BROWNFIELD SOLUTIONS LTD

GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

CASTLE GREEN HOMES

Mindale Farm, Meliden

Phase I Geo-Environmental Assessment Report

AH/C6347/14864

November 2025

PROJECT QUALITY CONTROL DATA SHEET

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DRAWINGS		
Drawing Number	**Rev**	**Title**
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Appendix A	BSL Methodology and Guidance
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1.0 INTRODUCTION

1.1 Context

This report describes a desk-based Phase I Geo-Environmental Assessment Report carried out by Brownfield Solutions Limited (BSL) for Castle Green Homes on a site off Fford Talargoch, Meliden and has been completed in general accordance with the following guidance:

- Environment Agency guidance - Land Contamination: Risk Management (LCRM).
- BS 10175:2011+A2:2017 Investigation of Potentially Contaminated Sites.
- BS5930: 2015+A1:2020 Code of Practice for Ground Investigations.
- BS EN 1997-1:2004+A1:2013 Eurocode 7. Geotechnical design. General rules plus UK National Annex.
- BS EN 1997-2:2007 Eurocode 7 Geotechnical design. Ground investigation and testing plus UK National Annex.
- NHBC Standards. Chapter 4.1: Land Quality - Managing Ground Conditions.

Definitions of terms and acronyms used within this report is presented in Section 7.0.

1.2 Proposed Development

The proposed development is for a residential end use, comprising the construction of 154 traditional two storey houses with associated private gardens, highways, public open space (POS) areas and infrastructure as shown on the proposed development plan, drawing No. MINF-MEL-SP01 Rev E provided to BSL by the client.

1.3 Objectives

The objectives of this assessment were to determine the environmental setting and ground conditions of the site, highlighting potential areas of concern that may govern the redevelopment.

This report is intended to meet the requirements of a Preliminary Investigation as defined in BS10175:2011+A2:2017 and has been produced in general accordance with the recommendations for a Tier 1 Preliminary Risk Assessment as described in LCRM guidance.

1.4 Scope

The scope of works comprises a Phase I Assessment and site walk-over, with a review of the site, surroundings, historical uses and environmental setting in order to develop a preliminary Conceptual Site Model (CSM).

1.5 Limitations

This Phase 1 Geo-Environmental Assessment Report has been prepared in accordance with the relevant legislative framework, guidance and risk assessment methodology as outlined in Appendix A.

The findings and opinions conveyed via this assessment are based on information obtained from a number of sources as detailed within this report, BSL have assumed this information is correct and reliable. Nevertheless, BSL cannot and does not guarantee the authenticity or reliability of the information it has relied upon.

BSL have used reasonable skill, care and diligence in the production of this report. There may be other conditions prevailing on the site which are outside the scope of work and have not been highlighted by

this assessment and therefore have not been taken into account by this report. Responsibility cannot be accepted for such site conditions not revealed by the assessment.

This report has been prepared for the sole use and reliance of the Client, Castle Green Homes. No other third party may rely upon or reproduce the contents of this report without the written permission of Brownfield Solutions Ltd (BSL); a charge may be levied against such approval. If any unauthorised third party comes into possession of this report, then they rely on it at their own risk and BSL do not owe them any Duty of Care. This report may not be relied upon by the client or submitted to a third party for their reliance for the purposes of valuation, mortgage, insurance and regulatory approval, until all invoices have been settled in full.

Any recommendations made in this report should be confirmed with the Regulatory Authorities prior to implementation to ensure compliance. Please note that whilst every effort has been made to pre-empt the likely requirements of the Local Authority, Environment Agency and warranty providers, they may have specific requirements that will need to be discussed and addressed at a later date.

This assessment has been based on the proposed planning layouts provided. Any subsequent change to the planning layout may have an impact on the validity of recommendations made within this report. Furthermore, new information, changed practices or new legislation may necessitate revised interpretation of the report after the date of its submission.

The site plans enclosed in this report should not be scaled off. Any site boundary line depicted on plans does not imply legal ownership of land.

Notwithstanding site observations concerning the presence or otherwise of archaeological issues, asbestos-containing materials (ACM) or invasive weeds (e.g. Japanese knotweed), this report does not constitute a formal survey of these potential issues and specialist advice should be sought.

2.0 THE SITE

2.1 Location

The site is located off Fford Talargoch, Meliden, LL19 8PG, centred on National Grid Reference 305565, 380834as shown on the Site Location Plan, Drawing No. C6347/01.

2.2 Site Description

A site reconnaissance survey was carried out at the site on 31st October 2025. The main site features and potential issues identified during this survey are detailed below and are shown on the Site Features Plan, Drawing No. C6347/02.

Feature	Description
Site Area	5.89 hectares.
Site Access	Access to the site is gained off Fford Talargoch to the south, and also from Ffordd y Newydd in the centre.
Current Land Use and Site Features	The site comprises existing grassed agricultural fields and associated farm buildings.
Potential Sources of Gross Contamination	No potential sources of gross contamination were identified.
Vegetation / Ecology	There are sporadic mature/semi-mature trees within the hedge rows with grass surfacing across the site and along the site boundaries.
Topography	The site is generally flat.
Site Boundaries	The site is bounded by mature and semi-mature trees and hedges.
Surrounding Area	The site is set within a mixed commercial and residential area. Residential properties exist to the south and east, a school to the south-east and further grassed fields to the north and west.

3.0 GEO-ENVIRONMENTAL SETTING

3.1 Historical Setting

A review of the available historical Ordnance Survey Maps and satellite imagery has been conducted, with the pertinent issues that may have affected the site, or its environs, summarised below. The Historical Maps are presented in Appendix B. A review of the historical industrial data within the geo-environmental data report has also been undertaken below, the report is presented in Appendix C.

Notable features on site, and potentially contaminative or geotechnically relevant features within 100m of the site boundary have been presented. Any features that have potentially been infilled will be considered up to 250m from the site boundary.

Feature	Distance (m) & Direction	Years Present	Description
Onsite			
Previous development	Onsite - SE	1962 - 2025	Several small buildings are present in the south-east and north-east of the site with associated tracks across the site. Several of the buildings in the south-east remain present on recent satellite imagery.
Offsite			
Ponds	Circa 5m W	1898 - 1993	A small pond is present near the west boundary of the site that remains present until 1993. It is assumed to be infilled on subsequent mapping.
Refuse Tip	17m SE	1964 - 1977	A small refuse tip is indicated associated with the Talargoch Mine that remains present until 1977 mapping and is not present on subsequent mapping.
Tanks	Circe 50m SE	1987 – 1993	A tank is indicated associated with an unspecified works to the south-east of the site that remains present until 1993 mapping.
Railway	Circa 50m E	1871 - 1987	Railway sidings with associated embankment with smaller scale sidings encroaching toward to the site associated with the Talargoch Mine is present until 1987 mapping.
Mine Works (old shafts)	Circa 50m S	1871 - 1977	Talargoch Lead Mine is present to the south of the site with associated shafts to the south and east. The mine is indicated to be disused from 1898 mapping with an associated chimney from 1964 mapping, the mine and associated features are not present on mapping later than 1977.
Filter Beds	Circa 65m SW	1949 - 1994	Filter beds, briefly labelled as a works was present to the south-west of the site indicated to be disused from 1993 mapping and remained present until 1994 mapping.
Various industrial processes	Up to 80m E, S and W	1964 - 1987	There were several small-scale industrial features within a 80m radius of the site. These were predominantly marked on the 1887 mapping, with none marked post 1987. Notable features are noted below: • Work – 70m west. • Works – 50m south-east associated tank (1987-1993) • Works – 80m south
Reservoirs	From circa 140m S	1871 - 1912	Several reservoirs are present to the south of the site associated with the mine works that remain present until 1912 mapping and are not shown on subsequent mapping.
Covered sewage tanks	Circa 240m E	1910 - 1949	Covered sewage tanks are also indicated to the east of the site that remain present until 1949 mapping and are later replaced by a residential development from 1979 mapping.

In summary, the map evidence indicates that the site has remained as agricultural fields with minimal previous development.

Historical land use in the surrounding area has been predominantly residential with some industrial uses relating to the Talargoch Mine in the south from 1871 mapping, with associated tanks and reservoirs.

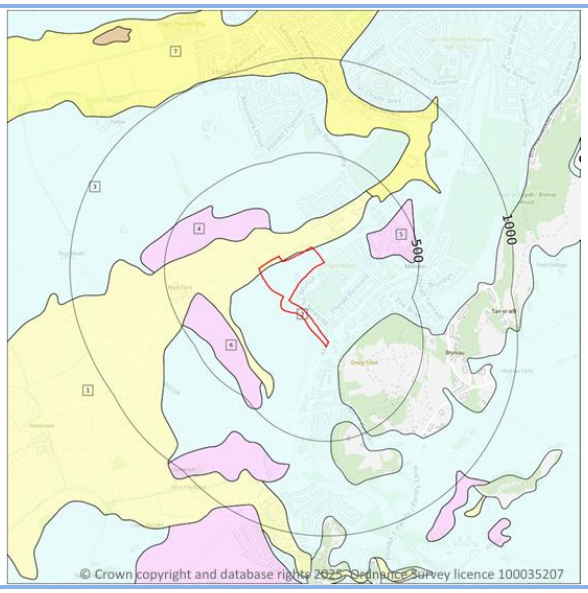
3.2 Published Geology

The following publications of the British Geological Survey (BGS) were examined in respect of the geology underlying the site:

- British Geological Survey (BGS) 1:50,000 Scale Geological Map Sheet 95 Rhyl. Solid and Drift Edition.
- BGS Geology of Britain Map Viewer.
- BGS GeoIndex Onshore.
- Mining Remediation Authority Interactive Map.
- Coal Mining Abandonment Plans.
- Geo-Environmental Data Report.

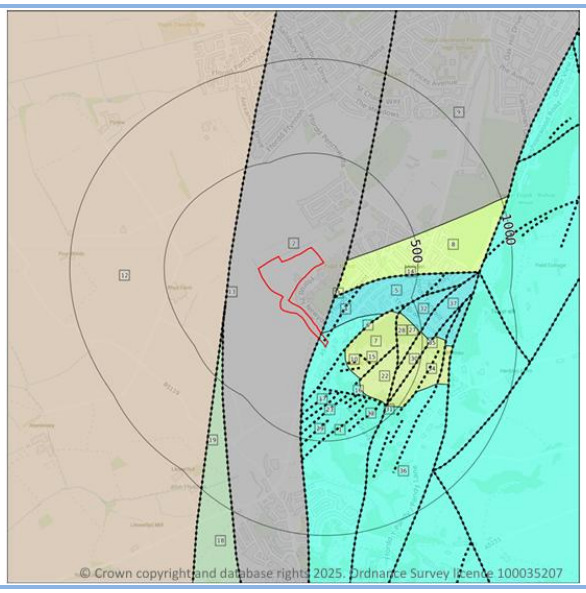
Extracts of the 1:50,000 geological mapping from the Geo-Environmental Data Report are presented below for reference:

BGS 1:50 000 Superficial Geology



Key:
- Alluvium – Clay, silt, sand and gravel
- Devensian Till (Diamicton)

BGS 1:50 000 Solid Geology



Key:
- Pennine Coal Measures Group – Sedimentary rock cycles, coal measure type
- Llanarmon Limestone Formation - Limestone

Made Ground

BGS mapping does not display any made ground deposits on site, however based on the historical mapping and the development that has taken place, localised made ground deposits are likely to be present associated with former and existing farm buildings.

Superficial Deposits

The site is indicated to be underlain predominantly by Devensian Till. This stratum typically comprises clay with varying amounts of silt, sand, and gravel. The north-west boundary of the site is underlain by Alluvium deposits that typically comprise clay, silt, sand and gravel.

Solid Geology

The deeper solid geology is indicated to predominantly be part of the Pennine Coal Measures Group which typically comprises sedimentary rock and coal. The southern-most area of the site is underlain by Llanarmon Limestone Formation which typically comprises Limestone.

A fault is shown to traverse the southern-most part of the site in a north to south direction. However, any movements associated with this fault should now have stopped.

The site is also in an area of non-coal mining with mineral veins across the site and in the surrounding area. The evidence of non-coal mining is considered to pose a risk to the proposed highways due to its location in the south of the site but the larger proposed development is not considered to be impacted. However, a mining risk assessment is recommended to confirm this risk.

3.3 BGS Exploratory Hole Records

There no BGS exploratory hole records within a relevant distance of the site (assumed as an approximate 50m radius).

3.4 Natural Geological Hazards

The BGS GeoSure Data presented within the Geo-Environmental Data Report is summarised in the table below:

GeoHazard Type	BGS Hazard Rating
Shrink Swell Clays	Very Low
Running Sands	Very Low
Compressible Deposits	Moderate
Collapsible Deposits	Very Low
Landslides	Very Low to low
Ground Dissolution of Soluble Rocks	Very Low to low

3.5 Mining and Mineral Extraction

A mining search has been undertaken as the site could be affected by past or current mining. The mining searches are presented in Appendix D.

Non-Coal Mining
Whilst the site is not within an area of recorded mining, there are various mine related features noted on historical mapping in the surrounding area, with a lead mine is indicated to be present to the south.

Historical maps indicate several shafts in the surrounding area, with the closest feature 50m to the south. The Mining GeoRisk Report identified mineral veins to pass through the site at depth as well as a sub-crop. The site is also in an area that could have been influenced by infilled land and stability. A well, used for oil or gas extraction, has also been identified within proximity to the site. The southernmost part of the site has known and probable mine workings related to the mineral veins.

A moderate risk is considered for natural ground subsidence. Based on the current proposed development, this moderate risk area would only apply to the proposed highway due to its location in the south of the site and not the proposed houses.

3.6 Hydrogeology

Based on the inferred geology, a summary of the Environment Agency aquifer designations is presented in the table below:

Stratum	Coverage	Aquifer Designation
Glacial Till	The majority of the site	Secondary Aquifer (Undifferentiated). The classification is assigned where it is not possible to attribute either category A or B to the aquifer.

Stratum	Coverage	Aquifer Designation
Alluvium	The north boundary	Secondary (A) Aquifer. These are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.
Pennine Coal Measures Group	The majority of the site	Secondary (A) Aquifer. These are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.
Llanarmon Limestone Formation	Southern-most point of the site	Principal Aquifer. This is Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale.

A summary of the pertinent hydrogeological features within the Geo-Environmental Data Report are provided below:

Feature	Distance (m) & Direction	Details
Nearest Active Groundwater Abstraction	-	None within 2000m.
Nearest Active Potable Groundwater Abstraction	-	None within 2000m.
Source Protection Zones	-	None within 500m.

3.7 Hydrology

A summary of the pertinent hydrological aspects within the Geo-Environmental Data Report are provided below:

Feature	Distance (m) & Direction	Details
Nearest Watercourse	Onsite	Inland river not influenced by normal tidal action.
Nearest Active Surface Water Abstraction	-	None within 2000m.
Closest Active Licenced Discharge Consent	76m S	Effluent type: Trade Discharges-Unspecified Receiving Water: Meliden Mine Drain, Trib Presta Issue Date: 05/05/1998

Information obtained from the Environment Agency (EA) Risk of Flooding from Rivers and the Sea (RoFRaS) database indicates that the risk of flooding across the site is very low (less than 1 in 1000 chance of flooding in any given year).

The site is not indicated to lie within an EA designated Zone 2 or Zone 3 flood plain.

The British Geological Survey indicate there is a potential for groundwater flooding at the subject site, with a low risk rating.

No further consideration of flood risk is undertaken in this report. Specialist flood risk advice should be sought with regards to drainage and flooding.

3.8 Landfill and Waste Management Sites

Feature	Distance (m) & Direction	Details
Active Landfill Sites		There are no current landfill sites recorded within 500m.
Historic Landfill Sites		There are no historical landfill sites recorded within 500m.
Current Waste Management Sites	280m S	There is one licensed waste site recorded as a transfer station, located 280m to the south of the site. There is limited information provided on the waste site.
Historical Waste Management Sites	335m S	There are two historical records, both referring to Thorncliffe Building and Garden Products for managing household, commercial and industrial waste.

3.9 Environmental Regulatory Data

A summary of the relevant environmental aspects, both on site and within 250m of the site contained in the Geo-Environmental Data Report, are presented in the table below:

Entry	On-site	0 – 50m	50 – 250m	Details
Recent Industrial Land Uses	0	1	12	The closest record was 86m south of the site recorded as waste collection, processing and disposal equipment.
Current or Recent Fuel Stations	0	0	0	
Licensed Industrial Activities (Part A(1))	0	0	0	
Licensed Pollutant Release (Part A(2)/B)	0	1	3	The closest record was 45m south-east and was recorded as a use of bulk cement.
Radioactive Substances	0	0	0	
Pollution Incidents (EA/NRW)	0	0	2	The closest record was in 2002 and was 194m to the north-east, it is recorded as oils and fuel and a Category 3 impact (minor) to water, land, and air.

None of the features identified above are considered to pose a significant risk to the proposed development and will therefore not be considered further.

3.10 Radon

Information from the environmental database report indicates the property is in an area where radon measures vary, the north of the site is in the 10-30% area, the southern-most tip of the site is in the 1-3% area, and the remainder of the site has <1% of properties are above the Action Level for radon, and therefore radon protective measures are required across parts of the site in accordance with BRE Report 211 'Radon – Guidance on protective measures for new dwellings'.

BSL consider it would be prudent to obtain a site-specific search from the BGS to fully confirm the risk.

3.11 UXO Risk

In accordance with CIRIA Report C681, BSL have reviewed non-specialist UXO data for the site using the online Zetica Bomb Risk Mapping data.

There is no indication of former military use from the Phase I Assessment. The map indicates the site to be in an area where the bomb risk is low. A copy of the map is presented in Appendix E.

3.12 Other Potential Development Constraints

A formal survey of asbestos within structures is not covered in this report. It should be noted that an asbestos demolition / refurbishment survey will be required prior to any work on structures. If asbestos

is present in soils, these will need to be dealt with in accordance with the Control of Asbestos Regulations (CAR) 2012 and CARSOILS™.

4.0 PHASE 1 SUMMARY AND RISK ASSESSMENT

4.1 Introduction

The risk posed by any contaminants in soil or groundwater will depend on the nature and level of the source, the probability of exposure occurring, the potential pollution pathway and the likely effects on the receptors.

A contaminant is defined as a substance that has the potential to cause harm, a risk is considered to exist if such a substance is present at sufficient concentrations to cause harm and if a pathway is present through which a receptor could be exposed to the contaminant.

The following sections discuss the identified potential on-site and off-site sources, and any pollution that could impact receptors via the pathways associated with the proposed development. Pollution linkages are assessed which may represent a risk to human health and/or controlled water receptors from the information gained from the Phase I Assessment searches. The assessment has been carried out on a qualitative basis and aims to produce a complete and comprehensive Preliminary Conceptual Site Model.

Three potential impacts exist for any given site and all three need to be considered in the qualitative risk assessment, these are:

- On-site impacts.
- The site impacting its surroundings.
- Off-site sources impacting the subject site.

4.2 Potential Contaminative Sources

On-Site
From the information obtained, the following sources have been identified which may affect the redevelopment of the site for residential end use:

- Made ground associated with the previous development.
- Ground gas from Alluvium.
- Radon.

Off-Site
The following off-site sources have been identified which may affect the redevelopment of the site:

- Infilled Pond (Circa 5m W).
- Refuse Tip (circa 17m S).
- Tank (circa 50m SE).
- Railway (circa 50m E).
- Mine Works with associated shafts (circa 50m S).
- Filter Beds (circa 65m SW).
- Various Industrial Processes (circa 80m E, S and W).
- Reservoirs (from circa 140m S).
- Sewage tanks (circa 240m E).

Associated Contaminants
The contaminants commonly associated with the potential sources of contamination identified are tabulated below:

Contaminative Sources	Department of the Environment Industry Profile or Other Source	Commonly Associated Contaminants
On Site		
Made Ground	AGS Guides BS8485 and BS8576	Heavy metals, polycyclic aromatic hydrocarbons (PAHs), asbestos, ground gases (carbon dioxide and methane).
Geology – Coal Measures	BS8485 and BS8576	Ground gas (Carbon dioxide, methane, carbon monoxide and hydrogen sulphide).
Geology – Alluvium Deposits	BS8485 and BS8576	Ground gas, typical concentrations of methane 0-5% and carbon dioxide 0-10%.
Geology – Radon	BRE Radon Mapping	Radon gas.
Off Site		
Infilled ponds, reservoirs and sewage tanks	BS8485 and BS8576	Ground gases (carbon dioxide and methane).
Filter Beds		Heavy metals, PAHs, PCBs, Solvents, localised pesticides and herbicides.
Tank (possible ASTs and / or USTs)	Road vehicle fuelling, service and repair	Petroleum hydrocarbons, BTEX, MTBE, VOCs.
Former railway	Railway Land Engineering works-Railway	Hydrocarbons, asbestos, heavy metals, localised pesticides and herbicides.
Mine Works (inc. Old shaft)	BS8485 and BS8576	Heavy metals, PAHs, petroleum hydrocarbons, mine gases (carbon dioxide and methane, carbon monoxide, hydrogen sulphide).
Refuse tip	Waste recycling treatment and disposal sites	Heavy metals, oils, hydrocarbons, asbestos, ground gases (carbon dioxide and methane).
Various Industrial works	-	Heavy metals, PAHs, petroleum hydrocarbons, PCBs, asbestos.

4.3 Pathways

A pathway is defined as a medium by which a contaminant comes into contact with, or otherwise impacts a receptor.

At this stage the potential contaminants identified above are considered to present potential risks to site end users and controlled waters through the following pathways:

Potential Pathways	
Pathways in respect to Human Health	• Ingestion of contaminated soils. • Dermal contact with contamination. • Inhalation of dusts. • Inhalation of gases or vapours in both indoor and outdoor air.
Pathways in respect to Controlled Waters – Surface water	• Surface run-off /over land flow. • Drainage discharge. • Base flow from groundwater.
Pathways in respect to Controlled Waters – Groundwater	• Leaching of mobile contamination into groundwater via the unsaturated zone. • Migration of perched groundwater in any permeable soils or along existing or proposed service runs. • Migration into the saturated zone and flow through the aquifers underlying the site.

Potential Pathways	
Pathways in respect to Property/structures/water pipes	• Direct contact with substances deleterious to building materials and potable water supply pipelines. • Migration of ground gases (methane) into confined spaces (explosion and damage to property).

4.4 Receptors

The identified receptors are listed below:

- Residential end users (human health).
- Structures/Property/Potable water supply pipes.
- Nearest watercourse. Inland River, onsite (Controlled waters).
- Superficial Aquifer (Secondary A and Secondary Undifferentiated). Clay, silt, sand and gravel from the Alluvium deposits and diamicton from the Devensian Till (Controlled waters).
- Bedrock Principal Aquifer. Sedimentary rock and coal of the Pennine Coal Measures Group and limestone of the LLanarmon Limestone Formation (Controlled waters).

Under current UK health and safety legislation, employers are required to carry out their own appropriate site-specific risk assessments and mitigation to protect employees. It has been assumed that any future construction works onsite will be undertaken in compliance with these requirements. Therefore, construction workers have not been specifically considered as part of this assessment.

4.5 Preliminary Conceptual Site Model (CSM)

The information obtained in the previous sections has been used to compile a Preliminary CSM. The identified potential contaminants and receptors have been assessed in the table below as to whether a plausible source-pathway-receptor pollutant linkage for the proposed end use of the site exists. The risk classification has been estimated in accordance with information in the BSL Guidance and Methodology in Appendix A.

The Preliminary CSM's are presented in the tables below, any assessed risk above moderate will possibly require further action:

Human Health						
Potential Source	Potential Pathway	Potential Receptor	Likelihood	Severity	Level of Risk	Justification
On site Made ground Heavy metals, polycyclic aromatic hydrocarbons (PAHs), asbestos.	Root uptake, ingestion, direct contact, inhalation of dusts	End-users	Low likelihood	Medium	Moderate/ low	There is a low likelihood that significant contamination is present within the made ground due to the site remaining agricultural fields with a few buildings assumed to be associated with the agricultural nature of the site. Made ground is considered to be localised around the previous and current onsite buildings and is considered to be minimal due to the previous and current nature of the site. However, due to the high sensitivity of the end users a moderate to low risk is considered and further investigation is required to confirm the risk.
On site Made Ground Metals and organic contamination.	Migration into/chemical attack of water supply pipelines	Water Pipelines / End users	Unlikely	Medium	Low	Contaminants within the soil/groundwater could potentially attack the clean potable water supply pipe, contaminants should be assessed to determine the correct pipe material and level of precautions required.
On site Made ground Ground Gas (carbon dioxide and methane).	Migration into confined spaces, inhalation and asphyxiation/ explosion	End-users / property / structures	Unlikely	Severe	Moderate/ low	It is unlikely that significant made ground is present due to the limited previous development of the site. Made ground is considered to be localised and shallow due to the previous and current nature of the site. However, due to the high sensitivity of the end users a moderate to low risk is considered and further investigation is required to confirm the risk.
On site Natural Geology Radon.	Migration into confined spaces, inhalation	End-users	Low likelihood	Medium	Moderate/ low	BR 211 radon advice indicates radon measures would vary across the site from no protection to full protection measures are required. BSL consider it would be prudent to obtain a site-specific search from the BGS to fully confirm the risk.
On site Natural Geology - Alluvium Ground Gas.	Migration into confined spaces, inhalation and asphyxiation/ explosion	End-users / property / structures	Unlikely	Severe	Moderate/ low	Alluvium is an organic rich sediment which has typical concentrations of gas which can potentially require gas protection measures. The risk is considered to be moderate to low, although further investigation is required to quantify the risk.
On site Made Ground/Natural Geology - Coal measures	Migration into confined spaces, inhalation and asphyxiation/ explosion	End-users / Property	Unlikely	Severe	Moderate/ low	As discussed above, significant thickness' of made ground deposits are not likely to be present on site and the gas generation potential of these materials is likely to be very low. The Pennine Middle Coal Measures that underly the site exhibit low-permeability coal seams and mudstones, which typically restrict gas migration, this is supported by the Coal Authority showing no risk considered by mine gas to the site. In addition, the coal measures are overlain by Glacial till

Human Health						
Potential Source	Potential Pathway	Potential Receptor	Likelihood	Severity	Level of Risk	Justification
Ground Gas (carbon dioxide and methane).						deposits that have low permeability due to the cohesive nature of the deposits that will limit vertical migration of any ground gas present. Therefore, the risk posed by made ground and coal measures is currently assessed as moderate/ low with further investigation including gas monitoring and assessment required to confirm the risk.
Off site Backfilled pond, Reservoirs and Sewage Tanks Ground Gas (carbon dioxide and methane).	Migration into confined spaces	End-users/ Buildings	Unlikely	Severe	Moderate/ low	The pond is relatively small and there not considered to have significant depth. Therefore, any ground gas generation associated with made ground infill material is considered to be very low. However, the pond is within close proximity of the site and would not have to migrate a significant to the site. The Reservoirs to the south and sewage tanks to the east are both considered unlikely of impacting the site due to the distance and period of time since they were present as any associated ground gas will have likely vertically migrated. In addition, the areas have since undergone residential development. Therefore, an overall moderate to low risk is considered.
Off site Refuse Tip, Filter Beds, Various Industrial Processes Heavy metals, oils, petroleum hydrocarbon, asbestos, PAHs, PCBs, Solvents, localised pesticides and herbicides, ground gases (carbon dioxide and methane).	Root uptake, ingestion, direct contact, inhalation of dusts	End-users	Unlikely	Medium	Low	The contamination associated with the filter beds, refuse tip and various other industrial works are considered to be unlikely to migrate to the site due to the underlying cohesive deposits limiting lateral migration onto the site allowing contaminants present to attenuate over a significant distance. Ground gas associated with the refuse pit associated with the mine works is also considered to have limited lateral migration due to the underlying cohesive superficial deposits and is considered to vertically migrate to the surface and degas. In addition, the features were indicated to be present for relatively short periods of time, limiting the potential of contamination to be present. Therefore, a low risk is considered.
Off site Tank Petroleum hydrocarbons, BTEX, MTBE, VOCs.	Root uptake, ingestion, direct contact, inhalation of dusts	End-users	Unlikely	Mild	Very low	The contaminants associated with a tank have low mobility so will not migrate significant distance before attenuating. In addition, the site is underlain by cohesive superficial glacial till deposits that will limit lateral migration of any contamination. Therefore, a very low risk is considered to be posed to end users.

Human Health						
Potential Source	Potential Pathway	Potential Receptor	Likelihood	Severity	Level of Risk	Justification
Off site **Former Railway** Hydrocarbons, asbestos, heavy metals, localised pesticides and herbicides.	Root uptake, ingestion, direct contact, inhalation of dusts	End-users	Unlikely	Medium	Low	The former railway associated with the surrounding lead mining works is considered to have localised contamination within the associated embankments. The potential contamination is considered to be unlikely of migrating onto the site due to the underlying cohesive glacial till deposits. Therefore, a low risk is considered.
Off site **Mine works inc. Mine shafts** Heavy metals, PAHs, petroleum hydrocarbons, mine gases (carbon dioxide and methane, carbon monoxide, hydrogen sulphide).	Migration into confined spaces, inhalation and asphyxiation/ explosion	End-users / Property	Unlikely	Severe	Moderate/ Low	The mine workings and associated shafts are considered possible to accommodate significant thicknesses of made ground and is likely to act as a vector for ground gas or mine gas, however due to its highly localised and small area, and the features being off site this likelihood is assessed as unlikely. Therefore, a moderate to low risk is considered to the end users. Further investigation will be required to confirm the level of risk.

Controlled Waters						
Potential Source	**Potential Pathway**	**Potential Receptor**	**Likelihood**	**Severity**	**Level of Risk**	**Justification**
Made Ground PAHs, Metals	Overland flow, / migration through saturated zone	Inland river, onsite (Surface waters)	Unlikely	Medium	Low	It is considered any potential contaminants associated with the made ground are unlikely to impact the River. This is due to the made ground deposits across the site being considered localised with the surrounding low permeability deposits limiting the lateral migration of potential contaminants across the site. Therefore, a low risk is posed to the river from the made ground.
	Leaching through unsaturated zone / Migration through saturated zone	Secondary A Aquifer and Secondary Undifferentiated Aquifer (Groundwater)	Unlikely	Medium	Low	It is not considered any gross contamination will be present onsite, and by virtue of the development taking place, this should contribute to an overall "betterment" of groundwater quality due to the proposed development including new drainage systems and increased hardstanding.
	Migration through saturated zone	Principal Aquifer (Groundwater)	Unlikely	Medium	Low	There are no groundwater abstraction licences or Source Protection Zones near the site. As stated above, the proposed development includes new drainage systems and increased hardstanding which will further reduce the risk to controlled waters.

Human Health Risk – Soils Contamination Summary
Based on the preliminary CSM and the current use of the site, the overall risk from land contamination at the site is considered to be **low to moderate** for a redeveloped site. This would need to be confirmed by appropriate intrusive investigation, testing and assessment.

Human Health Risk – Ground Gas Summary
A potential on-site gas source has been identified associated with potential localised made ground, alluvium deposits across the northern section, coal measures across the entirety of the site and radon in the northern section and southernmost section. Off site potential sources include an infilled pond and refuse tip. Potentially viable linkages are considered to exist and the preliminary CSM considers these sources to be of low to moderate risk.

In accordance with BS8576 and CIRIA C665 as set out in Appendix A of this report, the gas generation potential is considered to be very low. The sensitivity of the development is high on account of the proposed residential use.

In line with current guidance, it is recommended that ground gas monitoring should comprise 6 visits over a 3 month period.

Radon precautions are required in sections of the new development and the installation of a membrane resistant to radon may also mitigate against any ground gasses at the site. This will reduce the risk to low and therefore negate the need for gas monitoring at the site.

Basic and full radon protective measures are required in areas across the site in accordance with BRE Report 211 'Radon – Guidance on protective measures for new dwellings' 2023 Edition. The northwest of the site is considered to require full radon protection measures and the southernmost area of the site required basic radon protection measures, with the majority of the site indicated to not required any radon protection measures. BSL consider it would be prudent to obtain a site-specific search from the BGS to fully confirm the risk.

Controlled Waters Risk - Summary
Based on the preliminary CSM, BSL believes the overall risk to controlled waters at the site is **low**.

The above assessed level of risk will need to be confirmed by intrusive investigation and quantitative risk assessment.

5.0 PRELIMINARY GEOTECHNICAL ASSESSMENT

5.1 Hazard Identification

A preliminary geotechnical hazard identification exercise has been undertaken in general accordance with the National Highways document CD 622, 'Managing geotechnical risk' and CS 641 'Maintenance of Highway Geotechnical Assets'. Potential geotechnical hazards based on the expected ground conditions are listed below, and will need to be considered as part of further investigations and assessments:

- Made ground of unknown nature; if placed in a non-engineered manner may cause excessive settlement of foundations, highways and infrastructure.
- Low strength, compressible ground (peat and soft organic clays); may cause excessive settlement of foundations, highways and infrastructure.
- Presence of obstruction in the ground from historical developments (e.g relict foundations) causing difficulties with excavations or penetrative works (e.g. piling).
- Attack of buried concrete by aggressive ground conditions; the site may contain unknown made ground and potentially sulphate bearing soils. The coal measures are known to be high in naturally occurring sulphates.

In respect to potential for mining induced stability, the nature of the lead and copper mining makes it likely that the historic shafts give a good indication of the extent of the underground workings, which are shown to encroach on the south of the site in the location of the proposed highway, but they are not indicated to extend up to the proposed housing development area, which is anticipated to be outside the influence of historic mining. However, a shaft is shown 50m from the site, no information is known about this feature and therefore a mining risk assessment and suitable intrusive onsite investigation is likely to be required.

5.2 Potential Development Constraints

The following potential development constraints should be considered as part of an appropriate ground investigation.

Consideration	Constraint(s)	Comments
Foundation Design	Deep made ground / soft clays	The proposed development will comprise traditional two storey residential plots. The type of foundation solution should be informed by an onsite intrusive investigation to confirm ground conditions and obtain geotechnical parameters for preliminary foundation and floor slab design.
Concrete classification	Geology / Made ground	Intrusive investigation should also obtain data to allow appropriate concrete classification in accordance with BRE SD1 and for preliminary highways/pavement design.
Drainage	Low permeability clays	Given the site is underlain by low permeability clays, it is unlikely that drainage to SuDS such as traditional soakaways will be suitable.
Highways	Made Ground	Where the CBR is found to be less than 2%, the sub-grade is unlikely to be suitable for both the trafficking of site plant and as a permanent highway foundation without improvement of the soils.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Geo-Environmental Summary

The site has had previous development including agricultural buildings, however based on the proposed commercial development, the overall risk to human health from on site soils contamination is considered to be low to moderate.

The risk from off-site sources of contamination is considered to be moderate to low.

The risk from permanent ground gases is considered to be moderate to low.

Radon is considered to pose a risk to parts of the site and protection will be required.

The overall risk to controlled waters is considered to be low.

Intrusive investigations will be required to confirm the above assessed levels of risks and determine remedial requirements, if any.

6.2 Geotechnical Summary

Intrusive investigations will be required to confirm the most suitable foundation solution and to obtain parameters for concrete classification, floor slab and highways design.

The site is potentially influenced by mining related subsidence. A desk-based Mining Risk Assessment (CMRA) will be required to assess the risk in further detail and an intrusive mining investigation will potentially be required.

Drainage to SuDS is unlikely to be a viable option for the site, subject to intrusive investigation and testing.

6.3 Further Work

To confirm the risks to the identified receptors and confirm the ground conditions in respect to the identified geotechnical and geo-environmental risks, an appropriate intrusive investigation will need to be undertaken. The following further works are recommended, although this list is not exhaustive and should be read in conjunction with any planning conditions that are applicable to the site:

- Mining Risk Assessment
- Site specific radon search;
- Topographical survey / utility mapping.
- Demolition / Refurbishment Asbestos survey.
- Intrusive ground investigation comprising:
  - Trial pitting and windowless sampling.
  - Installation of standpipes in boreholes to allow gas concentrations and groundwater levels to be monitored.
  - The undertaking of soil infiltration rate testing, if required.
  - Geotechnical testing of soils.
  - Contamination analyses of soil.
- Assessment and recommendations based on the above, including requirements for further work, if necessary.

7.0 ABBREVIATIONS AND DEFINITIONS

GLOSSARY	
Term / Abbreviation	**Definition**
AST	Above Ground Storage Tank.
B(a)P	Benzo (a) Pyrene.
BGS	British Geological Survey.
BRE	Building Research Establishment.
BS	British Standard.
BSL	Brownfield Solutions Ltd.
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes.
CBR	California Bearing Ratio (used in pavement/highways design).
CAR 2012	Control of Asbestos Regulations (2012).
CBCB	Cheshire Brine Compensation Board.
CBCD	Cheshire Brine Compensation District.
CBR	California Bearing Ratio.
CIEH	Chartered Institute of Environmental Health.
CIRIA	Construction Industry Research Association.
CL:AIRE	Contaminated Land: Applications in Real Environments.
CLEA	Contaminated Land Exposure Assessment.
CLO	Contaminated Land Officer.
COMAH	Control of Major Accident Hazards.
Contamination	Presence of a substance which is in, on or under land, and which has the potential to cause significant harm or to cause significant pollution of controlled water. There is no assumption in this definition that harm results from the presence of the contamination. Naturally enhanced concentrations of harmful substances can fall within this definition of contamination. Contamination may relate to soils, surface water, groundwater or ground gas.
Controlled Waters	Inland freshwater (any lake, pond or watercourse above the freshwater limit), water contained in underground strata and any coastal water between the limit of highest tide or the freshwater line to the three-mile limit of territorial waters.
CPT	Cone Penetration Test.
CSM	Conceptual Site Model. A schematic hypothesis of the nature and sources of contamination, potential migration pathways (including description of the ground and groundwater) and potential receptors, developed on the basis of the information from the preliminary investigation and refined during subsequent phases of investigation and which is an essential part of the risk assessment process. The conceptual site model is initially derived from the information obtained by the preliminary investigation (i.e. the Phase I Phase I Assessment). This conceptual model is used to focus subsequent investigations, where these are considered to be necessary, in order to meet the objectives of the investigations and the risk assessment. The results of intrusive investigations can provide additional data that can be used to further refine the conceptual site model.
DCP	Dynamic Cone Penetrometer.
DNAPL	Dense Non-Aqueous Phase Liquid.
DoWCoP	Definition of Waste Code of Practice.
DWS	Drinking Water Standard.
EA	Environment Agency.
EHO	Environmental health Officer.
EQS	Environmental Quality Standard.
GAC	Generic Assessment Criteria.

GLOSSARY	
Term / Abbreviation	**Definition**
GDR	Geotechnical Design Report.
GFR	Geotechnical Feedback Report.
GIR	Ground Investigation Report.
GSV	Gas Screening Value.
Harm	Adverse effect on the health of living organisms, or other interference with ecological systems of which they form part, and, in the case of human health, including property/structures and water supply pipelines.
Hazard	Inherently dangerous quality of a substance, procedure or event.
HDPE	High Density Polyethylene.
HSV	Hand Shear Vane.
K	Modulus of Subgrade Reaction.
LCRM	Land Contamination: Risk Management (EA guidance).
LNAPL	Light Non-Aqueous Phase Liquid (petrol, diesel, kerosene).
LOD	Limit of Detection (for particular method adopted).
MMP	Materials Management Plan.
Mv	Modulus of Volume of Compressibility.
ND	Not Detected.
NHBC	National House Building Council.
NR	Not Recorded.
OS	Ordnance Survey.
PAH	Polycyclic Aromatic Hydrocarbon.
Pathway	Mechanism or route by which a contaminant comes into contact with, or otherwise affects, a receptor.
PCB	Poly-Chlorinated Biphenyl.
PCSM	Preliminary Conceptual Site Model.
pH	Scale used to specify how acidic or basic a water-based solution is.
PHC	Petroleum Hydrocarbons.
PID	Photo Ionisation Detector.
PNEC	Predicted No-Effect Concentration.
Precision	Level of agreement within a series of measurements of a parameter.
PSD	Particle Size Distribution.
PVC	Polyvinyl Chloride.
Receptor	Human health, living organisms, ecological systems, controlled waters (surface waters and groundwater within aquifers), atmosphere, structures and utilities that could potentially be adversely affected by contaminant(s).
Risk	Probability of the occurrence, magnitude and consequences of an unwanted adverse effect on a receptor.
Risk Assessment	Process of establishing, to the extent possible, the existence, nature and significance of risk.
Sampling	Methods and techniques used to obtain a representative sample of the material under investigation.
SOM	Soil Organic Matter.
Source	Location from which contamination is, or was, derived. This could possibly be the location of the highest soil, groundwater or gas concentration of the contaminant(s).
SPT	Standard Penetration Test.
SVOCs	Semi Volatile Organic Compounds.
TOC	Total Organic Carbon.
TPH CWG	Total Petroleum Hydrocarbon (Criteria Working Group).

GLOSSARY	
Term / Abbreviation	**Definition**
TVOCs	Total volatile organic compounds.
UCS	Unconfined Compressive Strength.
Uncertainty	Parameter, associated with the result of a measurement that characterises the dispersion of the values that could reasonably be attributed to the measurement.
UST	Underground Storage Tank.
UXO	Unexploded Ordnance.
VCCs	Vibro Concrete Columns.
VSCs	Vibro Stone Columns
VOCs	Volatile Organic Compounds.
WAC	Waste Assessment Criteria.
WFD (in waste context)	Waste Framework Directive.
WFD (in water context)	Water Framework Directive.
Units	**Definition**
°	Degrees
Φ	Phi angle (in degrees)
g/l	Grams per Litre
Km	Kilometres
kPa	Kilo Pascal (Equivalent to kN/m^2)
$KN/m^2/mm$	Kilo Newton per metered squared per millimeter
kN/m^2	Kilo Newtons per metre squared
kPa	Kilo Pascal (Equivalent to kN/m^2)
l/hr	Litres per hour
MJ/kg	Mega joule per kilogram
MN	Mega Newton
M^2/MN	Mega Newton per metre squared
M	Metres
m bgl	Metres Below Ground Level
m OD	Metres Ordnance Datum (sea level)
µg/l	Micrograms per Litre (parts per billion)
µm	Micrometre
mb	Millibars (atmospheric pressure)
mg/kg	Milligrams per kilogram (parts per million)
mg/m^3	Milligram per metre cubed
mm	Millimetre
ppb	Parts Per Billion
Ppm	Parts Per Million

8.0 REFERENCES

References used in the production of this report are listed below; note not all of the below are relevant to the subject site and may not have been utilised.

Association of Ground Investigation Specialists. 'Description Of Anthropogenic Materials– A Practitioners' Guide'. 2018.

BS 8576 'Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOCs)'. 2013.

BS 5930+A1:2020: 'Code of Practice for Site Investigations'. 2020.

BS 10175:2011+A2:2017 'Investigation of Potentially Contaminated sites - code of practice'. 2017.

BRE Report BR211, Scivyer, C. 'Radon – Guidance on protective measures for new buildings' 2023 Edition.

CIRIA Special Publication SP32, PSA Civil Engineering Technical Guide 34, 'Construction over abandoned mine workings'. 1984.

CIRIA C574 'Engineering in Chalk'. 2002.

CIRIA C665 'Assessing Risks Posed by Hazardous Ground Gases to Buildings'. 2007.

CIRIA C681 'Unexploded Ordnance (UXO) A guide for the construction industry'. 2009.

CIRIA C753 'The SuDS Manual'. 2015.

CIRIA C758 'Abandoned Mine Workings Manual'. 2019.

CL:AIRE RB17 'A Pragmatic Approach to Ground Gas Risk Assessment'. 2012.

CL:AIRE TB19 'Managing Risks and Liabilities associated with Per and Polyfluoroalkyl Substances (PFASs)'. 2019.

CL:AIRE TB22 'An overview of the uses of PFAS to assist with identification of sites of concern'. 2023.

Department of the Environment. 'Industry Profiles' - 48 separate publications available from The Stationery Office, London. 1995.

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Environment Agency (EA) - Land Contamination Risk Management (LCRM). 2019.

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National Highways CS 641 'Managing the maintenance of Highway Geotechnical Assets'.2024

National Planning Policy Framework (NPPF). 2023.

