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Geo-Environmental Ltd

Consulting Geo-Environmental Engineers

Phase 1 Geo-Environmental and Coal Mining Risk Assessment

Land off Herschel Avenue, Burnley

Report Ref:

24030-PWAG-00-XX-RP-G-7000-P01

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Executive Summary

PWA Geo-Environmental Ltd (PWAG) was commissioned by Campbell Driver Partnership to undertake a Phase 1 Geo-Environmental and Coal Mining Risk Assessment for a proposed residential development at Land off Herschel Avenue, Burnley. A summary of key geo-environmental considerations is provided below. However, other issues may exist so the report must be read in full.

Key Details	
Site:	The site is located on the northwestern side of Burnley in a residential location, with access to the area gained from Herschel Avenue. The site slopes down from southwest to northeast, following the drive until it levels off where the existing farmhouse is. Structures on site include an existing vacant farmhouse and two derelict outbuildings surrounded by overgrown gardens. The surrounding area is residential and agricultural, sloping in the same direction. During the site walkover various potential sources of contamination were observed including oil drums, above ground storage tanks and builder's waste.
Site History:	The earliest map of 1846 shows the site as agricultural land. The site remained undeveloped until 1890 when a building called Wellfield Farm was now present. From then, two outbuilding were added one in 1910 and the other in 1993. Surrounding land use was mostly agricultural until the residential and industrial development of Burnley from 1890s to present.
Geology:	The anticipated downward sequence comprises made ground over glacial till over mudstone, siltstone, and sandstone bedrock of the Pennine Lower Coal Measures.
Hydrogeology:	Glacial till is classed as a Secondary Undifferentiated Aquifer. Bedrock is classed as a Secondary A Aquifer.
Hydrology:	The closest surface water feature is an unnamed inland river 73m northeast of the site.
Flooding:	The risk of surface water flooding is classified as negligible. The risk of groundwater flooding is low.
Sensitivity:	Overall, the site setting is considered low sensitivity.

Geo-Environmental Findings	
Mining and Quarrying:	There is a coal outcrop recorded 12.80m southwest of the site boundary known as the Seddon seam. There are no recorded mine entries or shallow workings on site, but due to the coal seam outcrop and past underground mining activity in the area the site there could be unrecorded shallow workings.
Ground Gas:	The desk study has not identified a ground gas risk relating to this site.
Radon:	The property is not within a Radon Affected Area, as less than 1% of properties are above the action level. No radon protection measures may be required for developments undertaken in these areas. The requirement for radon protection measures for any proposed development should be confirmed with local building control.
Potential Contamination:	Potential sources of contamination have been identified on site relating to made ground, also localised contamination could be associated with and above ground storage tank, oil drums, and builder's waste. In addition, further assessment of ground gas risk associated with shallow coal seams is recommended.
Anticipated Foundations:	At this stage, based on available information, it is anticipated that natural glacial till/ weathered bedrock could be present at shallow depth and provide sufficient bearing capacity to enable adoption of spread foundations (i.e strip, trench fill or pad). This needs to be confirmed through an intrusive geotechnical investigation. Alternative foundation solutions may be required where natural soils are found to be of inadequate strength, boulders or cobbles are present at the founding depth, shallow groundwater is found to be problematic and potentially unstable grounds associated with historic mining is present.

Contaminated Land Risk Assessment
Based on the information contained in this report, and with due regard to the residential development, the site represents a moderate/low risk with respect to contaminated land liability issues. Subject to the findings of further investigation and assessment we expect that this can be reduced to low risk.

Coal Mining Risk Assessment
Based on a review of geological mapping and Coal Authority information, a risk to the proposed development has been identified as low associated with unrecorded shallow mine workings.

Recommendations
We recommend that copies of this report are passed to the appropriate regulator for review and comment. We also recommend that intrusive investigations should be undertaken to assess existing ground conditions and provide information for substructure design.

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Appendices

Appendix A – Drawings

Drawing No.	Title
23.183_01_001A	Proposed Site Layout
23.183_01_003C	Existing Site Plan

Appendix B – Environmental Data Report

Appendix C – Historic Maps

Appendix D – Coal Authority Mining Report

Appendix E – BGS Borehole Records

Appendix F – Risk Evaluation

1 FOREWORD

This report has been prepared for the sole use and reliance of Campbell Driver Partnership (the Client) and cannot be relied upon by any other parties without the express written authorisation of PWA Geo-Environmental Ltd. Any unauthorised third party relies on this report at their own risk and the authors owe them no duty of care.

The report presents observations and factual data obtained during our site walkover, along with information reviewed during the desk study and intrusive works and provides an assessment of geo-environmental issues with respect to information provided by the Client regarding the site. There may be other conditions on site not encountered during this investigation and which have not been examined. We cannot accept responsibility for any conditions not revealed by this investigation and confirmation of ground conditions between exploratory locations should be undertaken if considered necessary. Any spatial inference of ground conditions between investigation locations are for guidance only and no liability can be accepted for their accuracy.

The groundwater conditions encountered on site and recorded on exploratory records are those observed at the time of investigation. The normal rate of investigation does not enable the recording of an equilibrium water level. Furthermore, groundwater levels are subject to seasonal variation, changes in weather and changes in local drainage conditions.

The report should be read in its entirety, including all associated drawings and appendices. PWA Geo-Environmental Ltd cannot be held responsible for any misinterpretations arising from the use of extracts that are taken out of context.

The findings and opinions conveyed in this report (including review of any third party reports) are based on information obtained from the sources listed, which PWA Geo-Environmental Ltd understands are reliable. All reasonable skill, care and diligence has been applied in examining the information obtained. However, PWA Geo-Environmental Ltd accepts no responsibility for inaccuracies in the data supplied or for opinions based on any such inaccurate data.

Where the report refers to the potential presence of invasive weeds such as Japanese Knotweed, or the presence of asbestos containing materials, it should be noted that the observations are for information only and should be verified by a suitably qualified expert.

PWA Geo-Environmental Ltd reserves the right to amend their conclusions and recommendations in the light of further information that may become available.

2 INTRODUCTION

2.1 The Commission and Brief

PWA Geo-Environmental Ltd (PWAG) was commissioned by Campbell Driver Partnership to undertake a Phase 1 Geo-Environmental and Coal Mining Risk Assessment to support a planning application for a proposed residential development. Drawings showing existing site layout and proposed site layout are included in **Appendix A**. The development proposals are to retain the existing Wellfield Farm and barn, demolish two existing derelict buildings and build a new 3-bedroom bungalow with associated access road and landscaped areas. Any changes to the proposed layout, site levels and/ or end use may require amendments to this report.

The overall objectives were to:

- Carry out a preliminary environmental risk assessment and Coal Mining Risk Assessment;
- Assess the level of risk associated with potential geo-environmental constraints; and
- Recommend further work where necessary.

This report presents the factual information collected during this assessment, interpretation of the data obtained and recommendations relevant to the commission and brief. General notes and limitations relevant to all PWA Geo-Environmental Ltd investigations are described in the Foreword. These should be read in conjunction with this report. Should this report not address particular questions relevant to your requirements then this must be brought to our attention in advance of works commencing so we can determine if additional work is needed.

2.2 Geo-Environmental Assessment Methodology

Key aspects of this Phase 1 are summarised as follows:

- Review the history of the site and surrounding area from historical Ordnance Survey (OS) maps and any available anecdotal information or historical reports.
- Review information provided by the Coal Authority.
- Review current activities and current condition of the site, based on information made available by the client, regulatory data relating to the site and the results of a site walkover.
- Assess environmental setting from a review of published geological, hydrogeological, hydrological and regulatory data.
- Review online Coal Authority records.
- Assess anticipated ground conditions, including potential contaminants.
- Assess anticipated foundation issues associated with the proposed development.
- Preparation of a conceptual site model and preliminary risk assessment.
- Recommendations for further work, if required.

This review relied on published information and information provided by the client and other parties, including anecdotal information, during the given time period. Regulatory data from public registers and historical OS maps were obtained from a Groundsure report and through consultation with the Environment Agency.

2.3 Scope of the Coal Mining Risk Assessment

This comprised a desk-based study with the following purpose:

- Present a desk-based review of available information on coal mining issues relevant to the application site.
- Use that information to identify and assess the risks to the proposed development from coal mining legacy, including the cumulative impact of such issues.
- Set out appropriate mitigation measures to address the coal mining legacy issues affecting the site, including any necessary remedial works and/or demonstrate how coal mining issues have influenced the proposed development.
- Demonstrate to the Local Planning Authority that the application site is, or can be made, safe and stable to meet the requirements of national planning policy with regard to development on unstable land.

2.4 Sources of Information

The information sources used in the preparation of this report include:

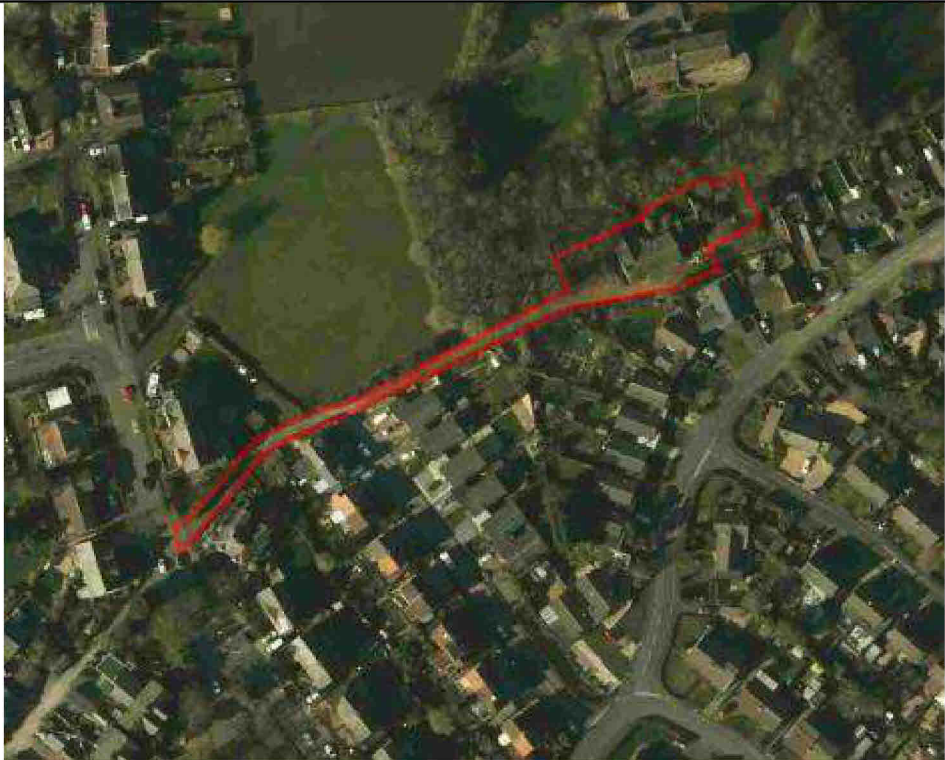
- A Consultants Coal Mining Report (Ref: 51003406974001 dated 22nd February 2024).
- Geological information including the British Geological Survey (BGS) 1:10,000 scale geological map (Sheet SD83SW).
- The Coal Authority online interactive map viewer.
- BGS historic borehole records.
- Local knowledge gained from working on nearby sites.

PWAG cannot accept responsibility for the reliability and authenticity of published information or reports prepared by third parties.

3 SITE PROFILE

3.1 Site Location and Details

Table 1. Site Location and Details	
Address	Land off Herschel Avenue, Burnley, BB12 0LN
National Grid Reference	SD 82371 33719
Area	Approximately 0.18 hectares.
Location	Figure 1 (from the Groundsure Report) is included as a site location plan.



Table 1. Site Location and Details		
		
Ground Cover	Ground Cover	Estimated percentage
	Derelict buildings and overgrown landscape	40 %
	Existing farmhouse and access road	60 %
Known Services	The position of services is not known. A full utilities survey should be undertaken.	
Current Use	Residential	
Proposed Use¹	Residential	

3.2 Site Reconnaissance

Table 2. Site Description	
Summary	The site is located on the northwestern side of Burnley in a residential location, with access to the area gained from Herschel Avenue. The site slopes down from southwest to northeast, following the drive until it levels off where the existing farmhouse is. Structures on site include an existing vacant farmhouse and two derelict outbuildings surrounded by overgrown gardens. The surrounding area is residential and agricultural, sloping in the same direction. During the site walkover various potential sources of contamination were observed including oil drums, above ground storage tanks and builder's waste.
Date of Inspection	12.03.2024
Access	Vehicular access is off Herschel Avenue via the house driveway.
Topography	Topography on site slopes down from southwest to northeast, following the drive until it levels off where the existing farmhouse is. The western end of the farm cuts into the slope and the ground beyond is supported by a small dry stone retaining wall. All surrounding land slopes in the same direction, which follows the reported dip of the underlying strata.

1. Different site uses may introduce changes to pollutant linkages that are not considered in this report.

Table 2. Site Description	
Description	 <p>Refuse bin and waste material.</p>  <p>General view of site to the east showing Wellfield Farm.</p>
	 <p>Oil drums and plastic containers.</p>  <p>Above ground storage tank, waste material and abandoned van.</p>
	 <p>Dilapidated side structure with debris and waste material.</p>  <p>General view of site looking along the drive to the west.</p>
	 <p>Builder's waste.</p>  <p>View of existing farmhouse to the northeast.</p>

Table 2. Site Description				
	 <p>General view of site to the southeast. Vegetation overgrowing waste materials.</p>		 <p>General view of site and derelict outbuildings to the north.</p>	
Site Boundaries	North	East	South	West
	Demarcated by a tree line with a wire fence behind.	Public footpath with a wooden garden fence behind it.	Stone wall.	Demarcated where the access road joins Herschel Avenue.
Adjacent Land Uses	Agricultural.	Residential buildings.	Residential buildings.	Road and residential buildings.
Potential Sources of Contamination	Potential sources of contamination identified during the site inspection include: <ul style="list-style-type: none"> • Above ground storage tank. • Oil drums. • Builder's waste. 			

3.3 Site Regulatory and Environmental Data

Information regarding environmental regulatory controls and pollution incidents in proximity to the site is taken from the Groundsure Enviro Insight Report presented in **Appendix B** and summarised in **Table 3**.

Table 3. Summary of Site Regulatory and Environmental Data					
Data Type	On site	0-50m	51-250m	Details	Potential to impact site?
Historical Industrial Sites					
Potentially contaminative uses	0	0	1	The nearest records identify an historic unspecified quarry 211 m northwest of the site, present between 1891 to 1988.	No
Historical tank database	0	0	0	None listed.	No
Historical energy features	0	1	2	The nearest record refers to a historic electricity substation present from 19768 to 1994.	No
Environmental Permits, Incidents and Registers					
IPC Authorisations	0	0	0	None listed.	No
Licensed Industrial Activities	0	0	0	None listed.	No
Red List Discharge Consents	0	0	0	None listed.	No
Radioactive Substance Authorisations	0	0	0	None listed.	No
Licensed Discharge Consents	0	0	0	None listed.	No
Record of COMAH or NIHHS Sites	0	0	0	None listed.	No

Table 3. Summary of Site Regulatory and Environmental Data					
Data Type	On site	0-50m	51-250m	Details	Potential to impact site?
Recorded Pollution Incidents (EA/NRW)	0	0	1	The nearest pollution incident was 68 m southwest of site and comprised non-identified pollutant incident with no impact to water, air, and land.	No
Sites Determined as Contaminated Land	0	0	0	None listed.	No
Current Land Use					
Industrial Sites Data	0	1	3	The nearest industrial site is an electricity substation 50 m southwest of the site.	No
Petrol and Fuel Sites	0	0	0	None listed	No
IPC = Integrated Pollution Control; IPPC = Integrated Pollution Prevention & Control; LAPPC = Local Authority Pollution Prevention & Controls; APC = Air Pollution Control; COMAH = Control of Major Accident hazards; NIHHS – Notification of Installations Handling Hazardous Materials.					

3.4 Site History

A study of historical Ordnance Survey (OS) maps has been undertaken to identify potentially significant geo-environmental constraints on or near the site. Salient points relating to the history of the site and surrounding area are detailed in **Table 4**. A full copy of the historical maps is included in **Appendix C**.

Table 4. Site History Summary		
Summary		
The earliest map of 1846 shows the site as agricultural land. The site remained undeveloped until 1890 when a building called Wellfield Farm was now present. From then, two outbuilding were added one in 1910 and the other in 1993. Surrounding land use was mostly agricultural until the residential and industrial development of Burnley from 1890s to present.		
Date	Site	Surrounding Land
1846-1848	The site is shown as agricultural land.	Within 500 m of the site to the west and southwest are a 'Colliery', 'Pit House' and 'Old Coal Pits' with a singular 'Old Coal Pit' to the northeast. Approximately 500m to the south of the site a 'Sandstone quarry' is present. The surrounding area is shown as agricultural land with the River Calder running from the northeast to the southeast, and the Leeds and Liverpool Canal running from the east to west. To the southwest of the site the East Lancashire Railway line is shown.
1890-1891	Building labelled Wellfield Farm now present.	To the west and southwest are a 'Colliery', 'Pit House' and 'Old Coal Pits' with a singular 'Old Coal Pit' to the northeast of the site and the 'Sandstone Quarry' are no longer indicated. To the northwest a quarry is now present. To the southwest residential and industrial growth in Burnley is present next to the railway line.
1910-1912	Building added to site in northeast.	Footpath added to the northwest from the site. To the southwest more residential and industrial growth in Burnley is present next to the railway line.
1929	No significant change.	Quarry to the northwest is no longer annotated but former workings still apparent. Residential buildings present directly southwest of the site. To the southwest more residential and industrial growth in Burnley is present next to the railway line.
1931-1965	No significant change.	No significant change.
1967-1972	No significant change.	Electrical substation is indicated to the southwest of the site. More residential development to the south of the site.
1974-1982	No significant change.	No significant change.
1984-1987	No significant change.	Large house appears over former quarry to the northwest.
1988	No significant change.	Further development in the northwest.

Table 4. Site History Summary		
1990-1993	Shape of main farm building changed.	Approximately 100m west of the site a label indicating a gas governor is present. Further development in the northwest.
1993-1994	Map indicates three buildings on site.	No significant change.
2001	No significant change.	Further development to the east and west of site.
2003	No significant change.	No significant change.

3.5 Planning

Burnley Borough Council planning portal identified no applications regarding the site.

4 ENVIRONMENTAL SETTING

4.1 Geology

Online British Geological Survey (BGS) published geological data and the Geo Insight report presented in **Appendix B**, the BGS 1:10,000 sheet (SD83SW) and the BGS 1:50,000 Series Sheet shows the following geological sequence.

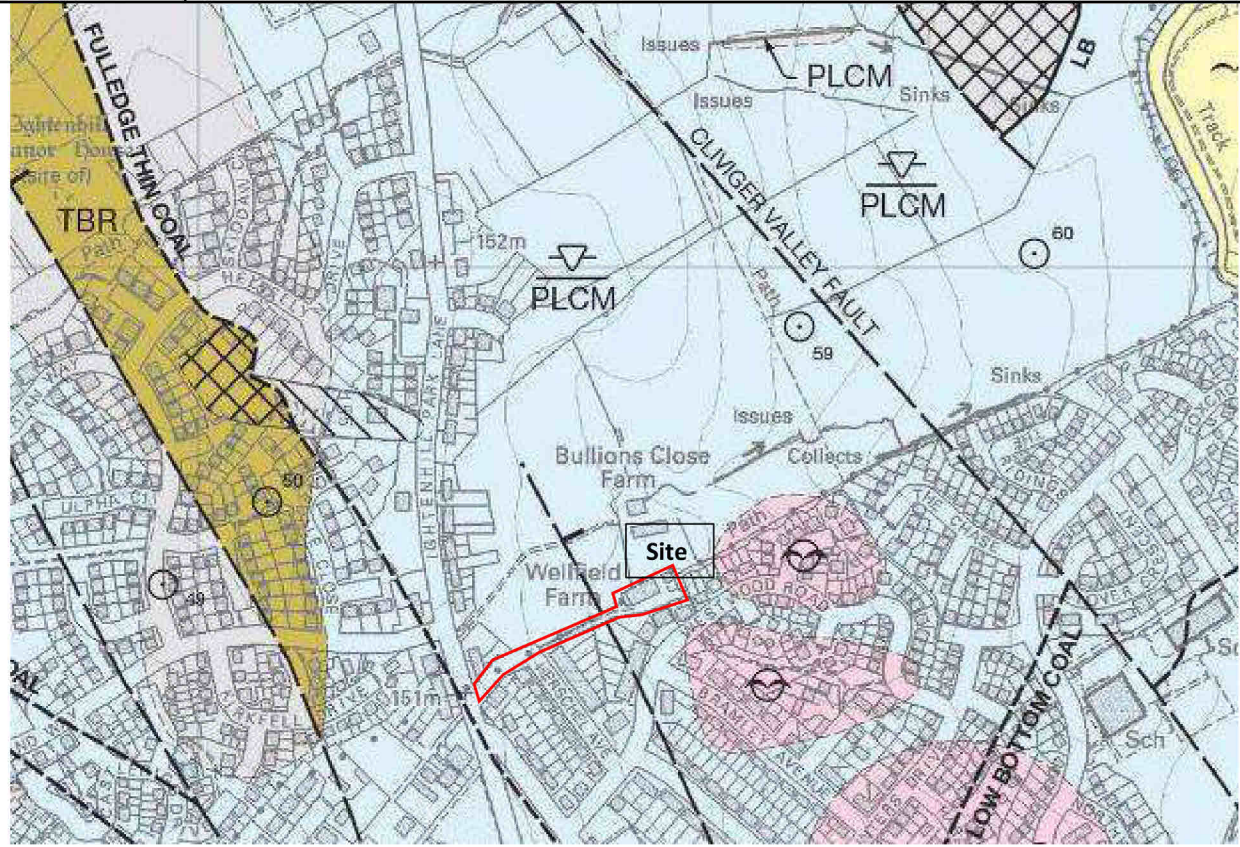
Table 5. Mapped Geology	
Summary	
The anticipated downward sequence comprises made ground over glacial till over mudstone, siltstone, and sandstone bedrock of the Pennine Lower Coal Measures.	
Item	Description
	
Topsoil	Not shown on mapping but expected to be present.
Made Ground	Not mapped but expected to be present associated with buildings and site development.
Superficial	Superficial deposits comprise glacial till (diamicton) across the entire site and most of the surrounding area.
Bedrock	Bedrock comprises undifferentiated mudstone, siltstone and sandstone of the Pennine Lower Coal Measures Formation (PLCM). The Fulledge Thin Coal is shown to subcrop approximately 150 m west of Wellfield Farm.

Table 5. Mapped Geology	
	There is a fault cutting through the middle of the site that trends northwest to southeast. This is located approximately 20 m west of the Wellfield Farm building.
BGS Borehole Records	<p>There are two BGS borehole records available within 125 m of the site. The nearest is located 25 m southeast and is identified as SD83SW 412, a 7.50 m borehole drilled in 1989 for Wain Homes Ltd. This borehole shows 0.40 m of topsoil then 4.10 m of firm clay followed by 3.00 m of boulder clay down to the base of the borehole at 7.50 m bgl.</p> <p>The other borehole located approximately 50 m east and identified as SD83SW 411 encountered 0.25 m of topsoil over gravelly clay to 3.00 m where a large obstruction was encountered resulting in the borehole being abandoned.</p>

4.2 Mining and Quarrying

The Coal Authority Interactive Map viewer and historical OS maps were reviewed to determine potential constraints associated with former mining activities. There is a coal subcrop identified west of the site boundary known as the Fulfilled Thin Coal. There are no recorded mine entries or shallow workings on site, but due to the coal seam outcrop and past underground mining activity in the area there could be unrecorded shallow workings. This is discussed in Section 7.

The closest quarry to the site, based on a review of historical OS maps, identified Hill Farm Quarry approximately 336 m to the northwest. Given the distance between the site, and that there has been residential development on this quarry, this is not considered to represent a risk to the proposed development.

4.3 Radon

The property is not within a Radon Affected Area, as less than 1% of properties are above the action level. No radon protection measures may be required for developments undertaken in these areas. The requirement for radon protection measures for any proposed development should be confirmed with local building control.

4.4 Hydrogeology

The following hydrogeological assessment is based upon data from the Groundsure report.

Table 6. Hydrogeology		
Summary		
Glacial till is classed as a Secondary Undifferentiated Aquifer. Bedrock is classed as a Secondary A Aquifer.		
	Superficial Geology	Bedrock Geology
Aquifer status	Secondary undifferentiated.	Secondary A Aquifer.
Abstractions within 500m	None.	None.
Source Protection Zone (within 500 m)	None.	None.
Anticipated groundwater flow	Not expected in glacial till.	Not known but likely to follow regional dip of strata to southeast.
Permeability	Glacial till is expected to have a very low permeability.	Secondary A aquifer has permeable layers capable of supporting water supplies at a local scale.
Rainwater infiltration - potential for soakaways	Unlikely in glacial till.	Likely to be low due to presence of glacial till. However, if bedrock is present at shallow depth, it may be possible.
Groundwater vulnerability	Low – thickness of superficial deposits is expected to be <3 m.	Low – well connected fractures form the flow mechanism.

4.5 Hydrology

The following hydrological assessment is based upon data from the Groundsure report and the EA Catchment Data Explorer.

Table 7. Hydrology	
Summary The closest surface water feature is an unnamed inland river 73m northeast of the site.	
Item (within 250 m radius)	Comments
Nearest surface waterbody	The closest surface water feature is an unnamed inland river not influenced by normal tidal action 73m northeast of the site.
Pollution Incidents	None within a 250 m radius.
Surface water abstractions	None within a 250 m radius.
Discharge consents	None within a 250 m radius.
Latest ecological quality	Not classified.
Latest chemical quality	Not classified.
Surface water sensitivity	Low given residential area.

4.6 Flood Risk

There are no records relating to historical floods on or within 250 m of site.

The risk of surface water flooding is classified as negligible.

The risk of groundwater flooding is low.

No further consideration of flood risk is undertaken in this report.

4.7 Landfill and Ground Gas Risk

The following information regarding landfills and other waste sites is taken from the Groundsure Report.

Table 8. Summary of Landfill and Other Waste Sites				
Summary The desk study has not identified a ground gas risk relating to this site.				
Data Type	0-250 m	251-500 m	Details	Potential for Impact on-site?
Active or recently closed landfill sites under EA/NRW regulation	0	0	None within 500m	No
Historical landfill (BGS/DoE records)	0	1	One landfill 283 m northwest of the site. The record notes no risk to the aquifer.	No
Historical EA/NRW Landfill Sites	1	0	One landfill record 202m northwest of the site accepting non-identified waste from 1948.	No
Historical waste sites	0	0	None within 500m	No
EA/NRW Licensed Waste Sites	0	0	None within 500m	No
Waste Exemptions	2	4	The closest waste exemptions are both listed 227m north of the site and described as storage of sludge on a farm.	No
Geological Conditions	The Fulfilled Thin Coal seam is conjectured to subcrop 12.8 m west of the site and could represent a potential source of ground gas if worked. Nearby BGS borehole records that have penetrated			

Table 8. Summary of Landfill and Other Waste Sites	
	this coal seam (discussed in Section 8.1) did not record evidence of workings. On this basis we do not consider coal to represent a risk of ground gas to the property. However, if further evidence comes to light (such as unrecorded mine entries or other evidence of shallow workings) then this opinion will require review.
EA = Environment Agency; NRW = Natural Resources Wales; BGS = British Geological Survey; DoE = Department of the Environment.	

4.8 Unexploded Ordnance

A Zetica Unexploded Bomb Risk Map indicates the site to be in an area of low risk. In such cases Zetica advises that ‘there is no greater probability of encountering UXO than anywhere else in the UK’ and ‘works can proceed with no special precautions’.

4.9 Environmentally Sensitive Sites

The following records of designated environmentally sensitive sites have been identified within 500 m of the site:

- The site is located within the Merseyside and Greater Manchester Green Belt.
- The site is located within a Site of Special Scientific Interest (SSSI) Impact Risk Zone. The proposed development does not appear to require consultation.

4.10 Summary of Environmental Sensitivity

The environmental sensitivity of the site has been established based on the following reasons.

Table 9. Sensitivity of Environmental Receptors and Mitigating Aspects			
Summary			
Overall, the site setting is considered low sensitivity.			
Receptor Type	Receptor(s)	Sensitivity	Reason
Groundwater – superficial strata	Undifferentiated aquifer	Low	Superficial deposits comprise glacial till that is expected to be low permeability.
Groundwater – bedrock	Secondary A Aquifer	Low	Glacial till is expected to protect underlying bedrock aquifer.
Surface water	Unnamed stream 73m northeast of site.	Low	Site and the stream are separated by agricultural areas.
Site setting	Local environment	Low	Surrounding land is residential and agricultural.
Proposed Residential Development	Future site users	Low	The site is proposed to be a residential development.
These factors are further mitigated by:			
<ul style="list-style-type: none"> • The absence of groundwater source protection zone within 500 m. 			

5 PREVIOUS REPORTS

No previous reports were made available for the study site.

6 CONTAMINATION RISK ASSESSMENT

6.1 Ground Model

Ground conditions are anticipated to comprise block pave, concrete and asphalt hardstand or topsoil over an unknown depth of made ground. Underlying natural geology is expected to comprise glacial till over undifferentiated mudstone, siltstone and sandstone.

Perched groundwater is anticipated to be present in made ground and glacial till, and regional groundwater is expected to be present in the Secondary A Aquifer.

6.2 Preliminary Conceptual Site Model

Based on the desk study information, a preliminary conceptual site model (CSM) has been developed. This section summarises the understanding of surface and sub-surface features, potential contaminant sources, receptors that could be affected (such as human health and controlled waters) and pathways linking the two.

Potential risks associated with asbestos containing materials in the fabric of the building are not considered in this assessment. We assume that these risks are identified on the facility's asbestos register and managed appropriately. At some time in the future, when the buildings require renovation/ demolition, we recommend that a further and more detailed pre-demolition asbestos survey is undertaken. Before renovation/demolition, all asbestos containing material must be removed from site by a suitably qualified contractor and supported by a detailed verification report.

Potential Sources of Contamination	Potential Transport Pathways and Pollutant Linkages	Potential Receptors
<p>On-site sources Potential sources of contamination identified include:</p> <ul style="list-style-type: none"> Made ground. Above ground tank and oil drums. Builder's waste. <p>Contaminants could include heavy metals, polycyclic aromatic hydrocarbons, total petroleum hydrocarbons and asbestos.</p> <p>On and off-site sources</p> <ul style="list-style-type: none"> Potential ground gases associated with shallow workings in coal seams. 	<ul style="list-style-type: none"> Direct contact, ingestion or inhalation of soil bound contaminant. Leaching of contaminants into groundwater followed by migration of groundwater to the wider environment or surface water. Inhalation of hazardous ground gases (asphyxiation). Accumulation of hazardous ground gases in confined spaces (explosion). 	<p>Controlled waters</p> <ul style="list-style-type: none"> Underlying Secondary Aquifer. Surface water. <p>Human Health</p> <ul style="list-style-type: none"> Current site users. Future site users. Construction workers during redevelopment works. <p>Construction Materials</p> <ul style="list-style-type: none"> Buried concrete in ground (foundations and building materials). Underground services.

6.3 Qualitative Risk Assessment

A qualitative risk assessment is undertaken of potential pollutant linkages following the guidance presented in **Appendix F**, and is based on consideration of both:

- The likelihood of an event (probability – considers both the presence of the hazard and receptor and the integrity of the pathway); and
- The severity of the potential consequence (considers both the potential severity of the hazard and the sensitivity of the receptor).

Potential risks related to these plausible linkages are based on redevelopment of the site with a proposed commercial end use assuming no mitigation is implemented. These are summarised in Table 11.

Source	Pathways to Receptor	Receptors	Associated Hazard [Potential severity]	Likelihood / Potential Mitigation	Potential Risk
Made ground	Direct contact, ingestion or inhalation of soil bound contaminant.	Current site users.	Effect on human health [Medium]	Unlikely: Made ground is currently sealed beneath the hardcover of the development or landscaped areas.	Low
		Future site users. Construction workers.		Low likelihood: Any made ground, if present, will either be removed from site or isolated beneath hard cover of the development. Any risk can be mitigated by appropriate site management.	Moderate/low
	Direct contact	Buried concrete.	Degradation [Mild]	Low likelihood: Any potential risks can be mitigated by using appropriate construction materials.	Low

Table 11. Preliminary Environmental Risk Assessment					
Source	Pathways to Receptor	Receptors	Associated Hazard [Potential severity]	Likelihood / Potential Mitigation	Potential Risk
	Leaching into groundwater followed by lateral migration into surface water	Underlying Secondary Aquifer.	Pollution of controlled waters [Mild]	Low likelihood: Groundwater is considered medium vulnerability to site derived contamination. The site is not within a ground source protection zone.	Low
Above ground tank and oil drums.	Leaching into groundwater followed by lateral migration into surface water	Underlying Secondary Aquifer.	Pollution of controlled waters [Medium]	Low likelihood: Unknown if tank or oil drums are empty. However, no significant odours or oil staining was noted.	Moderate/low
	Direct contact	Water pipes	Degradation [Mild]	Low likelihood: Any potential risks are likely to be localised and can be mitigated by avoiding areas of contamination (if present) or using appropriate construction materials.	Low
Ground gases	Inhalation of hazardous ground gases (asphyxiation). Accumulation of hazardous ground gases in confined spaces (explosion).	Future site users.	Asphyxiation/explosion [Medium]	Unlikely: Available evidence indicates that shallow coal seams beneath the site have not been worked.	Low
		Construction workers.		Unlikely: Access to confined spaces must be prevented unless undertaken in accordance with a standard operating procedure.	Low
Builder's waste.	Direct contact, ingestion, or inhalation of contaminant	Current site users.	Effect on human health. [Medium]	Low likelihood: Waste is currently fenced off from site users. Any risk can be mitigated by appropriate site management. All waste materials should be removed from site before development commences.	Moderate/low
		Future site users. Construction workers.		Low likelihood: Builder's waste will be removed from site before the development starts. Any risk can be mitigated by appropriate site management.	Moderate/low

7 IDENTIFICATION AND ASSESSMENT OF SITE SPECIFIC COAL MINING

The table below summarises potential issues identified by the Coal Authority Interactive Map viewer:

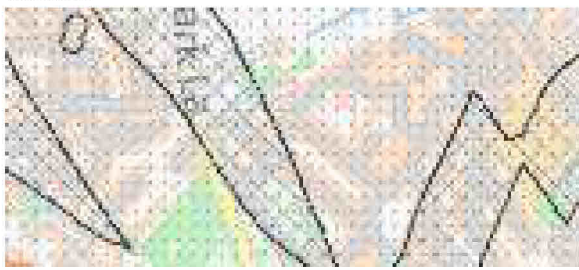

Table 12. Coal Authority Interactive Map Information		
Information	Site Affected	Comment
Coal Mining Reporting Area	Yes	A report is presented in Appendix D .
Mine Entry	No	No mine entries are shown on or within the vicinity of the site.
Development High Risk Area	Yes	The access road to site is identified (by cross hatching) as a development high risk area. 
Past Shallow Coal Mine Workings	No	No past shallow coal mine workings are shown on or within the vicinity of the site.
Probable Shallow Coal Mine Workings	Yes	Probable shallow coal mine workings are shown across the site access road and are identified by the hatching in the excerpt above. The eastern limit of

Table 12. Coal Authority Interactive Map Information		
Information	Site Affected	Comment
		the probable workings appears to correspond with a fault (shown as a gold line in the plan below).
Coal Outcrops	Yes	<p>A coal outcrop is shown west of the site in a band trending in a northwest to southeast direction. This is identified as dashed line on the below extract.</p> 

The table below summarises the potential risks identified by the Coal Authority Coal Mining Report, and Shaft Plan and Data Sheets presented in **Appendix D**.

Table 13. Coal Mining Risk Assessment			
Summary			
<p>The Coal Authority mining report indicates that the access road to the property is within an area where coal is at or close to the surface (i.e. less than 30 m deep) and may have been worked in the past. The mining report also identified a coal seam subcrop 12.8 m southwest of site and a geological fault running through the access road to the property. Based on the findings of this risk assessment, the probability of these features adversely affecting the proposed development is low and no further work is necessary at this stage.</p>			
Issue	Yes	No	Risk Assessment
Past underground coal mining.	Yes		The mining report identifies that the Arley Coal has been worked beneath the site at depths between 141 m and 277 m with an extraction thickness of 1.2 m. This was last mined in 1959. The dipping rate of the seam was between 4° and 12° to the northeast.
Probable unrecorded shallow workings.	Yes		The access road to the property is in an area where the Coal Authority believe there is coal at or close to the surface that may have been worked in the past (i.e. less than 30 m deep). However, this area stops at the geological fault and does not extend beneath the proposed buildings.
Mine entries (shafts and adits).		No	No mine entries recorded.
Outcrops.	Yes		A coal outcrop is shown 12.8m southwest of the site in a band trending in a northwest to southeast direction. The mining report identifies this as the Seddon (S) whereas the geological map identifies it as the Fulledge Thin (Habergham Blindstone; Top) Coal with a reported thickness of 0.4-1.0 m.
Coal mining geology (fissures).		No	No fissures recorded. A fault is shown.
Coal mining subsidence.		No	The Coal Authority has not received a damage notice or claim for the subject property or any property within 50 m of the enquiry boundary since 1994.
Mine gas.		No	None recorded within 500 m of the boundary of the property.
Recorded coal mining hazard.		No	None recorded.
Surface mining (opencast workings).		No	None recorded within 500 m of the enquiry boundary.

Table 13. Coal Mining Risk Assessment			
Investigation or remedial activity.		No	No investigations recorded.

8 MITIGATION STRATEGY PROPOSED

8.1 Probable Unrecorded Shallow Workings and Outcrops

As a rule of thumb for crown hole collapse, ten times the seam thickness of competent rock cover is assumed to provide adequate protection for new developments from workings in underground coal. This is based on guidance given in CIRIA Special Publication 32, reprinted 2002. However, the Coal Authority recently released Technical Guidance Note TGN01/2019 describing findings from a large subsidence event on a residential estate. In this note they advised that ‘other subsidence mechanisms can occur, such as pillar failure, for which the 10 times rock cover rule of thumb is not an appropriate guide’. Furthermore, CIRIA updated their guidance on building over abandoned mineworkings in September 2019 in Abandoned mine workings manual C758D. In this document they state that “The actual geological, site locale and development circumstances will influence the selection of a site-specific cover ratio, as will the proposed end use. Past performance for the locality can also be a guide, principally meaning either the notoriety or good reputation of the workings regarding surface impacts.”

The access road to the property is in an area where the Coal Authority believe there is coal at or close to the surface that may have been worked in the past (i.e. less than 30 m deep). The site is also potentially affected by one coal seam, the Fullede Thin, that is indicated to subcrop 12.8 m southwest of site in a band trending in a northwest to southeast direction. The associated risk is discussed in Table 14.

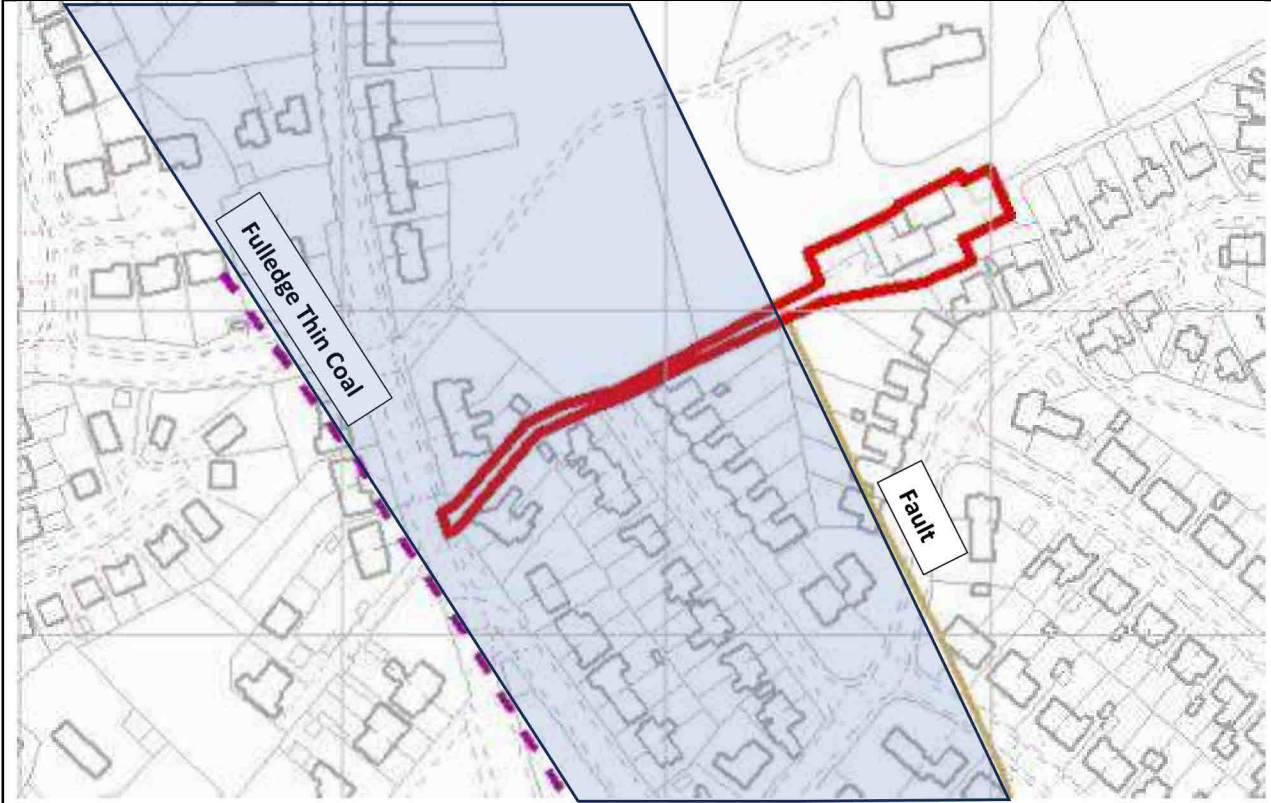
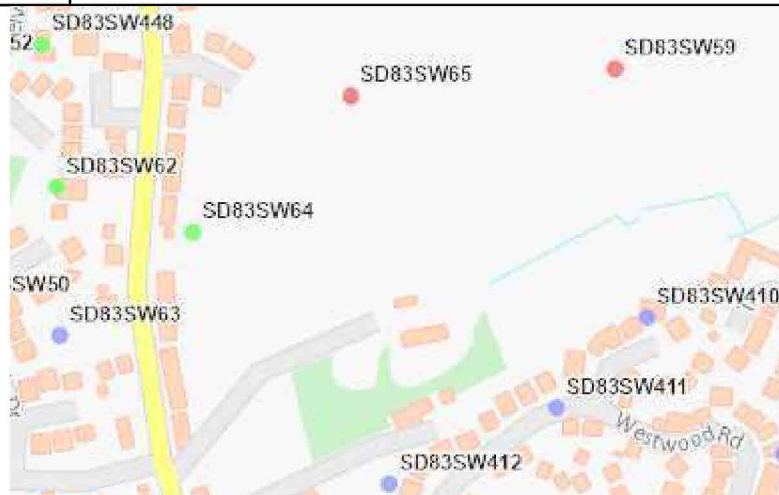
Table 14. Potential Risk from Unrecorded Shallow Workings			
			
Strata Name	Maximum Thickness	Comment	Potential Risk
Fullede Thin Coal (Habergham Blindstone)	1.00 m	This seam is indicated to outcrop 12.80 m southwest of the site and is of workable thickness. This seam dips northeast and the normal fault running through site marks the eastern limit of the development high risk area (shaded blue).	Low

Table 14. Potential Risk from Unrecorded Shallow Workings			
		<p>To the east of this, the fault downthrows the Fulfilled Thin Coal resulting in a greater depth of competent rock cover in the development area. This is why this area is not indicated as a high-risk development area. Therefore, we do not consider this seam to represent a risk to the proposed building development.</p> <p>In addition, boreholes SD83SW64, SD83SW65 and SD83SW59 are located approximately 180 m northwest, 210 m north and 270 m northeast respectively. Copies of these borehole records are presented in Appendix E and show:</p> <ul style="list-style-type: none"> • SD83SW64 reported 4.22 m of marl and clay over bedrock with the Habbergham Blindstone (also known as the Fulfilled Thin) at 12.80 m deep with a thickness of 0.91 m. This equates to 9 times seam thickness of competent rock cover. • SD83SW65 reported 6.76 m of marl and clay over bedrock with the Habbergham Blindstone at 15.22 m deep with a thickness of 0.92 m. This equates to 9 times seam thickness of competent rock cover. • SD83SW 59 reported 4.57 m of clay and marl over bedrock with the Habbergham Blindstone at a depth of 20.93 m. The coal seam has a reported thickness of 0.74 m although at this location it comprises two leaves with a 0.1 m thick separation. This is the equivalent to 22 times thickness of competent rock cover. <p>An important observation from these records is that coal was present in all three borehole logs with no indication of voids or workings.</p> <p>The vertical succession on the geological map indicates that the next coal seam above the Fulfilled Thin Coal to be the Inferior Cannel that ranges from 0 m to 0.8 m thick. The vertical separation measured between these two coal seams is approximately 20 m and, on this basis, we do not expect this seam to be present in this area. Furthermore, none of the above borehole records encountered shallow coal that further indicates this coal seam to be absent from this area.</p>	
			
Padiham Thick Coal	5.30 m	<p>On the vertical succession of the geological map, and approximately 42 m below the Fulfilled Thin, is the King Coal. The amalgamation of these coals on the geological map is identified as the Padiham Thick Coal that was the thickest coal in the South Lancashire Coalfield and had a reported thickness of 5.30 m. The borehole records do not show any evidence of this coal in this area and is therefore discounted from representing a risk.</p>	None
Arley Coal	1.20 m	<p>This seam is indicated to be worked southwest of site and is of workable thickness. This seam dips 4° northeast and is at an approximate depth of 141 m at the site boundary, that would be equivalent to 117 times seam thickness of cover. The normal fault running through site downthrows the seam which would give more competent rock cover in the development area. Therefore, we do not consider this seam to represent a risk to the proposed development.</p>	Low

According to mapping records, the buildings currently on site have been there since the 1890s and we have not been advised of any significant subsidence issues resulting in a claim. Based on the above information, a risk to the proposed

development has not been identified associated with unrecorded shallow workings in the Fulfilled Thin Coal or deeper workings in the Arley Coal seams.

8.2 Mine Entries

There are no recorded mine entries within or within 20m of the site. However, the prospect of encountering unrecorded mine entries (such as bell pits) cannot be ruled out. During preparatory works for the proposed new building, we recommend that where made ground is removed the undisturbed natural ground should be inspected for evidence of signs of worked ground that could be indicative of infilled mine entries. If there is any evidence, advice regarding treatment/ foundation precautions should be sought immediately from a suitably qualified engineer.

8.3 Mine Gas

Shallow mine workings represent a potential source of mine gas that can be a risk because of the potential for large volumes to accumulate in the open workings and also for preferential pathways to be present. Conversely, the presence of unworked coal in the ground is not considered a credible source of ground gas. Therefore it is important to verify whether the seams have been worked. From the borehole records presented in **Appendix E** it would appear that the Fulfilled Thin hasn't been worked, or if it has been then these workings appear to be limited in extent. If the coal has been worked in the past then it seems reasonable to assume this would have targeted the coal at its shallowest point i.e. close to subcrop and to the west of the proposed development area.

9 CONCLUSIONS AND RECOMMENDATIONS

This has been performed for the proposed residential development described in Section 2.1. The proposed site plan is presented in **Appendix A**. For the purpose of this report, we have assumed that proposed levels will not be significantly different to those existing. If any of our assumptions are incorrect then the conclusions in this report may require reassessment.

