1-Dichloropropene	(mg/kg)	MCERTS
Carbon Tetrachloride	(mg/kg)	MCERTS
1,2-dichloroethane	(mg/kg)	MCERTS
Trichloroethylene	(mg/kg)	MCERTS
1,2-Dichloropropane	(mg/kg)	MCERTS
Dibromomethane	(mg/kg)	MCERTS
Bromodichloromethane	(mg/kg)	MCERTS
cis-1,2-dichloropropylene	(mg/kg)	MCERTS
trans-1,3-dichloropropylene	(mg/kg)	MCERTS
1,1,2-Trichloroethane	(mg/kg)	MCERTS
1,3-Dichloropropane	(mg/kg)	MCERTS
Tetrachloroethylene	(mg/kg)	MCERTS
Chlorodibromomethane	(mg/kg)	MCERTS
1,2-Dibromoethane	(mg/kg)	MCERTS
Chlorobenzene	(mg/kg)	MCERTS
1,1,1,2-tetrachloroethane	(mg/kg)	MCERTS
Styrene	(mg/kg)	UKAS
Isopropylbenzene	(mg/kg)	MCERTS
Bromoform	(mg/kg)	MCERTS
1,1,2,2-Tetrachloroethane	(mg/kg)	MCERTS
1,2,3-Trichloropropane	(mg/kg)	MCERTS
n-Propylbenzene	(mg/kg)	MCERTS
Bromobenzene	(mg/kg)	MCERTS
1,3,5-Trimethylbenzene	(mg/kg)	UKAS
2-chlorotoluene	(mg/kg)	MCERTS
4-chlorotoluene	(mg/kg)	MCERTS
tert-butylbenzene	(mg/kg)	UKAS
1,2,4-trimethylbenzene	(mg/kg)	UKAS
sec-Butylbenzene	(mg/kg)	UKAS
4-Isopropyltoluene (P-Cymene)	(mg/kg)	UKAS
1,3-Dichlorobenzene	(mg/kg)	u
1,4-Dichlorobenzene	(mg/kg)	u
n-Butylbenzene	(mg/kg)	UKAS
1,2-Dichlorobenzene	(mg/kg)	MCERTS
1,2-Dibromo-3-chloropropane	(mg/kg)	u
1,2,4-Trichlorobenzene	(mg/kg)	u
Hexachlorobutadiene	(mg/kg)	u
Naphthalene	(mg/kg)	u
1,2,3-Trichlorobenzene	(mg/kg)	u



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L25/11315/JOM - 25-87824

Project Reference - Cleveand House, Yarm Road, Darlington DL1 4DE J3273

Sample Descriptions

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Description	Moisture Content (%)	Stone Content (%)	Passing 2mm test sieve (%)
624633	-	WS01	ES	-	Light brown gravelly silty sand with rare organic matter	7.8	9.3	87
624634	-	WS01	ES	-	Brown slightly gravelly silty sand	9.1	< 0.1	-
624635	-	WS03	ES	-	Mottled grey brown gravelly silty sand	6.8	28	89
624636	-	WS03	ES	-	Dark greyish brown slightly gravelly silty clay	29	< 0.1	100
624637	-	WS04	ES	-	Light greyish brown gravelly silty sand	8.9	30	57
624638	-	WS04	ES	-	Brown slightly gravelly silty clay	18	< 0.1	-
624639	-	WS05	ES	-	Made Ground- greyish brown gravelly slightly clayey silty sand with occasional concrete organic matter metal	5.8	19	44
624640	-	WS06	ES	-	Light brown gravelly silty sand	3.7	9.5	71
624641	-	WS07	ES	-	Mottled grey brown gravelly silty sand	8.2	17	70
624642	-	WS08	ES	-	Mottled grey brown gravelly silty sand	6.2	28	65
624643	-	WS09	ES	-	Made Ground- dark brown gravelly silty sand with frequent concrete	6.4	17	51
624644	-	WS09	ES	-	Light brown gravelly silty sand	6.8	15	48
624645	-	WS10	ES	-	Greyish brown gravelly silty sand	4.8	26	39
624646	-	WS11	ES	-	Light brown gravelly silty sand	6.9	26	28
624647	-	WS12	ES	-	Grey gravelly silty sand with occasional organic matter	5.9	32	40
624648	-	WS13	ES	-	Light brown gravelly silty sand with rare organic matter	8.3	8.3	96
624649	-	WS14	ES	-	Light brown gravelly silty sand	6.4	44	76
624650	-	WS15	ES	-	Light brown gravelly silty sand with rare organic matter	5.7	27	46
624651	-	WS16	ES	-	Dark greyish brown gravelly silty sand with rare organic matter	8.8	20	42
624652	-	WS17	ES	-	Dark greyish brown gravelly silty sand with rare organic matter	9.3	15	42
624653	-	WS18	ES	-	Made Ground- light greyish brown gravelly silty sand with occasional concrete	4.9	28	41
624654	-	WS15	ES	-	Dark brown slightly gravelly slightly sandy silty clay with rare rootlets	-	-	100
624655	-	WS17	ES	-	Brown slightly gravelly slightly sandy silty clay	-	-	100
624656	-	WS11	ES	-	Brown slightly gravelly slightly sandy silty clay	-	-	100
624657	-	WS15	ES	-	Mottled grey brown slightly gravelly slightly sandy silty clay	-	-	100



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7 - 11 Harding Street
Leicester
LE1 4DH

L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm Road, Darlington DL1 4DE J3273

Sample Descriptions

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Description	Moisture Content (%)	Stone Content (%)	Passing 2mm test sieve (%)
624658	-	WS13	ES	-	Greyish brown slightly gravelly silty clay with rare rootlets	23	< 0.1	100



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L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm Road, Darlington DL1 4DE J3273

7 - 11 Harding Street
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Sample Comments

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Comments
624633	-	WS01	ES	-	
624634	-	WS01	ES	-	VPH/BTEX - Sample taken from container with headspace. VOC - Sample taken from container with headspace.
624635	-	WS03	ES	-	
624636	-	WS03	ES	-	VPH/BTEX - Sample taken from container with headspace. VOC - Sample taken from container with headspace.
624637	-	WS04	ES	-	VPH/BTEX - Sample taken from container with headspace. VOC - Sample taken from container with headspace.
624638	-	WS04	ES	-	VPH/BTEX - Sample taken from container with headspace. VOC - Sample taken from container with headspace.
624639	-	WS05	ES	-	
624640	-	WS06	ES	-	VPH/BTEX - Sample taken from container with headspace. VOC - Sample taken from container with headspace.
624641	-	WS07	ES	-	VPH/BTEX - Sample taken from container with headspace. VOC - Sample taken from container with headspace.
624642	-	WS08	ES	-	
624643	-	WS09	ES	-	
624644	-	WS09	ES	-	
624645	-	WS10	ES	-	
624646	-	WS11	ES	-	
624647	-	WS12	ES	-	
624648	-	WS13	ES	-	
624649	-	WS14	ES	-	
624650	-	WS15	ES	-	VPH/BTEX - Sample taken from container with headspace. VOC - Sample taken from container with headspace.
624651	-	WS16	ES	-	VPH/BTEX - Sample taken from container with headspace. VOC - Sample taken from container with headspace.
624652	-	WS17	ES	-	
624653	-	WS18	ES	-	
624654	-	WS15	ES	-	
624655	-	WS17	ES	-	
624656	-	WS11	ES	-	
624657	-	WS15	ES	-	
624658	-	WS13	ES	-	



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L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm Road, Darlington DL1 4DE J3273

Analysis Methodologies - Please refer to sample comments page (if present) for any changes to methods

Test Code	Test Name / Reference	Sample condition for analysis	Sample Preparation	Test Details
ANIONSS	MS - CL - Anions by Aquakem (2:1Extract)	Oven dried	Passing 2mm test sieve	Determination of Anions (inc Sulphate, chloride etc.) in soils by Aquakem. Analysis is based on a 2:1 water to soil extraction ratio
SKALARCNS	MS - CL - Cyanide by Skalar	As received	Passing 10mm test sieve	Determination of cyanide (total / free / complex) in soil using a Skalar segmented flow analyser
SKALARHCS	MS - CL - Hexavalent Chromium by Skalar	As received	Passing 10mm test sieve	Determination of hexavalent chromium in soil using Skalar segmented flow analyser
ICPMETS	MS - CL - ICP Metals	Air dried	Passing 10mm test sieve	Determination of metals in soils via ICP
PHS	MS - CL - pH in Soils	As received	Passing 10mm test sieve	Determination of pH in soils using a pH probe (using a 1:3 soil to water extraction)
PCB7S	MS - CL - PCB Soils	As received	Passing 10mm test sieve	Determination of PCB's (7 congeners) in soils via GC-MS
PAHASRDS	MS - CL - PAH (As Received)	As received	Passing 10mm test sieve	Determination of Polyaromatic hydrocarbons in soil via GC-MS
SKALARPHS	MS - CL - Phenols by Skalar	As received	Passing 10mm test sieve	Determination of total phenols in soil using Skalar segmented flow analyser
ASSO4S	MS - CL - Acid Soluble Sulphate	Oven Dried	Passing 2mm test sieve	Determination of total sulphate in soils by acid extraction followed by ICP analysis
TOCS	MS - CL - TOC Eltra	Air Dried	Passing 10mm test sieve	Determination of Total Organic Carbon in soils
TPHS	MS - CL - TPH (GC-FID)	As received	Passing 10mm test sieve	Determination of Total Petroleum Hydrocarbons in soil using GC-FID
GCGXCS	MS - CL - TPH & EPH by GCXGC	As received	Passing 10mm test sieve	Determination of TPH and EPH in soils via GCxGC-FID
CWGS	Calculation from VPH-S and EPH-S	As received	Passing 10mm test sieve	Determination of TPH CWG (Volatile Petroleum Hydrocarbons and Extractable Petroleum Hydrocarbons) in soils via Headspace-GC-MS and GC-GC-FID respectively
VOCS	MS - CL - VOC and MBTEX	As received	Passing 10mm test sieve	Determination of VOCs (inc BTEX) in soils via Headspace-GC-MS
VPHS	MS - CL - VPH	As received	Passing 10mm test sieve	Determination of VPH in soils via Headspace-GC-MS
WSBORONS	MS - CL - WS Boron	Air dried	Passing 10mm test sieve	Determination of Water soluble Boron in soils via ICP
ASB	MS - AS - Asbestos	-	-	Fibre identification is in accordance with in house documented methods which are based on the procedure documented in the HSE Document HSG 248 "Asbestos: The analysts guide for sampling, analysis and clearance procedures"
FUELID	Chromatograph	-	-	In house review of scheduled hydrocarbon analysis based on chromatographs, results are qualitative and indicative only
SAMPLEPREP	MS - CL - Sample Preparation	-	-	Preparation of samples (including determination of moisture content) to allow for subsequent analysis
1377TS-ELT	BS1377 Total Sulphur Content by HTC	Oven dried	BS1377 : Part 1 : 2016	Total Sulphur Content testing of Soil in accordance with BS 1377 : Part 3 : 2018 + A1 : 2021 Clause 7.10 (using Eltra CS-800 Analyser)



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L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm Road, Darlington DL1 4DE J3273

Sample Deviations

Deviations are listed below against each sample and associated test method, where deviation(s) are noted it means data may not be representative of the sample at the time of sampling and it is possible that results provided may be compromised.