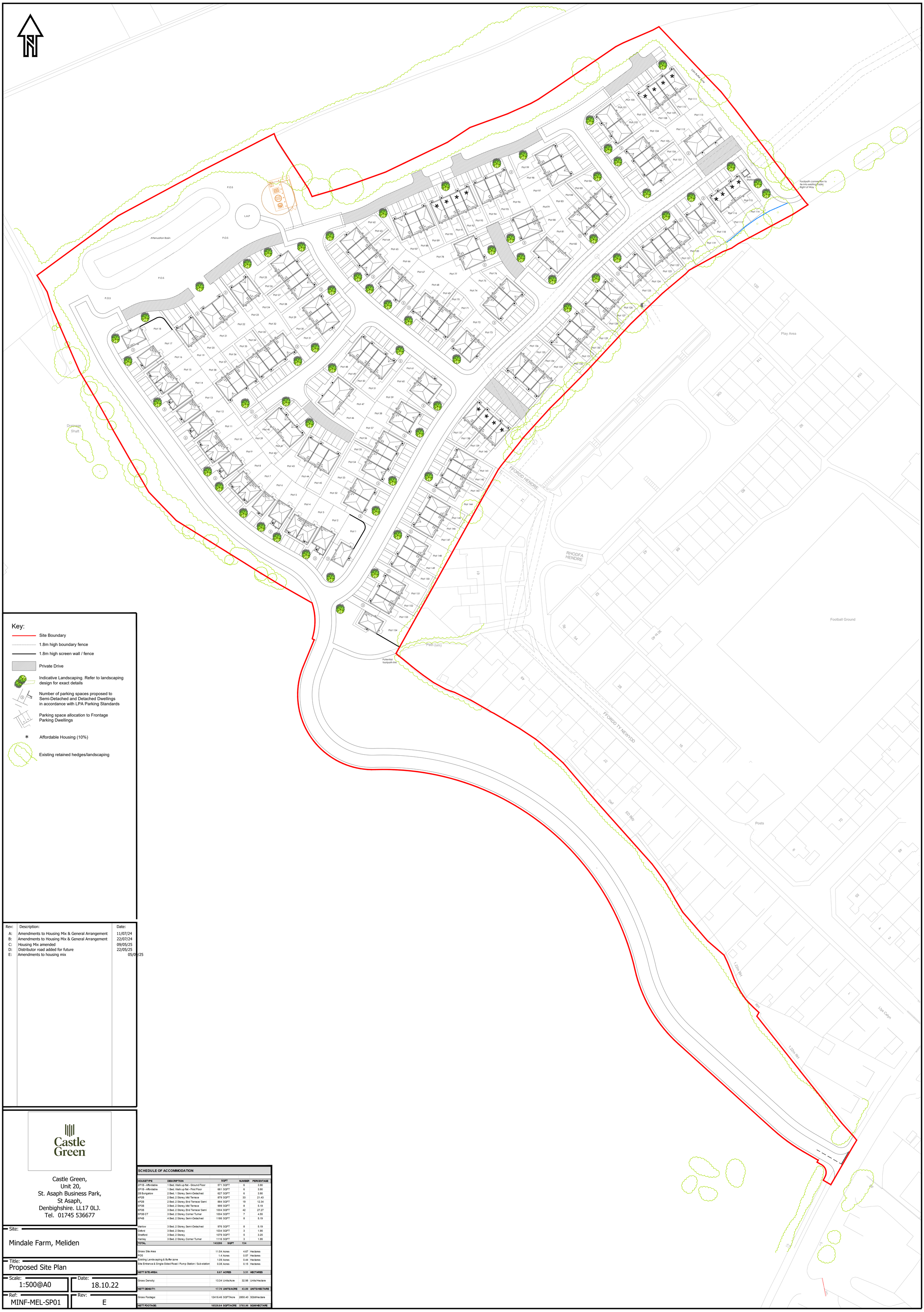
National Planning Policy Framework - Technical Guidance. March 2012.

NHBC Standards. Chapter 4.1: Land Quality - Managing Ground Conditions.

NHBC. 'Hazardous Ground Gas - An essential guide for housebuilders'. May 2023.

Water Framework Directive, 2000.

DRAWINGS



Key:

- Site Boundary
- 1.8m high boundary fence
- 1.8m high screen wall / fence
- Private Drive
- Indicative Landscaping. Refer to landscaping design for exact details
- Number of parking spaces proposed to Semi-Detached and Detached Dwellings in accordance with LPA Parking Standards
- Parking space allocation to Frontage Parking Dwellings
- * Affordable Housing (10%)
- Existing retained hedges/landscaping

Rev:	Description:	Date:
A:	Amendments to Housing Mix & General Arrangement	11/07/24
B:	Amendments to Housing Mix & General Arrangement	22/07/24
C:	Housing Mix amended	09/05/25
D:	Distributor road added for future	22/05/25
E:	Amendments to housing mix	05/09/25

Castle Green,
Unit 20,
St. Asaph Business Park,
St Asaph,
Denbighshire. LL17 0LJ.
Tel. 01745 536677

Site: Mindale Farm, Meliden

Title: Proposed Site Plan

Scale: 1:500@A0

Date: 18.10.22

Ref: MINF-MEL-SP01

Rev: E

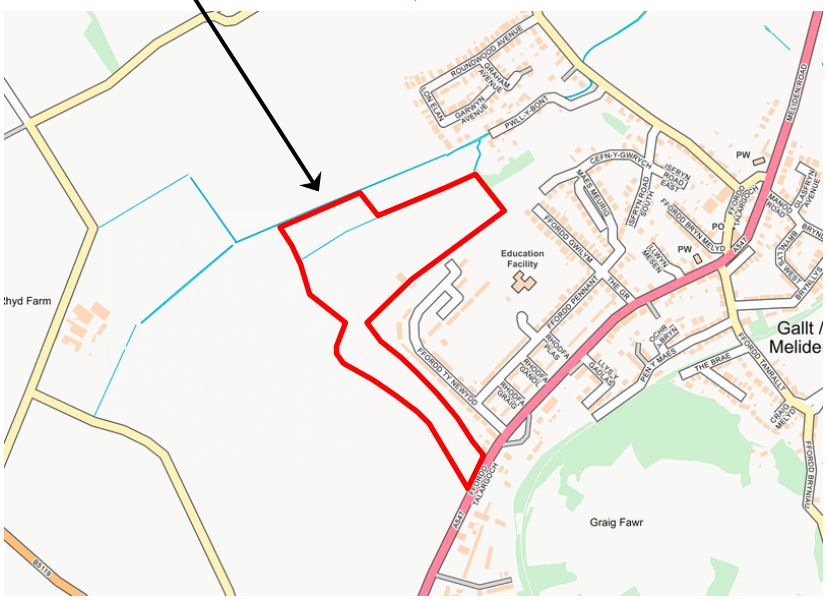
SCHEDULE OF ACCOMMODATION

HOUSETYPE	DESCRIPTION	SQFT		NUMBER	PERCENTAGE
2P1B - Affordable	1 Bed, Walk up flat - Ground Floor	571	SQFT	6	3.90
2P1B - Affordable	1 Bed, Walk up flat - First Floor	661	SQFT	6	3.90
2B Bungalow	2 Bed, 1 Storey, Semi-Detached	627	SQFT	6	3.90
4P2B	2 Bed, 2 Storey, Mid Terrace	879	SQFT	33	21.43
4P2B	2 Bed, 2 Storey, End Terrace/ Semi	884	SQFT	19	12.34
5P3B	3 Bed, 2 Storey, Mid Terrace	999	SQFT	8	5.19
5P3B	3 Bed, 2 Storey, End Terrace/ Semi	1004	SQFT	42	27.27
5P3B CT	3 Bed, 2 Storey, Corner Turner	1004	SQFT	7	4.55
6P4B	4 Bed, 2 Storey, Semi-Detached	1186	SQFT	8	5.19
Marlow	3 Bed, 2 Storey, Semi-Detached	976	SQFT	8	5.19
Oxford	3 Bed, 2 Storey	1034	SQFT	3	1.95
Stratford	3 Bed, 2 Storey.	1079	SQFT	5	3.25
Henley	3 Bed, 2 Storey, Corner Turner	1116	SQFT	3	1.95
TOTAL		**143286**	**SQFT**	**154**	
Gross Site Area		11.54	Acres	4.67	Hectares
POS		1.4	Acres	0.57	Hectares
Existing Landscaping & Buffer zone		1.09	Acres	0.44	Hectares
Site Entrance & Single-Sided Road / Pump Station / Sub-station		0.38	Acres	0.15	Hectares
NETT SITE AREA:		**8.67**	**ACRES**	**3.51**	**HECTARES**
Gross Density:		13.34	Units/Acre	32.98	Units/Hectare
NETT DENSITY:		**17.76**	**UNITS/ACRE**	**43.89**	**UNITS/HECTARE**
Gross Footage:		12416.46	SQFT/Acre	2850.40	SQM/Hectare
NETT FOOTAGE:		**16526.64**	**SQFT/ACRE**	**3793.96**	**SQM/HECTARE**

SITE LOCATION

NEAREST POSTCODE: LL19 8PG

SITE ENTRANCE WHAT3WORDS:
///RECAPTURE.FUNKY.COUNTRY



REV	DATE	DESCRIPTION	BY	CKD

BROWNFIELD SOLUTIONS LTD
GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

CLIENT
CASTLE GREEN HOMES

PROJECT TITLE
MINDALE FARM, MELIDEN

DRAWING TITLE
SITE LOCATION PLAN

DRAWING No.	REVISION	SCALE	DATE
C6347/01	-	NTS	29/10/25

DRAWN BY	CHECKED BY
SD	JM

EXISTING FARM BUILDINGS

SITE ACCESS

KEY

APPROXIMATE SITE BOUNDARY

NOTES

1. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCING WORKS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ARCHITECT & ENGINEER FOR VERIFICATION. FIGURED DIMENSIONS ONLY ARE TO BE TAKEN FROM THIS DRAWING.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS REPORTS. THIS DRAWING IS COPYRIGHT OF BSL.
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REV	DATE	DESCRIPTION	BY	CKD

BROWNFIELD SOLUTIONS LTD
GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

CLIENT
CASTLE GREEN HOMES

PROJECT TITLE
MINDALE FARM, MELIDEN

DRAWING TITLE
SITE FEATURES PLAN

DRAWING No.	REVISION	SCALE	DATE
C6347/02	-	NTS	13/11/25

DRAWN BY	CHECKED BY
AH	JM

APPENDIX A

BSL Methodology and Guidance

BSL Phase I Geo-Environmental Assessment Reports - Methodology and Guidance

Background

This Appendix provides information on the approaches, methods and guidance used by Brownfield Solutions Ltd in the preparation of this report.

The term 'geo-environmental' is used to describe aspects relating to ground-related environmental issues (such as potential soils and groundwater contamination). The term 'geotechnical' is used to describe aspects relating to the physical nature of the site (such as foundation requirements). It should be noted that this is an integrated investigation and these two main aspects are related, unless otherwise specified within the report.

Phase I reports are written in general accordance with the description of a Preliminary Investigation as defined in BS10175:2011+A2:2017 and are also produced in general accordance with the recommendations for a Tier 1 Preliminary Risk Assessment as described in LCRM guidance.

The first stage of the investigation and assessment of a site is the Preliminary Investigation/Tier 1 Preliminary Risk Assessment, often referred to as a Phase 1 Desk Study, comprising a desk study and walk-over survey and collation of desk-based searches, which culminates in the Preliminary Risk Assessment and the development of a preliminary/initial **Conceptual Site Model (CSM)**. From this are identified any potential geotechnical and geo-environmental hazards and the qualitative degree of risk associated with them. In the case of the geotechnical hazard identification, this is referred to as the **Ground Model.**

From the geo-environmental perspective, the hazard Identification process uses professional judgement to evaluate all the hazards in terms of possible contaminant linkages (of source-pathway-receptor). Possible contaminant linkages are potentially unacceptable risks in terms of the current contaminated land regime legal framework and require either remediation or further assessment. These are normally addressed via intrusive ground investigation and generic risk assessment as part of Phase II investigations and reports.

The second stage is the Ground Investigation, Generic Risk Assessment and Geotechnical Interpretation. This represents the further assessment mentioned above. The Ground Investigation comprises field work and laboratory testing based on the findings of the Preliminary Risk Assessment, to reduce uncertainty in the geotechnical and geo-environmental hazard identification. This may include an exploratory, a detailed or/and supplementary Investigations as described in BS 10175:2011+A2:2017. Phase II Assessments are produced in general accordance with the recommendations for a Tier 2 Generic Quantitative Risk Assessment as described in LCRM guidance and are also intended to fulfil the requirements of a Ground Investigation Report (GIR) as detailed in BS EN 1997-2:2007.

Contaminated Land - Legislative Background

Land contamination can be addressed in several ways, e.g. during planning, under Part 2A, following an incident, during an investigation into environmental damages, or during the application of an environmental permit, or its surrender.

For the planning process the key test is **as a minimum the site cannot be determined as contaminated land**, e.g. there is not significant harm, significant possibility of significant harm to human health or that there is not significant harm to, or the significant possibility that the pollution of controlled waters will occur.

Environmental liabilities and risks have been evaluated in terms of a source -pathway - target relationship in accordance with the approach set out in:

- The 1995 Environment Act.
- The Contaminated Land Statutory Guidance, DEFRA – April 2012.
- The Contaminated Land (England) Regulations 2006.
- The Contaminated Land (England) Amendment Regulations 2012.
- Water Resources Act.
- Water Framework Directive.
- Environmental Damage Regulations.
- Environment Agency (EA) - Land Contamination Risk Management (LCRM) 2019.

Contaminated land is defined within the legislative framework as land which is in such condition by reason of substances in, on or under the land that:

1) Significant harm is being caused or there is a significant possibility of such harm being caused.
2) Significant pollution of controlled waters is being or is likely to be caused.

The potential for harm is based on the presence of three factors:

Source - substances that are potential contaminants or pollutants that may cause harm.
Pathway - a potential route by which contaminants can move from the source to the receptor, and the impact of that migration on the source e.g., attenuation.
Receptor - a receptor that may be harmed, for example the water environment, humans and water, considering the sensitivity of the receptor.

Where a source, pathway and target are all present a pollutant linkage exists and there is potential for harm to be caused.

Where any one of the “pollution linkages” between the above is absent there is deemed to be no risk.

The presence of a source does not automatically imply that a contamination problem exists, since contamination must be defined in terms of pollutant linkages and unacceptable risk of harm. The nature and importance of both pathways and receptors are site specific and will vary according to the intended end use of the site, its characteristics and its surroundings.

The key principle which supports the S-P-R approach is ‘suitable for use’ criteria. This requires remedial action only where contamination is considered to pose unacceptable actual or potential risks to health or the environment and, taking into account the proposed use of the site.

Relevant Guidance Documents
This report has been prepared in accordance with the list of guidance below, however the list is not exhaustive:

- DETR: Circular 02/2000: Environmental Protection Act 1990: Part IIA: Contaminated land. 2012.
- Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part IIA of the EPA1990, May 2002.
- BS 10175:2011+A2:2017.
- Environment Agency (EA) - Land Contamination Risk Management (LCRM). 2019.
- Groundwater Protection https://www.gov.uk/government/collections/groundwater-protection
- UK Technical Advisory Group (UKTAG) - - Water Framework Directive
- Incidents and their classification: the Common Incident Classification Scheme (CICS) – Used by the Environment Agency to classify pollution incidents.

Relevant Legislative Documents
The following is a non-exhaustive list of legislative framework documents that has been considered in the production of this report:

- The Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance (2012).
- The Environment Protection Act (1990).
- The Water Resources Act (1991).
- The Environment Act (1995).
- The Contaminated Land (England) Act (2000).
- The Pollution Prevention and Control (England and Wales) Regulations (2000).
- The Landfill Regulations (England and Wales) Regulations (2002).
- The Landfill (England and Wales) (Amendment) Regulations (2004).
- Contaminated Land (England) Regulations (2012).
- The Environmental Damage (Prevention and Remediation) Regulations (2009).
- Environmental Permitting Regulations (England and Wales) Regulations (2010).
- The Water Environment (Water Framework Directive) (England and Wales) Regulations (2017).
- Health and Safety at Work Act.
- National Planning Policy Framework (NPPF) – latest version.

Contaminated Land Risk Assessment Approach

Contaminated Land Risk Assessment is a technique that identifies and considers the associated risk, determines whether the risks are significant and whether action needs to be taken. The four main stages of risk assessment are:

LCRM outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. The starting point of the risk assessment is to identify the context of the problem and the objectives of the process. Under LCRM, three tiers of risk assessment exist – Stage/Tier Preliminary Risk Assessment, Stage 2 Generic Quantitative Assessment and Stage 3 Detailed Quantitative Assessment.

Further information can be found at the below site:
https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm

Formulating and developing a conceptual model for the site is an important requirement of risk assessment, this supports the identification and assessment of pollutant linkages. Development of the conceptual model forms the main part of preliminary risk assessment, and the model is subsequently refined or revised as more information and understanding is obtained through the risk assessment process.

Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the likelihood and the consequences of an event must be taken into account when assessing risk.

The risk assessment process needs to take into account the degree of confidence required in decisions. Identification of uncertainties is an essential step in risk assessment.

The likelihood of an event is classified on a four-point system using the following terms and definitions from CIRIA C552, with reference to Incidents and their classification: the Common Incident Classification Scheme (CICS), Environmental Protection Act 1990: Part 2A – Contaminated Land Statutory Guidance 2012 and other guidance as appropriate which will be detailed within the main body of the report if applied.

The likelihood of a given receptor being impacted is related to a number of factors, e.g. the geology which could inhibit contaminant migration. For example, a site with a significant thickness of clay between it and a receptor may reduce migration of contamination via the subsurface, which will reduce the likelihood of a given receptor being impacted. The geology or drainage for example could offer a preferential pathway e.g. mines shafts/faults increasing the likelihood and potential magnitude of an impact. The depth of contamination will also affect the exposure pathway, for example petroleum hydrocarbons at depth are unlikely to reach a receptor via dermal contact but could via vapour pathways which will influence the likelihood of an impact being felt e.g. if there are no buildings on site.

The terms and definitions used for the assessment of the likelihood are provided below:

High likelihood: There is a pollution linkage and an event 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.
Examples - Extensive areas with concentrations above saturation limits for mobile contamination e.g. petroleum hydrocarbons within the water table.

Likely: There is a pollution linkage and all the elements are present and in the right place, which means it is probable that an event will occur. Circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term.
Examples – Localised areas of contaminants with concentrations above saturation limits for mobile contamination e.g. localised petroleum hydrocarbons within the water table; shallow contamination above relevant human health generic assessment criteria is present with little or no hardstanding,

Low likelihood: There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain even over a longer period such event would take place, and is less likely in the short term.
Examples - A thickness/distance of low permeability deposits preventing contaminant migration to a receptor is present; a site is mostly covered hard standing preventing exposure to soil contamination.

Unlikely: There is a pollution linkage but circumstances are such that it is improbable the event would occur even in the long term.
Examples – A site is underlain by a substantial thickness of low permeability clays, between the source and potential receptors which will inhibit significantly, but not completely rule out migration to sensitive receptors.

The severity is also classified using a system based on CIRIA C552, with reference to Incidents and their classification: the Common Incident Classification Scheme (CICS), Environmental Protection Act 1990: Part 2A – Contaminated Land Statutory Guidance 2012 and other guidance as appropriate which will be detailed within the main body of the report, if applied. The terms and definitions are:

Severe: Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. A short-term risk to a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
Examples – High concentrations of contaminant on surface of recreation area, major spillage of contaminants from site into controlled waters, explosion causing building to collapse.

Medium: Chronic damage to human health ('significant harm' as defined in DETR 2000). Pollution of sensitive water resources. A significant change in a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
Examples - Concentrations of contaminants exceed the generic assessment criteria, leaching of contaminants from a site to a Principal or Secondary Aquifer, death of species within a designated nature reserve.

Mild: Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures, services or the environment.
Examples – Pollution of non-classified groundwater or damage to buildings rendering it unsafe to occupy.

Minor: harm, not necessarily significant harm, which may result in financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by use of personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.
Examples – Presence of contaminants at such concentrations PPE is required during site work, loss of plants in landscaping scheme or discolouration of concrete.

Once the likelihood and severity have been determined, a risk category can be assigned using the table below.

		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very Low	Very low
	Negligible	Negligible Risk / No Linkage			

Definitions of the risk categories obtained from the above table are as follows together with an assessment of the further work that might be required:

Very high: 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 is currently happening. This risk, if realised, could result in substantial liability. Urgent investigation and remediation are likely to be required.

High: Harm is likely to arise to a designated 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: 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 would be more likely to be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term.

Low: It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.

Very Low: There is a low possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe.

Some linkages may be identified which constitutes a theoretical connection between a source and a receptor, but professional judgement shows them not to be possible for some reason. These are labelled 'negligible risk' and 'no linkage' in the summary table, which give rise to an overall **negligible** risk category and no further action is required.

Ground Gas Risk Assessment

BS8485:2015+A1:2019, BS 8576:2013, CL:AIRE RB17, and NHBC 'Hazardous Ground Gas - An essential guide for housebuilders' 2023, are the current guidance which gives up-to-date advice on all aspects of permanent ground gas risk. BS8576 alongside CIRIA C682 also provides guidance on assessment of hydrocarbon vapour intrusion.

The CL:AIRE publication 'Good Practice for Coal Mine Gas Emissions" 2021 provides guidance on the assessment of risks from mine gas sources.

The above all outline good practice in investigation, the collection of relevant data and monitoring programmes in a risk-based approach to ground gas contamination. The aim of the guidance is for a consistent approach to decision making, particularly relating to the scope of protective design measures on a site-specific basis.

Legislative Framework
BS8485:2015+A1:2019, BS 8576:2013 and CIRIA C665 provides technical guidance, however they also recognise the context into which the guidance has to be employed. Government policy is based upon a "suitable for use approach", which is relevant to both the current and proposed future use of land. When considering the current use of land, Part IIA of the Environment Protection Act 1990 provides the regulatory regime. The presence of hazardous ground gases could provide the "source" in a "pollutant linkage" which could lead the regulator to determine that considerable harm or there is a significant possibility of such harm being caused. Under such circumstances, the regulator would determine the land to be "contaminated land" under the provisions of the Act, setting out the process of remediation as described in the DETR Circular 02/2000 *Statutory guidance on contaminated land*.

Generation Potential of Sources
BS 8576:2013 Figure 6 provides a basis for assessing the generation potential from sources identified as part of the Phase I Assessment. These are summarised below:

Generation Potential	Typical Sources
Very Low	• Natural carbonate soil and strata, e.g. chalk and limestone. • Natural soil strata with a low degradable organic content, e.g. alluvium, peat. • In-filled pond less than 15 m diameter, in-filled before 1930s to 1940s. • Made ground with low degradable organic content (e.g. up to 5% organic material such as pieces of wood, pieces of paper, rags, etc. with a high proportion of ash and no food or other easily degradable waste). • Mine workings shallow or shaft (where there is clear evidence that they are flooded). • Inert landfill sites.
Low	• Natural soil strata with a high degradable organic content (DOC). • Made ground with total organic carbon (TOC) up to 6% (e.g. dock silt, no food or other easily degradable waste). • Foundry sand (includes phenolic binders, rags and wood that decay, albeit at low rates). • Landfill 1945 to mid 1960s (see also Moderate below).
Moderate	• Sewage sludge. • Mine workings – unflooded, more than 50 years since last worked (gas is liberated from coal when mine workings are excavated; this continues for up to about 50 years). • Landfill 1945 to mid 1960s (this could also be "low" or, if disturbed, "high").
High	• Landfill mid 1960s to early 1990s. • Mine workings – unflooded – less than 50 years since last worked.
Very High	• Municipal landfill sites. • Landfill early 1990s onward.

Frequency and Duration of Monitoring

BS8576 notes to determine where and how to monitor ground gases requires consideration of credible pathways of possible exposure of the receptors, taking into account what is known about the geology and hydrogeology, building construction and services layout, foreseeable events such as flooding, changes in groundwater level, climate change, extreme weather conditions, the closure of mines, and possible changes to the gas regime caused by future development.

The monitoring period for a specific site should cover the "worst case" scenario. A "worst case" scenario will typically occur during falling atmospheric pressure and, in particular, weather conditions such as rainfall, frost and dry weather.

The benefits of additional information and whether it is likely to change the scope of gas protection should be considered, as are the consequences of failing to characterise adequately pollutant linkages. Investigations concerned with ground gas are required to provide monitoring data sufficient to allow prediction of worst case conditions enabling the confident assessment of risk and subsequent design of appropriate gas protection schemes. Monitoring programmes should not be an academic exercise in data collection. CL:AIRE publication TB17 "Ground Gas Monitoring and 'Worst-Case' Conditions" provides further guidance.

Below are matrices that will aid in determining an appropriate number of gas monitoring visits and the length of monitoring period.

Typical/idealised periods of monitoring

		Generation of Potential Source				
		Very Low	Low	Moderate	High	Very High
Sensitivity of Development	Low (Commercial)	1 month	2 months	3 months	6 months	12 months
	Moderate (Apartments)	2 months	3 months	6 months	12 months	24 months
	High (Low rise Residential)	3 months	6 months	6 months	12 months	24 months

Typical/idealised frequency of monitoring/Number of Visits Required

		Gas Generation of Potential Source				
		Very Low	Low	Moderate	High	Very High
Sensitivity of Development	Low (Commercial)	4	6	6	12	12
	Moderate (Apartments)	6	6	9	12	24
	High (Low rise Residential)	6	9	12	24	24

Notes

1 Generation potential of sources based on descriptions within BS 8576:2013.

2 At least two sets of readings should be at low and falling atmospheric pressure (but not restricted to periods below <1000 mb) known as worst case conditions. Historical data can be used as part of the data set (Table 5.5b).

RB17 Approach

CL:AIRE RB17 (Card et al 2012) is a pragmatic approach to ground gas risk assessment and was developed because gas concentration, pressure and flow rate measured in a well headspace may not be representative of the conditions in the surrounding formation.

In these low-risk situations, the approach is to use the conceptual site model and the estimation of the likely gas generation from a source to identify where or if gas monitoring is required to better define the risks.

Under this approach, for sites with natural soils only with no credible methane source, then no action is required (no monitoring or gas protection measures) as this represents Characteristic Situation 1 (CS1).

Radon
Advice on radon protection in England is provided by the UK Health Security Agency, https://www.ukradon.org/information/ukmaps and by the BRE (BR 211 (Scivyer 2023)).

Areas of the country can be categorised according to the percentage of existing homes where radon is present above the Action Level:

- 0-1% lower probability.
- 1-3% and 3-10% intermediate probability.
- >10% higher probability.

Basic radon protection measures are required in new buildings and extensions in areas of England and Wales where 3-10% of properties exceed the Action Level and full radon protection measures where >10% exceed the Action Level.

Unexploded Ordnance (UXO) Guidance

Clients have a legal duty under the CDM 2015 Regulations to provide designers and contractors with project-specific health and safety information needed to identify hazards and risks. This includes the possibility of unexploded ordnance (UXO) being encountered on the site. Further details are given in CIRIA report C681.

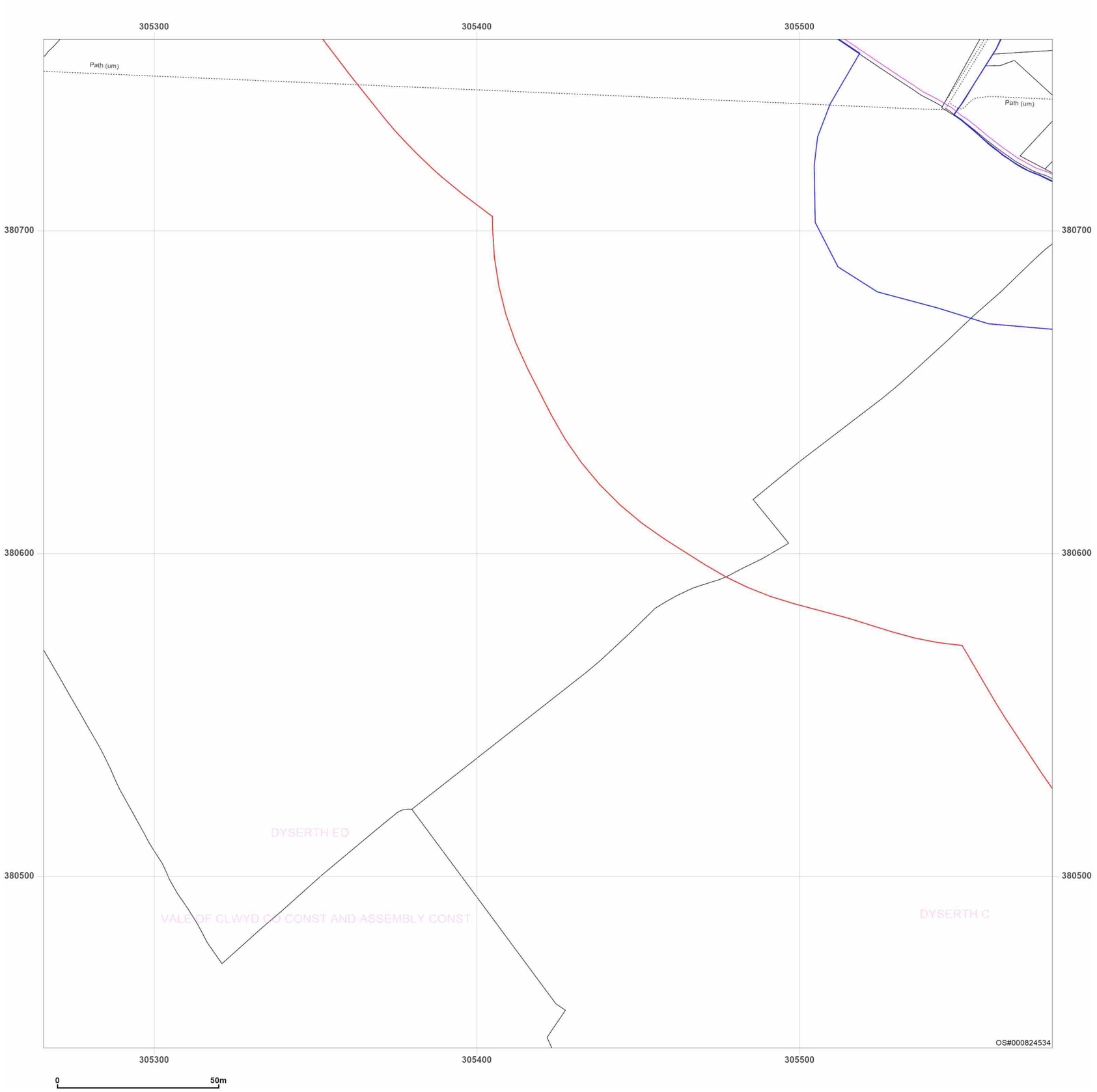
BSL carry out non-specialist UXO screening exercises by considering any evidence of UK defence activities on or near the site evident from gathered desk study information and the unexploded aerial delivered bomb (UXB) online risk maps produced by Zetica. Other data sources are available, but as a first stage screening exercise the freely available online Zetica maps have been used. The level of risk stated is that determined by Zetica, a company experienced and considered competent in the assessment of UXO.

Geotechnical Guidance

A preliminary risk assessment of geotechnical hazards is carried out at the desk study stage and confirmed (or amended) at the ground investigation stage. The desk-based stage my include the requirements for a Coal Mining Risk Assessment (CMRA) which specifically assesses the risks from mining induced instability and related issues in high risk development areas: https://www.gov.uk/guidance/planning-applications-coal-mining-risk-assessments

APPENDIX B

Historical Maps



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Site Details:

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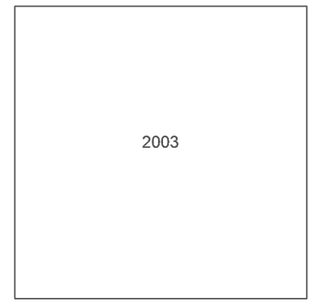

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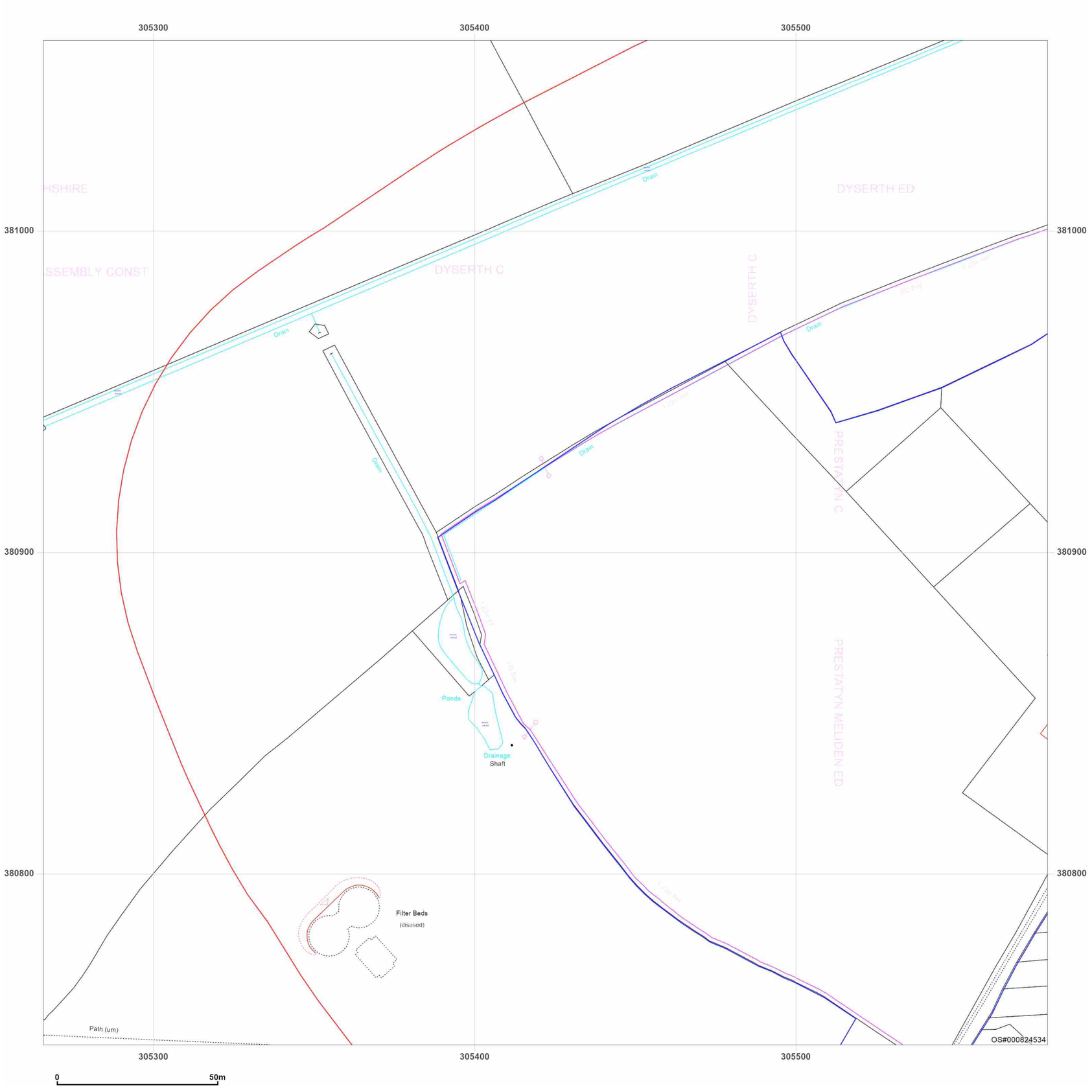

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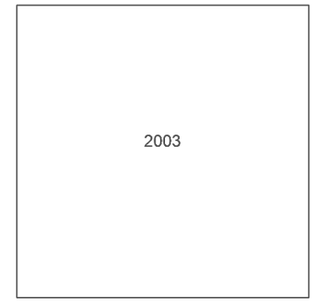

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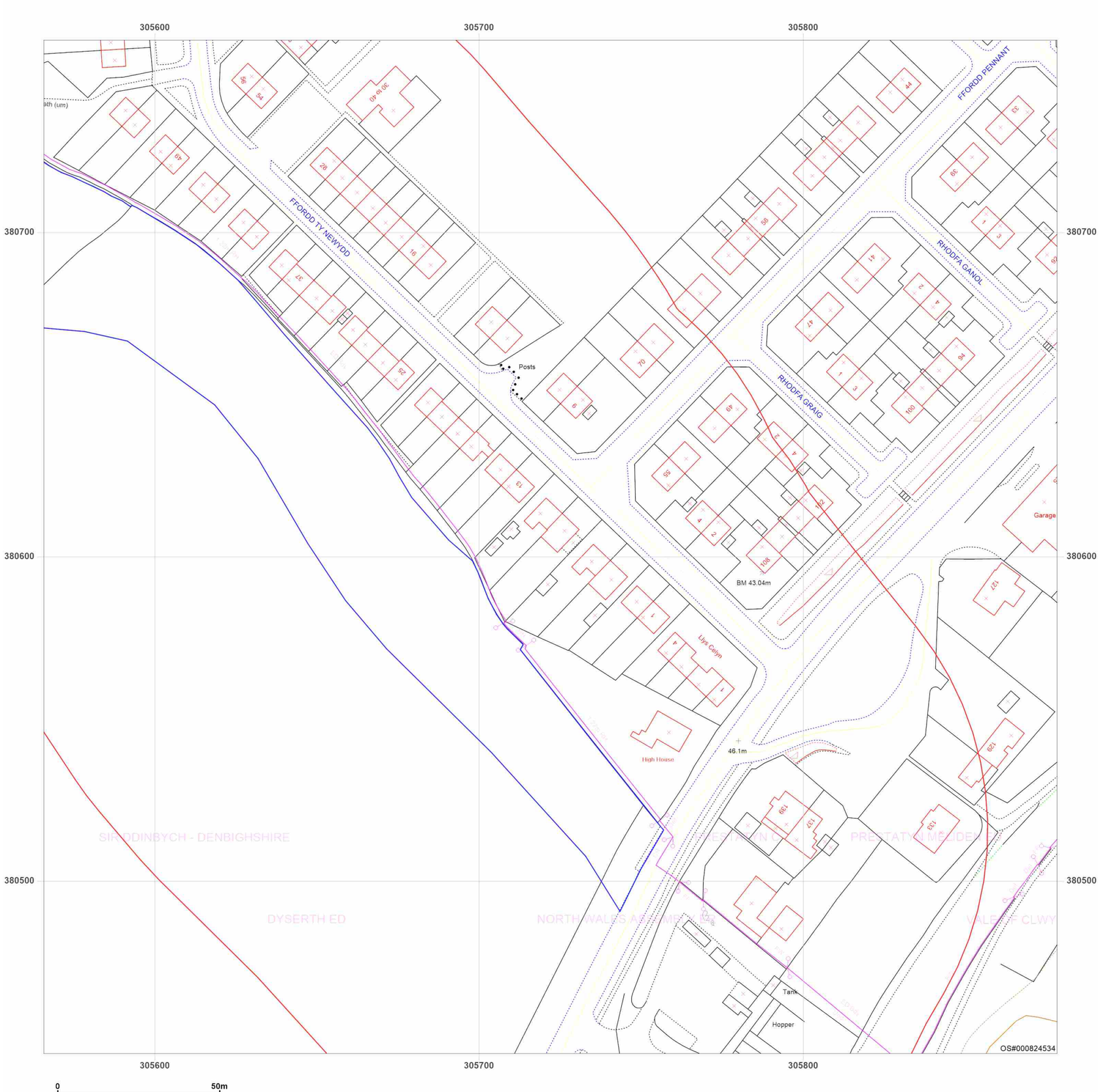

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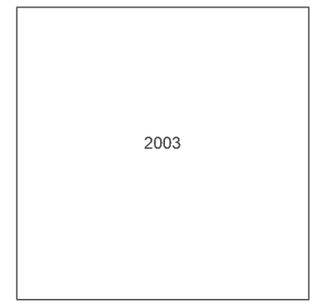

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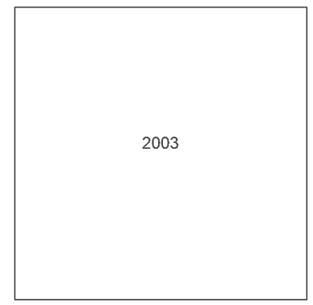

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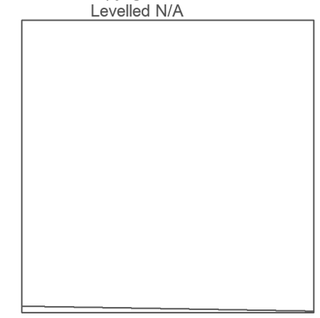

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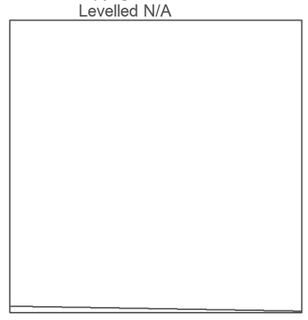

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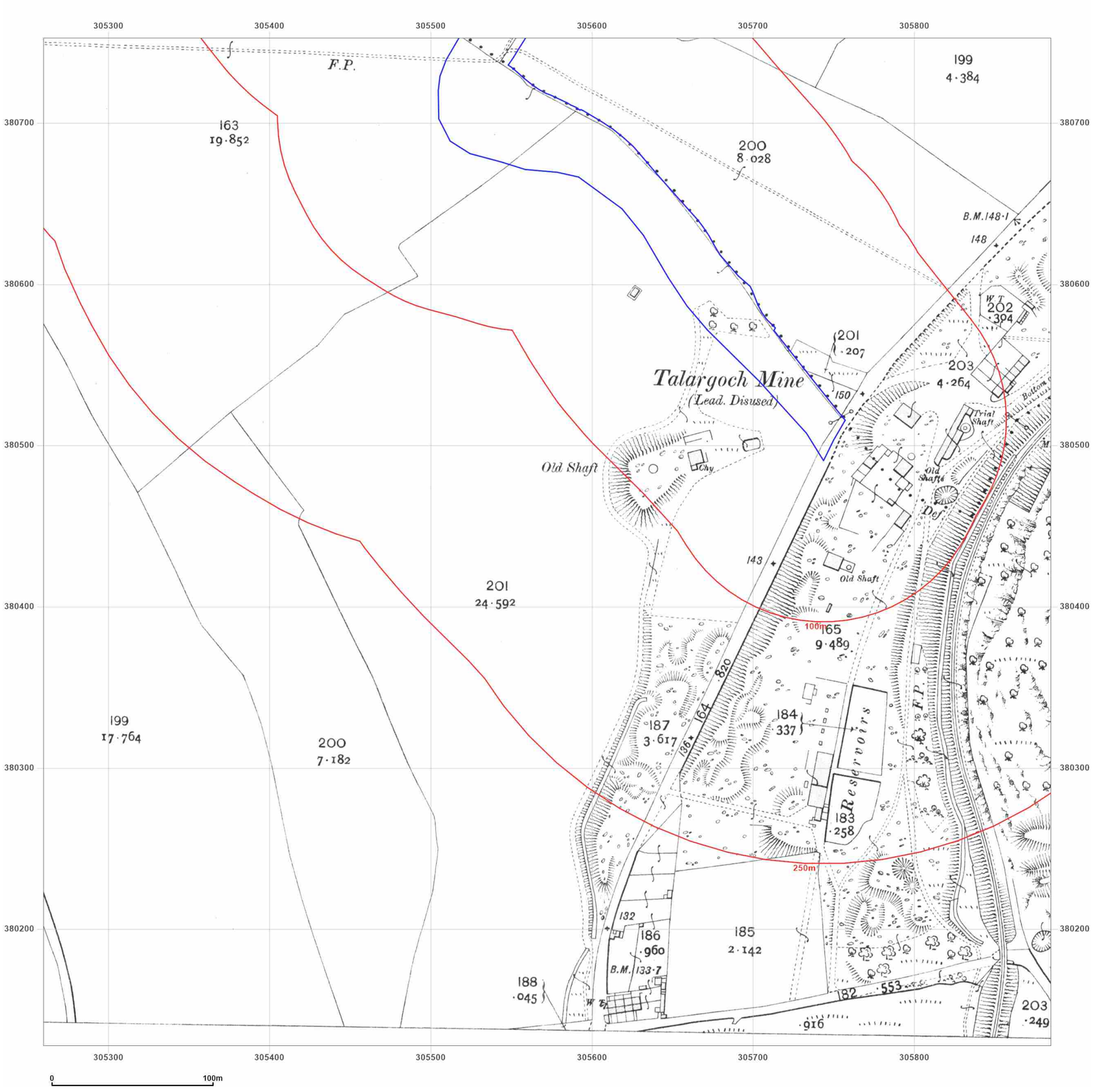

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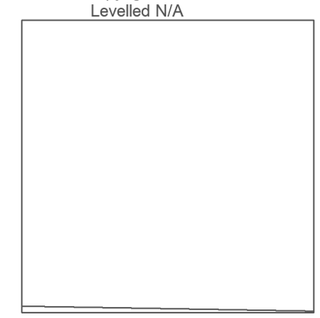

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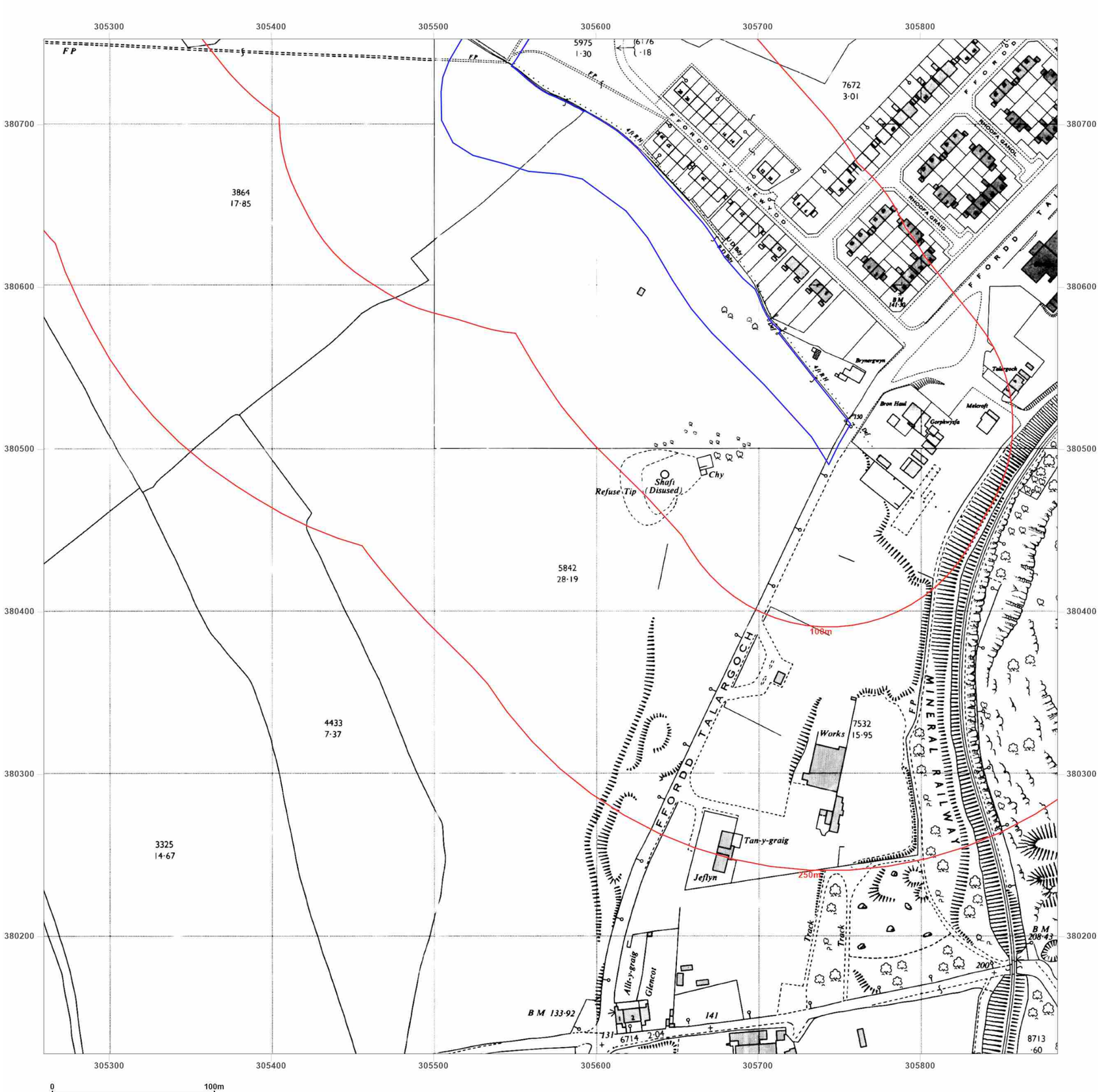