<p>Geotechnical Conclusions</p>	<p>The main issues considered in this report are based upon a review of environmental data, historical maps and geological data. This report provides a brief assessment of geo-environmental issues and implications associated with the proposed development:</p> <ul style="list-style-type: none"> • Underlying ground conditions are likely to comprise a variable depth of made ground overlying glacial till. Bedrock comprises mudstone, siltstone, and sandstone at unknown depths. • Given the presence of glacial till, it is considered unlikely that soakaways would be suitable for the disposal of surface water unless permeable bedrock is present at shallow depth. Based upon BGS borehole records, this does not appear to be the case. • Based on available information, it is anticipated that natural glacial till/weathered bedrock could be present at shallow depth and provide sufficient bearing capacity to enable adoption of spread foundations (i.e strip, trench fill or pad). Alternative foundation solutions may be required where natural soils are found to be of inadequate strength, boulders or cobbles are present at the founding depth, shallow groundwater is found to be problematic and potentially unstable grounds associated with historic mining is present. • At this stage, no site specific geotechnical ground investigation data is available and therefore it is only possible to estimate ground conditions. Foundation solutions will be dependent on a number of parameters including finished levels, loadings, bearing capacity of the natural strata, depth to bedrock, groundwater levels, proximity of trees, slope stability etc. • Before firm foundation, floor slab and pavement design recommendations can be provided an intrusive geotechnical investigation should be undertaken.
<p>Coal Mining Risk Assessment</p>	<p>Based on a review of geological mapping and Coal Authority information, a low risk to the proposed development has been identified associated with unrecorded shallow mine workings. Whilst the western part of the site corresponds to a development high risk area this corresponds to an existing access road and is away from the proposed building. Furthermore, three nearby BGS borehole records did not identify evidence of workings in the shallow coal seam present at this site. Therefore, we do not consider that further investigation or mitigation measures are necessary. That said, the developer should maintain a watching brief for potential unrecorded mine workings during the development.</p>
<p>Environmental Conclusions</p>	<p>Based on a review of desk study data and observations during the site inspection, the preliminary environmental risk assessment has not identified evidence for significant contamination from historical and current land use. However:</p>

	<ul style="list-style-type: none"> • given the residential development and former farm buildings made ground is expected; • the site inspection identified evidence of potentially localised contamination associated with and above ground storage tank, oil drums, and builder’s waste; and • The site is not within a radon affected area and protective measures are not required.
Contaminated Land Risk Assessment	Based on the information contained in this report, and with due regard to the residential development, the site represents a moderate/low risk with respect to contaminated land liability issues. Subject to the findings of further investigation and assessment we expect that this can be reduced to low risk.
Preliminary Remediation Recommendations	Waste materials identified at this site during the inspection should be removed to a suitably licensed facility before development commences. Therefore, at this preliminary stage and based upon research to date, we have assumed that remediation measures will not be required. If low concentrations of contamination are present, then this would be sealed beneath the hardcover of the development or clean cover system in landscaped areas.
Unexpected Findings Protocol	If unexpected potentially contaminated materials (such as those with an unusual colour, odour or containing drums, chemicals or asbestos, etc) or shallow mine workings are encountered at any time during redevelopment then work should stop and a suitably qualified environmental consultant should be contacted to advise on the appropriate course of action.
Other Considerations	Where it is necessary to remove material from site, this should be assessed for waste disposal, treatment or recycling requirements. Alternatively, subject to further evaluation, natural soils could be suitable for reuse on other developments where an approved materials management plan is in place.
Recommendations for further work	<p>To facilitate the proposed development a geo-environmental investigation should be undertaken to assess existing conditions and provide information for substructure design. As an overview, this should include:</p> <ul style="list-style-type: none"> • Investigations to confirm underlying ground conditions including the depth and composition of made ground and natural ground to determine the depth to suitable founding strata; • Evaluation of depth and design details of existing building foundations; • Geochemical testing of representative samples to evaluate potential contamination sources and confirm suitability of reusing material on site; • Geotechnical testing of representative samples, to evaluate the characteristics of the natural deposits; and • Documentation of findings in a report. <p>Subject to the findings of this assessment further work may be required.</p>

10 REGULATORY APPROVALS

The conclusions and recommendations presented in this report are considered reasonable based on the information that was available. However, these are not guaranteed to gain approval from regulatory authorities. Therefore, we recommend that copies of this report are passed to the appropriate regulator for review and comment before undertaking any additional work.

Appendix A

Drawings



1:1000
 A1
 23.183.01_001

FOOTPATH

NEW 3 bed BUNGALOW

turning head

3 car spaces

Wellfield Farm and barn
buildings and residential use retained

3 car spaces

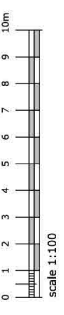
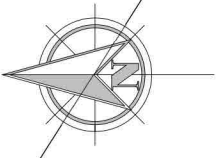
turning head

ADJACENT TREE BELT

30

26

WOOD

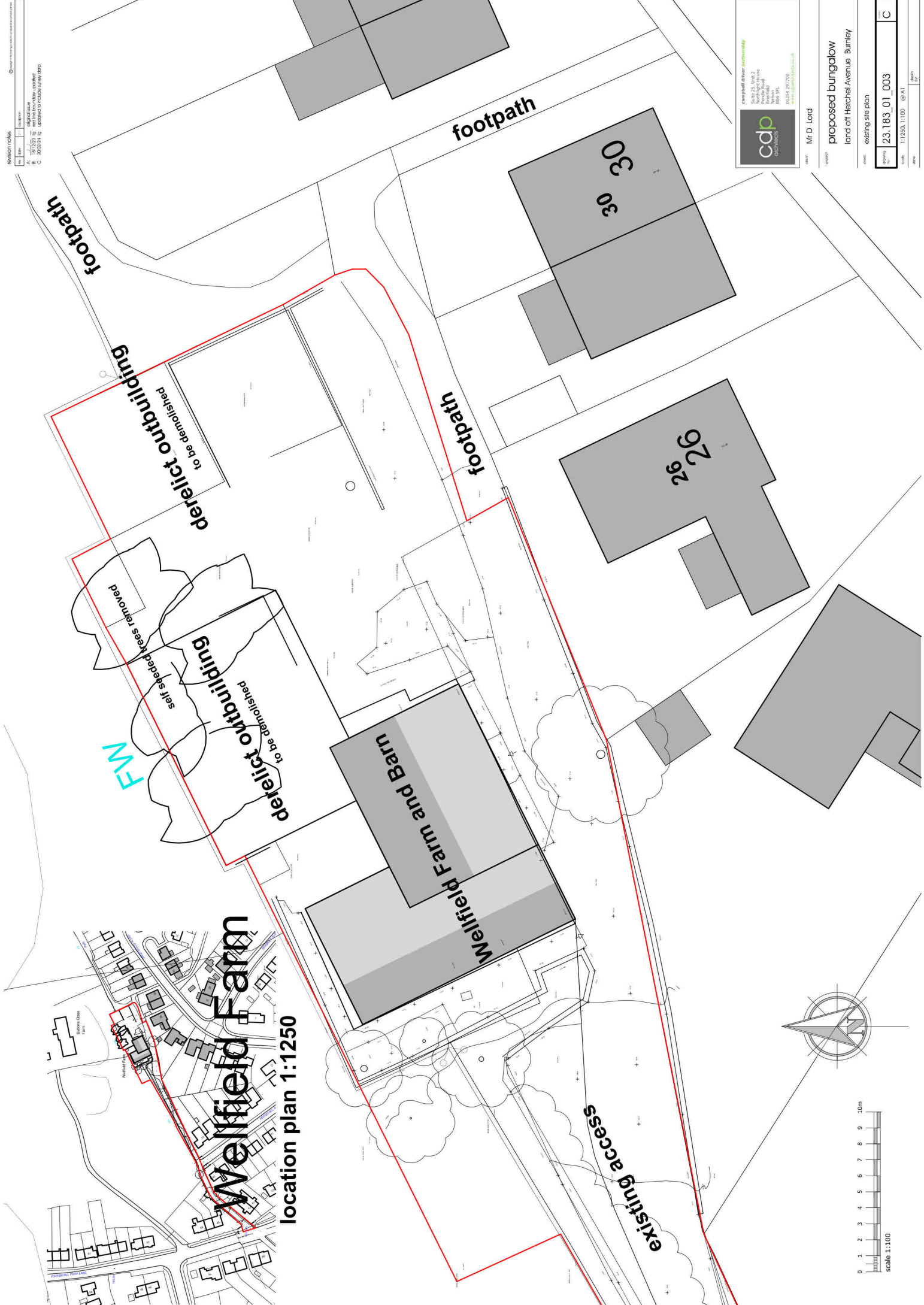


scale 1:100

ccb
 GARDEN DESIGN
 01243 727790
 www.ccbgardendesign.co.uk

client: Mr D Lord
 project: proposed bungalow
 land off Herchel Avenue, Burnley
 sheet: proposed site layout
 drawings: 23.183.01_001
 scale: @ A1 1:100
 date: nov 23

REVISION NOTES
 No. Date Description
 A. 17/03/24 Initial drawing created
 B. 20/03/24 Updated to include planning data
 C. 20/03/24



FM

Wellfield Farm

location plan 1:1250

Wellfield Farm and Barn

derelict outbuilding to be demolished

derelict outbuilding to be demolished

self-seeded trees removed

footpath

footpath

existing access

30
30

26
26


 camphill driver partnership
 Suite 25, Unit 2
 The Mill
 Herchel Road
 Burnley
 BB5 9SL
 01282 327790
 www.camphilldriverpartnership.co.uk

client: Mr D Lord
 project: proposed bungalow
 land off Herchel Avenue, Burnley
 drawing: existing site plan

sheet:	1:1250, 1:100 @ A1
date:	23.183.01_003
drawn by:	C

Appendix B

Environmental Data Report

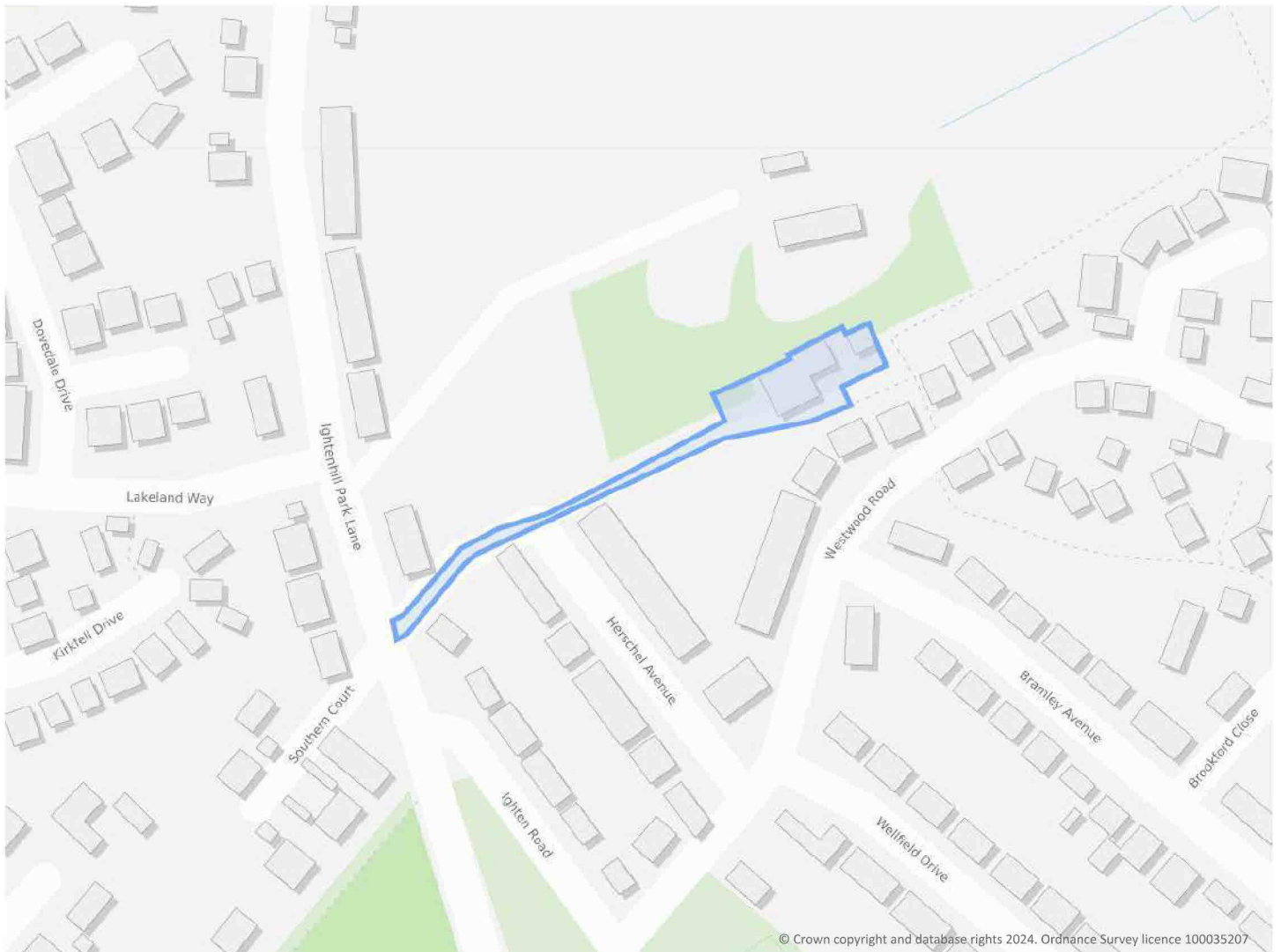
1, HERSCHEL AVENUE, BURNLEY, LANCASHIRE, BB12 0LN

Order Details

Date: 22/02/2024
Your ref: 24030
Our Ref: GS-G2K-52K-S6H-VEH

Site Details

Location: 382347 433706
Area: 0.18 ha
Authority: [Burnley Borough Council](#) ↗



Summary of findings

[p. 2 >](#)

Aerial image

[p. 9 >](#)

OS MasterMap site plan

[p.13 >](#)

groundsure.com/insightuserguide ↗

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
14 >	1.1 >	Historical industrial land uses >	0	0	4	21	-
16 >	1.2 >	Historical tanks >	0	0	0	2	-
16 >	1.3 >	Historical energy features >	0	1	2	9	-
17	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	Historical garages	0	0	0	0	-
17	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
18 >	2.1 >	Historical industrial land uses >	0	0	8	30	-
20 >	2.2 >	Historical tanks >	0	0	0	3	-
20 >	2.3 >	Historical energy features >	0	7	10	37	-
23	2.4	Historical petrol stations	0	0	0	0	-
23	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
24	3.1	Active or recent landfill	0	0	0	0	-
24 >	3.2 >	Historical landfill (BGS records) >	0	0	0	1	-
25 >	3.3 >	Historical landfill (LA/mapping records) >	0	0	0	2	-
25 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	1	0	-
26	3.5	Historical waste sites	0	0	0	0	-
26	3.6	Licensed waste sites	0	0	0	0	-
26 >	3.7 >	Waste exemptions >	0	0	2	4	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
27 >	4.1 >	Recent industrial land uses >	0	1	3	-	-
28	4.2	Current or recent petrol stations	0	0	0	0	-
28	4.3	Electricity cables	0	0	0	0	-
28	4.4	Gas pipelines	0	0	0	0	-
28	4.5	Sites determined as Contaminated Land	0	0	0	0	-

29	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-			
29	4.7	Regulated explosive sites	0	0	0	0	-			
29	4.8	Hazardous substance storage/usage	0	0	0	0	-			
29	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-			
29	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-			
30	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-			
30	4.12	Radioactive Substance Authorisations	0	0	0	0	-			
30	4.13	Licensed Discharges to controlled waters	0	0	0	0	-			
30	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-			
30	4.15	Pollutant release to public sewer	0	0	0	0	-			
31	4.16	List 1 Dangerous Substances	0	0	0	0	-			
31	4.17	List 2 Dangerous Substances	0	0	0	0	-			
31	>	4.18	>	Pollution Incidents (EA/NRW)	>	0	0	1	0	-
31	4.19	Pollution inventory substances	0	0	0	0	-			
32	4.20	Pollution inventory waste transfers	0	0	0	0	-			
32	4.21	Pollution inventory radioactive waste	0	0	0	0	-			

Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m			
33	>	5.1	>	Superficial aquifer	>	Identified (within 500m)				
35	>	5.2	>	Bedrock aquifer	>	Identified (within 500m)				
36	>	5.3	>	Groundwater vulnerability	>	Identified (within 50m)				
37	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)							
37	5.5	Groundwater vulnerability- local information	None (within 0m)							
38	>	5.6	>	Groundwater abstractions	>	0	0	0	0	6
40	>	5.7	>	Surface water abstractions	>	0	0	0	0	6
42	5.8	Potable abstractions	0	0	0	0	0			
42	5.9	Source Protection Zones	0	0	0	0	-			
42	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-			
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m			
43	>	6.1	>	Water Network (OS MasterMap)	>	0	0	5	-	-

44 >	6.2 >	Surface water features >	0	0	5	-	-
44 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
45 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
45 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-

Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
46	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
46	7.2	Historical Flood Events	0	0	0	-	-
46	7.3	Flood Defences	0	0	0	-	-
47	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
47	7.5	Flood Storage Areas	0	0	0	-	-
48	7.6	Flood Zone 2	None (within 50m)				
48	7.7	Flood Zone 3	None (within 50m)				

Page	Section	Surface water flooding					
49	8.1	Surface water flooding	Negligible (within 50m)				

Page	Section	Groundwater flooding >					
50 >	9.1 >	Groundwater flooding >	Low (within 50m)				

Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
51	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
52	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
52	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
52	10.4	Special Protection Areas (SPA)	0	0	0	0	0
52	10.5	National Nature Reserves (NNR)	0	0	0	0	0
53 >	10.6 >	Local Nature Reserves (LNR) >	0	0	0	0	1
53 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	3
53	10.8	Biosphere Reserves	0	0	0	0	0
54	10.9	Forest Parks	0	0	0	0	0
54	10.10	Marine Conservation Zones	0	0	0	0	0
54 >	10.11 >	Green Belt >	1	0	0	0	1
54	10.12	Proposed Ramsar sites	0	0	0	0	0



55	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
55	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
55	10.15	Nitrate Sensitive Areas	0	0	0	0	0
55	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
56 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
57	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
58	11.1	World Heritage Sites	0	0	0	-	-
59	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
59	11.3	National Parks	0	0	0	-	-
59 >	11.4 >	Listed Buildings >	0	0	2	-	-
60	11.5	Conservation Areas	0	0	0	-	-
60	11.6	Scheduled Ancient Monuments	0	0	0	-	-
60	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
61 >	12.1 >	Agricultural Land Classification >	Urban (within 250m)				
62	12.2	Open Access Land	0	0	0	-	-
62	12.3	Tree Felling Licences	0	0	0	-	-
62 >	12.4 >	Environmental Stewardship Schemes >	0	1	0	-	-
62 >	12.5 >	Countryside Stewardship Schemes >	0	1	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
64 >	13.1 >	Priority Habitat Inventory >	0	0	9	-	-
65 >	13.2 >	Habitat Networks >	0	2	3	-	-
65	13.3	Open Mosaic Habitat	0	0	0	-	-
66	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
67 >	14.1 >	10k Availability >	Identified (within 500m)				
68 >	14.2 >	Artificial and made ground (10k) >	0	0	1	4	-
70 >	14.3 >	Superficial geology (10k) >	1	2	1	0	-

71	14.4	Landslip (10k)	0	0	0	0	-
72 >	14.5 >	Bedrock geology (10k) >	1	1	3	1	-
73 >	14.6 >	Bedrock faults and other linear features (10k) >	1	1	4	7	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
74 >	15.1 >	50k Availability >	Identified (within 500m)				
75	15.2	Artificial and made ground (50k)	0	0	0	0	-
75	15.3	Artificial ground permeability (50k)	0	0	-	-	-
76 >	15.4 >	Superficial geology (50k) >	1	0	1	1	-
77 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
77	15.6	Landslip (50k)	0	0	0	0	-
77	15.7	Landslip permeability (50k)	None (within 50m)				
78 >	15.8 >	Bedrock geology (50k) >	1	0	4	0	-
79 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
79 >	15.10 >	Bedrock faults and other linear features (50k) >	1	0	5	4	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
81 >	16.1 >	BGS Boreholes >	0	1	11	-	-
Page	Section	Natural ground subsidence >					
83 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
84 >	17.2 >	Running sands >	Very low (within 50m)				
85 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
86 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
87 >	17.5 >	Landslides >	Low (within 50m)				
89 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
91 >	18.1 >	BritPits >	0	0	0	5	-
93 >	18.2 >	Surface ground workings >	0	0	8	-	-
93 >	18.3 >	Underground workings >	0	0	0	0	15
94	18.4	Underground mining extents	0	0	0	0	-
94	18.5	Historical Mineral Planning Areas	0	0	0	0	-

94	18.6	Non-coal mining	0	0	0	0	0
95	18.7	JPB mining areas	None (within 0m)				
95	18.8	The Coal Authority non-coal mining	0	0	0	0	-
95	18.9	Researched mining	0	0	0	0	-
95	18.10	Mining record office plans	0	0	0	0	-
96	18.11	BGS mine plans	0	0	0	0	-
96 >	18.12 >	Coal mining >	Identified (within 0m)				
96	18.13	Brine areas	None (within 0m)				
96	18.14	Gypsum areas	None (within 0m)				
96	18.15	Tin mining	None (within 0m)				
97	18.16	Clay mining	None (within 0m)				

Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
98	19.1	Natural cavities	0	0	0	0	-
98	19.2	Mining cavities	0	0	0	0	0
98	19.3	Reported recent incidents	0	0	0	0	-
98	19.4	Historical incidents	0	0	0	0	-
99	19.5	National karst database	0	0	0	0	-

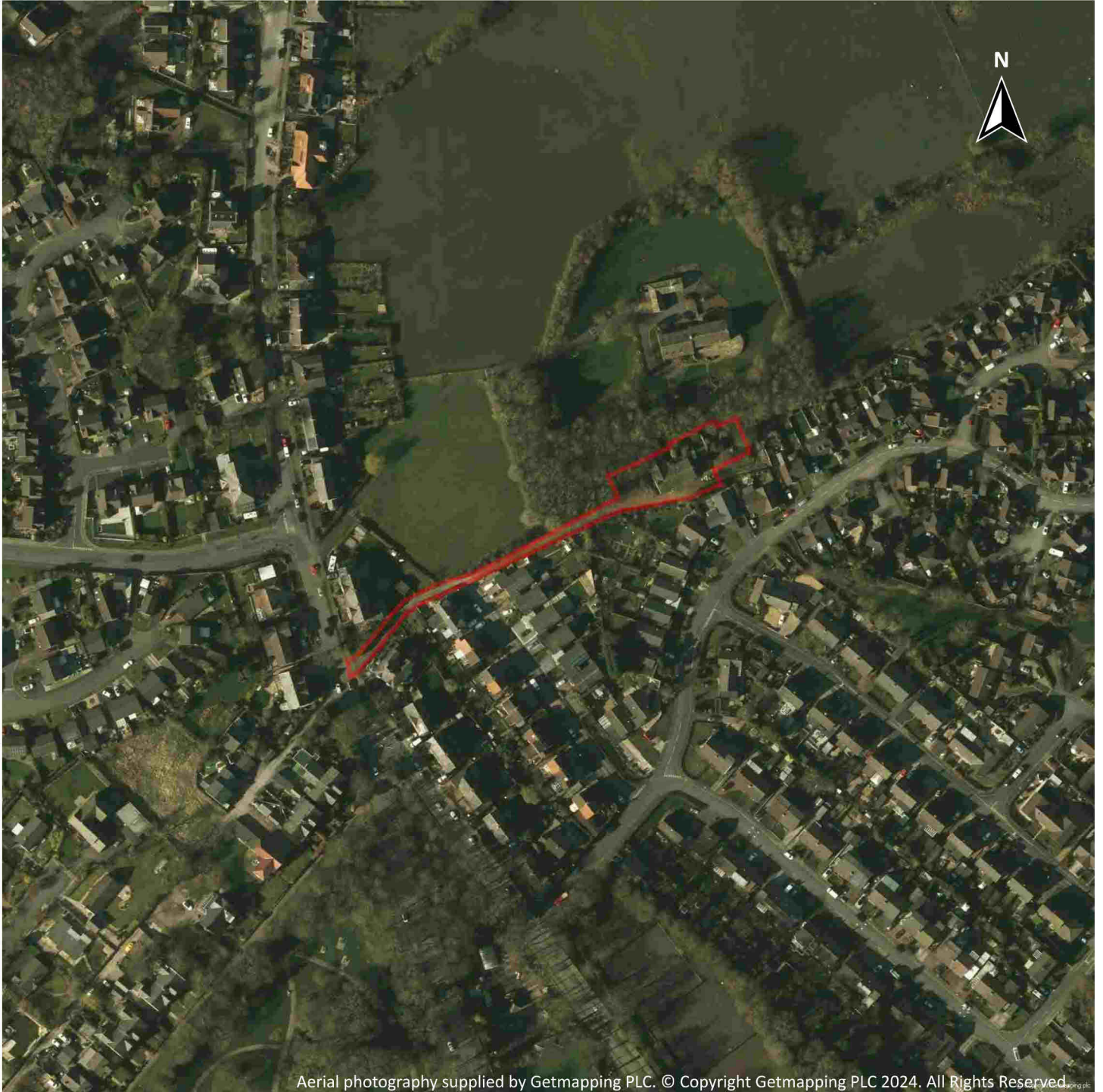
Page	Section	Radon >					
100 >	20.1 >	Radon >	Less than 1% (within 0m)				

Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
102 >	21.1 >	BGS Estimated Background Soil Chemistry >	1	0	-	-	-
102	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
102	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
103	22.1	Underground railways (London)	0	0	0	-	-
103	22.2	Underground railways (Non-London)	0	0	0	-	-
103	22.3	Railway tunnels	0	0	0	-	-
103	22.4	Historical railway and tunnel features	0	0	0	-	-
103	22.5	Royal Mail tunnels	0	0	0	-	-

104	22.6	Historical railways	0	0	0	-	-
104	22.7	Railways	0	0	0	-	-
104	22.8	Crossrail 1	0	0	0	0	-
104	22.9	Crossrail 2	0	0	0	0	-
104	22.10	HS2	0	0	0	0	-

Recent aerial photograph



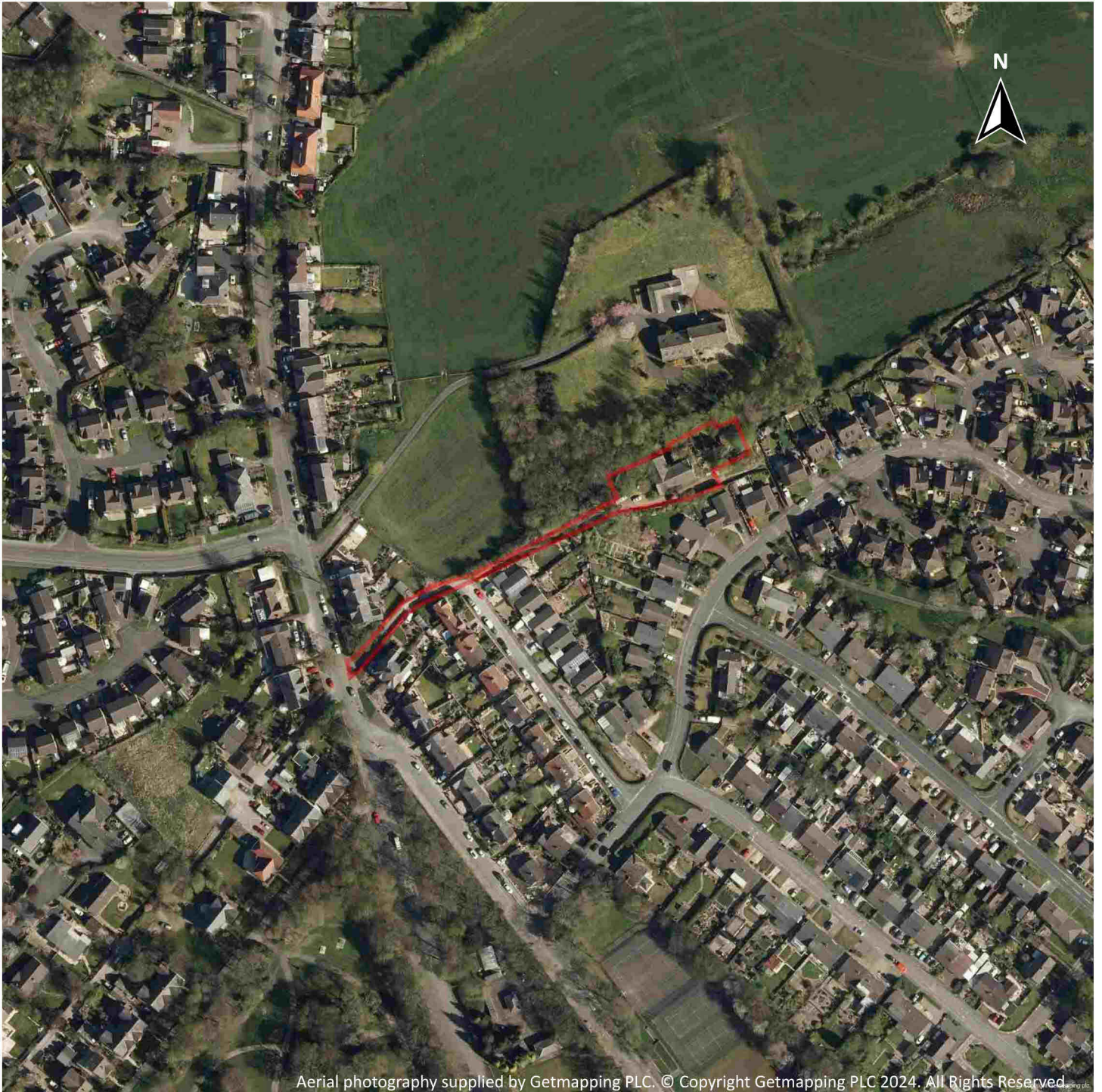
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2024. All Rights Reserved.

Capture Date: 03/04/2023

Site Area: 0.18ha



Recent site history - 2020 aerial photograph



Capture Date: 16/04/2020

Site Area: 0.18ha



Recent site history - 2017 aerial photograph



Capture Date: 03/04/2017

Site Area: 0.18ha



Recent site history - 1999 aerial photograph



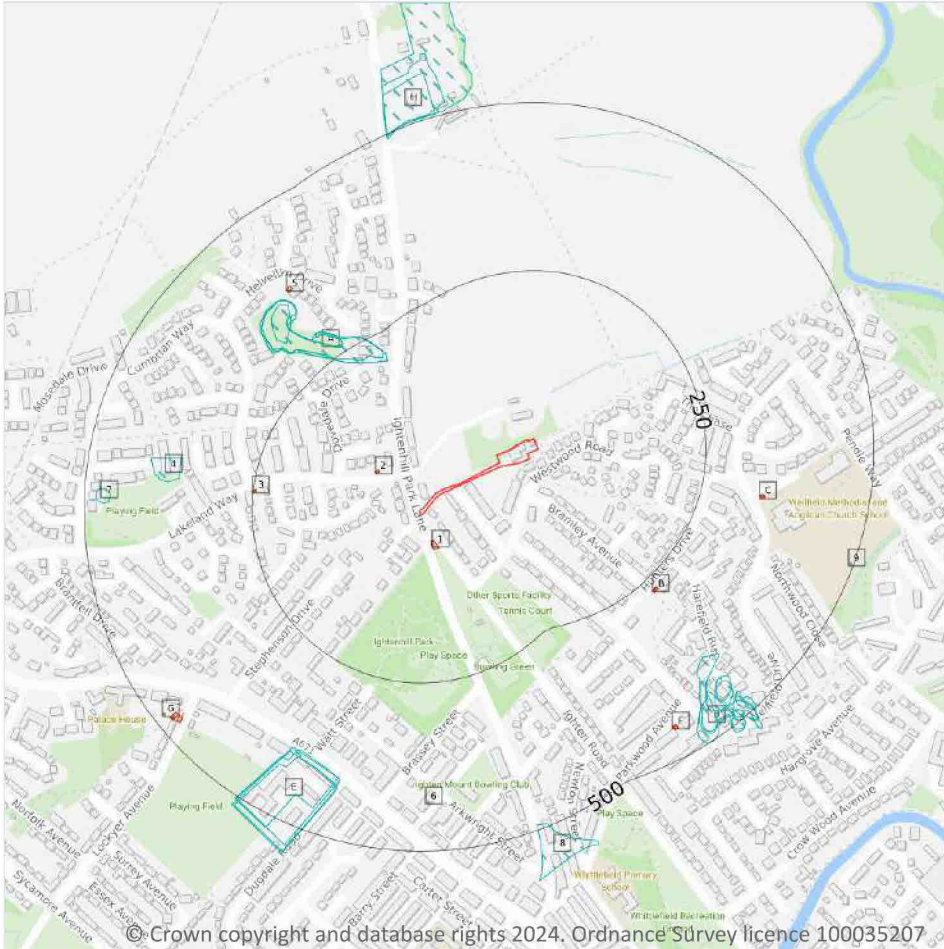
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2024. All Rights Reserved.

Capture Date: 10/09/1999

Site Area: 0.18ha



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 **25**

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

Features are displayed on the Past land use map on [page 14](#) >

ID	Location	Land use	Dates present	Group ID
A	207m NW	Unspecified Ground Workings	1938 - 1950	740023

ID	Location	Land use	Dates present	Group ID
A	207m NW	Unspecified Quarry	1891 - 1929	775382
A	215m NW	Unspecified Quarry	1988	708741
A	215m NW	Unspecified Quarry	1965 - 1974	725555
A	314m NW	Refuse Heap	1986	677597
4	362m W	Colliery	1846	645169
D	392m SE	Sand Pit	1910	643837
E	392m SW	Nursery	1950	701321
E	395m SW	Nursery	1965 - 1974	756127
E	402m SW	Nursery	1891	762309
E	403m SW	Nursery	1910 - 1938	741689
D	417m SE	Unspecified Pit	1929 - 1938	751596
D	431m SE	Unspecified Heap	1950	705077
D	436m SE	Unspecified Pit	1950	773552
D	438m SE	Unspecified Heap	1910 - 1938	755418
7	462m W	Colliery	1846	645170
D	463m SE	Unspecified Ground Workings	1950	647359
D	469m SE	Unspecified Heaps	1929 - 1938	747905
D	482m SE	Unspecified Pit	1950	788889
D	490m SE	Unspecified Pit	1929 - 1938	738797
8	492m S	Sandstone Quarry	1846	687040
H	493m N	Nurseries	1965	748064
9	494m E	Old Pump	1846	682808
H	497m N	Nurseries	1986 - 1988	784682
H	497m N	Nurseries	1974	790777

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 14 >](#)

ID	Location	Land use	Dates present	Group ID
6	426m S	Unspecified Tank	1890	83280
G	482m SW	Unspecified Tank	1890 - 1912	99012

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

12

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 14 >](#)

ID	Location	Land use	Dates present	Group ID
1	42m SW	Electricity Substation	1968 - 1994	51129
2	83m W	Gas Governor	1986 - 1994	49585
3	245m W	Electricity Substation	1983 - 1991	52193
B	267m SE	Electricity Substation	1987	49979
B	268m SE	Electricity Substation	1994 - 1998	48547
C	337m E	Electricity Substation	1987 - 1990	47444
C	339m E	Electricity Substation	1993 - 1998	49163
5	370m NW	Electricity Substation	1984 - 1994	52512
F	451m SE	Electricity Substation	1973 - 1994	55527



ID	Location	Land use	Dates present	Group ID
F	451m SE	Electricity Substation	1978 - 1989	48701
G	465m SW	Electricity Substation	1973 - 1981	47620
G	476m SW	Electricity Substation	1993	47845

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

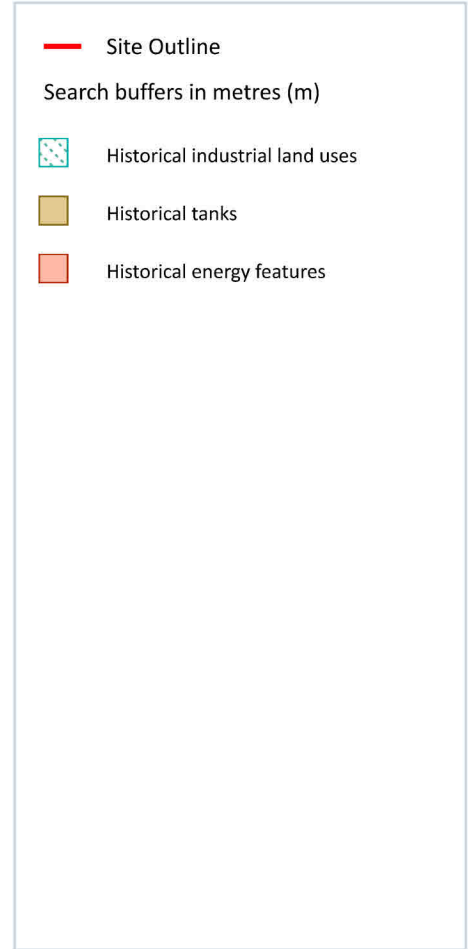
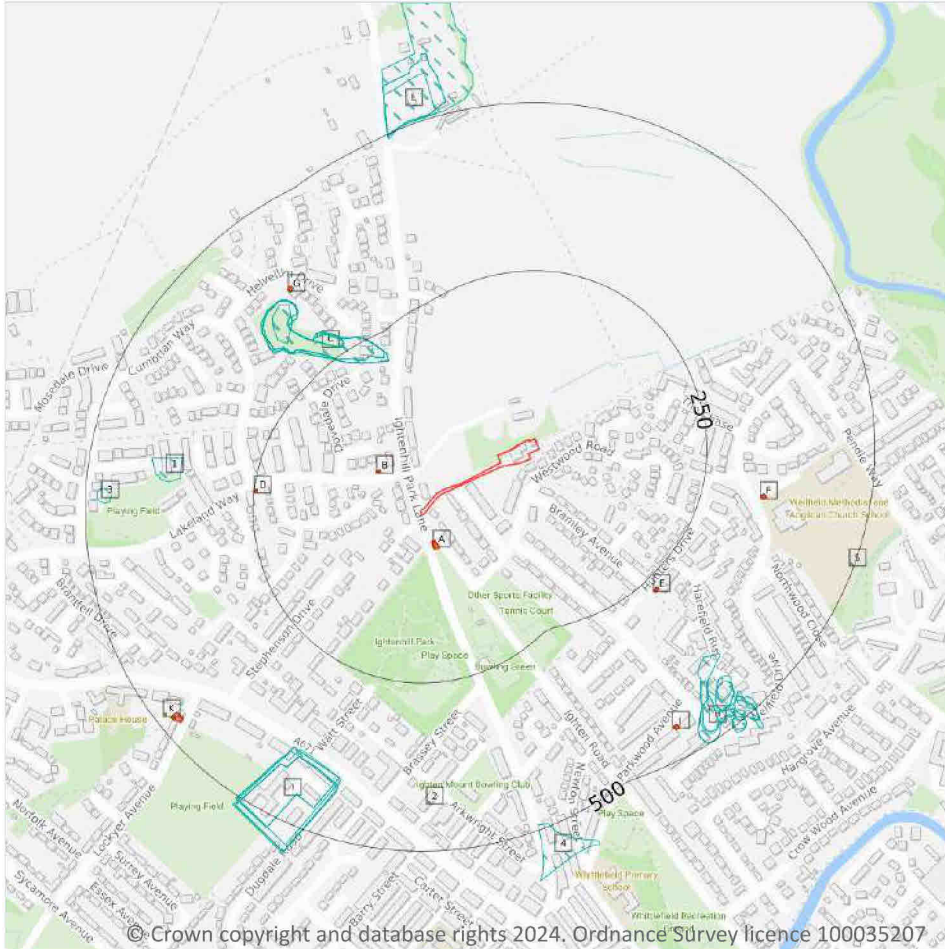
Records within 500m

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



2.1 Historical industrial land uses

Records within 500m

38

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 18](#) >

ID	Location	Land Use	Date	Group ID
C	207m NW	Unspecified Ground Workings	1938	740023
C	207m NW	Unspecified Quarry	1929	775382
C	207m NW	Unspecified Quarry	1910	775382

ID	Location	Land Use	Date	Group ID
C	207m NW	Unspecified Quarry	1891	775382
C	215m NW	Unspecified Ground Workings	1950	740023
C	215m NW	Unspecified Quarry	1988	708741
C	215m NW	Unspecified Quarry	1974	725555
C	215m NW	Unspecified Quarry	1965	725555
C	314m NW	Refuse Heap	1986	677597
1	362m W	Colliery	1846	645169
H	392m SE	Sand Pit	1910	643837
I	392m SW	Nursery	1950	701321
I	395m SW	Nursery	1974	756127
I	395m SW	Nursery	1965	756127
I	402m SW	Nursery	1891	762309
I	403m SW	Nursery	1938	741689
I	403m SW	Nursery	1929	741689
I	403m SW	Nursery	1910	741689
H	417m SE	Unspecified Pit	1938	751596
H	417m SE	Unspecified Pit	1929	751596
H	431m SE	Unspecified Heap	1950	705077
H	436m SE	Unspecified Pit	1950	773552
H	438m SE	Unspecified Heap	1938	755418
H	438m SE	Unspecified Heap	1929	755418
H	438m SE	Unspecified Heap	1910	755418
3	462m W	Colliery	1846	645170
H	463m SE	Unspecified Ground Workings	1950	647359
H	469m SE	Unspecified Heaps	1938	747905
H	469m SE	Unspecified Heaps	1929	747905
H	482m SE	Unspecified Pit	1950	788889
H	490m SE	Unspecified Pit	1938	738797



ID	Location	Land Use	Date	Group ID
H	490m SE	Unspecified Pit	1929	738797
4	492m S	Sandstone Quarry	1846	687040
L	493m N	Nurseries	1965	748064
5	494m E	Old Pump	1846	682808
L	497m N	Nurseries	1988	784682
L	497m N	Nurseries	1974	790777
L	497m N	Nurseries	1986	784682

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

3

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. 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 18 >](#)

ID	Location	Land Use	Date	Group ID
2	426m S	Unspecified Tank	1890	83280
K	482m SW	Unspecified Tank	1890	99012
K	482m SW	Unspecified Tank	1912	99012

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

54

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 18 >](#)

ID	Location	Land Use	Date	Group ID
A	42m SW	Electricity Substation	1994	51129



ID	Location	Land Use	Date	Group ID
A	42m SW	Electricity Substation	1994	51129
A	43m SW	Electricity Substation	1984	51129
A	43m SW	Electricity Substation	1990	51129
A	43m SW	Electricity Substation	1986	51129
A	43m SW	Electricity Substation	1969	51129
A	44m SW	Electricity Substation	1968	51129
B	83m W	Gas Governor	1994	49585
B	83m W	Gas Governor	1994	49585
B	84m W	Gas Governor	1990	49585
B	84m W	Gas Governor	1986	49585
D	245m W	Electricity Substation	1991	52193
D	245m W	Electricity Substation	1984	52193
D	246m W	Electricity Substation	1984	52193
D	246m W	Electricity Substation	1983	52193
D	246m W	Electricity Substation	1986	52193
D	246m W	Electricity Substation	1985	52193
E	267m SE	Electricity Substation	1987	49979
E	268m SE	Electricity Substation	1996	48547
E	268m SE	Electricity Substation	1997	48547
E	268m SE	Electricity Substation	1995	48547
E	268m SE	Electricity Substation	1996	48547
E	268m SE	Electricity Substation	1996	48547
E	268m SE	Electricity Substation	1994	48547
E	268m SE	Electricity Substation	1998	48547
F	337m E	Electricity Substation	1987	47444
F	337m E	Electricity Substation	1989	47444
F	337m E	Electricity Substation	1990	47444
F	339m E	Electricity Substation	1996	49163



ID	Location	Land Use	Date	Group ID
F	339m E	Electricity Substation	1997	49163
F	339m E	Electricity Substation	1993	49163
F	339m E	Electricity Substation	1994	49163
F	339m E	Electricity Substation	1995	49163
F	339m E	Electricity Substation	1996	49163
F	339m E	Electricity Substation	1996	49163
F	339m E	Electricity Substation	1994	49163
F	339m E	Electricity Substation	1998	49163
G	370m NW	Electricity Substation	1984	52512
G	370m NW	Electricity Substation	1990	52512
G	370m NW	Electricity Substation	1986	52512
G	371m NW	Electricity Substation	1994	52512
G	371m NW	Electricity Substation	1994	52512
J	451m SE	Electricity Substation	1973	55527
J	451m SE	Electricity Substation	1990	55527
J	451m SE	Electricity Substation	1994	55527
J	451m SE	Electricity Substation	1994	55527
J	451m SE	Electricity Substation	1978	48701
J	451m SE	Electricity Substation	1982	48701
J	451m SE	Electricity Substation	1986	48701
J	451m SE	Electricity Substation	1989	48701
J	451m SE	Electricity Substation	1989	48701
K	465m SW	Electricity Substation	1973	47620
K	466m SW	Electricity Substation	1981	47620
K	476m SW	Electricity Substation	1993	47845

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

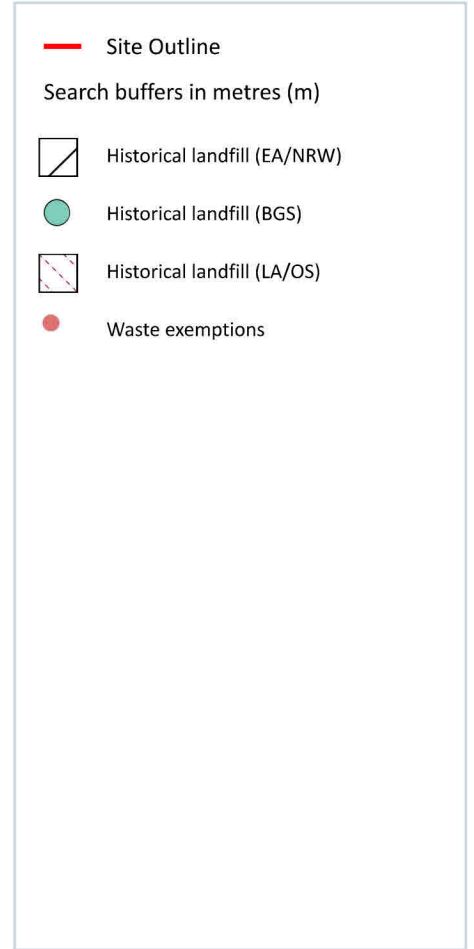
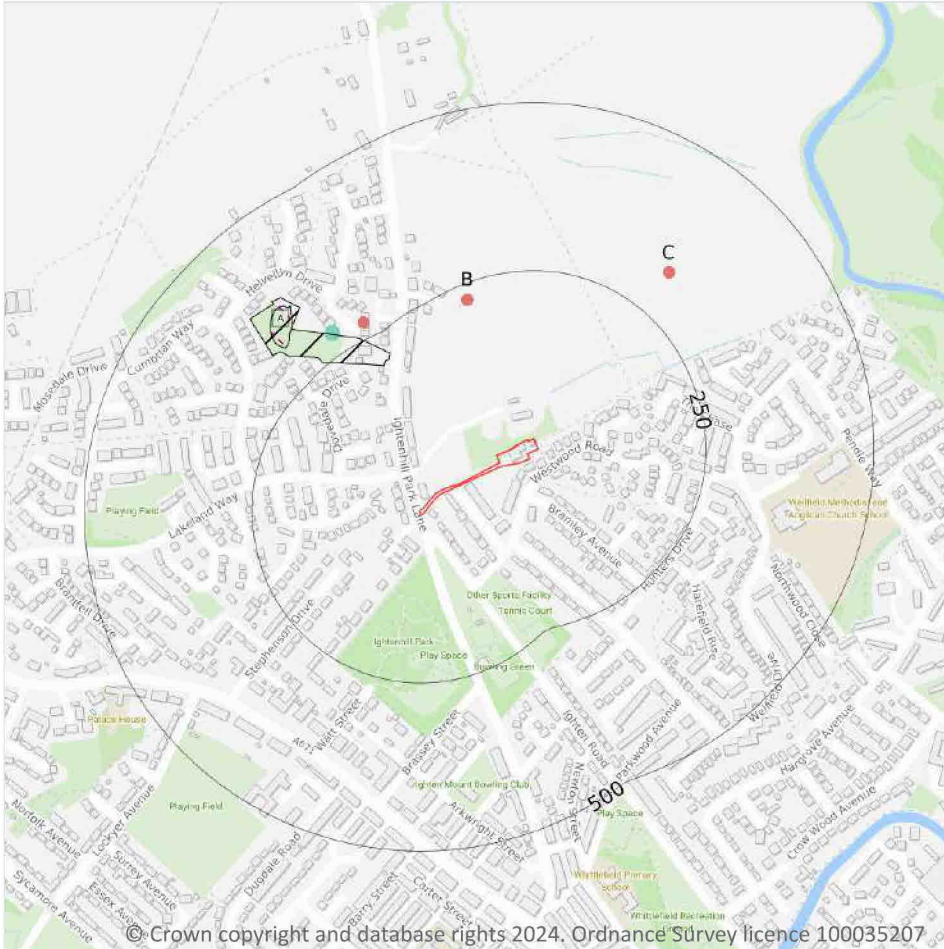
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Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections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

1

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.

Features are displayed on the Waste and landfill map on [page 24 >](#)

ID	Location	Address	BGS Number	Risk	Waste Type
A	283m NW	The Quarry, Park Lane, Ightenhill, Burnley	2916	No risk to aquifer	N/A

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	2
----------------------------	----------

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

Features are displayed on the Waste and landfill map on [page 24 >](#)

ID	Location	Site address	Source	Data type
A	310m NW	Refuse Tip	1967 mapping	Polygon
A	311m NW	Refuse Tip	1969 mapping	Polygon

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

3.4 Historical landfill (EA/NRW records)

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

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

Features are displayed on the Waste and landfill map on [page 24 >](#)

ID	Location	Details		
A	202m NW	Site Address: The Quarry, Ightenhill Park Lane, Ightenhill, Burnley, Lancashire Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: R Rawcliffe Limited Licence Holder: - First Recorded 31/12/1948 Last Recorded: -

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



3.5 Historical waste sites

Records within 500m

0

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

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

3.6 Licensed waste sites

Records within 500m

0

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

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

3.7 Waste exemptions

Records within 500m

6

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.