Observations on receipt

A - No date of sampling provided

W - No time of sampling provided for water sample

C - Received in inappropriate container

H - Contains headspace

T - Temperature on receipt exceeds storage temperature

R - Sample(s) received with less than 96 hours for testing to commence/complete, any result formally classed as deviating will be marked with an X against the applicable test (i.e. RX)

Observations whilst in laboratory

X - Exceeds sampling to extraction or analysis timescales

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Test	Deviations
624633	-	WS01	ES	-	MS - CL - Cyanide by Skalar	RX
624633	-	WS01	ES	-	MS - CL - pH in Soils	RX
624633	-	WS01	ES	-	MS - CL - PAH (As Received)	RX
624633	-	WS01	ES	-	MS - CL - Phenols by Skalar	RX
624633	-	WS01	ES	-	MS - CL - TPH (GC-FID)	RX
624634	-	WS01	ES	-	MS - CL - PAH (As Received)	RX
624634	-	WS01	ES	-	MS - CL - Phenols by Skalar	RX
624634	-	WS01	ES	-	MS - CL - TPH & EPH by GCXGC	RX
624634	-	WS01	ES	-	MS - CL - VOC and MBTEX	RX
624634	-	WS01	ES	-	MS - CL - VPH	RX
624635	-	WS03	ES	-	MS - CL - Cyanide by Skalar	RX
624635	-	WS03	ES	-	MS - CL - pH in Soils	RX
624635	-	WS03	ES	-	MS - CL - PAH (As Received)	RX
624635	-	WS03	ES	-	MS - CL - Phenols by Skalar	RX
624635	-	WS03	ES	-	MS - CL - TPH (GC-FID)	RX
624636	-	W0S3	ES	-	MS - CL - pH in Soils	RX
624636	-	W0S3	ES	-	MS - CL - PAH (As Received)	CRX
624636	-	W0S3	ES	-	MS - CL - Phenols by Skalar	CRX
624636	-	W0S3	ES	-	MS - CL - TPH & EPH by GCXGC	CRX
624636	-	W0S3	ES	-	MS - CL - VOC and MBTEX	CRX
624636	-	W0S3	ES	-	MS - CL - VPH	CRX
624637	-	WS04	ES	-	MS - CL - Cyanide by Skalar	RX
624637	-	WS04	ES	-	MS - CL - pH in Soils	RX
624637	-	WS04	ES	-	MS - CL - PAH (As Received)	RX
624637	-	WS04	ES	-	MS - CL - Phenols by Skalar	RX
624637	-	WS04	ES	-	MS - CL - TPH & EPH by GCXGC	RX
624637	-	WS04	ES	-	MS - CL - VOC and MBTEX	RX
624637	-	WS04	ES	-	MS - CL - VPH	RX
624638	-	WS04	ES	-	MS - CL - PAH (As Received)	CRX
624638	-	WS04	ES	-	MS - CL - Phenols by Skalar	CRX



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L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm Road, Darlington DL1 4DE J3273

Sample Deviations

Deviations are listed below against each sample and associated test method, where deviation(s) are noted it means data may not be representative of the sample at the time of sampling and it is possible that results provided may be compromised.

Observations on receipt

A - No date of sampling provided

W - No time of sampling provided for water sample

C - Received in inappropriate container

H - Contains headspace

T - Temperature on receipt exceeds storage temperature

R - Sample(s) received with less than 96 hours for testing to commence/complete, any result formally classed as deviating will be marked with an X against the applicable test (i.e. RX)

Observations whilst in laboratory

X - Exceeds sampling to extraction or analysis timescales

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Test	Deviations
624638	-	WS04	ES	-	MS - CL - TPH & EPH by GCXGC	CRX
624638	-	WS04	ES	-	MS - CL - VOC and MBTEX	CRX
624638	-	WS04	ES	-	MS - CL - VPH	CRX
624639	-	WS05	ES	-	MS - CL - Cyanide by Skalar	RX
624639	-	WS05	ES	-	MS - CL - pH in Soils	RX
624639	-	WS05	ES	-	MS - CL - PAH (As Received)	RX
624639	-	WS05	ES	-	MS - CL - Phenols by Skalar	RX
624639	-	WS05	ES	-	MS - CL - TPH (GC-FID)	RX
624640	-	WS06	ES	-	MS - CL - Cyanide by Skalar	RX
624640	-	WS06	ES	-	MS - CL - pH in Soils	RX
624640	-	WS06	ES	-	MS - CL - PAH (As Received)	RX
624640	-	WS06	ES	-	MS - CL - Phenols by Skalar	RX
624640	-	WS06	ES	-	MS - CL - TPH & EPH by GCXGC	RX
624640	-	WS06	ES	-	MS - CL - VOC and MBTEX	RX
624640	-	WS06	ES	-	MS - CL - VPH	RX
624641	-	WS07	ES	-	MS - CL - Cyanide by Skalar	RX
624641	-	WS07	ES	-	MS - CL - pH in Soils	RX
624641	-	WS07	ES	-	MS - CL - PAH (As Received)	RX
624641	-	WS07	ES	-	MS - CL - Phenols by Skalar	RX
624641	-	WS07	ES	-	MS - CL - TPH & EPH by GCXGC	RX
624641	-	WS07	ES	-	MS - CL - VOC and MBTEX	RX
624641	-	WS07	ES	-	MS - CL - VPH	RX
624642	-	WS08	ES	-	MS - CL - Cyanide by Skalar	RX
624642	-	WS08	ES	-	MS - CL - pH in Soils	RX
624642	-	WS08	ES	-	MS - CL - PAH (As Received)	RX
624642	-	WS08	ES	-	MS - CL - Phenols by Skalar	RX
624642	-	WS08	ES	-	MS - CL - TPH (GC-FID)	RX
624643	-	WS09	ES	-	MS - CL - Cyanide by Skalar	RX
624643	-	WS09	ES	-	MS - CL - pH in Soils	RX
624643	-	WS09	ES	-	MS - CL - PAH (As Received)	RX
624643	-	WS09	ES	-	MS - CL - Phenols by Skalar	RX



4161



L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm Road, Darlington DL1 4DE J3273

Sample Deviations

Deviations are listed below against each sample and associated test method, where deviation(s) are noted it means data may not be representative of the sample at the time of sampling and it is possible that results provided may be compromised.

Observations on receipt

A - No date of sampling provided

W - No time of sampling provided for water sample

C - Received in inappropriate container

H - Contains headspace

T - Temperature on receipt exceeds storage temperature

R - Sample(s) received with less than 96 hours for testing to commence/complete, any result formally classed as deviating will be marked with an X against the applicable test (i.e. RX)

Observations whilst in laboratory

X - Exceeds sampling to extraction or analysis timescales

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Test	Deviations
624643	-	WS09	ES	-	MS - CL - TPH (GC-FID)	RX
624644	-	WS09	ES	-	MS - CL - Cyanide by Skalar	RX
624644	-	WS09	ES	-	MS - CL - pH in Soils	RX
624644	-	WS09	ES	-	MS - CL - PAH (As Received)	RX
624644	-	WS09	ES	-	MS - CL - Phenols by Skalar	RX
624644	-	WS09	ES	-	MS - CL - TPH (GC-FID)	RX
624645	-	WS10	ES	-	MS - CL - Cyanide by Skalar	RX
624645	-	WS10	ES	-	MS - CL - pH in Soils	RX
624645	-	WS10	ES	-	MS - CL - PAH (As Received)	RX
624645	-	WS10	ES	-	MS - CL - Phenols by Skalar	RX
624645	-	WS10	ES	-	MS - CL - TPH (GC-FID)	RX
624646	-	WS11	ES	-	MS - CL - Cyanide by Skalar	RX
624646	-	WS11	ES	-	MS - CL - pH in Soils	RX
624646	-	WS11	ES	-	MS - CL - PAH (As Received)	RX
624646	-	WS11	ES	-	MS - CL - Phenols by Skalar	RX
624646	-	WS11	ES	-	MS - CL - TPH (GC-FID)	RX
624647	-	WS12	ES	-	MS - CL - Cyanide by Skalar	RX
624647	-	WS12	ES	-	MS - CL - pH in Soils	RX
624647	-	WS12	ES	-	MS - CL - PAH (As Received)	RX
624647	-	WS12	ES	-	MS - CL - Phenols by Skalar	RX
624647	-	WS12	ES	-	MS - CL - TPH (GC-FID)	RX
624648	-	WS13	ES	-	MS - CL - Cyanide by Skalar	RX
624648	-	WS13	ES	-	MS - CL - pH in Soils	RX
624648	-	WS13	ES	-	MS - CL - PAH (As Received)	RX
624648	-	WS13	ES	-	MS - CL - Phenols by Skalar	RX
624648	-	WS13	ES	-	MS - CL - TPH (GC-FID)	RX
624649	-	WS14	ES	-	MS - CL - Cyanide by Skalar	RX
624649	-	WS14	ES	-	MS - CL - pH in Soils	RX
624649	-	WS14	ES	-	MS - CL - PAH (As Received)	RX
624649	-	WS14	ES	-	MS - CL - Phenols by Skalar	RX
624649	-	WS14	ES	-	MS - CL - TPH (GC-FID)	RX



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L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm Road, Darlington DL1 4DE J3273

Sample Deviations

Deviations are listed below against each sample and associated test method, where deviation(s) are noted it means data may not be representative of the sample at the time of sampling and it is possible that results provided may be compromised.