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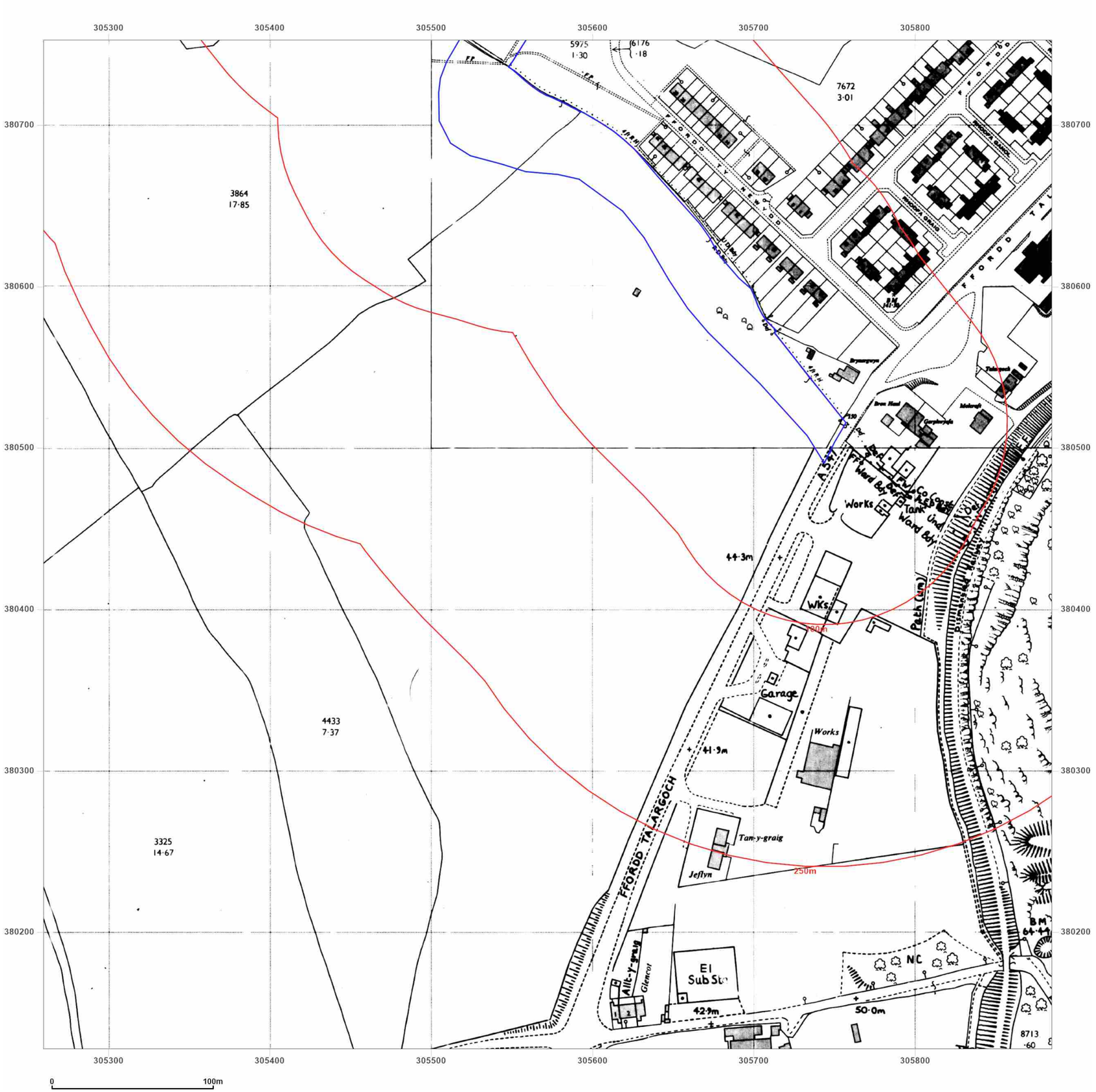

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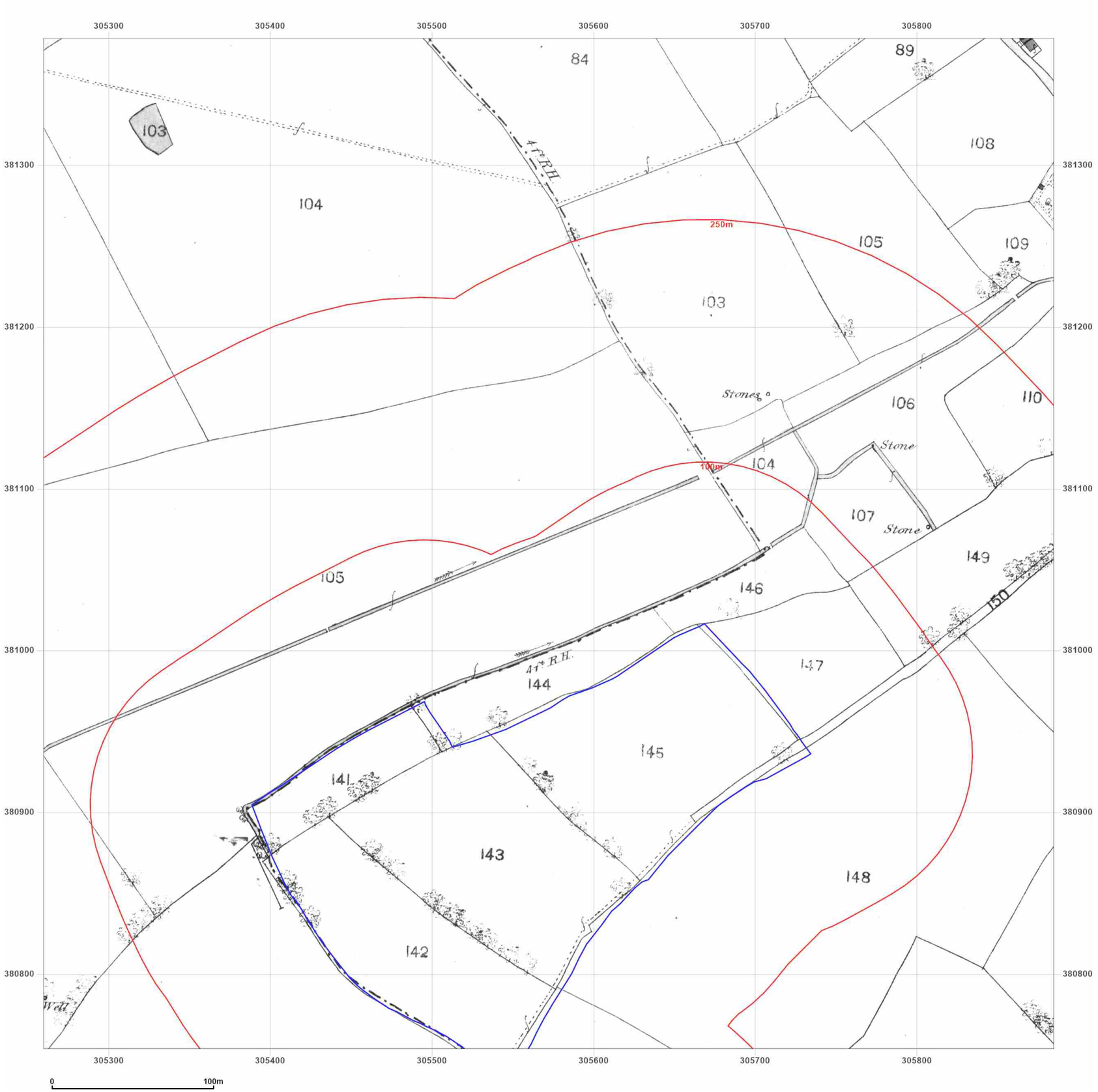

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GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_LS_1_2
Grid Ref: 305572, 381066

Map Name: County Series
Map date: **1871**
Scale: 1:2,500
Printed at: 1:2,500

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Surveyed 1871
Revised 1871
Edition N/A
Copyright N/A
Levelled N/A

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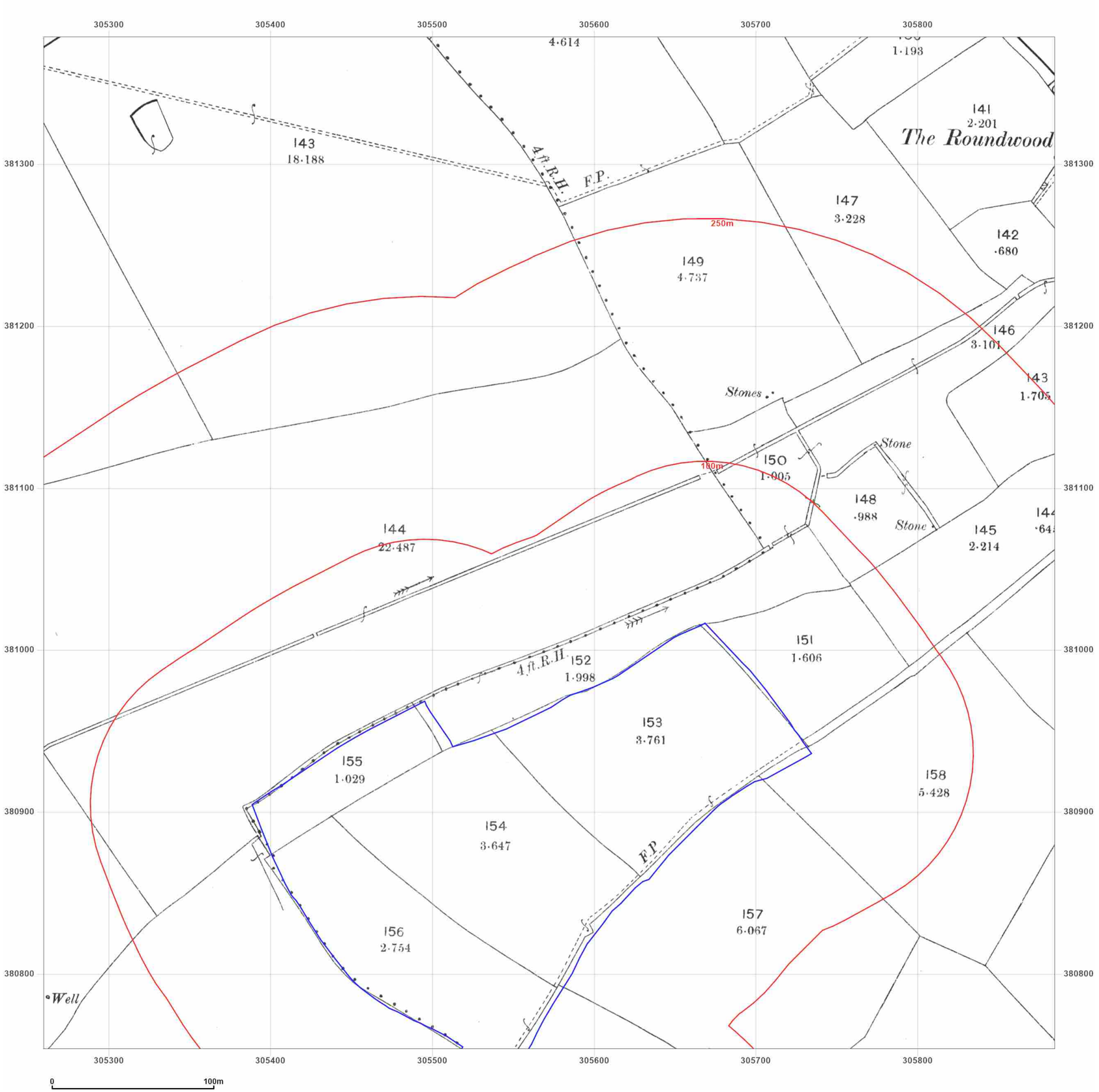

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GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_LS_1_2
Grid Ref: 305572, 381066

Map Name: County Series
Map date: **1899**
Scale: 1:2,500
Printed at: 1:2,500

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Revised 1899
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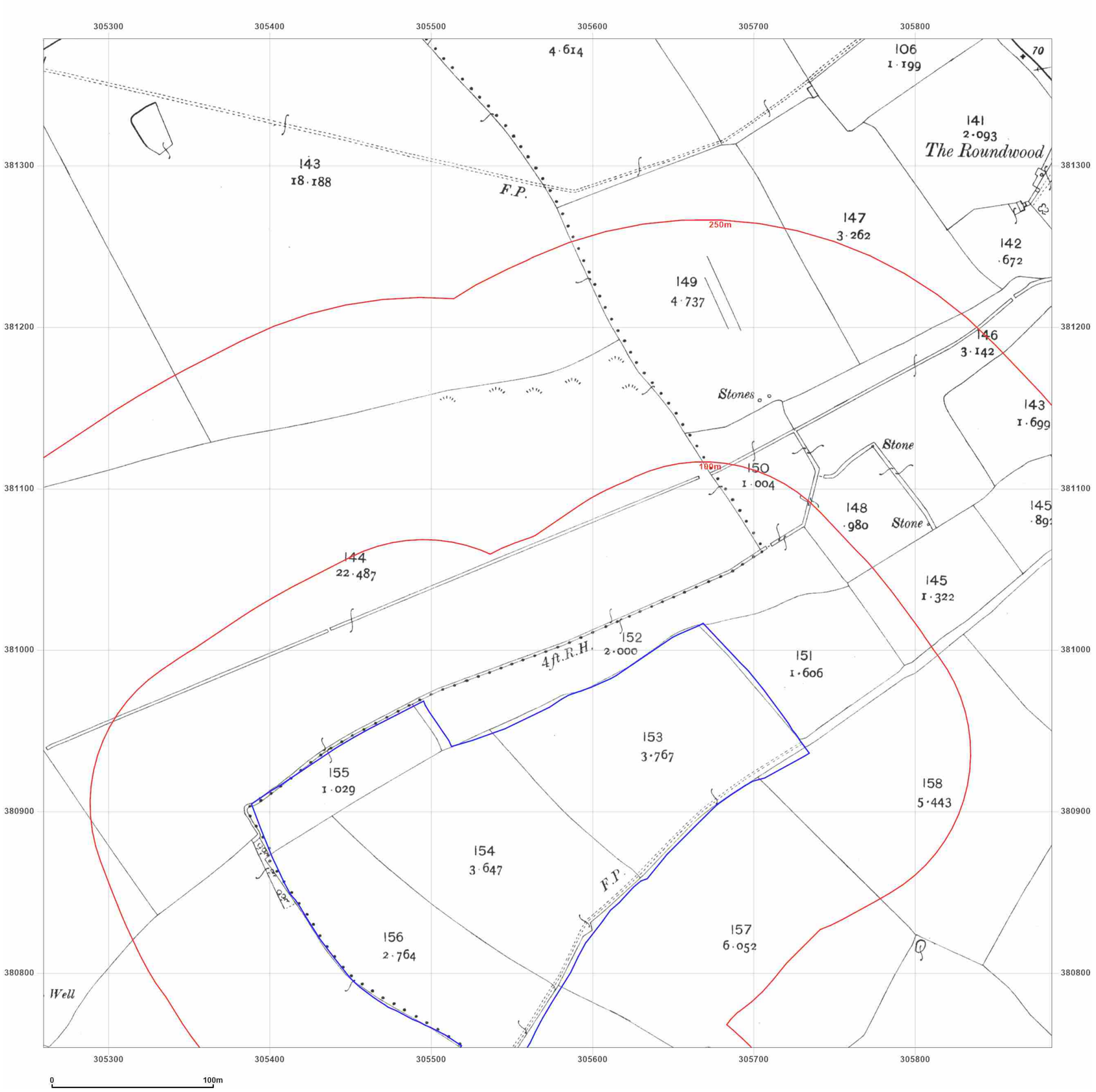

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Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_LS_1_2
Grid Ref: 305572, 381066

Map Name: County Series
Map date: **1912**
Scale: 1:2,500
Printed at: 1:2,500

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Surveyed 1912
Revised 1912
Edition N/A
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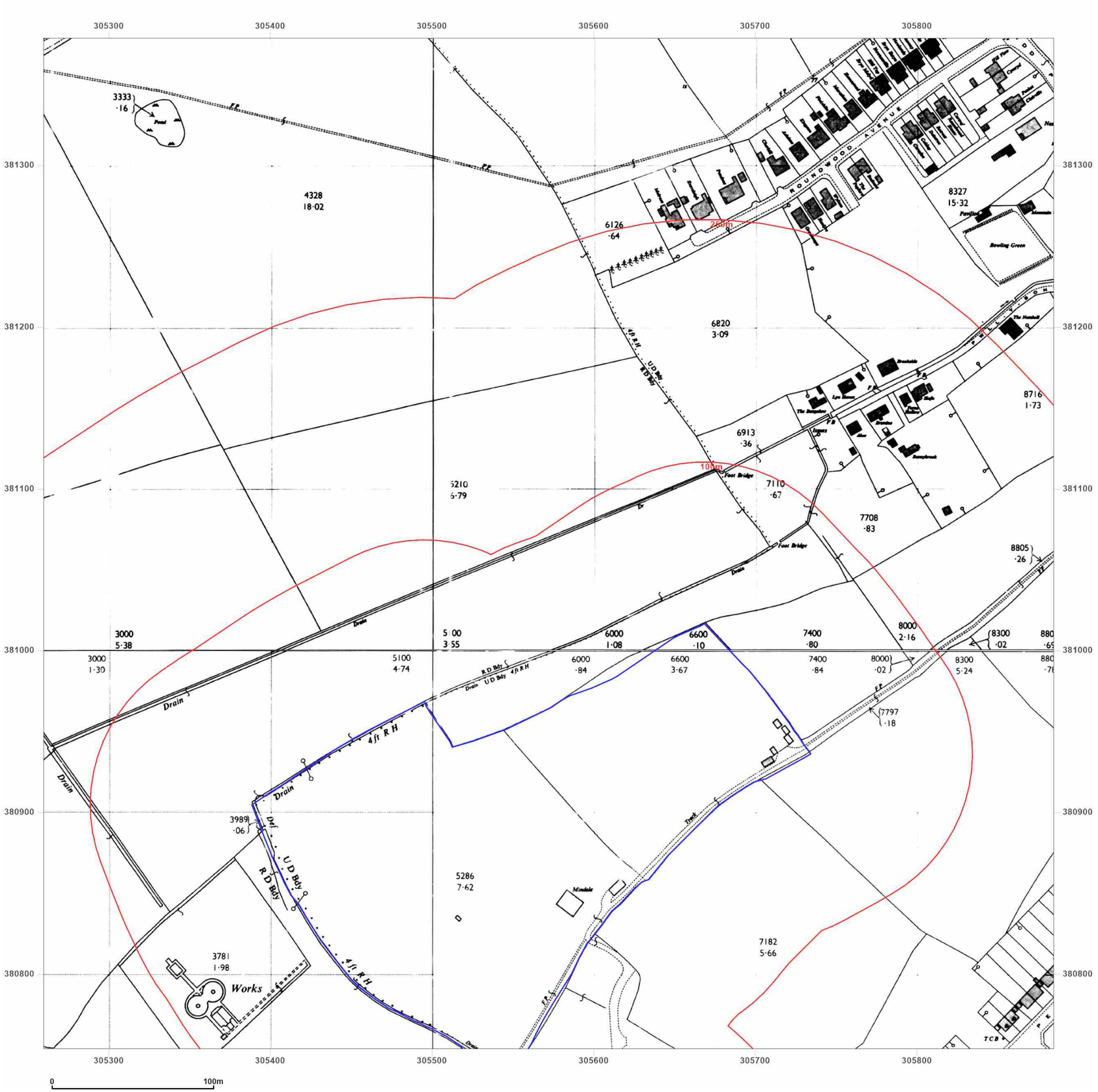

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Site Details:

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Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_LS_1_2
Grid Ref: 305572, 381066

Map Name: National Grid

Map date: **1964**

Scale: 1:2,500

Printed at: 1:2,500

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

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Edition N/A
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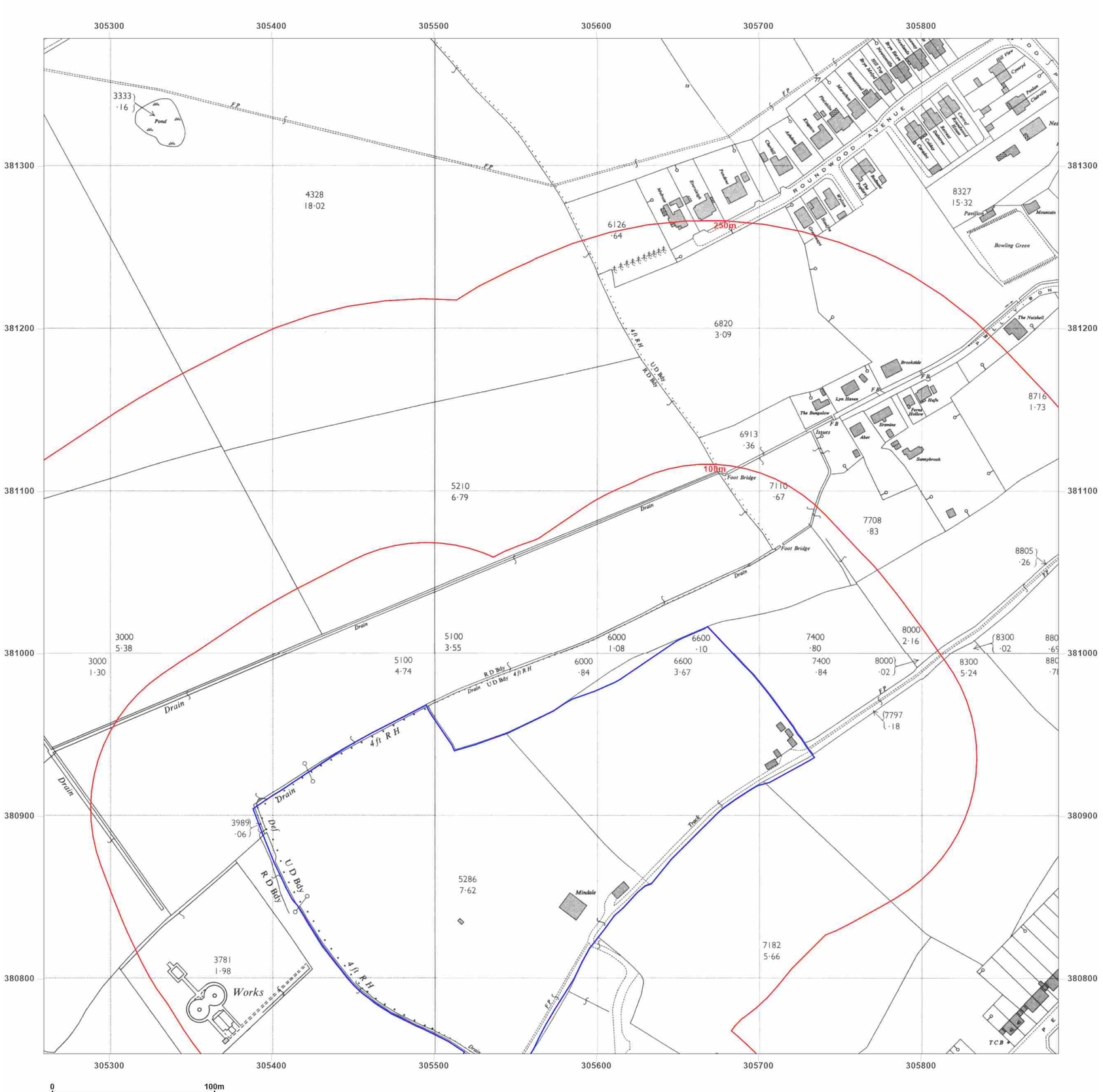

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GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_LS_1_2
Grid Ref: 305572, 381066

Map Name: National Grid

Map date: **1964**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1962
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Edition 1964
Copyright 1964
Levelled 1960

Surveyed 1962
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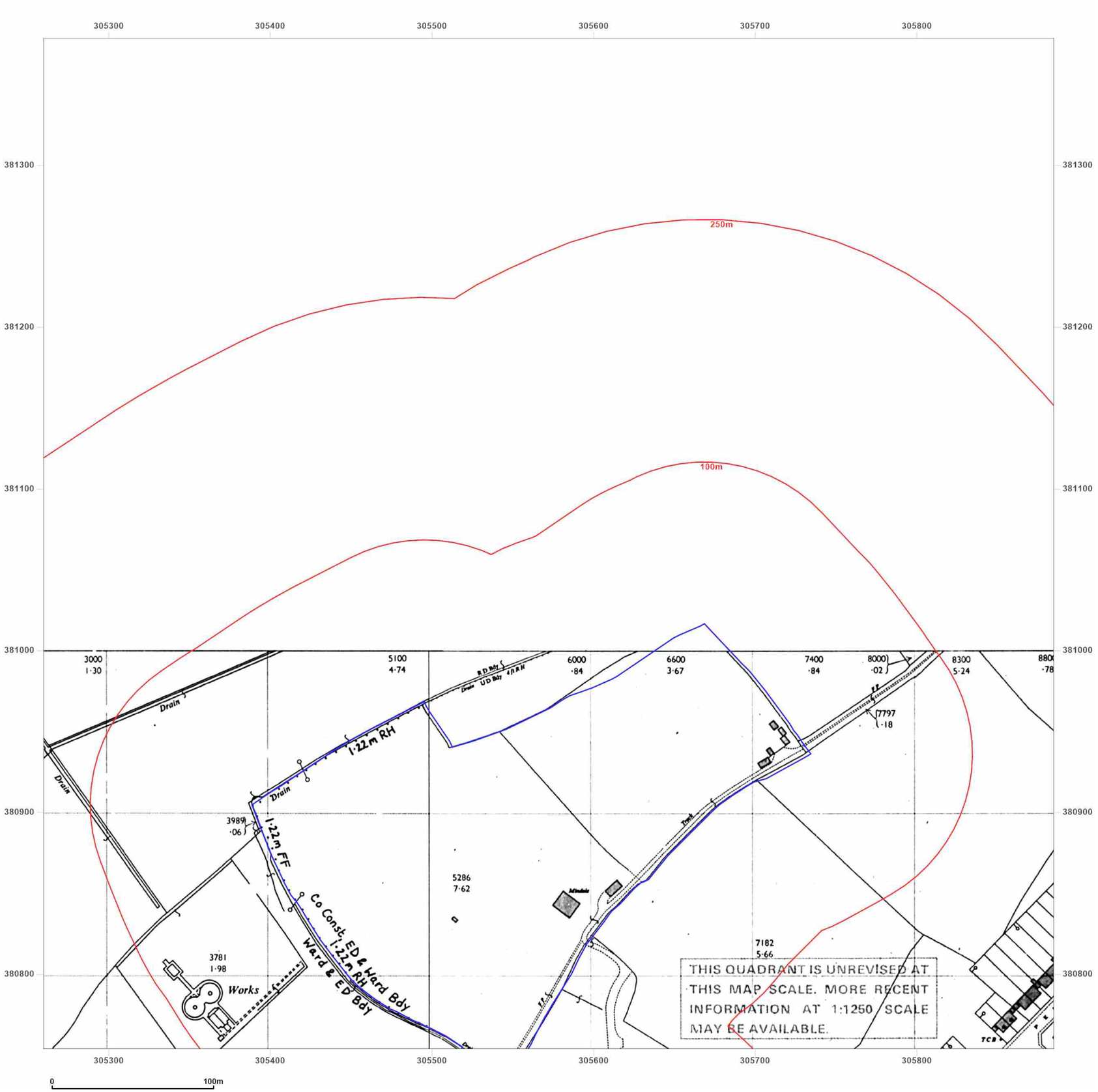

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Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_LS_1_2
Grid Ref: 305572, 381066

Map Name: National Grid
Map date: **1987**
Scale: 1:2,500
Printed at: 1:2,500

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Surveyed 1967
Revised 1987
Edition N/A
Copyright 1987
Levelled 1967

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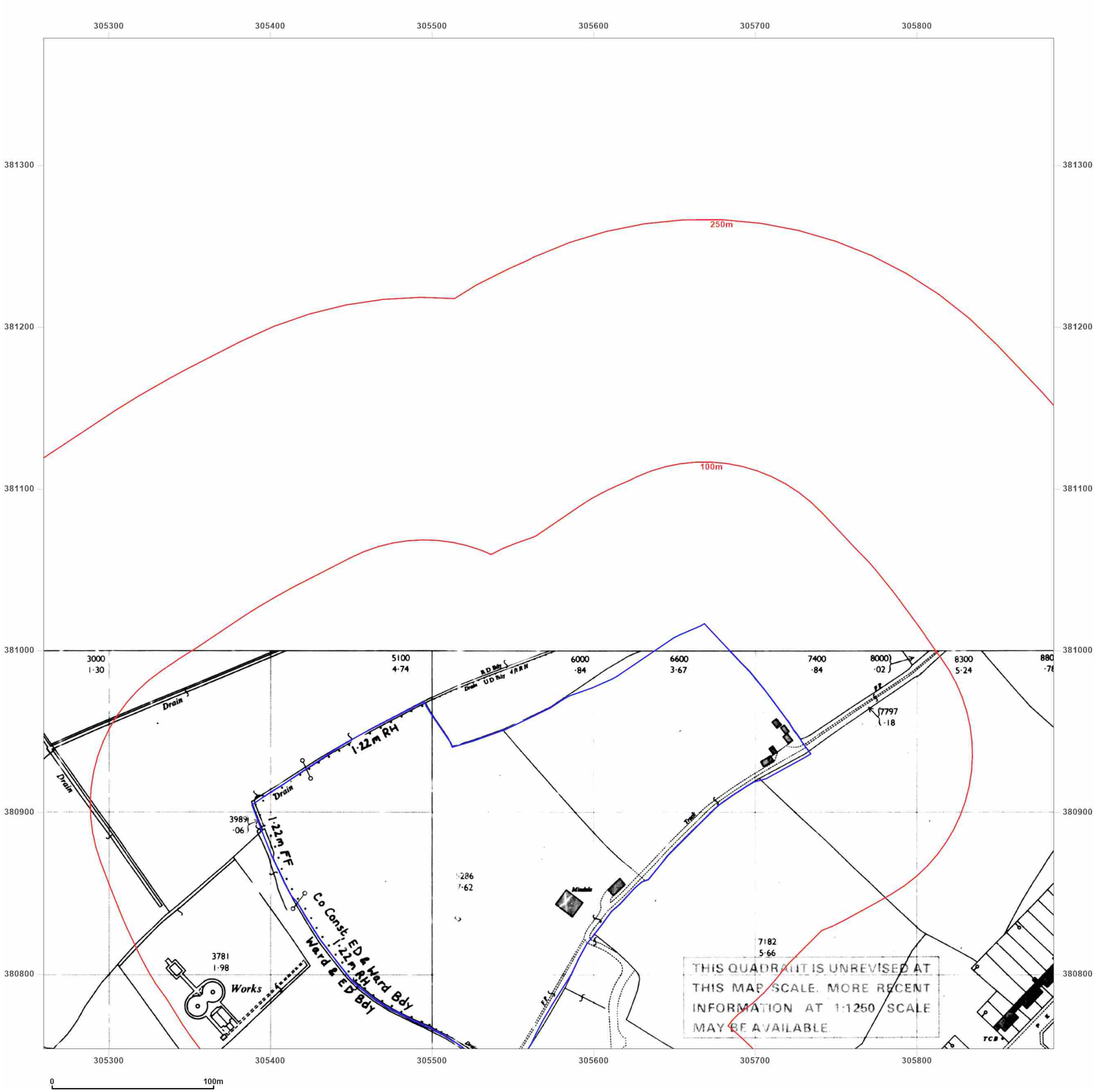

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Site Details:

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Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_LS_1_2
Grid Ref: 305572, 381066

Map Name: National Grid
Map date: **1987**
Scale: 1:2,500
Printed at: 1:2,500

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

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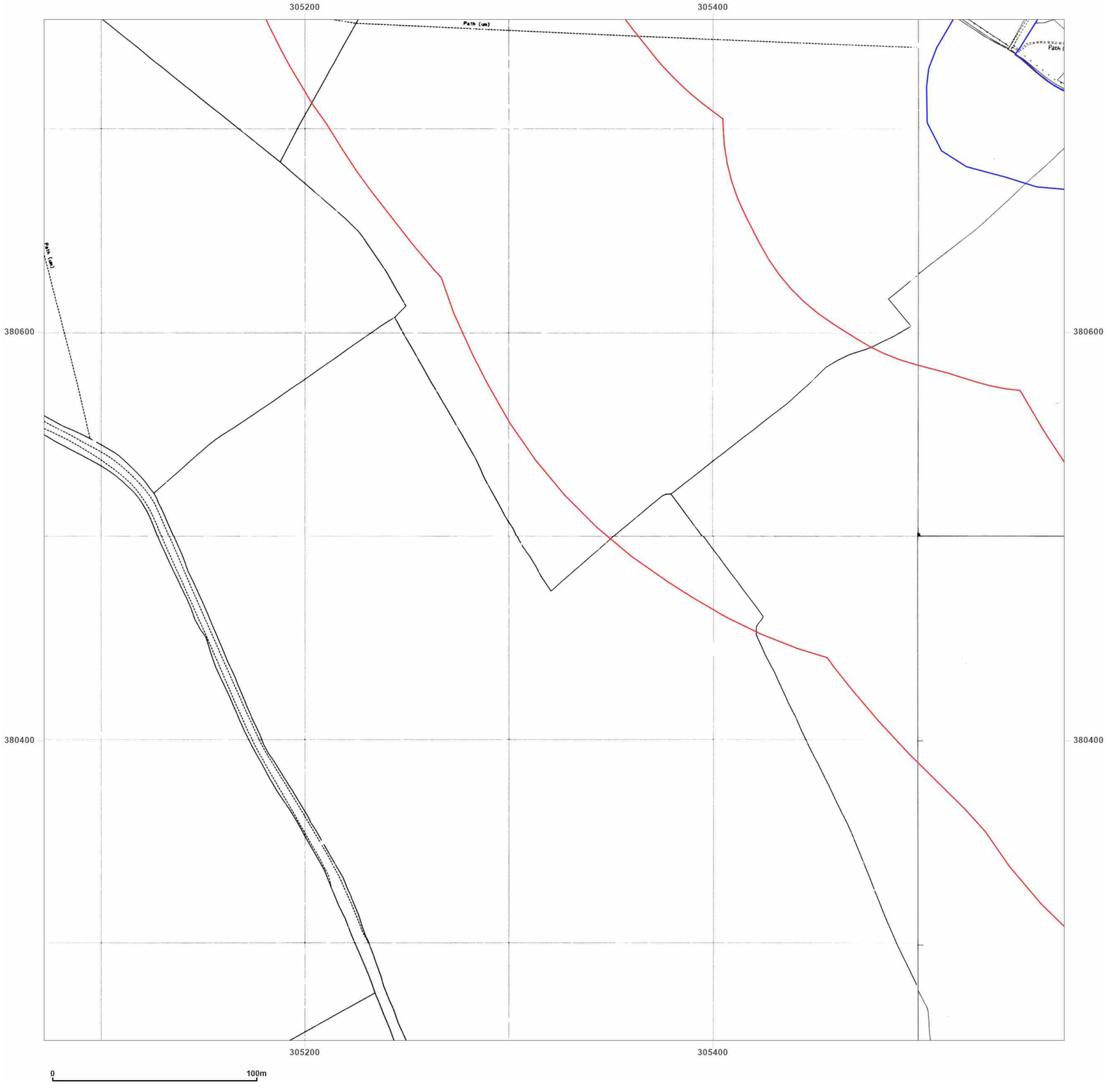

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Site Details:

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Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_1250_1_1
Grid Ref: 305322, 380503

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

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

Surveyed 1967
Revised 1990
Edition N/A
Copyright 1990
Levelled 1967

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

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

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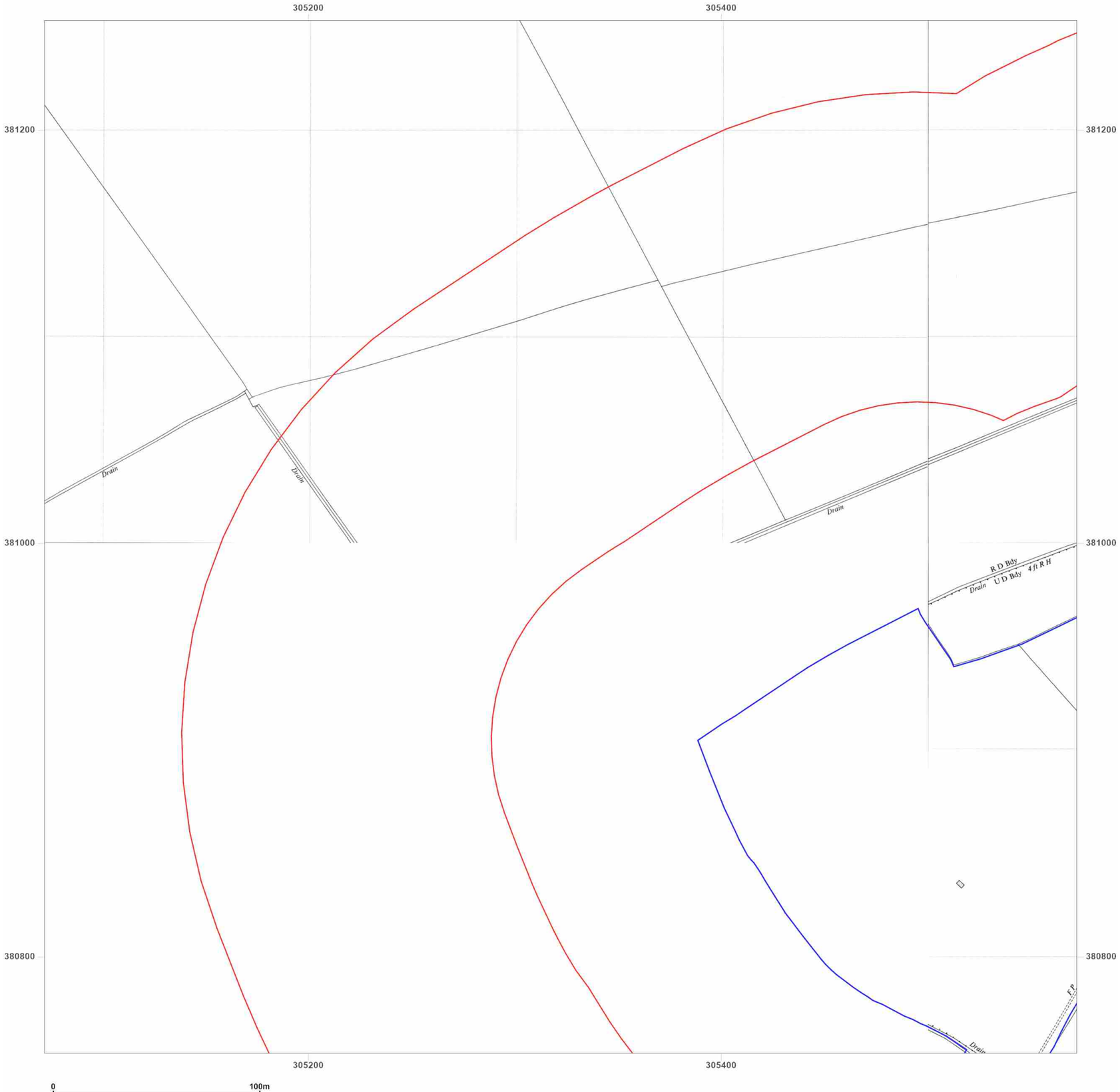

Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_1250_1_2
Grid Ref: 305322, 381003

Map Name: National Grid
Map date: **1962**
Scale: 1:1,250
Printed at: 1:2,000

N
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Surveyed 1961
Revised 1961
Edition N/A
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Levelled 1953

Surveyed 1961
Revised 1961
Edition N/A
Copyright 1962
Levelled 1960

Surveyed 1961
Revised 1961
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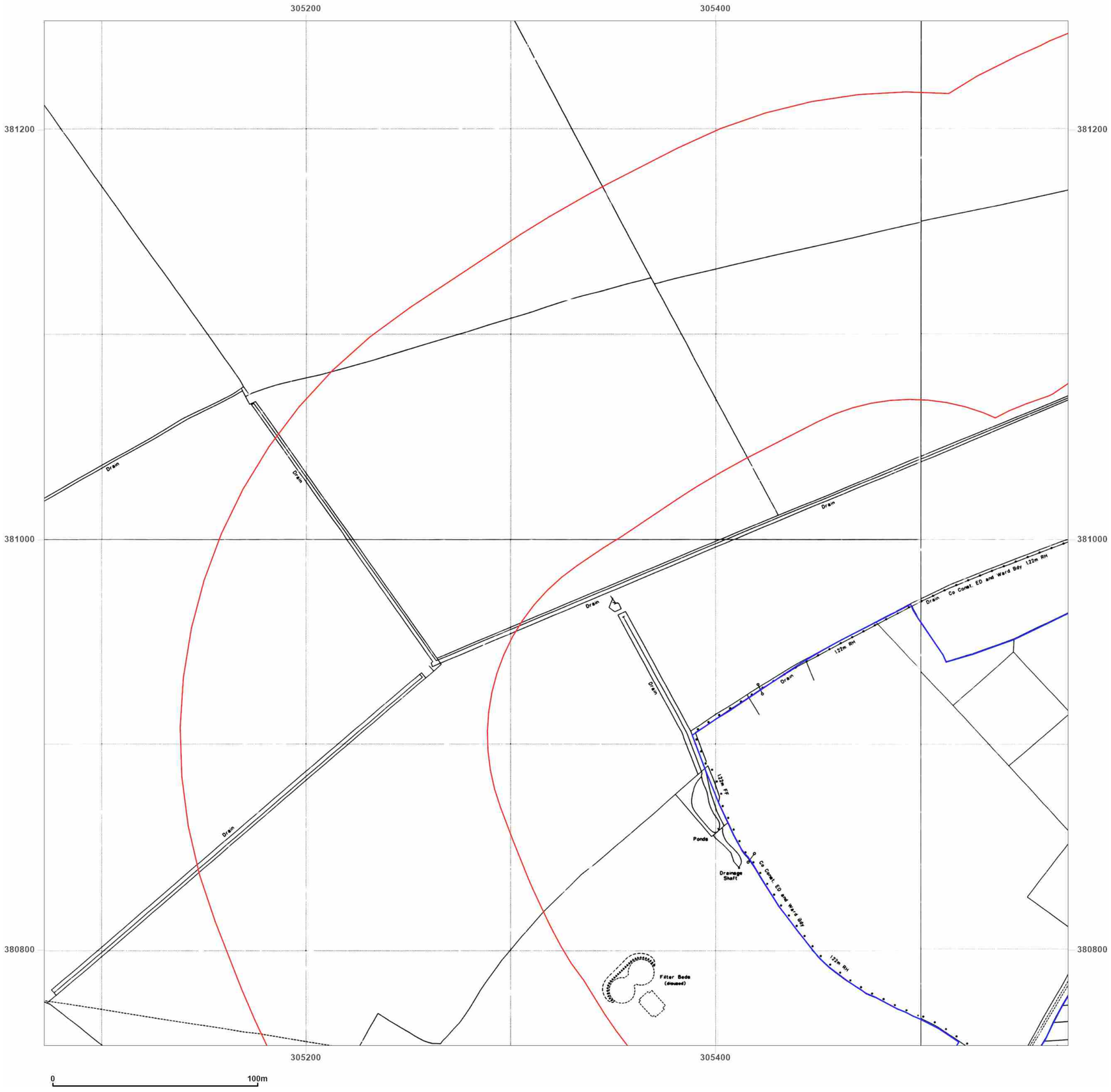

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Site Details:

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Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_1250_1_2
Grid Ref: 305322, 381003