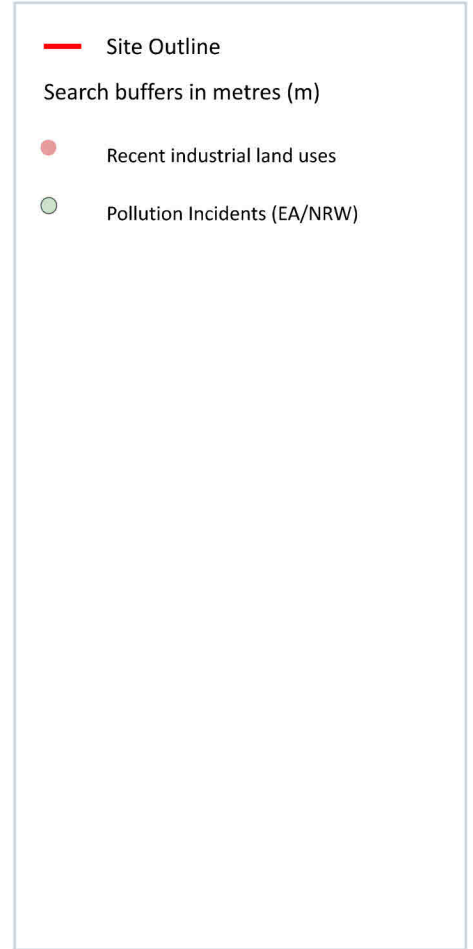
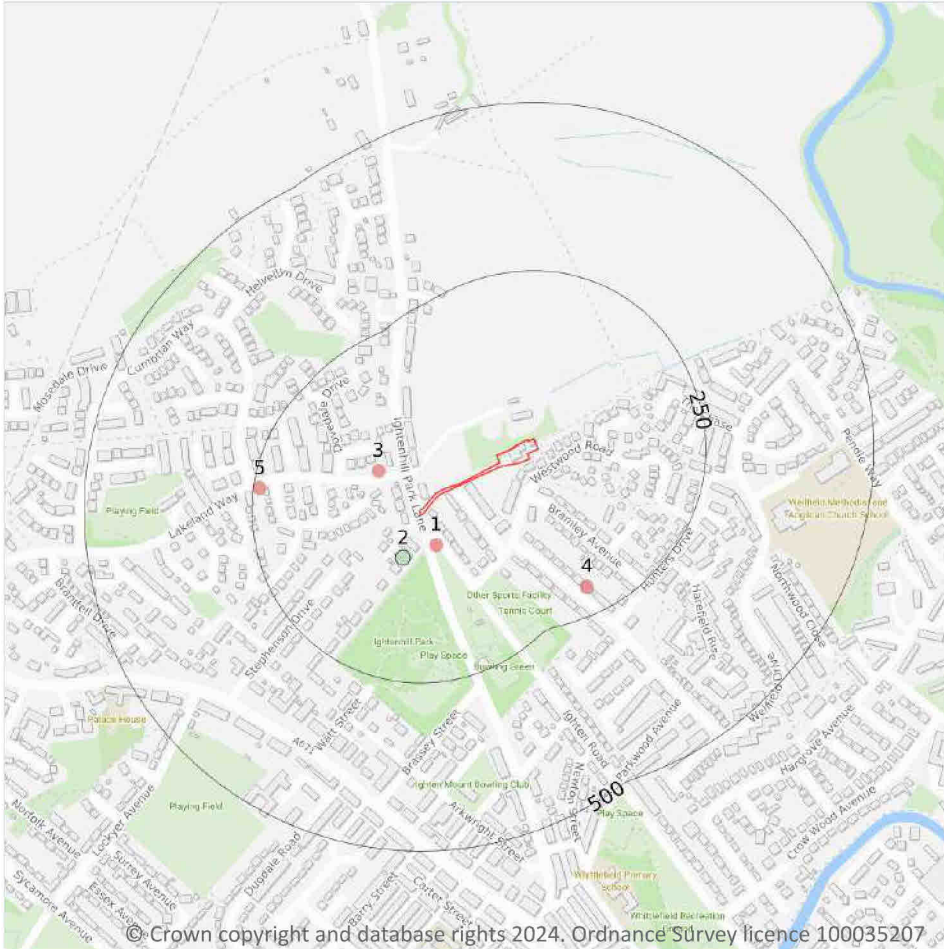
Features are displayed on the Waste and landfill map on [page 24 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
B	227m N	-	WEX125541	Storing waste exemption	On a farm	Storage of sludge
B	227m N	-	WEX241916	Storing waste exemption	On a farm	Storage of sludge
A	274m NW	10 Scaffell Close Burnley Lancashire BB12 0TD	EPR/HF0805F D/A001	Treating waste exemption	Non-Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	274m NW	10 Scaffell Close Burnley Lancashire BB12 0TD	EPR/HF0805F D/A001	Using waste exemption	Non-Agricultural Waste Only	Burning of waste as a fuel in a small appliance
C	317m NE	-	WEX030291	Storing waste exemption	On a farm	Storage of sludge
C	317m NE	-	WEX225307	Storing waste exemption	On a Farm	Storage of sludge

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



4 Current industrial land use



4.1 Recent industrial land uses

Records within 250m

4

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 27](#) >

ID	Location	Company	Address	Activity	Category
1	50m SW	Electricity Sub Station	Lancashire, BB12	Electrical Features	Infrastructure and Facilities
3	85m W	Gas Governor Station	Lancashire, BB12	Gas Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
4	208m SE	S G Autocare	26, Wellfield Drive, Burnley, Lancashire, BB12 0HS	Vehicle Cleaning Services	Personal, Consumer and Other Services
5	241m W	Electricity Sub Station	Lancashire, BB12	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m **0**

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m **0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m **0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m **0**

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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



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

Records within 500m 0

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

This data is sourced from Local Authority records.

4.12 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.

4.13 Licensed Discharges to controlled waters

Records within 500m 0

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

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m 0

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

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

4.15 Pollutant release to public sewer

Records within 500m 0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m

0

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

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

4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

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 27 >](#)

ID	Location	Details	
2	69m SW	Incident Date: 07/01/2003 Incident Identification: 129669 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	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.

4.19 Pollution inventory substances

Records within 500m

0

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

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

4.20 Pollution inventory waste transfers

Records within 500m

0

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

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

4.21 Pollution inventory radioactive waste

Records within 500m

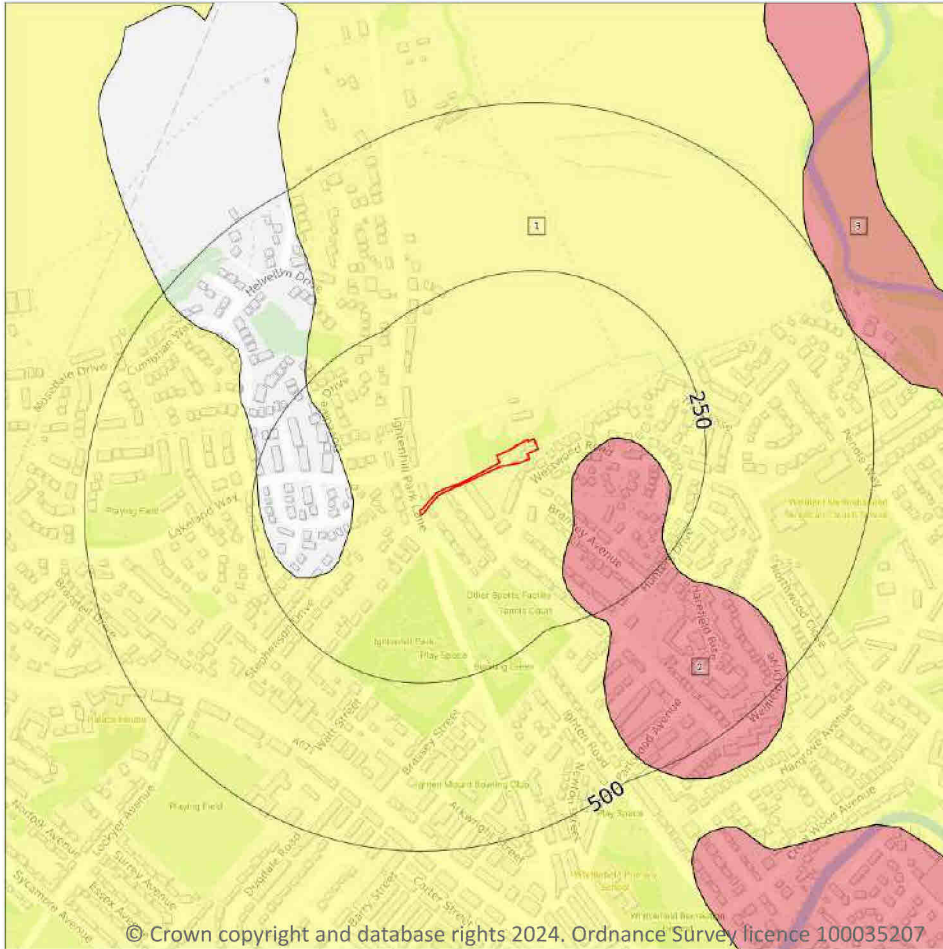
0

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

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



5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m

3

Aquifer status of groundwater held within superficial geology.

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

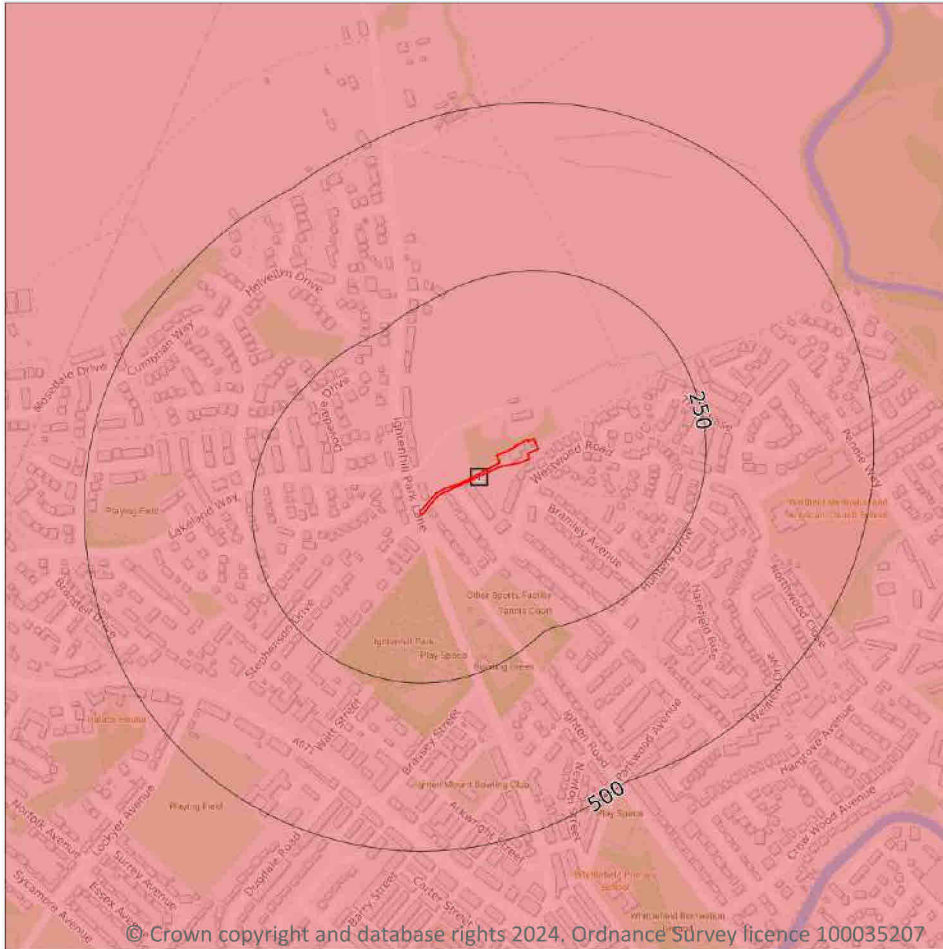
ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	64m E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

ID	Location	Designation	Description
3	495m NE	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

1

Aquifer status of groundwater held within bedrock geology.

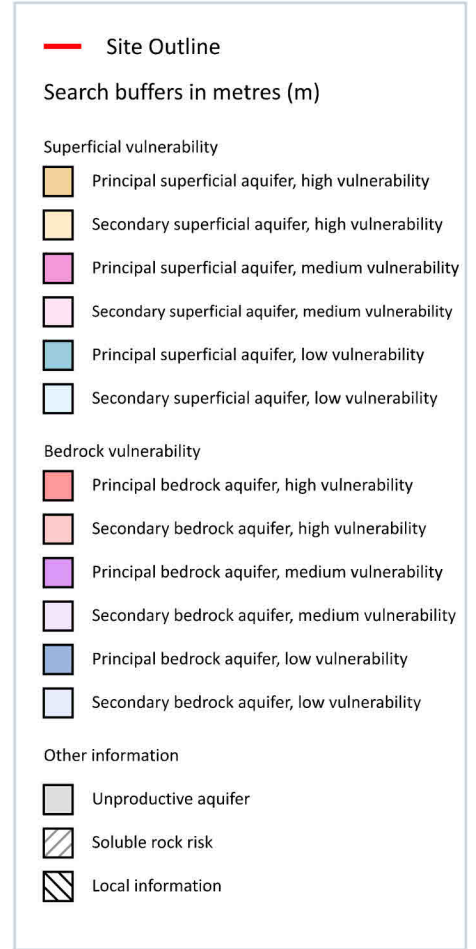
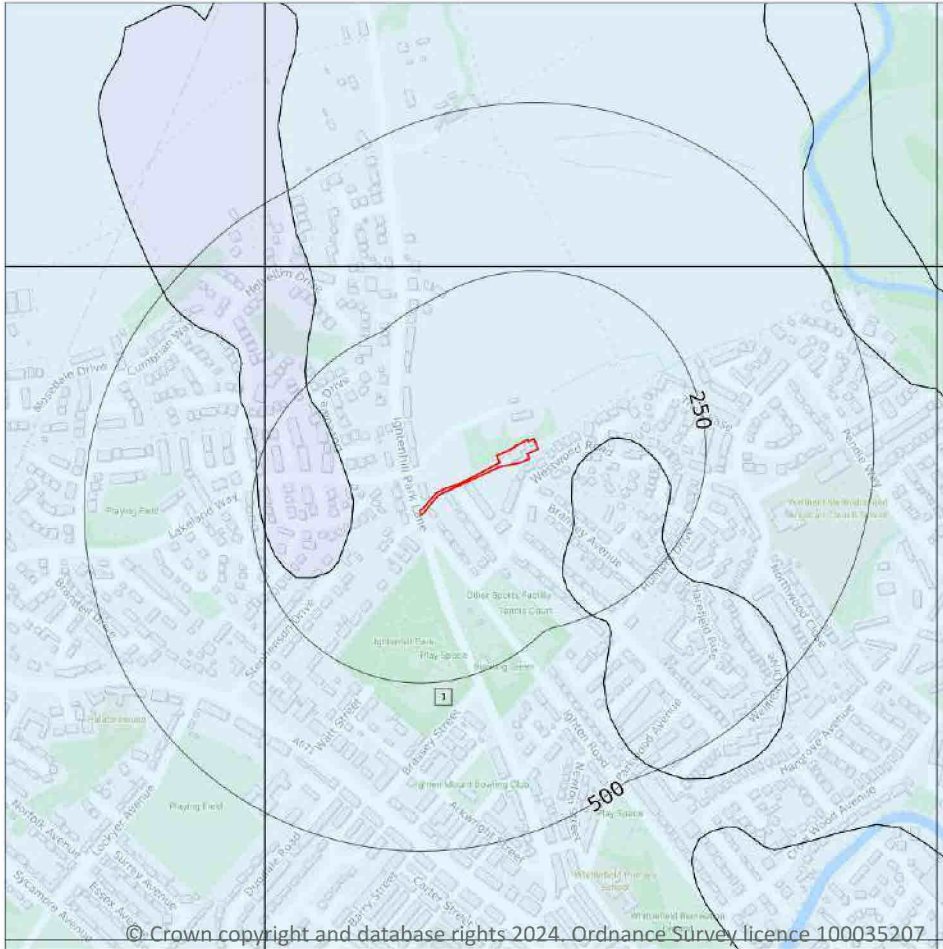
Features are displayed on the Bedrock aquifer map on [page 35](#) >

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

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

1

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

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

Features are displayed on the Groundwater vulnerability map on [page 36](#) >

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	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

0

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

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

5.5 Groundwater vulnerability- local information

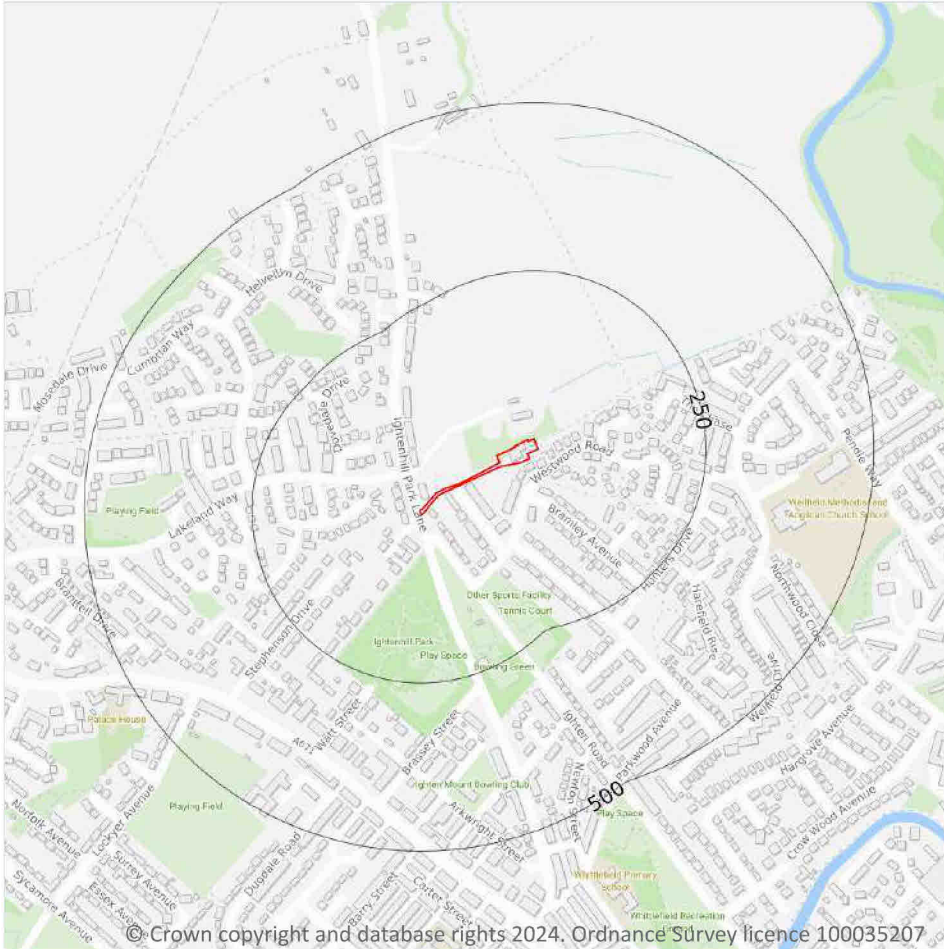
Records on site

0

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

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

Abstractions and Source Protection Zones



5.6 Groundwater abstractions

Records within 2000m

6

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 38 >](#)

ID	Location	Details	
-	1047m S	Status: Historical Licence No: 2671331018 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PEEL MILL, BURNLEY" Data Type: Point Name: SPRINGBROOK LTD Easting: 382120 Northing: 432590	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: 12-Jul-04 Issue No: 1 Version Start Date: 13/07/1999 Version End Date: -
-	1047m S	Status: Historical Licence No: 2671331018 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PEEL MILL, BURNLEY Data Type: Point Name: SPRINGBROOK LTD Easting: 382120 Northing: 432590	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: 12/07/2004 Issue No: 1 Version Start Date: 13/07/1999 Version End Date: -
-	1047m S	Status: Historical Licence No: 2671331018-R1 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PEEL MILL, BURNLEY Data Type: Point Name: SPRINGBROOK LTD Easting: 382120 Northing: 432590	Annual Volume (m ³): 290200 Max Daily Volume (m ³): 1055 Original Application No: - Original Start Date: 10/11/2004 Expiry Date: 31/03/2013 Issue No: 1 Version Start Date: 10/11/2004 Version End Date: -
-	1543m N	Status: Active Licence No: NW/071/0330/002 Details: Dewatering Direct Source: Ground Water - North West Region Point: AREA B - DEWATERING WELLS AND SUMPS AT BURNLEY WTW Data Type: Poly4 Name: MWH Treatment Limited Easting: 382857 Northing: 435248	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: NPS/WR/037241 Original Start Date: 16/12/2021 Expiry Date: 31/03/2025 Issue No: 2 Version Start Date: 29/09/2022 Version End Date: -
-	1593m N	Status: Active Licence No: NW/071/0330/002 Details: Dewatering Direct Source: Ground Water - North West Region Point: DEWATERING WELLS AND SUMPS AT BURNLEY WTW Data Type: Poly4 Name: MWH Treatment Limited Easting: 382589 Northing: 435502	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: NPS/WR/037241 Original Start Date: 16/12/2021 Expiry Date: 31/03/2025 Issue No: 2 Version Start Date: 29/09/2022 Version End Date: -



ID	Location	Details	
-	1593m N	Status: Historical Licence No: NW/071/0330/002 Details: Transfer Between Sources (Pre Water Act 2003) Direct Source: Ground Water - North West Region Point: DEWATERING WELLS AND SUMPS AT BURNLEY WTW Data Type: Poly4 Name: MWH Treatment Limited Easting: 382589 Northing: 435502	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/12/2021 Expiry Date: 31/03/2025 Issue No: 1 Version Start Date: 16/12/2021 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

6

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 38 >](#)

ID	Location	Details	
-	1125m SW	Status: Historical Licence No: 2671331014 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: LEEDS AND LIVERPOOL CANAL, AT ROSE GROVE, BURNLEY. Data Type: Point Name: BRITISH WATERWAYS Easting: 381600 Northing: 432700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/10/1971 Expiry Date: - Issue No: 100 Version Start Date: 30/04/1975 Version End Date: -
-	1485m SE	Status: Historical Licence No: 2671328038 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RIVER CALDER Data Type: Point Name: PAPERMARC MILL LTD Easting: 383700 Northing: 433000	Annual Volume (m ³): 1095000 Max Daily Volume (m ³): 4000 Original Application No: - Original Start Date: 09/12/1966 Expiry Date: - Issue No: 103 Version Start Date: 22/09/2003 Version End Date: -



ID	Location	Details	
-	1540m S	Status: Historical Licence No: 2671331004 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Surface, Non-Tidal - North West Region Point: CULV STM ENT STOR LODGE @ N/E CORN OF WOOD TOP WKS BURNLEY Data Type: Point Name: AERO AND INDUSTRIAL TECHNOLOGY LTD Easting: 382400 Northing: 432100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 11/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 02/09/1971 Version End Date: -
-	1540m S	Status: Historical Licence No: 2671331004 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: CULV STM ENT STOR LODGE @ N/E CORN OF WOOD TOP WKS BURNLEY Data Type: Point Name: AERO AND INDUSTRIAL TECHNOLOGY LTD Easting: 382400 Northing: 432100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 11/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 02/09/1971 Version End Date: -
-	1674m SE	Status: Historical Licence No: 2671327006 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Surface, Non-Tidal - North West Region Point: R BRUN FROM 2 WEIRS AT BURNLEY Data Type: Point Name: PAPERMARC MILL LTD Easting: 383800 Northing: 432800	Annual Volume (m ³): 1095000 Max Daily Volume (m ³): 4000 Original Application No: - Original Start Date: 09/12/1966 Expiry Date: - Issue No: 103 Version Start Date: 22/09/2003 Version End Date: -
-	1674m SE	Status: Historical Licence No: 2671328038 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Surface, Non-Tidal - North West Region Point: R CALDER FROM 2 WEIRS AT BURNLEY Data Type: Point Name: PAPERMARC MILL LTD Easting: 383800 Northing: 432800	Annual Volume (m ³): 1095000 Max Daily Volume (m ³): 4000 Original Application No: - Original Start Date: 09/12/1966 Expiry Date: - Issue No: 103 Version Start Date: 22/09/2003 Version End Date: -

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



5.8 Potable abstractions

Records within 2000m

0

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

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

5.9 Source Protection Zones

Records within 500m

0

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

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

5.10 Source Protection Zones (confined aquifer)

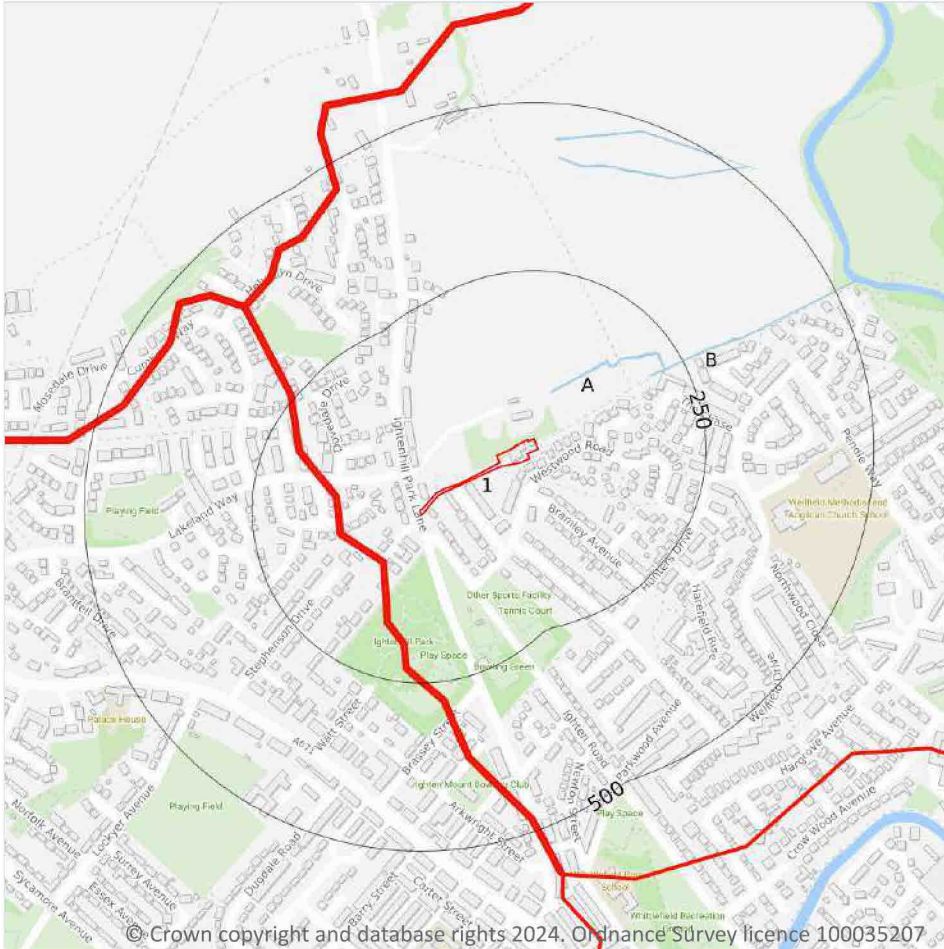
Records within 500m

0

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

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

6 Hydrology



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

6.1 Water Network (OS MasterMap)

Records within 250m

5

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

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

ID	Location	Type of water feature	Ground level	Permanence	Name
A	73m NE	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
A	155m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	158m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	195m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	220m NE	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

5

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

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

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

1

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

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

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River	Calder - conf Brun to Pendle Water	GB112071065120	Calder	Ribble

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



6.4 WFD Surface water bodies

Records identified

1

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

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

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	531m NE	River	Calder - conf Brun to Pendle Water	GB112071065120 ↗	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

Records on site

1

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

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

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	On site	Douglas, Darwen and Calder Carboniferous Aquifers	GB41202G100300 ↗	Poor	Poor	Good	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

Negligible

Highest risk within 50m

Negligible

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.

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

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

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

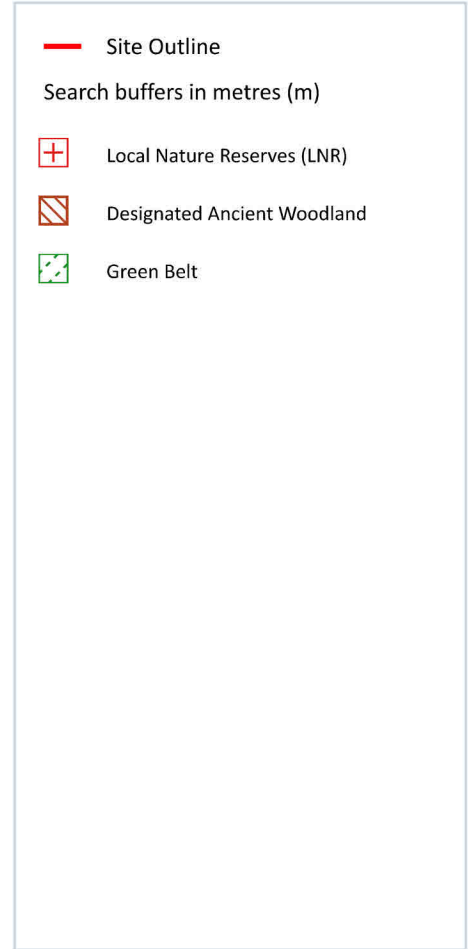
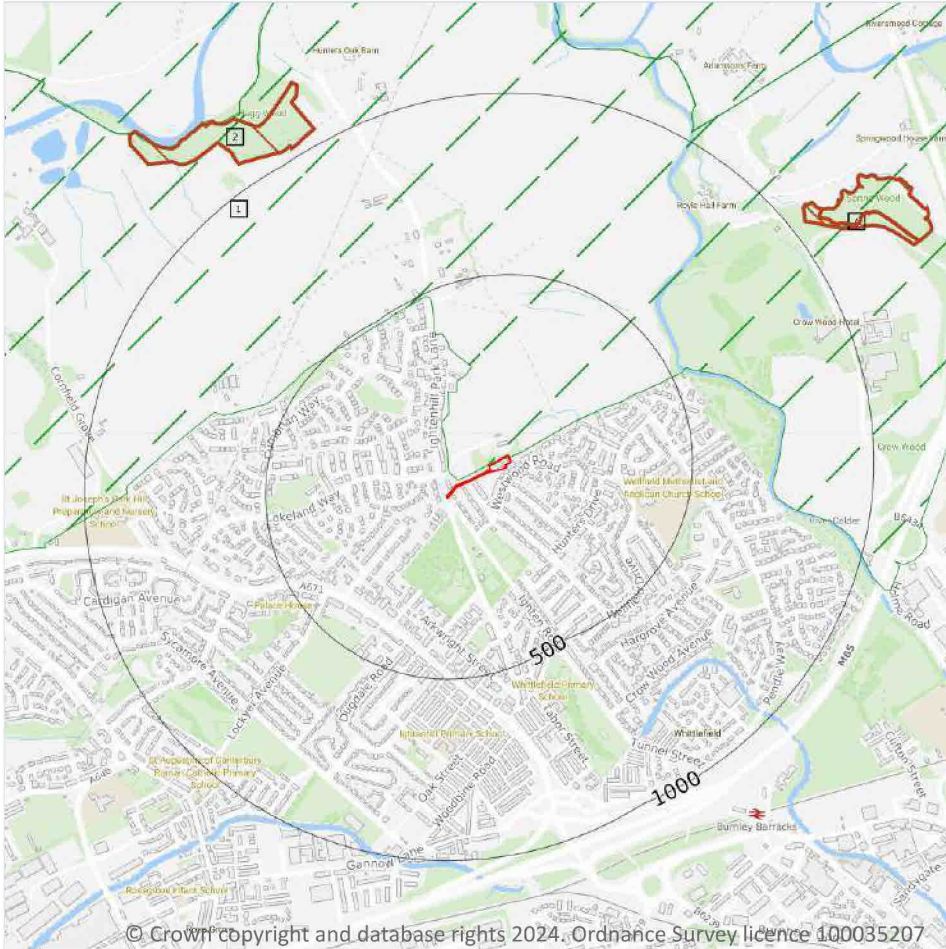
Low

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 50 >](#)

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m

0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m

0

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

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



10.6 Local Nature Reserves (LNR)

Records within 2000m

1

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

Features are displayed on the Environmental designations map on [page 51 >](#)

ID	Location	Name	Data source
-	1749m SW	Lowerhouse Lodges	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m

3

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

Features are displayed on the Environmental designations map on [page 51 >](#)

ID	Location	Name	Woodland Type
2	1027m NW	Hagg Wood	Ancient Replanted Woodland
A	1041m NE	Unknown	Ancient & Semi-Natural Woodland
A	1079m NE	Unknown	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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



10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

2

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

Features are displayed on the Environmental designations map on [page 51 >](#)

ID	Location	Name	Local Authority name
1	On site	Merseyside and Greater Manchester	Burnley
3	1028m NE	Merseyside and Greater Manchester	Pendle

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

10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

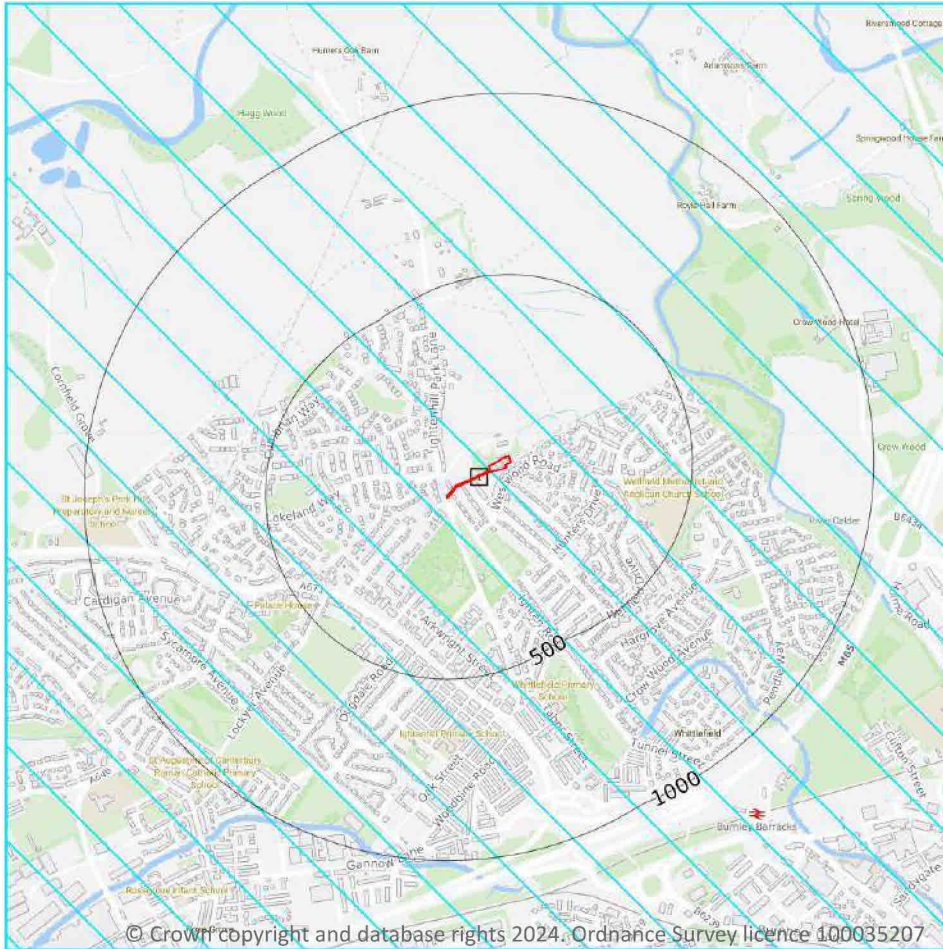
0

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

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



SSSI Impact Zones and Units



10.17 SSSI Impact Risk Zones

Records on site

1

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

Features are displayed on the SSSI Impact Zones and Units map on [page 56](#) >

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

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

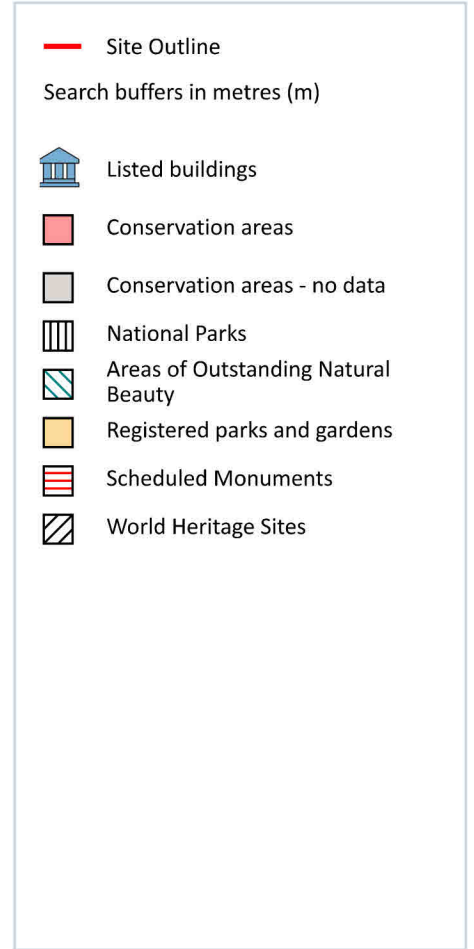
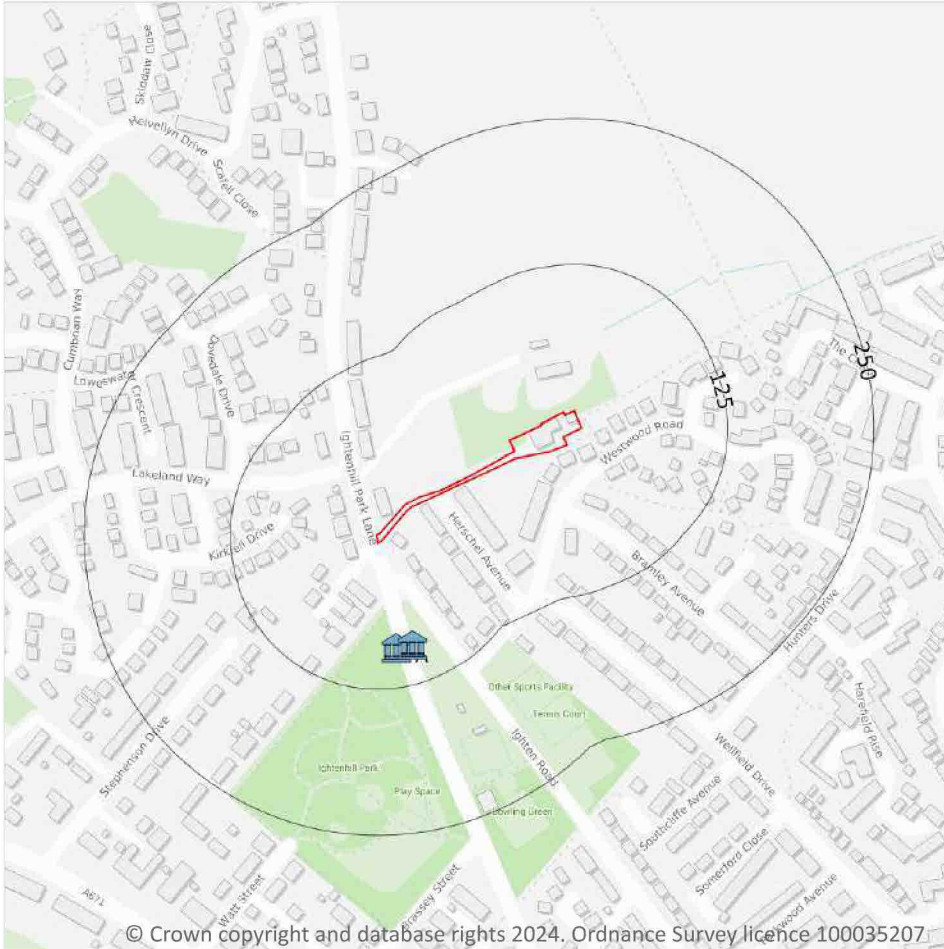
0

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

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



11 Visual and cultural designations



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 58 >](#)

ID	Location	Name	Grade	Reference Number	Listed date
A	91m SW	Boundary Stone On West Side Approximately 50 Metres South Of Junction With Ighten Road	II	1244852	29/09/1977
A	92m SW	Boundary Stone On East Side Approximately 50 Metres South Of Junction With Ighten Road	II	1244850	29/09/1977

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



11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

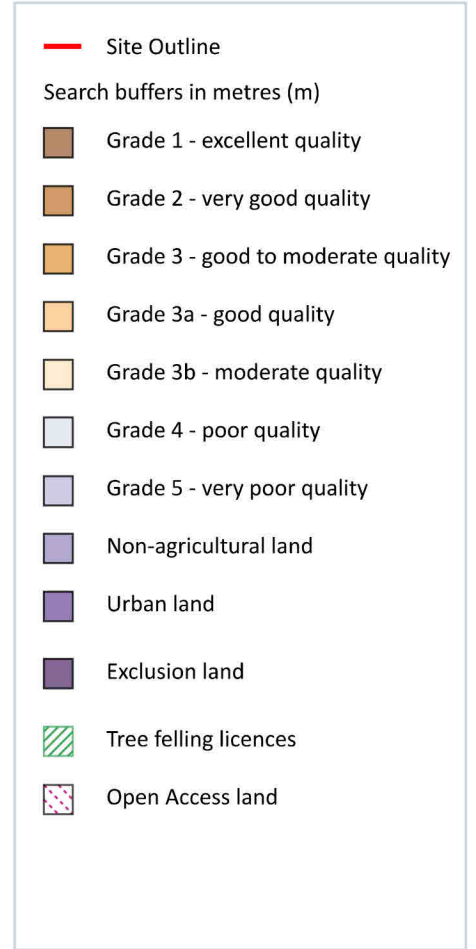
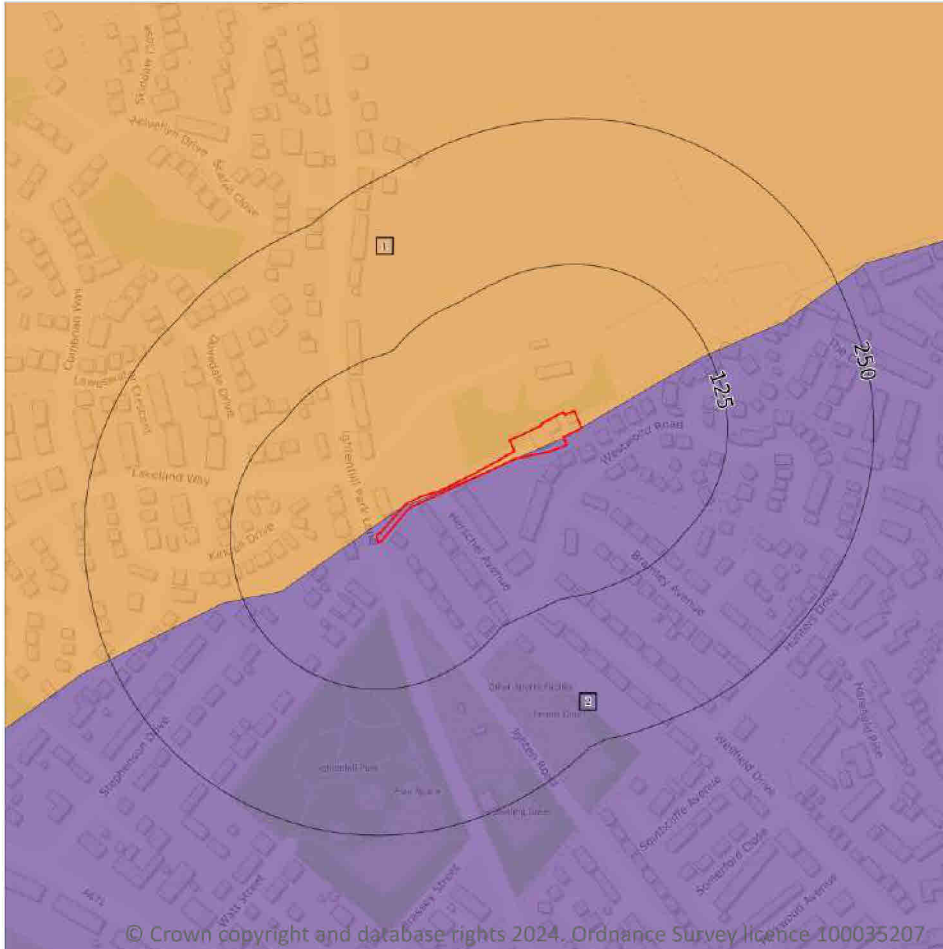
0

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

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



12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m

2

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

Features are displayed on the Agricultural designations map on [page 61](#) >

ID	Location	Classification	Description
1	On site	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.
2	On site	Urban	-

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

0

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

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

12.3 Tree Felling Licences

Records within 250m

0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

1

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.

Location	Reference	Scheme	Start Date	End date
0m SW	AG00482189	Entry Level Stewardship	01/07/2013	30/06/2018

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.

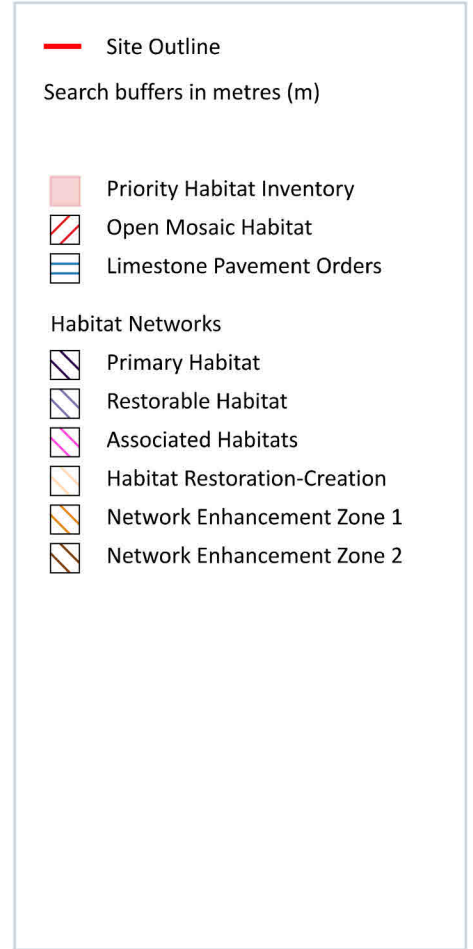
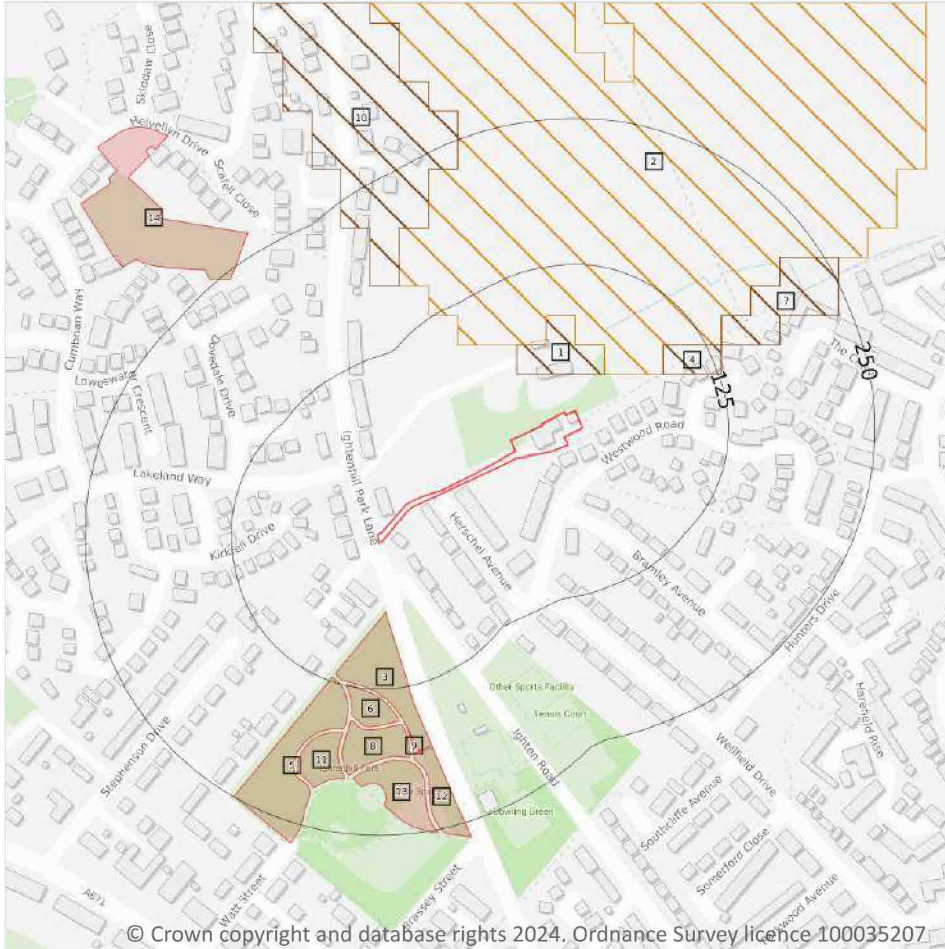


Location	Reference	Scheme	Start Date	End Date
0m SW	644365	Countryside Stewardship (Middle Tier)	01/01/2019	31/12/2023

This data is sourced from Natural England.



13 Habitat designations



13.1 Priority Habitat Inventory

Records within 250m

9

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

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

ID	Location	Main Habitat	Other habitats
3	60m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
5	121m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	124m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
8	153m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

ID	Location	Main Habitat	Other habitats
9	160m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
11	165m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
12	180m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
13	186m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
14	244m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

5

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.

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

ID	Location	Type	Habitat
1	31m NE	Network Enhancement Zone 2	Not specified
2	40m NE	Network Enhancement Zone 1	Not specified
4	81m NE	Network Enhancement Zone 2	Not specified
7	137m NE	Network Enhancement Zone 2	Not specified
10	162m NW	Network Enhancement Zone 2	Not specified

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

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

This data is sourced from Natural England.