Observations on receipt

A - No date of sampling provided

W - No time of sampling provided for water sample

C - Received in inappropriate container

H - Contains headspace

T - Temperature on receipt exceeds storage temperature

R - Sample(s) received with less than 96 hours for testing to commence/complete, any result formally classed as deviating will be marked with an X against the applicable test (i.e. RX)

Observations whilst in laboratory

X - Exceeds sampling to extraction or analysis timescales

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Test	Deviations
624650	-	WS15	ES	-	MS - CL - Cyanide by Skalar	RX
624650	-	WS15	ES	-	MS - CL - pH in Soils	RX
624650	-	WS15	ES	-	MS - CL - PAH (As Received)	RX
624650	-	WS15	ES	-	MS - CL - Phenols by Skalar	RX
624650	-	WS15	ES	-	MS - CL - TPH & EPH by GCXGC	RX
624650	-	WS15	ES	-	MS - CL - VOC and MBTEX	RX
624650	-	WS15	ES	-	MS - CL - VPH	RX
624651	-	WS16	ES	-	MS - CL - Cyanide by Skalar	RX
624651	-	WS16	ES	-	MS - CL - pH in Soils	RX
624651	-	WS16	ES	-	MS - CL - PAH (As Received)	RX
624651	-	WS16	ES	-	MS - CL - Phenols by Skalar	RX
624651	-	WS16	ES	-	MS - CL - TPH & EPH by GCXGC	RX
624651	-	WS16	ES	-	MS - CL - VOC and MBTEX	RX
624651	-	WS16	ES	-	MS - CL - VPH	RX
624652	-	WS17	ES	-	MS - CL - Cyanide by Skalar	RX
624652	-	WS17	ES	-	MS - CL - pH in Soils	RX
624652	-	WS17	ES	-	MS - CL - PAH (As Received)	RX
624652	-	WS17	ES	-	MS - CL - Phenols by Skalar	RX
624652	-	WS17	ES	-	MS - CL - TPH (GC-FID)	RX
624653	-	WS18	ES	-	MS - CL - Cyanide by Skalar	RX
624653	-	WS18	ES	-	MS - CL - pH in Soils	RX
624653	-	WS18	ES	-	MS - CL - PAH (As Received)	RX
624653	-	WS18	ES	-	MS - CL - Phenols by Skalar	RX
624653	-	WS18	ES	-	MS - CL - TPH (GC-FID)	RX
624654	-	WS15	ES	-	MS - CL - pH in Soils	RX
624655	-	WS17	ES	-	MS - CL - pH in Soils	RX
624656	-	WS11	ES	-	MS - CL - pH in Soils	RX
624657	-	WS15	ES	-	MS - CL - pH in Soils	RX
624658	-	WS13	ES	-	MS - CL - Cyanide by Skalar	RX
624658	-	WS13	ES	-	MS - CL - pH in Soils	RX
624658	-	WS13	ES	-	MS - CL - Phenols by Skalar	RX



7 - 11 Harding Street
Leicester
LE1 4DH

L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm Road, Darlington DL1 4DE J3273

Sample Deviations

Deviations are listed below against each sample and associated test method, where deviation(s) are noted it means data may not be representative of the sample at the time of sampling and it is possible that results provided may be compromised.

Observations on receipt

A - No date of sampling provided

W - No time of sampling provided for water sample

C - Received in inappropriate container

H - Contains headspace

T - Temperature on receipt exceeds storage temperature

R - Sample(s) received with less than 96 hours for testing to commence/complete, any result formally classed as deviating will be marked with an X against the applicable test (i.e. RX)

Observations whilst in laboratory

X - Exceeds sampling to extraction or analysis timescales

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Test	Deviations
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L25/11315/JOM - 25-87824

Project Reference - Clevekand House, Yarm Road, Darlington DL1 4DE J3273

HWOL TPH Acronym Index

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics and Aromatics
AL	Aliphatics Only
AR	Aromatics Only
2D	GC-GC - Double Coil Gas Chromatography
#1	EH_Total but with humics mathmatically subtracted
#2	EH_Total but with fatty acids mathmatically subtracted
_	Operator - underscore to separate acronyms (except for +)
+	Operator to indicate cumlative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry

APPENDIX 4 – GEOTECHNICAL LABORATORY TEST RESULTS



LABORATORY REPORT



Contract Number: PSL25/8201

Report Date: 11 November 2025
Client's Reference: 1MC03-GT-001
Client Name: Jomas Associates
Unit 24 Sarum Complex
Salisbury Road
Uxbridge
UB8 2RZ

For the attention of: Josh Thomas

Contract Title: Cleveland House, Yarm Road, Darlington, DL1 4DE
Date Received: 24/10/2025
Date Commenced: 24/10/2025
Date Completed: 11/11/2025

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

A Watkins
(Managing Director)

R Berriman
(Associate Director)

S Royle
(Laboratory Manager)

L Knight
(Assistant Laboratory Manager)

S Eyre
(Senior Technician)


S Braithwaite
(Senior Technician)

5 – 7 Hexthorpe Road,
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SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
WS01		D	1.50		Brown mottled grey slightly sandy slightly gravelly CLAY.
WS03		D	4.50		Brown sandy slightly gravelly CLAY.
WS04		D	2.00		Reddish brown slightly sandy slightly gravelly CLAY.
WS05		D	3.20		Reddish brown slightly sandy slightly gravelly CLAY.
WS06		D	1.20		Reddish brown slightly sandy slightly gravelly CLAY.
WS08		D	2.75		Reddish brown slightly sandy slightly gravelly CLAY.
WS09		D	1.80		Reddish brown slightly sandy slightly gravelly CLAY.
WS11		D	0.80		Reddish brown slightly sandy slightly gravelly CLAY.
WS12		D	4.80		Brown sandy slightly gravelly CLAY.
WS13		D	1.90		Reddish brown mottled grey slightly sandy slightly gravelly CLAY.
WS14		D	2.50		Reddish brown mottled grey slightly sandy slightly gravelly CLAY.
WS15		D	1.00		Reddish brown mottled grey slightly sandy slightly gravelly CLAY.
WS17		D	3.85		Brown mottled grey sandy slightly gravelly CLAY.
WS18		D	3.50		Brown clayey SAND.



Cleveland House, Yarm Road, Darlington, DL1 4DE

Contract No:
PSL25/8201
Client Ref:
J3273

SUMMARY OF SOIL CLASSIFICATION TESTS

BS 1377 - Part 2 : 2022 in accordance with BS EN ISO 17892 (as below)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Water Content %	Linear Shrinkage	Particle Density Mg/m ³	Liquid Limit %	Plastic Limit %	Plasticity Index %	Passing 0.425mm %	Remarks
WS01		D	1.50		22.3			60	27	33	96	High Plasticity CIH
WS04		D	2.00		27.9			62	27	35	99	High Plasticity CIH
WS05		D	3.20		19.0			55	25	30	99	High Plasticity CIH
WS06		D	1.20		21.1			45	23	22	96	Medium Plasticity CIM
WS08		D	2.75		19.9			47	22	25	97	Medium Plasticity CIM
WS09		D	1.80		23.8			55	25	30	98	High Plasticity CIH
WS11		D	0.80		22.3			58	26	32	99	High Plasticity CIH
WS13		D	1.90		22.4			57	24	33	96	High Plasticity CIH
WS14		D	2.50		25.8			59	26	33	99	High Plasticity CIH
WS15		D	1.00		26.0			66	30	36	97	High Plasticity CIH
WS17		D	3.85		18.6			43	23	20	92	Medium Plasticity CIM



Water Content - BS 1377 - Part 2 : 2022 : Clause 4 in accordance with BS EN ISO 17892 - 1 : 2014 + A1 : 2022

Linear Shrinkage - BS 1377 - Part 2 : 2022 : Clause 7

Particle Density (Gas Jar method) - BS 1377 - Part 2 : 2022 : Clause 9

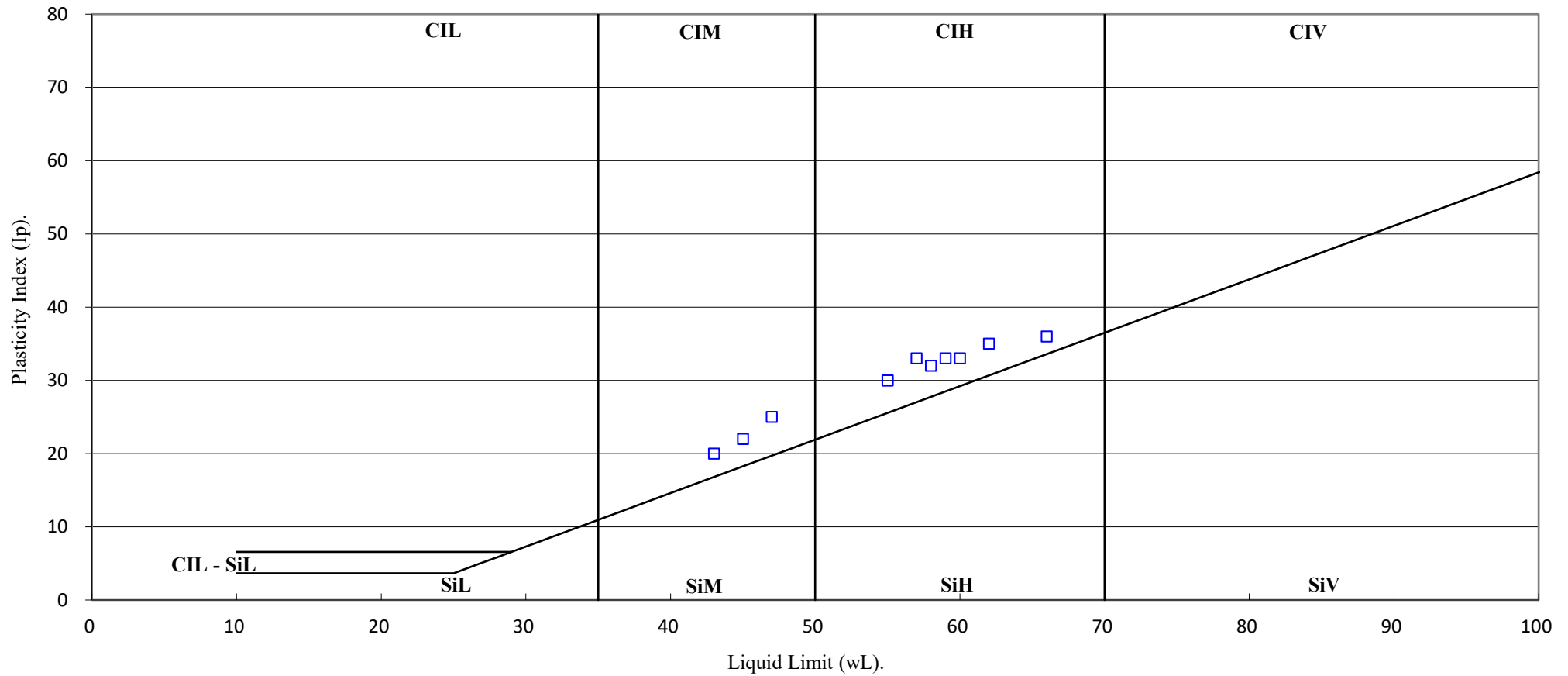
Liquid, Plastic Limit & Plasticity Index - BS 1377 - Part 2 : 2022 : Clause 5 & 6 in accordance with BS EN ISO 17892 - 12 : 2018 + A2 : 2022

SYMBOLS : NP = Non Plastic

		<p>Cleveland House, Yarm Road, Darlington, DL1 4DE</p>	Contract No:
			PSL25/8201
			Client Ref:
			J3273

PLASTICITY CHART

BS EN ISO 14688-2:2017 Clause 4.4



Cleveland House, Yarm Road, Darlington, DL1 4DE

Contract No:

PSL25/8201

Client Ref:

J3273

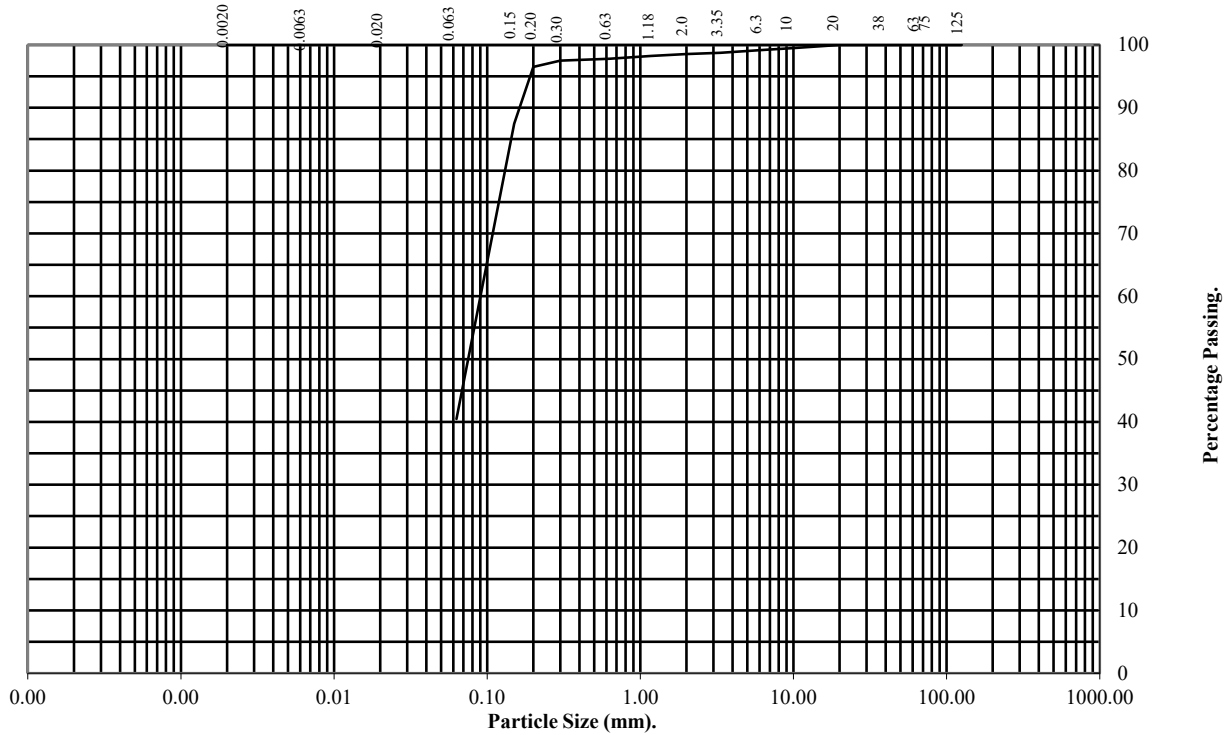
PARTICLE SIZE DISTRIBUTION TEST

BS 1377 - Part 2 : 2022 : Clause 10 in accordance with BS EN ISO 17892 - 4 : 2016
Sieve Method, Clause 5.2

Hole Number: **WS03** Top Depth (m): **4.50**

Sample Number: Base Depth (m):

Sample Type: **D**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	99
6.3	99
3.35	99
2	99
1.18	98
0.63	98
0.3	98
0.2	96
0.15	87
0.063	40

Soil Fraction	Total Percentage
Cobbles	0
Gravel	1
Sand	59
Silt/Clay	40

Remarks:

See Summary of Soil Descriptions



Cleveland House, Yarm Road, Darlington,
DL1 4DE

Contract No:
PSL25/8201
Client Ref:
J3273

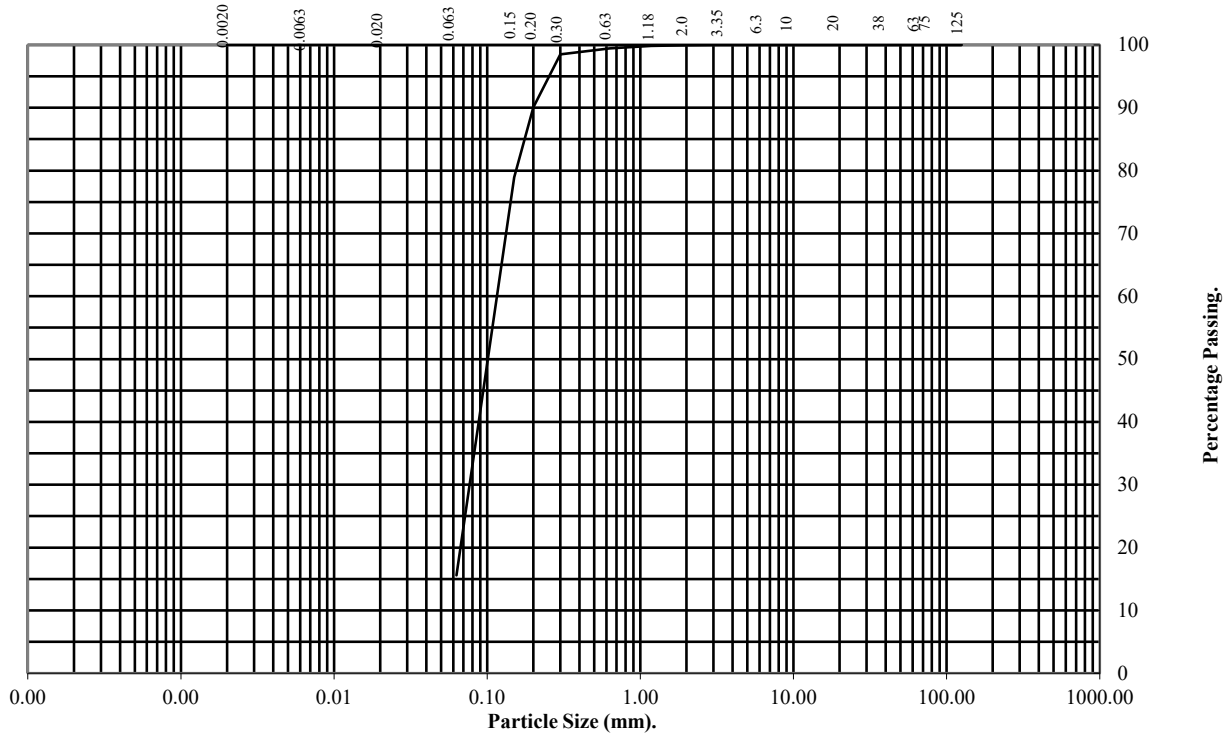
PARTICLE SIZE DISTRIBUTION TEST

BS 1377 - Part 2 : 2022 : Clause 10 in accordance with BS EN ISO 17892 - 4 : 2016
Sieve Method, Clause 5.2

Hole Number: **WS18** Top Depth (m): **3.50**

Sample Number: Base Depth (m):

Sample Type: **D**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2	100
1.18	100
0.63	99
0.3	99
0.2	90
0.15	79
0.063	16

Soil Fraction	Total Percentage
Cobbles	0
Gravel	0
Sand	84
Silt/Clay	16

Remarks:

See Summary of Soil Descriptions



Cleveland House, Yarm Road, Darlington,
DL1 4DE

Contract No:
PSL25/8201
Client Ref:
J3273

APPENDIX 5 – CBR TESTING RESULTS

CBR Calculation

Jomas Job: Cleveland House, Darlington
Jomas Job No.: P6534J3273

Test Location: WS03
Date of Test: 17/10/2025

Depth (mm)	Nr Blow	Cumulative blows
0	0	0
100	3	3
200	4	7
300	18	25
360	50	75

Calculating Engineer: JWT
Approved by: JLW

Date: 28/11/2025
Date: 05/12/2025

Test	Initial Depth (mm)	Final Depth (mm)	mm / blow	CBR (%)		E (MPa)
				IAN 73/06	TRL 587	
WS03-Test 1	0	200	28.6	8.7	9.2	70.28
WS03-Test 2	200	300	5.6	49.3	46.0	213.27
WS03-Test 3	300	360	1.2	249.1	206.6	601.44

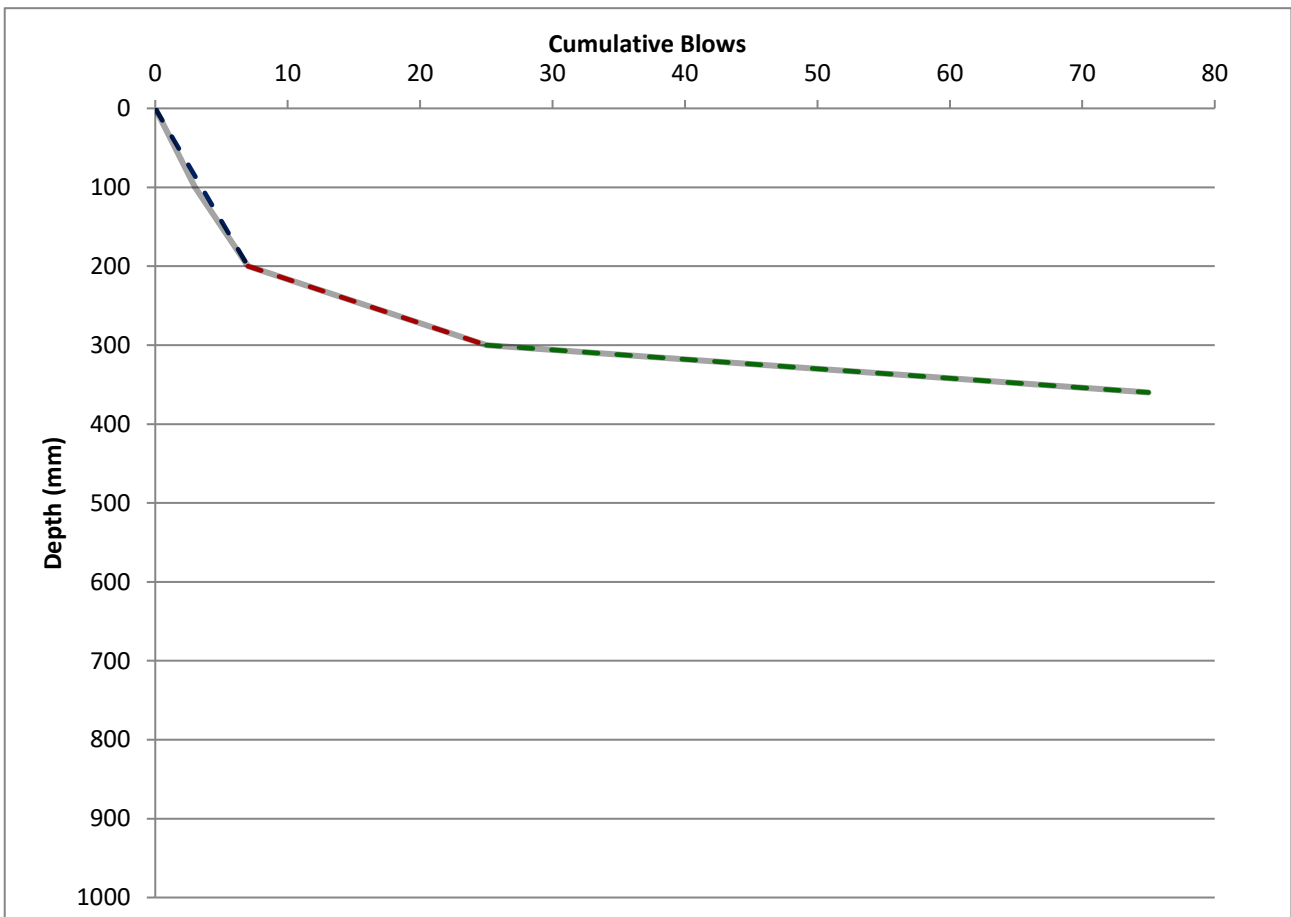
Test Notes:

Test carried out using a TRL Dynamic Cone Penetrometer consisting of a 8 kg free fall hammer lifted and dropped through a height of 575mm.