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

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

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

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Revised N/A
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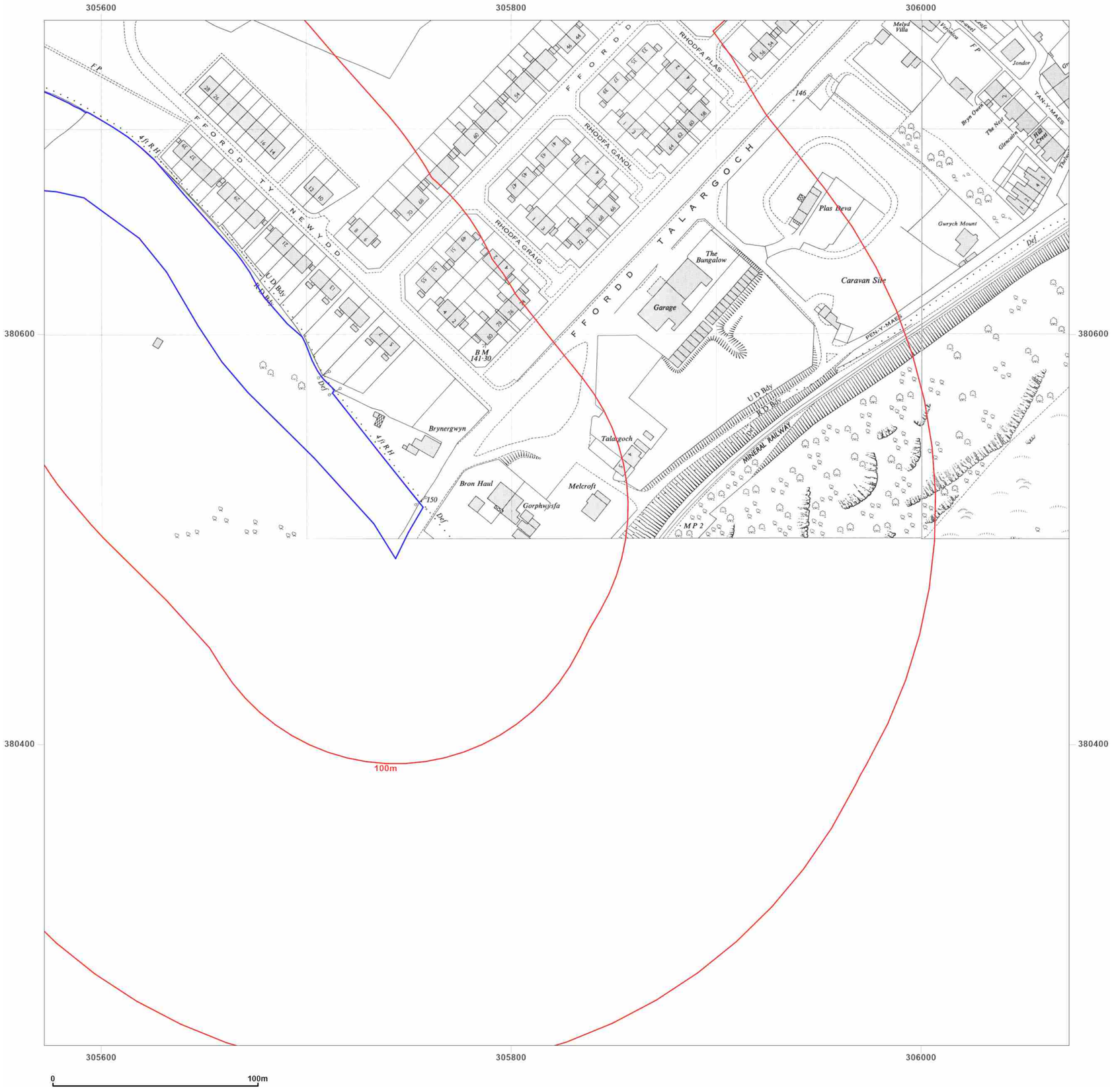

Site Details:

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Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_1250_2_1
Grid Ref: 305822, 380503

Map Name: National Grid

Map date: **1962**

Scale: 1:1,250

Printed at: 1:2,000

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Revised 1961
Edition N/A
Copyright 1962
Levelled 1953

Surveyed 1961
Revised 1961
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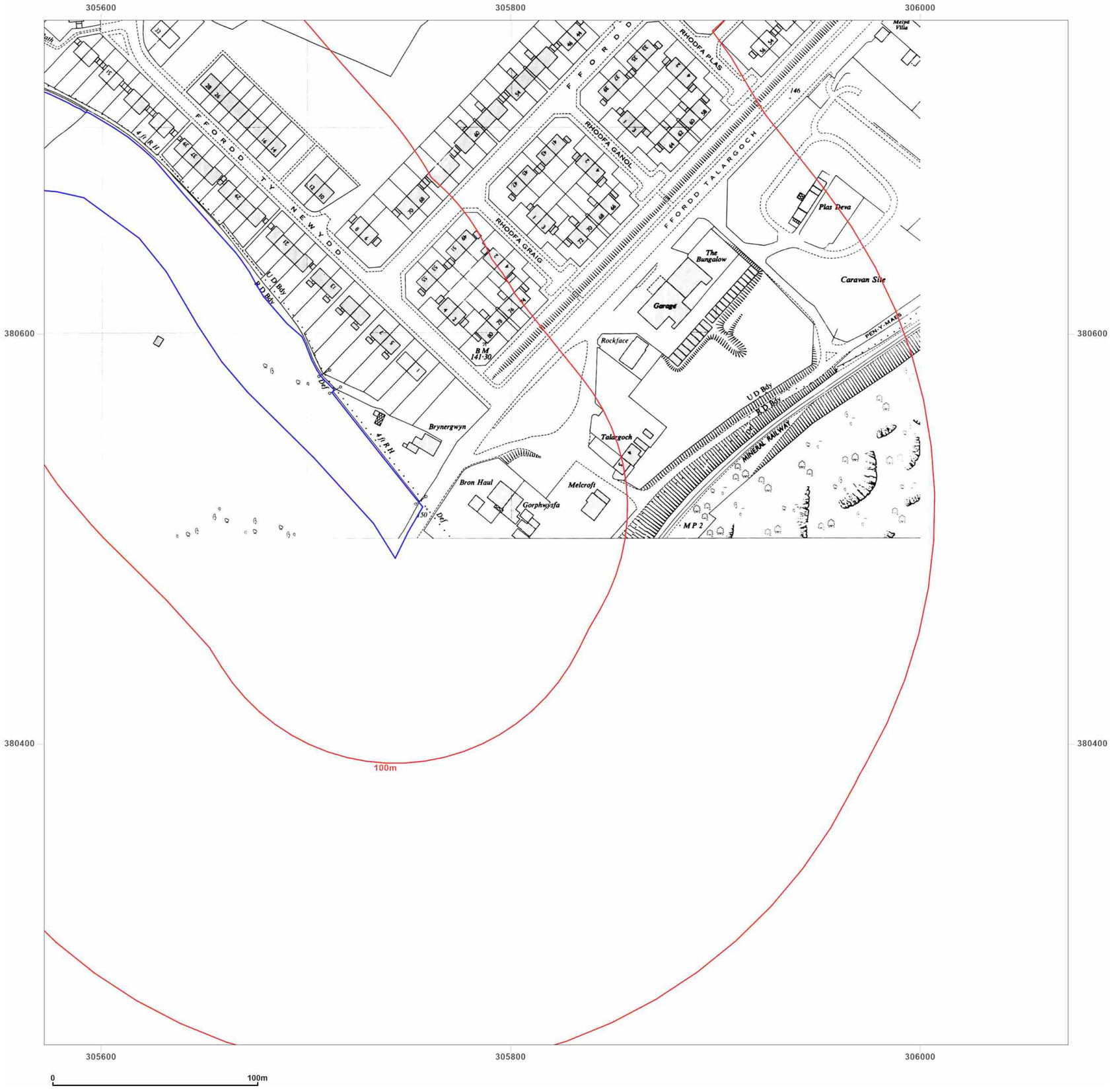

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Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_1250_2_1
Grid Ref: 305822, 380503

Map Name: National Grid
Map date: **1967**
Scale: 1:1,250
Printed at: 1:2,000

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Revised N/A
Edition N/A
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Levelled N/A

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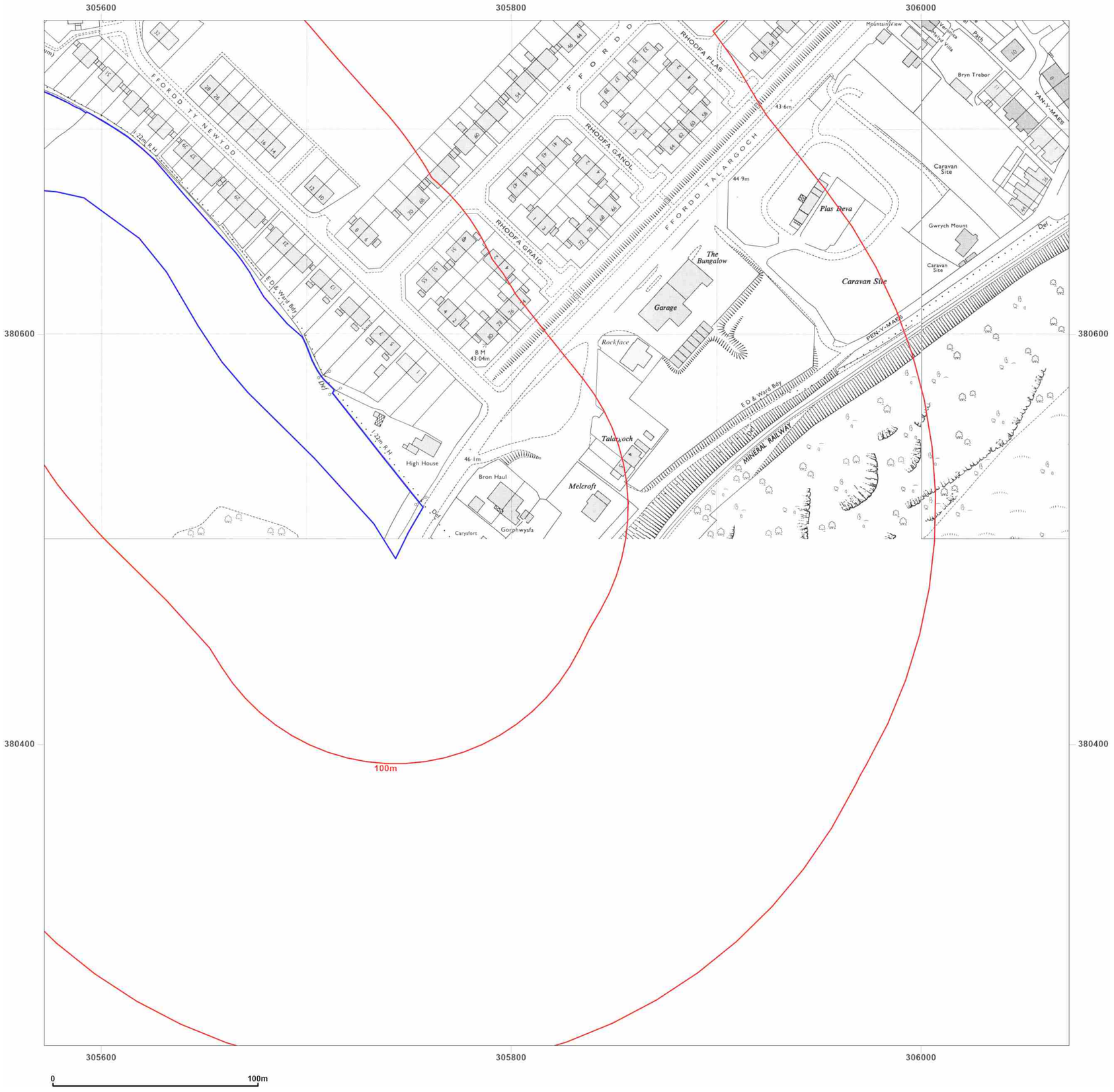

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Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_1250_2_1
Grid Ref: 305822, 380503

Map Name: National Grid
Map date: **1973-1977**
Scale: 1:1,250
Printed at: 1:2,000

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Surveyed 1961	Surveyed 1961
Revised 1976	Revised 1972
Edition N/A	Edition N/A
Copyright 1977	Copyright 1973
Levelled 1967	Levelled 1967

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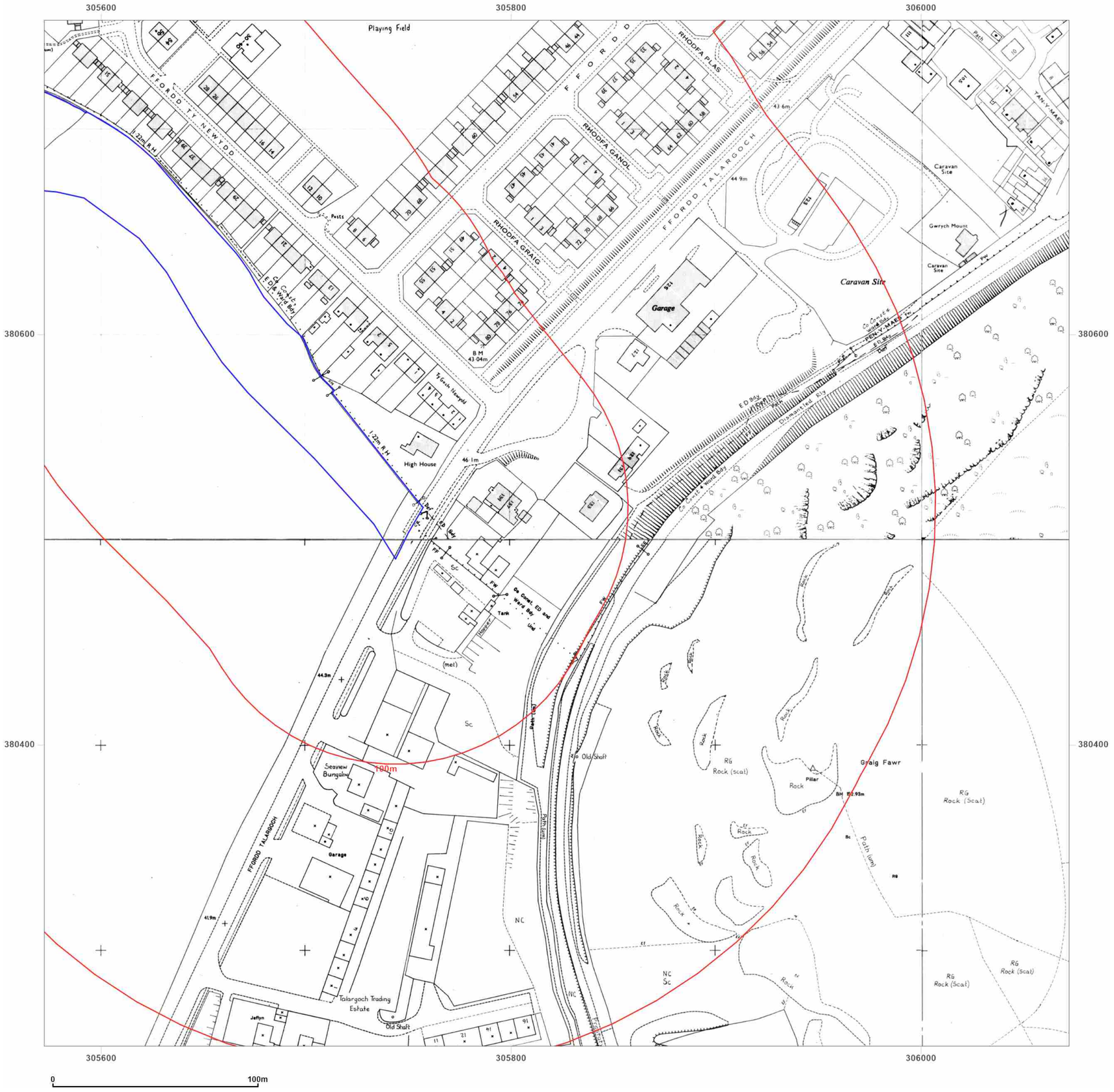

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GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_1250_2_1
Grid Ref: 305822, 380503

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

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Surveyed 1967 Revised 1990 Edition N/A Copyright 1990 Levelled 1967	Surveyed N/A Revised N/A Edition N/A Copyright 1990 Levelled N/A
Surveyed 1993 Revised 1993 Edition N/A Copyright 1993 Levelled N/A	Surveyed 1993 Revised 1993 Edition N/A Copyright 1993 Levelled N/A

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Site Details:

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Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_1250_2_1
Grid Ref: 305822, 380503

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

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

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

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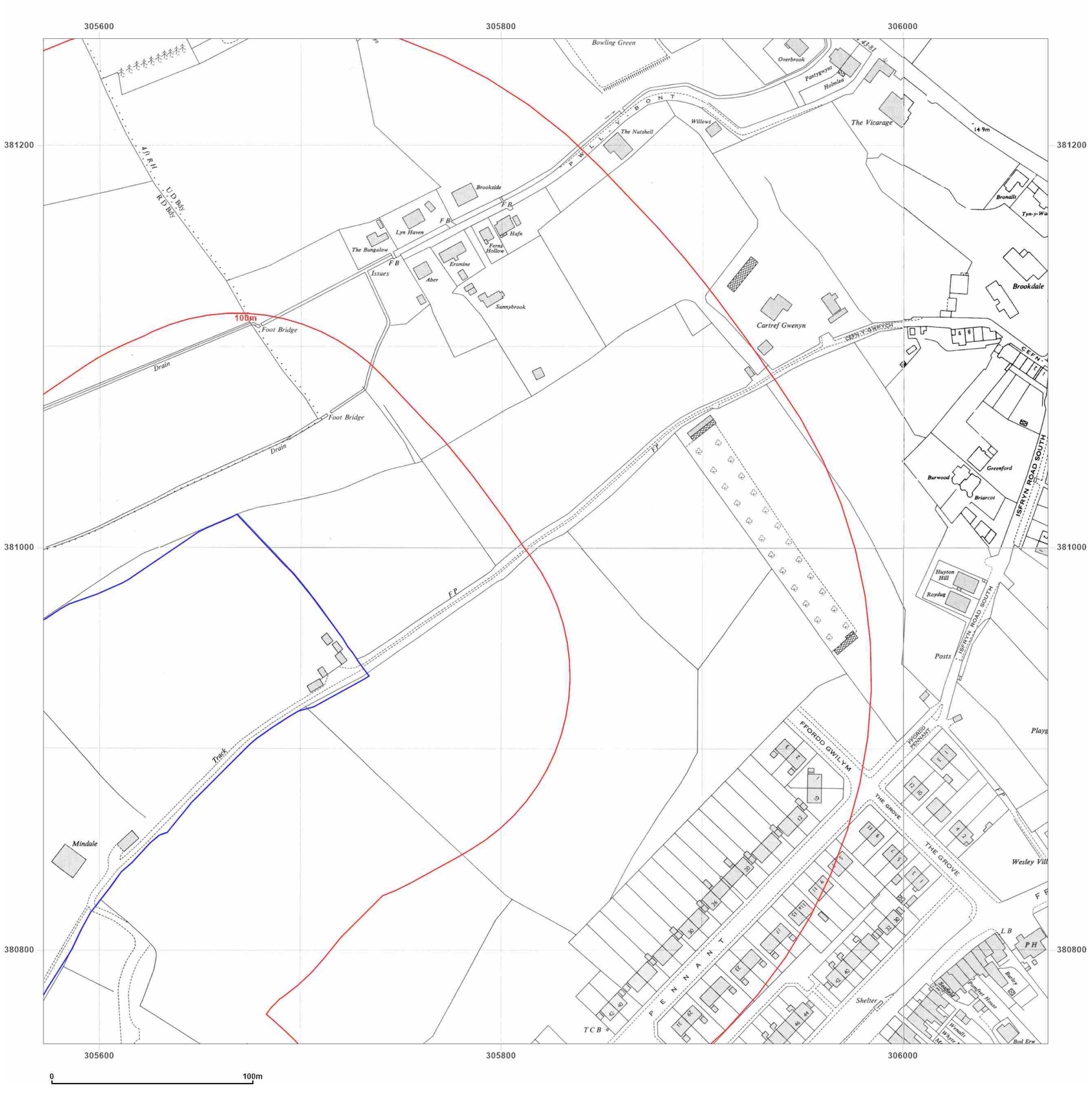

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GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

Site Details:

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Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_1250_2_2
Grid Ref: 305822, 381003

Map Name: National Grid
Map date: **1962**
Scale: 1:1,250
Printed at: 1:2,000

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Surveyed 1961 Revised 1961 Edition N/A Copyright 1962 Levelled 1960	Surveyed 1961 Revised 1962 Edition N/A Copyright 1962 Levelled 1960
Surveyed 1961 Revised 1961 Edition N/A Copyright 1962 Levelled 1953	Surveyed 1961 Revised 1961 Edition N/A Copyright 1962 Levelled 1960

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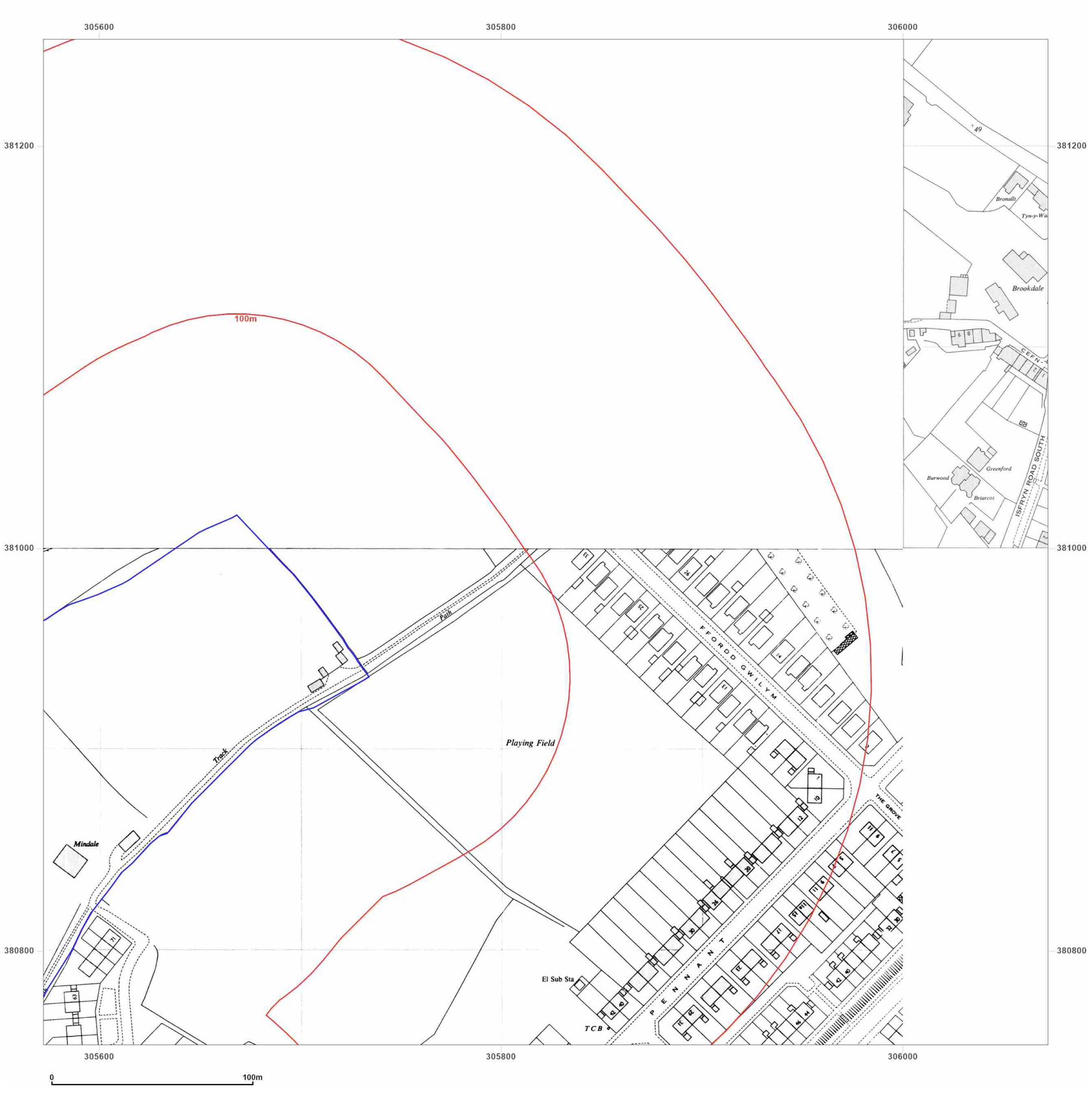

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GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_1250_2_2
Grid Ref: 305822, 381003

Map Name: National Grid
Map date: **1962-1967**
Scale: 1:1,250
Printed at: 1:2,000

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Surveyed 1961
Revised 1961
Edition N/A
Copyright 1962
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Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

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GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_1250_2_2
Grid Ref: 305822, 381003

Map Name: National Grid
Map date: **1973-1977**
Scale: 1:1,250
Printed at: 1:2,000

N
W E
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Surveyed 1961
Revised 1972
Edition N/A
Copyright 1973
Levelled 1960

Surveyed 1961
Revised 1976
Edition N/A
Copyright 1977
Levelled 1967

Surveyed 1961
Revised 1972
Edition N/A
Copyright 1973
Levelled 1967

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Production date: 27 October 2025

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

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Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_1250_2_2
Grid Ref: 305822, 381003

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

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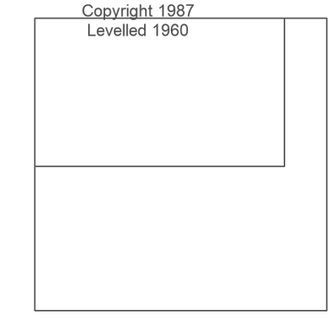
Surveyed 1960
Revised 1987
Edition N/A
Copyright 1987
Levelled 1960



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Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_1250_2_2
Grid Ref: 305822, 381003

Map Name: National Grid
Map date: **1986-1990**
Scale: 1:1,250
Printed at: 1:2,000

N
W E
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Surveyed 1960
Revised 1986
Edition N/A
Copyright 1986
Levelled 1960

Surveyed 1967
Revised 1990
Edition N/A
Copyright 1990
Levelled 1967

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

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Site Details:

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Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT_1250_2_2
Grid Ref: 305822, 381003

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

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

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

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

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

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Production date: 27 October 2025

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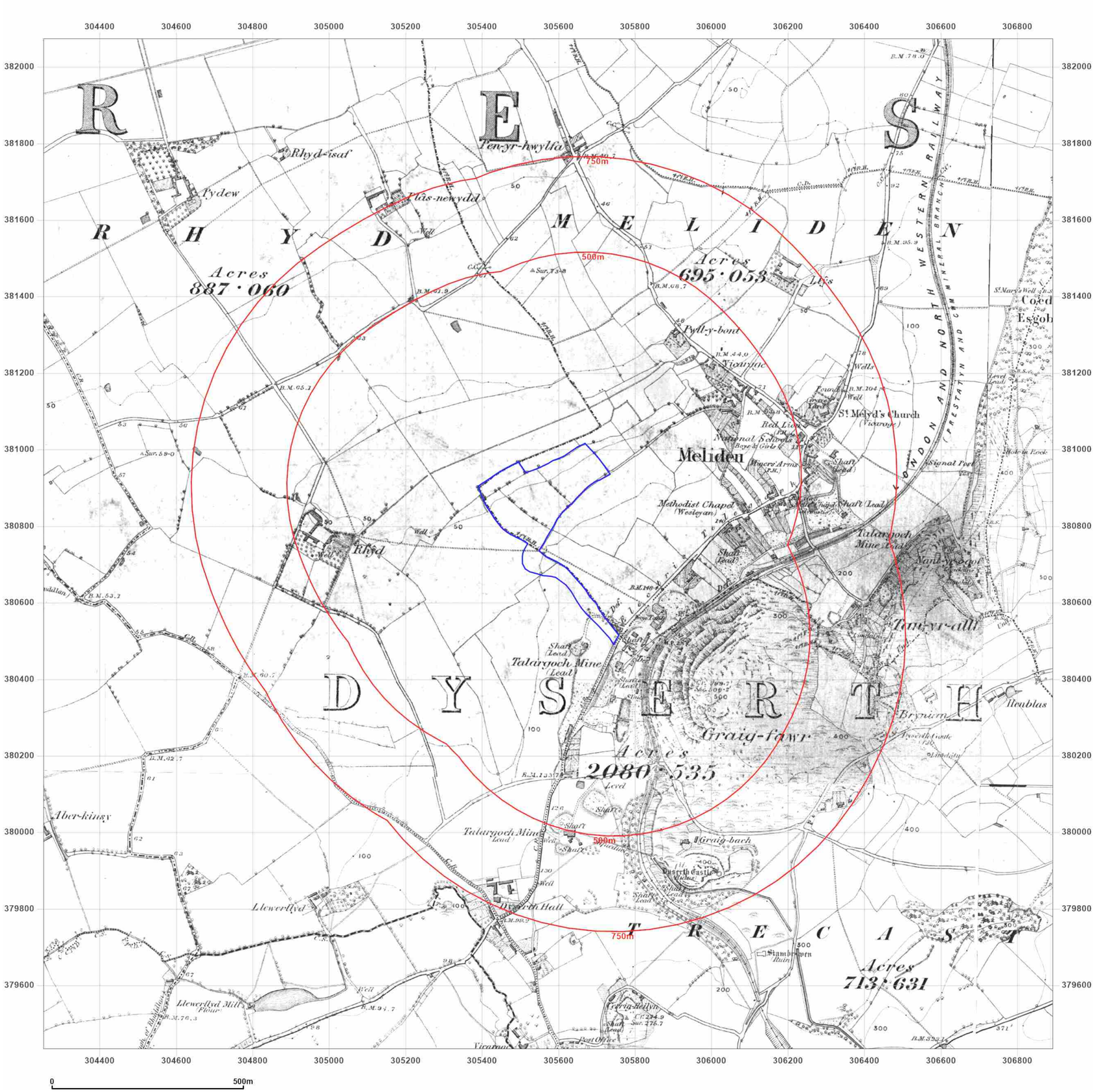
www.groundsure.com/sites/default/files/groundsure_legend.pdf



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Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT
Grid Ref: 305572, 380753

Map Name: County Series
Map date: **1871**
Scale: 1:10,560
Printed at: 1:10,560

N
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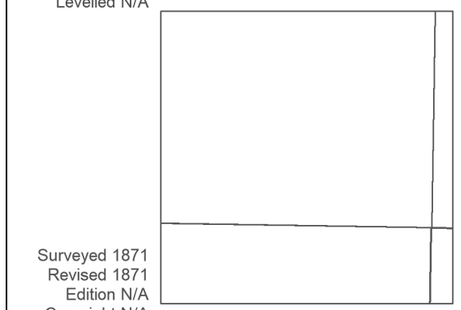

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Production date: 27 October 2025

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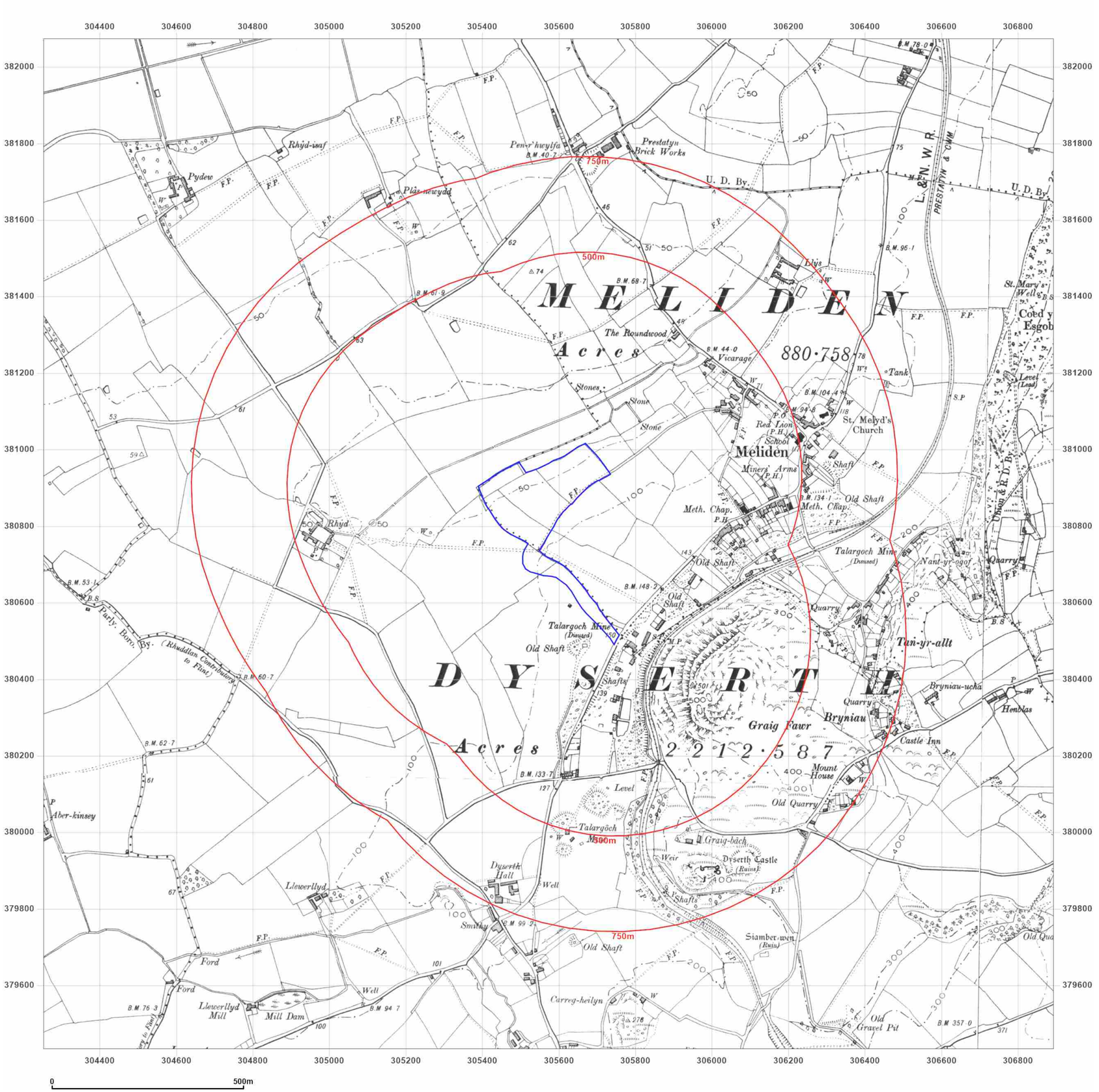

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Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT
Grid Ref: 305572, 380753

Map Name: County Series
Map date: **1898**
Scale: 1:10,560
Printed at: 1:10,560

N
W E
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Surveyed 1871
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1871
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1871
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1871
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

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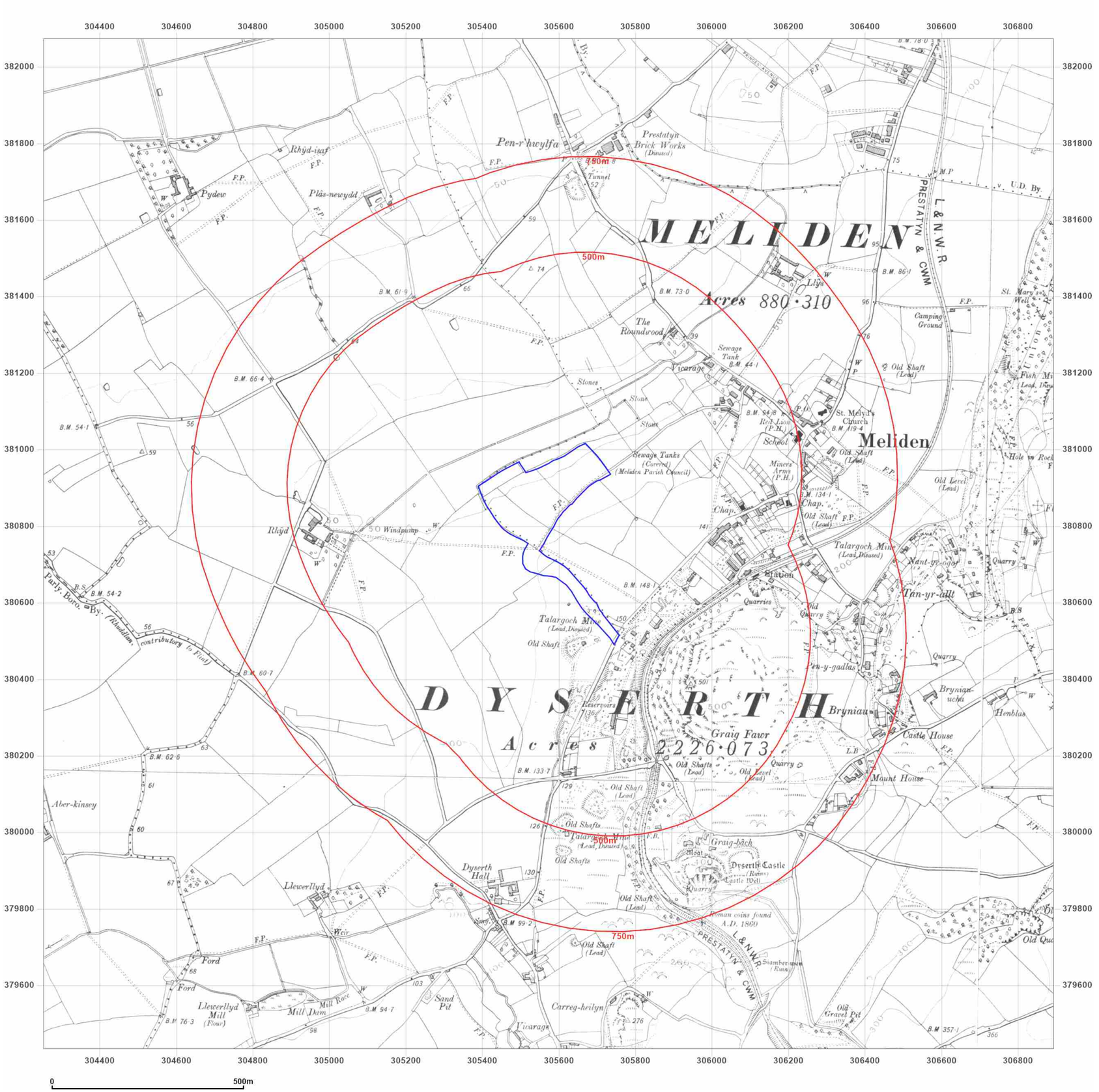

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Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT
Grid Ref: 305572, 380753

Map Name: County Series
Map date: **1910-1911**
Scale: 1:10,560
Printed at: 1:10,560

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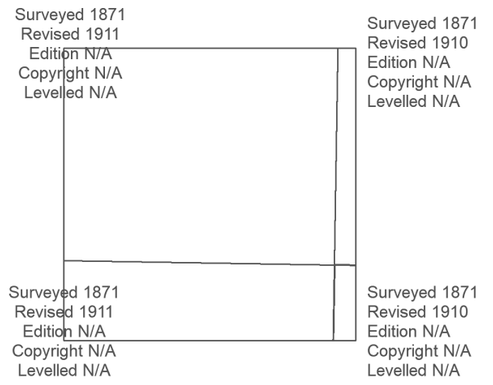

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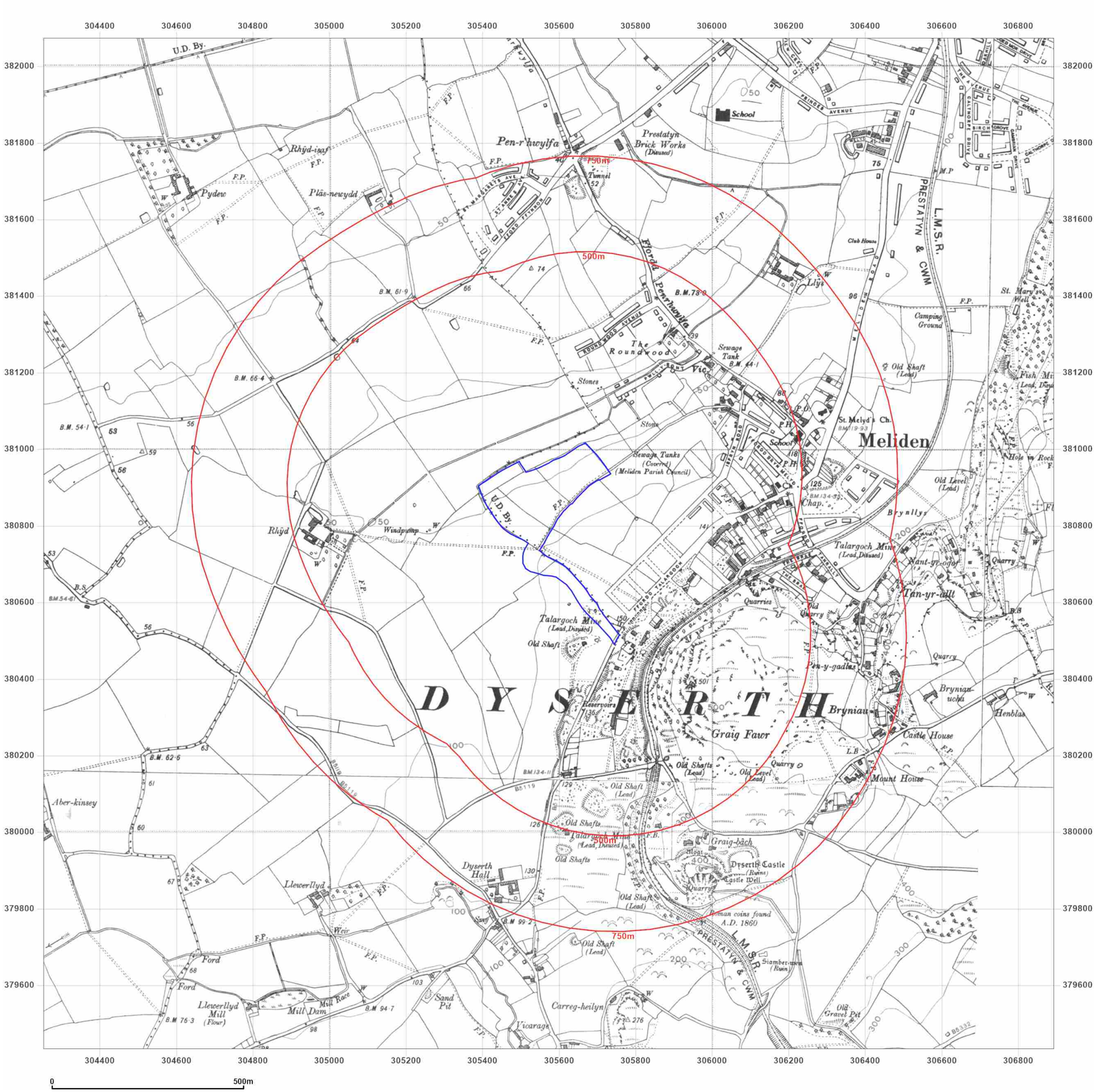

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GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT
Grid Ref: 305572, 380753

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

N
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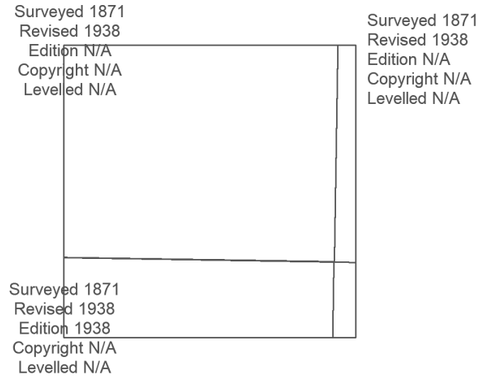

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Production date: 27 October 2025

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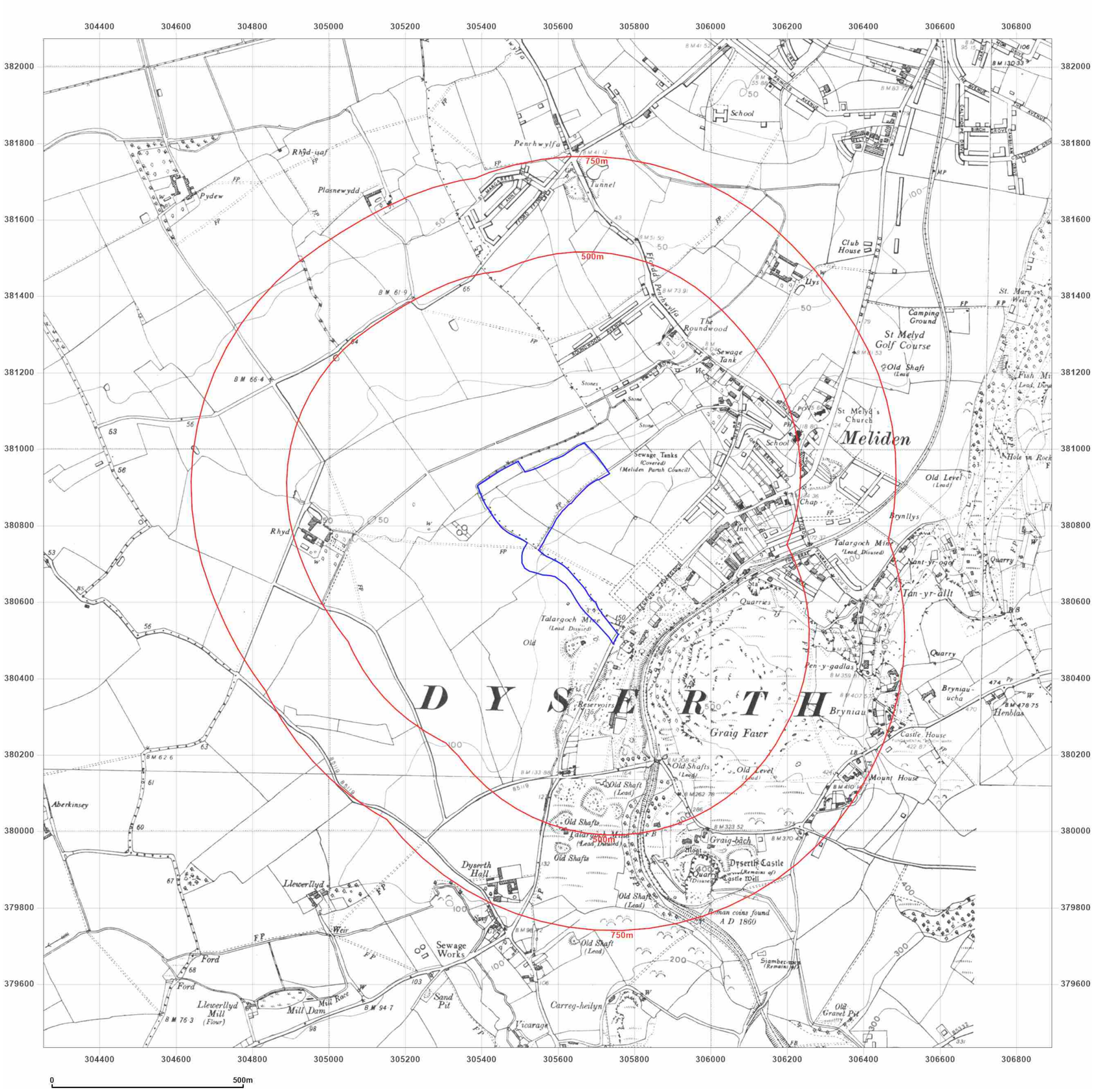

Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT
Grid Ref: 305572, 380753

Map Name: County Series

Map date: **1949**

Scale: 1:10,560

Printed at: 1:10,560

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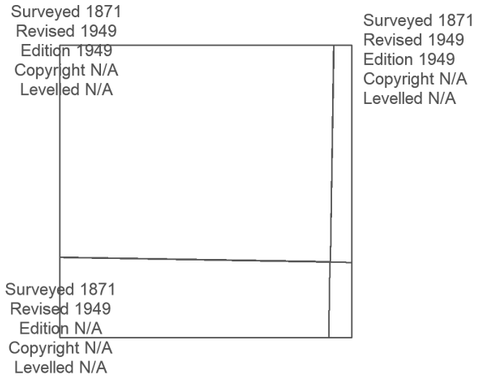

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Production date: 27 October 2025

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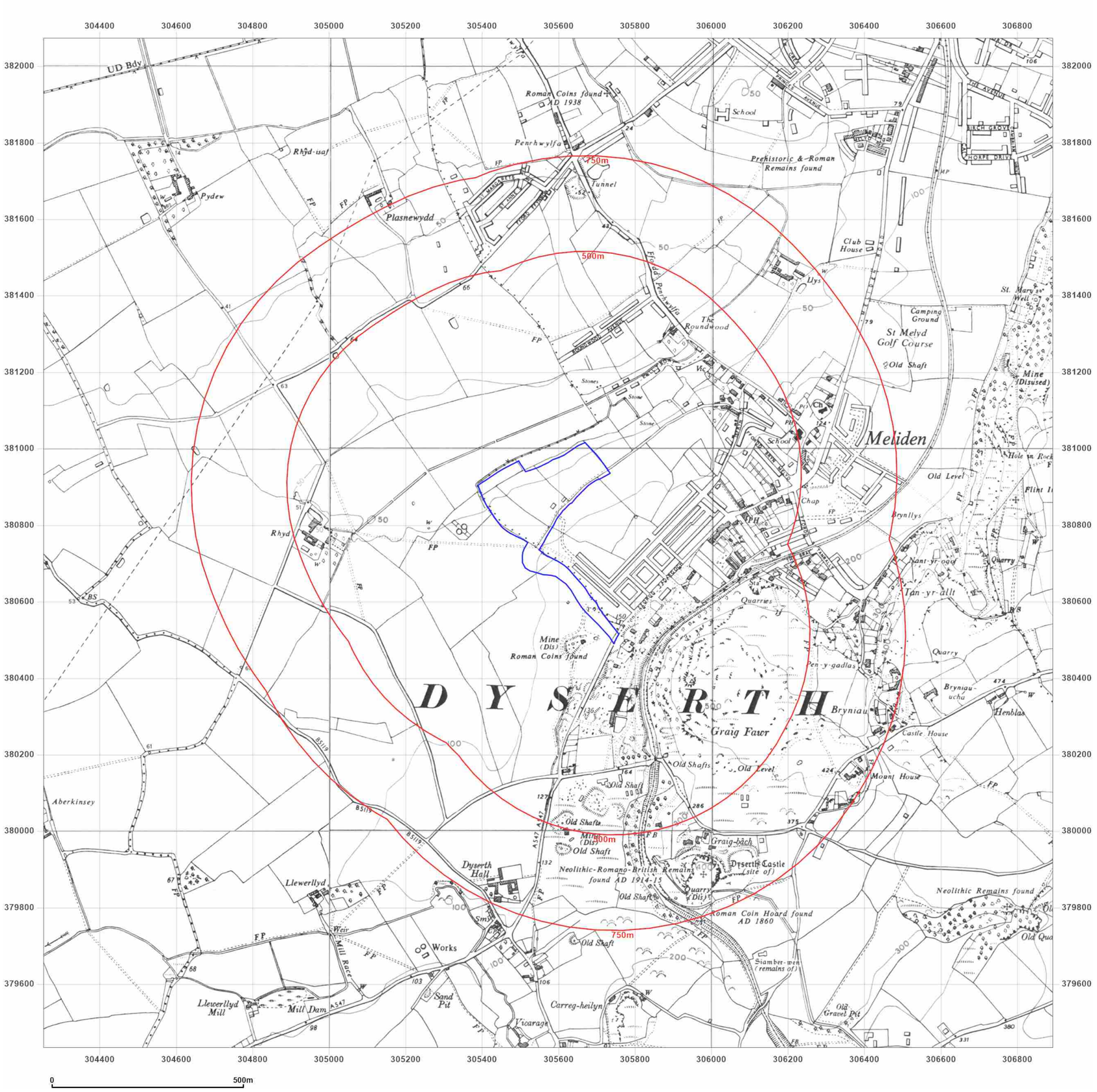

Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT
Grid Ref: 305572, 380753

Map Name: Provisional
Map date: **1959-1960**
Scale: 1:10,560
Printed at: 1:10,560

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

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

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

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

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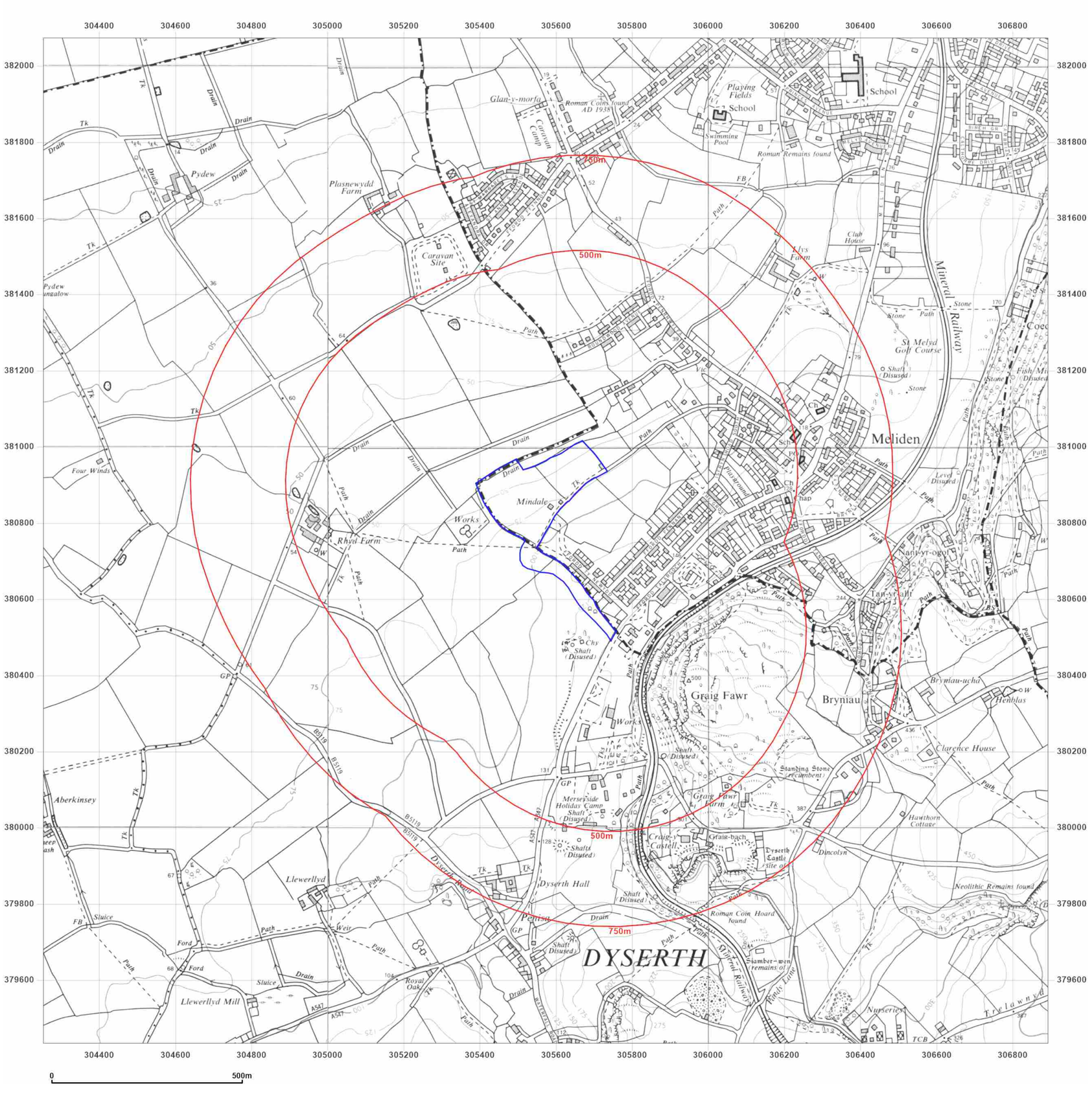
Production date: 27 October 2025

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



Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT
Grid Ref: 305572, 380753

Map Name: Provisional
Map date: **1968-1969**
Scale: 1:10,560
Printed at: 1:10,560

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Surveyed 1968 Revised 1968 Edition N/A Copyright N/A Levelled N/A	Surveyed 1969 Revised 1969 Edition N/A Copyright N/A Levelled N/A
Surveyed 1968 Revised 1968 Edition N/A Copyright N/A Levelled N/A	Surveyed 1968 Revised 1968 Edition N/A Copyright N/A Levelled N/A

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Production date: 27 October 2025

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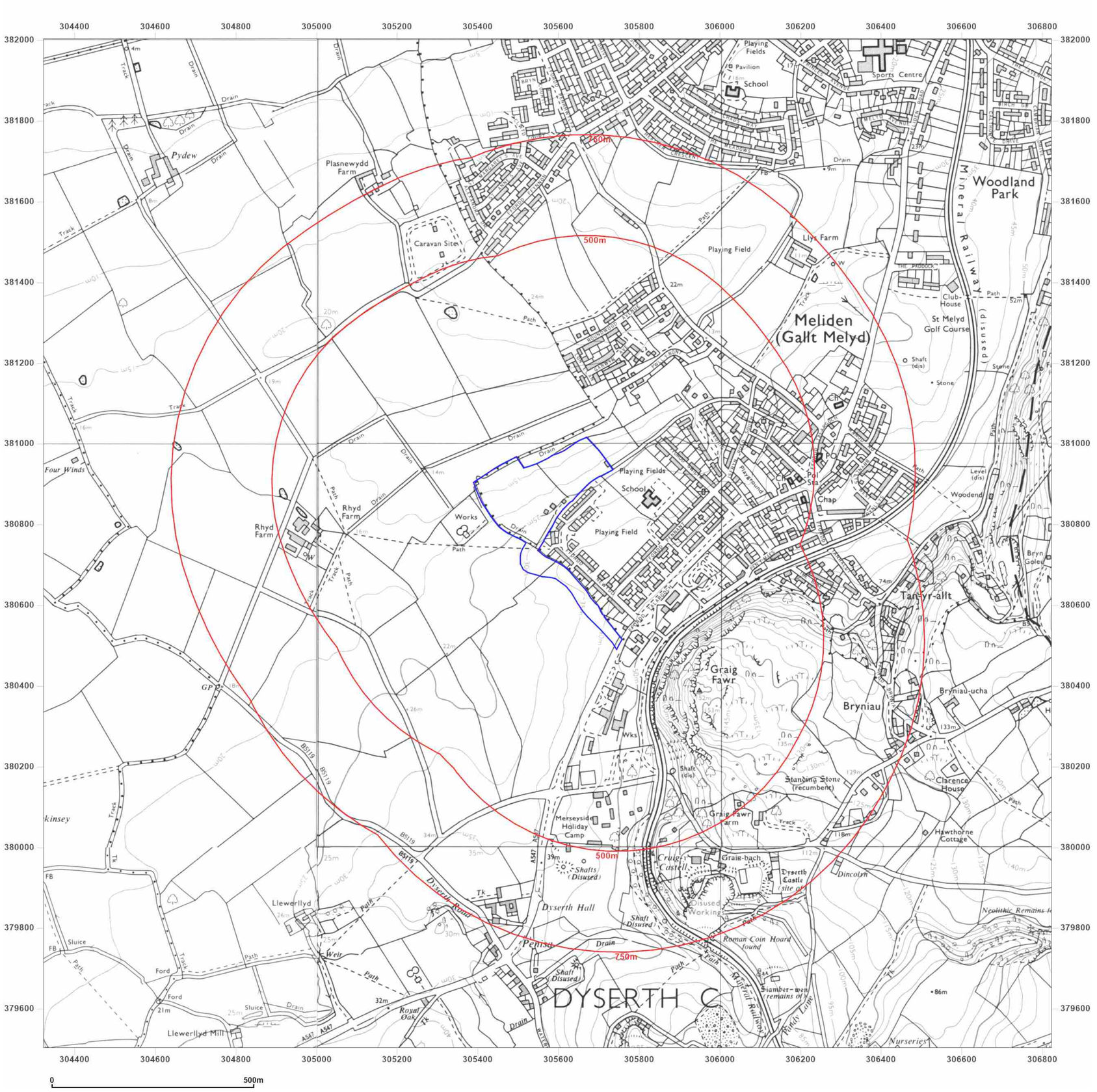
www.groundsure.com/sites/default/files/groundsure_legend.pdf



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Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT
Grid Ref: 305572, 380753

Map Name: National Grid

Map date: **1979-1983**

Scale: 1:10,000

Printed at: 1:10,000

N
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Surveyed 1977
Revised 1979
Edition N/A
Copyright 1980
Levelled 1966

Surveyed 1977
Revised 1979
Edition N/A
Copyright 1979
Levelled 1966

Surveyed 1976
Revised 1982
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1963
Revised 1983
Edition N/A
Copyright N/A
Levelled N/A

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Production date: 27 October 2025

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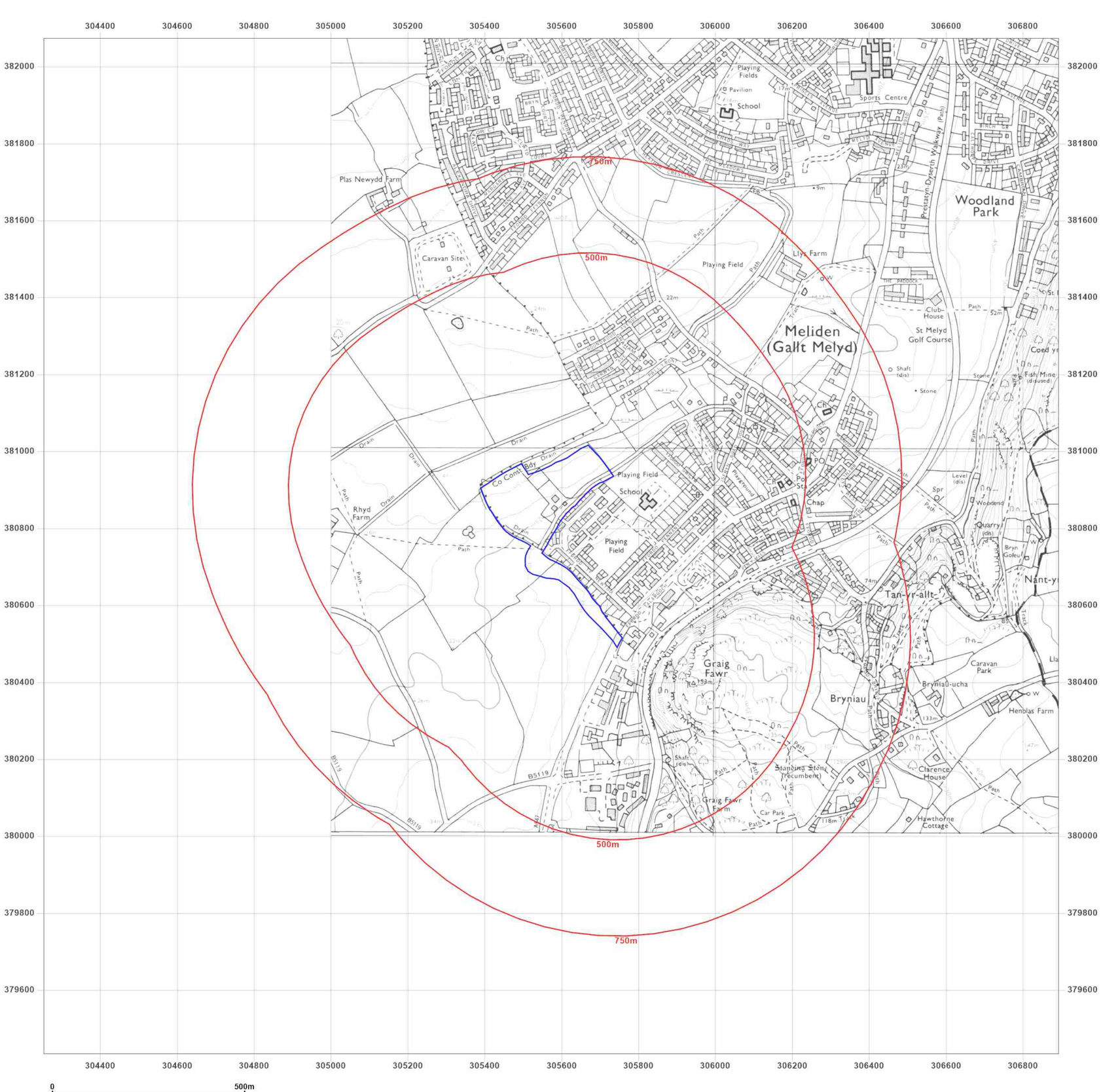
www.groundsure.com/sites/default/files/groundsure_legend.pdf



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Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT
Grid Ref: 305572, 380753

Map Name: Provisional

Map date: **1994**

Scale: 1:10,560

Printed at: 1:10,560

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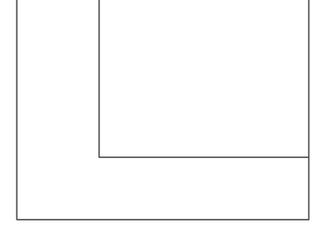
Surveyed N/A
Revised 1993
Edition N/A
Copyright 1994
Levelled N/A



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Production date: 27 October 2025

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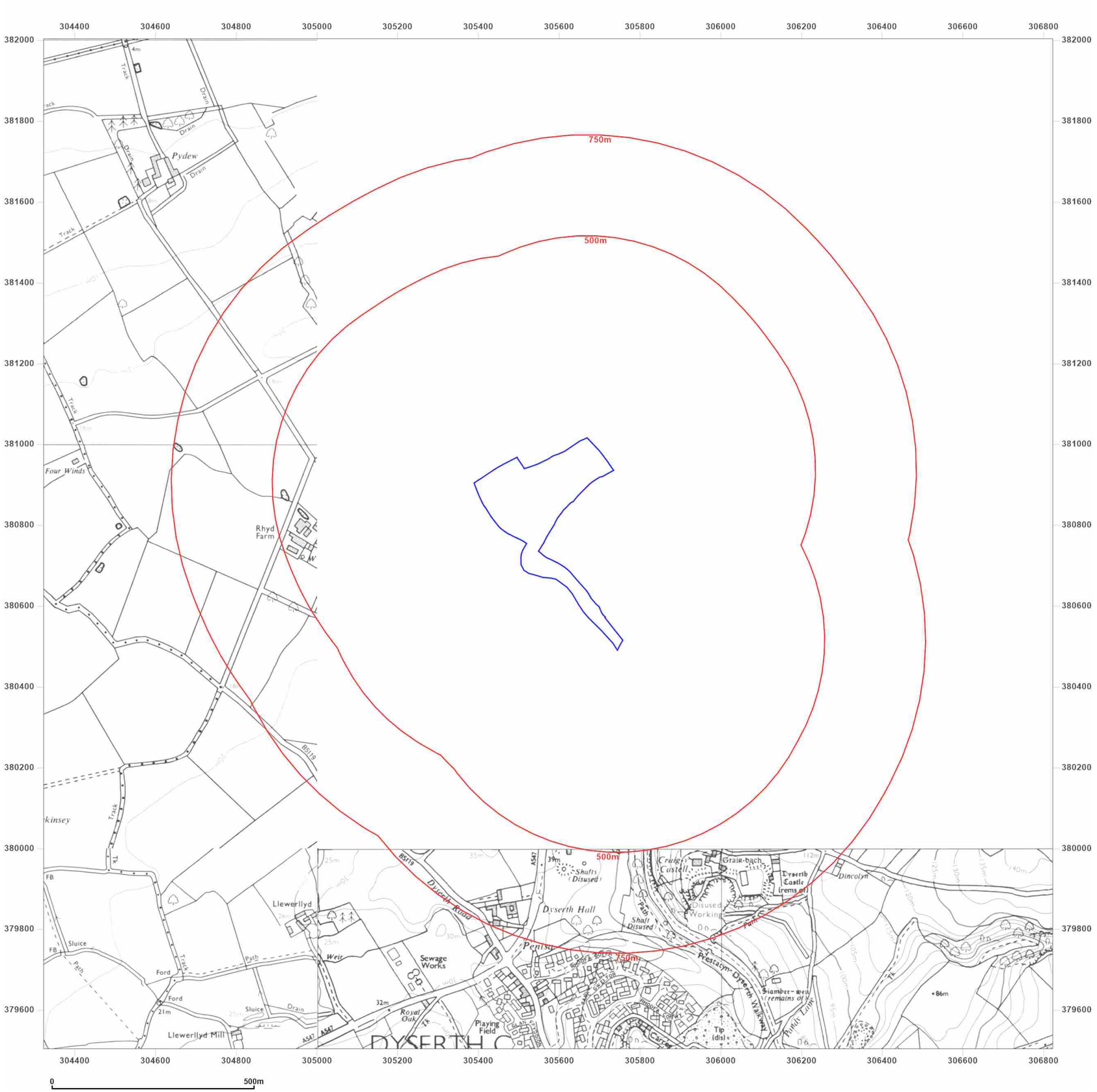

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GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT
Grid Ref: 305572, 380753

Map Name: National Grid

Map date: **1991-1995**

Scale: 1:10,000

Printed at: 1:10,000

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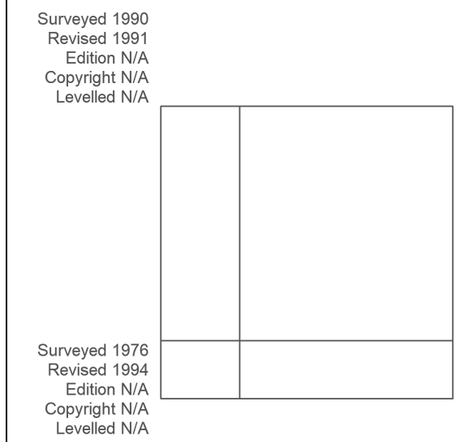

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Production date: 27 October 2025

Map legend available at:
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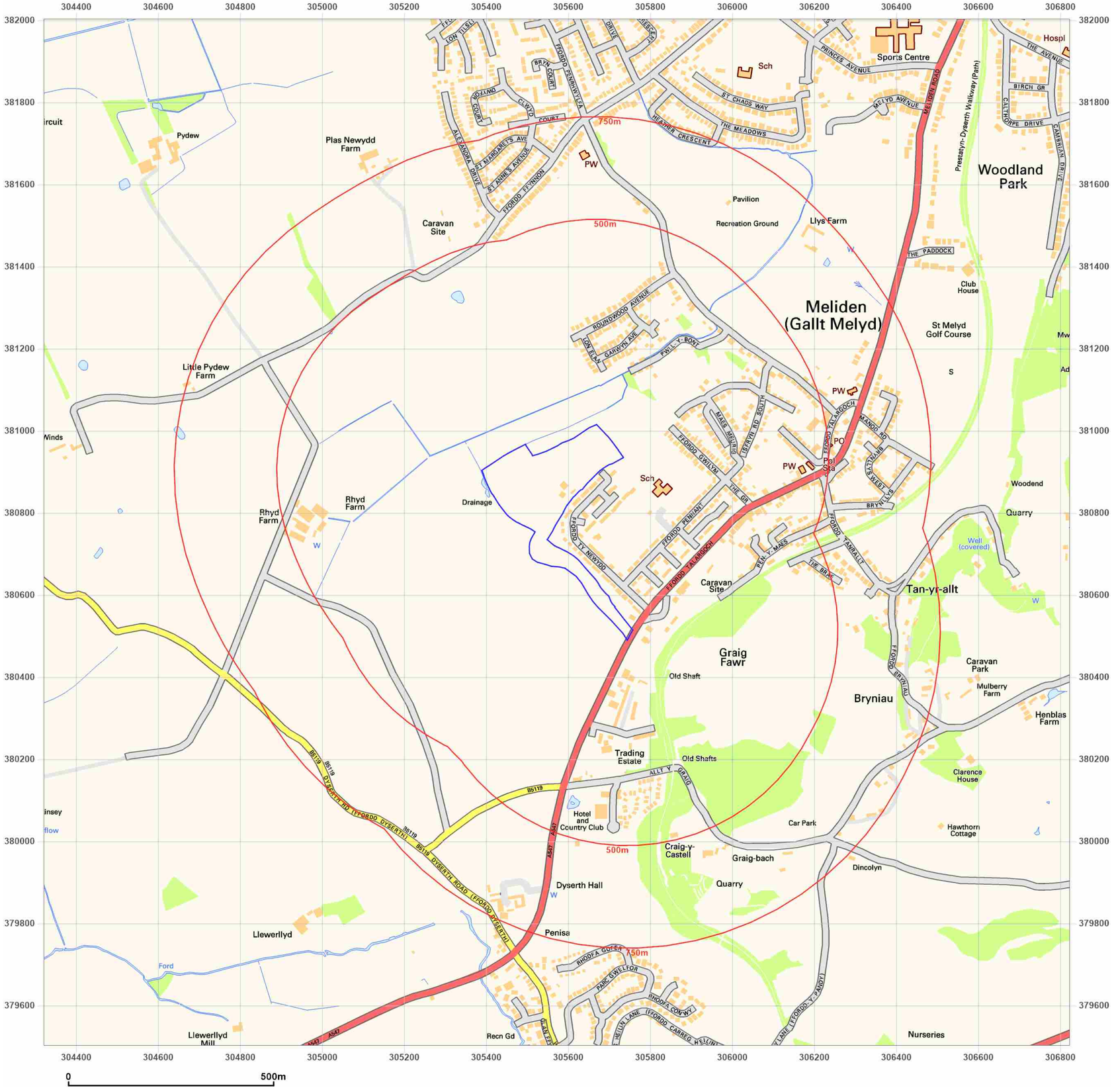

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GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT
Grid Ref: 305572, 380753

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

N
W E
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2001

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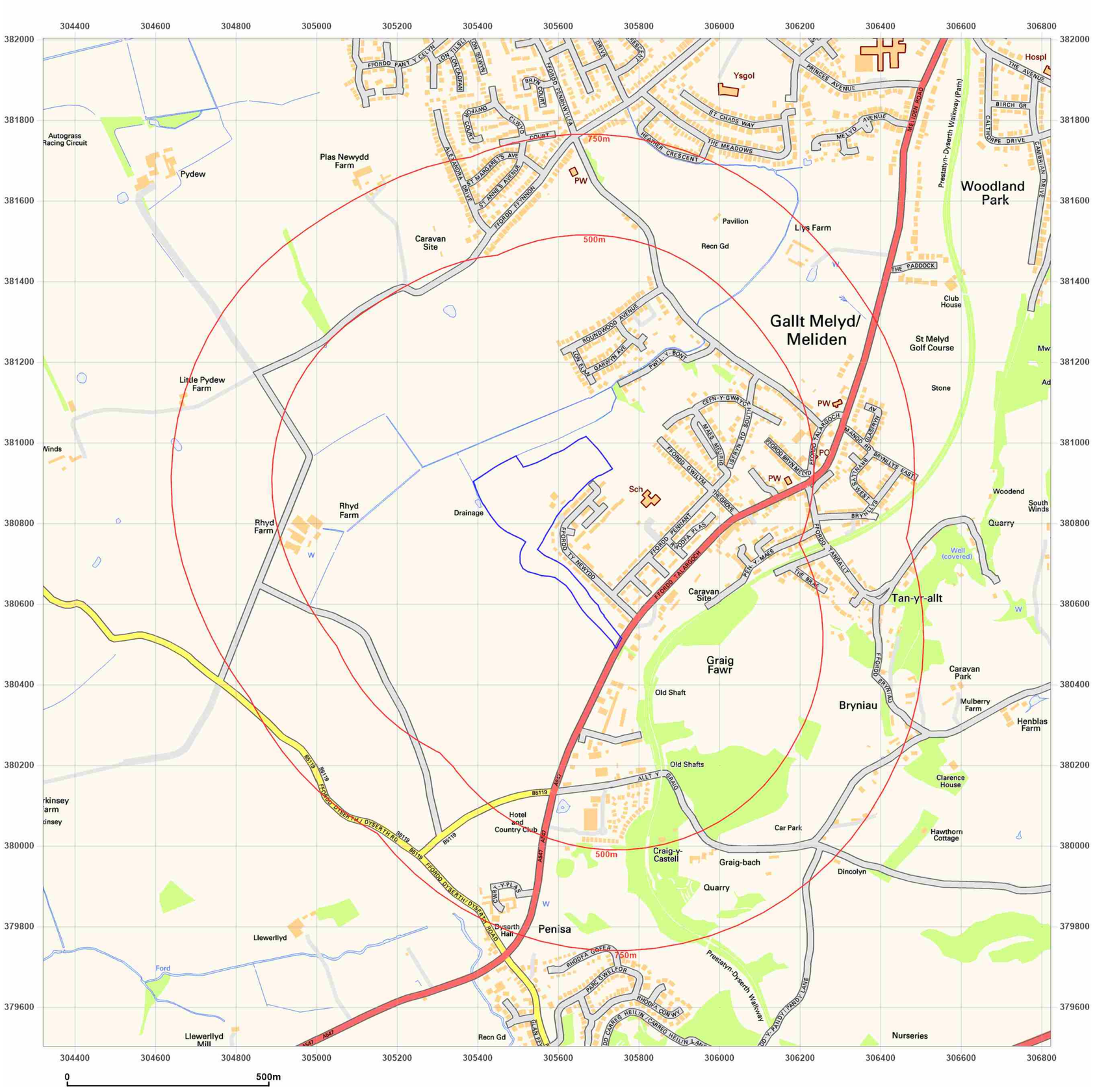
Production date: 27 October 2025

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



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GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT
Grid Ref: 305572, 380753

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

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2010

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Production date: 27 October 2025

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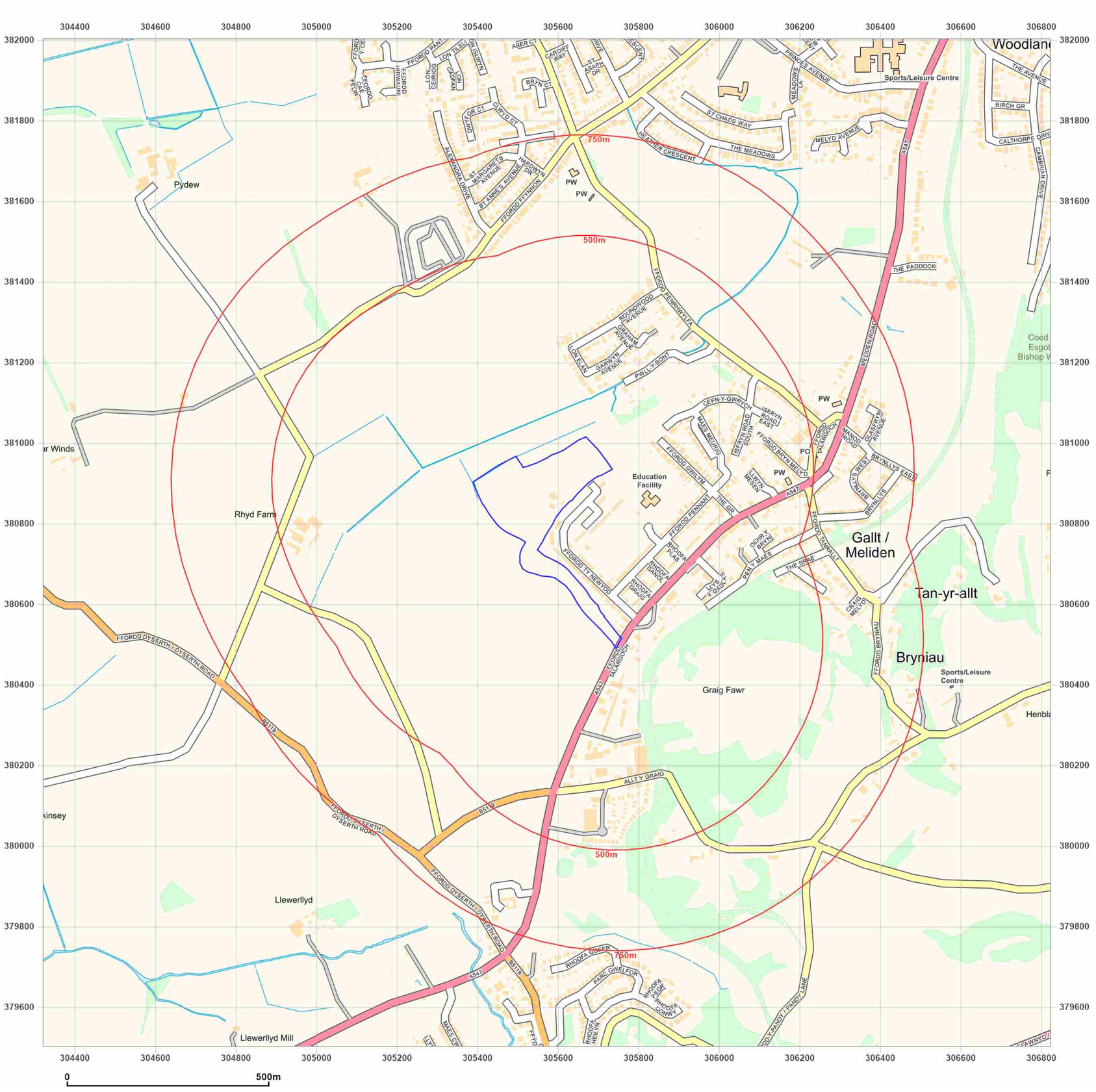

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Site Details:

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Client Ref: C6347-70136-SD
Report Ref: BRO-3W2-K4P-DK1-ZFT
Grid Ref: 305572, 380753

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

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APPENDIX C

Geo-Environmental Data Report

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Order Details

Date: 27/10/2025

Your ref: C6347-70136-SD

Our Ref: BRO-EZN-I2L-9UC-M9N

Site Details

Location: 305565 380834

Area: 5.89 ha

Authority: Sir Ddinbych - Denbighshire County Council ↗

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

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	2	11	50	67	-
20 >	1.2 >	Historical tanks >	0	1	4	2	-
21 >	1.3 >	Historical energy features >	0	0	2	3	-
21	1.4	Historical petrol stations	0	0	0	0	-
22 >	1.5 >	Historical garages >	0	0	6	0	-
22	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
23 >	2.1 >	Historical industrial land uses >	2	15	60	96	-
30 >	2.2 >	Historical tanks >	0	2	4	2	-
30 >	2.3 >	Historical energy features >	0	0	3	5	-
31	2.4	Historical petrol stations	0	0	0	0	-
31 >	2.5 >	Historical garages >	0	0	7	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
33	3.1	Active or recent landfill	0	0	0	0	-
33	3.2	Historical landfill (BGS records)	0	0	0	0	-
34 >	3.3 >	Historical landfill (LA/mapping records) >	0	0	1	0	-
34	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
34	3.5	Historical waste sites	0	0	0	0	-
34 >	3.6 >	Licensed waste sites >	0	0	0	3	-
35 >	3.7 >	Waste exemptions >	0	0	1	2	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
37 >	4.1 >	Recent industrial land uses >	0	1	12	-	-
38 >	4.2 >	National Geographic Database (NGD) - Current or recent tanks >	0	0	2	-	-
39 >	4.3 >	Current or recent petrol stations >	0	0	0	1	-
39	4.4	Electricity cables	0	0	0	0	-
39	4.5	Gas pipelines	0	0	0	0	-

39	4.6	Sites determined as Contaminated Land	0	0	0	0	-
39	4.7	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
40	4.8	Regulated explosive sites	0	0	0	0	-
40	4.9	Hazardous substance storage/usage	0	0	0	0	-
40	4.10	Historical licensed industrial activities (IPC)	0	0	0	0	-
40	4.11	Licensed industrial activities (Part A(1))	0	0	0	0	-
40 >	**4.12 >**	**Licensed pollutant release (Part A(2)/B) >**	0	1	3	0	-
41	4.13	Radioactive Substance Authorisations	0	0	0	0	-
41 >	**4.14 >**	**Licensed Discharges to controlled waters >**	0	0	2	4	-
42	4.15	Pollutant release to surface waters (Red List)	0	0	0	0	-
43	4.16	Pollutant release to public sewer	0	0	0	0	-
43	4.17	List 1 Dangerous Substances	0	0	0	0	-
43	4.18	List 2 Dangerous Substances	0	0	0	0	-
43 >	**4.19 >**	**Pollution Incidents (EA/NRW) >**	0	0	2	2	-
44	4.20	Pollution inventory substances	0	0	0	0	-
44	4.21	Pollution inventory waste transfers	0	0	0	0	-
44	4.22	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	**Hydrogeology >**	On site	0-50m	50-250m	250-500m	500-2000m
45 >	**5.1 >**	**Superficial aquifer >**	Identified (within 500m)				
47 >	**5.2 >**	**Bedrock aquifer >**	Identified (within 500m)				
49 >	**5.3 >**	**Groundwater vulnerability >**	Identified (within 50m)				
50 >	**5.4 >**	**Groundwater vulnerability- soluble rock risk >**	Identified (within 0m)				
51	5.5	Groundwater vulnerability- local information	None (within 0m)				
52 >	**5.6 >**	**Groundwater abstractions >**	0	0	0	0	2
53	5.7	Surface water abstractions	0	0	0	0	0
53	5.8	Potable abstractions	0	0	0	0	0
54	5.9	Source Protection Zones	0	0	0	0	-
54	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	**Hydrology >**	On site	0-50m	50-250m	250-500m	500-2000m

55 >	6.1 >	Water Network (OS MasterMap) >	1	4	11	-	-
57 >	6.2 >	Surface water features >	1	1	4	-	-
57 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
58	6.4	WFD Surface water bodies	0	0	0	-	-
58 >	6.5 >	WFD Groundwater bodies >	2	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
59 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
60	7.2	Historical Flood Events	0	0	0	-	-
60	7.3	Flood Defences	0	0	0	-	-
60	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
60	7.5	Flood Storage Areas	0	0	0	-	-
61 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
62 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
63 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
65 >	9.1 >	Groundwater flooding >	Low (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
66 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	1	0	4
67	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
67	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
67	10.4	Special Protection Areas (SPA)	0	0	0	0	0
68	10.5	National Nature Reserves (NNR)	0	0	0	0	0
68	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
68 >	10.7 >	Designated Ancient Woodland >	0	0	0	1	20
69	10.8	Biosphere Reserves	0	0	0	0	0
69	10.9	Forest Parks	0	0	0	0	0
70	10.10	Marine Conservation Zones	0	0	0	0	0
70	10.11	Green Belt	0	0	0	0	0

70	10.12	Proposed Ramsar sites	0	0	0	0	0
70	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
70	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
71	10.15	Nitrate Sensitive Areas	0	0	0	0	0
71 >	**10.16 >**	**Nitrate Vulnerable Zones >**	1	0	0	1	2
72	10.17	SSSI Impact Risk Zones	0	-	-	-	-
72	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
73	11.1	World Heritage Sites	0	0	0	-	-
74 >	**11.2 >**	**Area of Outstanding Natural Beauty >**	0	0	1	-	-
74	11.3	National Parks	0	0	0	-	-
74	11.4	Listed Buildings	0	0	0	-	-
75	11.5	Conservation Areas	0	0	0	-	-
75	11.6	Scheduled Ancient Monuments	0	0	0	-	-
75	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	**Agricultural designations >**	On site	0-50m	50-250m	250-500m	500-2000m
76 >	**12.1 >**	**Agricultural Land Classification >**	Grade 4 (within 250m)				
77 >	**12.2 >**	**Open Access Land >**	0	0	1	-	-
77	12.3	Tree Felling Licences	0	0	0	-	-
78	12.4	Environmental Stewardship Schemes	0	0	0	-	-
78	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
79	13.1	Priority Habitat Inventory	0	0	0	-	-
79	13.2	Habitat Networks	0	0	0	-	-
79	13.3	Open Mosaic Habitat	0	0	0	-	-
79	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
80 >	**14.1 >**	**10k Availability >**	Identified (within 500m)				
81	14.2	Artificial and made ground (10k)	0	0	0	0	-

82	14.3	Superficial geology (10k)	0	0	0	0	-
82	14.4	Landslip (10k)	0	0	0	0	-
83	14.5	Bedrock geology (10k)	0	0	0	0	-
83	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	**Geology 1:50,000 scale >**	On site	0-50m	50-250m	250-500m	500-2000m
84 >	15.1 >	**50k Availability >**	Identified (within 500m)				
85	15.2	Artificial and made ground (50k)	0	0	0	0	-
85	15.3	Artificial ground permeability (50k)	0	0	-	-	-
86 >	15.4 >	**Superficial geology (50k) >**	2	0	3	2	-
87 >	15.5 >	**Superficial permeability (50k) >**	Identified (within 50m)				
87	15.6	Landslip (50k)	0	0	0	0	-
87	15.7	Landslip permeability (50k)	None (within 50m)				
88 >	15.8 >	**Bedrock geology (50k) >**	2	1	5	7	-
89 >	15.9 >	**Bedrock permeability (50k) >**	Identified (within 50m)				
90 >	15.10 >	**Bedrock faults and other linear features (50k) >**	2	0	10	10	-
Page	Section	**Boreholes >**	On site	0-50m	50-250m	250-500m	500-2000m
91 >	16.1 >	**BGS Boreholes >**	0	1	1	-	-
Page	Section	**Natural ground subsidence >**					
92 >	17.1 >	**Shrink swell clays >**	Very low (within 50m)				
93 >	17.2 >	**Running sands >**	Low (within 50m)				
95 >	17.3 >	**Compressible deposits >**	Moderate (within 50m)				
97 >	17.4 >	**Collapsible deposits >**	Very low (within 50m)				
98 >	17.5 >	**Landslides >**	Low (within 50m)				
100 >	17.6 >	**Ground dissolution of soluble rocks >**	Low (within 50m)				
Page	Section	**Mining and ground workings >**	On site	0-50m	50-250m	250-500m	500-2000m
102 >	18.1 >	**BritPits >**	0	0	3	7	-
106 >	18.2 >	**Surface ground workings >**	0	7	40	-	-
108 >	18.3 >	**Underground workings >**	0	3	8	22	43
111	18.4	Underground mining extents	0	0	0	0	-

111 >	18.5 >	Historical Mineral Planning Areas >	0	1	0	0	-
112 >	18.6 >	Non-coal mining >	4	0	5	2	13
114	18.7	JPB mining areas	None (within 0m)				
115	18.8	The Coal Authority non-coal mining	0	0	0	0	-
115 >	18.9 >	Researched mining >	0	0	12	5	-
116 >	18.10 >	Mining record office plans >	3	0	0	0	-
116 >	18.11 >	BGS mine plans >	1	0	0	0	-
116	18.12	Coal mining	None (within 0m)				
117	18.13	Brine areas	None (within 0m)				
117	18.14	Gypsum areas	None (within 0m)				
117	18.15	Tin mining	None (within 0m)				
117	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes >	On site	0-50m	50-250m	250-500m	500-2000m
118 >	19.1 >	Natural cavities >	0	0	1	0	-
119 >	19.2 >	Mining cavities >	0	1	2	2	4
119	19.3	Reported recent incidents	0	0	0	0	-
120	19.4	Historical incidents	0	0	0	0	-
Page	Section	Radon >					
121 >	20.1 >	Radon >	Between 10% and 30% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
123 >	21.1 >	BGS Estimated Background Soil Chemistry >	10	4	-	-	-
124	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
124	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
125	22.1	Underground railways (London)	0	0	0	-	-
125	22.2	Underground railways (Non-London)	0	0	0	-	-
126	22.3	Railway tunnels	0	0	0	-	-
126 >	22.4 >	Historical railway and tunnel features >	0	2	8	-	-
126	22.5	Royal Mail tunnels	0	0	0	-	-

127 >	22.6 >	Historical railways >	0	0	1	-	-
127	22.7	Railways	0	0	0	-	-
127	22.8	Crossrail 2	0	0	0	0	-
127	22.9	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 22/05/2023