13.4 Limestone Pavement Orders

Records within 250m

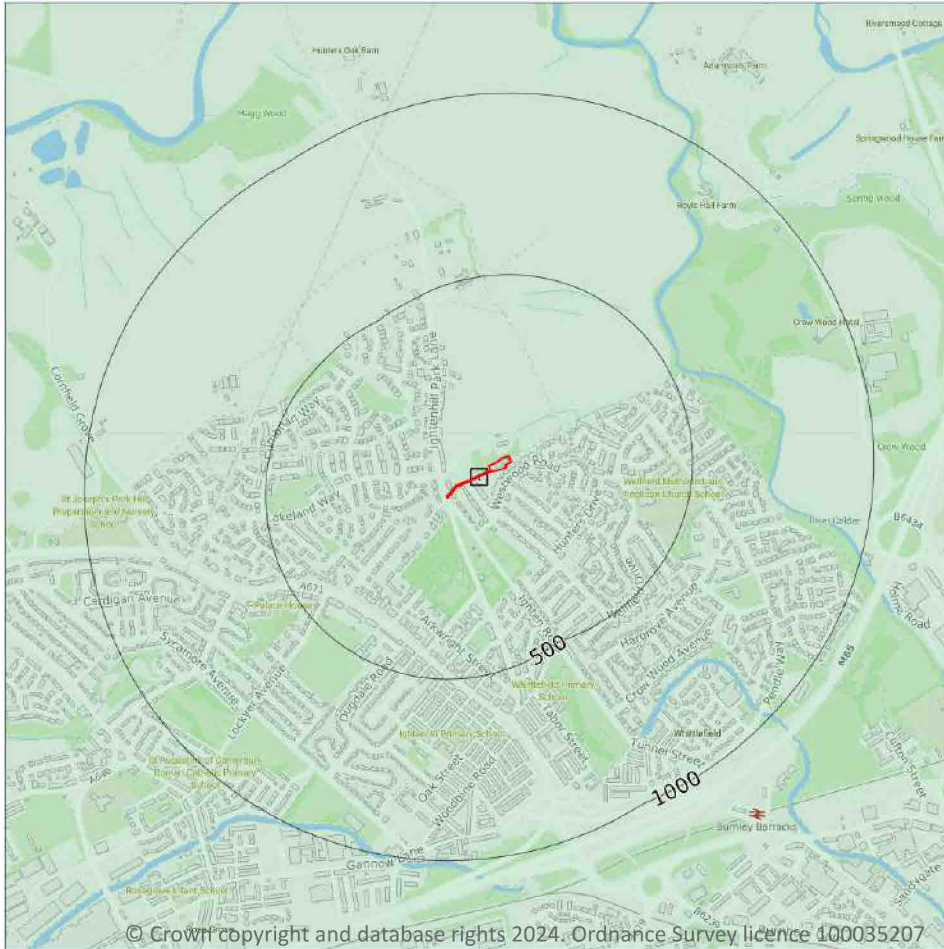
0

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

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

1

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

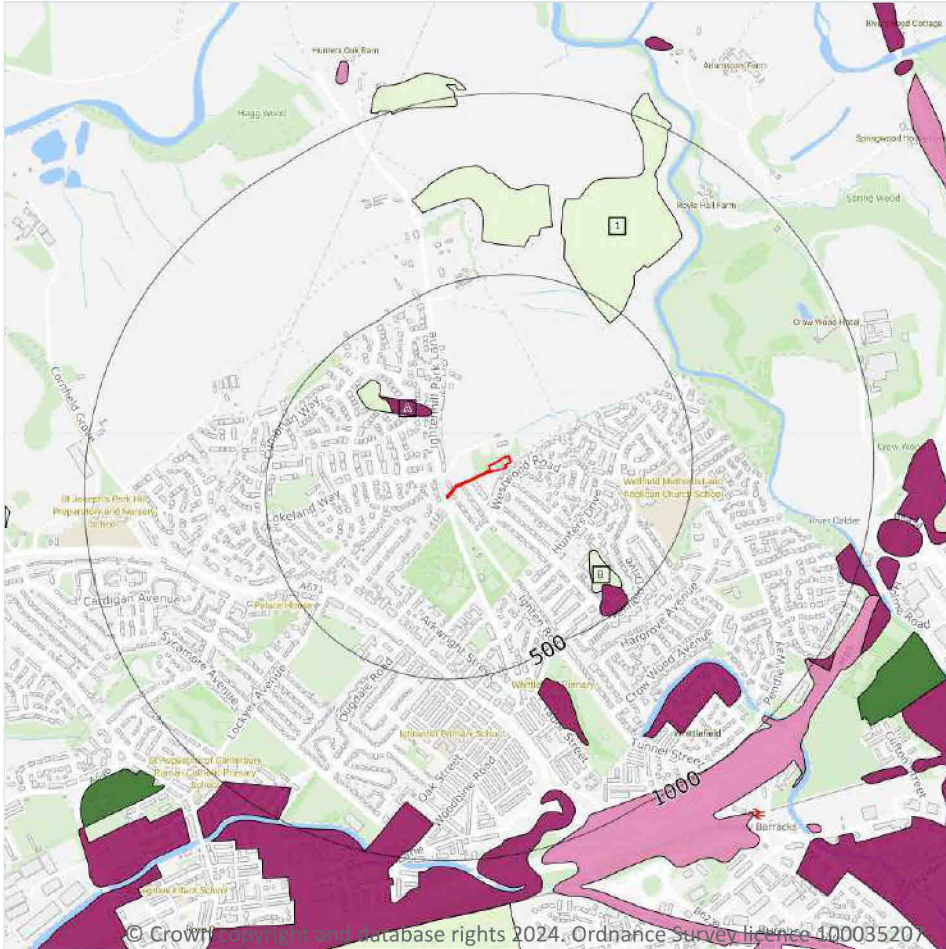
Features are displayed on the Geology 1:10,000 scale - Availability map on [page 67](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	SD83SW

This data is sourced from the British Geological Survey.



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



— Site Outline
Search buffers in metres (m)

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

14.2 Artificial and made ground (10k)

Records within 500m

5

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

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on [page 68](#) >

ID	Location	LEX Code	Description	Rock description
A	203m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	263m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
B	327m SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
B	419m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

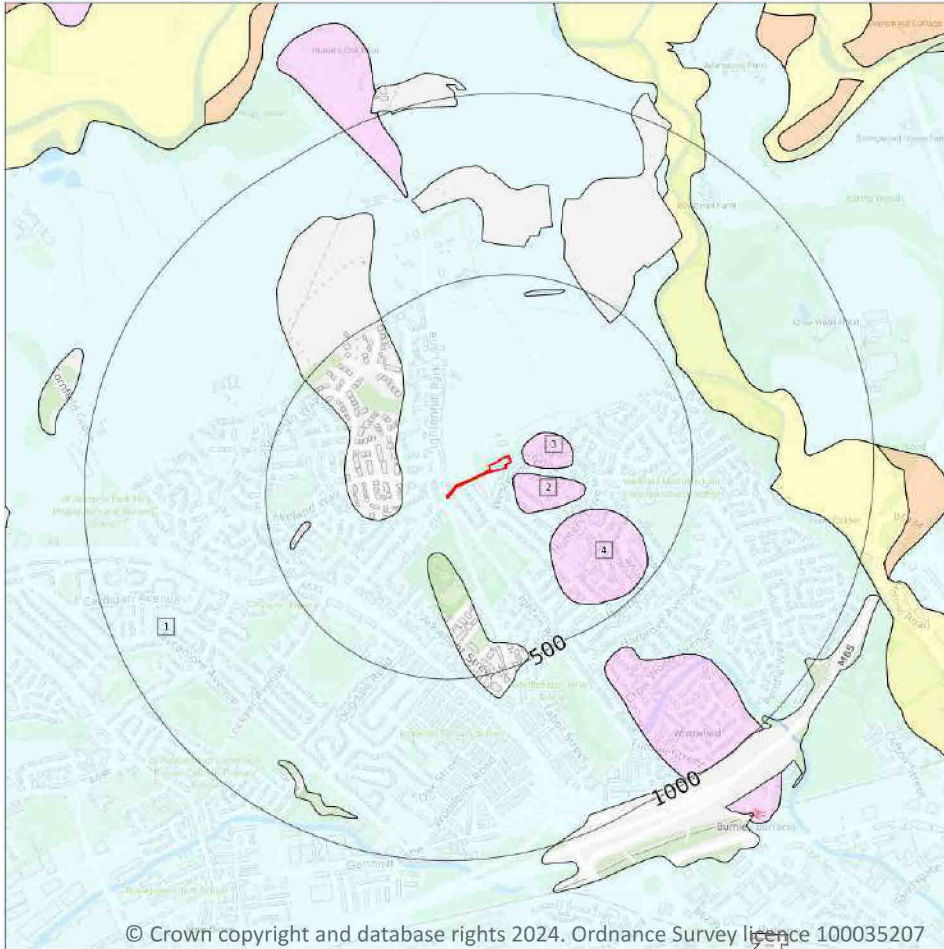


ID	Location	LEX Code	Description	Rock description
1	460m NE	WMGR-ARTDP	Infilled Ground	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



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

14.3 Superficial geology (10k)

Records within 500m

4

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 70 >](#)

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
2	32m E	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
3	35m E	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel

ID	Location	LEX Code	Description	Rock description
4	217m SE	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

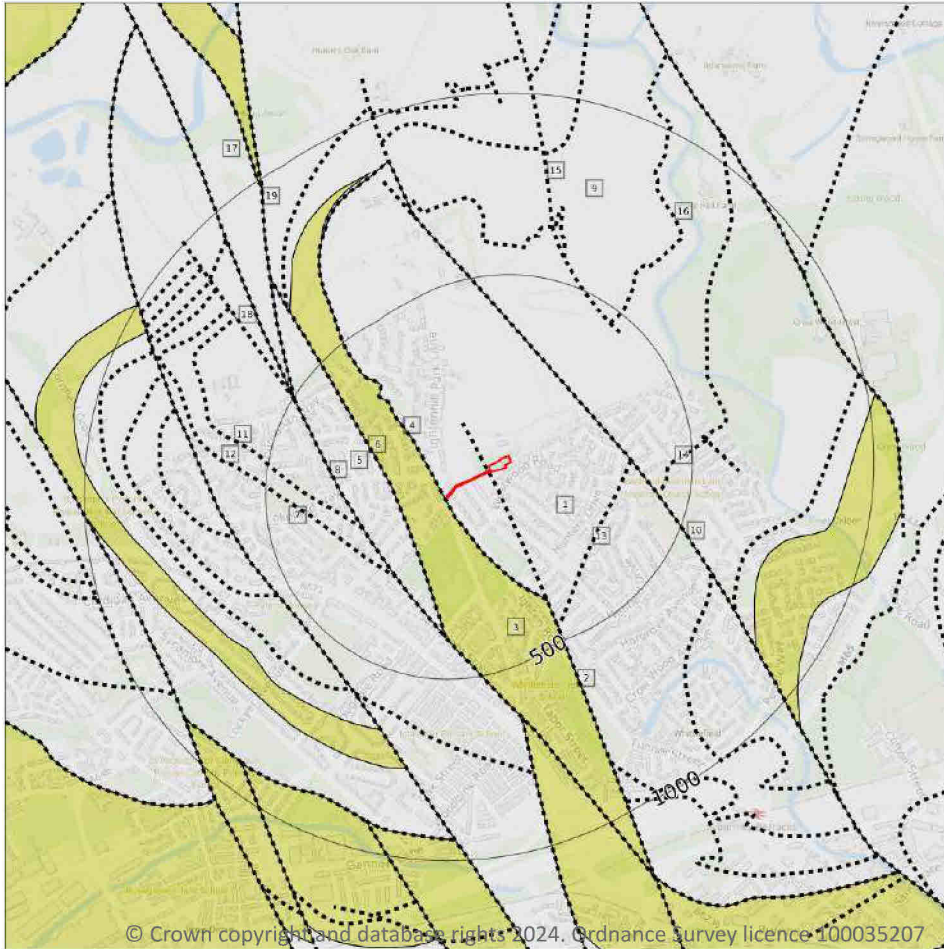
0

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

6

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 72 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
3	7m SW	TBBR-SDST	Tim Bobbin Rock - Sandstone	Langsettian Sub-age
5	131m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age

ID	Location	LEX Code	Description	Rock age
7	242m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
9	246m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
17	493m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

13

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 72 >](#)

ID	Location	Category	Description
2	On site	FAULT	Normal fault, inferred
4	7m SW	ROCK	Coal seam, inferred coincident with bedrock geology boundary
6	131m SW	FAULT	Normal fault, inferred
8	242m SW	FAULT	Normal fault, inferred
10	246m NE	FAULT	Normal fault, inferred
11	248m SW	ROCK	Coal seam, inferred
12	260m SW	ROCK	Coal seam, inferred
13	297m E	ROCK	Coal seam, inferred
14	410m E	ROCK	Coal seam, inferred
15	458m NE	FAULT	Normal fault, inferred
16	460m NE	ROCK	Coal seam, observed
18	493m W	FAULT	Normal fault, inferred
19	493m W	FAULT	Normal fault, 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 74](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	Full	EW068_clitheroe_v4

This data is sourced from the British Geological Survey.



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

15.2 Artificial and made ground (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

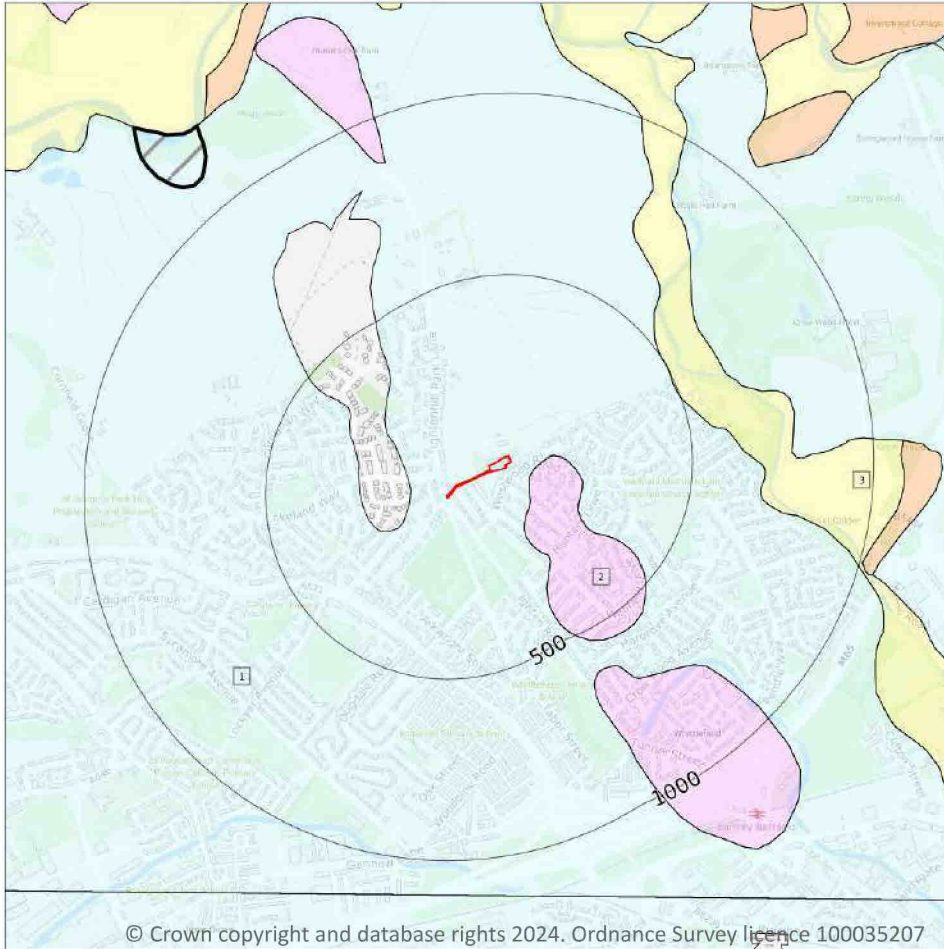
Records within 50m

0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



- Site Outline
- Search buffers in metres (m)
- Landslip (50k)
- Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m

3

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

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

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
2	64m E	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
3	495m NE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, 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)

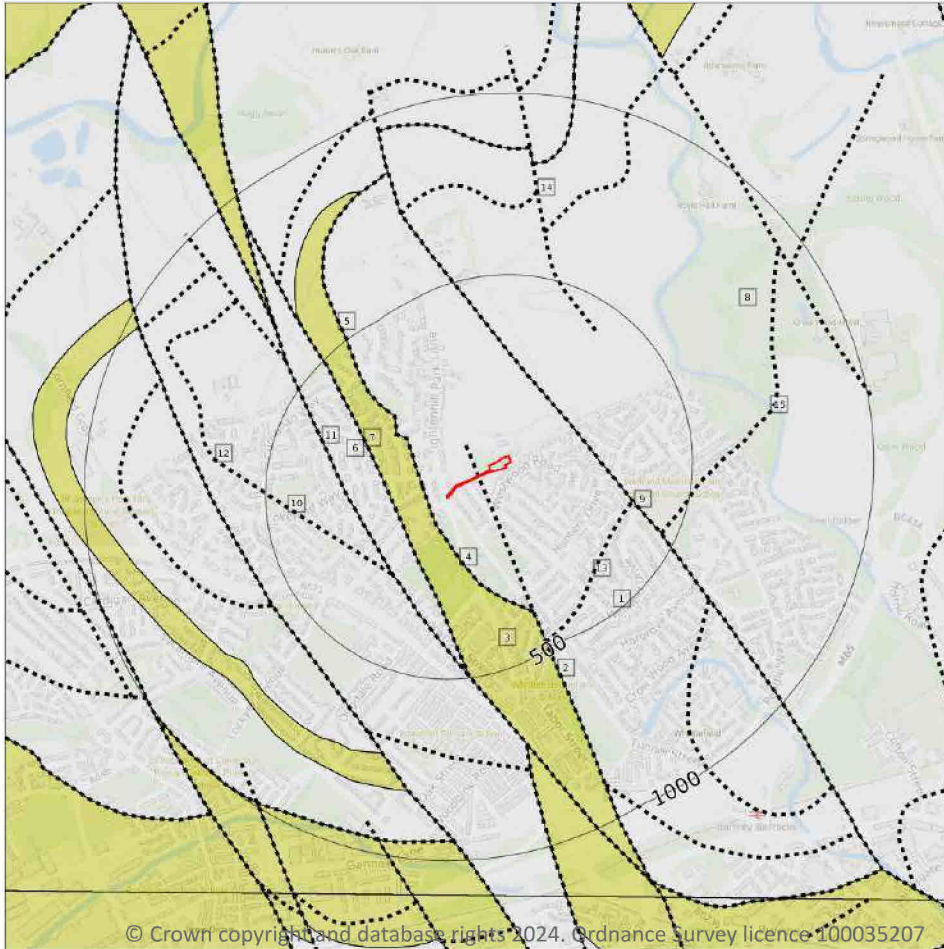
Records within 50m

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

5

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

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

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
3	55m SW	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
6	143m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
8	186m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
10	237m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m **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	Moderate	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m **10**

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

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

ID	Location	Category	Description
2	On site	FAULT	Fault, inferred
4	55m SW	ROCK	Coal seam, inferred
5	73m W	ROCK	Coal seam, observed
7	143m SW	FAULT	Fault, inferred
9	186m NE	FAULT	Fault, inferred
11	237m SW	FAULT	Fault, observed
12	261m SW	ROCK	Coal seam, observed

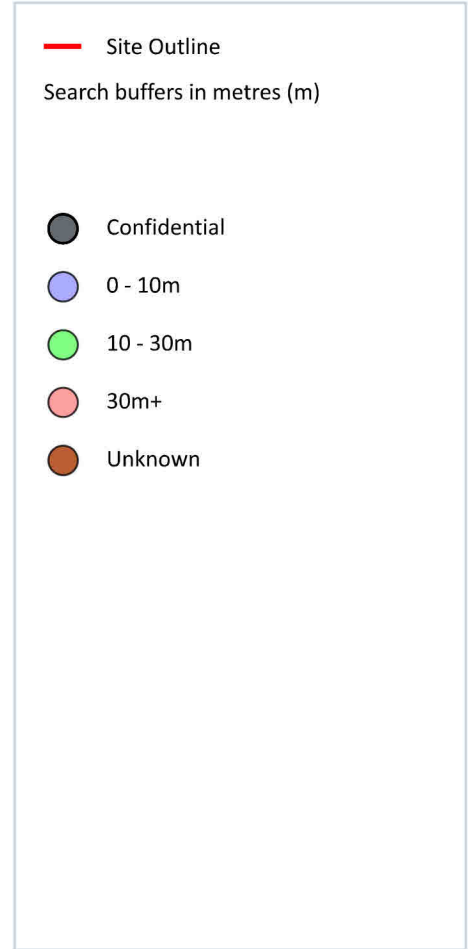
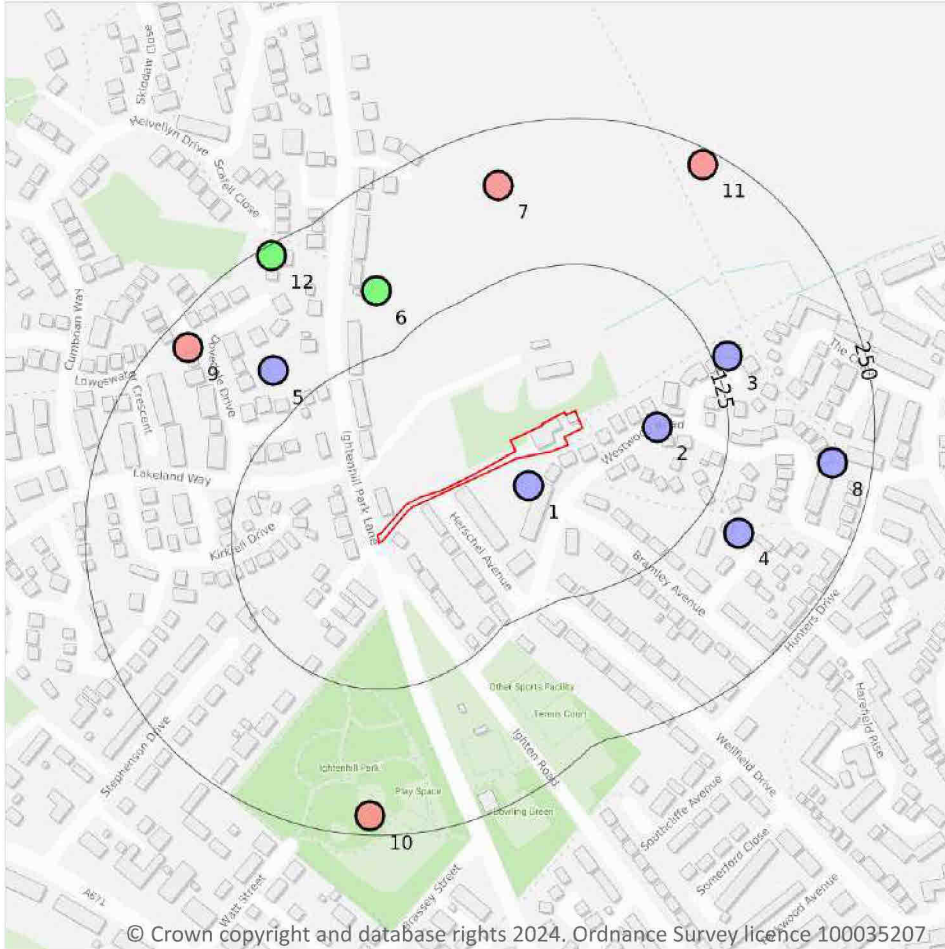


ID	Location	Category	Description
13	338m SE	ROCK	Coal seam, inferred
14	421m NE	FAULT	Fault, observed
15	458m E	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.



16 Boreholes



16.1 BGS Boreholes

Records within 250m

12

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 81](#) >

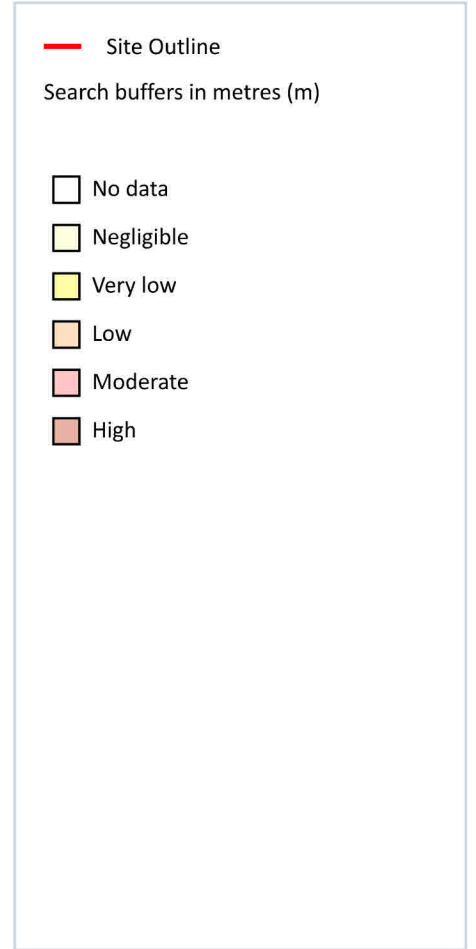
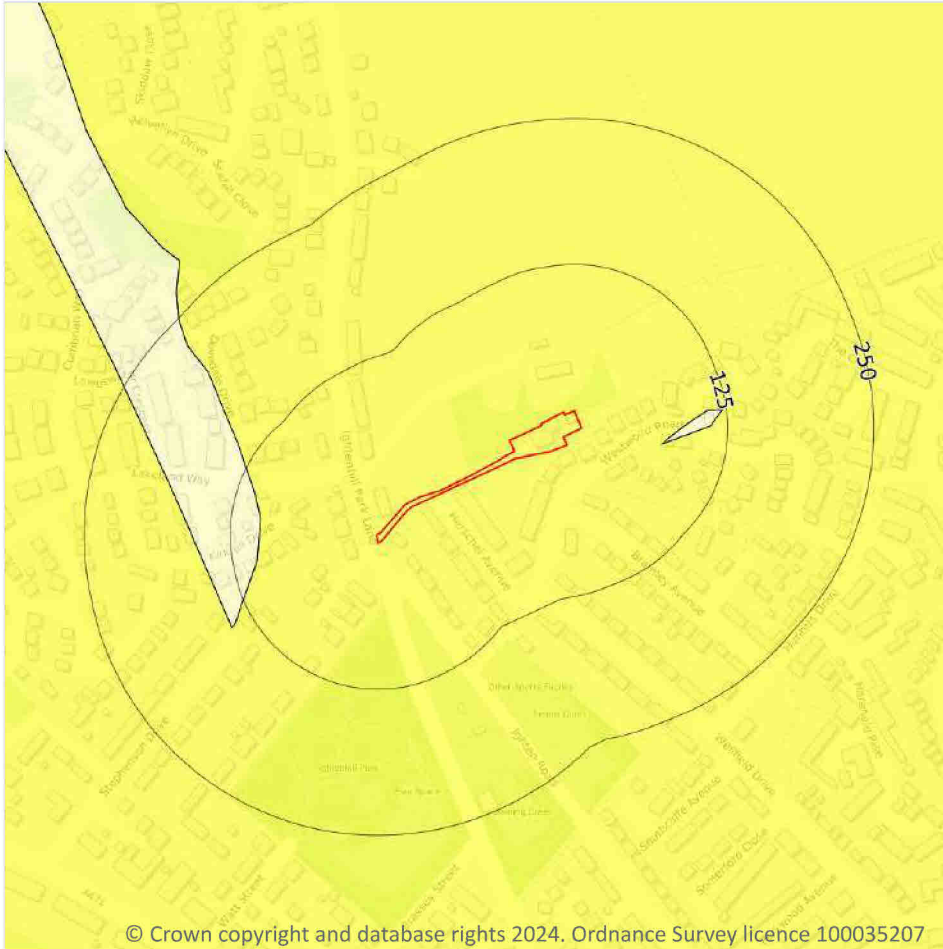
ID	Location	Grid reference	Name	Length	Confidential	Web link
1	25m SE	382360 433680	PADIHAM ROAD BURNLEY BH6	7.5	N	32127 ↗
2	64m E	382470 433730	PADIHAM ROAD BURNLEY BH5	4.0	N	32126 ↗
3	138m NE	382530 433790	PADIHAM ROAD BURNLEY BH4	7.0	N	32125 ↗

ID	Location	Grid reference	Name	Length	Confidential	Web link
4	161m E	382540 433640	PADIHAM ROAD BURNLEY BH3	7.0	N	32124 ↗
5	161m W	382142 433778	IGHTENHILL FARM NO.3	7.62	N	31770 ↗
6	171m NW	382230 433846	IGHTENHILL FARM NO.4	12.7	N	31771 ↗
7	202m N	382334 433936	IGHTENHILL FARM NO.5	76.2	N	31772 ↗
8	216m E	382620 433700	PADIHAM ROAD BURNLEY BH2	7.0	N	32123 ↗
9	228m W	382069 433798	IGHTENHILL FARM	135.36	N	31757 ↗
10	234m S	382225 433398	NORTH OF CHAPEL ON PADIHAM ROAD	45.78	N	31719 ↗
11	237m NE	382509 433954	BROUGHTON COLLIERY BORE NO.22	76.23	N	31766 ↗
12	241m NW	382140 433876	IGHTENHILL FARM NO.2	10.67	N	31769 ↗

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

1

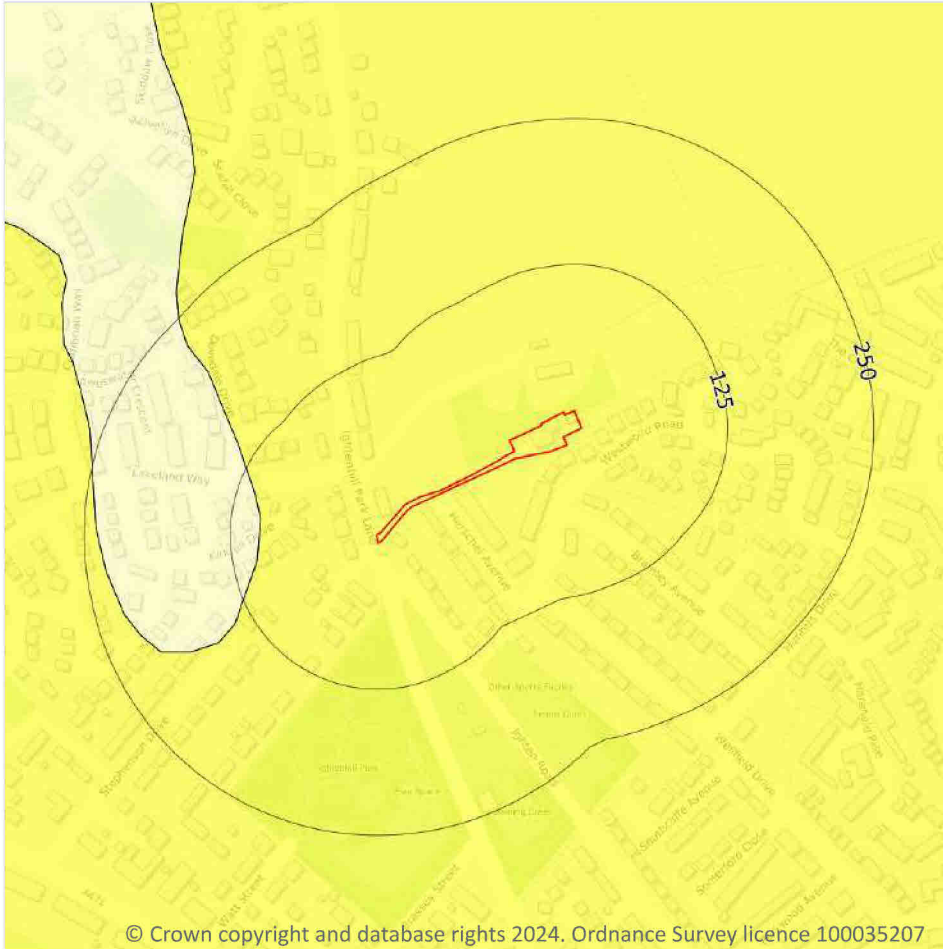
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 83](#) >

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m

1

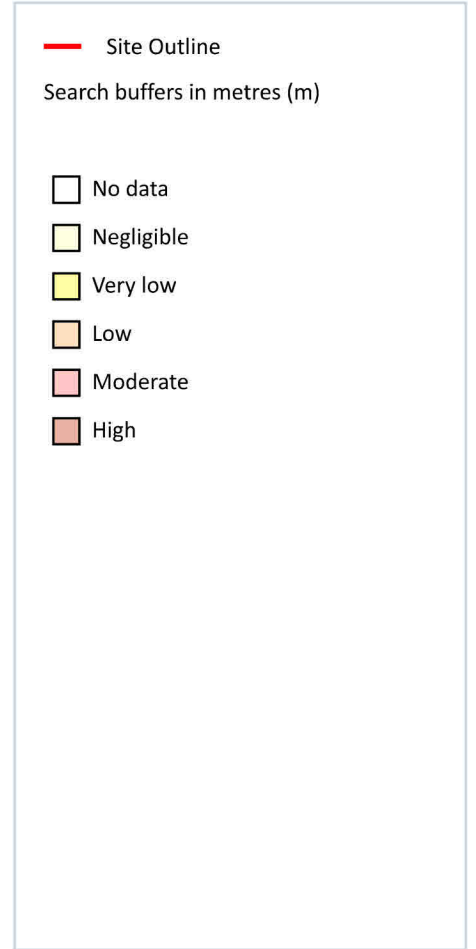
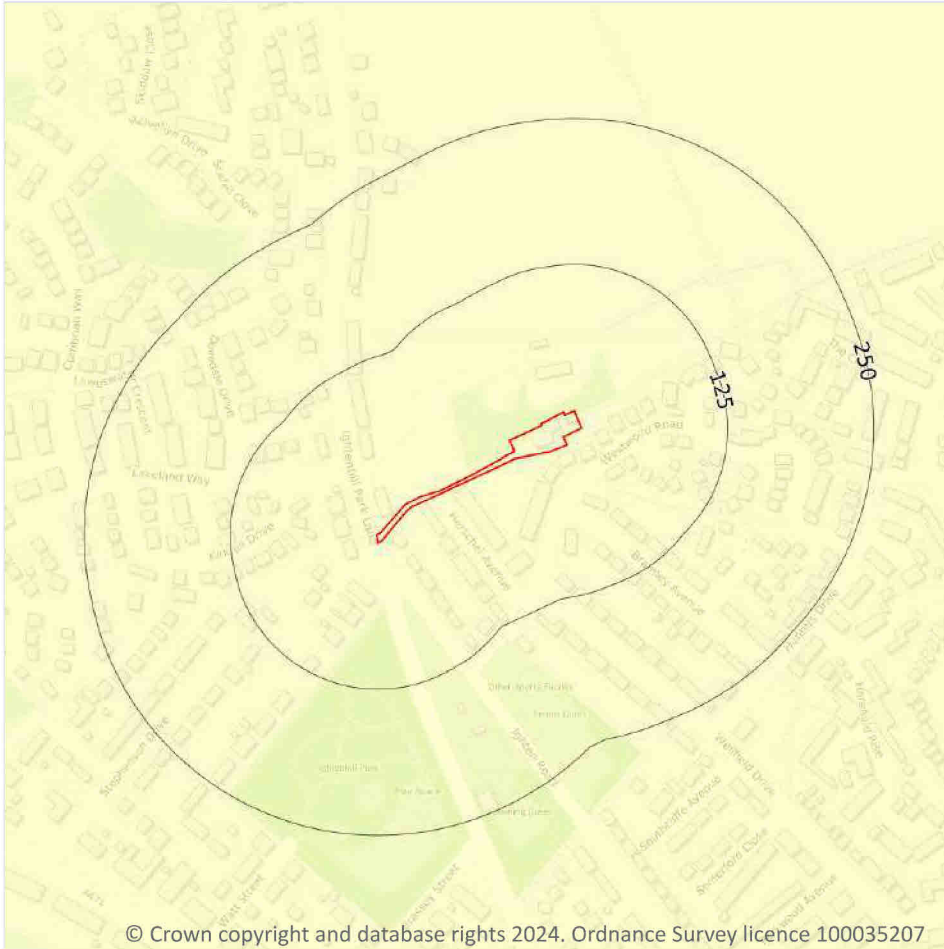
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on [page 84](#) >

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

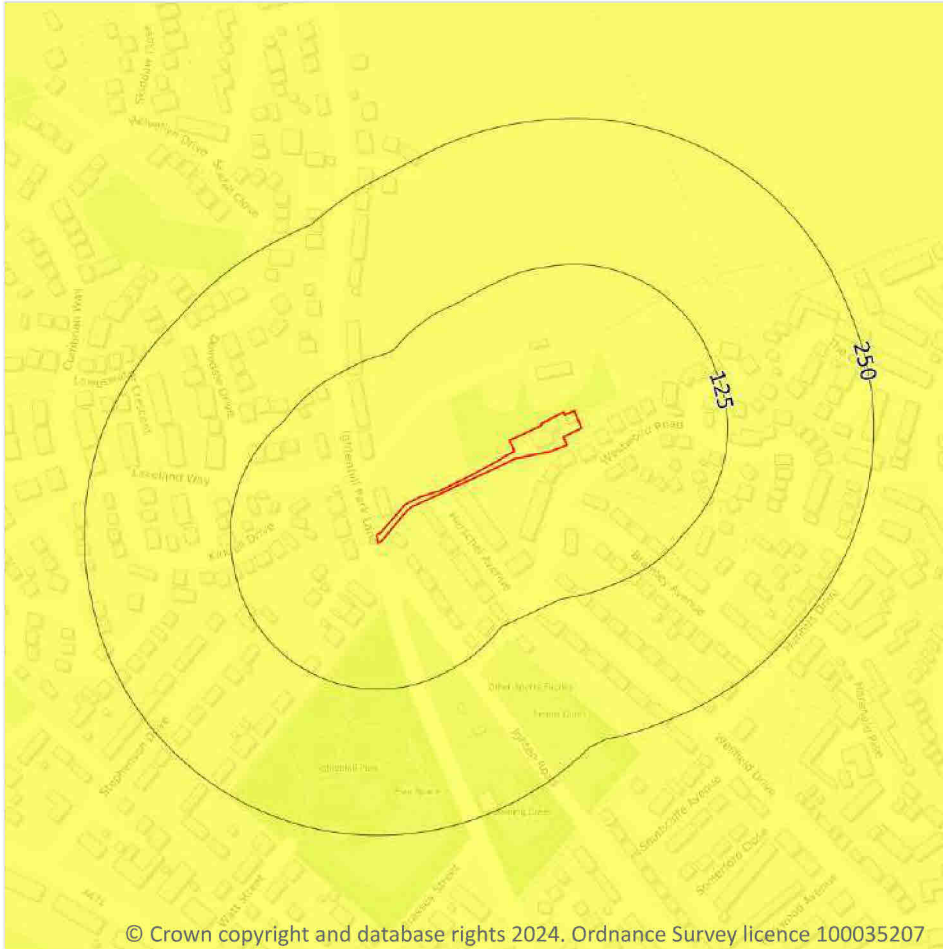
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

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

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

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17.4 Collapsible deposits

Records within 50m

1

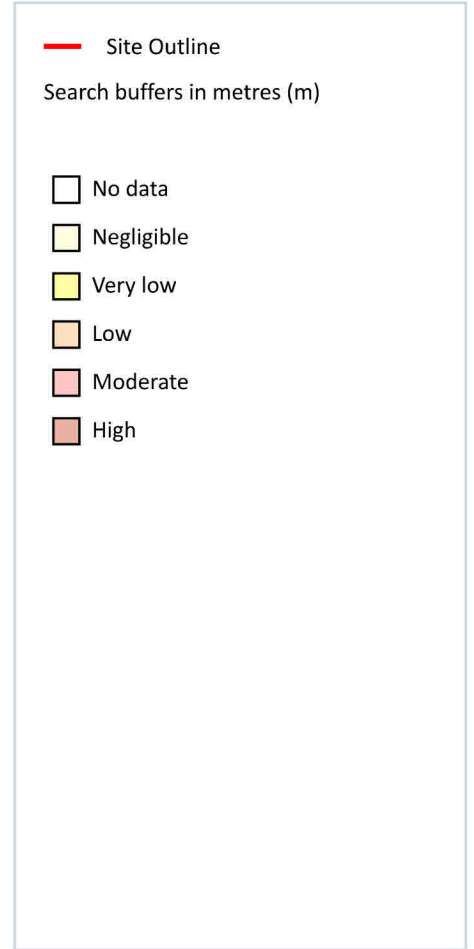
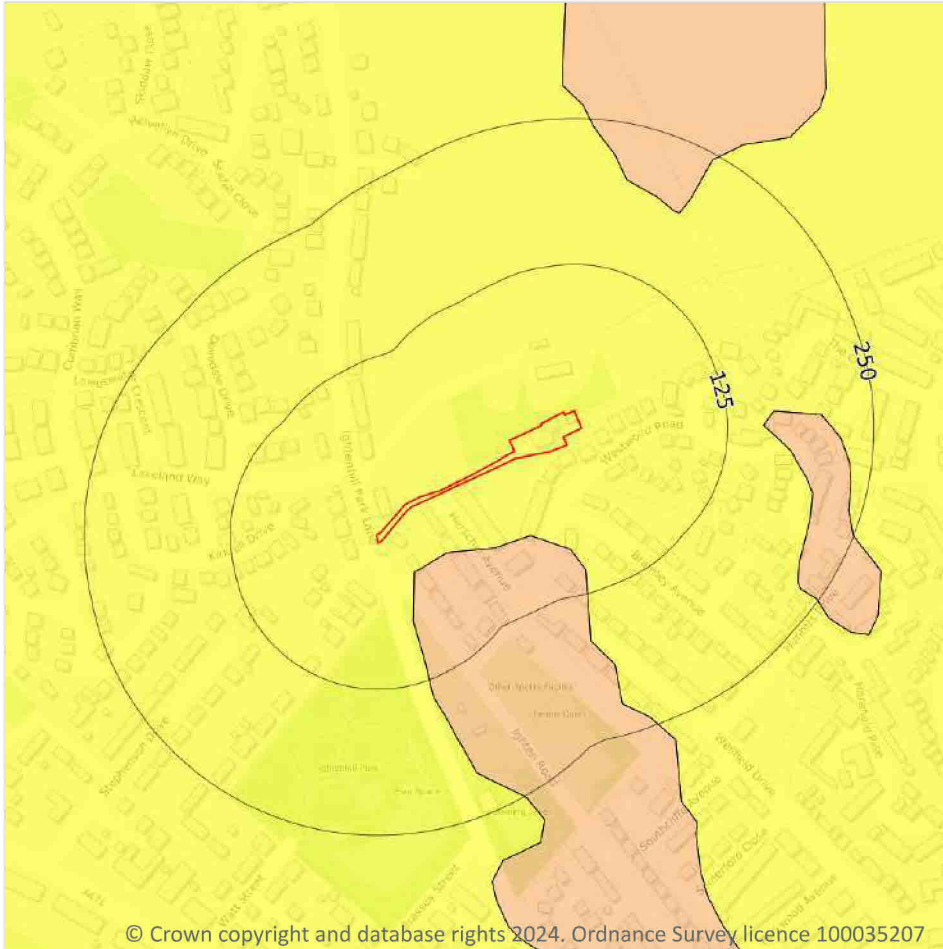
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

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

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



17.5 Landslides

Records within 50m

2

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

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

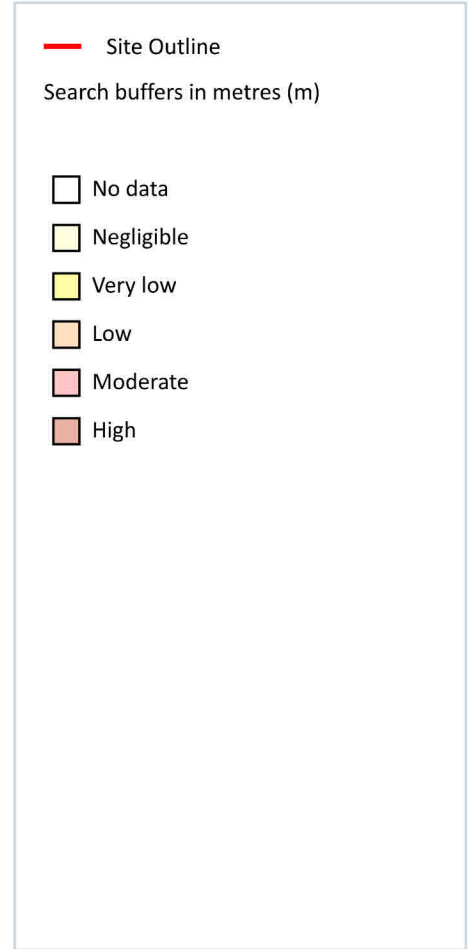
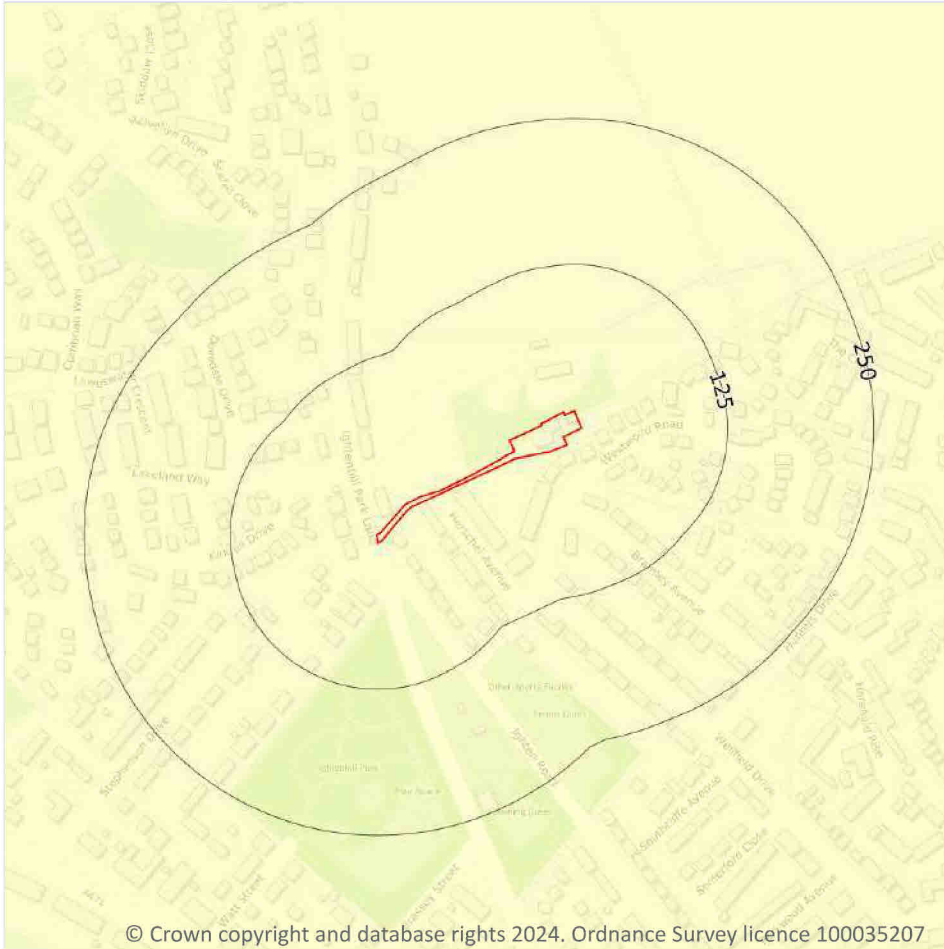
Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

Location	Hazard rating	Details
39m SW	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



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17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

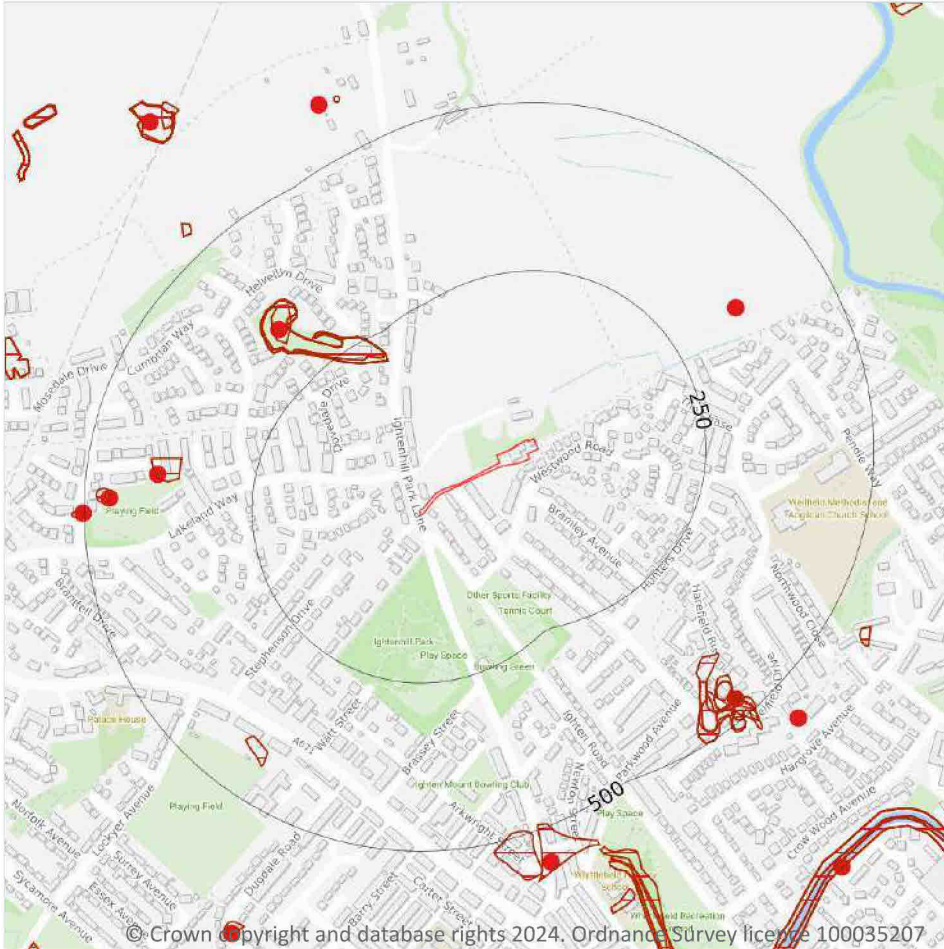
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 89](#) >

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

This data is sourced from the British Geological Survey.