Colour of text refers to the modelled gradient on graph below.

CBR's calculated using methodologies outlined in IAN 73/06 and in TRL 587.

Characteristic MC% ? N



CBR Calculation

Jomas Job: Cleveland House, Darlington
Jomas Job No.: P6534J3273

Test Location: WS06
Date of Test: 17/10/2025

Depth (mm)	Nr Blow	Cumulative blows
0	0	0
100	6	6
200	9	15
260	50	65

Calculating Engineer: JWT
Approved by: JLW

Date: 28/11/2025
Date: 05/12/2025

Test	Initial Depth (mm)	Final Depth (mm)	mm / blow	CBR (%)		E (MPa)
				IAN 73/06	TRL 587	
WS06-Test 1	0	200	13.3	19.5	19.5	117.8
WS06-Test 2	200	260	1.2	249.1	206.6	601.44

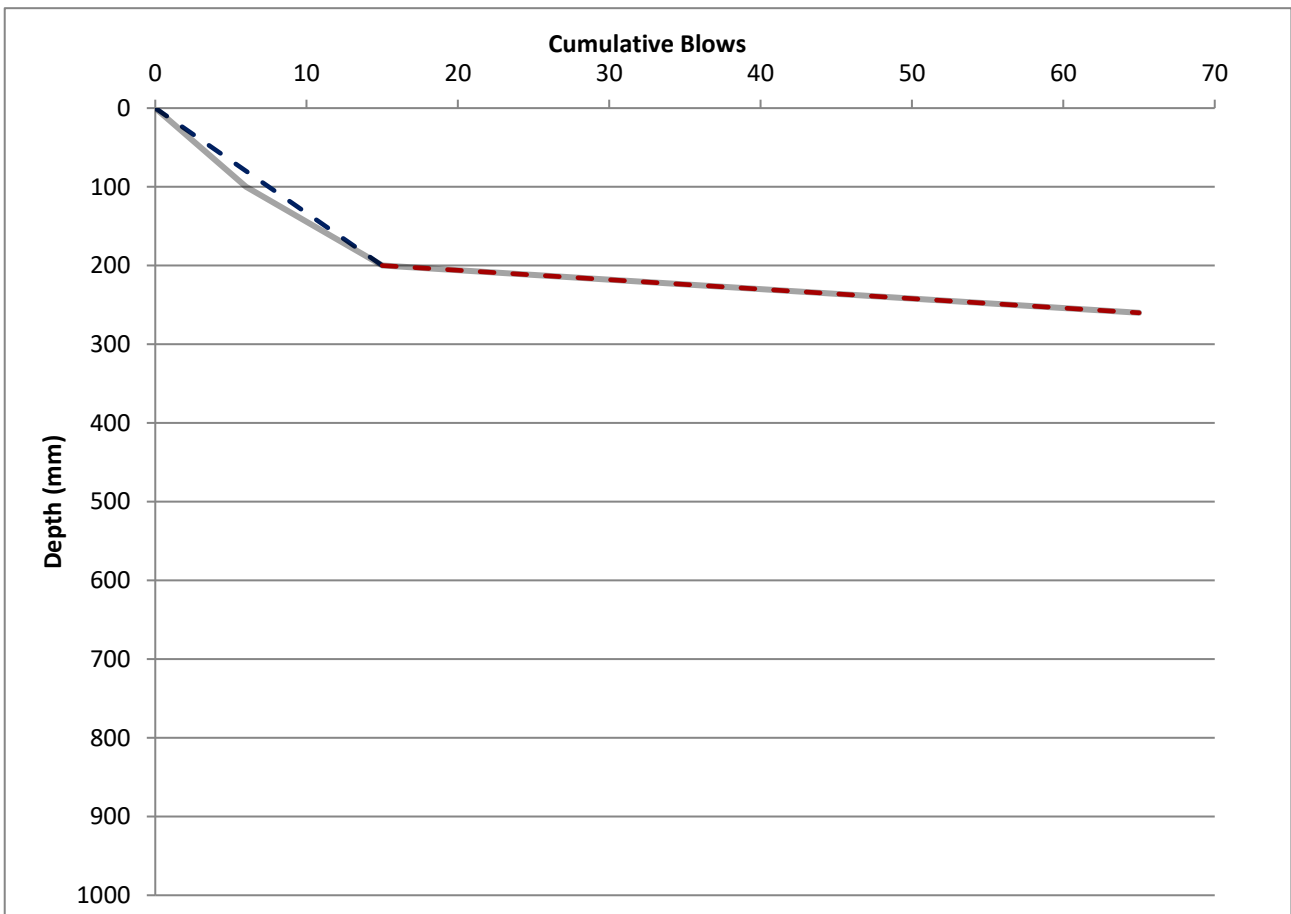
Test Notes:

Test carried out using a TRL Dynamic Cone Penetrometer consisting of a 8 kg free fall hammer lifted and dropped through a height of 575mm.

Colour of text refers to the modelled gradient on graph below.

CBR's calculated using methodologies outlined in IAN 73/06 and in TRL 587.

Characteristic MC% ? N



CBR Calculation

Jomas Job: Cleveland House, Darlington
Jomas Job No.: P6534J3273

Test Location: WS09
Date of Test: 17/10/2025

Depth (mm)	Nr Blow	Cumulative blows
0	0	0
100	7	7
200	13	20
300	19	39
370	50	89

Calculating Engineer: JWT
Approved by: JLW

Date: 28/11/2025
Date: 05/12/2025

Test	Initial Depth (mm)	Final Depth (mm)	mm / blow	CBR (%)		E (MPa)
				IAN 73/06	TRL 587	
WS09-Test 1	0	100	14.3	18.2	18.2	112.71
WS09-Test 2	100	300	6.3	43.5	41.0	196.85
WS09-Test 3	300	370	1.4	211.6	177.6	541.8

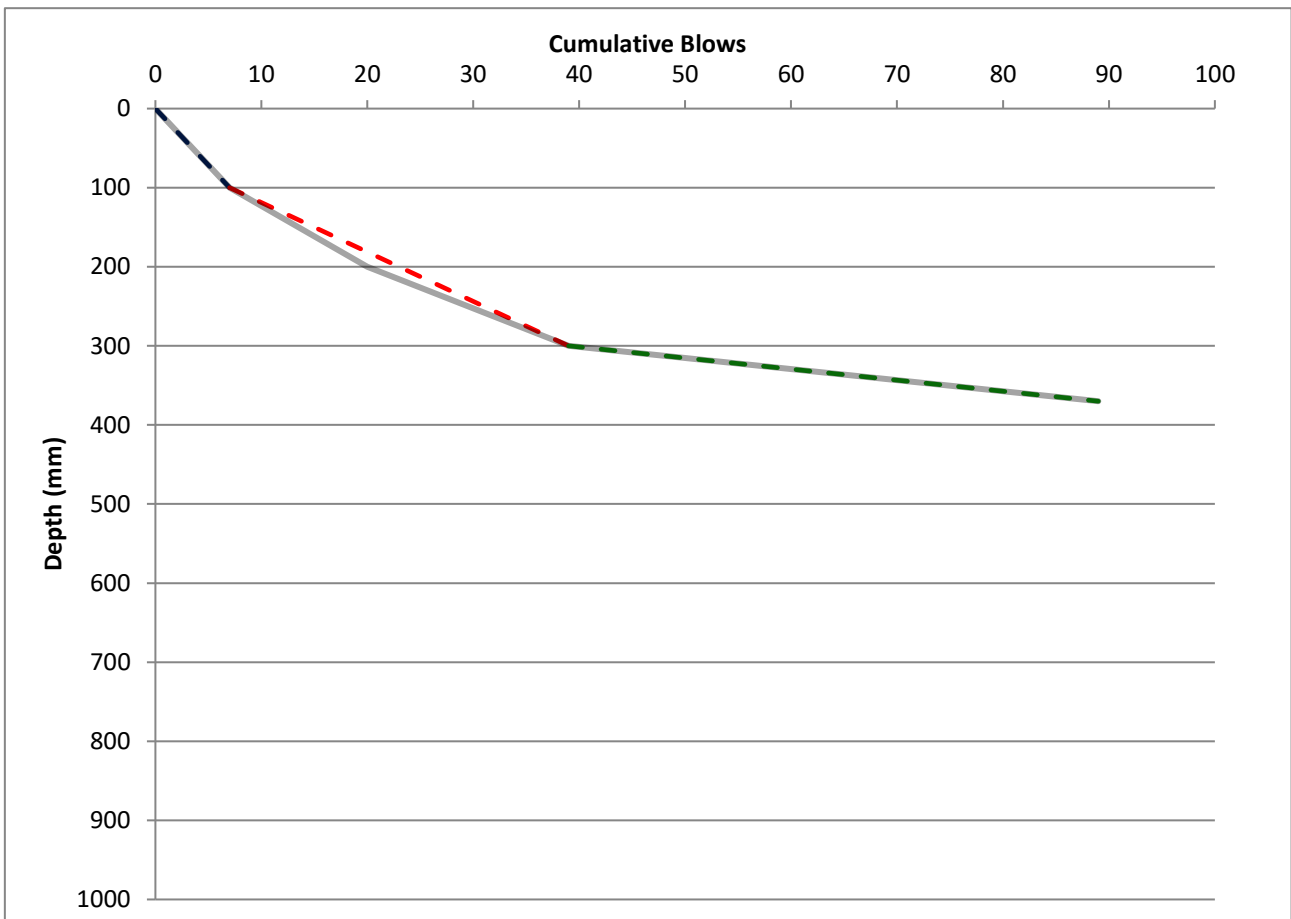
Test Notes:

Test carried out using a TRL Dynamic Cone Penetrometer consisting of a 8 kg free fall hammer lifted and dropped through a height of 575mm.

Colour of text refers to the modelled gradient on graph below.

CBR's calculated using methodologies outlined in IAN 73/06 and in TRL 587.