Site Area: 5.89ha

Recent site history - 2020 aerial photograph

Capture Date: 06/05/2020

Site Area: 5.89ha

Recent site history - 2015 aerial photograph

Capture Date: 08/04/2015

Site Area: 5.89ha

Recent site history - 2009 aerial photograph

Capture Date: 01/06/2009

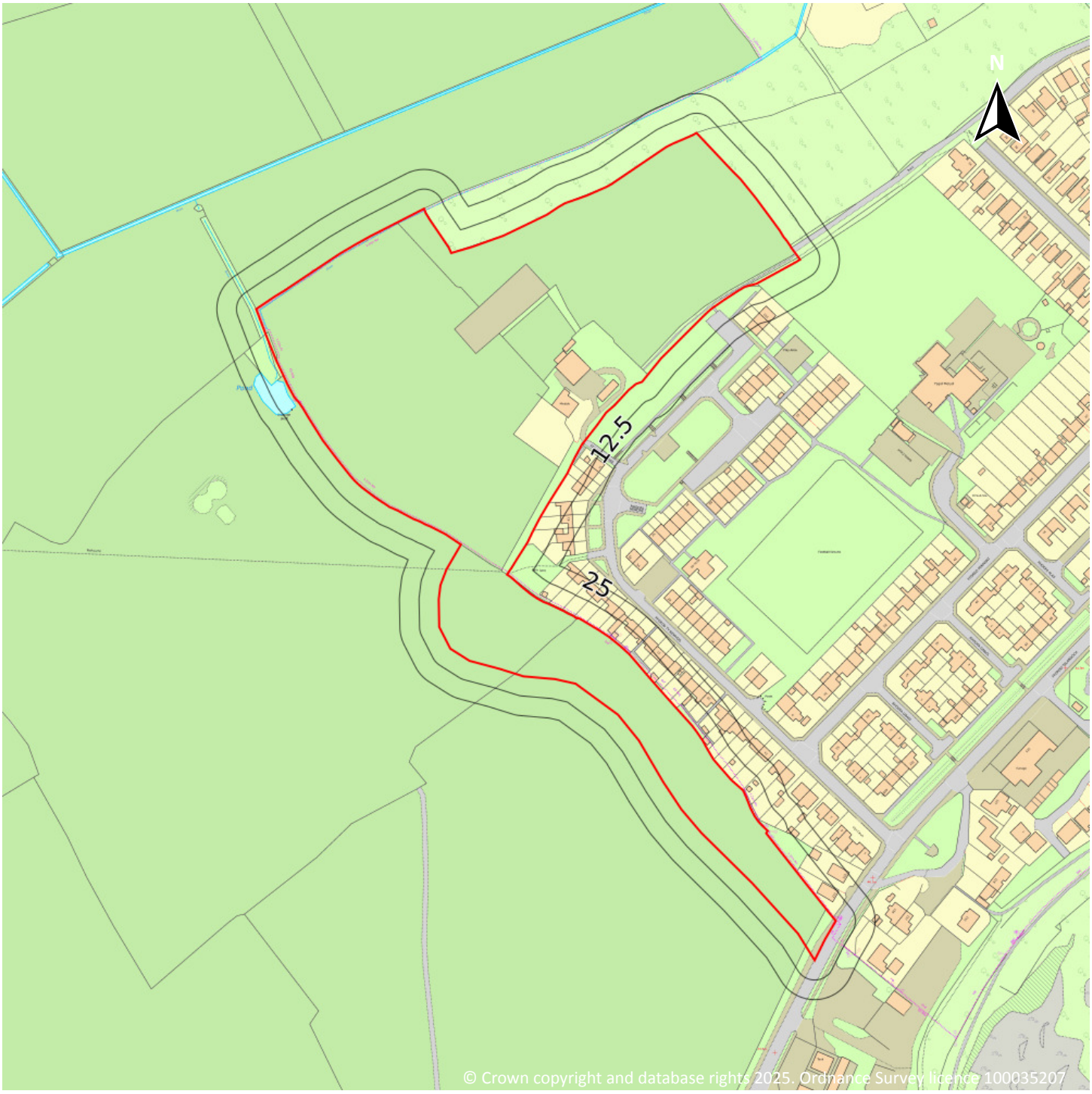
Site Area: 5.89ha

Recent site history - 2000 aerial photograph

Capture Date: 22/07/2000

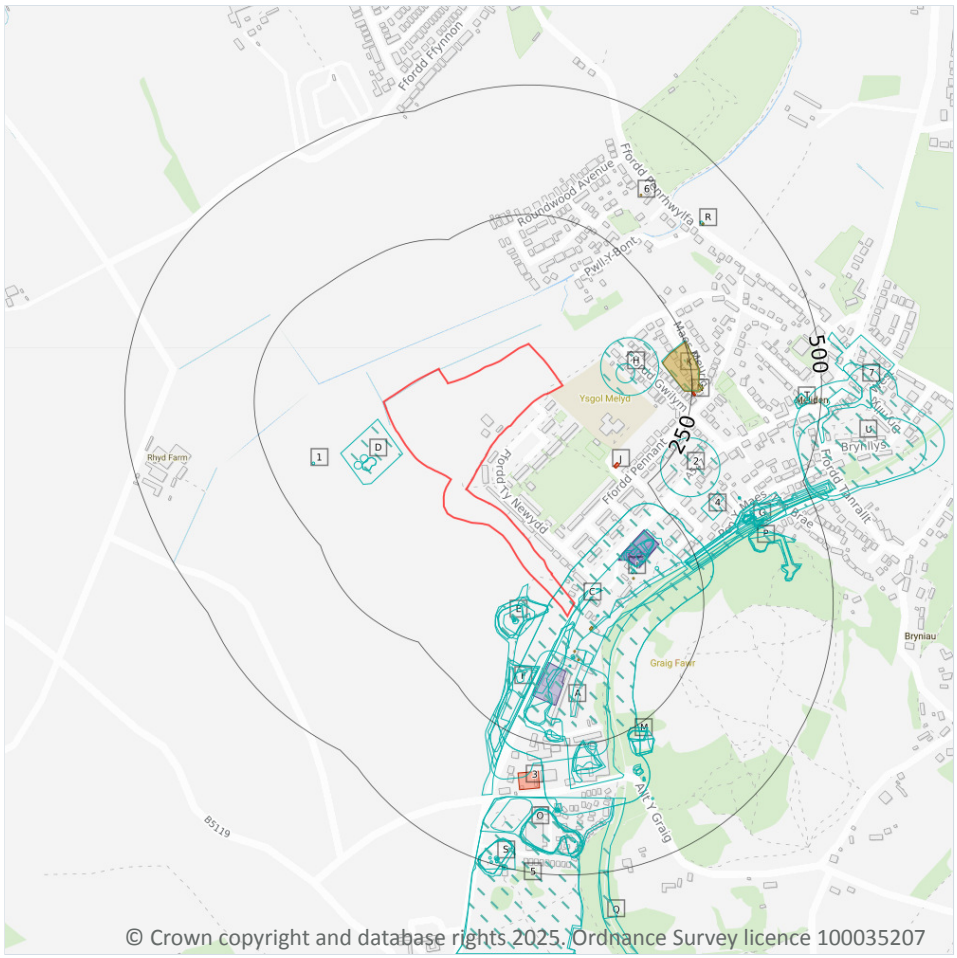
Site Area: 5.89ha

OS MasterMap site plan



Site Area: 5.89ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

1.1 Historical industrial land uses

Records within 500m	130

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

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Disused Mine**	**1898**	**906291**

ID	Location	Land use	Dates present	Group ID
B	**On site**	**Disused Lead Mine**	**1911 - 1949**	**916896**
A	6m SE	Unspecified Ground Workings	1949	923594
A	7m SE	Lead Mine	1871	838203
C	9m E	Unspecified Heap	1959	842984
A	14m SE	Unspecified Ground Workings	1959	908982
D	15m SW	Unspecified Works	1969 - 1979	948882
E	17m SW	Unspecified Disused Mine	1959	912984
A	17m S	Unspecified Ground Workings	1911	1004416
F	21m SW	Disused Lead Mine	1949	968193
E	21m SW	Disused Lead Mine	1911	909534
E	45m SW	Unspecified Heap	1871 - 1898	959156
C	49m SE	Unspecified Shaft	1871	825358
E	52m SW	Unspecified Heap	1959	953900
G	52m SE	Railway Sidings	1898	903131
G	53m SE	Railway Sidings	1871	917318
E	54m SW	Chimney	1969	853132
E	55m SW	Unspecified Heap	1911 - 1938	895688
D	65m SW	Unspecified Tanks	1969 - 1979	905692
D	65m SW	Unspecified Tanks	1994	919779
B	72m S	Unspecified Works	1969 - 1979	978714
D	74m SW	Unspecified Tank	1959	850224
A	76m S	Unspecified Shafts	1898	839007
A	77m SE	Railway Sidings	1898	986469
H	79m E	Sewage Covered Tanks	1938	818075
A	79m S	Lead Shafts	1871	848055
E	79m SW	Unspecified Disused Shaft	1969	852431
E	81m SW	Unspecified Old Shaft	1911	979794
E	82m SW	Unspecified Old Shaft	1898	1006288

ID	Location	Land use	Dates present	Group ID
E	83m SW	Lead Shaft	1871	820723
E	83m SW	Unspecified Old Shaft	1938	953946
D	91m SW	Unspecified Tank	1959	850225
A	94m S	Lead Shafts	1871	848054
H	106m E	Covered Sewage Tanks	1949	919661
F	111m SW	Unspecified Ground Workings	1949	919503
F	116m SW	Unspecified Ground Workings	1959	864674
F	121m SW	Unspecified Ground Workings	1911	867778
I	125m NE	Unspecified Tank	1871	850223
I	129m NE	Unspecified Heaps	1911	837789
F	131m SW	Unspecified Pit	1938	829467
I	133m NE	Unspecified Pits	1949	876911
F	145m SW	Unspecified Ground Workings	1969	874458
I	149m NE	Unspecified Pit	1959	829466
B	168m S	Unspecified Ground Workings	1959	1006241
1	169m SW	Wind Pump	1911	825851
I	170m NE	Unspecified Old Shaft	1898	823568
I	171m NE	Unspecified Heap	1949	973307
I	175m NE	Unspecified Heap	1959	872417
K	197m E	Covered Sewage Tanks	1911	856970
B	199m S	Unspecified Ground Workings	1959	999134
B	221m S	Unspecified Heap	1959	842983
B	225m S	Unspecified Ground Workings	1911	985228
L	228m E	Railway Sidings	1938	921570
L	228m E	Railway Sidings	1949	1000522
L	231m E	Railway Sidings	1911	950206
L	232m E	Railway Sidings	1959	965500
2	236m SE	Electric Telegraph	1871	826726

ID	Location	Land use	Dates present	Group ID
B	241m S	Unspecified Ground Workings	1959	963124
B	245m S	Unspecified Ground Workings	1911	944292
B	246m S	Unspecified Pit	1959	829468
B	246m S	Unspecified Ground Workings	1949	893169
M	248m SE	Unspecified Heap	1994	879931
M	248m SE	Unspecified Heap	1959 - 1979	993779
B	254m S	Refuse Heap	1969	809491
M	254m SE	Unspecified Ground Workings	1949	977744
M	255m SE	Unspecified Ground Workings	1911	996602
M	255m SE	Unspecified Heap	1938	938468
M	273m SE	Unspecified Ground Workings	1994	930811
M	273m SE	Unspecified Ground Workings	1959 - 1979	943510
4	306m NE	Shale Tip	1911	838145
M	317m SE	Unspecified Old Shafts	1959	845923
M	321m SE	Old Lead Shafts	1911 - 1938	928412
M	325m SE	Unspecified Disused Shaft	1994	884348
M	325m SE	Unspecified Disused Shaft	1969 - 1979	951724
L	340m NE	Railway Station	1911	976994
M	344m SE	Unspecified Old Shafts	1959	845924
M	347m SE	Old Lead Shafts	1911	836173
M	347m SE	Unspecified Old Shaft	1949	862427
5	350m S	Unspecified Mine	1898	817946
L	353m NE	Railway Building	1949	938837
O	353m S	Unspecified Ground Workings	1938	915832
P	358m E	Unspecified Quarries	1911 - 1938	859672
P	360m E	Unspecified Quarries	1949	983408
P	360m E	Unspecified Quarries	1959	998055
L	361m NE	Railway Building	1938	962618

ID	Location	Land use	Dates present	Group ID
L	362m NE	Railway Building	1911	998456
O	362m S	Old Lead Shaft	1949	846879
O	362m S	Refuse Heap	1949	808552
Q	363m S	Railway Sidings	1871	940759
L	364m NE	Railway Building	1898	920403
L	365m NE	Railway Building	1969 - 1979	909638
L	365m NE	Railway Station	1959	957789
L	366m NE	Railway Building	1871	994174
O	370m S	Unspecified Old Shaft	1959	908565
O	371m S	Unspecified Old Shaft	1938	952291
O	373m S	Unspecified Level	1898	852679
O	374m S	Unspecified Heaps	1959	837802
L	376m NE	Lead Shaft	1871	820725
L	376m NE	Unspecified Old Shaft	1898	823596
O	376m S	Unspecified Level	1871	852683
O	376m S	Unspecified Heap	1898	947198
O	376m S	Unspecified Heap	1949	967779
O	377m S	Old Lead Shaft	1911	984346
O	378m S	Unspecified Ground Workings	1911	966239
L	379m NE	Railway Station	1938	900988
L	381m NE	Railway Station	1949	988652
M	387m SE	Unspecified Old Shaft	1949	912147
R	401m NE	Sewage Tank	1911 - 1949	909582
O	435m S	Unspecified Shaft	1871	825388
S	446m S	Unspecified Heap	1959	988191
T	448m E	Police Station	1994	886404
T	448m E	Police Station	1979	984629
S	449m S	Lead Mine	1871	838211

ID	Location	Land use	Dates present	Group ID
S	449m S	Unspecified Heap	1949	944197
S	449m S	Unspecified Heap	1898	946873
S	449m S	Unspecified Heap	1911 - 1938	875397
U	454m E	Unspecified Disused Mine	1898	818051
U	469m E	Disused Lead Mine	1911 - 1938	951351
S	483m S	Unspecified Shaft	1871	825557
S	485m S	Unspecified Old Shafts	1959	995038
S	486m S	Unspecified Old Shafts	1949	915469
S	486m S	Unspecified Old Shaft	1938	917687
S	488m S	Unspecified Old Shaft	1938	983723
S	491m S	Unspecified Old Shafts	1911	862665
S	491m S	Unspecified Old Shafts	1911	962585
S	495m S	Unspecified Old Shafts	1949	846227
S	495m S	Unspecified Disused Shaft	1969	852536
Q	495m S	Cuttings	1959 - 1983	924852
S	496m S	Unspecified Old Shafts	1959	970839
7	497m E	Unspecified Ground Workings	1911	815020

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**7**

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

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
C	49m SE	Unspecified Tank	1987 - 1993	139067

ID	Location	Land use	Dates present	Group ID
A	68m S	Unspecified Tank	1871	116337
A	85m S	Unspecified Tank	1871	116336
I	122m NE	Iron Tank	1871	112611
K	198m E	Covered Sewage Tanks	1912	112834
6	359m NE	Unspecified Tank	1899	116338
R	403m NE	Sewage Tank	1912	112548

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	5

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

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
J	182m SE	Electricity Substation	1990 - 1993	79145
J	183m SE	Electricity Substation	1977	74457
N	251m E	Electricity Substation	1990 - 1993	69520
N	251m E	Electricity Substation	1977	80588
3	305m S	Electricity Substation	1987 - 1993	72333

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	6

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

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
A	96m S	Garage	1987 - 1993	23682
I	118m NE	Garage	1962	30842
I	119m NE	Garage	1990	27834
I	120m NE	Garage	1993	29095
I	121m NE	Garage	1977	26027
I	141m NE	Garage	1964	25662

This data is sourced from Ordnance Survey / Groundsure.

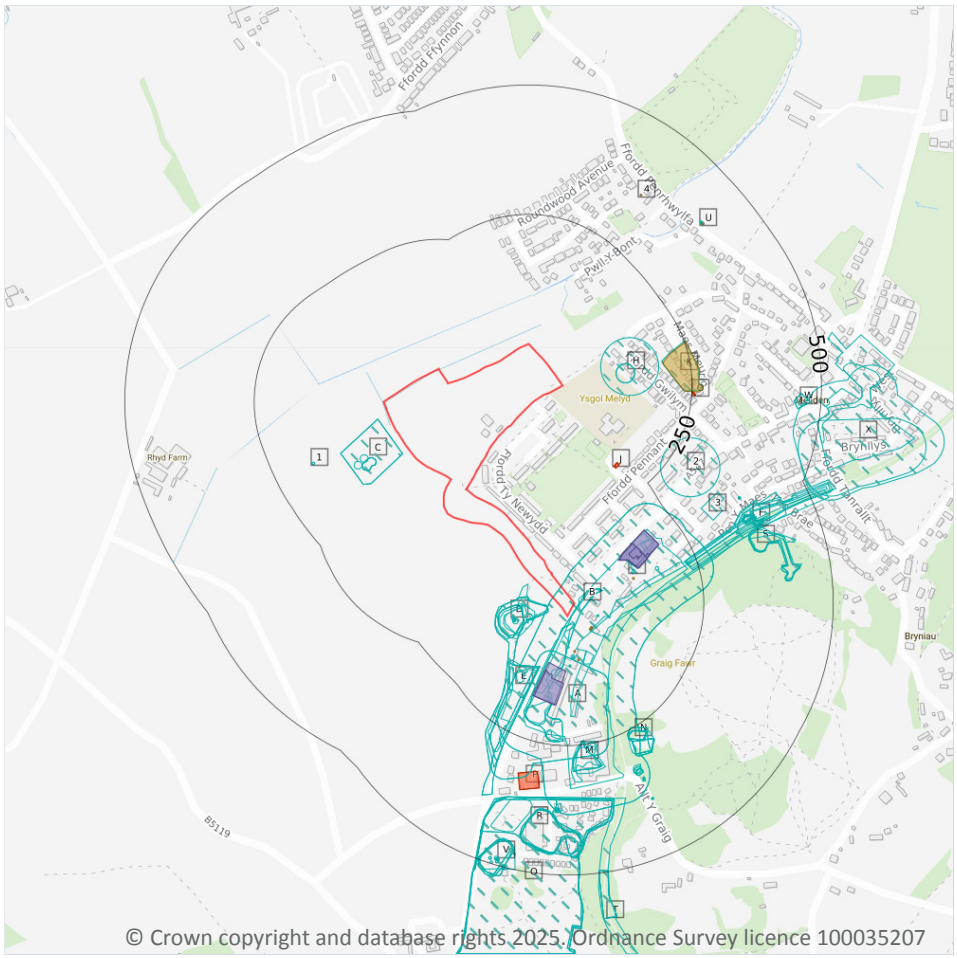
1.6 Historical military land

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



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

2.1 Historical industrial land uses

Records within 500m	173

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 23 >**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Disused Lead Mine**	**1938**	**916896**
A	**On site**	**Unspecified Disused Mine**	**1898**	**906291**
A	6m SE	Unspecified Ground Workings	1949	923594

ID	Location	Land Use	Date	Group ID
A	6m SE	Unspecified Ground Workings	1949	923594
A	7m SE	Lead Mine	1871	838203
B	9m E	Unspecified Heap	1959	842984
A	14m SE	Unspecified Ground Workings	1959	908982
C	15m SW	Unspecified Works	1979	948882
C	15m SW	Unspecified Works	1969	948882
D	17m SW	Unspecified Disused Mine	1959	912984
A	17m S	Unspecified Ground Workings	1911	1004416
E	21m SW	Disused Lead Mine	1949	968193
E	21m SW	Disused Lead Mine	1949	968193
D	21m SW	Disused Lead Mine	1911	909534
D	45m SW	Unspecified Heap	1898	959156
B	49m SE	Unspecified Shaft	1871	825358
D	50m SW	Unspecified Heap	1871	959156
D	52m SW	Unspecified Heap	1959	953900
F	52m SE	Railway Sidings	1898	903131
F	53m SE	Railway Sidings	1871	917318
D	54m SW	Chimney	1969	853132
D	55m SW	Unspecified Heap	1938	895688
D	57m SW	Unspecified Heap	1911	895688
C	65m SW	Unspecified Tanks	1979	905692
C	65m SW	Unspecified Tanks	1994	919779
C	65m SW	Unspecified Tanks	1969	905692
G	72m S	Unspecified Works	1969	978714
G	72m S	Unspecified Works	1979	978714
C	74m SW	Unspecified Tank	1959	850224
A	76m S	Unspecified Shafts	1898	839007
A	77m SE	Railway Sidings	1898	986469

ID	Location	Land Use	Date	Group ID
H	79m E	Sewage Covered Tanks	1938	818075
A	79m S	Lead Shafts	1871	848055
D	79m SW	Unspecified Disused Shaft	1969	852431
D	81m SW	Unspecified Old Shaft	1911	979794
D	82m SW	Unspecified Old Shaft	1898	1006288
D	83m SW	Unspecified Old Shaft	1938	953946
D	83m SW	Lead Shaft	1871	820723
C	91m SW	Unspecified Tank	1959	850225
A	94m S	Lead Shafts	1871	848054
H	106m E	Covered Sewage Tanks	1949	919661
H	106m E	Covered Sewage Tanks	1949	919661
E	111m SW	Unspecified Ground Workings	1949	919503
E	111m SW	Unspecified Ground Workings	1949	919503
E	116m SW	Unspecified Ground Workings	1959	864674
E	121m SW	Unspecified Ground Workings	1911	867778
I	125m NE	Unspecified Tank	1871	850223
I	129m NE	Unspecified Heaps	1911	837789
E	131m SW	Unspecified Pit	1938	829467
I	133m NE	Unspecified Pits	1949	876911
I	133m NE	Unspecified Pits	1949	876911
E	145m SW	Unspecified Ground Workings	1969	874458
I	149m NE	Unspecified Pit	1959	829466
G	168m S	Unspecified Ground Workings	1959	1006241
1	169m SW	Wind Pump	1911	825851
I	170m NE	Unspecified Old Shaft	1898	823568
I	171m NE	Unspecified Heap	1949	973307
I	171m NE	Unspecified Heap	1949	973307
I	175m NE	Unspecified Heap	1959	872417

ID	Location	Land Use	Date	Group ID
K	197m E	Covered Sewage Tanks	1911	856970
G	199m S	Unspecified Ground Workings	1959	999134
G	221m S	Unspecified Heap	1959	842983
G	225m S	Unspecified Ground Workings	1911	985228
L	228m E	Railway Sidings	1938	921570
L	228m E	Railway Sidings	1949	1000522
L	231m E	Railway Sidings	1911	950206
L	232m E	Railway Sidings	1959	965500
2	236m SE	Electric Telegraph	1871	826726
M	241m S	Unspecified Ground Workings	1959	963124
M	245m S	Unspecified Ground Workings	1911	944292
M	246m S	Unspecified Pit	1959	829468
M	246m S	Unspecified Ground Workings	1949	893169
M	246m S	Unspecified Ground Workings	1949	893169
N	248m SE	Unspecified Heap	1979	993779
N	248m SE	Unspecified Heap	1994	879931
N	248m SE	Unspecified Heap	1959	993779
N	248m SE	Unspecified Heap	1969	993779
M	254m S	Refuse Heap	1969	809491
N	254m SE	Unspecified Ground Workings	1949	977744
N	254m SE	Unspecified Ground Workings	1949	977744
N	255m SE	Unspecified Ground Workings	1911	996602
N	255m SE	Unspecified Heap	1938	938468
N	273m SE	Unspecified Ground Workings	1979	943510
N	273m SE	Unspecified Ground Workings	1994	930811
N	273m SE	Unspecified Ground Workings	1959	943510
N	273m SE	Unspecified Ground Workings	1969	943510
3	306m NE	Shale Tip	1911	838145

ID	Location	Land Use	Date	Group ID
N	317m SE	Unspecified Old Shafts	1959	845923
N	321m SE	Old Lead Shafts	1938	928412
N	321m SE	Old Lead Shafts	1911	928412
N	325m SE	Unspecified Disused Shaft	1979	951724
N	325m SE	Unspecified Disused Shaft	1994	884348
N	325m SE	Unspecified Disused Shaft	1969	951724
L	340m NE	Railway Station	1911	976994
N	344m SE	Unspecified Old Shafts	1959	845924
N	347m SE	Old Lead Shafts	1911	836173
N	347m SE	Unspecified Old Shaft	1949	862427
N	347m SE	Unspecified Old Shaft	1949	862427
Q	350m S	Disused Lead Mine	1949	916896
Q	350m S	Unspecified Mine	1898	817946
Q	353m S	Disused Lead Mine	1938	916896
Q	353m S	Disused Lead Mine	1938	916896
L	353m NE	Railway Building	1949	938837
R	353m S	Unspecified Ground Workings	1938	915832
R	353m S	Unspecified Ground Workings	1938	915832
Q	355m S	Disused Lead Mine	1911	916896
Q	355m S	Disused Lead Mine	1911	916896
S	358m E	Unspecified Quarries	1911	859672
S	360m E	Unspecified Quarries	1938	859672
S	360m E	Unspecified Quarries	1949	983408
S	360m E	Unspecified Quarries	1959	998055
L	361m NE	Railway Building	1938	962618
L	362m NE	Railway Building	1911	998456
R	362m S	Old Lead Shaft	1949	846879
R	362m S	Refuse Heap	1949	808552

ID	Location	Land Use	Date	Group ID
T	363m S	Railway Sidings	1871	940759
L	364m NE	Railway Building	1898	920403
L	365m NE	Railway Building	1979	909638
L	365m NE	Railway Station	1959	957789
L	365m NE	Railway Building	1969	909638
L	366m NE	Railway Building	1871	994174
R	370m S	Unspecified Old Shaft	1959	908565
R	371m S	Unspecified Old Shaft	1938	952291
R	371m S	Unspecified Old Shaft	1938	952291
R	373m S	Unspecified Level	1898	852679
R	374m S	Unspecified Heaps	1959	837802
L	376m NE	Unspecified Old Shaft	1898	823596
L	376m NE	Lead Shaft	1871	820725
R	376m S	Unspecified Heap	1949	967779
R	376m S	Unspecified Heap	1898	947198
R	376m S	Unspecified Level	1871	852683
R	377m S	Old Lead Shaft	1911	984346
R	377m S	Old Lead Shaft	1911	984346
R	378m S	Unspecified Ground Workings	1911	966239
R	378m S	Unspecified Ground Workings	1911	966239
L	379m NE	Railway Station	1938	900988
L	381m NE	Railway Station	1949	988652
N	387m SE	Unspecified Old Shaft	1949	912147
N	387m SE	Unspecified Old Shaft	1949	912147
U	401m NE	Sewage Tank	1949	909582
U	401m NE	Sewage Tank	1949	909582
U	402m NE	Sewage Tank	1911	909582
U	402m NE	Sewage Tank	1938	909582

ID	Location	Land Use	Date	Group ID
R	435m S	Unspecified Shaft	1871	825388
V	446m S	Unspecified Heap	1959	988191
W	448m E	Police Station	1979	984629
W	448m E	Police Station	1994	886404
V	449m S	Unspecified Heap	1949	944197
V	449m S	Unspecified Heap	1898	946873
V	449m S	Lead Mine	1871	838211
V	449m S	Unspecified Heap	1938	875397
V	449m S	Unspecified Heap	1938	875397
V	450m S	Unspecified Heap	1911	875397
V	450m S	Unspecified Heap	1911	875397
X	454m E	Unspecified Disused Mine	1898	818051
X	469m E	Disused Lead Mine	1938	951351
V	483m S	Unspecified Shaft	1871	825557
V	485m S	Unspecified Old Shafts	1959	995038
V	486m S	Unspecified Old Shafts	1949	915469
V	486m S	Unspecified Old Shaft	1938	917687
V	486m S	Unspecified Old Shaft	1938	917687
V	488m S	Unspecified Old Shaft	1938	983723
V	488m S	Unspecified Old Shaft	1938	983723
V	491m S	Unspecified Old Shafts	1911	862665
V	491m S	Unspecified Old Shafts	1911	962585
V	495m S	Unspecified Old Shafts	1949	846227
V	495m S	Unspecified Disused Shaft	1969	852536
T	495m S	Cuttings	1968	924852
T	495m S	Cuttings	1983	924852
T	495m S	Cuttings	1959	924852
V	496m S	Unspecified Old Shafts	1959	970839

ID	Location	Land Use	Date	Group ID
X	497m E	Unspecified Ground Workings	1911	815020
X	497m E	Disused Lead Mine	1911	951351

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m **8**

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

Features are displayed on the Past land use - un-grouped map on **page 23 >**

ID	Location	Land Use	Date	Group ID
B	49m SE	Unspecified Tank	1987	139067
B	49m SE	Unspecified Tank	1993	139067
A	68m S	Unspecified Tank	1871	116337
A	85m S	Unspecified Tank	1871	116336
I	122m NE	Iron Tank	1871	112611
K	198m E	Covered Sewage Tanks	1912	112834
4	359m NE	Unspecified Tank	1899	116338
U	403m NE	Sewage Tank	1912	112548

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m **8**

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

Features are displayed on the Past land use - un-grouped map on **page 23 >**

ID	Location	Land Use	Date	Group ID
J	182m SE	Electricity Substation	1993	79145

ID	Location	Land Use	Date	Group ID
J	182m SE	Electricity Substation	1990	79145
J	183m SE	Electricity Substation	1977	74457
O	251m E	Electricity Substation	1993	69520
O	251m E	Electricity Substation	1990	69520
O	251m E	Electricity Substation	1977	80588
P	305m S	Electricity Substation	1993	72333
P	305m S	Electricity Substation	1987	72333

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	7

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

Features are displayed on the Past land use - un-grouped map on **page 23 >**

ID	Location	Land Use	Date	Group ID
A	96m S	Garage	1987	23682
A	112m S	Garage	1993	23682
I	118m NE	Garage	1962	30842
I	119m NE	Garage	1990	27834
I	120m NE	Garage	1993	29095
I	121m NE	Garage	1977	26027

ID	Location	Land Use	Date	Group ID
I	141m NE	Garage	1964	25662

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill

3.1 Active or recent landfill

Records within 500m	0

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

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

3.2 Historical landfill (BGS records)

Records within 500m	0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	1

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

Features are displayed on the Waste and landfill map on **page 33 >**

ID	Location	Site address	Source	Data type
1	68m SW	Refuse Tip	1962 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	0

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

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

3.5 Historical waste sites

Records within 500m	0

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

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

3.6 Licensed waste sites

Records within 500m	3

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

Features are displayed on the Waste and landfill map on **page 33 >**

ID	Location	Details		
5	280m S	Site Name: Thorncliffe's Transfer Station Site Address: Allt Y Graig, Meliden Road, Dyserth, Rhyl, Denbighshire, LL18 6DE Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: THO003 EPR reference: WP3494FT/S002 Operator: Thorncliffe Building Supplies Ltd Waste Management licence No: 37215 Annual Tonnage: 19644	Issue Date: 30/04/2001 Effective Date: - Modified: 10/12/2003 Surrendered Date: 2.00407e+016 Expiry Date: 0 Cancelled Date: 0 Status: Surrendered
A	335m S	Site Name: Thorncliffe Building and Garden Products Site Address: Thorncliffe Building Supplies Ltd, Allt-y-graig, Meliden Road, Dyserth, Denbighshire, LL18 6DE Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: HAR002 EPR reference: NP3394FJ/S002 Operator: Harper Timothy John Waste Management licence No: 37142 Annual Tonnage: 4880	Issue Date: 01/01/1995 Effective Date: - Modified: - Surrendered Date: 2.00106e+016 Expiry Date: 2.00106e+016 Cancelled Date: 0 Status: Surrendered
A	336m S	Site Name: Thorncliffe Building and Garden Products Site Address: Thorncliffe Building Supplies Ltd, Allt-y-graig, Meliden Road, Dyserth, Denbighshire, LL18 6DE Correspondence Address: Thorncliffe Building Supplies Ltd, Allt-y-graig, Meliden Road, Dyserth, Denbighshire, LL18 6DE	Type of Site: Household, Commercial & Industrial Waste T Stn Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: HAR002 EPR reference: - Operator: Harper Timothy John Waste Management licence No: 37142 Annual Tonnage: 0	Issue Date: 01/01/1995 Effective Date: - Modified: - Surrendered Date: 14/06/2001 Expiry Date: 14/06/2001 Cancelled Date: - Status: Surrendered

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

3.7 Waste exemptions

Records within 500m	**3**

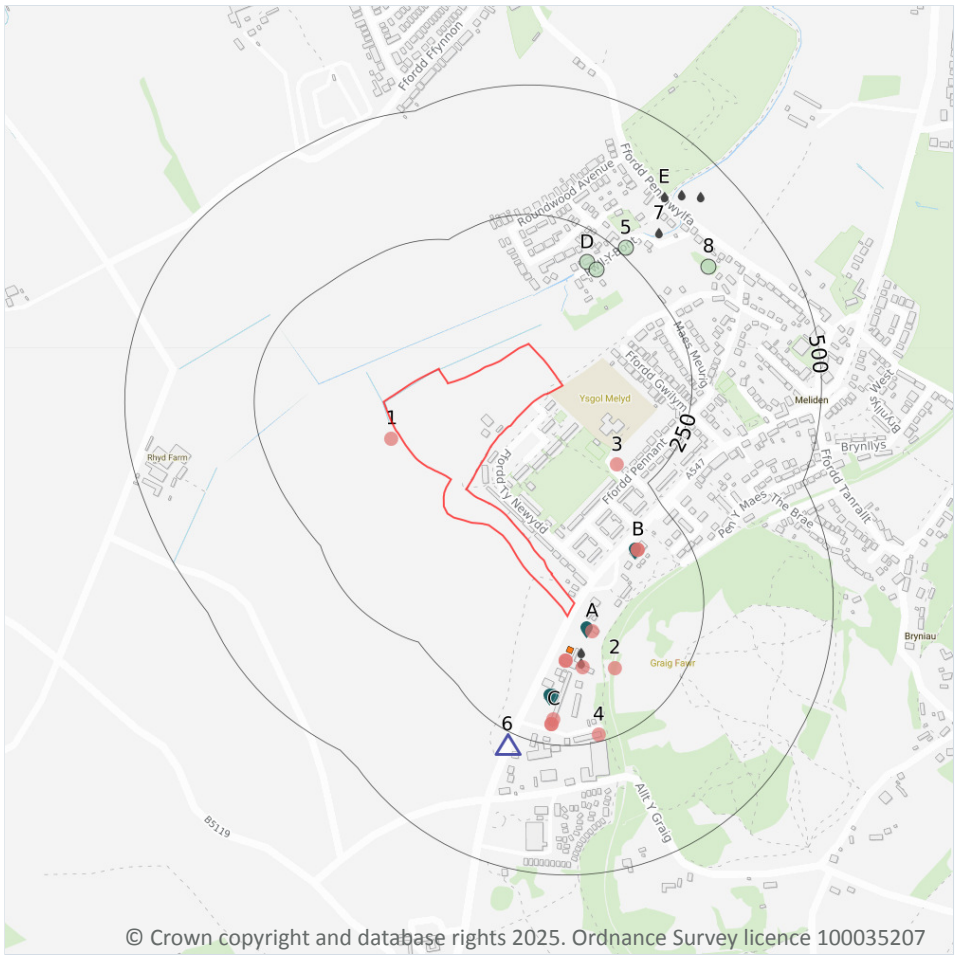
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 33 >**

ID	Location	Site	Reference	Category	Sub-Category	Description
2	177m S	National Trust, Unit 4, Talargoch Trading Estate, Meliden Road, Rhyl, Denbighshire, Ll186dj	NRW-WME026360	Disposing of waste exemption	On a farm	Burning waste in the open
3	258m NE	Castle Green Homes, 82 Ffordd Talargoch, Prestatyn, Denbighshire, Ll19 8nf	NRW-WME062544	Using waste exemption	Not on a farm	Use of waste in construction
4	275m NE	Land Near 5 And 7 Graham Avenue, Prestatyn, Denbighshire, Ll19 8ls	NRW-WME000935	Using waste exemption	Waste exemption - non-agricultural	Use of waste in construction

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	13

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 37 >**

ID	Location	Company	Address	Activity	Category
1	16m SW	Shaft	Clwyd, LL19	Unspecified Quarries Or Mines	Extractive Industries
A	56m SE	Hopper	Clwyd, LL19	Hoppers and Silos	Farming
A	86m S	Dragon Petroleum	Meliden Road, Dyserth, Rhyl, Clwyd, LL18 6DD	Fuel Distributors and Suppliers	Household, Office, Leisure and Garden

ID	Location	Company	Address	Activity	Category
A	86m S	Waterloo Hire Ltd	Meliden Road, Dyserth, Rhyl, Clwyd, LL18 6DD	Waste Collection, Processing and Disposal Equipment	Industrial Products
A	104m S	Mark 1 Cars	Craig Fawr Industrial Estate, Meliden Road, Dyserth, Rhyl, Clwyd, LL18 6DD	Vehicle Repair, Testing and Servicing	Repair and Servicing
2	135m SE	Old Shaft	Clwyd, LL18	Unspecified Quarries Or Mines	Extractive Industries
B	161m NE	Mountview Cars	125, Ffordd Talargoch, Meliden, Prestatyn, Clwyd, LL19 8NR	Secondhand Vehicles	Motoring
B	161m NE	Meliden Motor Repairs	125, Ffordd Talargoch, Meliden, Prestatyn, Clwyd, LL19 8NR	Vehicle Repair, Testing and Servicing	Repair and Servicing
3	186m SE	Electricity Sub Station	Clwyd, LL19	Electrical Features	Infrastructure and Facilities
C	200m S	Malcolm J Wilkinson Welding & Fabrications	Unit 2 Talargoch Trading Estate, Meliden Road, Dyserth, Rhyl, Clwyd, LL18 6DD	Cutting, Drilling and Welding Services	Construction Services
C	210m S	Kendrick Engineering Ltd	Unit 1 Talargoch Trading Estate, Meliden Road, Dyserth, Rhyl, Clwyd, LL18 6DJ	Industrial Engineers	Engineering Services
C	210m S	Coast Containers	Talargoch Trading Estate, Meliden Road, Dyserth, Rhyl, Clwyd, LL18 6DJ	Container and Storage	Transport, Storage and Delivery
4	237m S	Heat & Beat	Unit 16 Talargoch Trading Estate, Meliden Road, Dyserth, Rhyl, Clwyd, LL18 6DJ	Metalworkers Including Blacksmiths	Construction Services

This data is sourced from Ordnance Survey.

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

Records within 250m **2**

Current or recent tanks identified from the Ordnance Survey NGD.

Features are displayed on the Current industrial land use map on **page 37 >**

ID	Location	Tank description	Activity	Date first identified
A	58m S	Roofed Storage Tank	Commercial Activity: Distribution Or Storage	24/04/2011
A	58m S	Roofed Storage Tank	Commercial Activity: Distribution Or Storage	24/04/2011

This data is sourced from Ordnance Survey.

4.3 Current or recent petrol stations

Records within 500m	1

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 37 >**

ID	Location	Company	Address	LPG	Status
6	274m SW	TEXACO	Meliden Road, Dyserth, Rhyl, Denbighshire, LL18 6DD	Not Applicable	Obsolete

This data is sourced from Experian.

4.4 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.5 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.6 Sites determined as Contaminated Land

Records within 500m	0

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

This data is sourced from Local Authority records.

4.7 Control of Major Accident Hazards (COMAH)

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.8 Regulated explosive sites

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.9 Hazardous substance storage/usage

Records within 500m	0

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

This data is sourced from Local Authority records.

4.10 Historical licensed industrial activities (IPC)

Records within 500m	0

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

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

4.11 Licensed industrial activities (Part A(1))

Records within 500m	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.

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

Records within 500m	4

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

Features are displayed on the Current industrial land use map on **page 37 >**

ID	Location	Address	Details	
A	45m SE	Hanson Quarry Products Europe Ltd, Meliden Road, Dyserth, Denbighshire, LL19 8NS	Process: Use of Bulk Cement Status: Historical Permit Permit Type: Part B	Enforcement: Enforcements Notified Date of enforcement: 18/06/2013 Comment: EP (E&W) Regulations 2010 R22 Revocation Notice
B	153m NE	Meliden Motors, 125 Ffordd Talargoch, Meliden, Prestatyn, Denbighshire, LL19 8NR	Process: Waste Oil Burner 0.4 MW Status: New Legislation Applies Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
C	159m S	Seaview Garage, Dyserth, Denbighshire, LL18 6DD	Process: Waste Oil Burner 0.4 MW Status: New Legislation Applies Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
C	160m S	Seaview Service Station, Dyserth Road, Meliden, Denbighshire, LL18 6DD	Process: Unloading of Petrol into Storage at Service Stations Status: Revoked Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.13 Radioactive Substance Authorisations

Records within 500m	**0**

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

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

4.14 Licensed Discharges to controlled waters

Records within 500m	**6**

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

Features are displayed on the Current industrial land use map on **page 37 >**

ID	Location	Address	Details	
A	76m S	NWF FUEL DEPOT FFORD TALAGOCH MELI, NWF FUEL DEPOT FFORD TALAGOCH M, FFORD TALAGOCH MELIDEN, MELIDEN, MELIDEN, MELIDEN	Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: CG0338101 Permit Version: 0 Receiving Water: MELIDEN MINE DRAIN,TRIB PRESTA	Status: Effective Issue date: 05/05/1998 Effective Date: 05/05/1998 Revocation Date: -

ID	Location	Address	Details	
A	95m S	NWFFUELDEPOTFFORDTALAGOCH MELI, NWFFUELDEPOTFFORDTALAGOCH M, FFORDTALAGOCHMELIDEN, MELIDEN	Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: CG0338101 Permit Version: 1 Receiving Water: MELIDEN MINE DRAIN,TRIB PRESTA	Status: REVOKED - UNSPECIFIED Issue date: 05/04/1993 Effective Date: 05/04/1993 Revocation Date: 04/05/1998
7	330m NE	PRESTATYNFFORDDGWILYM&FFOR DDHE, PRESTATYNFFORDDGWILYM&FFOR DD, FFORDDGWILYM&FFORDDHENDRE	Effluent Type: UNSPECIFIED Permit Number: CM0056301 Permit Version: 1 Receiving Water: PRESTATYN CUT	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 17/04/1969 Effective Date: 17/04/1969 Revocation Date: 18/02/1993
E	386m NE	PRESTATYNTANRALLTTALARGOCHP ENRHW, PRESTATYNTANRALLTTALARGOCHP EN, TANRALLTTALARGOCHPENRHWYLF A	Effluent Type: UNSPECIFIED Permit Number: CM0056101 Permit Version: 1 Receiving Water: PRESTATYN CUT	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 17/04/1969 Effective Date: 17/04/1969 Revocation Date: 18/02/1993
E	412m NE	Meliden Holding Tank - CSO, Nr Fford Penrhwylfa, Prestatyn, LL19 8LT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CM0173201 Permit Version: 0 Receiving Water: Prestatyn Gutter	Status: Effective Issue date: 21/10/2019 Effective Date: 21/10/2019 Revocation Date: -
E	436m NE	MELIDENHOLDINGTANKSSO, LL198HW	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CM0173201 Permit Version: 2 Receiving Water: PRESTATYN GUTTER	Status: Effective Issue date: 08/09/2010 Effective Date: 08/09/2010 Revocation Date: -

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

4.15 Pollutant release to surface waters (Red List)

Records within 500m	**0**

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

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

4.16 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

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

4.17 List 1 Dangerous Substances

Records within 500m	0

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

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

4.18 List 2 Dangerous Substances

Records within 500m	0

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

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

4.19 Pollution Incidents (EA/NRW)

Records within 500m	4

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

Features are displayed on the Current industrial land use map on **page 37 >**

ID	Location	Details	
D	194m NE	Incident Date: 26/02/2002 Incident Identification: 60741 Pollutant: Oils and Fuel Pollutant Description: Kerosene and Aviation Fuel	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
D	195m NE	Incident Date: 07/10/2001 Incident Identification: 35115 Pollutant: Oils and Fuel Pollutant Description: Petrol	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

ID	Location	Details	
5	264m NE	Incident Date: 24/09/2014 Incident Identification: 1280757 Pollutant: - Pollutant Description: -	Water Impact: - Land Impact: - Air Impact: -
8	363m NE	Incident Date: 30/03/2017 Incident Identification: 1701623 Pollutant: - Pollutant Description: -	Water Impact: Other Land Impact: Other Air Impact: Other

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

4.20 Pollution inventory substances

Records within 500m	**0**

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

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

4.21 Pollution inventory waste transfers

Records within 500m	**0**

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

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

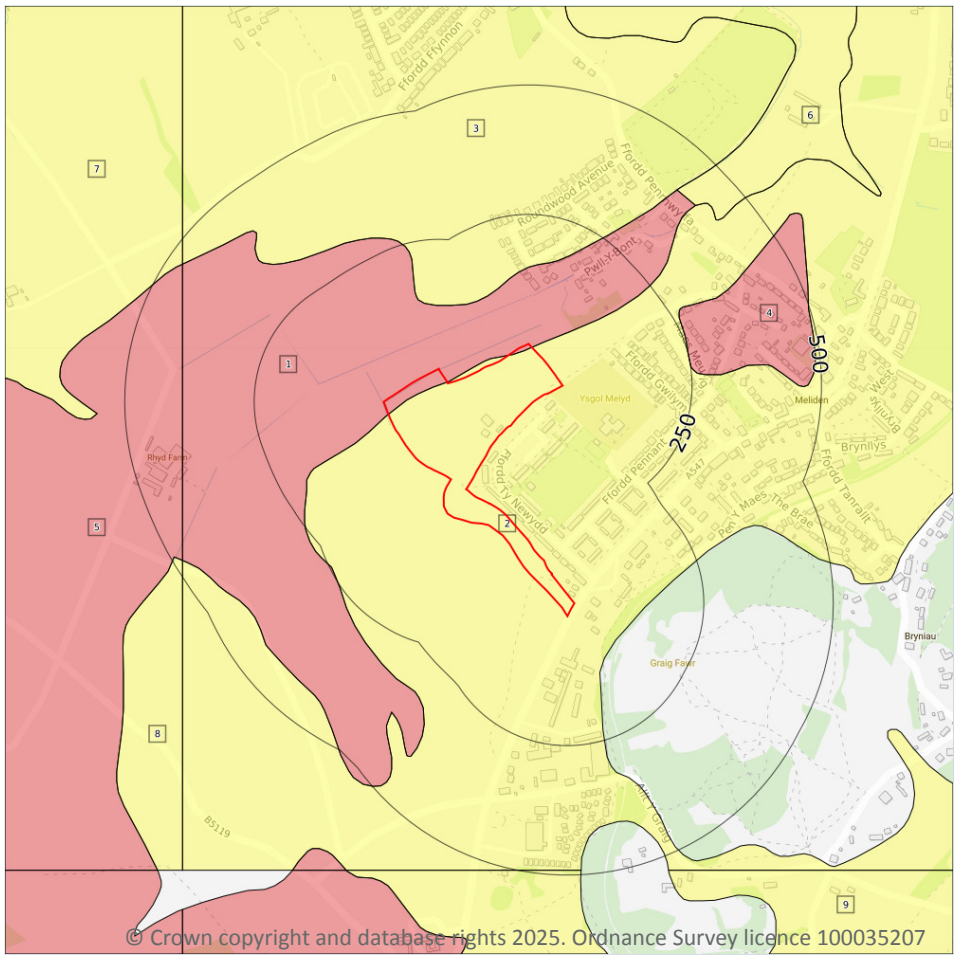
4.22 Pollution inventory radioactive waste

Records within 500m	**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	9

Aquifer status of groundwater held within superficial geology.