18 Mining and ground workings



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

18.1 BritPits

Records within 500m

5

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

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

ID	Location	Details	Description
A	336m NW	Name: The Hill Farm Address: PADIHAM, Lancashire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
1	358m NE	Name: Ightenhill Park Coal Pit Address: Ightenhill, PADIHAM, Lancashire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
B	393m W	Name: Ightenhill Park Colliery, Mary Anne Pit Address: Ightenhill, PADIHAM, Lancashire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
D	462m W	Name: Diggie Colliery Address: Ightenhill, PADIHAM, Lancashire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	470m SE	Name: Whittlefield Sand Pit Address: BURNLEY, Lancashire Commodity: Sand Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.



18.2 Surface ground workings

Records within 250m

8

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

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

ID	Location	Land Use	Year of mapping	Mapping scale
A	207m NW	Unspecified Quarry	1929	1:10560
A	207m NW	Unspecified Quarry	1910	1:10560
A	207m NW	Unspecified Quarry	1891	1:10560
A	207m NW	Unspecified Ground Workings	1938	1:10560
A	215m NW	Unspecified Quarry	1988	1:10000
A	215m NW	Unspecified Quarry	1974	1:10000
A	215m NW	Unspecified Quarry	1965	1:10560
A	215m NW	Unspecified Ground Workings	1950	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

15

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

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

ID	Location	Land Use	Year of mapping	Mapping scale
-	739m N	Unspecified Old Shafts	1929	1:10560
-	739m N	Unspecified Old Shafts	1910	1:10560
-	739m N	Old Coal Pits	1891	1:10560
-	749m N	Unspecified Old Shafts	1929	1:10560
-	749m N	Unspecified Old Shafts	1910	1:10560
-	749m N	Old Coal Pits	1891	1:10560
-	752m N	Unspecified Old Shafts	1938	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
-	756m N	Unspecified Old Shafts	1950	1:10560
-	762m N	Unspecified Old Shafts	1938	1:10560
-	765m N	Unspecified Old Shafts	1950	1:10560
-	829m SE	Tunnel	1988	1:10000
-	829m SE	Tunnel	1986	1:10000
-	833m SE	Tunnel	1938	1:10560
-	833m SE	Tunnel	1929	1:10560
-	833m SE	Tunnel	1910	1:10560

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

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

This data is sourced from the British Geological Survey.



18.7 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

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

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m

0

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

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

0

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

This data is sourced from Groundsure.



18.11 BGS mine plans

Records within 500m

0

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

This data is sourced from Groundsure.

18.12 Coal mining

Records on site

1

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

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

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site

0

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

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

18.14 Gypsum areas

Records on site

0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site

0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.



18.16 Clay mining

Records on site

0

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

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



19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

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

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



This data is sourced from Groundsure.

19.5 National karst database

Records within 500m

0

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

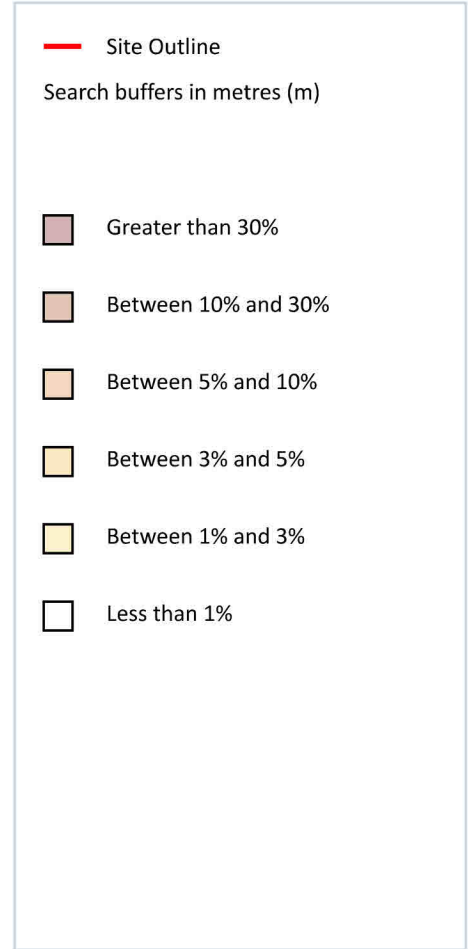
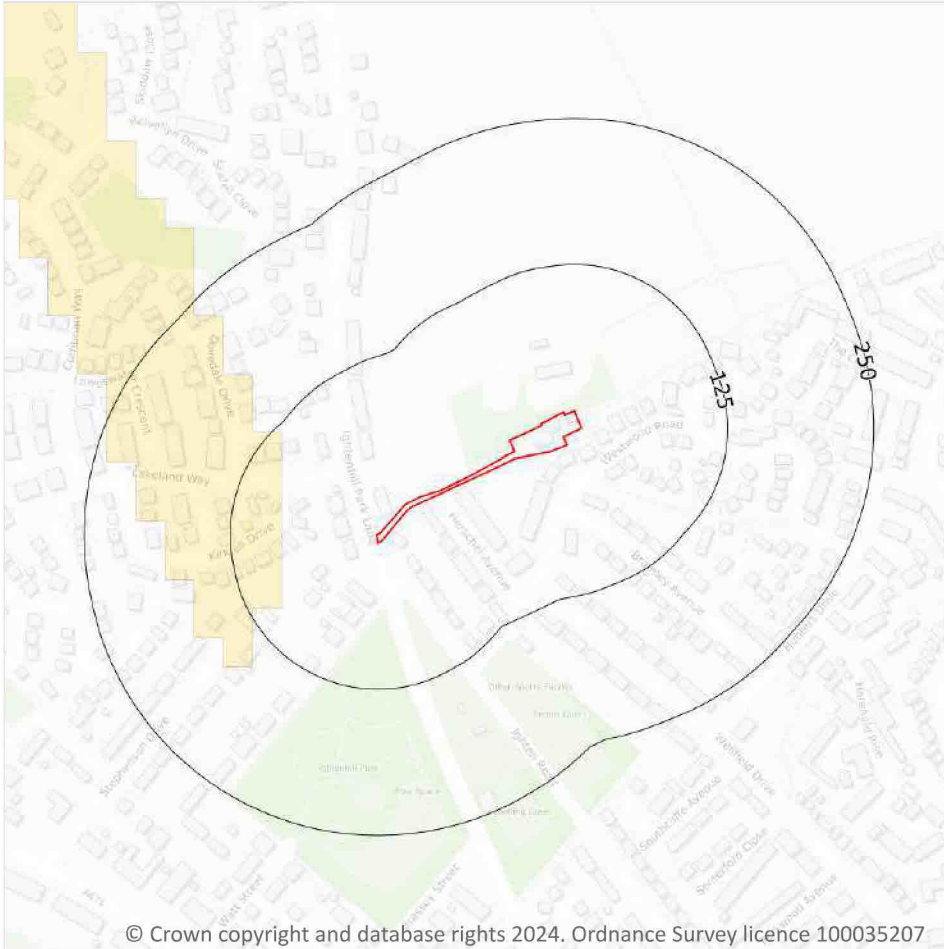
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over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

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

This data is sourced from the British Geological Survey.



20 Radon



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 100 >](#)

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

1

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	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

22.1 Underground railways (London)

Records within 250m 0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m 0

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m 0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m 0

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

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m 0

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



This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

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

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

This data is sourced from OpenStreetMap.

22.7 Railways

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

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

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

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

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

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m	0
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HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 Ltd.



Data providers

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

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: www.groundsure.com/terms-and-conditions-april-2023/ ↗.



Appendix C

Historical Maps

Site Details:
 1, HERSCHEL AVENUE,
 BURNLEY, LANCASHIRE, BB12
 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: County Series
Map date: 1890
Scale: 1:2,500
Printed at: 1:2,500



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

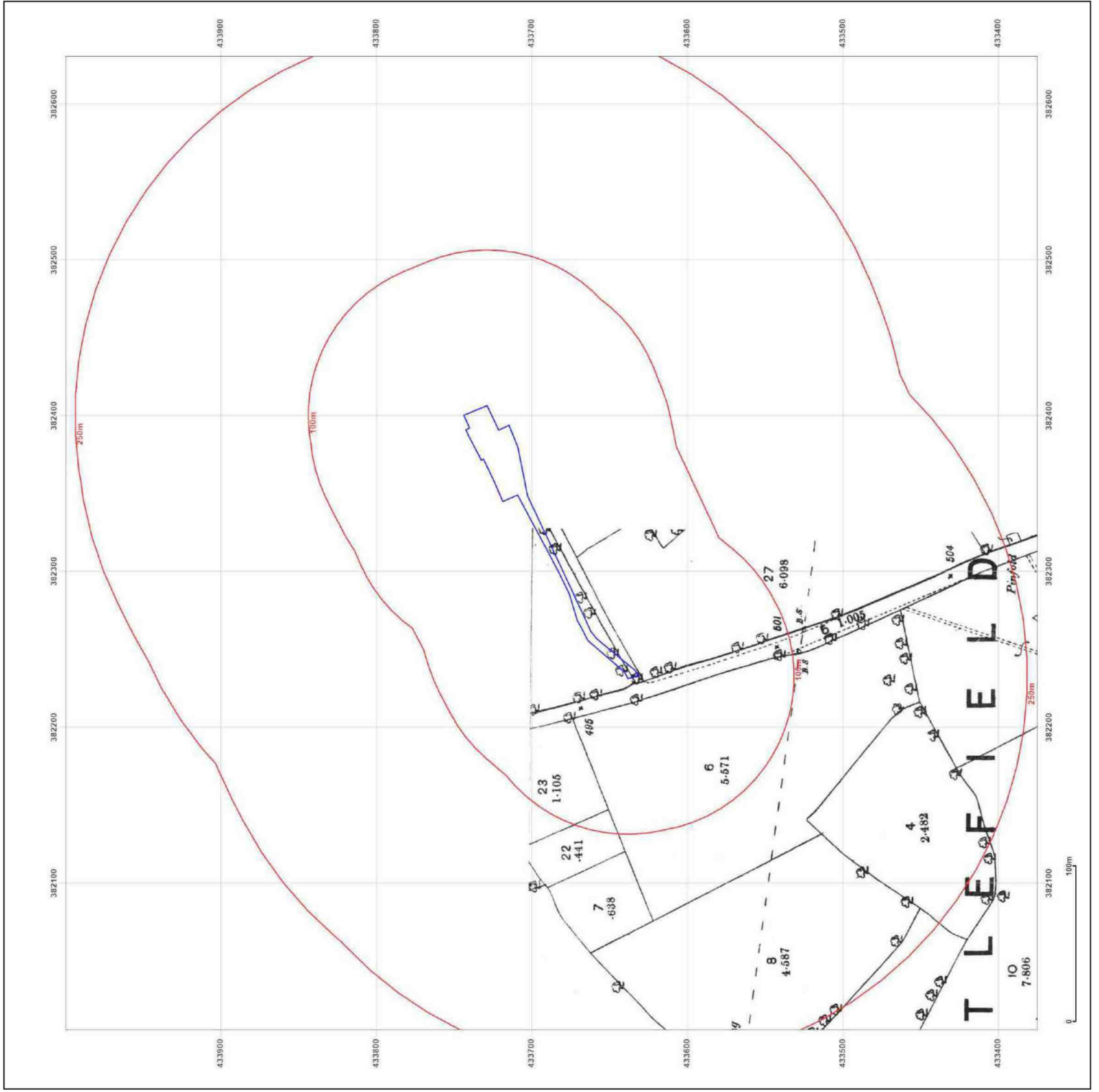


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Site Details:

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BURNLEY, LANCASHIRE, BB12
OLN

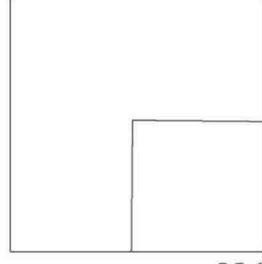
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Map Name: County Series

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

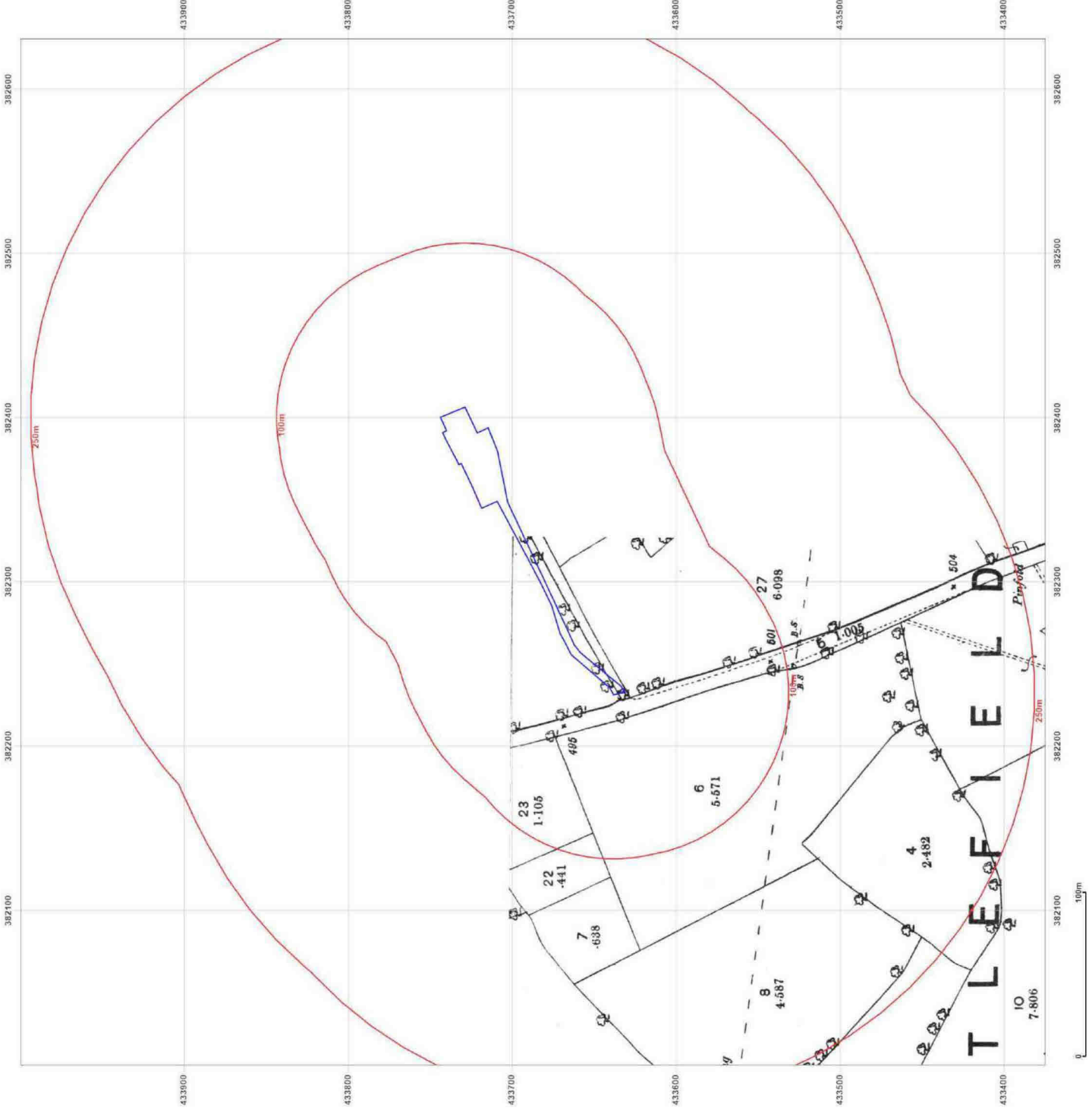


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Site Details:
 1, HERSCHEL AVENUE
 BURNLEY, LANCASHIRE, BB12
 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: County Series
Map date: 1890-1891
Scale: 1:2,500
Printed at: 1:2,500



Surveyed 1891
 Revised 1891
 Edition N/A
 Copyright N/A
 Levelled N/A

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 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1891
 Revised 1891
 Edition N/A
 Copyright N/A
 Levelled N/A

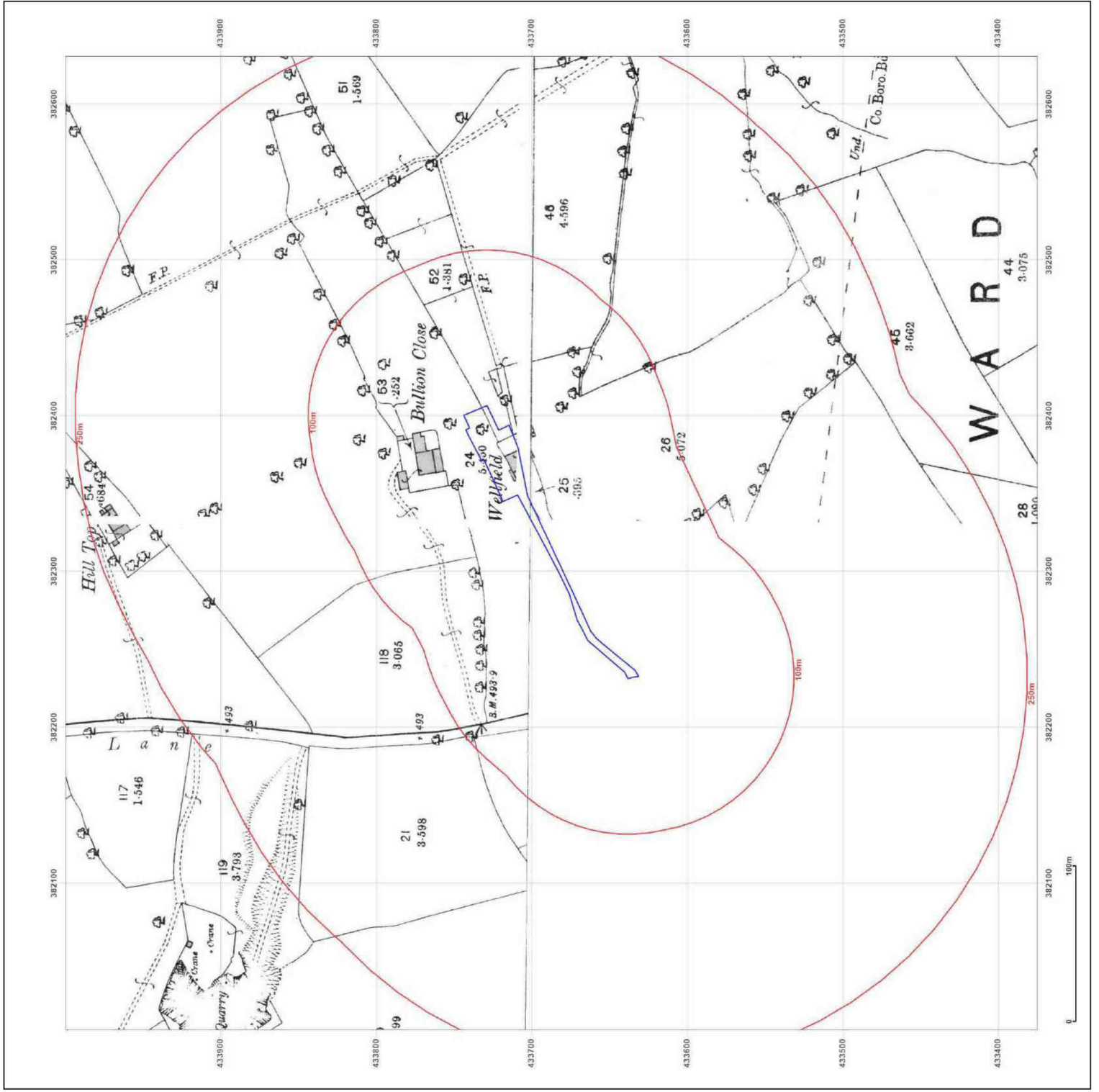


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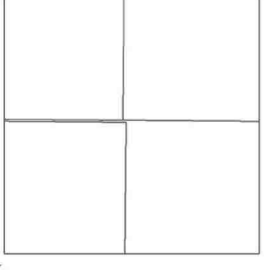
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 Edition N/A
 Copyright N/A
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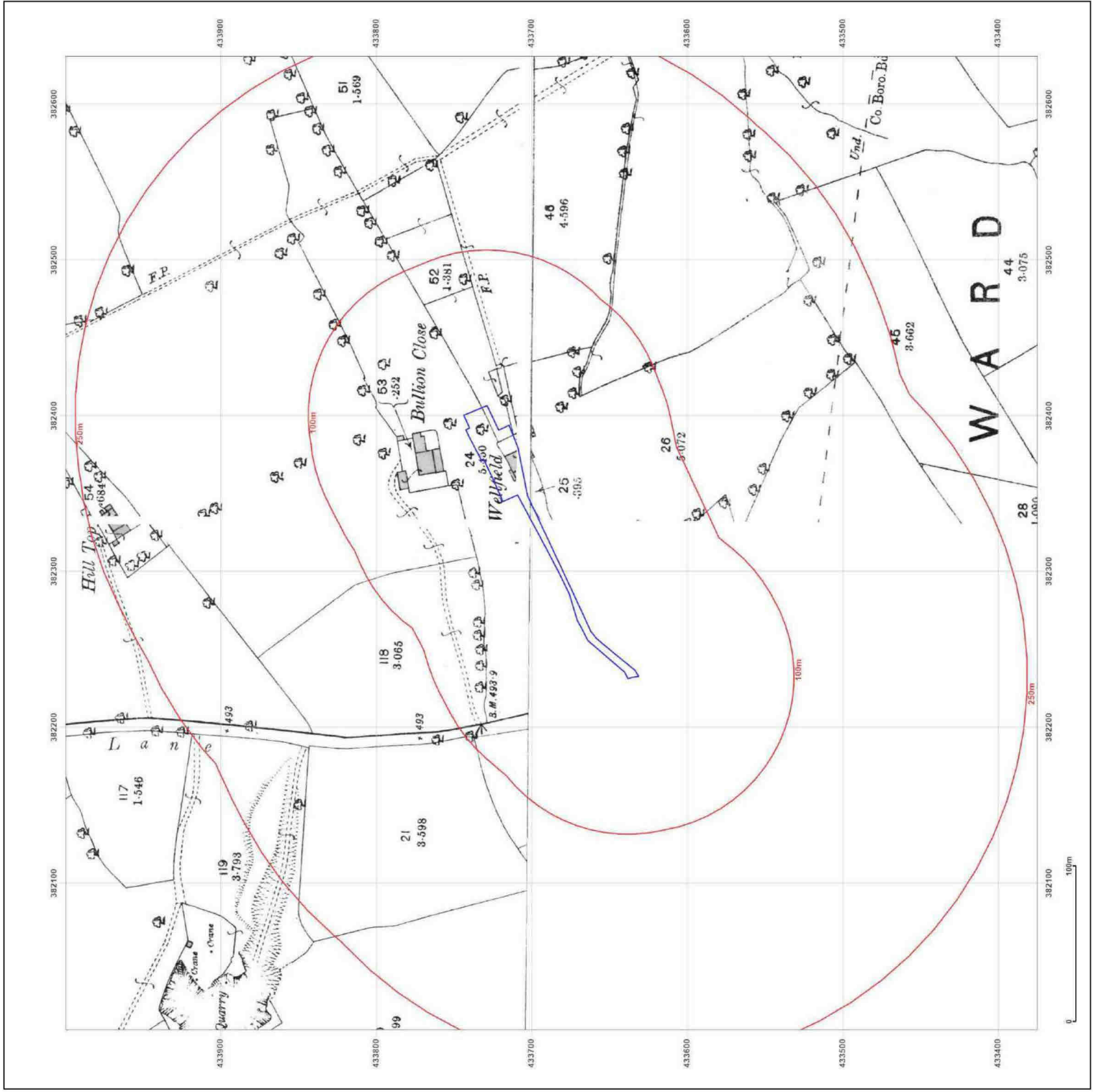


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OLN

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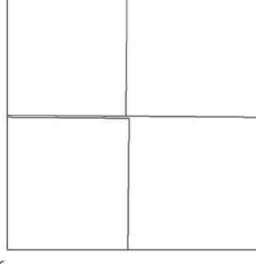
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Scale: 1:2,500

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Revised 1912
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1912
Revised 1912
Edition N/A
Copyright N/A
Levelled N/A

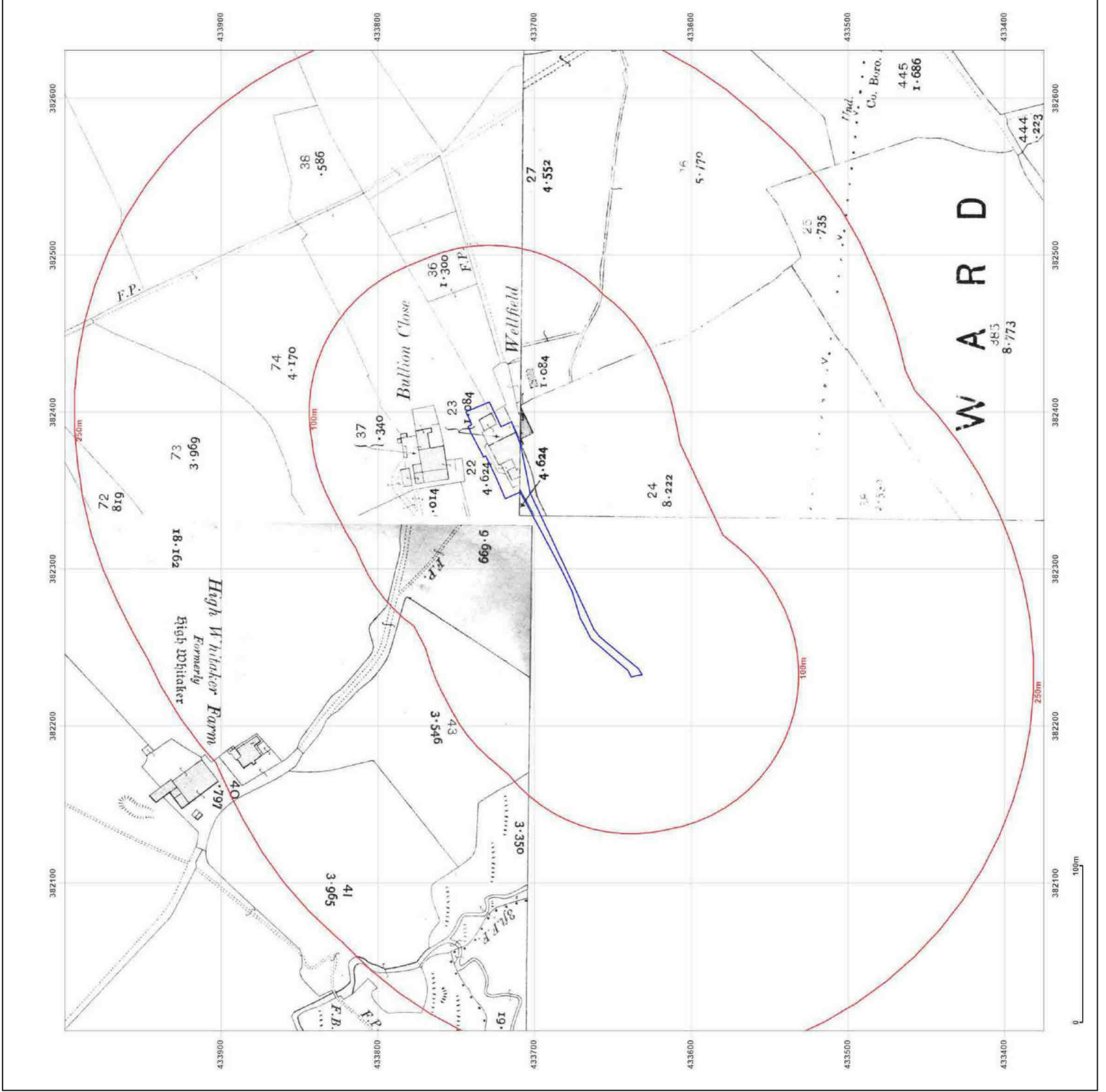


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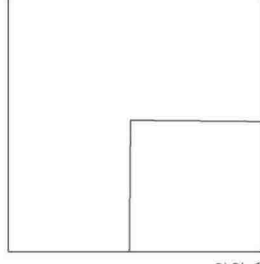
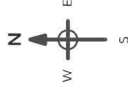
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Surveyed 1912
Revised 1912
Edition N/A
Copyright N/A
Levelled N/A

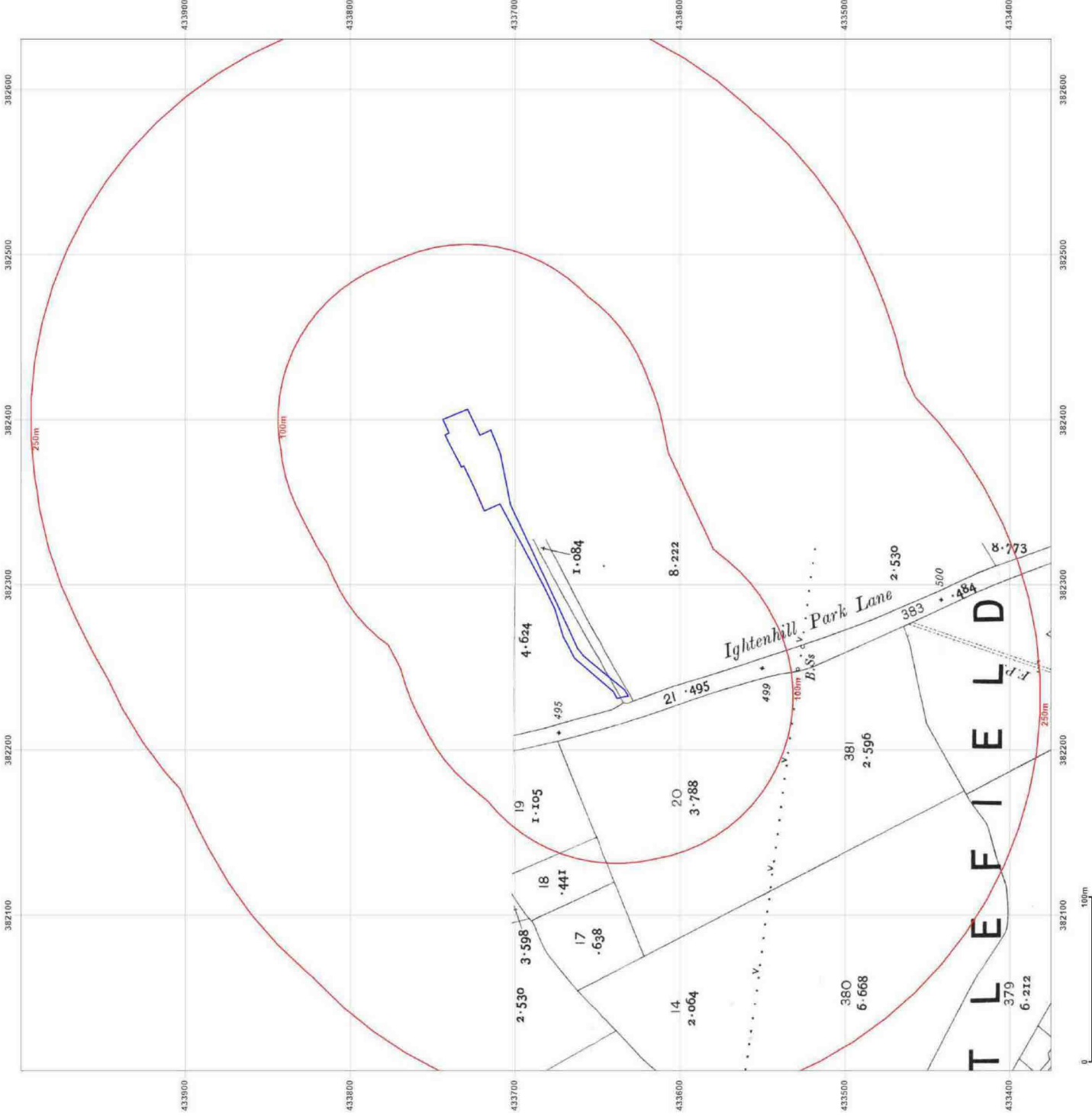


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OLN

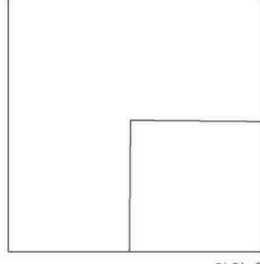
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Copyright N/A
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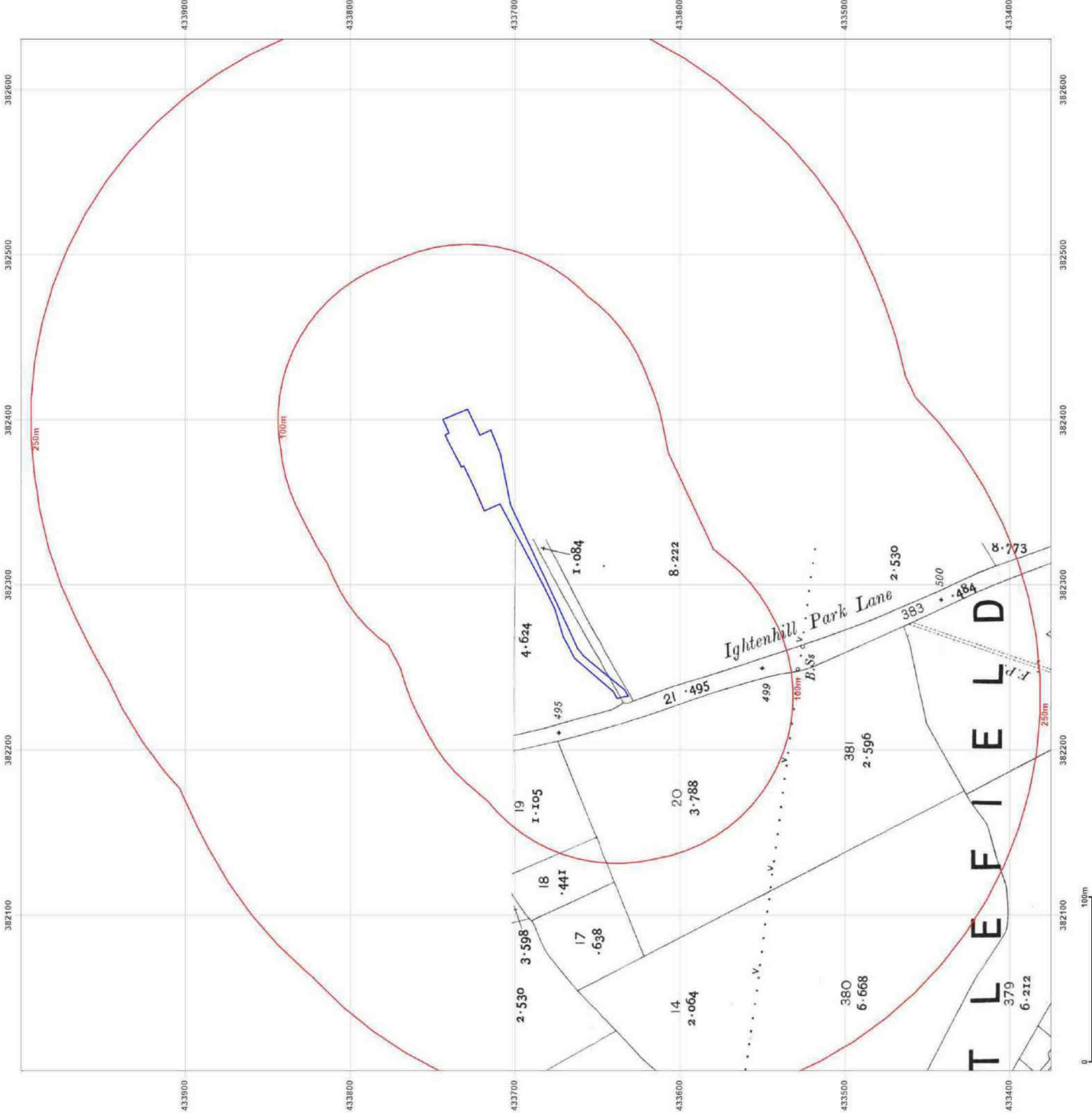


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OLN

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Map Name: County Series

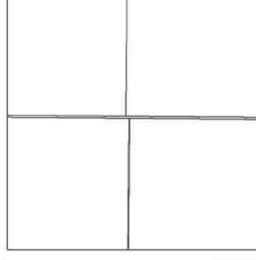
Map date: 1931-1932

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1932
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1931
Revised 1931
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1932
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1931
Revised 1931
Edition N/A
Copyright N/A
Levelled N/A

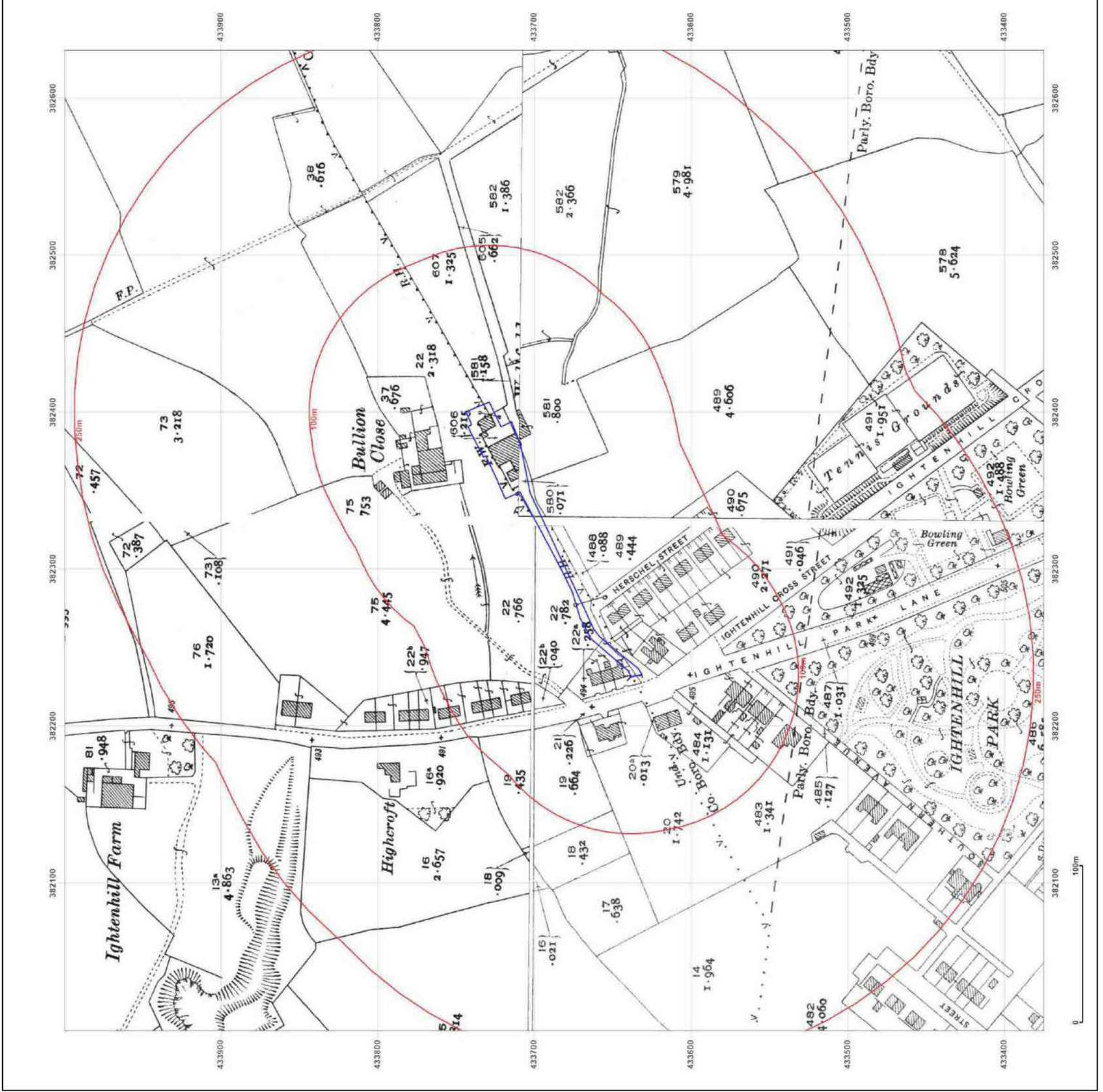


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OLN

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Map Name: County Series

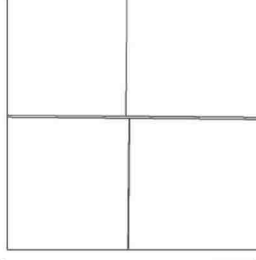
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Printed at: 1:2,500



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Revised 1932
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1931
Revised 1931
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1932
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Copyright N/A
Levelled N/A

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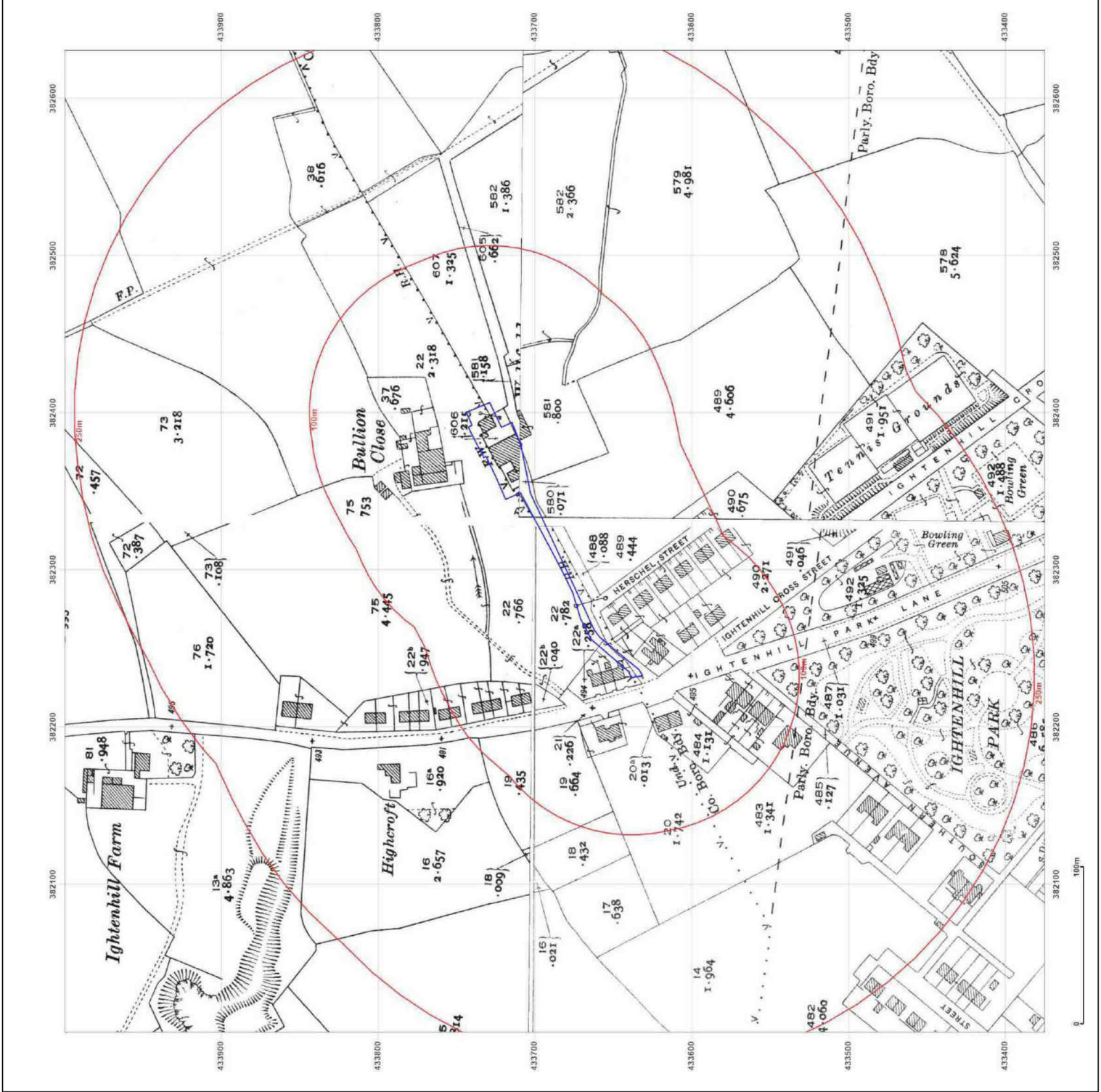


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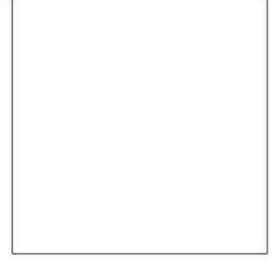
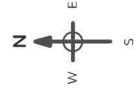
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Site Details:
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 BURNLEY, LANCASHIRE, BB12
 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid
Map date: 1958
Scale: 1:2,500
Printed at: 1:2,500



Surveyed 1958
 Revised 1958
 Edition 1960
 Copyright 1960
 Levelled 1956

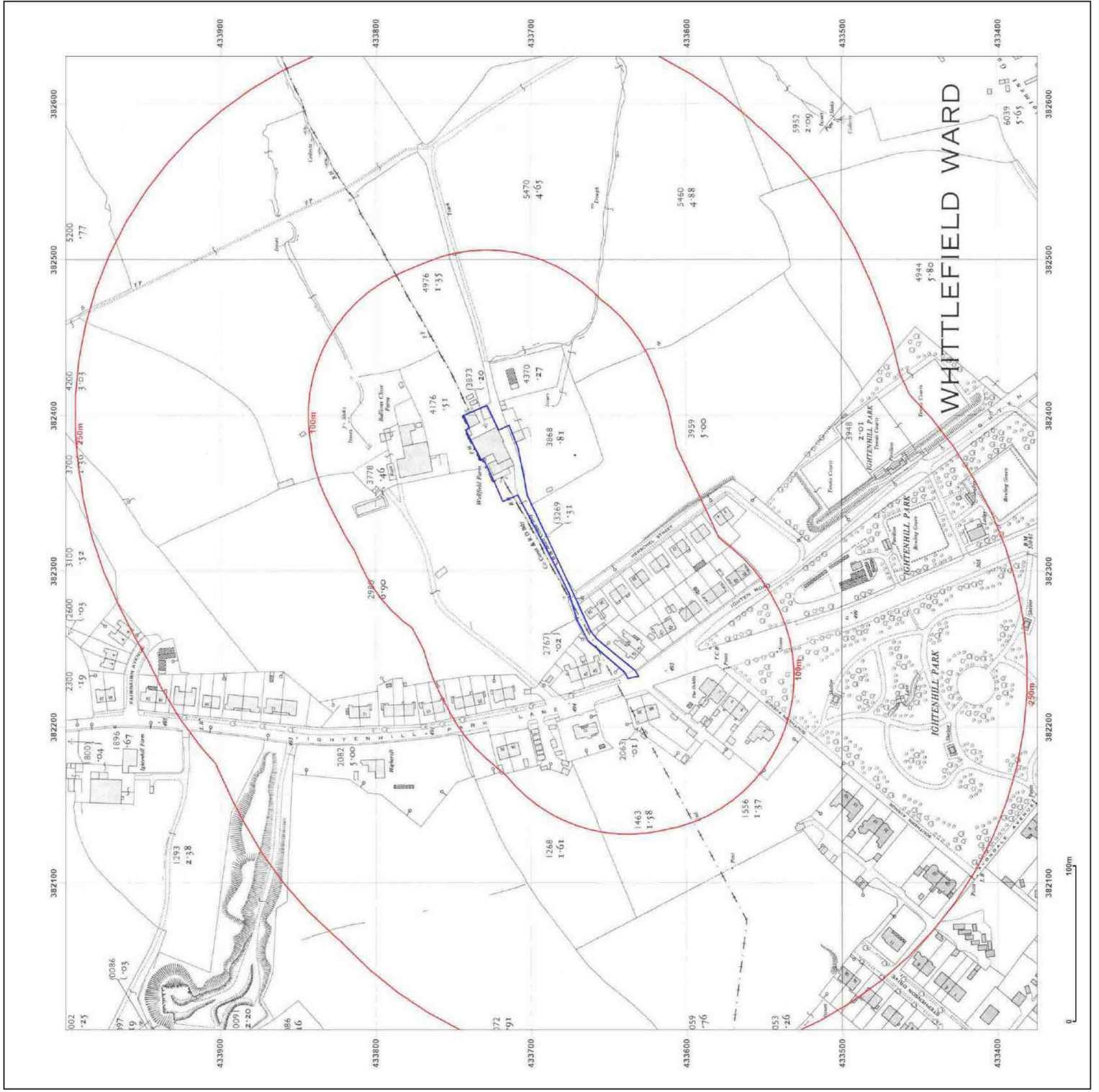


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OLN

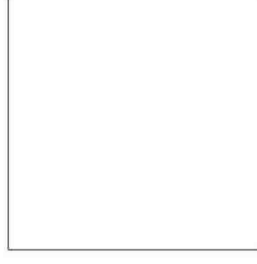
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Grid Ref: 382318, 433687

Map Name: National Grid

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Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1958
Revised 1958
Edition 1960
Copyright 1960
Levelled 1956