Characteristic MC% ? N



CBR Calculation

Jomas Job: Cleveland House, Darlington
Jomas Job No.: P6534J3273

Test Location: WS10
Date of Test: 17/10/2025

Depth (mm)	Nr Blow	Cumulative blows
0	0	0
100	12	12
200	24	36
231	50	86

Calculating Engineer: JWT
Approved by: JLW

Date: 28/11/2025
Date: 05/12/2025

Test	Initial Depth (mm)	Final Depth (mm)	mm / blow	CBR (%)		E (MPa)
				IAN 73/06	TRL 587	
WS10-Test 1	0	200	5.6	49.3	46.0	213.27
WS10-Test 2	200	231	0.6	500.5	394.6	940.01

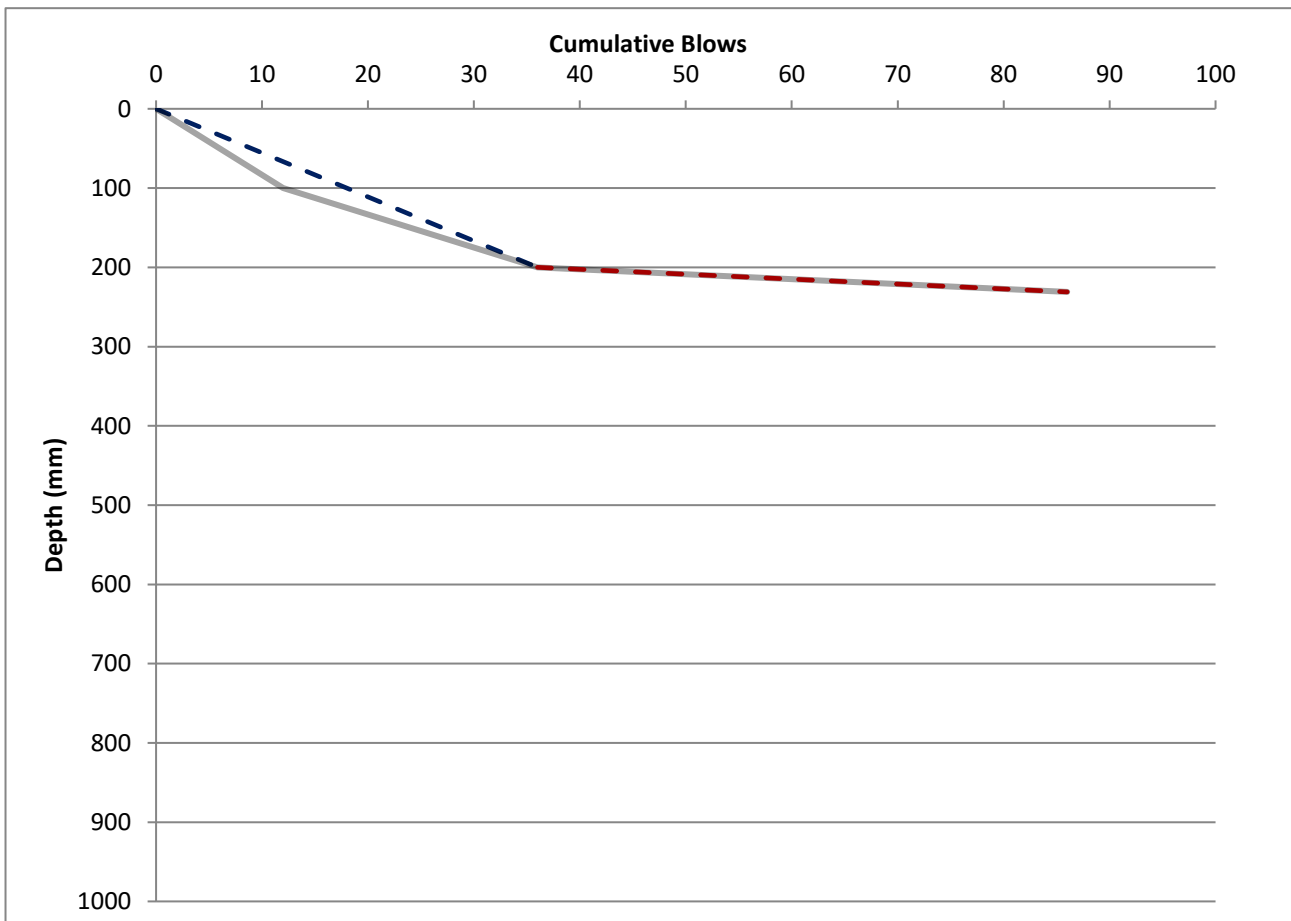
Test Notes:

Test carried out using a TRL Dynamic Cone Penetrometer consisting of a 8 kg free fall hammer lifted and dropped through a height of 575mm.

Colour of text refers to the modelled gradient on graph below.

CBR's calculated using methodologies outlined in IAN 73/06 and in TRL 587.

Characteristic MC% ? N



CBR Calculation

Jomas Job: Cleveland House, Darlington
Jomas Job No.: P6534J3273

Test Location: WS12
Date of Test: 17/10/2025

Depth (mm)	Nr Blow	Cumulative blows
0	0	0
100	8	8
200	17	25
300	31	56
320	50	106

Calculating Engineer: JWT
Approved by: JLW

Date: 28/11/2025
Date: 05/12/2025

Test	Initial Depth (mm)	Final Depth (mm)	mm / blow	CBR (%)		E (MPa)
				IAN 73/06	TRL 587	
WS12-Test 1	0	100	12.5	20.9	20.8	123.14
WS12-Test 2	100	200	5.9	46.4	43.5	205.16
WS12-Test 3	200	300	3.2	87.6	78.4	308.12
WS12-Test 4	300	320	0.4	795.5	606.3	1264.5

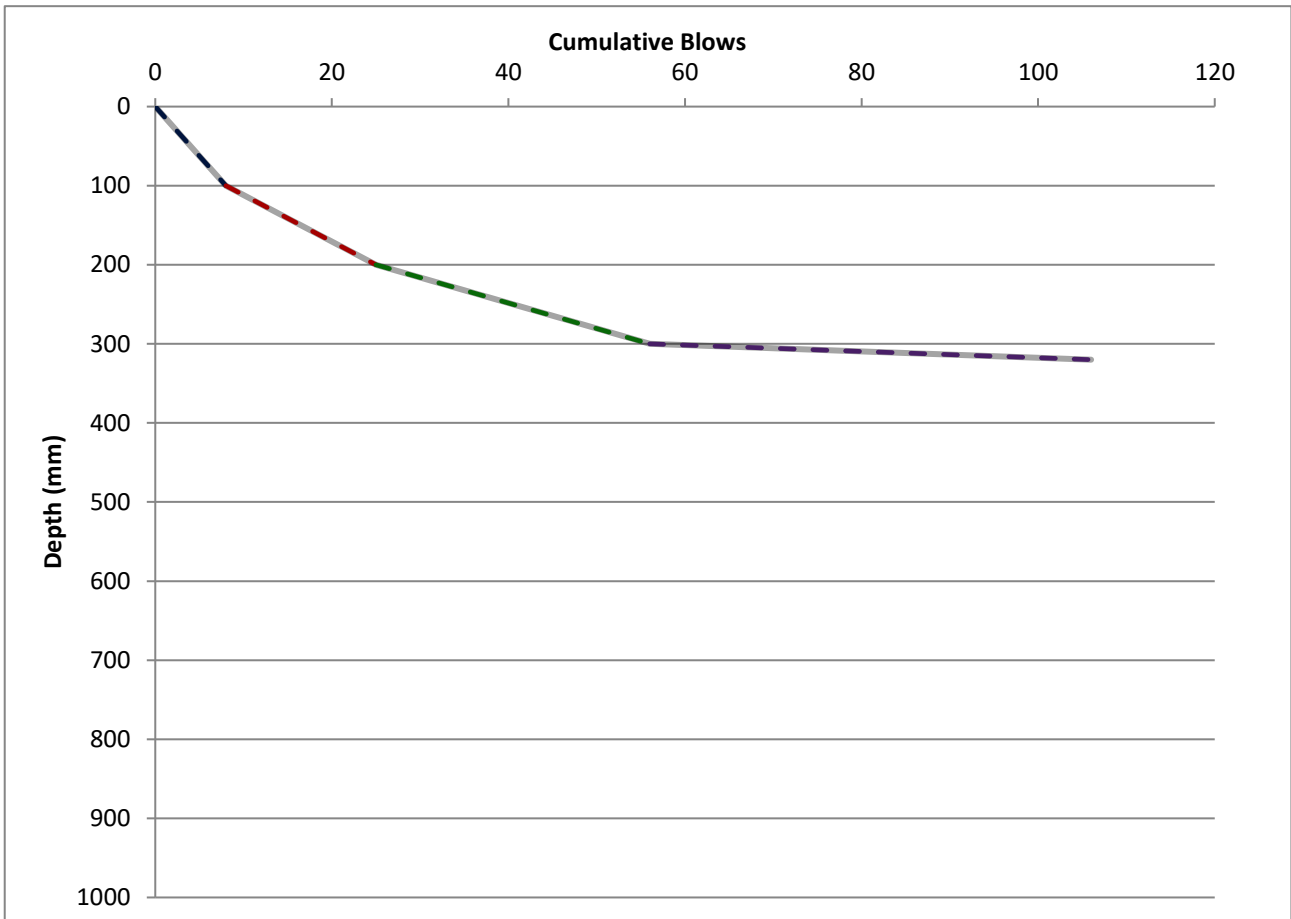
Test Notes:

Test carried out using a TRL Dynamic Cone Penetrometer consisting of a 8 kg free fall hammer lifted and dropped through a height of 575mm.

Colour of text refers to the modelled gradient on graph below.

CBR's calculated using methodologies outlined in IAN 73/06 and in TRL 587.

Characteristic MC% ? N



CBR Calculation

Jomas Job: Cleveland House, Darlington
Jomas Job No.: P6534J3273

Test Location: WS13
Date of Test: 17/10/2025

Depth (mm)	Nr Blow	Cumulative blows
0	0	0
100	4	4
200	16	20
300	35	55
338	50	105

Calculating Engineer: JWT
Approved by: JLW

Date: 28/11/2025
Date: 05/12/2025

Test	Initial Depth (mm)	Final Depth (mm)	mm / blow	CBR (%)		E (MPa)
				IAN 73/06	TRL 587	
WS13-Test 1	0	100	25.0	10.1	10.5	77.32
WS13-Test 2	100	200	6.3	43.5	41.0	196.85
WS13-Test 3	200	300	2.9	99.6	88.3	334.5
WS13-Test 4	300	338	0.8	403.6	323.2	819.07