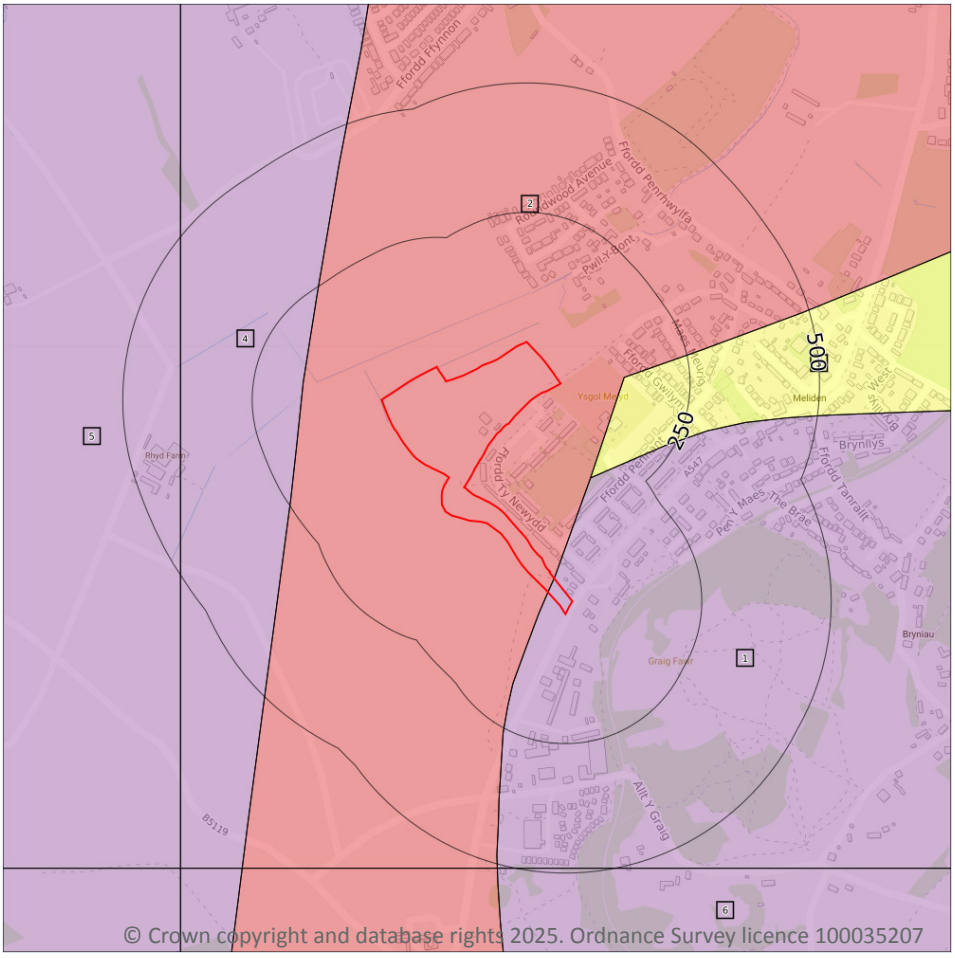
Features are displayed on the Hydrogeology map on **page 45 >**

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

ID	Location	Designation	Description
3	118m NW	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	250m 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
5	388m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
6	413m NE	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
7	471m NW	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
8	483m SW	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
9	491m S	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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

Bedrock aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m	6

Aquifer status of groundwater held within bedrock geology.

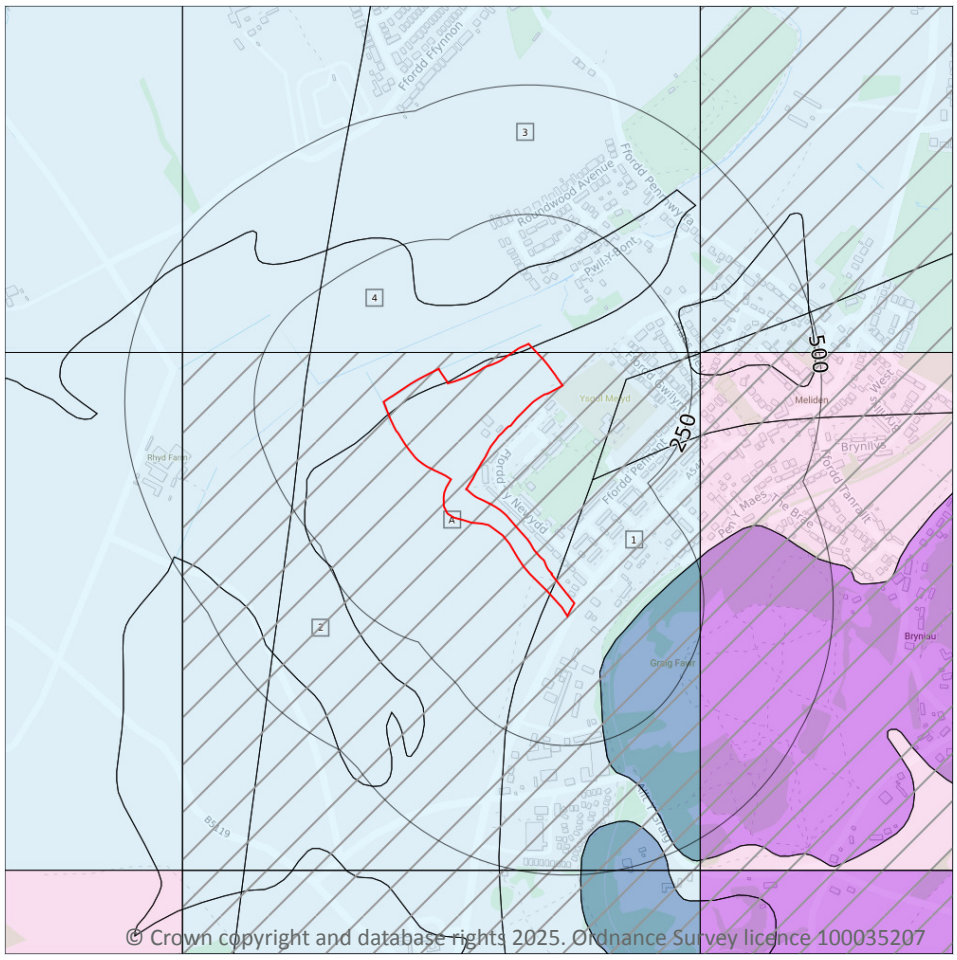
Features are displayed on the Bedrock aquifer map on **page 47 >**

ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	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

ID	Location	Designation	Description
3	113m E	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	154m W	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
5	388m W	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
6	491m S	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

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

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

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

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

Other information
- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	5

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

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

Features are displayed on the Groundwater vulnerability map on **page 49 >**

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: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
3	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
4	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
A	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >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	1

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

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
A	**Very significant soluble rocks are likely to be present with a moderate possibility of localised natural subsidence or dissolution-related degradation of bedrock, especially in adverse conditions such as concentrated surface or subsurface water flow.**	**3.0%**

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

5.5 Groundwater vulnerability- local information

Records on site	**0**

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

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

Abstractions and Source Protection Zones

Site Outline

Search buffers in metres (m)

- Source Protection Zone 1 — Inner catchment
- Source Protection Zone 2 — Outer catchment
- Source Protection Zone 3 — Total catchment
- Source Protection Zone 4 — Zone of Special Interest
- Source Protection Zone 1c — Inner catchment - confined aquifer
- Source Protection Zone 2c — Outer catchment - confined aquifer
- Source Protection Zone 3c — Total catchment - confined aquifer
- Drinking water abstraction licences
- Drinking water abstraction licences — Polygon features
- Drinking water abstraction licences — Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m	2

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 52 >**

ID	Location	Details	
-	1509m W	Status: Historical Licence No: 24/66/7/0010 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: WELL Data Type: Point Name: Ellis Easting: 303880 Northing: 380920	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 29/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 29/03/1966 Version End Date: -
-	1573m W	Status: Historical Licence No: 24/66/7/0013 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: WELL Data Type: Point Name: Thomas Easting: 303880 Northing: 381350	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 29/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 29/03/1966 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	0

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

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

5.8 Potable abstractions

Records within 2000m	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.

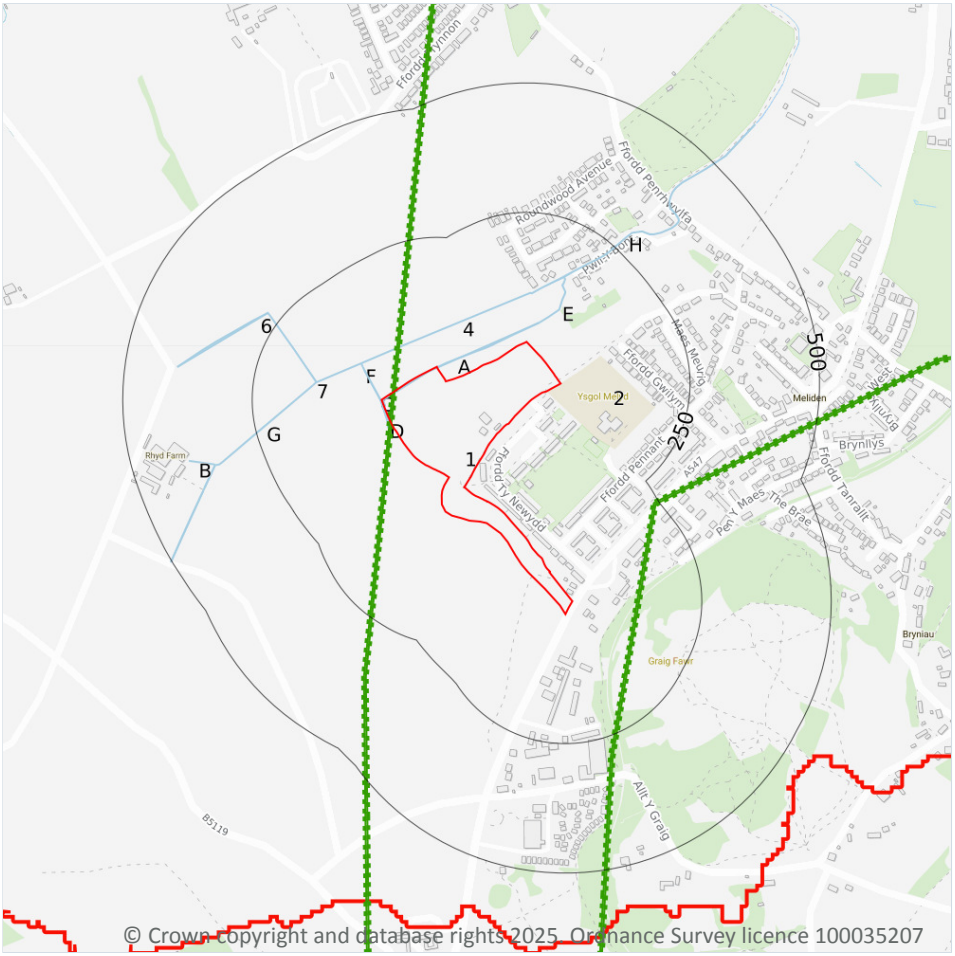
5.10 Source Protection Zones (confined aquifer)

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	16

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 55 >**

ID	Location	Type of water feature	Ground level	Permanence	Name
A	**On site**	**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
C	2m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	6m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	7m SW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	44m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	63m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	65m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
F	73m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	81m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	131m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
7	131m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
G	135m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	137m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	139m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
E	141m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	145m 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	**6**

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 55 >**

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 55 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	**On site**	**Coastal catchment**	**Not part of a river WB catchment**	**339**	**Clwyd Lower**	**Clwyd**

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

6.4 WFD Surface water bodies

Records identified	0

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.

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

6.5 WFD Groundwater bodies

Records on site	2

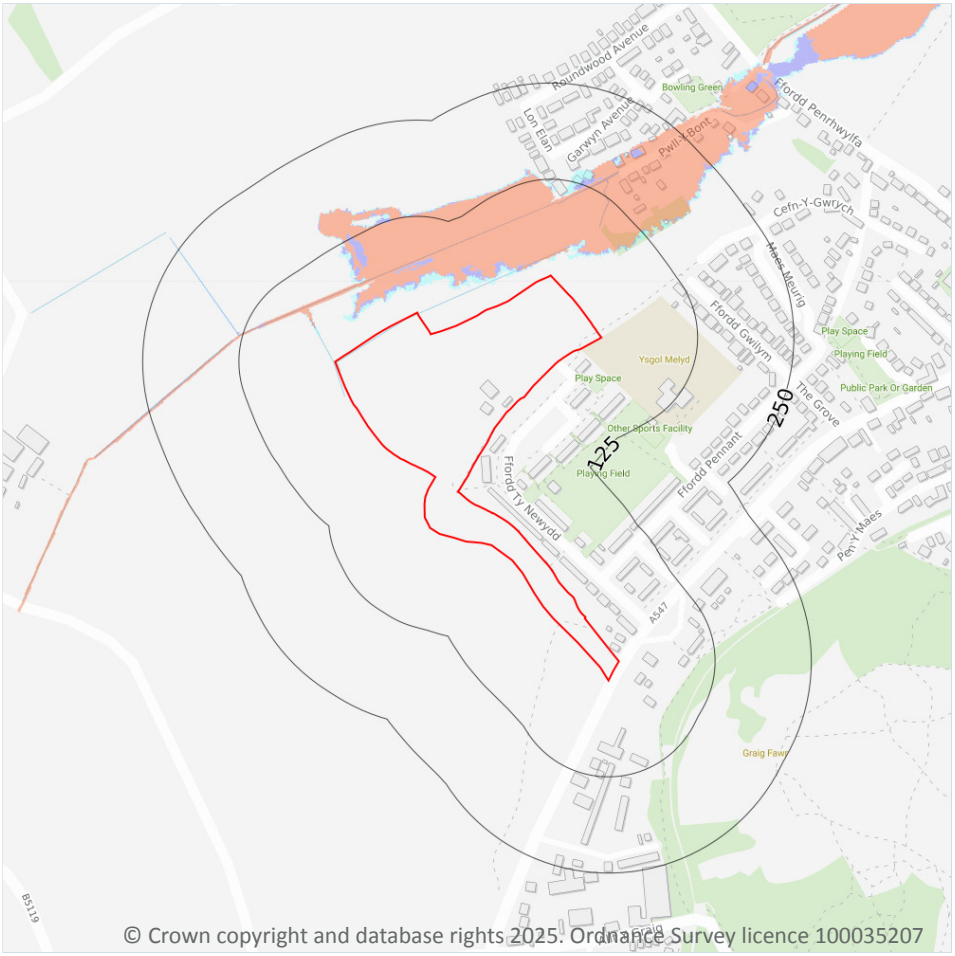
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place.

Features are displayed on the Hydrology map on **page 55 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	**On site**	**Clwyd Silurian**	**GB41002G200100**	**Good**	**Good**	**Good**	**2017**
B	**On site**	**Clwyd Permo-Triassic Sandstone**	**GB41001G202100**	**Good**	**Good**	**Good**	**2017**

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

7 River and coastal flooding



Site Outline

Search buffers in metres (m)

River and coastal flooding:

- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of flooding from rivers and the sea

Records within 50m	72

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

Features are displayed on the River and coastal flooding map on **page 59 >**

Distance	Flood risk category
On site	**N/A**
0 - 50m	High

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

7.2 Historical Flood Events

Records within 250m	**0**

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

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

7.3 Flood Defences

Records within 250m	**0**

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	**0**

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

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

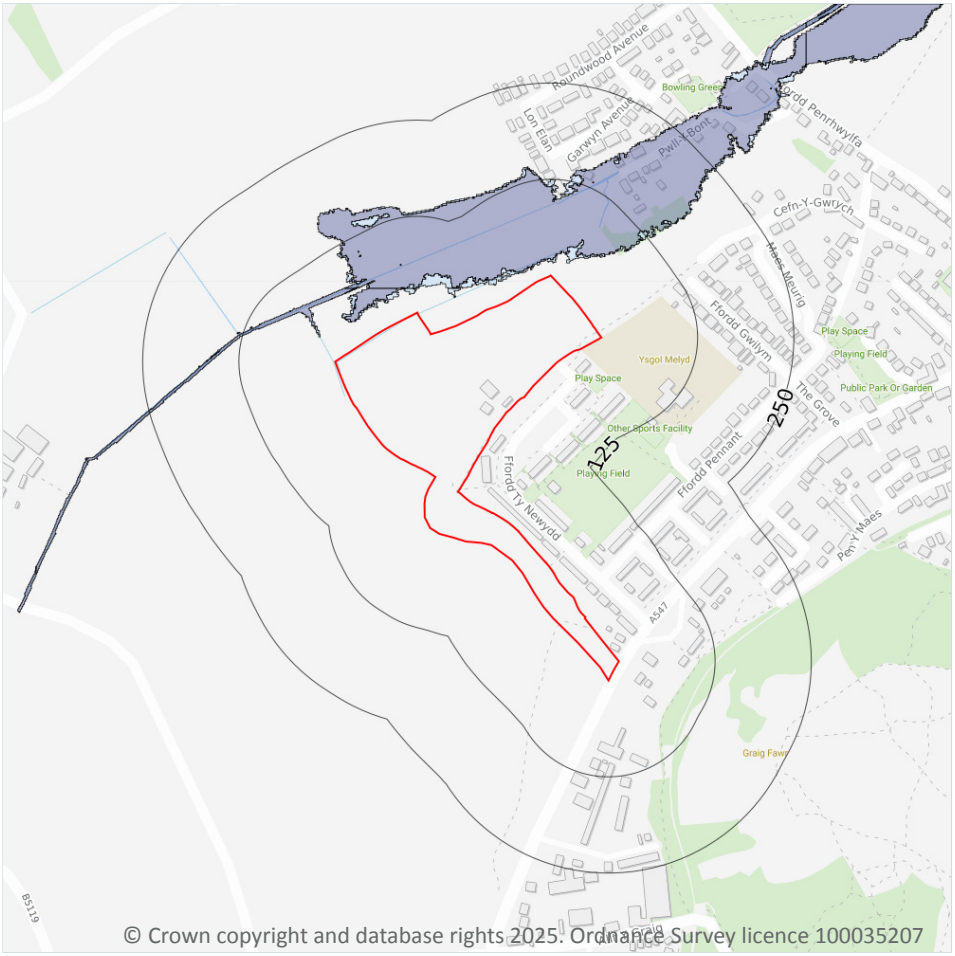
7.5 Flood Storage Areas

Records within 250m	**0**

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

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

River and coastal flooding - Flood Zones



Site Outline

Search buffers in metres (m)

Flood zone 2

Flood zone 3

7.6 Flood Zone 2

Records within 50m	1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

Features are displayed on the River and coastal flooding map on **page 59 >**

Location	Type
17m N	Zone 2 - (Fluvial /Tidal Models)

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

7.7 Flood Zone 3

Records within 50m	1

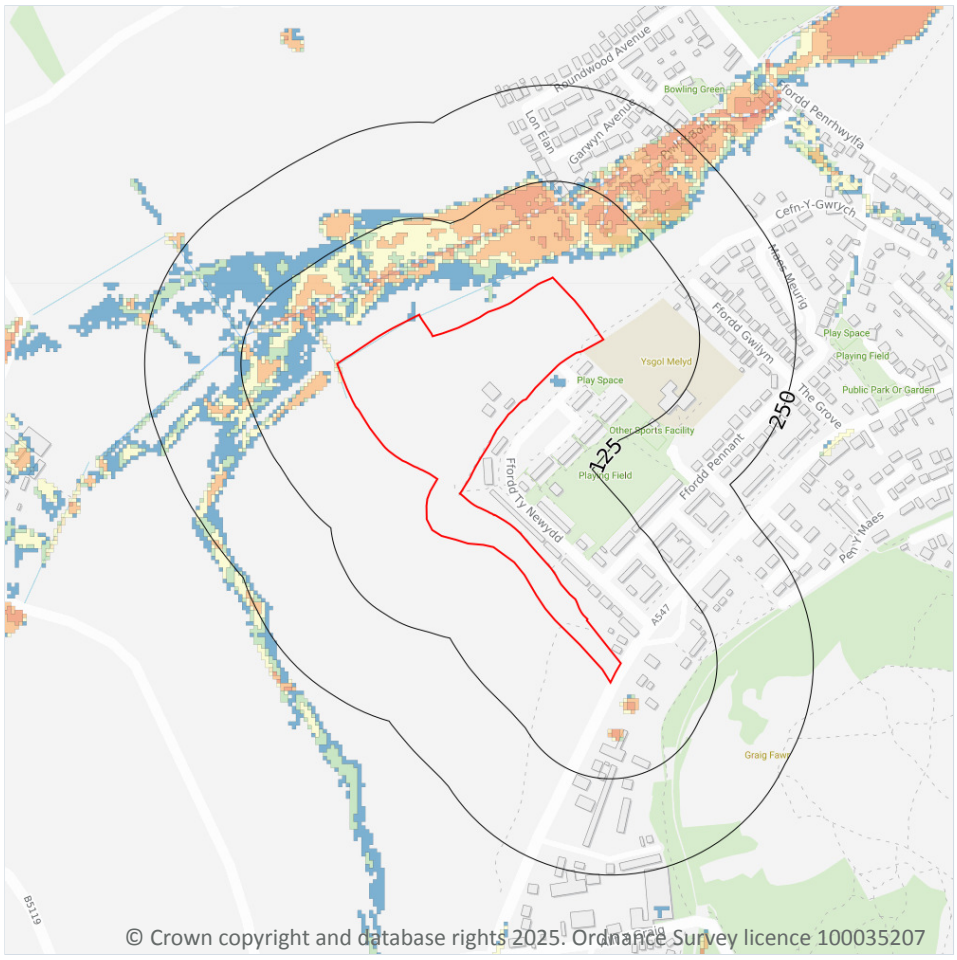
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 59 >**

Location	Type
19m NW	Zone 3 - (Fluvial /Tidal Models)

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

8 Surface water flooding



Site Outline

Search buffers in metres (m)

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

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

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

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

8.1 Surface water flooding

Highest risk on site	**1 in 100 year, 0.3m - 1.0m**
Highest risk within 50m	**1 in 30 year, 0.3m - 1.0m**

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

Features are displayed on the Surface water flooding map on **page 63 >**

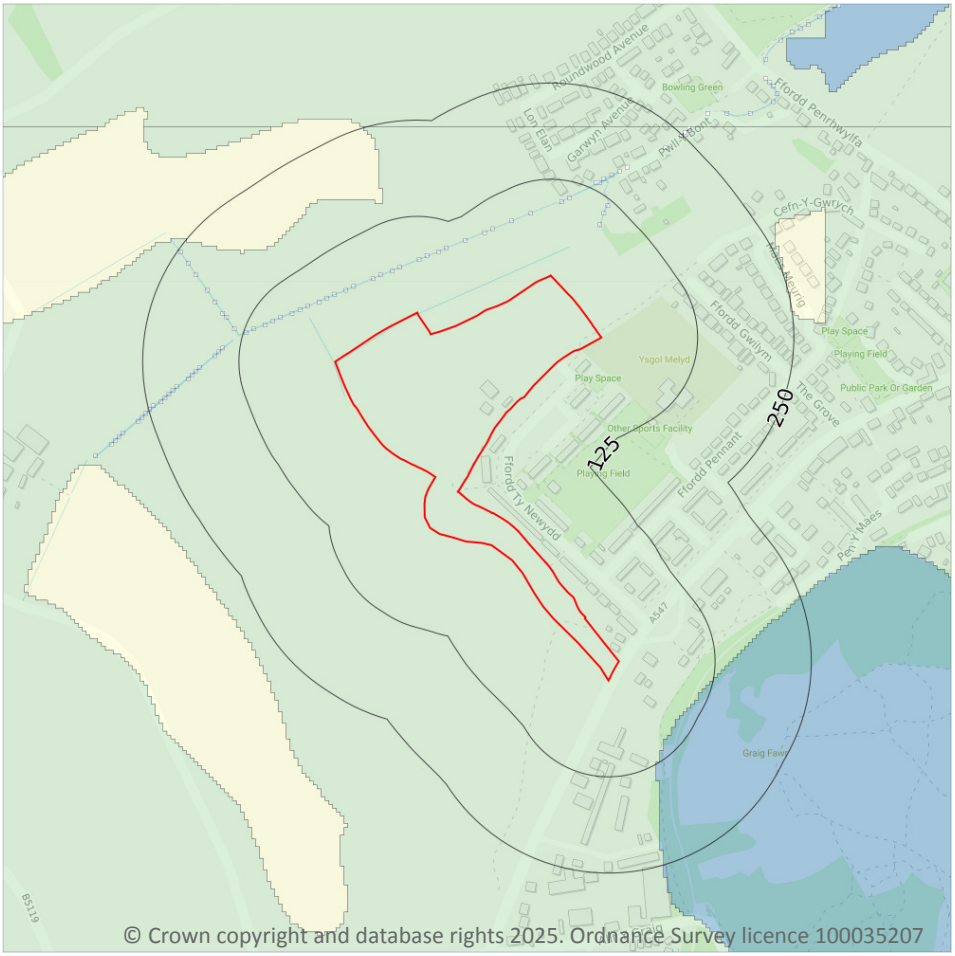
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.3m and 1.0m
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

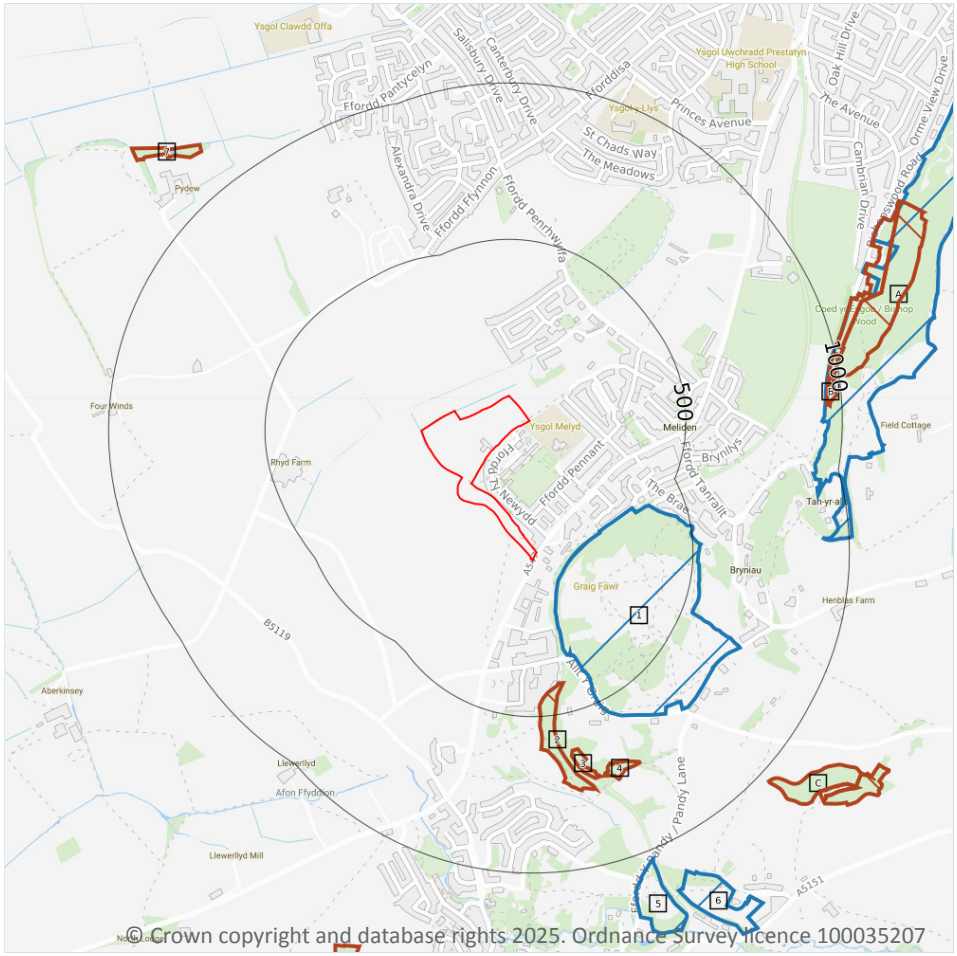
Highest risk on site	**Low**
Highest risk within 50m	**Low**

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

Features are displayed on the Groundwater flooding map on **page 65 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	5

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

Features are displayed on the Environmental designations map on **page 66 >**

ID	Location	Name	Data source
1	103m SE	Graig Fawr	Natural Resources Wales

ID	Location	Name	Data source
A	918m E	Prestatyn Hillside	Natural Resources Wales
5	1029m S	Maes Hiraddug	Natural Resources Wales
6	1109m SE	Maes Hiraddug	Natural Resources Wales
-	1624m S	Moel Hiraddug a Bryn Gop	Natural Resources Wales

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m	0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

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

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

10.7 Designated Ancient Woodland

Records within 2000m	21

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 66 >**

ID	Location	Name	Woodland Type
2	402m S	Unknown	Ancient Semi Natural Woodland
3	621m S	Unknown	Ancient Semi Natural Woodland
4	695m S	Unknown	Ancient Semi Natural Woodland
B	951m E	Unknown	Ancient Woodland Site of Unknown Category
B	966m E	Unknown	Ancient Semi Natural Woodland
A	980m E	Unknown	Ancient Semi Natural Woodland
A	1007m E	Unknown	Ancient Semi Natural Woodland
C	1035m SE	Unknown	Restored Ancient Woodland Site
7	1137m NW	Unknown	Ancient Semi Natural Woodland
C	1182m SE	Unknown	Restored Ancient Woodland Site

ID	Location	Name	Woodland Type
C	1203m SE	Unknown	Ancient Semi Natural Woodland
8	1353m SW	Unknown	Restored Ancient Woodland Site
-	1451m SW	Unknown	Plantation on Ancient Woodland Site
-	1522m SW	Unknown	Plantation on Ancient Woodland Site
-	1528m W	Unknown	Plantation on Ancient Woodland Site
-	1700m SW	Unknown	Plantation on Ancient Woodland Site
-	1703m SW	Unknown	Plantation on Ancient Woodland Site
-	1833m W	Unknown	Restored Ancient Woodland Site
-	1925m SW	Unknown	Restored Ancient Woodland Site
-	1928m SW	Unknown	Plantation on Ancient Woodland Site
-	1984m SW	Unknown	Restored Ancient Woodland Site

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	0

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

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

10.12 Proposed Ramsar sites

Records within 2000m	0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m	4

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

Location	Name	Type	NVZ ID	Status
On site	**-**	**Groundwater**	**135**	**Existing**
331m S	-	Surface Water	623	Existing
1296m W	-	Groundwater	135	Existing
1436m SW	-	Surface Water	623	Existing

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

SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site	0

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

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0

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

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

11 Visual and cultural designations

Site Outline

Search buffers in metres (m)

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

11.1 World Heritage Sites

Records within 250m	0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	1

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.

Features are displayed on the Visual and cultural designations map on **page 73 >**

ID	Location	NAME	Data Source
1	108m SE	BRYNIAU CLWYD A DYFFRYN DYFRDWY/CLWYDIAN RANGE AND DEE VALLEY	Natural Resources Wales

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

11.3 National Parks

Records within 250m	0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

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

11.4 Listed Buildings

Records within 250m	0

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

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

11.5 Conservation Areas

Records within 250m	0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m	0

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

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

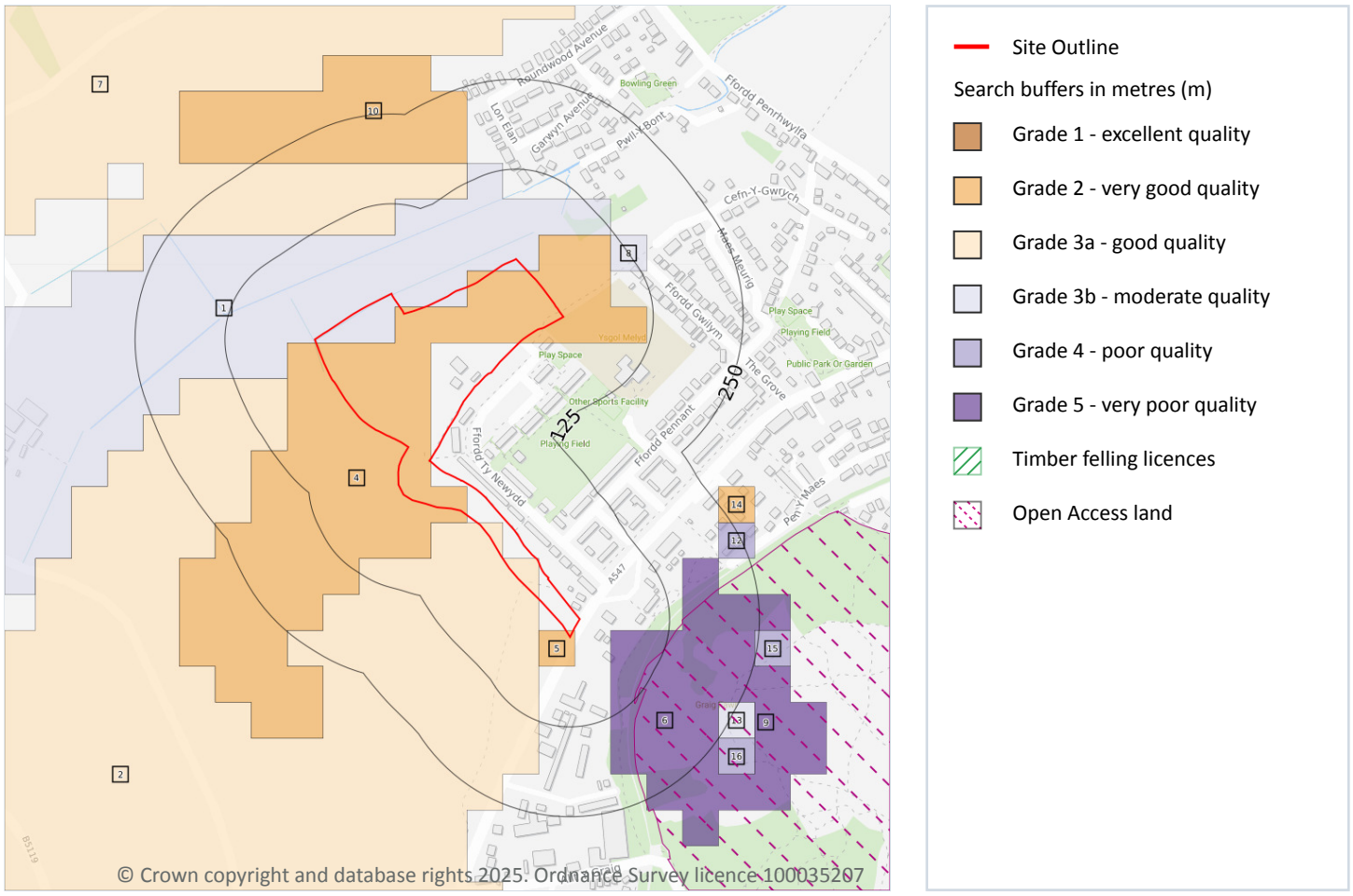
11.7 Registered Parks and Gardens

Records within 250m	0

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

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

12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m	13

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

Features are displayed on the Agricultural designations map on **page 76 >**

ID	Location	Classification	Description
1	On site	Grade 3b	Moderate quality agricultural land
2	On site	Grade 3a	Good to moderate quality agricultural land
4	On site	Grade 2	Good quality agricultural land

ID	Location	Classification	Description
5	**On site**	**Grade 2**	**Good quality agricultural land**
6	46m E	Grade 5	Very poor quality agricultural land
7	82m N	Grade 3a	Good to moderate quality agricultural land
8	91m NE	Grade 3b	Moderate quality agricultural land
10	150m NW	Grade 2	Good quality agricultural land
12	211m NE	Grade 4	Poor quality agricultural land
13	225m SE	Grade 3b	Moderate quality agricultural land
14	235m NE	Grade 2	Good quality agricultural land
15	244m E	Grade 4	Poor quality agricultural land
16	250m SE	Grade 4	Poor quality agricultural land

This data is sourced from Natural Resources Wales.

12.2 Open Access Land

Records within 250m	**1**

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.

Features are displayed on the Agricultural designations map on **page 76 >**

ID	Location	Name	Classification	Other relevant legislation
9	114m SE	-	Open Access Open Country	-

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

12.3 Tree Felling Licences

Records within 250m	**0**

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

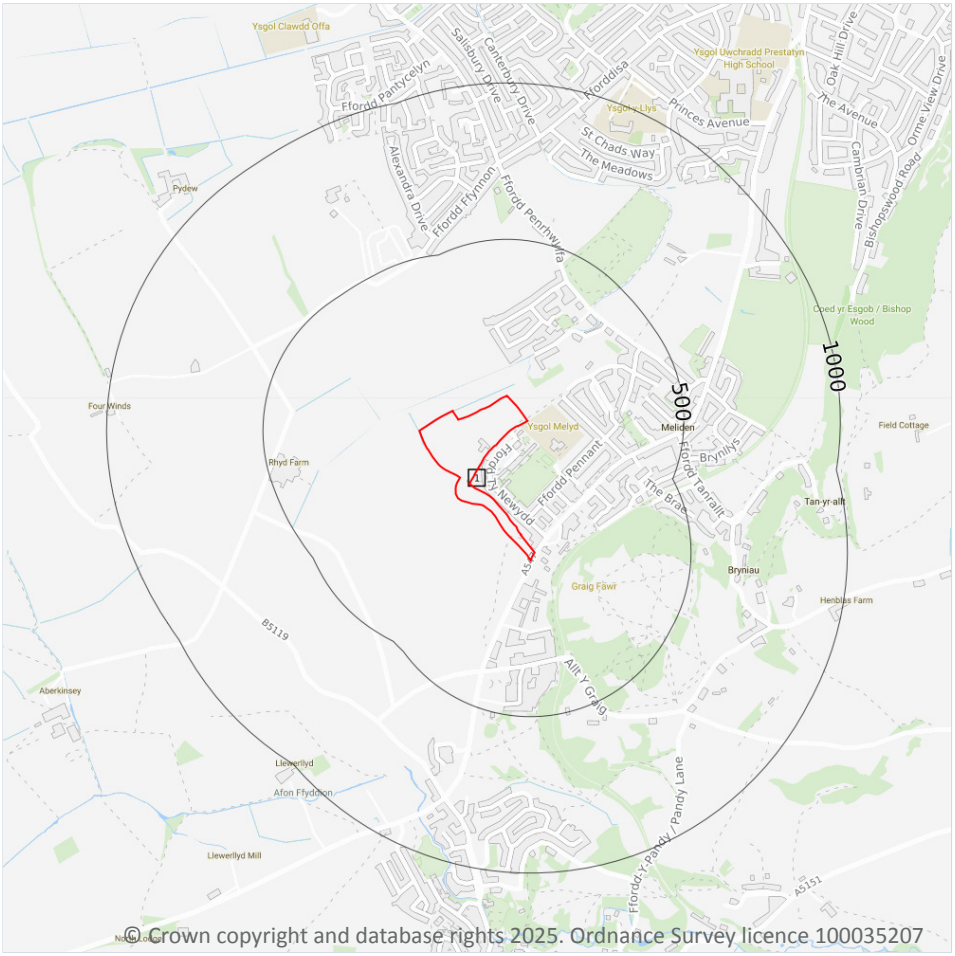
13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



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 80 >**

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

This data is sourced from the British Geological Survey.

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

14.2 Artificial and made ground (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

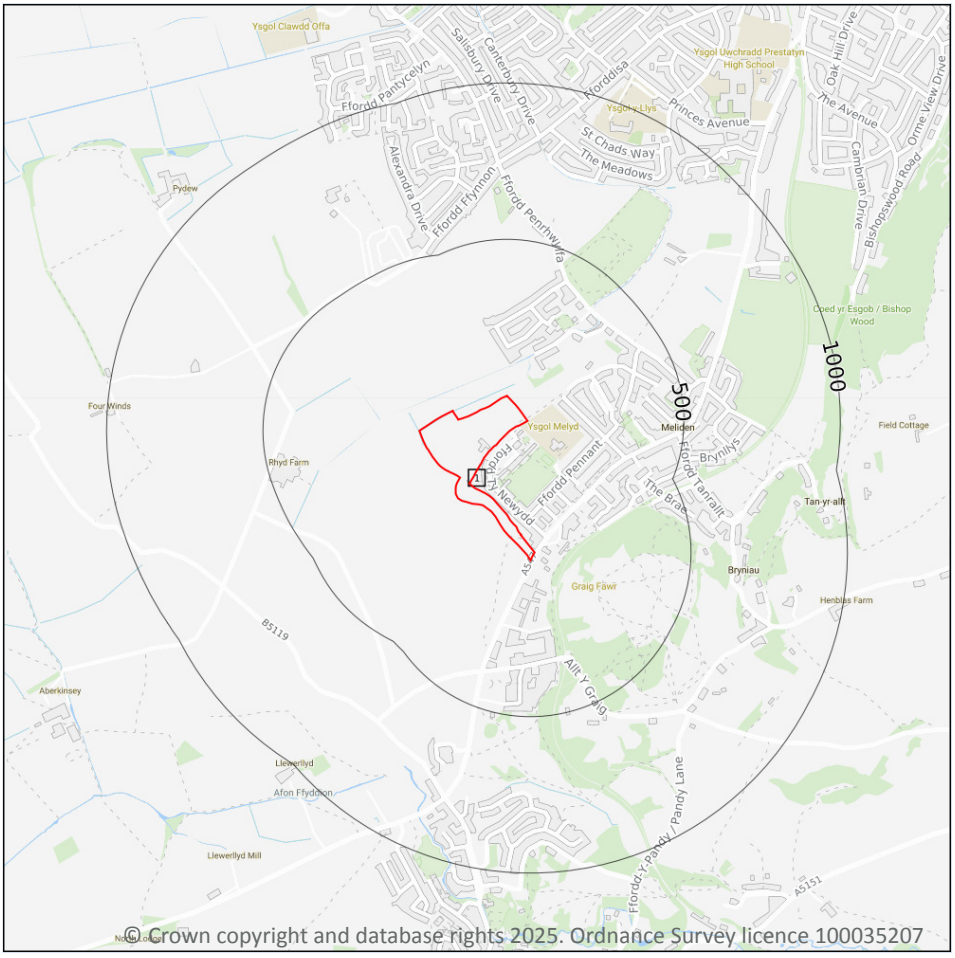
14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme. Where 50k data is not available, this area has been filled in with 625k scale data.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 84 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**Full**	**EW095_rhyl_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.

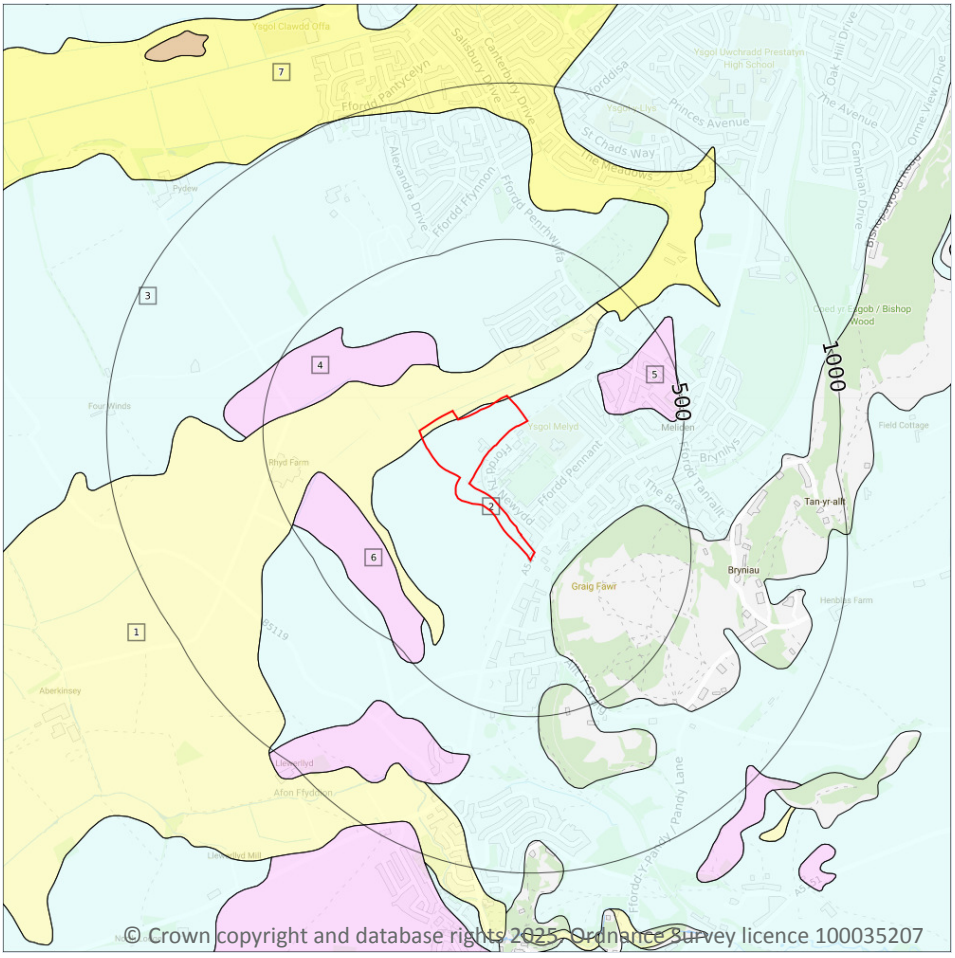
15.3 Artificial ground permeability (50k)

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 **7**

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 86 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**ALV-XCZSV**	**ALLUVIUM**	**CLAY, SILT, SAND AND GRAVEL**
2	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**
3	118m NW	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

ID	Location	LEX Code	Description	Rock description
4	146m N	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
5	250m E	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
6	279m SW	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
7	413m NE	TFD-XCZS	TIDAL FLAT DEPOSITS	CLAY, SILT AND SAND

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	**2**

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Intergranular**	**High**	**Very Low**
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.