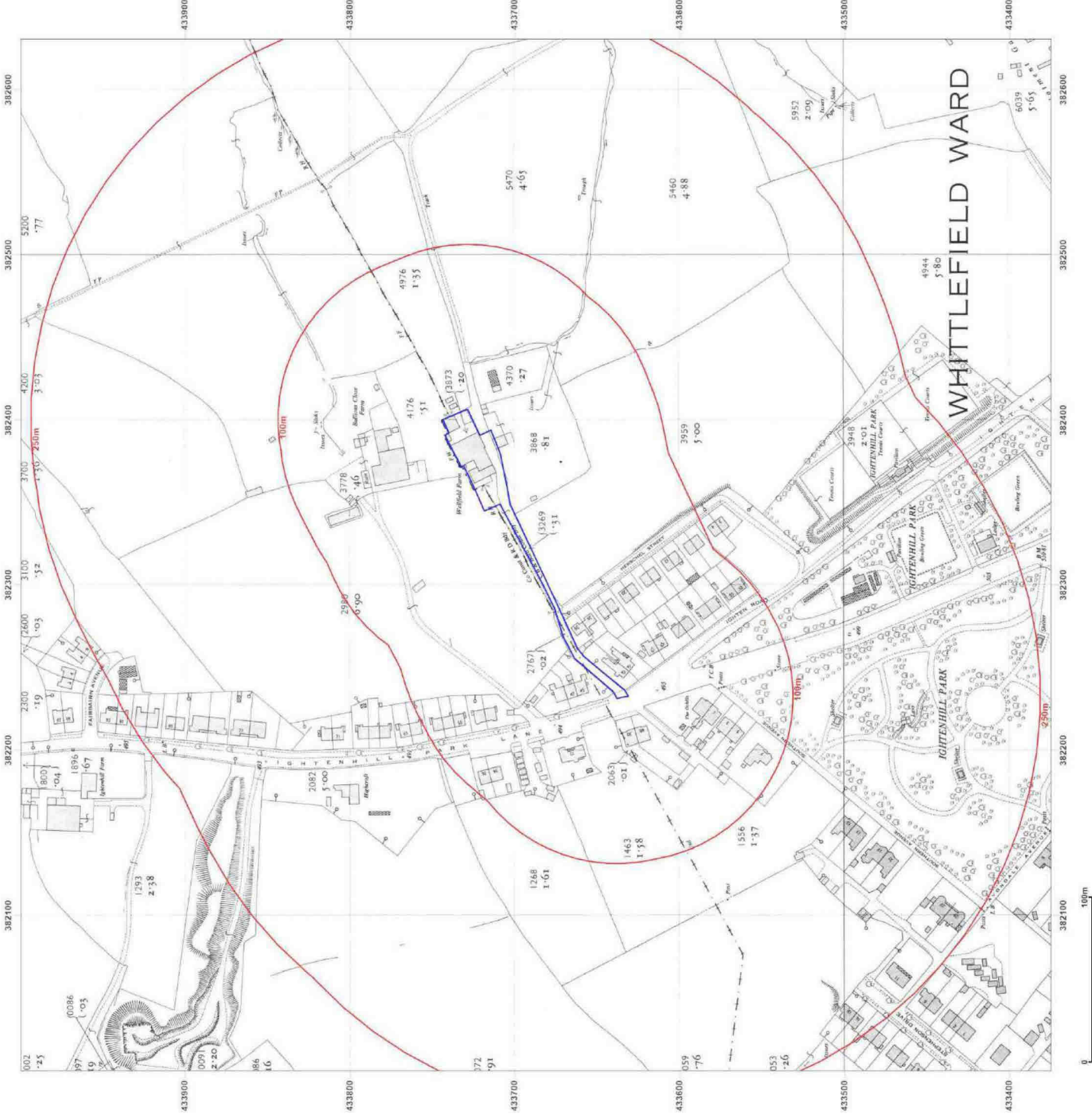


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OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid

Map date: 1959

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958 Revised 1958 Edition N/A Copyright 1959 Levelled 1930	Surveyed 1958 Revised 1958 Edition N/A Copyright 1959 Levelled 1930
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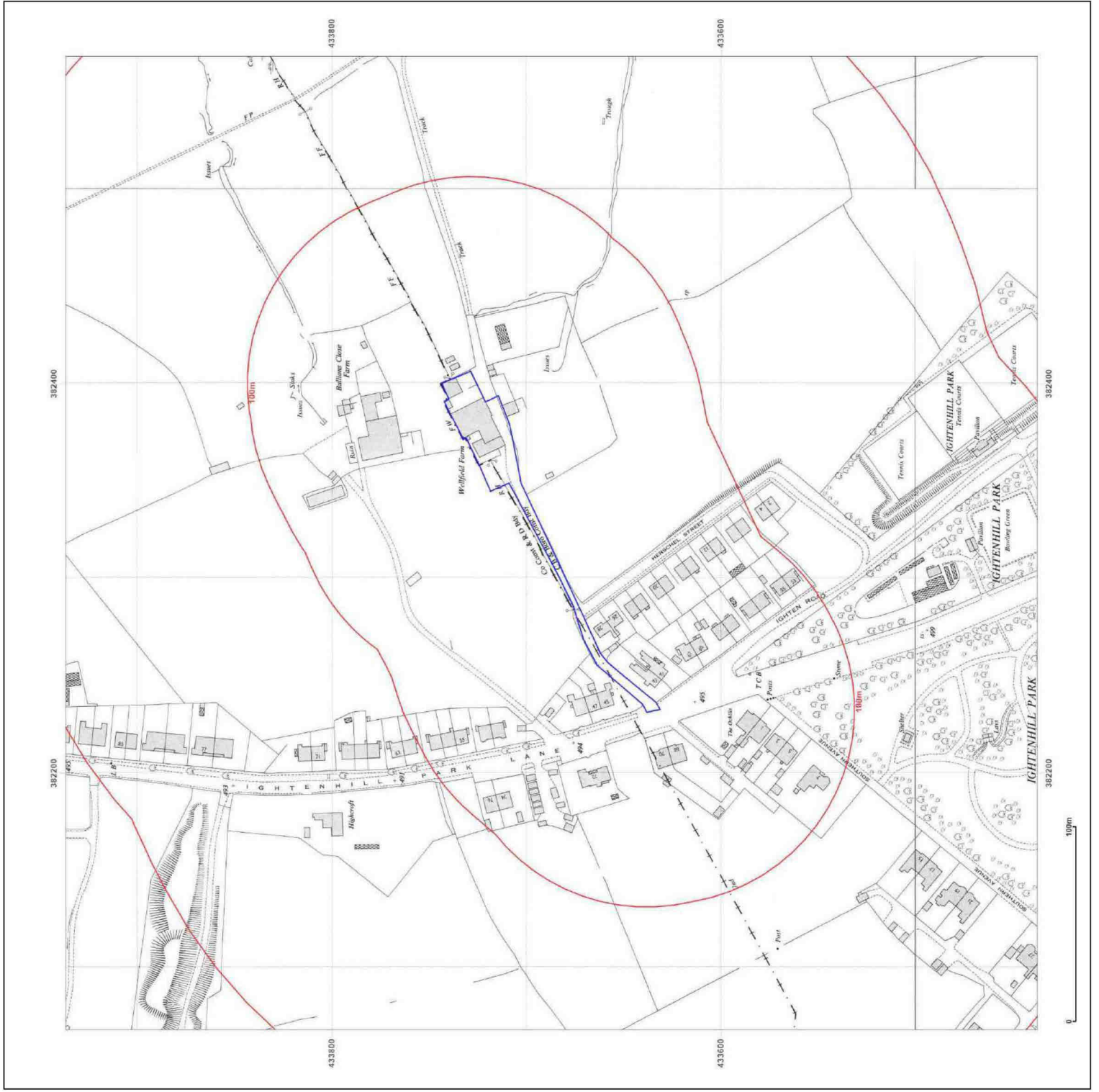


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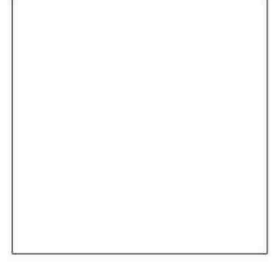
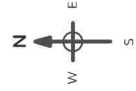
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Site Details:
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 BURNLEY, LANCASHIRE, BB12
 OLN

Client Ref: 24030
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Grid Ref: 382318, 433687

Map Name: National Grid
Map date: 1969
Scale: 1:2,500
Printed at: 1:2,500



Surveyed 1969
 Revised 1969
 Edition N/A
 Copyright 1970
 Levelled 1961

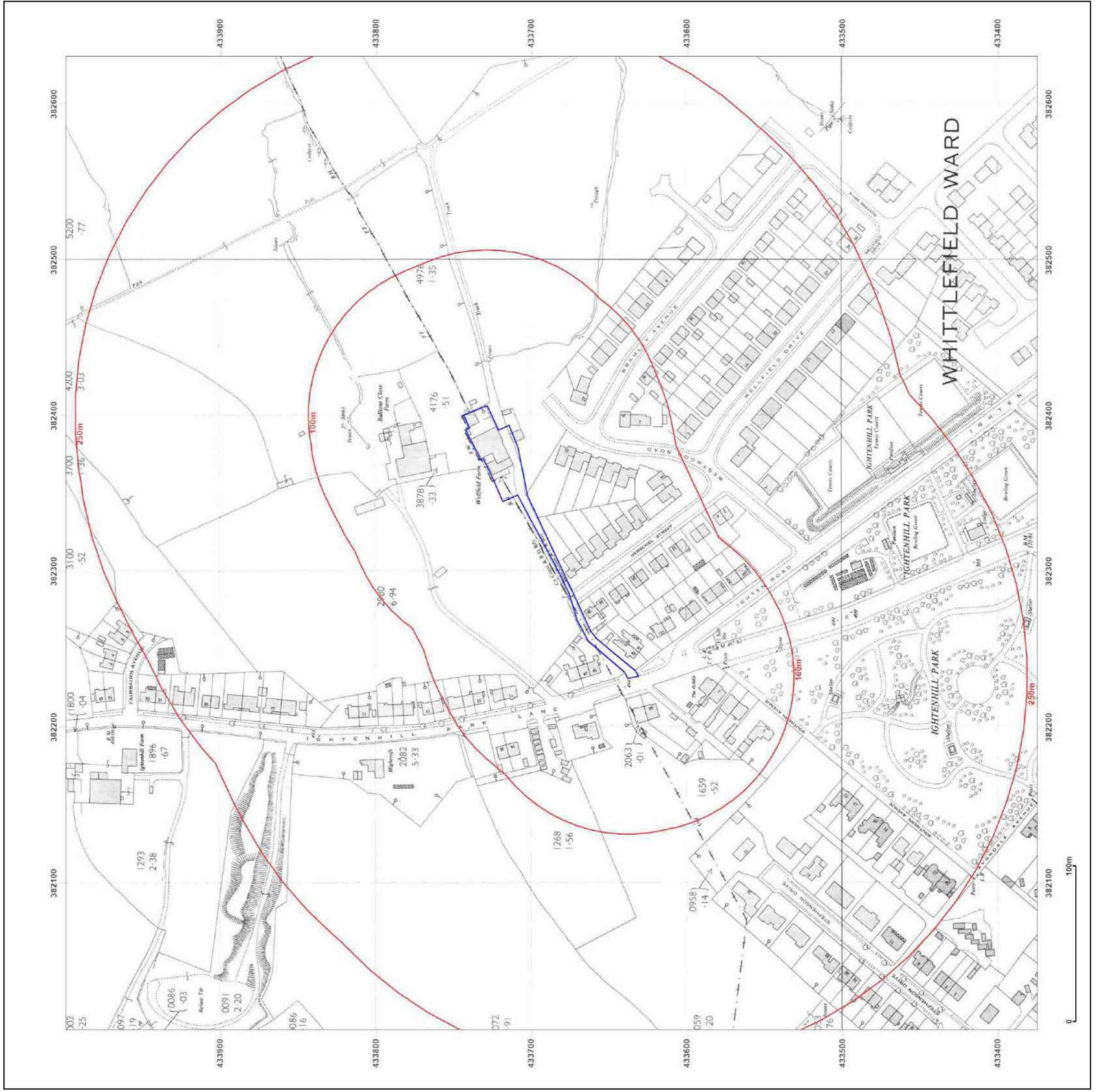


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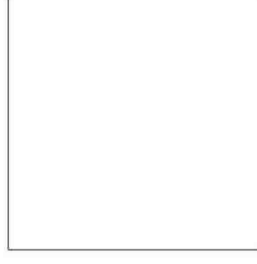
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Map Name: National Grid

Map date: 1969

Scale: 1:2,500

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Surveyed 1969
Revised 1969
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Copyright 1970
Levelled 1961

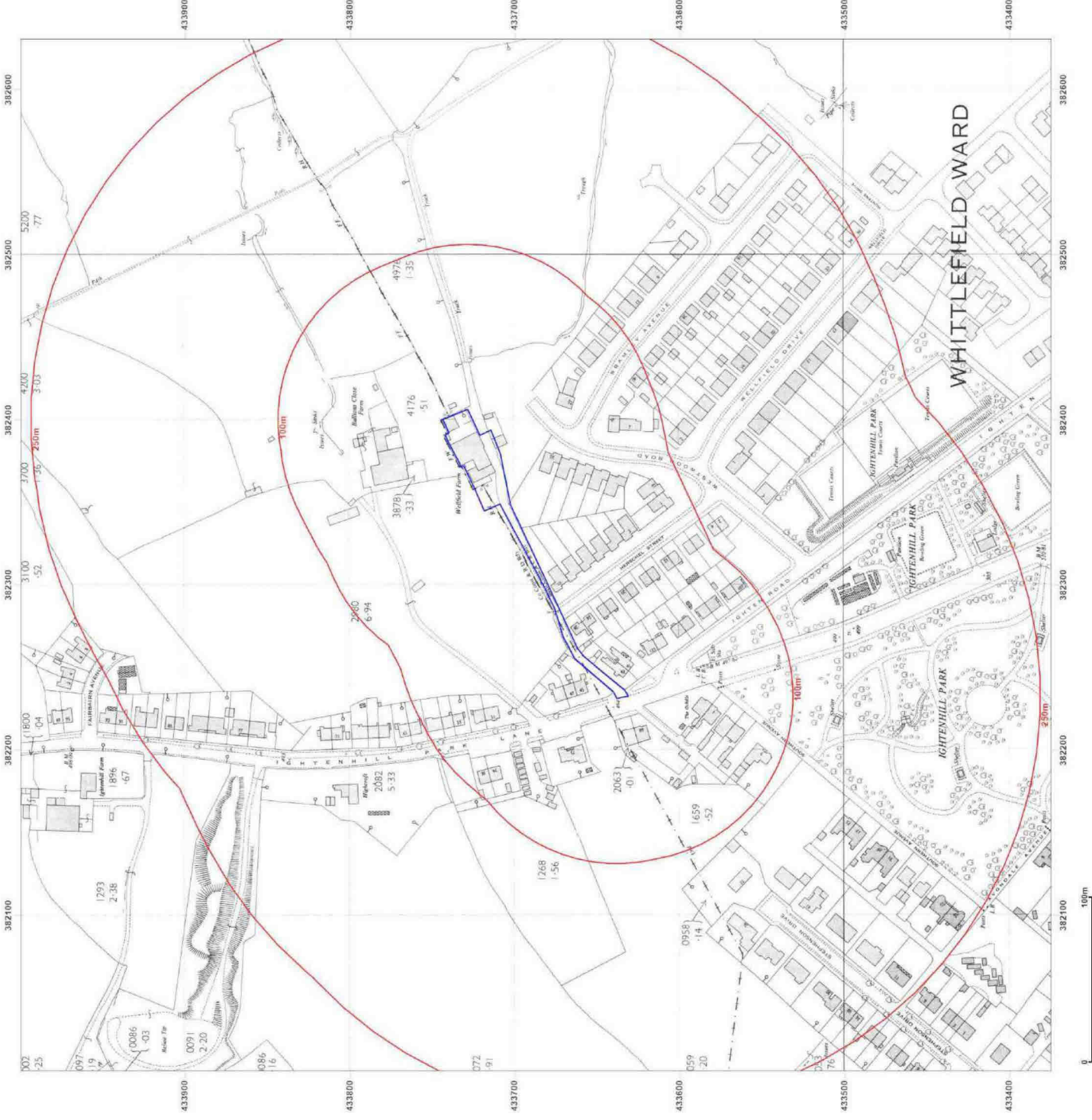


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Site Details:

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OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid

Map date: 1967-1972

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958 Revised 1967 Edition N/A Copyright 1968 Levelled 1961	Surveyed 1958 Revised 1967 Edition N/A Copyright 1967 Levelled 1961
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10m

Site Details:

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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid

Map date: 1967-1972

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958 Revised 1967 Edition N/A Copyright 1968 Levelled 1961	Surveyed 1958 Revised 1967 Edition N/A Copyright 1967 Levelled 1961
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Site Details:

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OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid

Map date: 1980-1982

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A	Surveyed N/A
Revised N/A	Revised N/A
Edition N/A	Edition N/A
Copyright N/A	Copyright 1982
Levelled N/A	Levelled 1961



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Site Details:

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OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid

Map date: 1980-1982

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A	Surveyed N/A
Revised N/A	Revised N/A
Edition N/A	Edition N/A
Copyright N/A	Copyright 1982
Levelled N/A	Levelled 1961



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100m

Site Details:
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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid
Map date: 1984-1987
Scale: 1:1,250
Printed at: 1:2,000



Surveyed 1961 Revised 1984 Edition N/A Copyright 1984 Levelled 1961	Surveyed N/A Revised N/A Edition N/A Copyright 1986 Levelled 1961
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Client Ref: 24030
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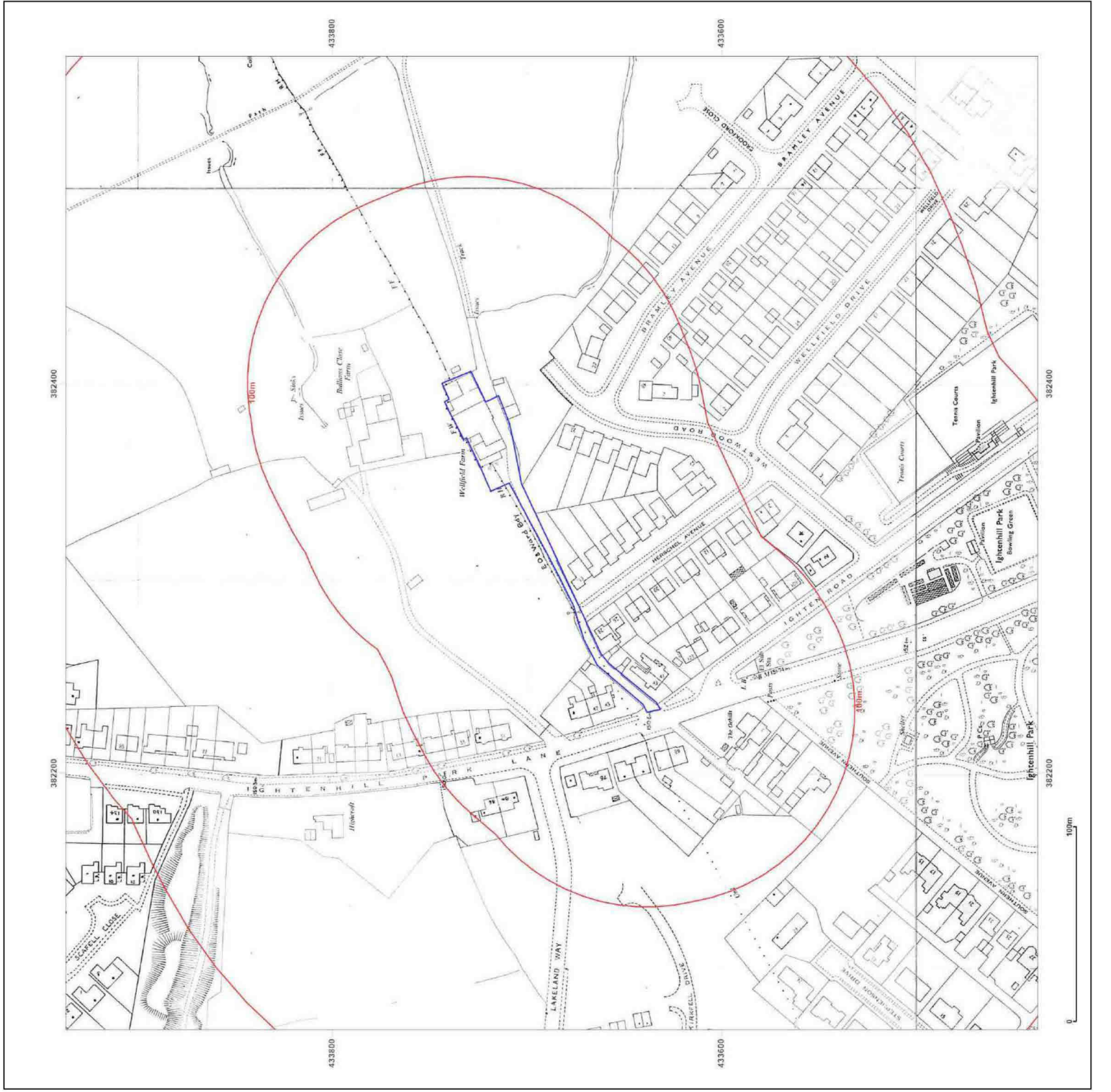
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Client Ref: 24030
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Grid Ref: 382318, 433687

Map Name: National Grid
Map date: 1989
Scale: 1:2,500
Printed at: 1:2,500



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 Edition N/A
 Copyright 1989
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Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid
Map date: 1989
Scale: 1:2,500
Printed at: 1:2,500



Surveyed 1961
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OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid

Map date: 1986-1990

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1961 Revised 1986 Edition N/A Copyright 1986 Levelled 1961	Surveyed 1990 Revised 1990 Edition N/A Copyright 1990 Levelled N/A
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Site Details:

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OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid

Map date: 1986-1990

Scale: 1:1,250

Printed at: 1:2,000



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Site Details:
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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid
Map date: 1990-1993
Scale: 1:1,250
Printed at: 1:2,000



Surveyed 1961 Revised 1990 Edition N/A Copyright 1990 Levelled 1961	Surveyed 1993 Revised N/A Edition N/A Copyright 1993 Levelled N/A
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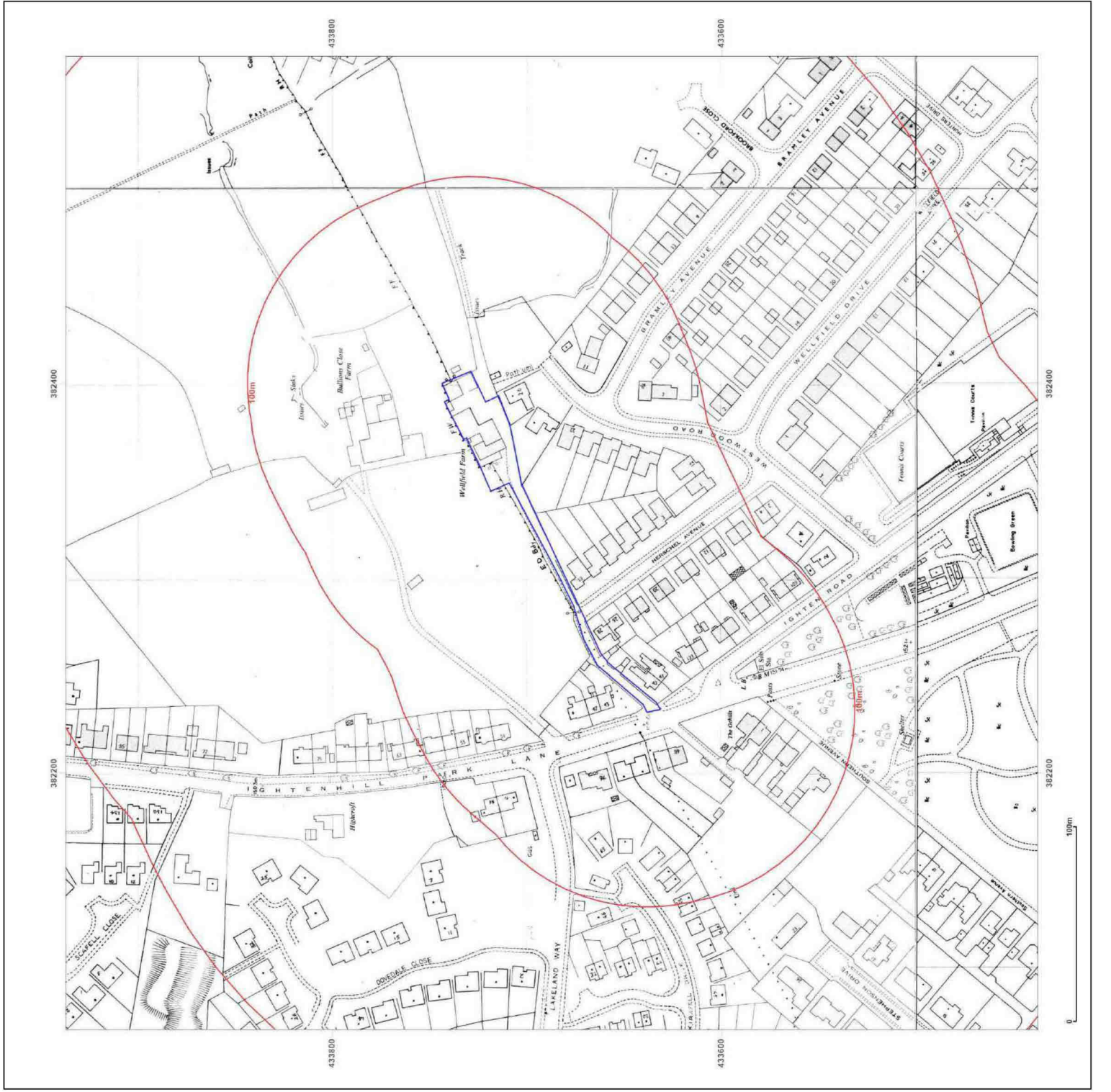
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Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid
Map date: 1990-1993
Scale: 1:1,250
Printed at: 1:2,000



Surveyed 1961 Revised 1990 Edition N/A Copyright 1990 Levelled 1961	Surveyed 1993 Revised N/A Edition N/A Copyright 1993 Levelled N/A
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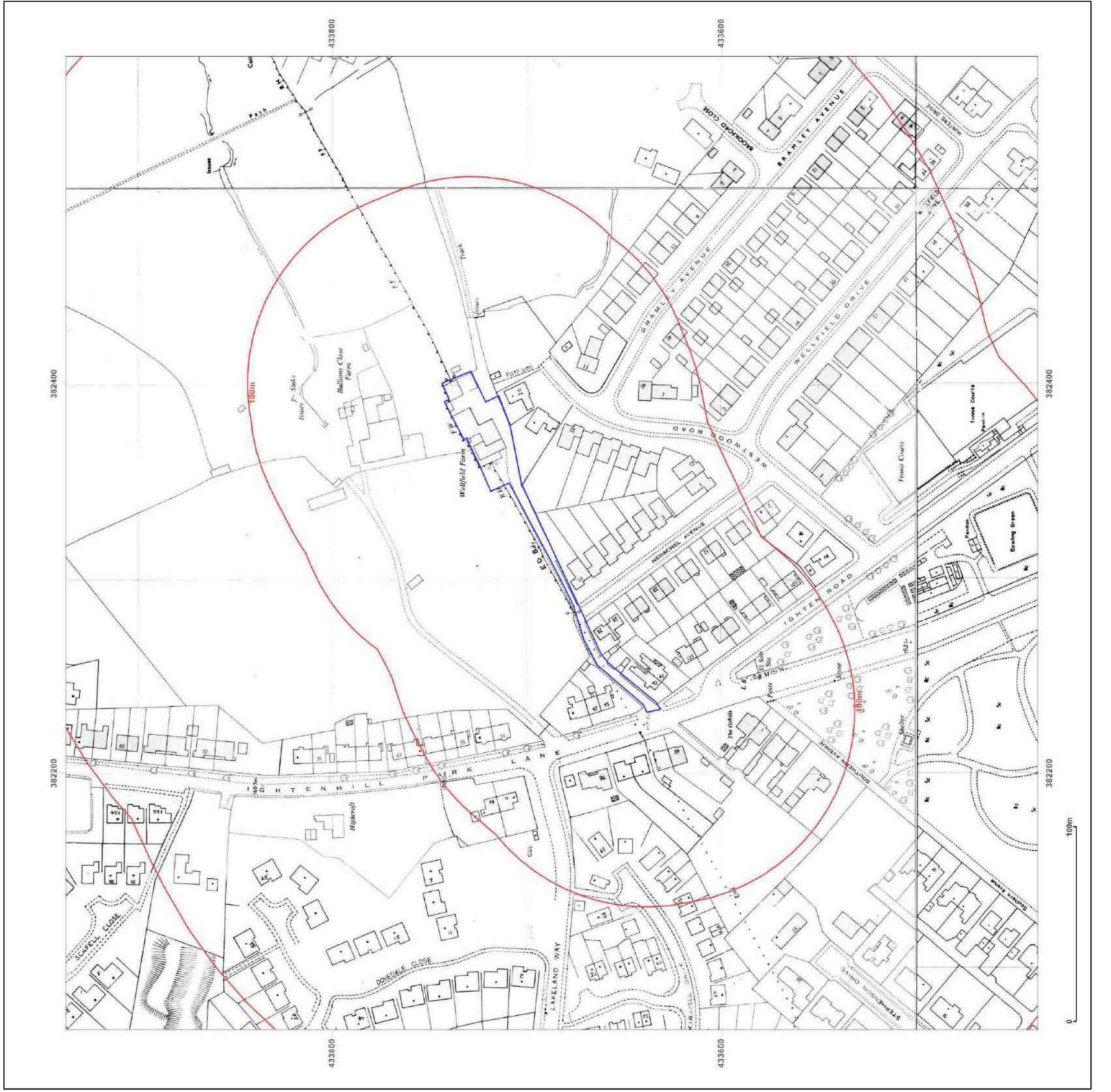
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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1993 Revised N/A Edition N/A Copyright 1993 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1994 Levelled N/A
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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid
Map date: 1993-1994
Scale: 1:1,250
Printed at: 1:2,000



Surveyed N/A	Surveyed 1993
Revised N/A	Revised N/A
Edition N/A	Edition N/A
Copyright 1994	Copyright 1993
Levelled N/A	Levelled N/A



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OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A	Surveyed 1993
Revised N/A	Revised N/A
Edition N/A	Edition N/A
Copyright 1994	Copyright 1993
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Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

Printed at: 1:2,000



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

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Edition N/A
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OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

Printed at: 1:2,000



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

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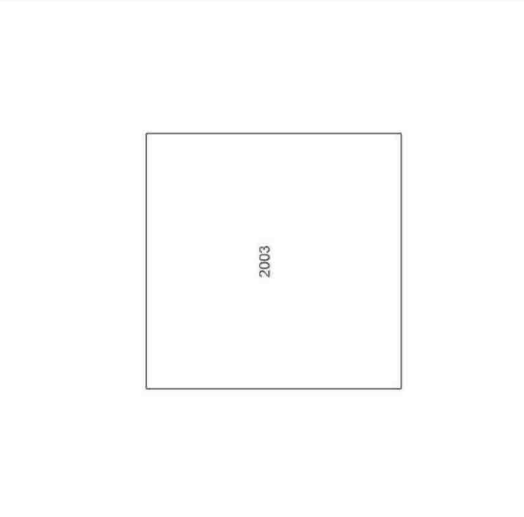
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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

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



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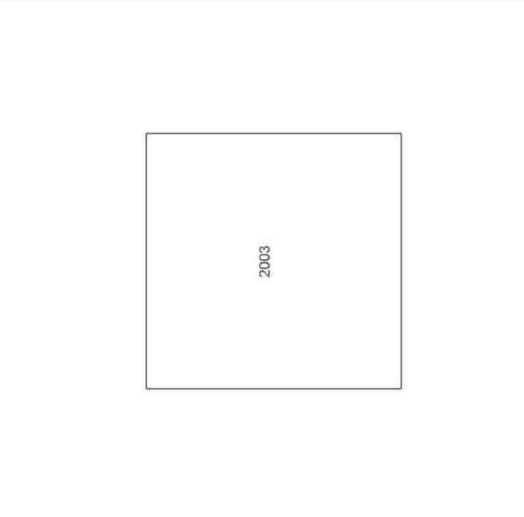
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Site Details:
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 BURNLEY, LANCASHIRE, BB12
 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

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



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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: County Series
Map date: 1846-1848
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1844
 Revised N/A
 Edition 1848
 Copyright N/A
 Levelled N/A

Surveyed 1844
 Revised N/A
 Edition 1848
 Copyright N/A
 Levelled N/A

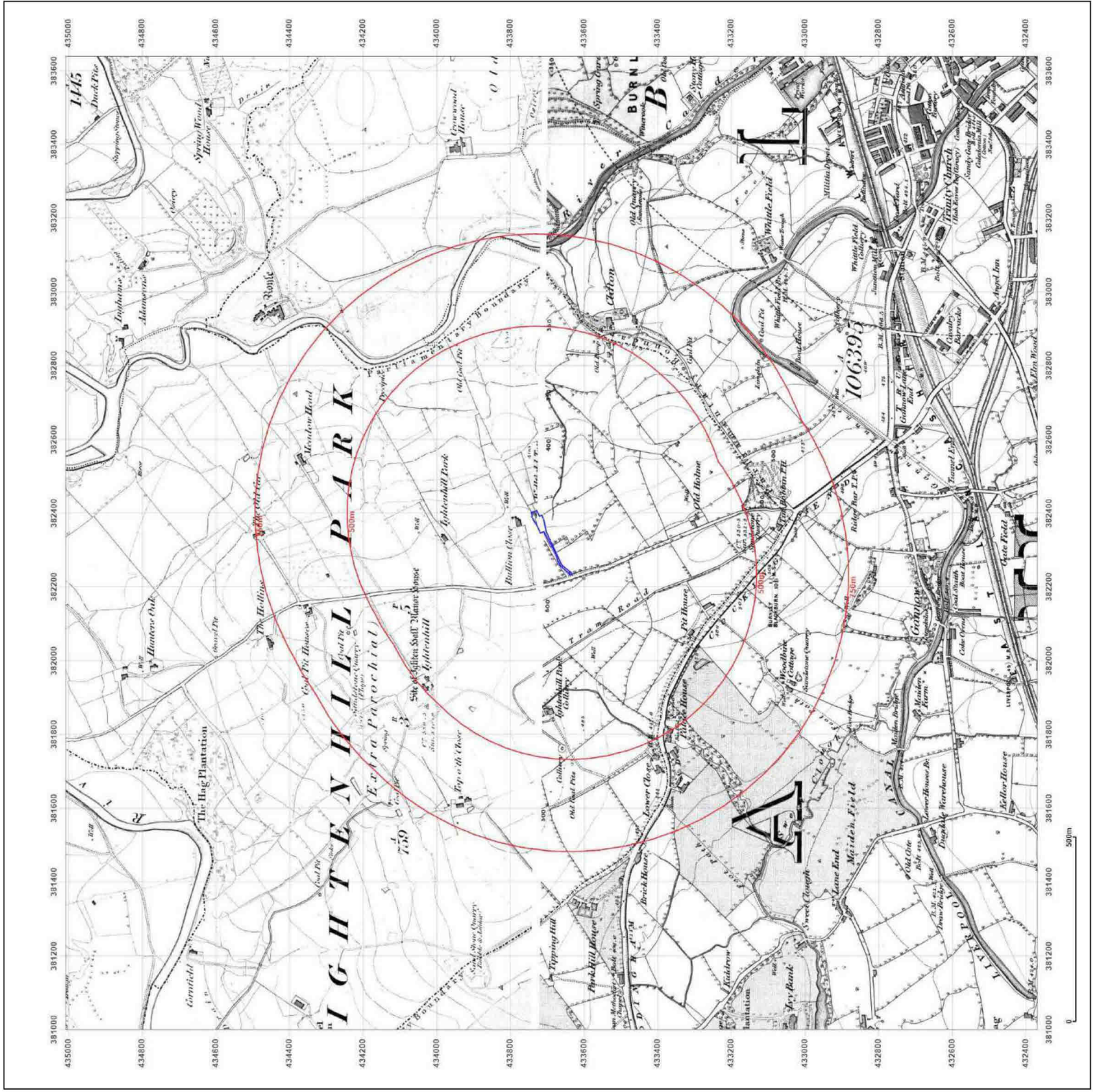
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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: County Series
Map date: 1846-1848
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1844
 Revised N/A
 Edition 1848
 Copyright N/A
 Levelled N/A

Surveyed 1844
 Revised N/A
 Edition 1848
 Copyright N/A
 Levelled N/A

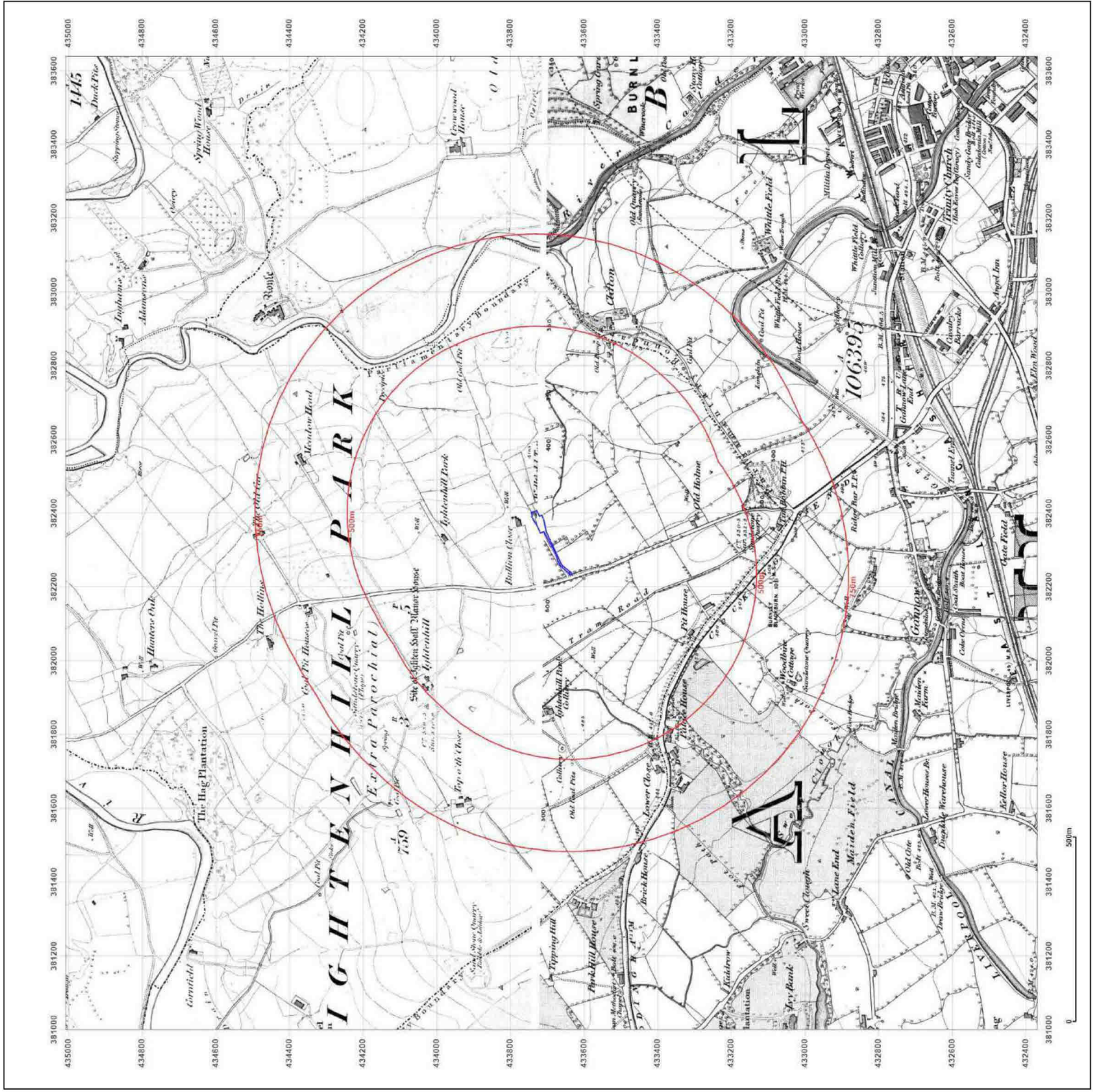
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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: County Series
Map date: 1891
Scale: 1:10,560
Printed at: 1:10,560

Surveyed 1891
 Revised 1891
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1891
 Revised 1891
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1891
 Revised 1891
 Edition N/A
 Copyright N/A
 Levelled N/A

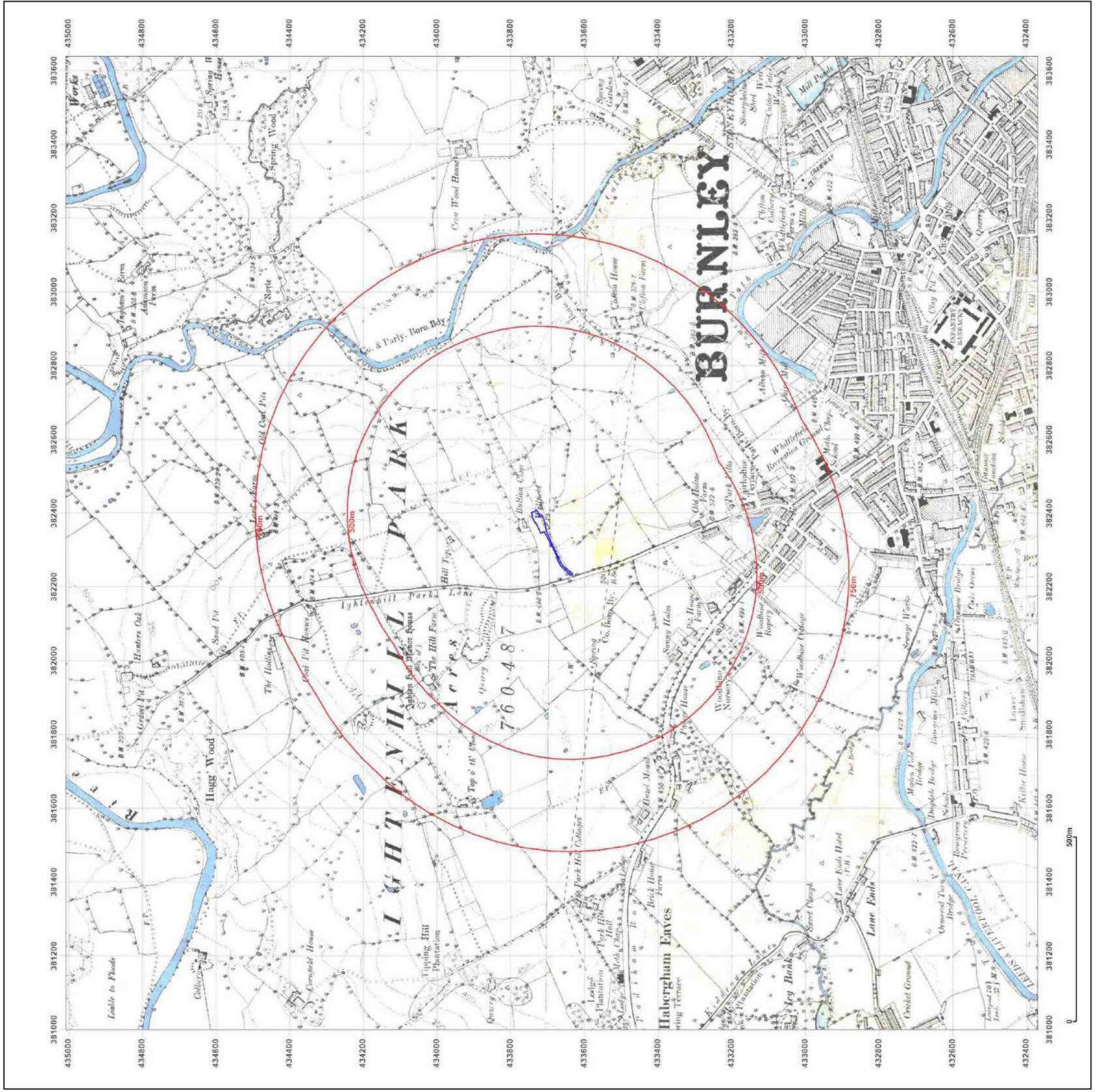
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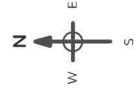
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 BURNLEY, LANCASHIRE, BB12
 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: County Series
Map date: 1910
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1844
 Revised 1910
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1844
 Revised 1910
 Edition N/A
 Copyright N/A
 Levelled N/A

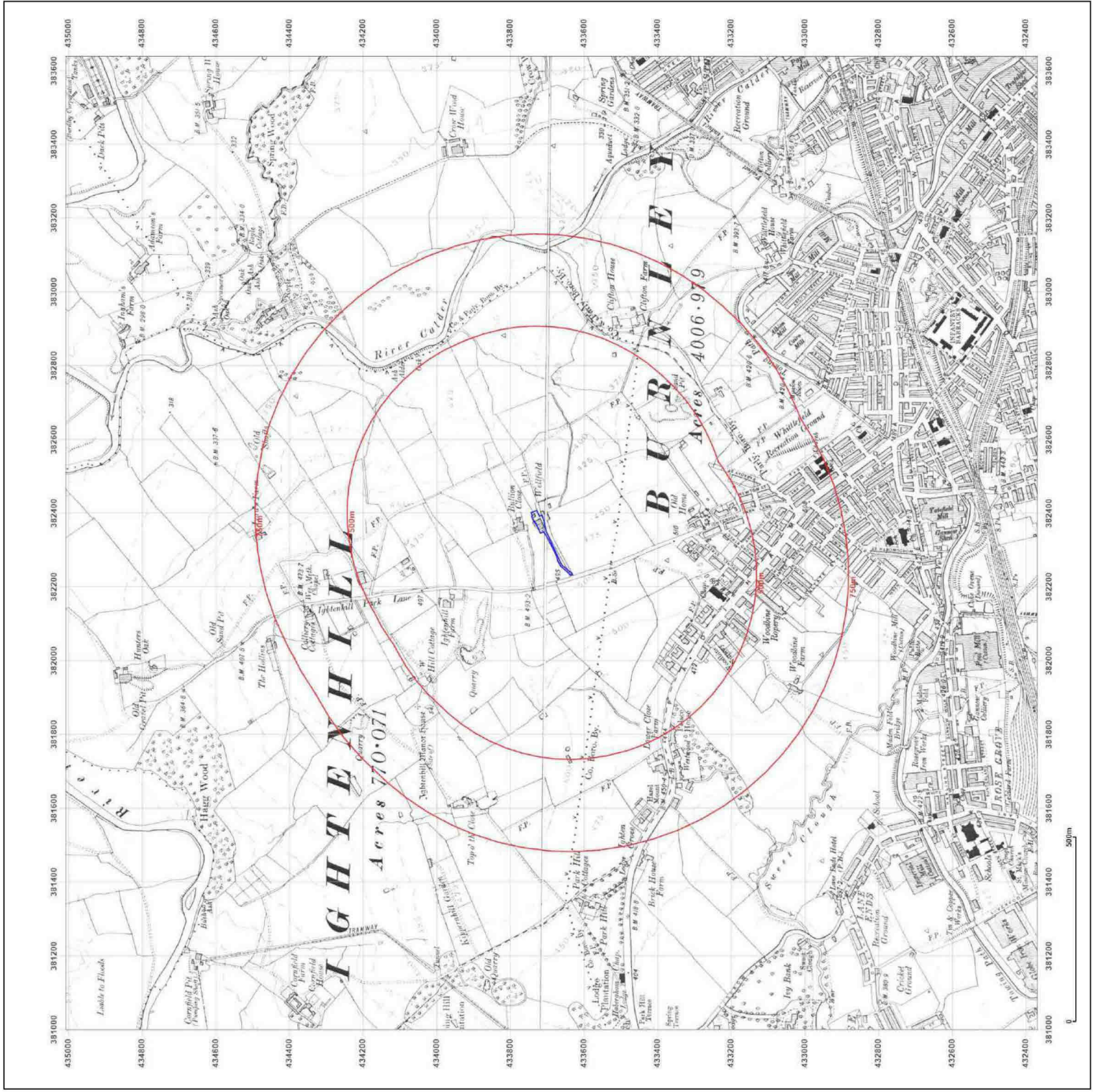


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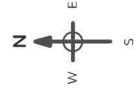


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Site Details:
 1, HERSHEL AVENUE
 BURNLEY, LANCASHIRE, BB12
 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: County Series
Map date: 1910
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1844
 Revised 1910
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1844
 Revised 1910
 Edition N/A
 Copyright N/A
 Levelled N/A