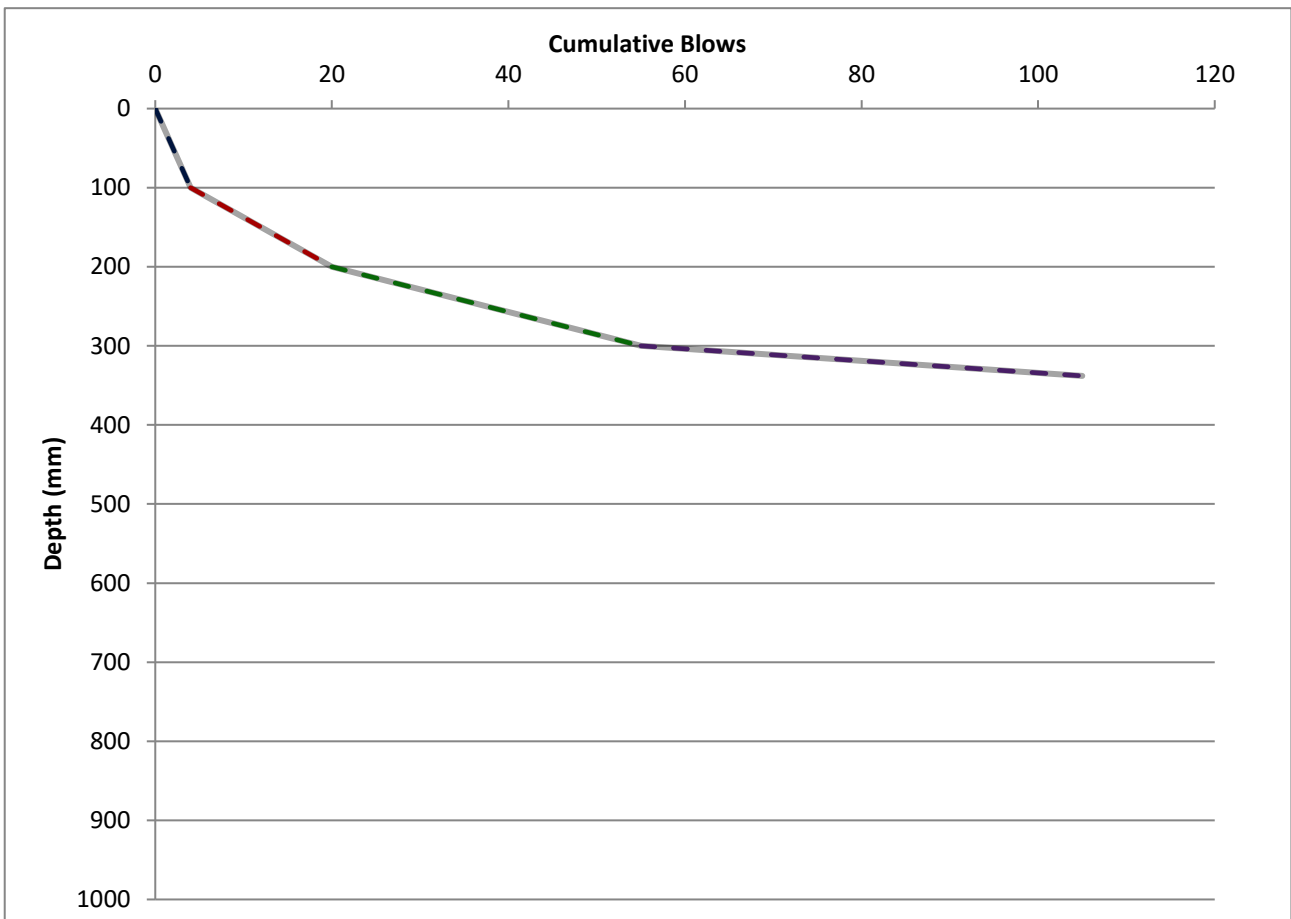
Test Notes:

Test carried out using a TRL Dynamic Cone Penetrometer consisting of a 8 kg free fall hammer lifted and dropped through a height of 575mm.

Colour of text refers to the modelled gradient on graph below.

CBR's calculated using methodologies outlined in IAN 73/06 and in TRL 587.

Characteristic MC% ? N



CBR Calculation

Jomas Job: Cleveland House, Darlington
Jomas Job No.: P6534J3273

Test Location: WS15
Date of Test: 17/10/2025

Depth (mm)	Nr Blow	Cumulative blows
0	0	0
100	9	9
200	14	23
300	11	34
400	27	61
447	50	111

Calculating Engineer: JWT
Approved by: JLW

Date: 28/11/2025
Date: 05/12/2025

Test	Initial Depth (mm)	Final Depth (mm)	mm / blow	CBR (%)		E (MPa)
				IAN 73/06	TRL 587	
WS15-Test 1	0	300	8.8	30.2	29.2	155.85
WS15-Test 2	300	400	3.7	75.7	68.5	280.63
WS15-Test 3	400	447	0.9	322.4	262.4	709.39

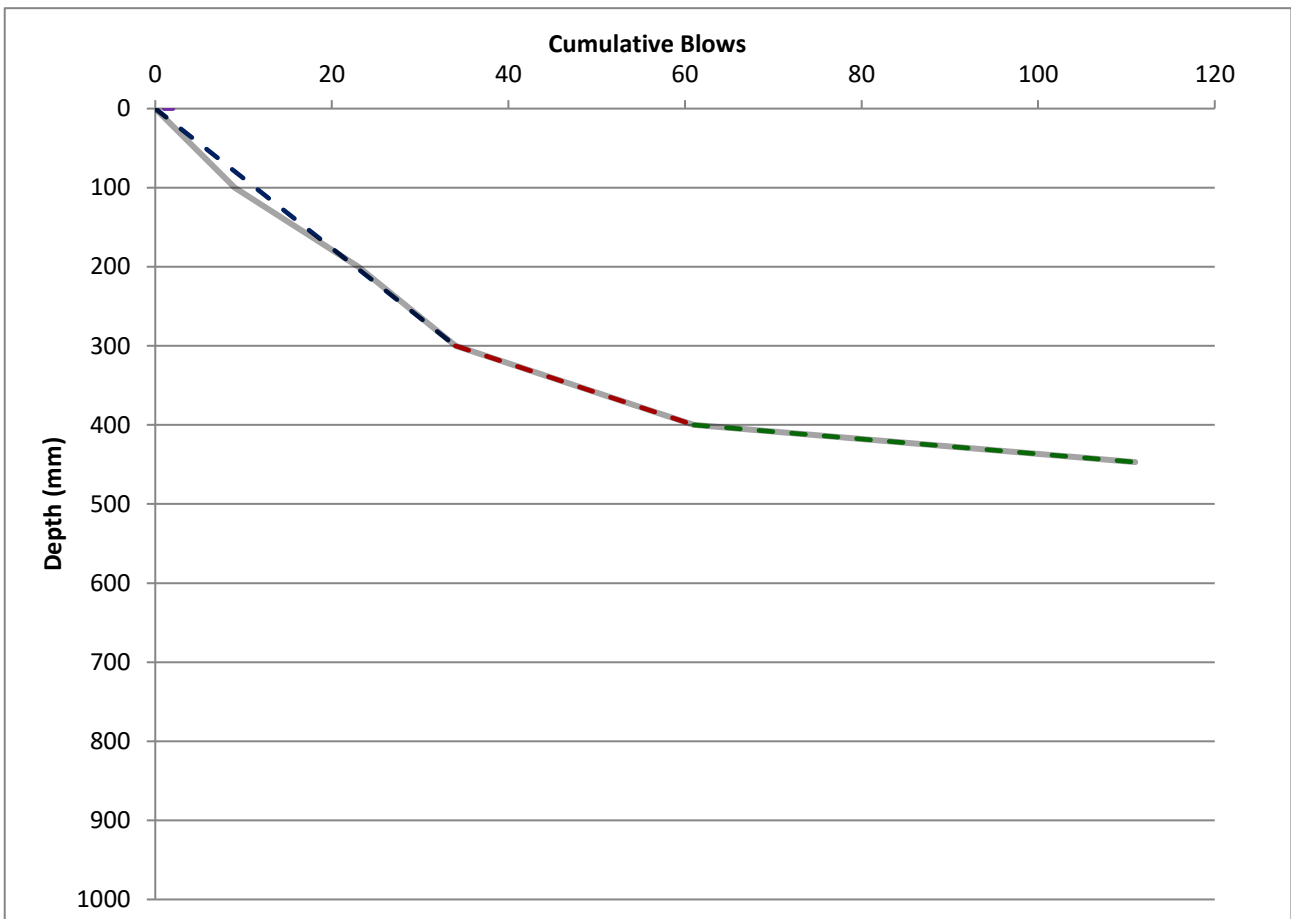
Test Notes:

Test carried out using a TRL Dynamic Cone Penetrometer consisting of a 8 kg free fall hammer lifted and dropped through a height of 575mm.

Colour of text refers to the modelled gradient on graph below.

CBR's calculated using methodologies outlined in IAN 73/06 and in TRL 587.

Characteristic MC% ? N



CBR Calculation

Jomas Job: Cleveland House, Darlington
Jomas Job No.: P6534J3273

Test Location: WS17
Date of Test: 17/10/2025

Depth (mm)	Nr Blow	Cumulative blows
0	0	0
100	4	4
200	8	12
300	14	26
400	21	47
500	16	63
600	7	70
700	4	74
800	4	78
900	3	81
1000	3	84

Calculating Engineer: JWT
Approved by: JLW

Date: 28/11/2025
Date: 05/12/2025

Test	Initial Depth (mm)	Final Depth (mm)	mm / blow	CBR (%)		E (MPa)
				IAN 73/06	TRL 587	
WS17-Test 1	0	200	16.7	15.4	15.7	101.28
WS17-Test 2	200	500	5.9	46.4	43.5	205.16
WS17-Test 3	500	600	14.3	18.2	18.2	112.71
WS17-Test 4	600	1000	28.6	8.7	9.2	70.28

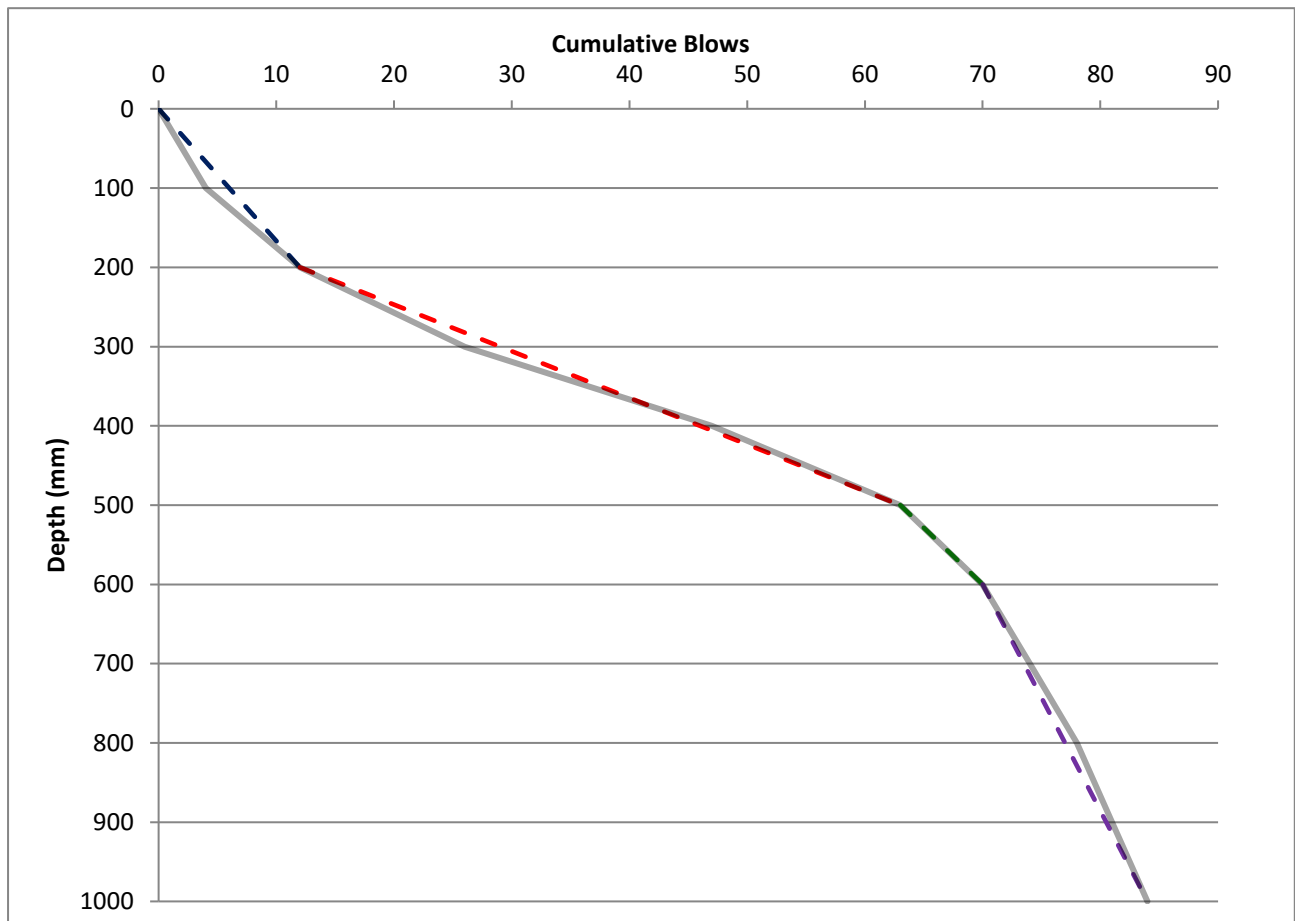
Test Notes:

Test carried out using a TRL Dynamic Cone Penetrometer consisting of a 8 kg free fall hammer lifted and dropped through a height of 575mm.

Colour of text refers to the modelled gradient on graph below.

CBR's calculated using methodologies outlined in IAN 73/06 and in TRL 587.

Characteristic MC% ? N



CBR Calculation

Jomas Job: Cleveland House, Darlington
Jomas Job No.: P6534J3273

Test Location: WS18
Date of Test: 17/10/2025

Depth (mm)	Nr Blow	Cumulative blows
0	0	0
100	10	10
200	17	27
219	50	77

Calculating Engineer: JWT
Approved by: JLW

Date: 28/11/2025
Date: 05/12/2025

Test	Initial Depth (mm)	Final Depth (mm)	mm / blow	CBR (%)		E (MPa)
				IAN 73/06	TRL 587	
WS18-Test 1	0	100	10.0	26.5	25.9	143.35
WS18-Test 2	100	200	5.9	46.4	43.5	205.16
WS18-Test 3	200	219	0.4	839.8	637.5	1309.1

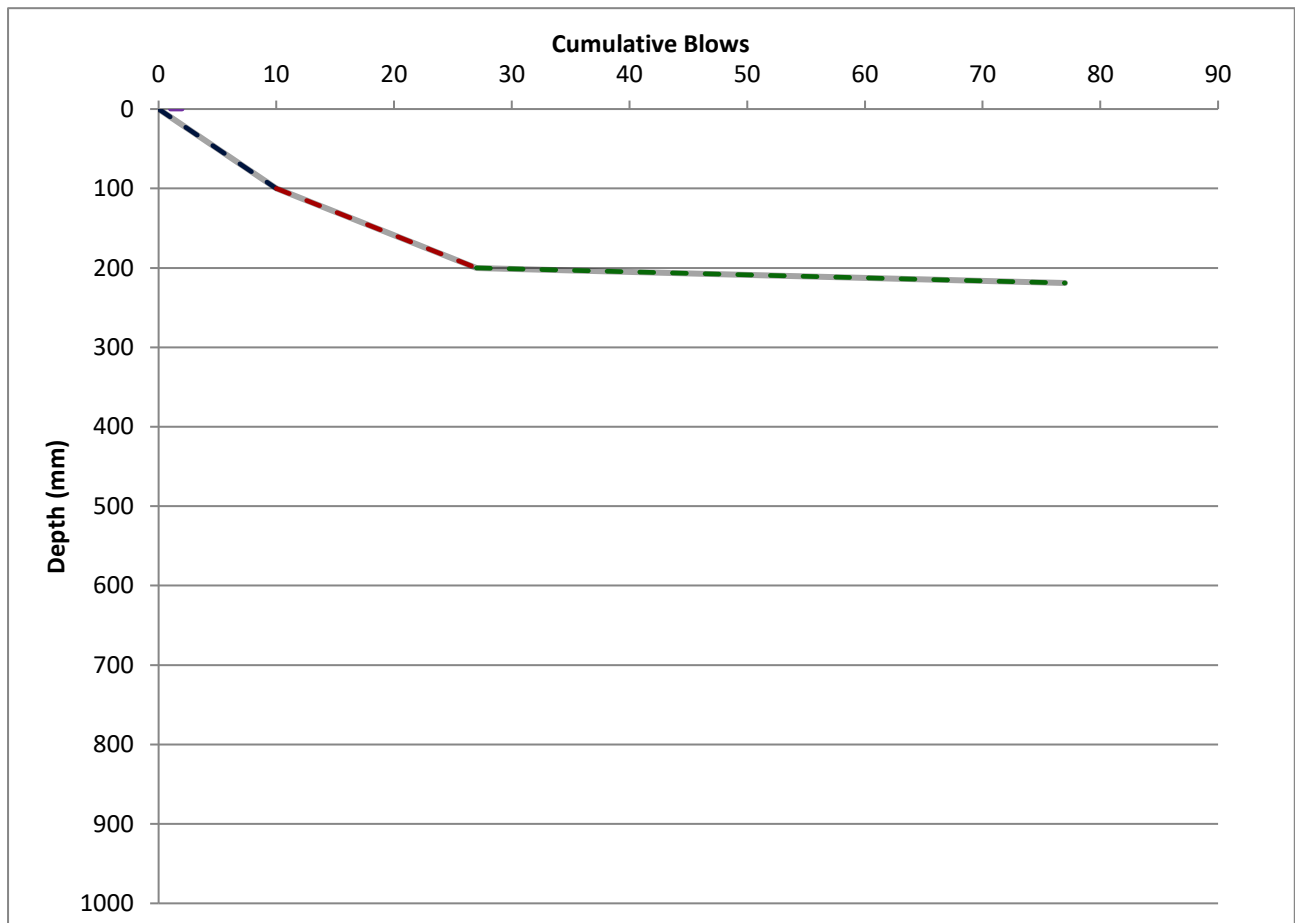
Test Notes:

Test carried out using a TRL Dynamic Cone Penetrometer consisting of a 8 kg free fall hammer lifted and dropped through a height of 575mm.

Colour of text refers to the modelled gradient on graph below.

CBR's calculated using methodologies outlined in IAN 73/06 and in TRL 587.

Characteristic MC% ? N



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Annexe C - Environmental Permit - Soil Baseline

Endolys Ltd, Cleveland House, Tarm Road, Darlington, DL1 4DE



Lab Reference			624633	624634	624635	624636	624637	624638	624639	624640	624641	624642	624643	624644	624645	624646	624647	624648	624649	624650	624651	624652	624653	624654	624655	624653	
Client Sample Location			WS01	WS01	WS03	WS03	WS04	WS04	WS05	WS06	WS07	WS08	WS09	WS09	WS10	WS11	WS11	WS12	WS13	WS13	WS14	WS15	WS15	WS15	WS16	WS17	WS18
Client Sample Type			ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES	
Client Sample Number			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Depth - Top (m)			0.30	0.70	0.30	1.80	0.20	2.50	0.10	0.30	0.40	0.30	0.25	0.45	0.15	0.40	1.25	0.20	0.25	0.60	0.50	0.40	0.60	2.25	0.30	3.30	0.20
Depth - Bottom (m)			0.30	0.70	0.30	1.80	0.20	2.50	0.10	0.30	0.40	0.30	0.25	0.45	0.15	0.40	1.25	0.20	0.25	0.60	0.50	0.40	0.60	2.25	0.25	0.30	0.20
Date of Sampling			13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025
Time of Sampling			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sample Matrix			Sand	Sand	Sand	Clay	Sand	Clay	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Clay	Sand	Sand	Clay	Sand	Sand	Clay	Clay	Sand	Sand	Clay	Sand
Determinant	Units	Accreditation																									
o-Xylene	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Dichlorodifluoromethane	(mg/kg)	UKAS	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
Chloromethane	(mg/kg)	UKAS	-	<0.02	-	<0.02	<0.02	<0.02	-	<0.02	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	<0.02	-	-	-
Vinyl Chloride	(mg/kg)	MCERTS	-	<0.02	-	<0.02	<0.02	<0.02	-	<0.02	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	<0.02	-	-	-
Bromomethane	(mg/kg)	Unaccredited	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
Chloroethane	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Trichlorofluoromethane	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
1,1-Dichloroethane	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Dichloromethane	(mg/kg)	Unaccredited	-	0.22	-	0.36	0.15	0.41	-	<0.10	0.11	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	0.29	-
MTBE	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
trans-1,2-dichloroethylene	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
1,1-Dichloroethane	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
2,2-Dichloropropane	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
cis-1,2-dichloroethylene	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Bromochloromethane	(mg/kg)	MCERTS	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
Chloroform	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
1,1,1-Trichloroethane	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
1,1-Dichloropropene	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Carbon Tetrachloride	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
1,2-dichloroethane	(mg/kg)	MCERTS	-	<0.02	-	<0.02	<0.02	<0.02	-	<0.02	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	<0.02	-	-	-
Trichloroethylene	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
1,2-Dichloropropane	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Dibromomethane	(mg/kg)	MCERTS	-	<0.02	-	<0.02	<0.02	<0.02	-	<0.02	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	<0.02	-	-	-
Bromodichloromethane	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
cis-1,2-dichloropropylene	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
trans-1,3-dichloropropylene	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
1,1,2-Trichloroethane	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
1,3-Dichloropropane	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Tetrachloroethylene	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Chlorodibromomethane	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
1,2-Dibromoethane	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Chlorobenzene	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
1,1,1,2-tetrachloroethane	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Styrene	(mg/kg)	UKAS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Isopropylbenzene	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Bromoform	(mg/kg)	MCERTS	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-
1,1,2,2-Tetrachloroethane	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
1,2,3-Trichloropropane	(mg/kg)	MCERTS	-	<0.02	-	<0.02	<0.02	<0.02	-	<0.02	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	<0.02	-	-	-
n-Propylbenzene	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
Bromobenzene	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
1,3,5-Trimethylbenzene	(mg/kg)	UKAS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
2-chlorotoluene	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	-	-
4-chlorotoluene	(mg/kg)	MCERTS	-	<0.01	-	<0.01	<0.01	<0.01	-	<0.01	<0.0																