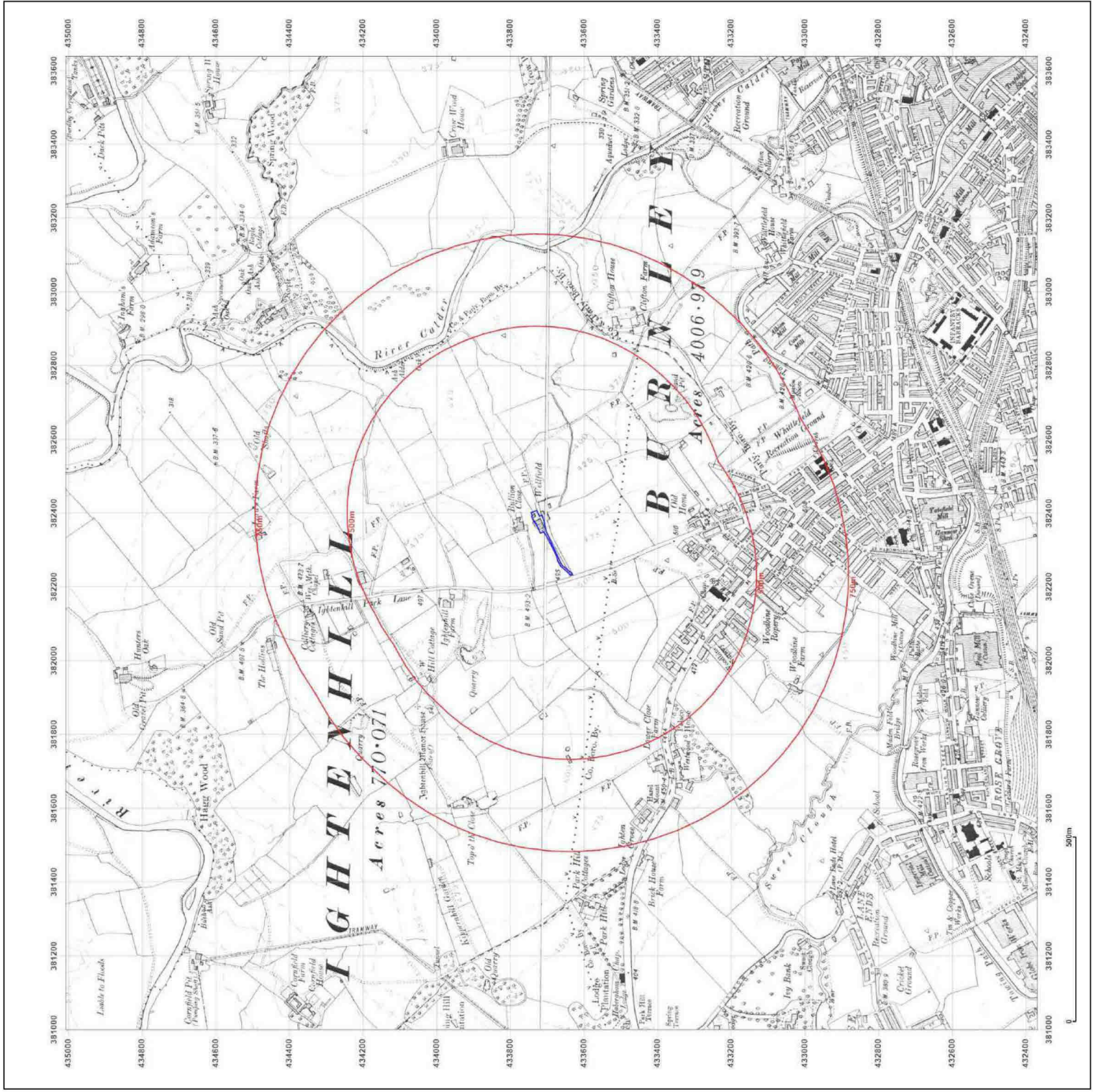


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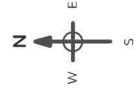
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Site Details:
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 BURNLEY, LANCASHIRE, BB12
 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: County Series
Map date: 1929
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1844 Revised 1929 Edition N/A Copyright N/A Levelled N/A	Surveyed 1844 Revised 1929 Edition N/A Copyright N/A Levelled N/A
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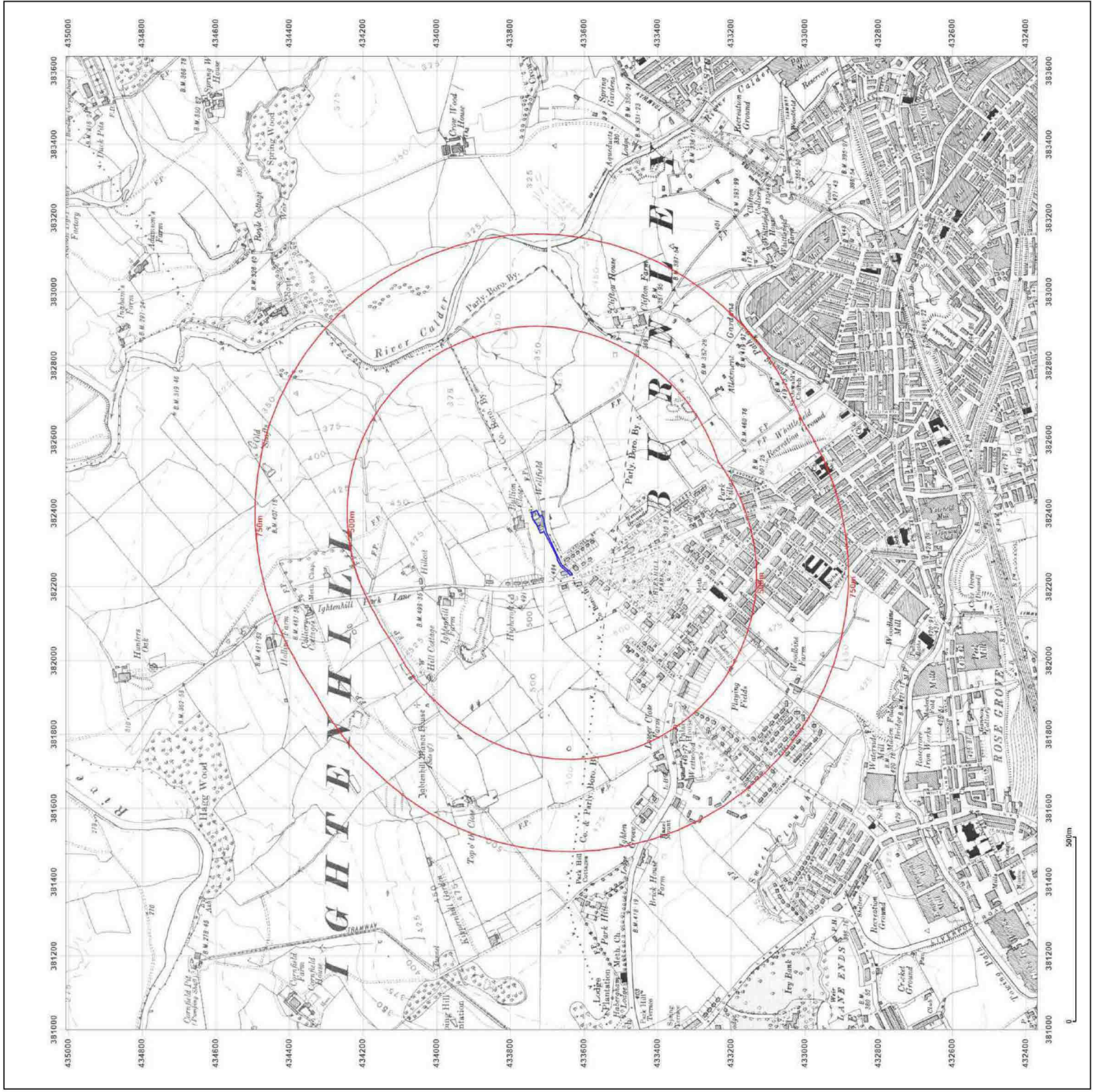


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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: County Series
Map date: 1929
Scale: 1:10,560
Printed at: 1:10,560

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 Edition N/A
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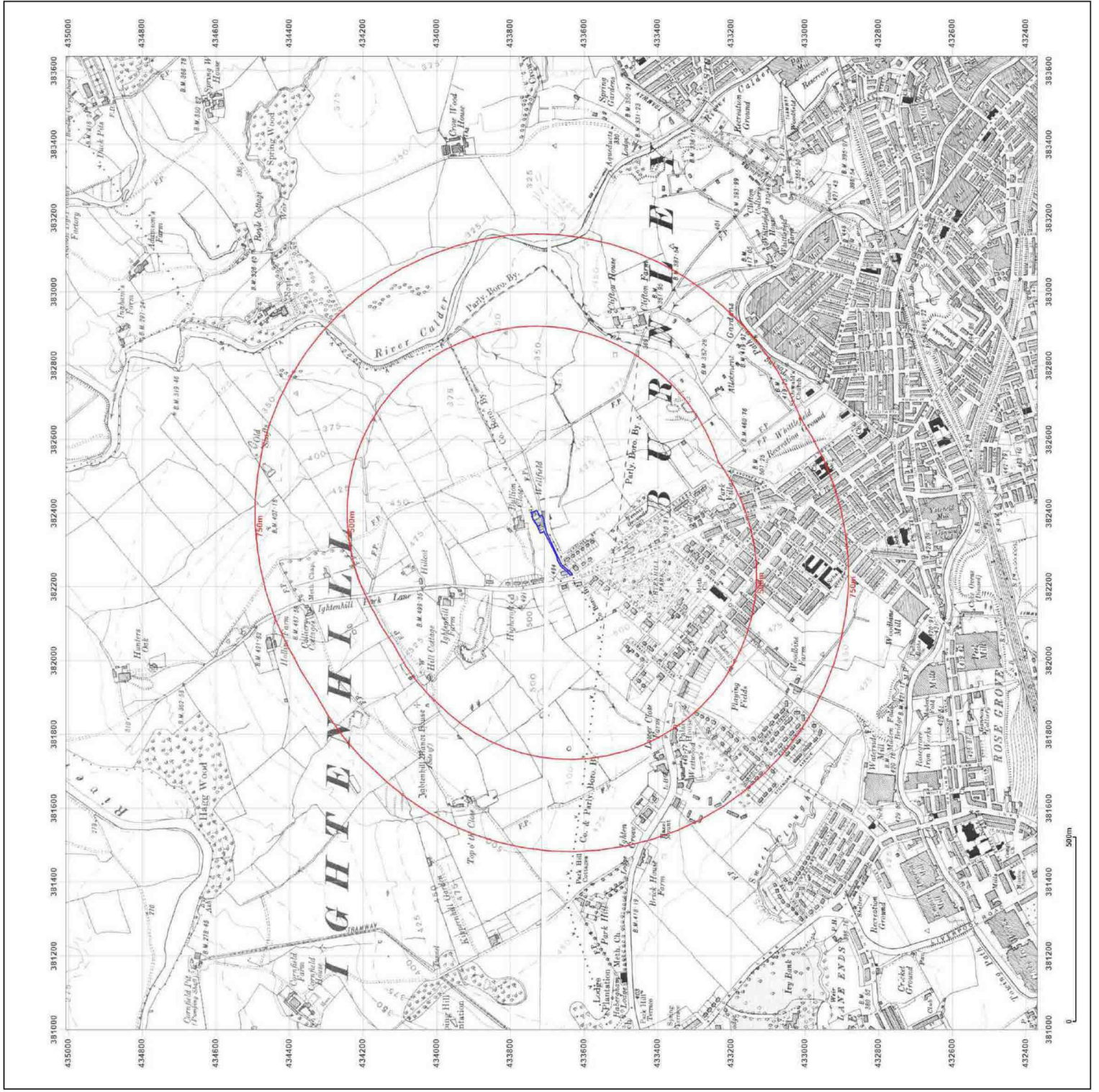
Surveyed 1844
 Revised 1929
 Edition N/A
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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: County Series
Map date: 1938
Scale: 1:10,560
Printed at: 1:10,560

Surveyed 1844
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 Edition N/A
 Copyright N/A
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 Revised 1938
 Edition N/A
 Copyright N/A
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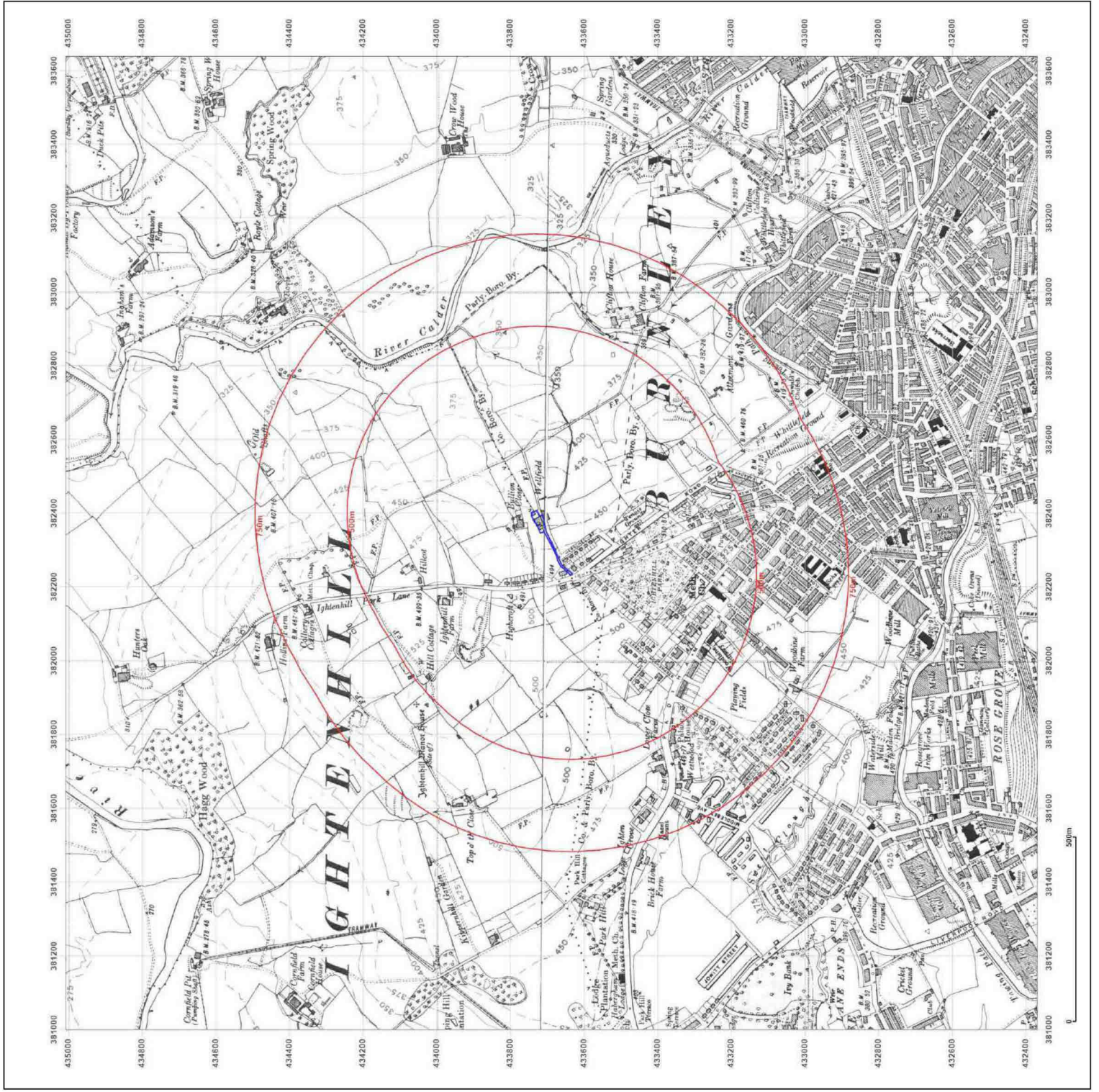
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Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: County Series
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Scale: 1:10,560
Printed at: 1:10,560

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 Edition N/A
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 Revised 1938
 Edition N/A
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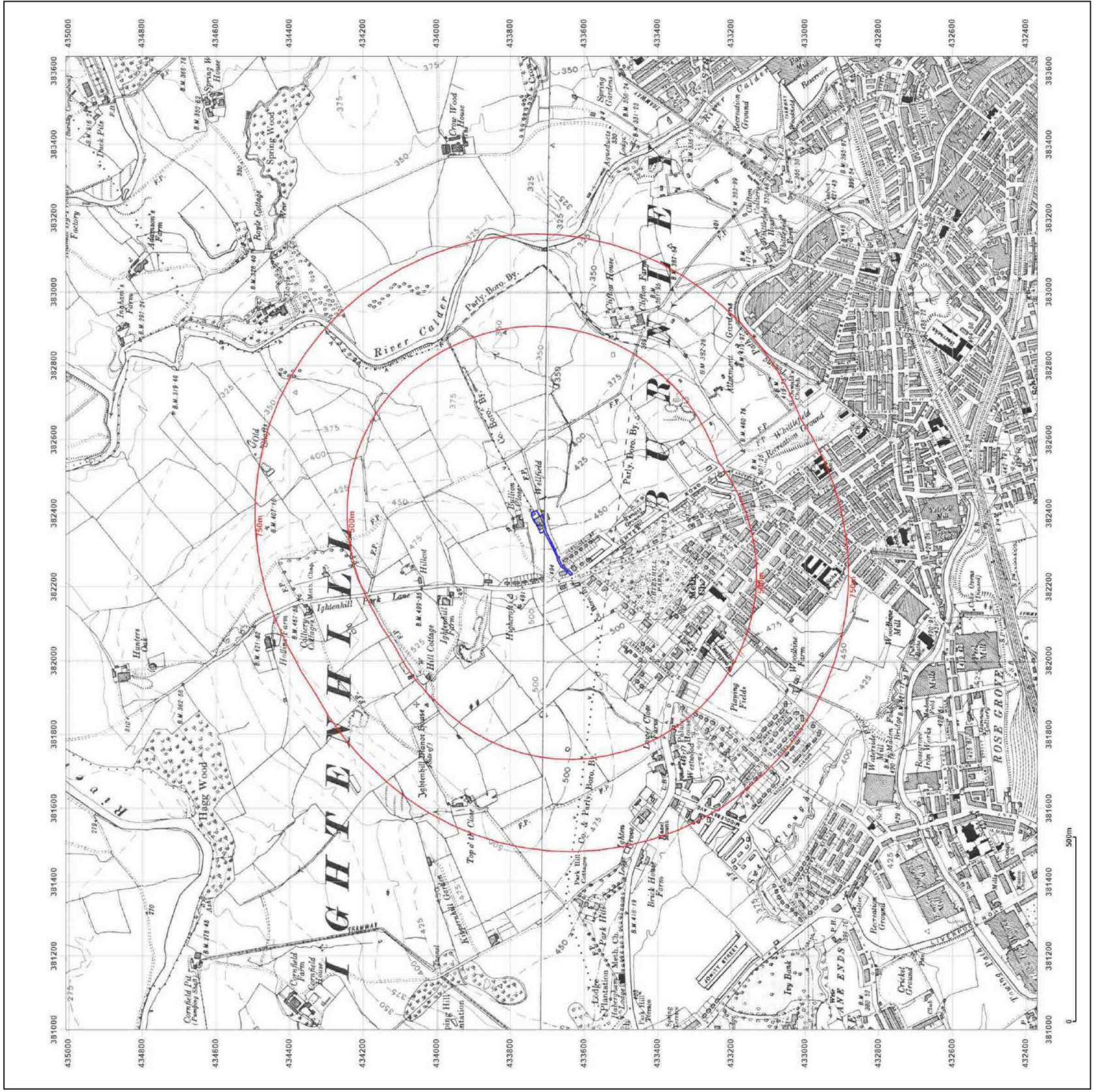


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Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: Provisional
Map date: 1950
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1950
 Revised 1950
 Edition N/A
 Copyright N/A
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Surveyed 1950
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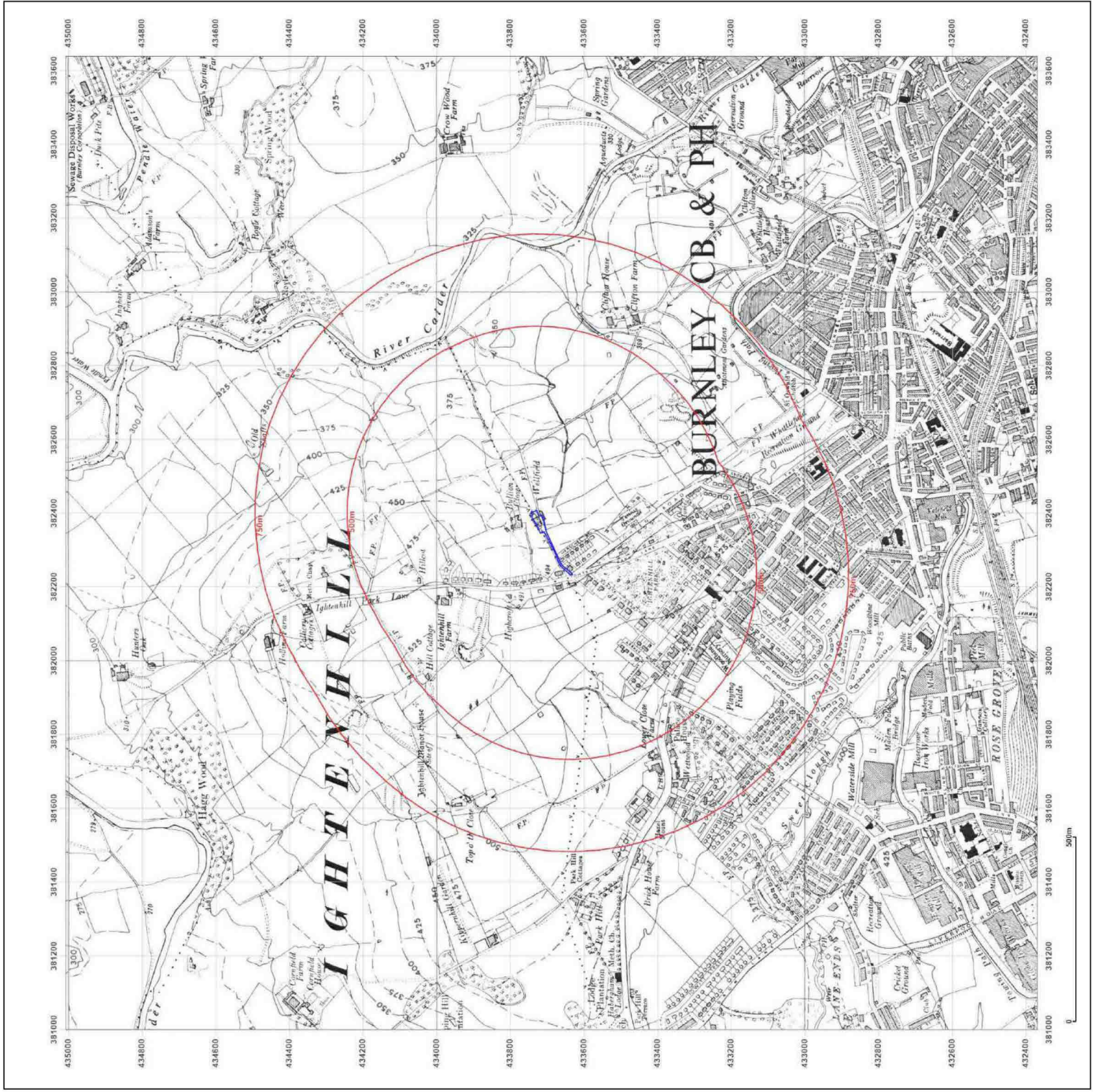


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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: Provisional
Map date: 1950
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Printed at: 1:10,560



Surveyed 1950
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 Edition N/A
 Copyright N/A
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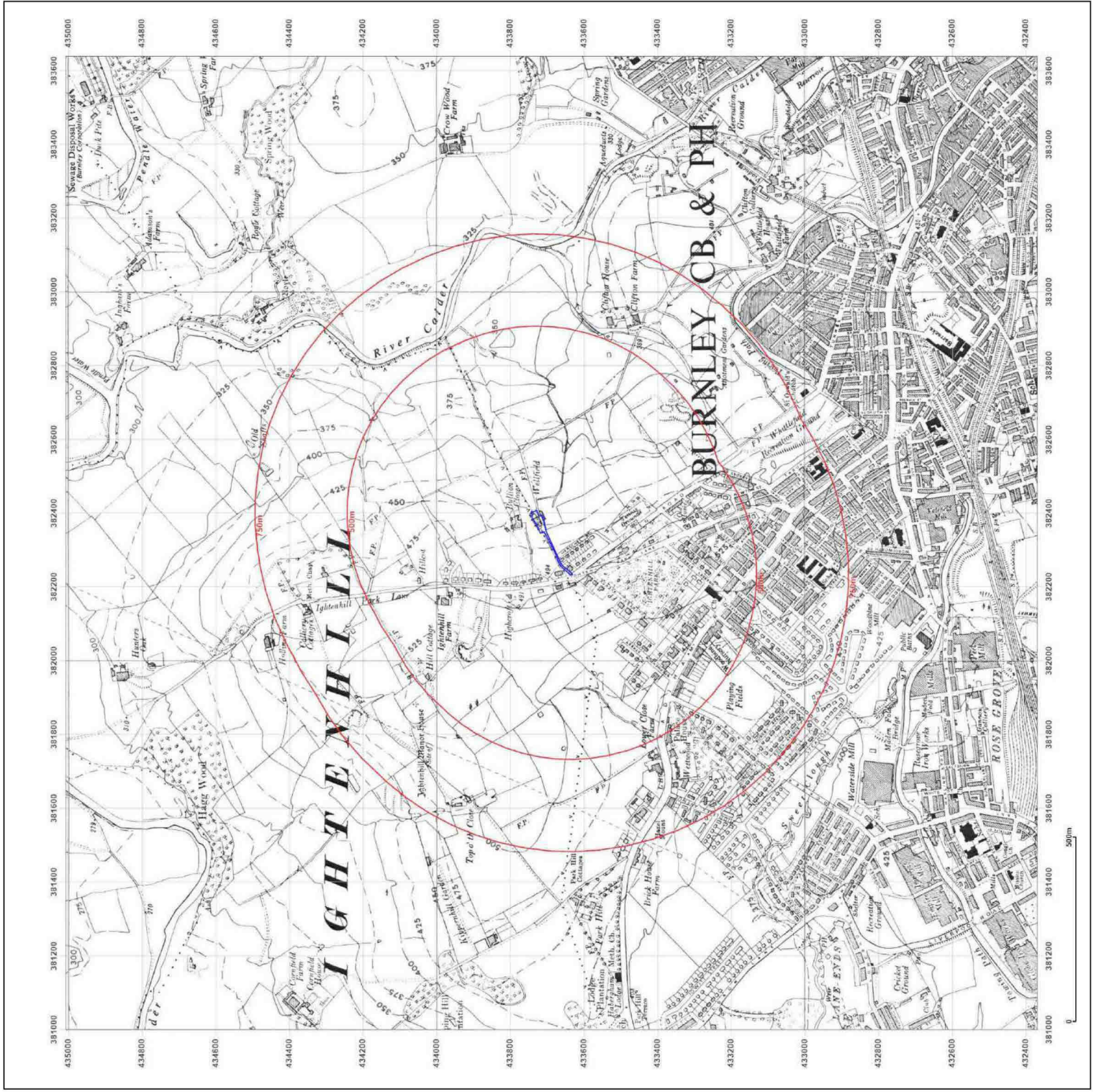


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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: Provisional
Map date: 1965
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1965
 Revised 1965
 Edition N/A
 Copyright N/A
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 Revised 1965
 Edition N/A
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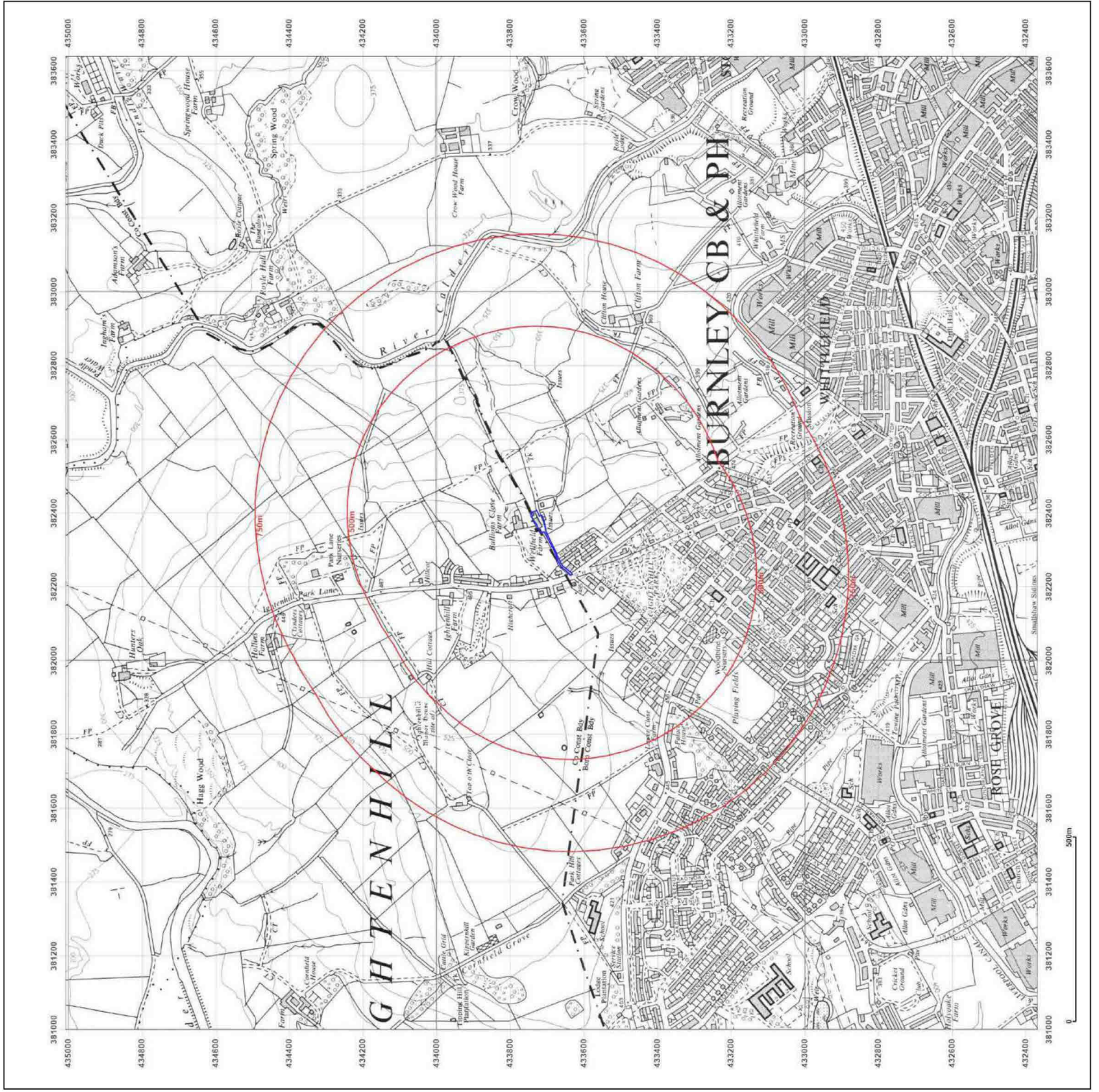


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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: Provisional
Map date: 1965
Scale: 1:10,560
Printed at: 1:10,560

Surveyed 1965
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 Edition N/A
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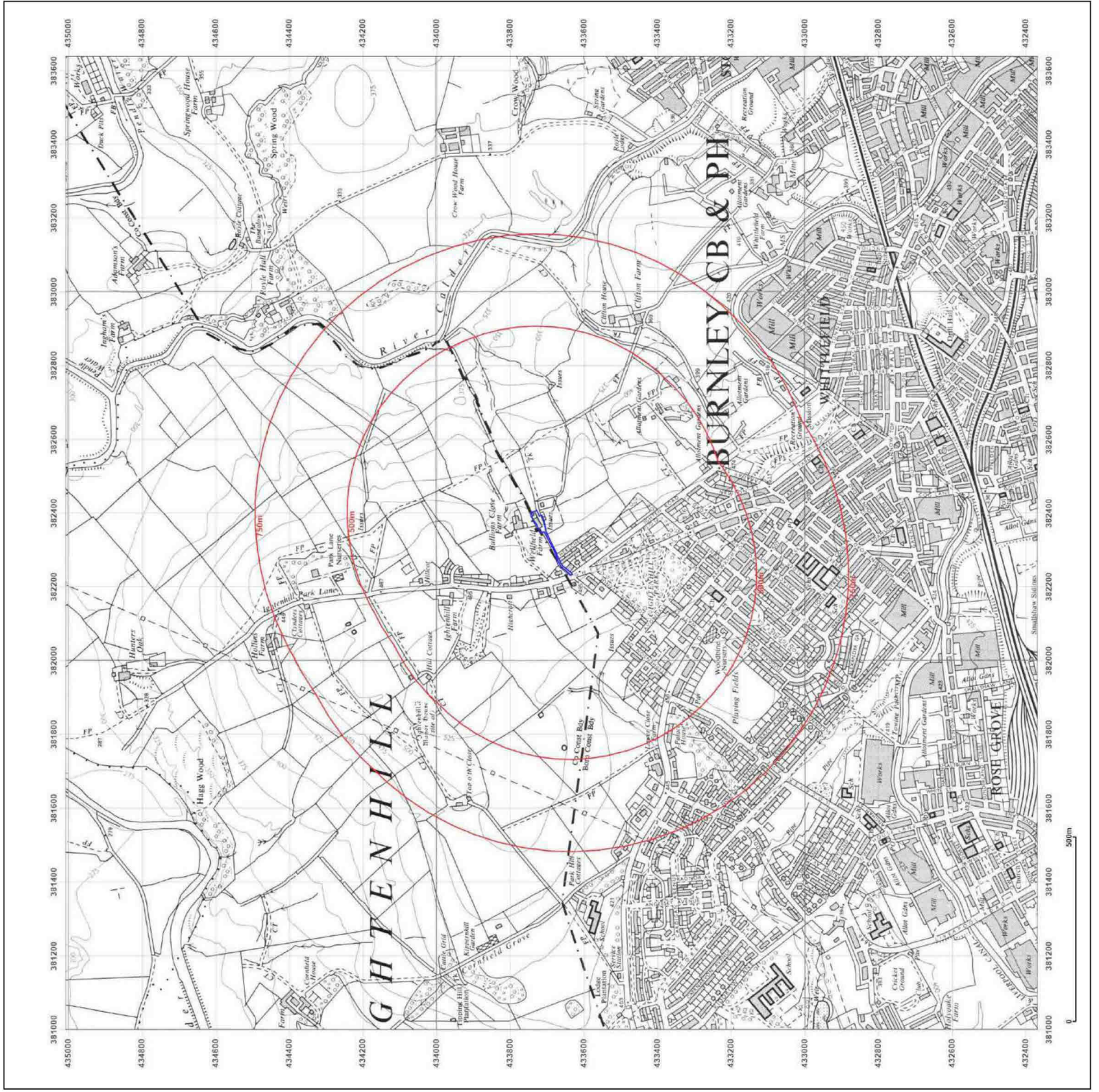


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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid
Map date: 1974
Scale: 1:10,000
Printed at: 1:10,000



Surveyed 1973
 Revised 1974
 Edition N/A
 Copyright N/A
 Levelled N/A

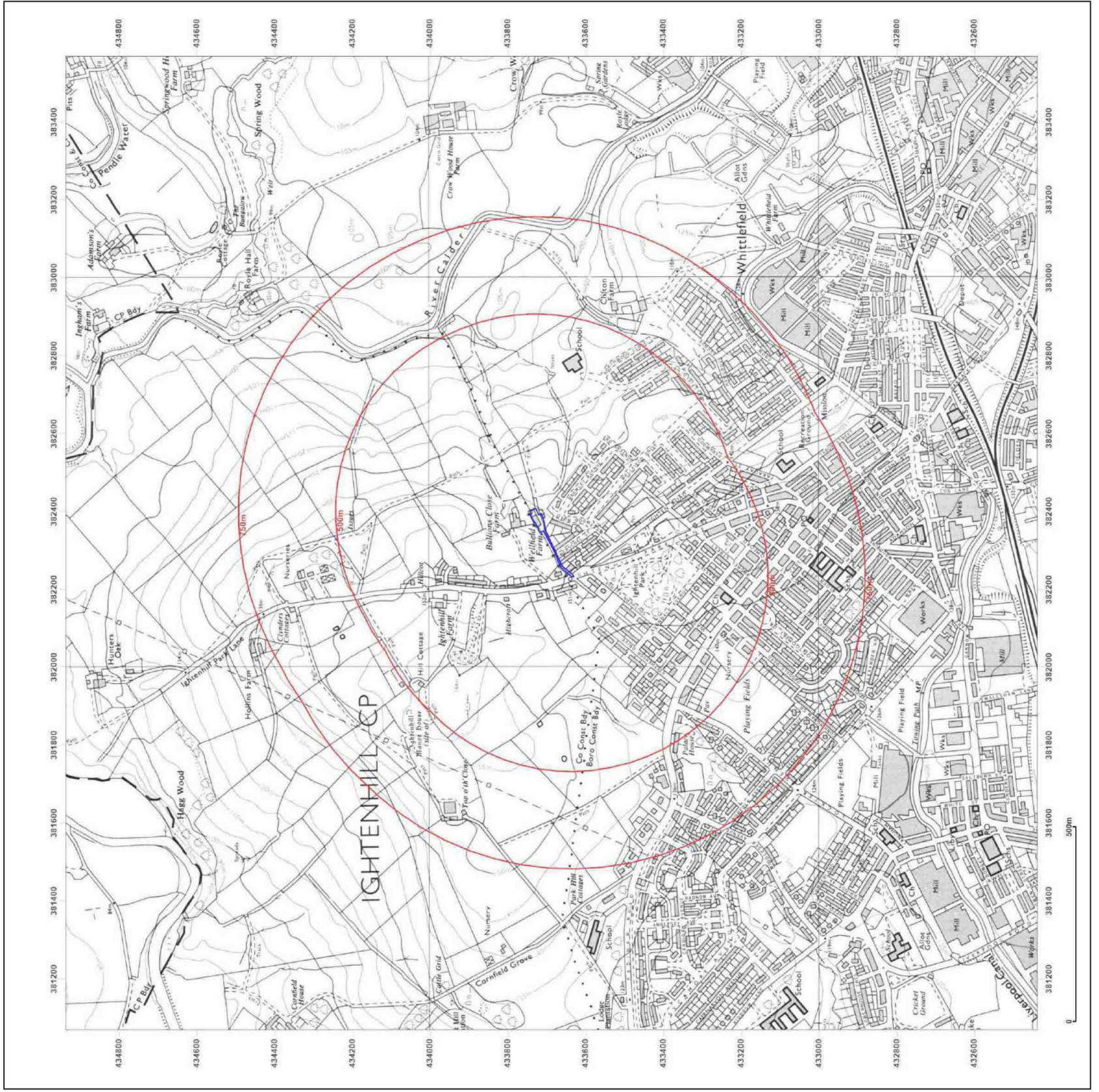


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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid
Map date: 1974
Scale: 1:10,000
Printed at: 1:10,000



Surveyed 1973
 Revised 1974
 Edition N/A
 Copyright N/A
 Levelled N/A

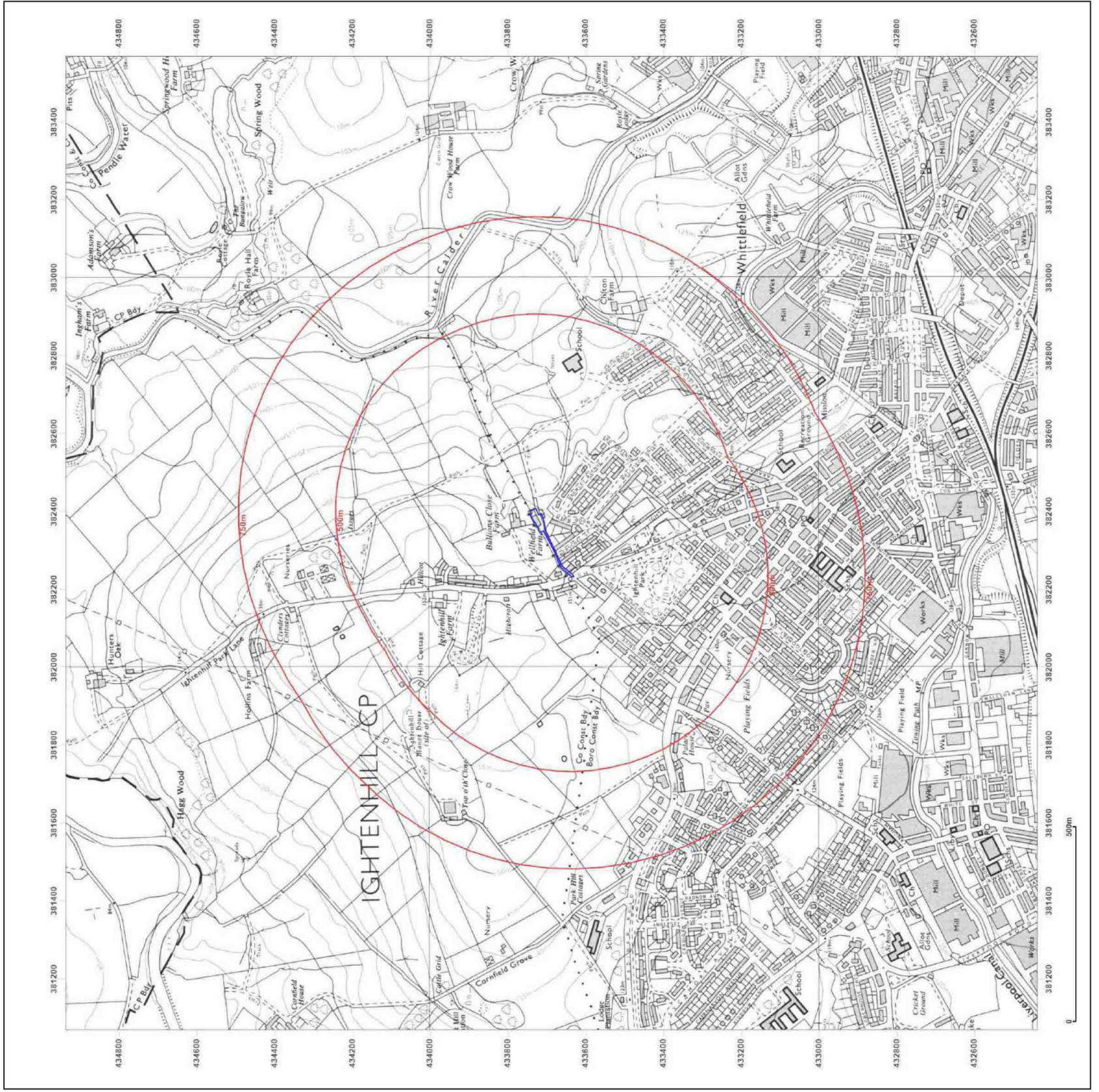


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 E: info@groundsure.com
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Production date: 22 February 2024

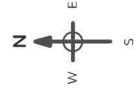
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Site Details:
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 BURNLEY, LANCASHIRE, BB12
 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid
Map date: 1986
Scale: 1:10,000
Printed at: 1:10,000



Surveyed 1985
 Revised 1986
 Edition N/A
 Copyright N/A
 Levelled N/A

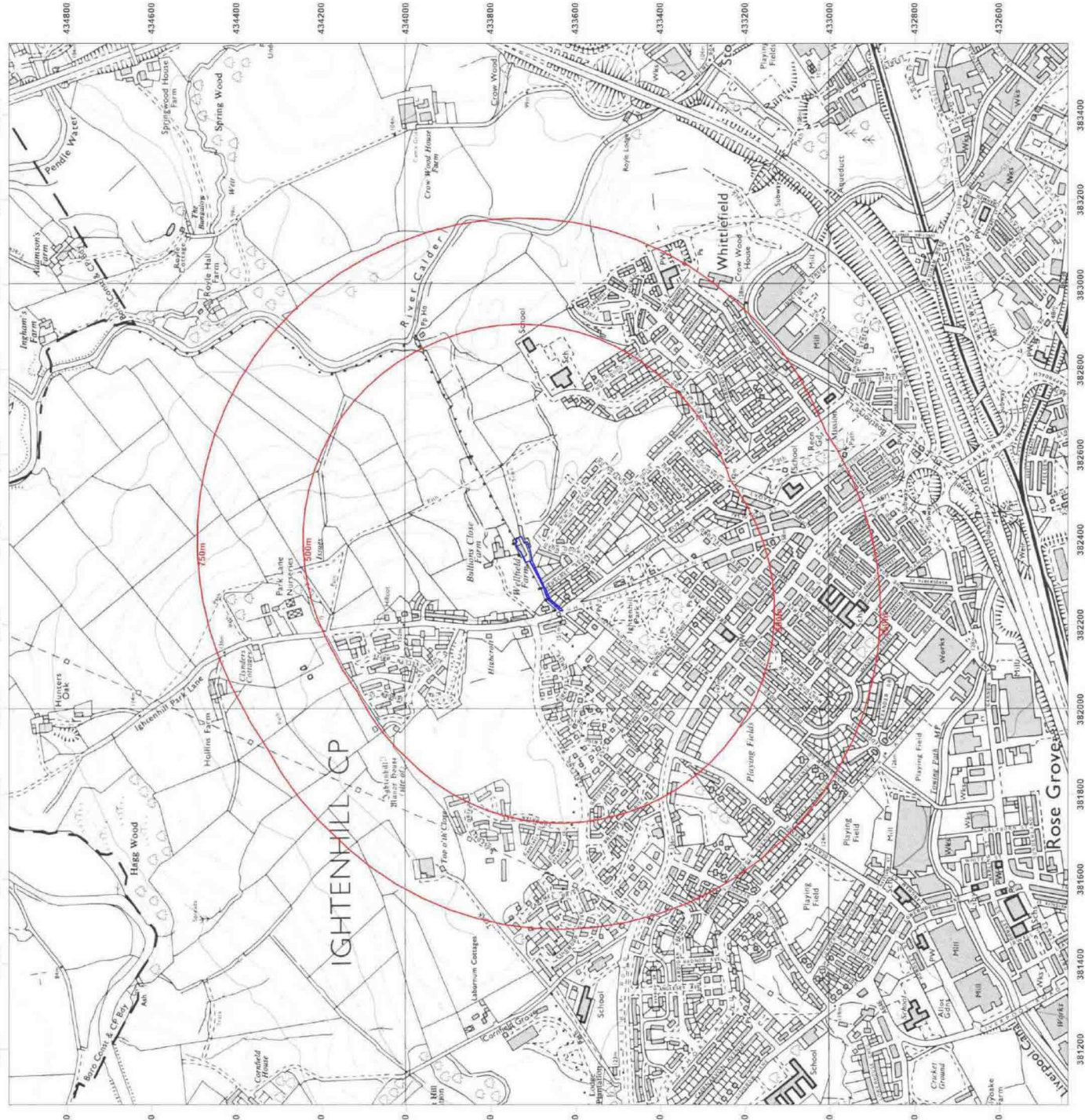


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500m

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Scale: 1:10,000
Printed at: 1:10,000



Surveyed 1985
 Revised 1986
 Edition N/A
 Copyright N/A
 Levelled N/A

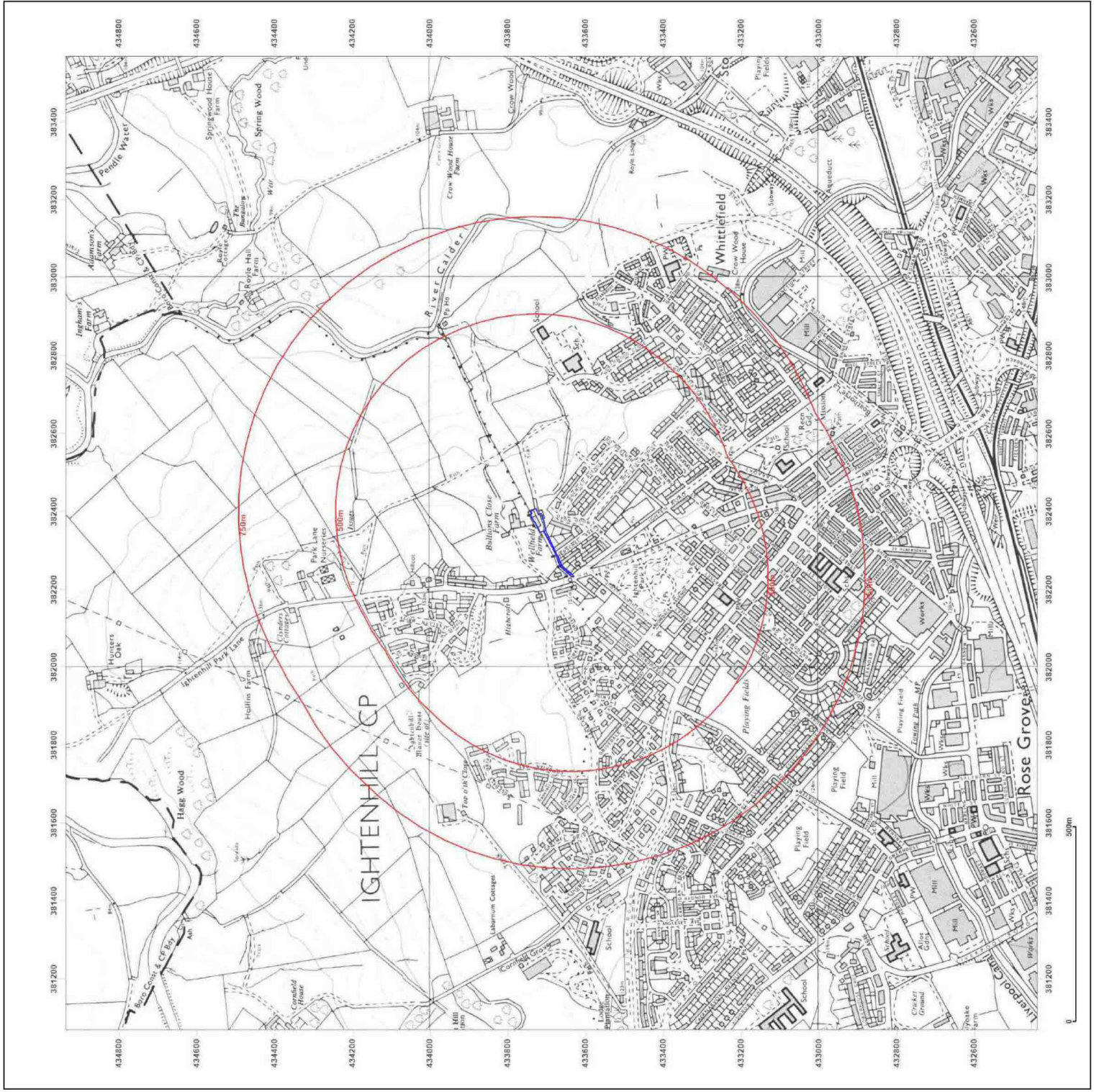


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Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid

Map date: 1988

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1985
Revised 1988
Edition N/A
Copyright N/A
Levelled N/A

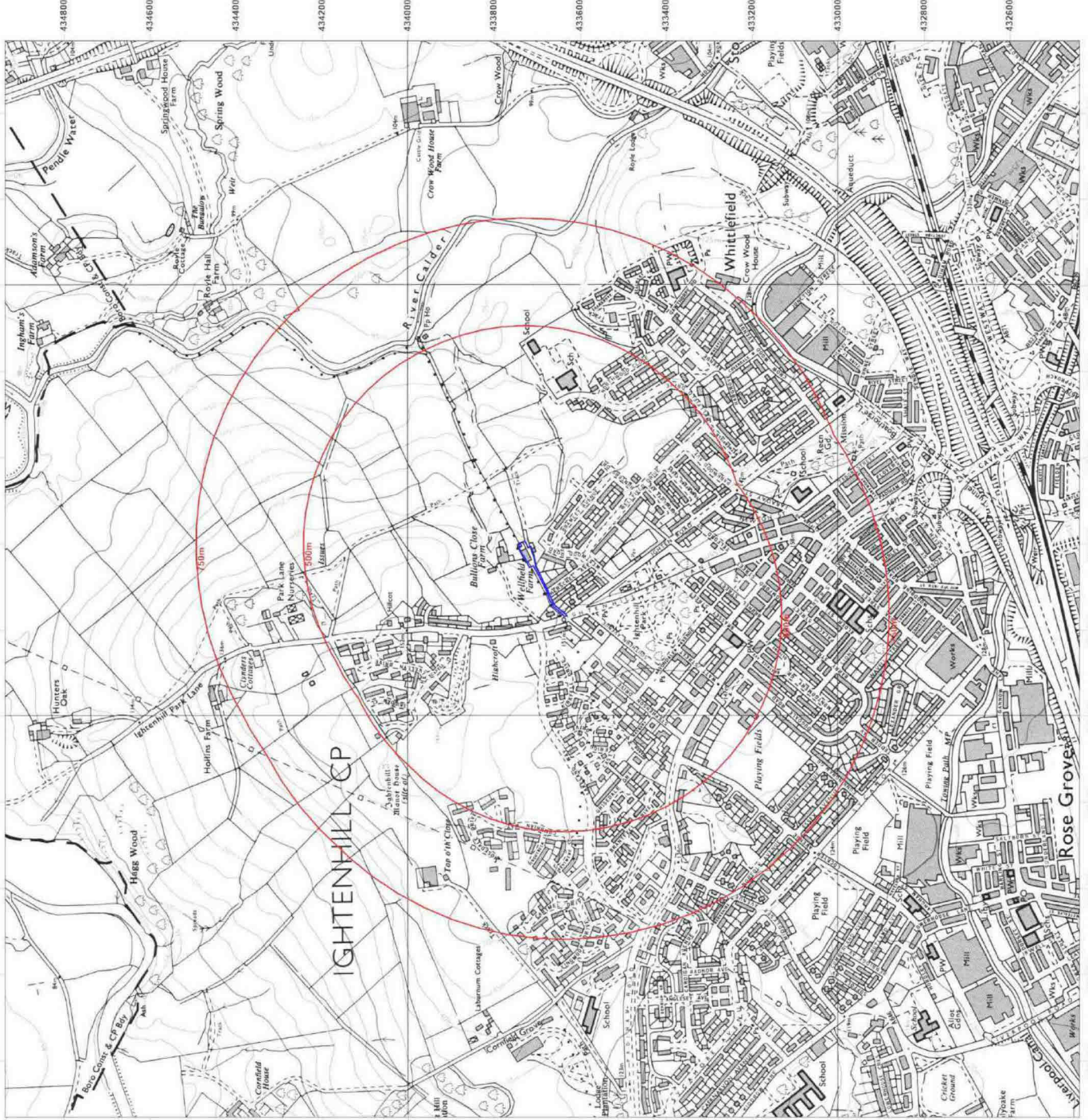


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Production date: 22 February 2024

Map legend available at:
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0 50m

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 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

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



Surveyed 1985
 Revised 1988
 Edition N/A
 Copyright N/A
 Levelled N/A

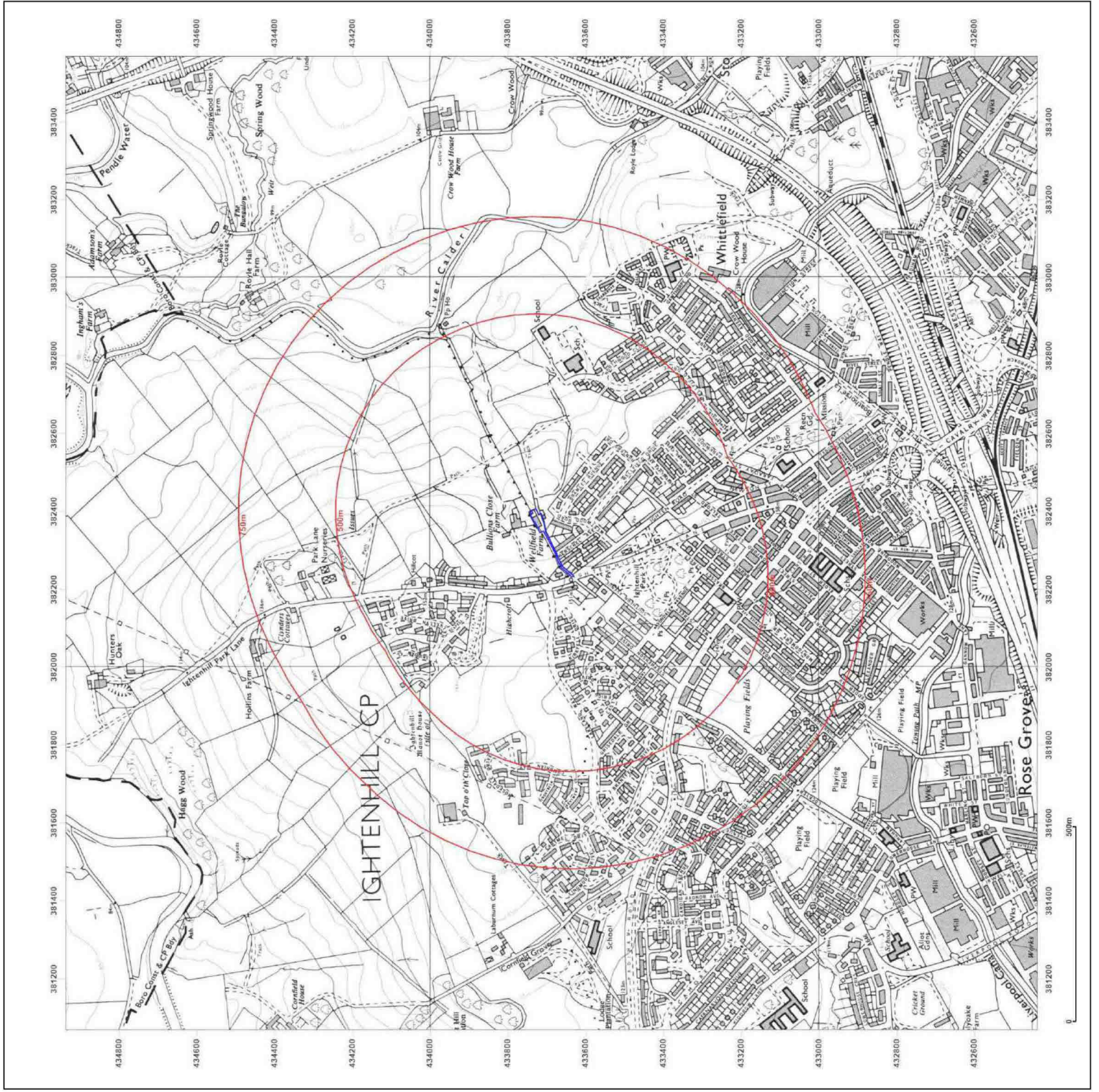


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Production date: 22 February 2024

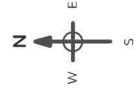
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Site Details:
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Client Ref: 24030
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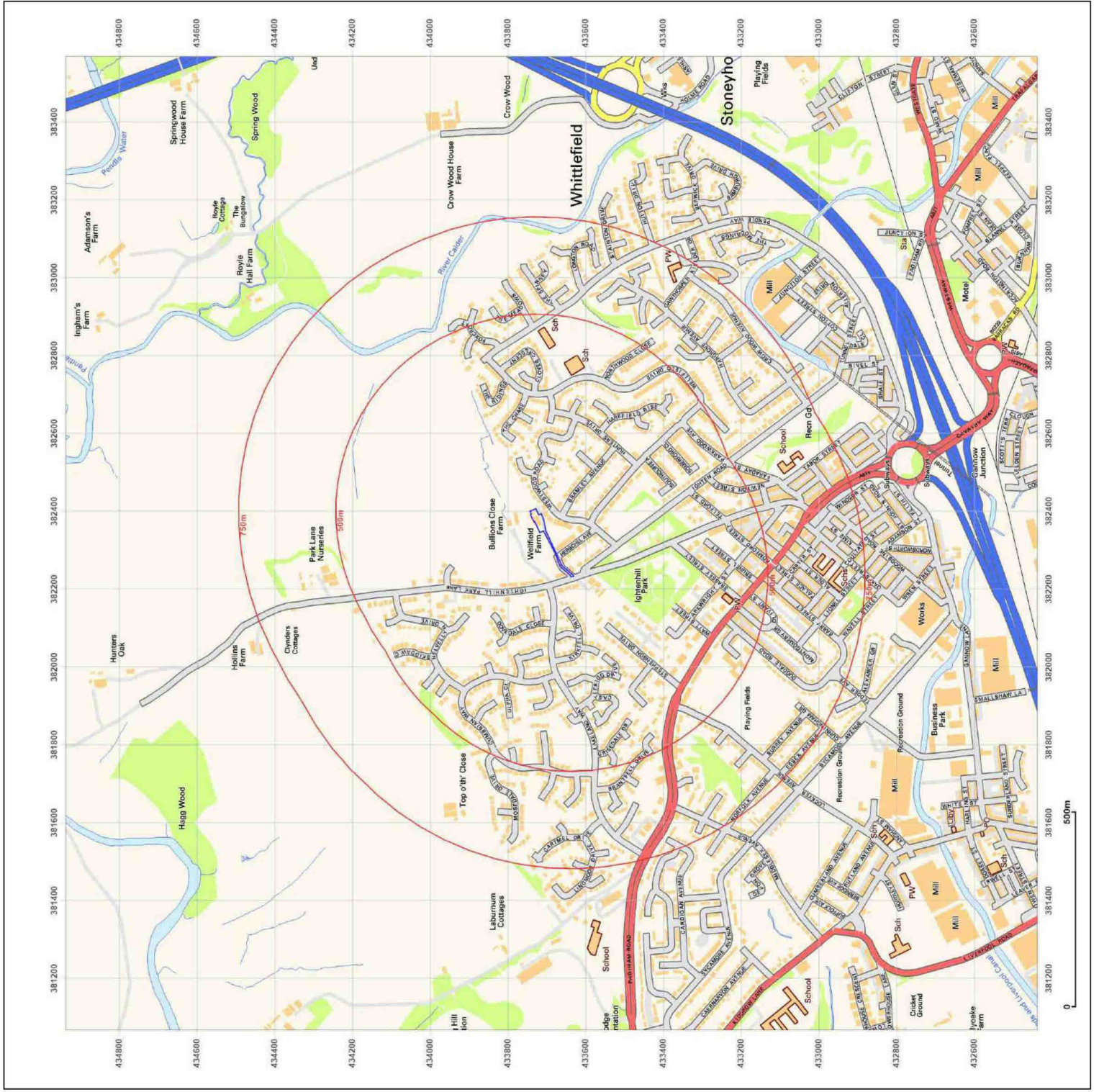


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Production date: 22 February 2024

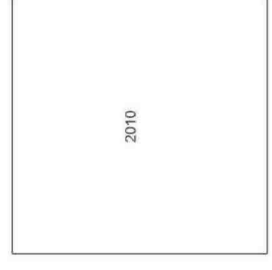
Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:
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 BURNLEY, LANCASHIRE, BB12
 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

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

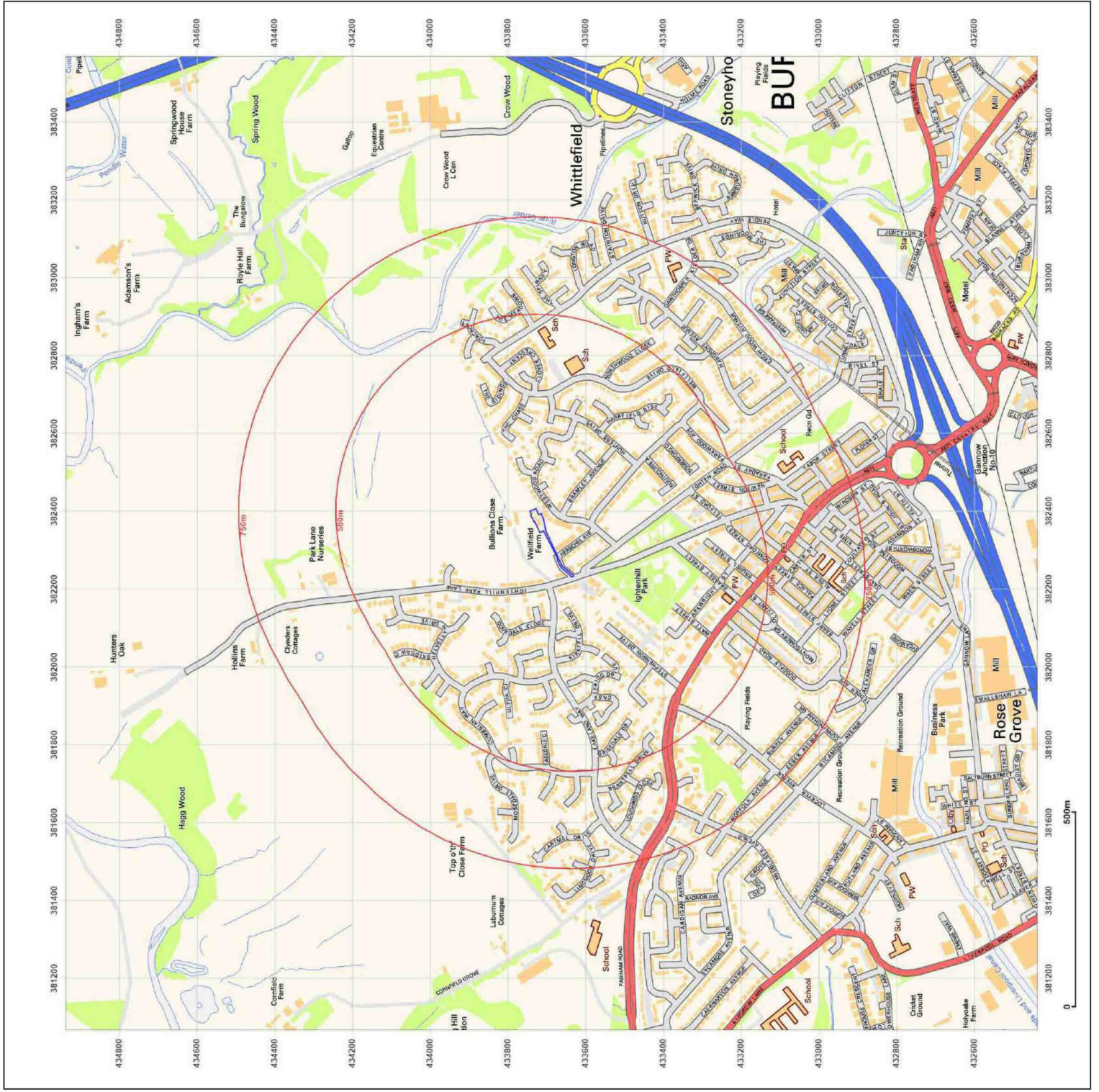


Produced by
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 W: www.groundsure.com

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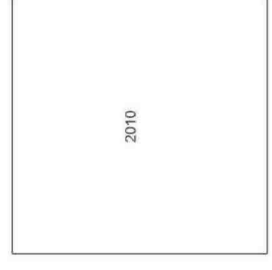
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 BURNLEY, LANCASHIRE, BB12
 OLN

Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

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

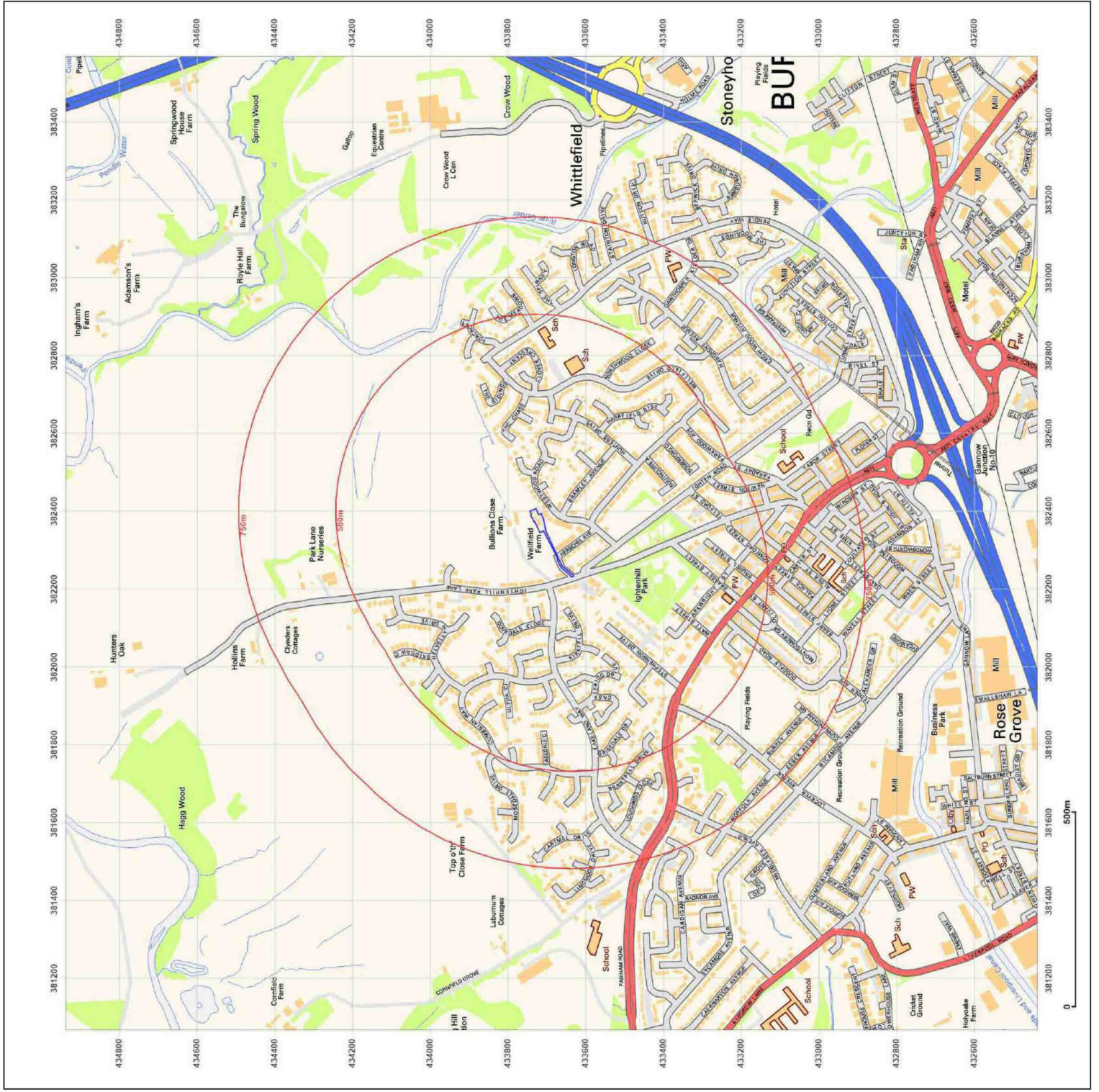


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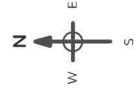
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Client Ref: 24030
Report Ref: GS-XG1-PLB-9F2-X3Y
Grid Ref: 382318, 433687

Map Name: National Grid
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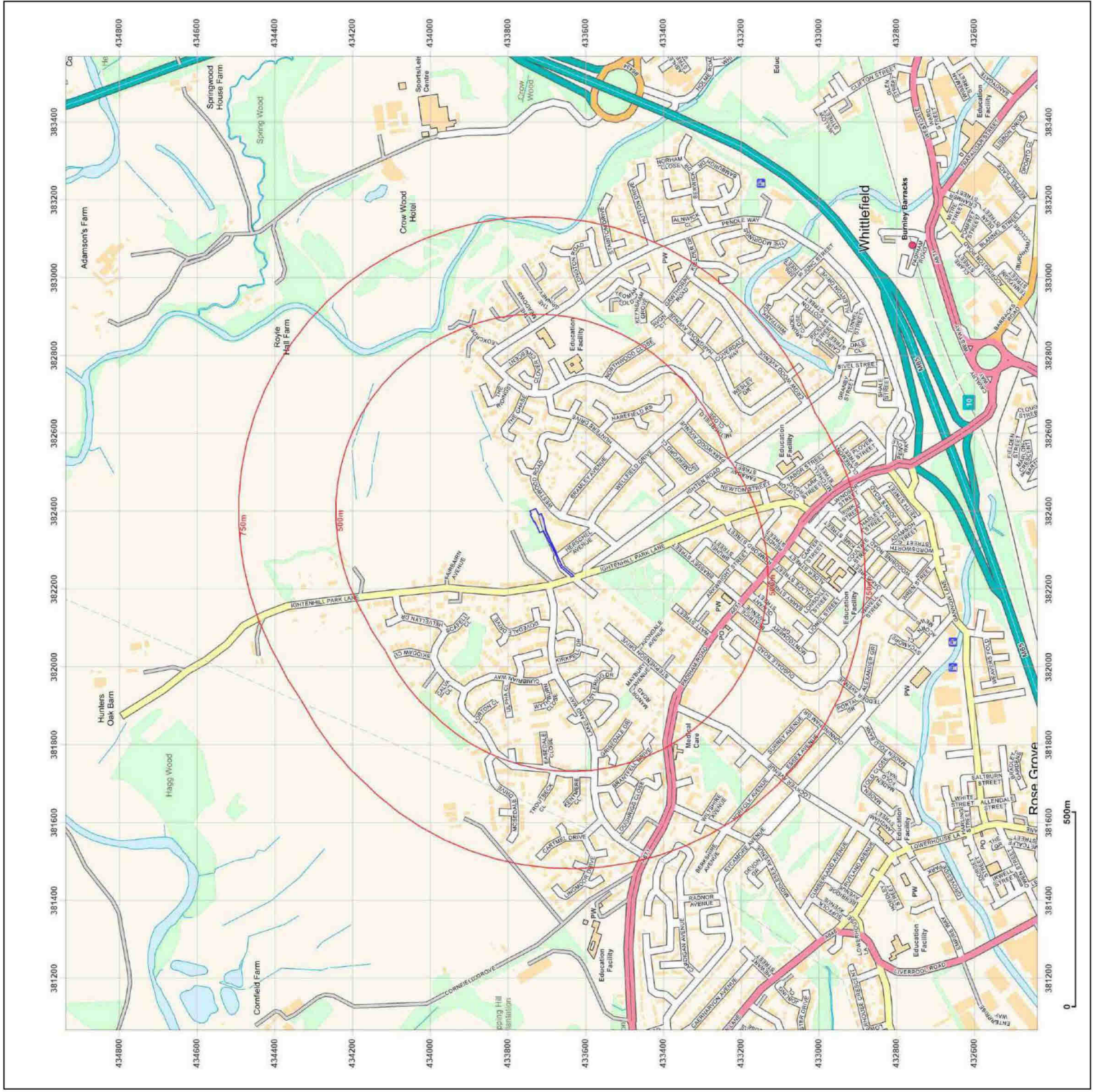


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Client Ref: 24030
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Grid Ref: 382318, 433687

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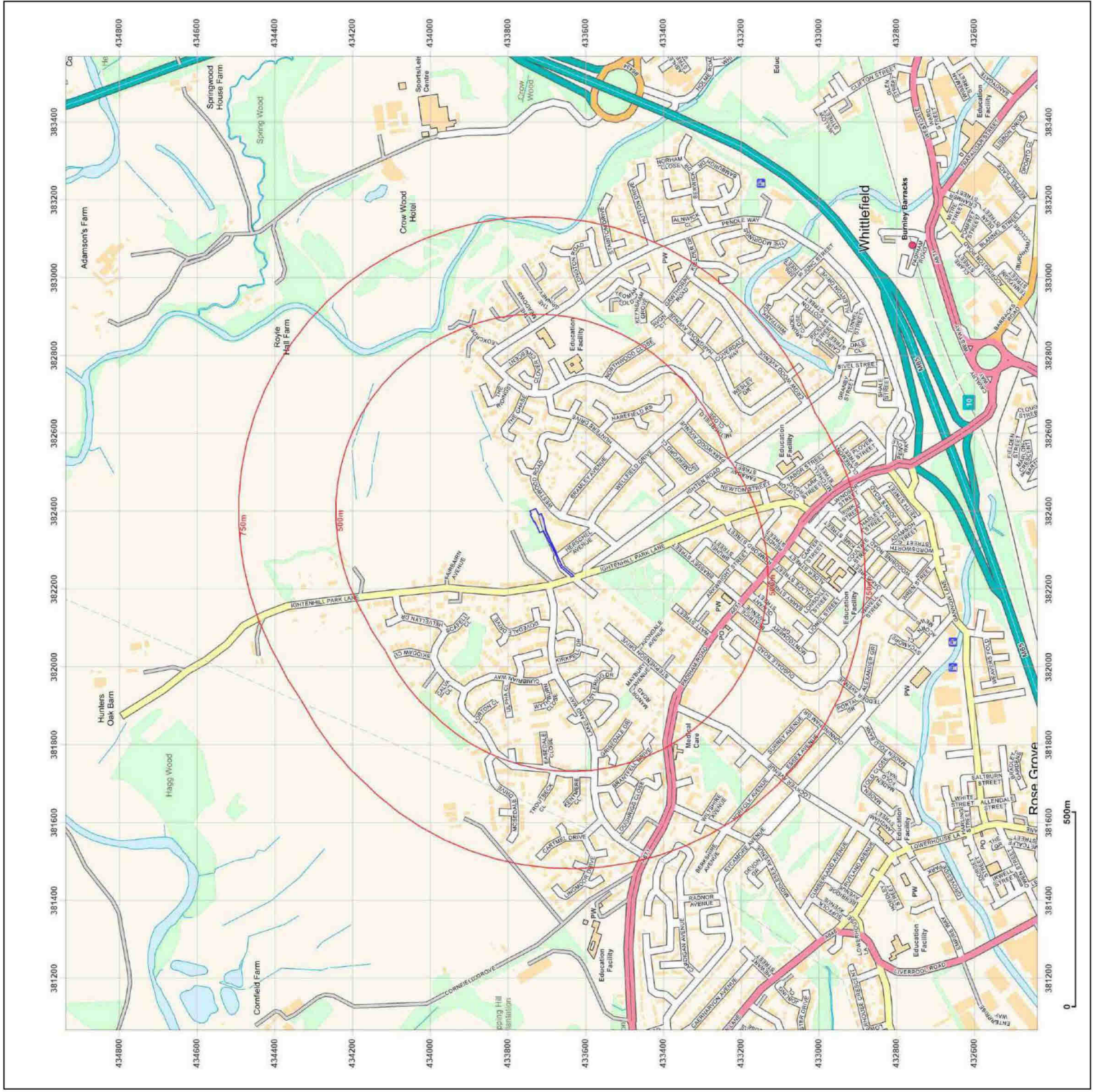


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Production date: 22 February 2024

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



Appendix D

Coal Authority Mining Report

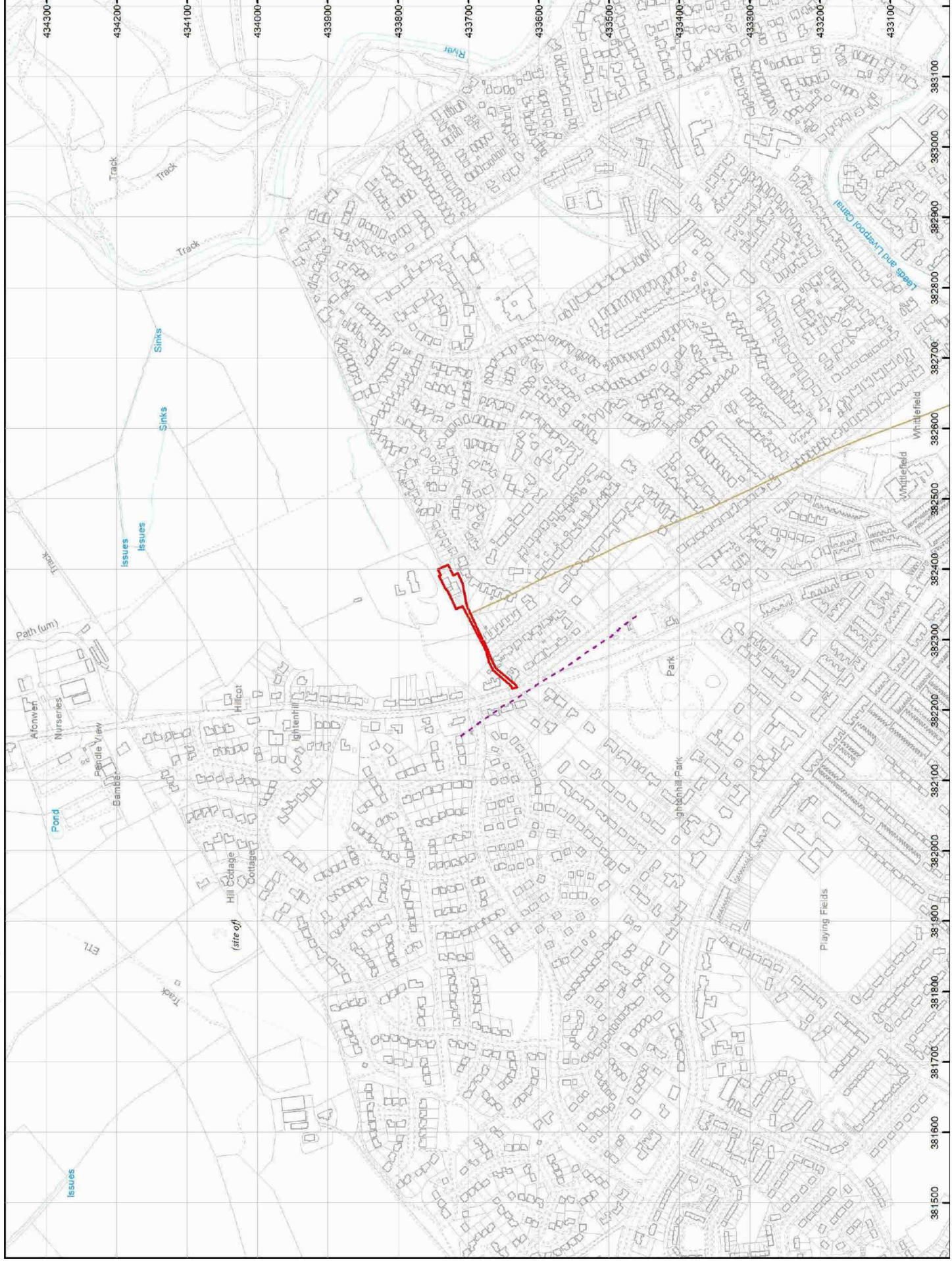


Summary of findings

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

Key

- Approximate position of the enquiry boundary shown
- Outcrop (Conjectured)
- Geological faults





The Coal
Authority

Consultants Coal Mining Report

1, Herschel Avenue, Burnley,
Lancashire, Bb12 0ln
Lancashire

Date of enquiry: 22 February 2024
Date enquiry received: 22 February 2024
Issue date: 22 February 2024

Our reference: 51003406974001
Your reference: GS-88W-X8U-590-21K



Consultants

Coal Mining Report

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

Client name

GROUNDSURE LIMITED

Enquiry address

1, Herschel Avenue, Burnley, Lancashire, Bb12 0ln
Lancashire

How to contact us

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

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	ARLEY	Coal	3WSK	141	South-West	4.0	North-East	120	1959
unnamed	ARLEY	Coal	3WSL	146	Beneath Property	12.0	North-East	120	1959
unnamed	ARLEY	Coal	3WRQ	159	North-West	4.7	North-East	120	1959
unnamed	ARLEY	Coal	3WRU	168	Beneath Property	12.0	North-East	120	1959
unnamed	ARLEY	Coal	3WUD	170	Beneath Property	7.5	North-East	120	1959
unnamed	ARLEY	Coal	3WVR	175	South-East	7.5	North-East	120	1959
unnamed	ARLEY	Coal	3WVW	277	East	7.6	North-East	120	1959

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

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

2029	13527	NW1194
NW1219	PO0	NW1195
16820	NW1192	NW1205

Our records show we have more plans than those shown above which could affect the enquiry boundary.

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

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
SEDDON (S)	Coal	Yes	12.8	South-West	325

Geological faults, fissures and breaklines

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

Fault under or close to the property recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

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

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

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

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

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

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

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

Withdrawal of support notices

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

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

Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Future development

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

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

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

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

Past underground coal mining

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

Probable unrecorded shallow workings

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

Spine roadways at shallow depth

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

Mine entries

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

Abandoned mine plan catalogue numbers

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

Outcrops

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

Geological faults, fissures and breaklines

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

Opencast mines

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

Coal Authority managed tips

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

Site investigations

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

Remediated sites

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

Coal mining subsidence

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

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

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

Mine gas

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

Mine water treatment schemes

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

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

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

Future underground mining

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

Coal mining licensing

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

Court orders

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

Section 46 notices

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

Withdrawal of support notices

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

Payment to owners of former copyhold land

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

Appendix E

BGS Borehole Records



N.G.R. 8251 3393

18

(*11982) Wt.80370/0870 10,000 9/89 A.&B.W.Ltd. Gp.688

RECORD OF SHAFT OR BORE FOR MINERALS

SD83SW59

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

BROUGHTON COLLIERY BORE No. 22

Name and Number given by owner (if different from above):

Town or Village BURNLEY Date of sinking

Exact site 600 yds due S. of shaft

149
County LANCERS
6" Quarter Sheet 56 SW
1" N.S. Geol. Map 6P
1" O.S. Geol. Map
Whether Confidential

A sketch-map or tracing from a large-scale map is desirable.

Purpose for which made COAL

Level at which bore commenced relative to O.D. If not down bore, state if horizontal or up

Made by for Messrs.

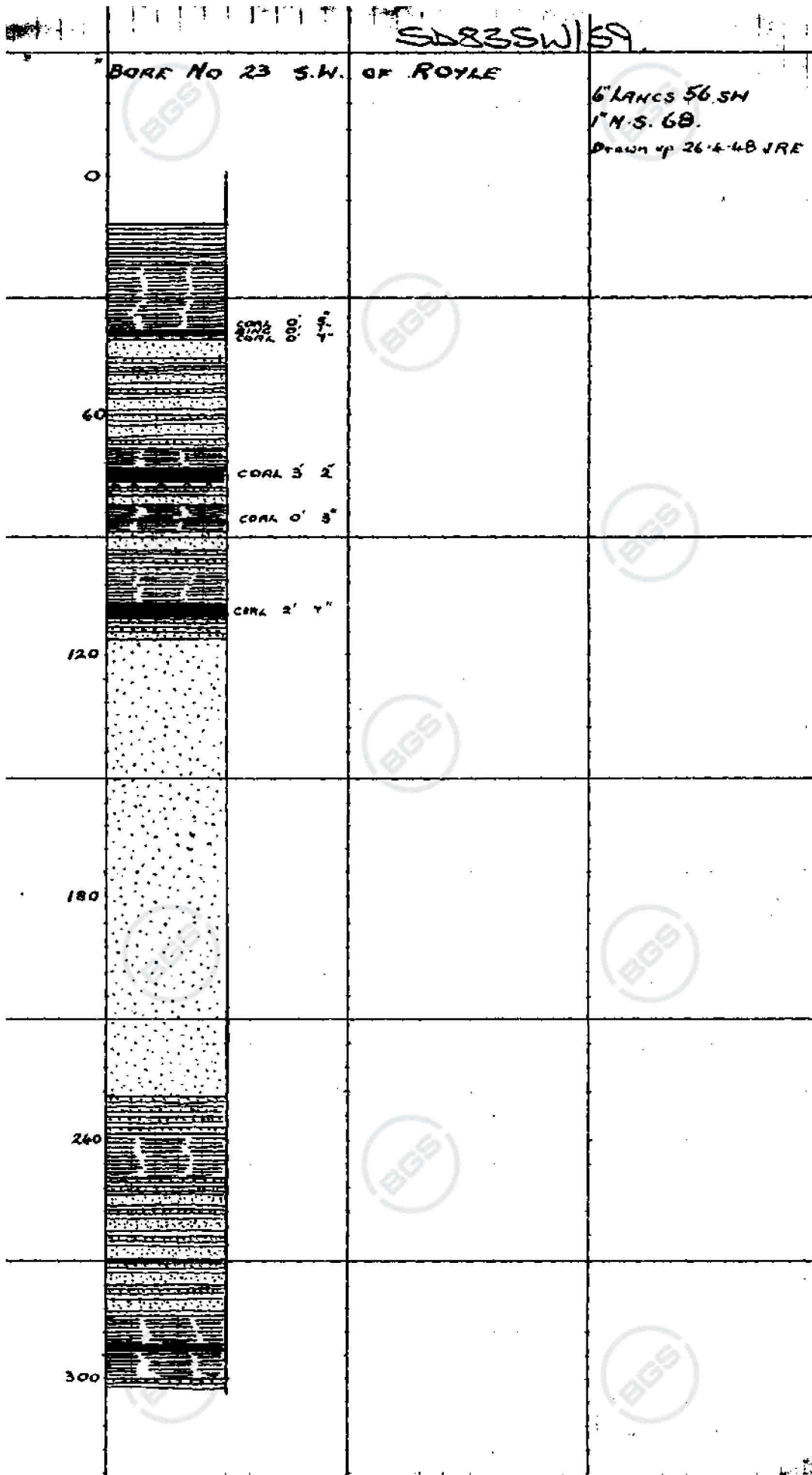
Information from Hargreaves Collieries Date received 1946

Specimens Dip of strata

GEOLOGICAL CLASSIFICATION	DESCRIPTION	THICKNESS			DEPTH		
		Metric			Metric		
	Soil, clay & stony marl	4.57	15	0	4.57	15	0
	Rock fragment	0.92	3	0	5.49	18	0
	Metals	3.35	11	0	8.84	29	0
	Rock fragment	2.36	7	9	11.20	36	9
	Rock	0.08		3	11.28	37	0
	Rock & rag	0.91	3	0	12.19	40	0
	Light rock	1.83	6	0	14.02	46	0
	Metals	1.22	4	0	15.24	50	0
	Grey rag	3.76	12	6	19.00	62	4
	Metals	1.93	6	4	20.93	68	8
Makingham	COAL	0.18		7	21.11	69	3
Blindstone	quartz	0.10		4	21.21	69	7
	COAL	0.46	1	6	21.67	71	1
	peat	0.50	1	8	22.17	72	9
Tan Bobbin	Rag	1.63	5	4	23.80	78	1
Rock	light rock	33.53	110	0	57.33	188	1
128 ft.	Rag	3.88	12	9	61.21	200	10
	Dark shale	0.41	1	4	61.62	202	2
	Coal	0.13		5	61.75	202	7
	Brig	0.51	1	8	62.26	204	3
	Rag & rock	0.63	1	5	62.69	205	8
	light rock	2.78	12	10	66.60	218	6
	Grey rock	3.66	12	0	70.26	230	6
	Rag & rock	0.99	3	3	71.25	233	9
	Grey rag	1.45	4	9	72.70	238	6
	Grey rock	0.45	1	6	73.15	240	0
	Grey rag	0.38	1	3	73.53	241	3
	Metals	1.93	6	4	75.46	247	7
	Coal quartz	0.61	2	0	76.07	249	7
	Brig or peat	0.41	1	4	76.48	250	11

GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.

G.S.M. Office File No.	Site marked on 6" Map by	Site marked on 1" Map by
------------------------	--------------------------	--------------------------





18

(11982) W.L. 0070/0070 10,000 9/30 A.S.B.W.L.M. G9.483

RECORD OF SHAFT OR BORE FOR MINERALS

County HANTS

6" Quarter Sheet 56 SW

1" N.S. Geol. Map 6P

1" O.S. Geol. Map _____

Whether Confidential _____

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

BROUGHTON COLLIERY BORE No. 23

Name and Number given by owner (if different from above):

Town or Village BURNLEY Date of sinking _____

Exact site 600 yds due S. of shaft

A sketch-map or tracing from a large-scale map is desirable.

S1) 83/64

Purpose for which made COAL

Level at which bore commenced relative to O.D. _____ If not down bore, state if horizontal or up

Made by _____ for Messrs. _____

Information from Hargreaves Collieries Date received 1946

Specimens _____ Dip of strata _____

GEOLOGICAL CLASSIFICATION	DESCRIPTION	THICKNESS		DEPTH	
	soil, clay & stony mud	15	0	15	0
	Rock fragment	3	0	18	0
	Metals	11	0	29	0
	Rock fragment	7	9	36	9
	Rock		3	37	0
	Rock & rag	3	0	40	0
	light rock	6	0	46	0
	Metals	4	0	50	0
	Grey rag	12	4	62	4
	Metals	6	4	68	8
	COAL		7	69	3
	funts		4	69	7
	COAL	1	6	71	1
	peat	1	8	72	9
	Rag	5	4	77	1
	light rock	110	0	187	1
	Rag	12	9	200	10
	soft shale	1	4	202	3
	Coal		5	202	7
	Brig	1	8	204	3
	Rag & rock	1	5	205	8
	light rock	12	10	218	6
	Grey rag	12	0	230	6
	Rag & rock	3	3	233	9
	Grey rag	4	9	238	6
	Grey rock	1	6	240	0
	Grey rag	1	3	241	3
	Metals	6	4	247	7
	Coal funts	2	0	249	7
	Brig or peat	1	4	250	11

GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON,
LONDON, S.W.7.

G.S.M. Office
File No.

Site marked
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NGR ^W 8222 3393
^S 8223 3394
(1982) W1.80970/0870 10,000 9/80 A. & B.W.Ltd. Gp. 685

RECORD OF SHAFT BORE FOR MINERALS

SD83 SW 64/65

County LANCASH

Quarter Sheet 56 SW

N.S. Geol. Map 6P

1" O.S. Geol. Map _____

Whether Confidential _____

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

BORES ALONG PARK LANE - IGHTEHILL No. 4 & 5

Name and Number given by owner (if different from above):

Town or Village BURNLEY Date of sinking _____

Exact site No. 4 150 yds S.E. of Ightehill Farm

No. 5 150 yds SE ..

A sketch-map or tracing from a large-scale map is desirable.

Purpose for which made Coal

Level at which bore commenced relative to O.D. _____ If not down bore, state if horizontal or up.

Made by _____ for Messrs. _____

Information from Hargreaves Collieries Date received 1966

Specimens _____ Dip of strata _____

64

GEOLOGICAL CLASSIFICATION	DESCRIPTION	THICKNESS			DEPTH		
		M.			M.		
21	No. 4						
	Hard clay	4.22	13	10	4.22	13	10
	Metals	2.74	9	0	6.96	22	10
	Rag	2.59	8	6	9.55	31	4
	Metals	2.44	8	0	11.99	39	4
	Coal	0.91	3	0	12.80	42	4

22

Kabington
Blindstone.

65

Tiny
Bobbin
Rock
110ft

	No. 5						
	Hard clay	6.76	22	2	6.76	22	2
	Metals	2.28	7	6	9.04	29	8
	Rag	2.75	9	0	11.79	38	8
	Metals	2.51	8	3	14.30	46	11
	Coal	0.92	3	0	15.22	49	11
	Seat	1.62	5	4	16.84	55	3
	Rock	5.13	16	10	21.97	72	1
	Rag	0.66	2	2	22.63	74	3
	Rock	0.31	2	0	22.94	75	3
	Rag	1.75	5	9	24.69	81	0
	White rock	2.36	7	9	27.05	88	9
	Rag	0.61	2	0	27.66	90	9
	Rock	13.49	44	8	41.15	135	0
	Rag	2.03	6	8	43.18	141	8
	White & brown rock	6.35	20	10	49.53	162	6
	Rag	0.61	2	0	50.14	164	6
	Black metals	0.30	1	0	50.44	165	6
	Coal	0.46	1	6	50.90	167	0
	Rag & rock bands	0.76	2	8	51.66	169	5
	Rock	1.83	6	8	53.49	175	6
	Rock	0.61	2	0	54.10	177	6
	Rag	1.37	4	6	55.47	182	0
	Rock	5.64	18	6	61.11	200	6
	Rag	1.27	4	2	62.38	204	8
	Rock	0.23	1	9	62.61	205	5
	Metals	2.82	9	3	65.43	214	8
	Black slab	1.12	3	8	66.55	218	4
	Brown Dunal	1.98	6	6	68.53	224	10
	Dark rag	7.67	25	2	76.20	250	0

GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON,
LONDON, S.W.7.

G.S.M. Office File No.	Site marked on 8" Map by	Site marked on 1" Map by
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(11033) W620370/0270 10,000 9/59 A.A.B.W.I.Ld. Op.488

RECORD OF SHAFT OR BORE FOR MINERALS 22

County LANCS
8" Quarter Sheet 56 SW
1" N.S. Geol. Map 6P
1" O.S. Geol. Map _____
Whether Confidential _____

Name and Number of Shaft or Bore given by Geological Survey:
BORES ALONG PARK LANE - IGHTEMHILL Nos 4 & 5
Name and Number given by owner (if different from above): _____

Town or Village BURNLEY Date of sinking _____
Exact site No. 4 150 yds SSE of Ightemhill Farm
No. 5 150 yds SE

A sketch-map or tracing from a large-scale map is desirable.

Purpose for which made COAL SD 83/66B, E
Level at which bore commenced relative to O.D. _____ If not down bore, state if horizontal or sp.
Made by _____ for Messrs. _____
Information from Hargreaves Collieries Date received 1966
Specimens _____ Dip of strata _____

GEOLOGICAL CLASSIFICATION	DESCRIPTION	THICKNESS		DEPTH	
21	No. 4				
	Marl & clay	13	10	13	10
	Metals	9	0	22	10
	Rag	8	6	31	4
	Metals	8	0	39	4
	COAL	3	0	42	4
22	No. 5				
	Marl & clay	22	2	22	2
	Metals	7	6	29	8
	Rag	9	0	38	8
	Metals	8	3	46	11
	Coal	3	0	49	11
	Leat	5	4	55	3
	Rock	16	10	72	1
	Rag	2	2	74	3
	Rock	2	0	75	3
	Rag	5	9	81	0
	White rock	7	9	88	9
	Rag	2	0	90	9
	Rock	44	8	135	0
	Rag	6	8	141	8
	White & brown rock	20	10	162	6
	Rag	2	0	164	6
	Black metals	3	0	165	6
	Coal	1	6	167	0
	Rag & rock bands	8	8	175	6
	Rock	2	0	177	6
	Rag	4	6	182	0
	Rock	18	6	200	6
	Rag	4	2	204	8
	Rock		9	205	5
Metals	9	3	214	8	
Black shale	3	8	218	4	
Brown Duvul	6	6	224	10	
Dark rag		2	250	0	
		25	2		

GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.

G.S.M. Office File No.	Sites marked on 8" Map by	Sites marked on 1" Map by

Appendix F

Risk Evaluation

Risk Evaluation

To ensure consistency in our qualitative method for risk evaluation we have used the classification scheme presented CIRIA C552 Contaminated Land Risk Assessment – A Guide to Good Practice, 2001. The overall risk rating for any potential pollutant linkage is set out in **Table I** and based upon a combination of the:

- Magnitude of the potential consequence (severity) of risk occurring (defined in **Table II**); and
- Magnitude of the probability (likelihood) of the risk occurring (defined in **Table III**).

The definition of the overall risk rating and likely action required is defined in **Table IV**.

Table I: Comparison of consequence against likelihood

		Consequence (severity)			
		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 II: Classification of Consequence (Severity)

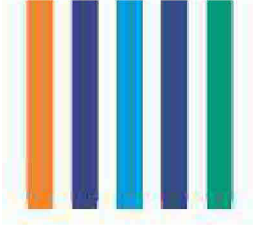
Class ⁿ	Definition	Examples
Severe	Short-term (acute) risk to human health likely to result in significant harm. Short term risk of pollution of sensitive water resource. Catastrophic damage to buildings/property. A short term risk to a particular ecosystem, or organism forming part of such ecosystem.	<ul style="list-style-type: none"> • High concentrations of cyanide on the surface of an informal recreation area. • Major spillage of contaminants into controlled water. • Explosion, causing building collapse (can also equate to a short term human health risk if buildings are occupied).
Medium	Chronic damage to human health. Pollution of sensitive water resources. A significant change in a particular ecosystem, or organism forming part of such an ecosystem.	<ul style="list-style-type: none"> • Concentrations of a contaminant from site exceed the generic, or site specific assessment criteria. • Leaching of contaminants from site to an aquifer. • Death of a species within a designated nature reserve.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services. Damage to sensitive buildings/ structures/ services or the environment.	<ul style="list-style-type: none"> • Pollution of non-classified groundwater. • Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by PPE). Easily repairable effects of damage to buildings, structures and services.	<ul style="list-style-type: none"> • The presence of contaminants at such concentrations that PPE is required during site works. • The loss of plants in a landscaping scheme. • Discoloration of concrete.

Table III: Classification of Likelihood (Probability)

Class ⁿ	Definition
High likelihood	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a pollution linkage and all the elements are in the right place, which means that it is probable that an event will occur.
Low likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over longer period such event would take place and is less likely in the shorter term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term.

Table IV: Classification of risks and likely action required

Class ⁿ	Definition
Very high risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realized, is likely to result in a substantial liability. Urgent investigation and remediation works are likely to be required.
High risk	Harm is likely to arise to a receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required and remedial works may be necessary in the short term and are likely over the longer term.
Moderate risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Low risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realized, would at worst normally be mild.
Very low risk	There is a low possibility that harm could arise to a receptor. In the vent of such harm being realized it is not likely to be severe.



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