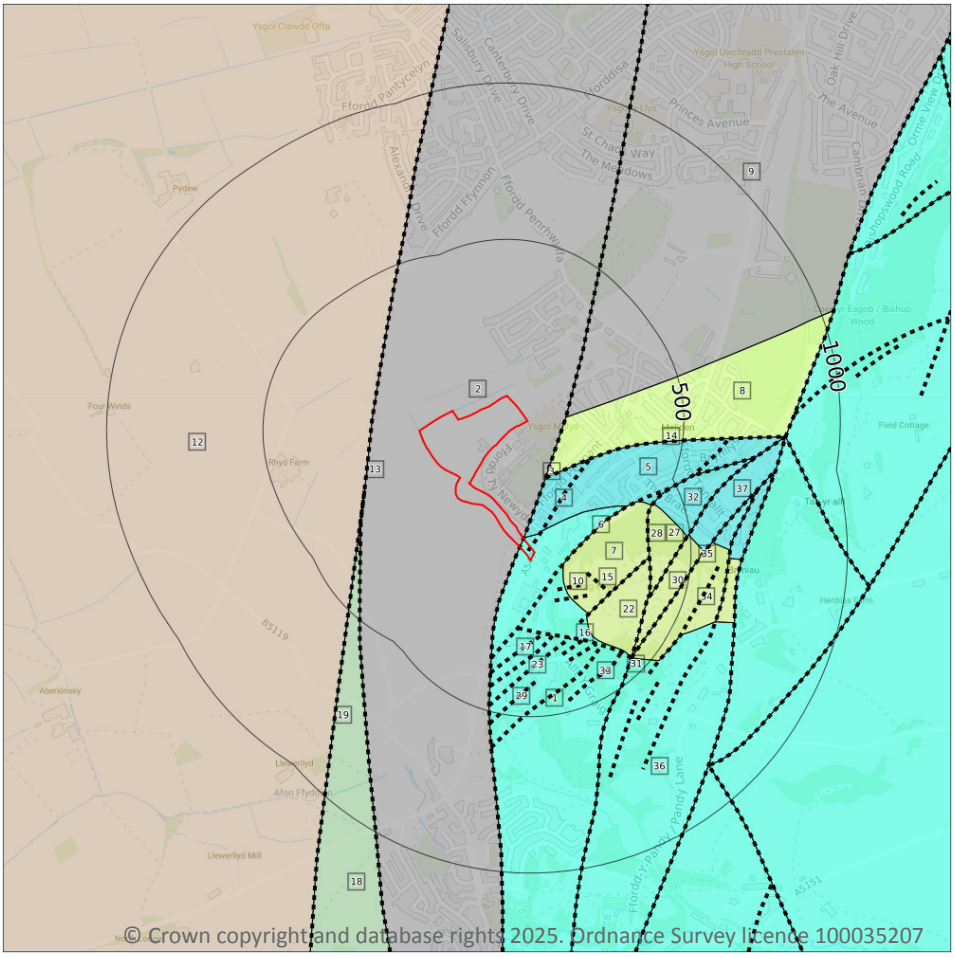
15.7 Landslip permeability (50k)

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 **15**

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 88 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**LNML-LMST**	**LLANARMON LIMESTONE FORMATION - LIMESTONE**	**VISEAN**
2	**On site**	**PCM-CYCCM**	**PENNINE COAL MEASURES GROUP - SEDIMENTARY ROCK CYCLES, COAL MEASURE TYPE**	**WESTPHALIAN**
5	3m NE	TLB-MDLM	TEILIA FORMATION - MUDSTONE AND LIMESTONE, INTERBEDDED	VISEAN

ID	Location	LEX Code	Description	Rock age
7	99m E	LNMLK-LMST	LLANARMON LIMESTONE FORMATION (KNOLL REEF) - LIMESTONE	VISEAN
8	113m E	BSG-MDST	BOWLAND SHALE FORMATION - MUDSTONE	VISEAN
9	123m E	PCM-CYCCM	PENNINE COAL MEASURES GROUP - SEDIMENTARY ROCK CYCLES, COAL MEASURE TYPE	WESTPHALIAN
12	154m W	KNSF-SDST	KINNERTON SANDSTONE FORMATION - SANDSTONE	-
18	241m SW	WAWK-MDSS	WARWICKSHIRE GROUP - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
22	253m SE	LNMLK-LMST	LLANARMON LIMESTONE FORMATION (KNOLL REEF) - LIMESTONE	VISEAN
27	365m E	LNMLK-LMST	LLANARMON LIMESTONE FORMATION (KNOLL REEF) - LIMESTONE	VISEAN
30	390m SE	LNMLK-LMST	LLANARMON LIMESTONE FORMATION (KNOLL REEF) - LIMESTONE	VISEAN
32	411m NE	TLB-MDLM	TEILIA FORMATION - MUDSTONE AND LIMESTONE, INTERBEDDED	VISEAN
34	443m SE	LNMLK-LMST	LLANARMON LIMESTONE FORMATION (KNOLL REEF) - LIMESTONE	VISEAN
36	449m SE	LNML-LMST	LLANARMON LIMESTONE FORMATION - LIMESTONE	VISEAN
37	495m E	TLB-MDLM	TEILIA FORMATION - MUDSTONE AND LIMESTONE, INTERBEDDED	VISEAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m **3**

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**	**High**	**Low**
On site	**Fracture**	**Very High**	**High**
3m NE	Fracture	High	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	22

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 88 >**

ID	Location	Category	Description
3	**On site**	**FAULT**	**Fault, inferred**
4	**On site**	**MINERAL_VEIN**	**Mineral vein, inferred**
6	90m SE	MINERAL_VEIN	Mineral vein, inferred
10	128m SE	MINERAL_VEIN	Mineral vein, inferred
11	150m SE	MINERAL_VEIN	Mineral vein, inferred
13	154m W	FAULT	Fault, inferred
14	170m NE	FAULT	Fault, inferred
15	180m E	FAULT	Fault, inferred, displacement unknown
16	220m S	MINERAL_VEIN	Mineral vein, inferred
17	238m S	MINERAL_VEIN	Mineral vein, inferred
19	241m SW	FAULT	Fault, inferred, displacement unknown
20	250m S	MINERAL_VEIN	Mineral vein, inferred
21	253m SE	FAULT	Fault, inferred, displacement unknown
23	279m SE	MINERAL_VEIN	Mineral vein, inferred
24	305m SE	MINERAL_VEIN	Mineral vein, inferred
25	338m SE	MINERAL_VEIN	Mineral vein, inferred
26	354m SE	MINERAL_VEIN	Mineral vein, inferred
28	365m E	FAULT	Fault, inferred
29	386m S	MINERAL_VEIN	Mineral vein, inferred
31	390m SE	FAULT	Fault, inferred
33	413m SE	MINERAL_VEIN	Mineral vein, inferred
35	443m SE	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.

16 Boreholes

Site Outline

Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m	2

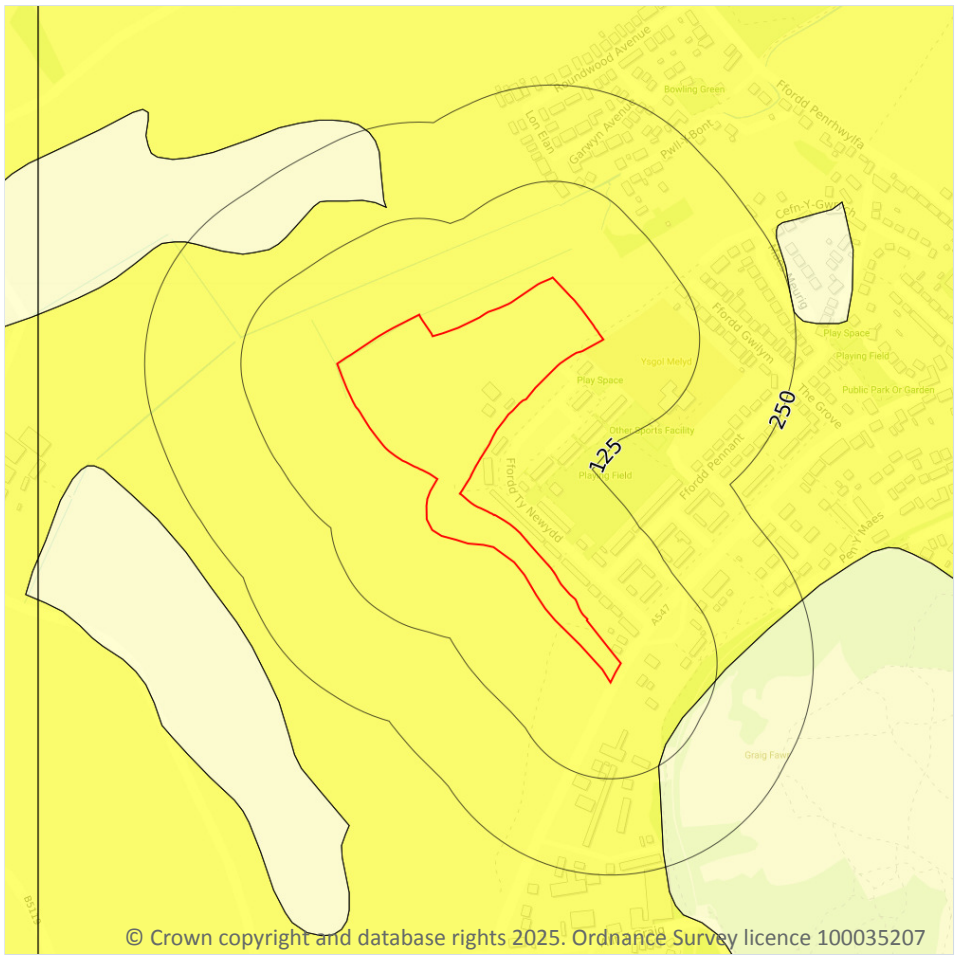
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on **page 91 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	46m E	305800 380500	TALARGOCH, PLAN OF WORKINGS PANTONS VEIN	-1.0	N	686053 ↗
2	80m SW	305640 380490	WALKERS SHAFT MELIDON	234.09	N	686037 ↗

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	1

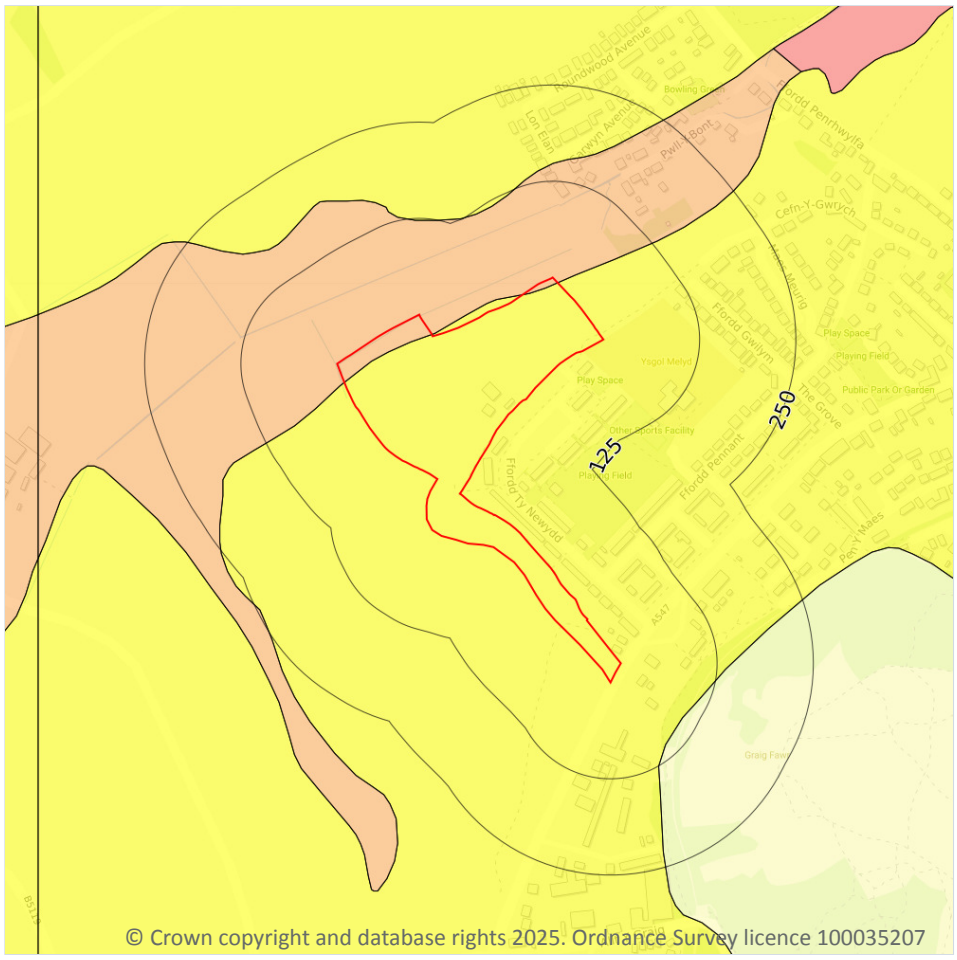
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 92 >**

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	2

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

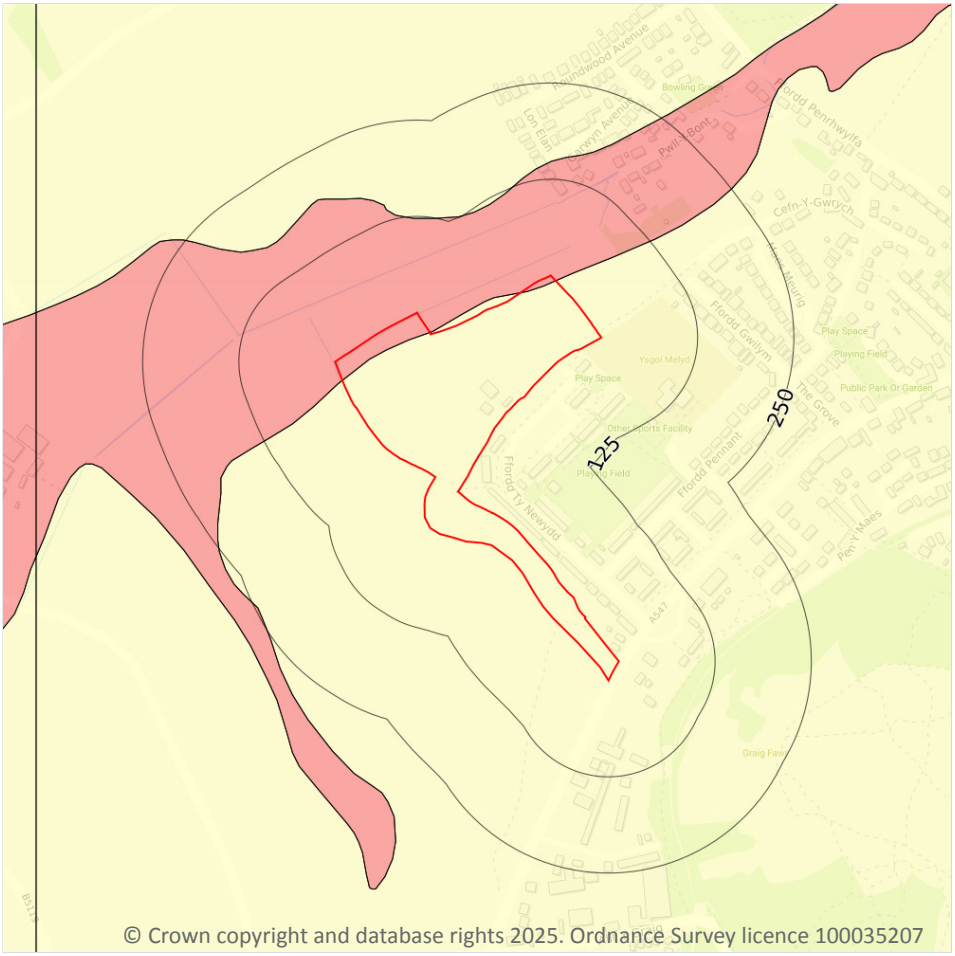
Features are displayed on the Natural ground subsidence - Running sands map on **page 93 >**

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**

Location	Hazard rating	Details
On site	**Low**	**Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	2

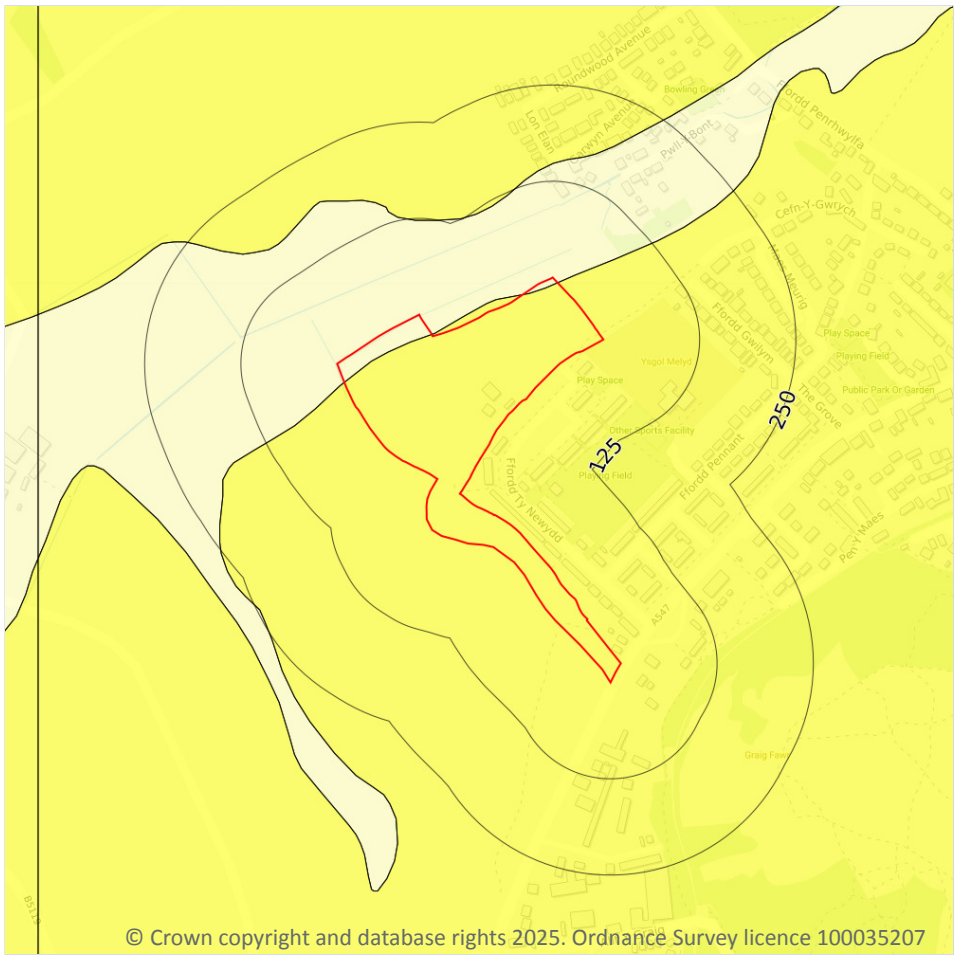
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 95 >**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
On site	**Moderate**	**Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	2

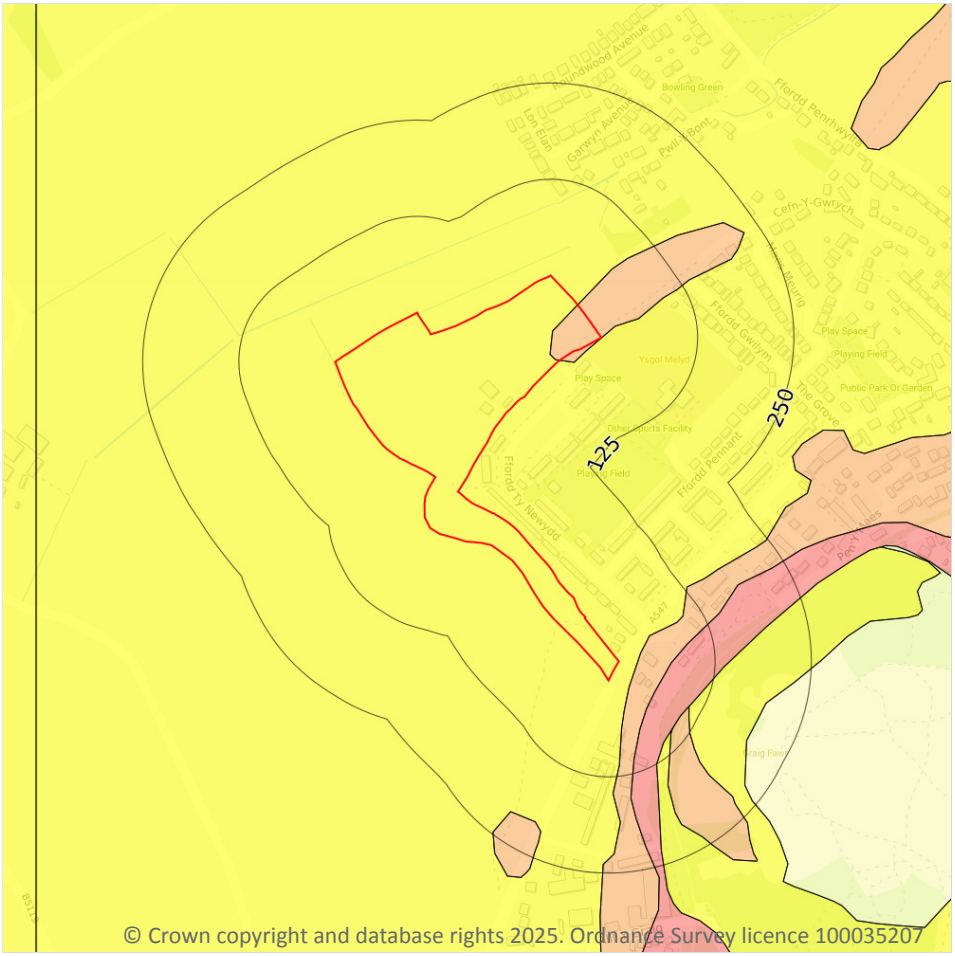
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 97 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	3

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.

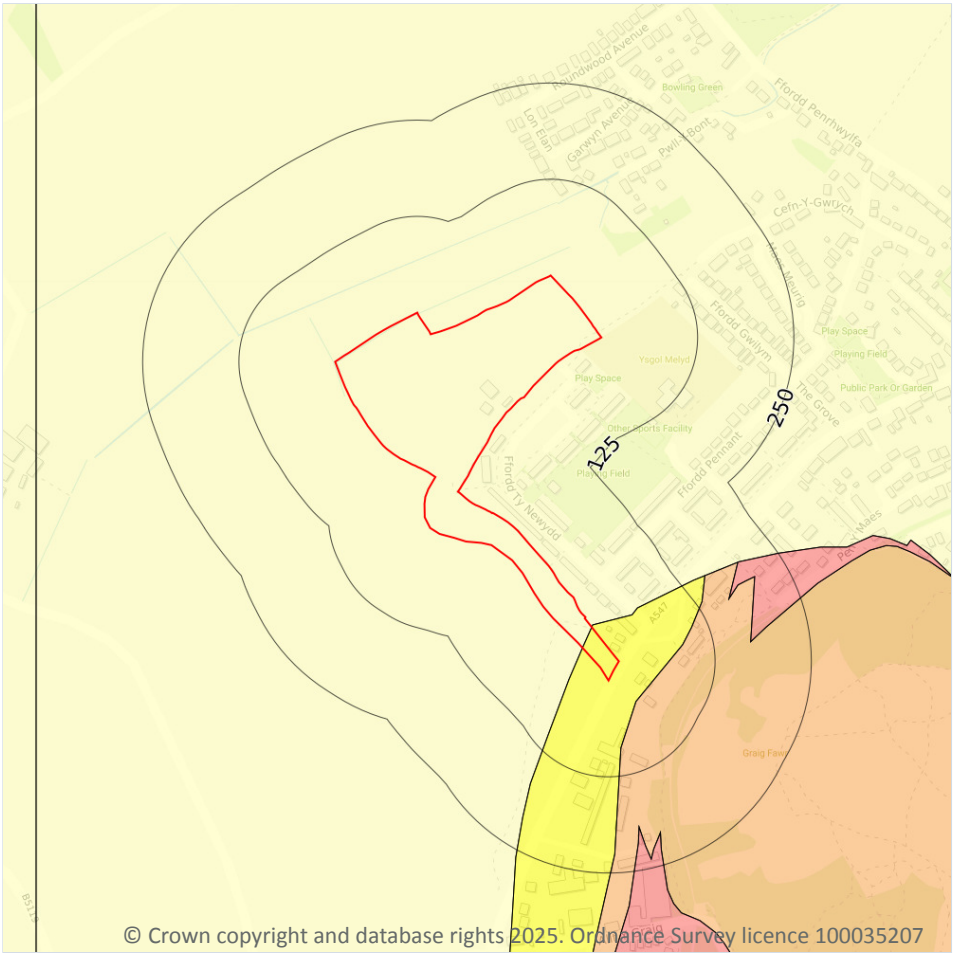
Features are displayed on the Natural ground subsidence - Landslides map on **page 98 >**

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
On site	**Low**	**Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.**
24m E	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



Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	3

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.

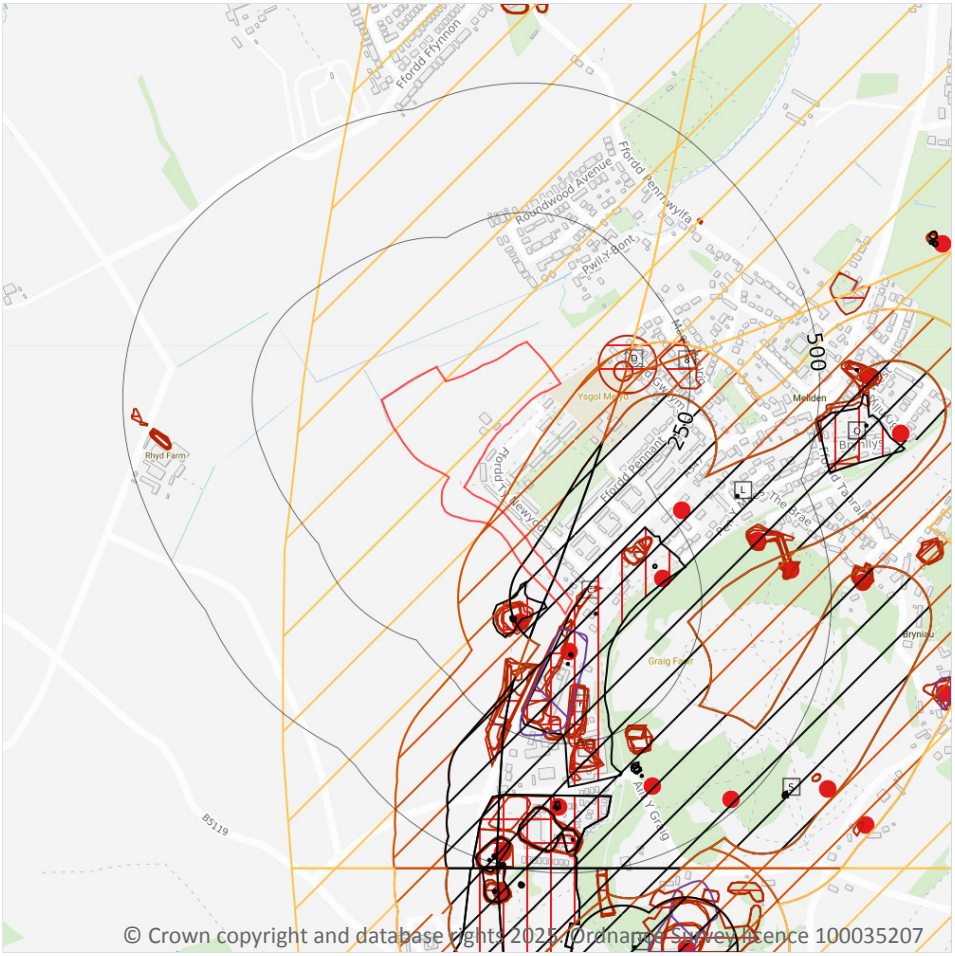
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 100 >**

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

Location	Hazard rating	Details
On site	**Very low**	**Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.**
45m SE	Low	Soluble rocks are present within the ground. Some dissolution features may be present. Potential for difficult ground conditions are at a level where they may be considered, localised subsidence need not be considered except in exceptional circumstances.

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	10

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 102 >**

ID	Location	Details	Description
B	73m S	Name: Talargoch Mine Address: Bryniau, Meliden, PRESTATYN, Flintshire Commodity: Lead Status: Ceased	Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
A	77m SW	Name: Talargoch Mine Address: Bryniau, Meliden, PRESTATYN, Flintshire Commodity: Lead Status: Ceased	Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
E	181m E	Name: Talargoch Mine Address: Bryniau, Meliden, PRESTATYN, Flintshire Commodity: Lead Status: Ceased	Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

ID	Location	Details	Description
9	275m NE	Name: Miner's Arms Address: Bryniau, Meliden, PRESTATYN, Flintshire Commodity: Lead Status: Ceased	Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
H	372m SE	Name: Graig Fawr Address: Bryniau, Meliden, PRESTATYN, Flintshire Commodity: Lead Status: Ceased	Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
J	373m S	Name: Talargoch Mine Address: Dyserth, RHYL, Flintshire Commodity: Lead Status: Ceased	Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

ID	Location	Details	Description
K	376m E	Name: Talargoch Mine Address: Bryniau, Meliden, PRESTATYN, Flintshire Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
11	427m E	Name: Talargoch Mine Address: Bryniau, Meliden, PRESTATYN, Flintshire Commodity: Limestone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
I	475m S	Name: Talargoch Mine Address: Dyserth, RHYL, Flintshire Commodity: Lead Status: Ceased	Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

ID	Location	Details	Description
13	480m SE	Name: Graig Fawr Address: Bryniau, Meliden, PRESTATYN, Flintshire Commodity: Lead Status: Ceased	Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	**47**

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 102 >**

ID	Location	Land Use	Year of mapping	Mapping scale
B	6m SE	Unspecified Ground Workings	1949	1:10560
B	6m SE	Unspecified Ground Workings	1949	1:10560
C	9m E	Unspecified Heap	1959	1:10560
B	14m SE	Unspecified Ground Workings	1959	1:10560
B	17m S	Unspecified Ground Workings	1911	1:10560
A	45m SW	Unspecified Heap	1898	1:10560
A	50m SW	Unspecified Heap	1871	1:10560
A	52m SW	Unspecified Heap	1959	1:10560
A	55m SW	Unspecified Heap	1938	1:10560
A	57m SW	Unspecified Heap	1911	1:10560
D	79m E	Sewage Covered Tanks	1938	1:10560
D	106m E	Covered Sewage Tanks	1949	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
D	106m E	Covered Sewage Tanks	1949	1:10560
B	111m SW	Unspecified Ground Workings	1949	1:10560
B	111m SW	Unspecified Ground Workings	1949	1:10560
B	116m SW	Unspecified Ground Workings	1959	1:10560
B	121m SW	Unspecified Ground Workings	1911	1:10560
E	129m NE	Unspecified Heaps	1911	1:10560
B	131m SW	Unspecified Pit	1938	1:10560
E	133m NE	Unspecified Pits	1949	1:10560
E	133m NE	Unspecified Pits	1949	1:10560
F	136m S	Ponds	1959	1:10560
F	140m S	Reservoir	1911	1:10560
F	140m S	Reservoirs	1938	1:10560
F	142m S	Reservoirs	1949	1:10560
F	142m S	Ponds	1898	1:10560
F	144m S	Ponds	1871	1:10560
B	145m SW	Unspecified Ground Workings	1969	1:10560
E	149m NE	Unspecified Pit	1959	1:10560
F	168m S	Unspecified Ground Workings	1959	1:10560
E	171m NE	Unspecified Heap	1949	1:10560
E	171m NE	Unspecified Heap	1949	1:10560
E	175m NE	Unspecified Heap	1959	1:10560
8	197m E	Covered Sewage Tanks	1911	1:10560
F	199m S	Unspecified Ground Workings	1959	1:10560
F	221m S	Unspecified Heap	1959	1:10560
F	225m S	Unspecified Ground Workings	1911	1:10560
B	236m SW	Pond	1871	1:10560
G	241m S	Unspecified Ground Workings	1959	1:10560
G	245m S	Unspecified Ground Workings	1911	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
G	246m S	Unspecified Pit	1959	1:10560
G	246m S	Unspecified Ground Workings	1949	1:10560
G	246m S	Unspecified Ground Workings	1949	1:10560
H	248m SE	Unspecified Heap	1979	1:10000
H	248m SE	Unspecified Heap	1994	1:10560
H	248m SE	Unspecified Heap	1959	1:10560
H	248m SE	Unspecified Heap	1969	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	**76**

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 102 >**

ID	Location	Land Use	Year of mapping	Mapping scale
B	7m SE	Lead Mine	1871	1:10560
A	17m SW	Unspecified Disused Mine	1959	1:10560
C	49m SE	Unspecified Shaft	1871	1:10560
B	76m S	Unspecified Shafts	1898	1:10560
B	79m S	Lead Shafts	1871	1:10560
A	79m SW	Unspecified Disused Shaft	1969	1:10560
A	82m SW	Unspecified Old Shaft	1898	1:10560
A	83m SW	Unspecified Old Shaft	1938	1:10560
A	83m SW	Lead Shaft	1871	1:10560
B	94m S	Lead Shafts	1871	1:10560
E	170m NE	Unspecified Old Shaft	1898	1:10560
H	317m SE	Unspecified Old Shafts	1959	1:10560
H	321m SE	Old Lead Shafts	1938	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
H	325m SE	Unspecified Disused Shaft	1979	1:10000
H	325m SE	Unspecified Disused Shaft	1994	1:10000
H	325m SE	Unspecified Disused Shaft	1969	1:10560
H	344m SE	Unspecified Old Shafts	1959	1:10560
I	350m S	Disused Lead Mine	1949	1:10560
I	350m S	Unspecified Mine	1898	1:10560
J	362m S	Old Lead Shaft	1949	1:10560
J	370m S	Unspecified Old Shaft	1959	1:10560
J	373m S	Unspecified Level	1898	1:10560
L	376m NE	Unspecified Old Shaft	1898	1:10560
L	376m NE	Lead Shaft	1871	1:10560
J	376m S	Unspecified Level	1871	1:10560
J	435m S	Unspecified Shaft	1871	1:10560
I	449m S	Lead Mine	1871	1:10560
I	483m S	Unspecified Shaft	1871	1:10560
I	485m S	Unspecified Old Shafts	1959	1:10560
I	486m S	Unspecified Old Shafts	1949	1:10560
I	495m S	Unspecified Old Shafts	1949	1:10560
I	495m S	Unspecified Disused Shaft	1969	1:10560
I	496m S	Unspecified Old Shafts	1959	1:10560
Q	502m E	Lead Mine	1871	1:10560
I	503m S	Unspecified Disused Mine	1959	1:10560
I	525m S	Unspecified Old Shafts	1949	1:10560
I	526m S	Unspecified Disused Shafts	1968	1:10560
I	526m S	Unspecified Disused Shafts	1995	1:10000
I	526m S	Unspecified Disused Shafts	1983	1:10000
S	544m SE	Unspecified Old Level	1959	1:10560
S	546m SE	Old Lead Level	1938	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
I	549m S	Unspecified Old Shafts	1949	1:10560
I	551m S	Unspecified Shaft	1871	1:10560
I	553m S	Unspecified Disused Shafts	1968	1:10560
I	553m S	Unspecified Disused Shafts	1995	1:10000
I	553m S	Unspecified Disused Shafts	1983	1:10000
I	553m S	Unspecified Old Shaft	1959	1:10560
P	571m E	Unspecified Shaft	1898	1:10560
P	571m E	Lead Shaft	1871	1:10560
Q	594m E	Unspecified Old Shaft	1898	1:10560
Q	594m E	Lead Shaft	1871	1:10560
V	655m S	Unspecified Shafts	1898	1:10560
V	655m S	Lead Shaft	1871	1:10560
-	671m S	Old Lead Shaft	1949	1:10560
-	671m S	Unspecified Shafts	1898	1:10560
-	671m S	Lead Shaft	1871	1:10560
-	673m S	Unspecified Disused Shaft	1968	1:10560
-	673m S	Unspecified Disused Shaft	1983	1:10000
-	673m S	Unspecified Old Shaft	1959	1:10560
-	681m S	Unspecified Disused Shaft	1995	1:10000
AF	763m E	Old Lead Shaft	1938	1:10560
AF	767m E	Unspecified Old Shaft	1959	1:10560
AF	768m E	Unspecified Old Shaft	1959	1:10560
AF	768m E	Unspecified Disused Shaft	1979	1:10000
AF	768m E	Unspecified Disused Shaft	1994	1:10000
AF	768m E	Unspecified Disused Shaft	1969	1:10560
-	782m S	Old Lead Shaft	1949	1:10560
-	783m S	Unspecified Disused Shaft	1968	1:10560
-	783m S	Unspecified Disused Shaft	1983	1:10000

ID	Location	Land Use	Year of mapping	Mapping scale
-	783m S	Unspecified Old Shaft	1959	1:10560
-	783m S	Unspecified Old Shaft	1898	1:10560
-	914m E	Old Lead Level	1938	1:10560
-	940m E	Unspecified Disused Level	1979	1:10000
-	940m E	Unspecified Disused Level	1994	1:10000
-	943m E	Unspecified Old Level	1959	1:10560
-	992m S	Lead Shaft	1871	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m	0

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	1

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.

Features are displayed on the Mining and ground workings map on **page 102 >**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
B	30m S	Talargoch	Not available	Not available	Not available	Not available

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	24

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

Features are displayed on the Mining and ground workings map on **page 102 >**

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**Not available**	**Iron Ore (Bedded)**	**B**	**Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.**
2	**On site**	**Not available**	**Vein Mineral**	**E**	**Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.**
3	**On site**	**Not available**	**Iron Ore (Bedded)**	**E**	**Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.**
A	**On site**	**Not available**	**Iron Ore (Bedded)**	**D**	**Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.**
B	78m SW	Not available	Vein Mineral	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
4	113m E	Not available	Vein Mineral	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
5	123m E	Not available	Iron Ore (Bedded)	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.

ID	Location	Name	Commodity	Class	Likelihood
6	154m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
7	161m SW	Not available	Iron Ore (Bedded)	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
10	282m E	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
14	491m S	Not available	Vein Mineral	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
15	508m S	Not available	Iron Ore (Bedded)	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
16	529m SE	Talargoch	Vein Minerals-Lead	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
17	540m SE	Talargoch	Vein Minerals-Lead	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
19	542m SW	Not available	Iron Ore (Bedded)	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
V	572m S	Talargoch	Vein Minerals-Lead	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
21	592m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

ID	Location	Name	Commodity	Class	Likelihood
22	607m SE	Not available	Vein Mineral	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
24	695m SE	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	697m S	Not available	Vein Mineral	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	861m E	Not available	Vein Mineral	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	939m S	New Inn	Vein Minerals-Lead	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	957m S	New Inn	Vein Minerals-Lead/Iron Ore (Bedded)	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	960m E	Not available	Vein Mineral	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site	0

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m	0

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

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m	17

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.

Location	Mineral type
136m SE	Unspecified
136m SE	Metals
136m SE	Unspecified
136m SE	Metals
136m SE	Metals
137m SE	Unspecified
149m E	Unspecified
154m E	Unspecified
155m E	Unspecified
182m E	Metals
182m E	Metals
182m E	Unspecified
263m SE	Metals
263m SE	Metals
263m SE	Metals

Location	Mineral type
313m SE	Metals
422m SE	Metals

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m	3

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.

Location	Mineral
On site	**Lead**
On site	**Lead**
On site	**Lead**

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m	1

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.

Location	Mineral
On site	**Lead**

This data is sourced from Groundsure.

18.12 Coal mining

Records on site	0

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

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site	0

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

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

18.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

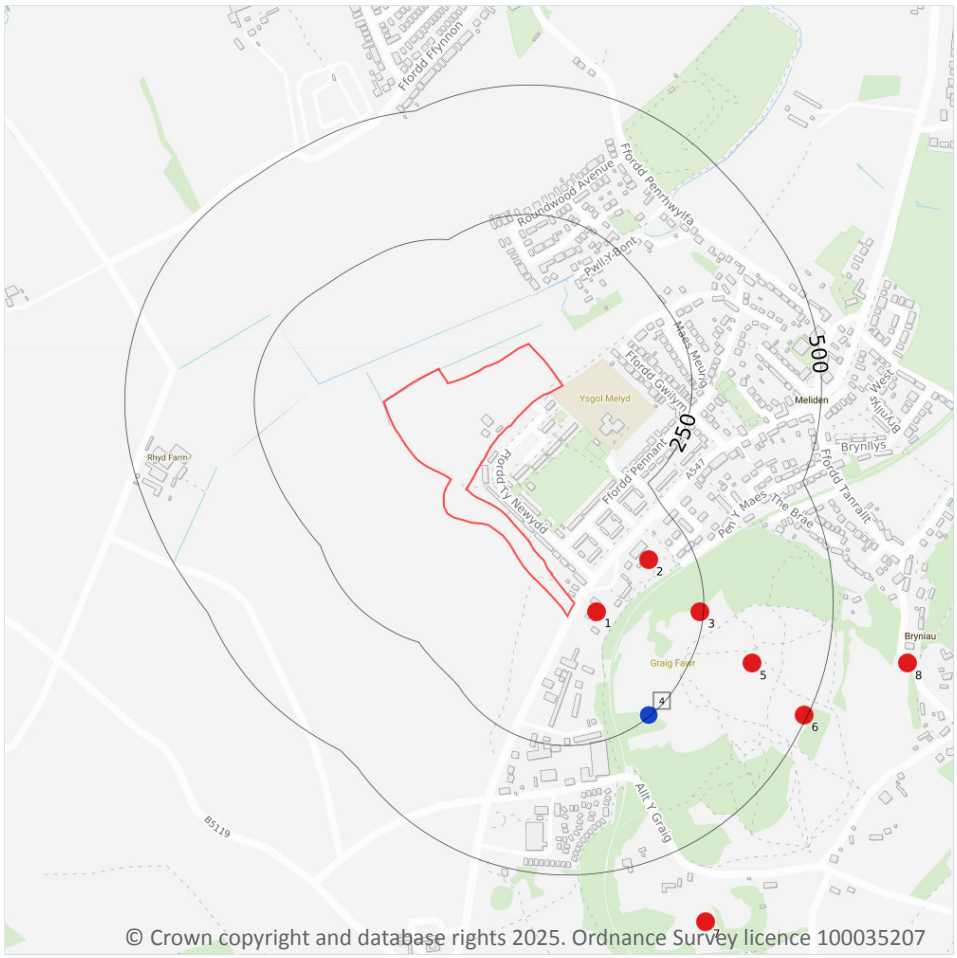
18.16 Clay mining

Records on site	0

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

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

19 Ground cavities and sinkholes



Site Outline

Search buffers in metres (m)

Natural cavities (Area)

Natural cavities (Point)

Mining cavities

Reported recent incidents

Historical incidents

19.1 Natural cavities

Records within 500m	1

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.

Features are displayed on the Ground cavities and sinkholes map on **page 118 >**

ID	Location	Details
4	247m SE	Type: Vadose Cave x 1 Superficial Geology: None Bedrock Geology: Carboniferous Limestone Supergroup, Lower Carboniferous Limestone, Upper Carboniferous Limestone

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m	9

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

Features are displayed on the Ground cavities and sinkholes map on **page 118 >**

ID	Location	Mine Address	Mineral
1	46m E	Talargoch, Clwyd	Lead
2	166m NE	Talargoch Mine, Dyserth, Denbighshire	-
3	244m E	Graig Fawr, Dyserth, Denbighshire	-
5	362m E	Graig Fawr, Dyserth, Denbighshire	-
6	493m SE	Graig-Fawr, Clwyd	Bornite, Chalcocite, Copper, Malachite, Native Copper, Tetrahedrite
7	648m SE	Dyserth Castle, Dyserth, Denbighshire	-
8	654m E	Graig Fawr Quarry, Dyserth, Denbighshire	-
-	748m E	Ta-Y-Allt, Clwyd	-
-	992m S	Dyserth, Clwyd	Lead

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m	0

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

This data is sourced from Groundsure.

19.4 Historical incidents

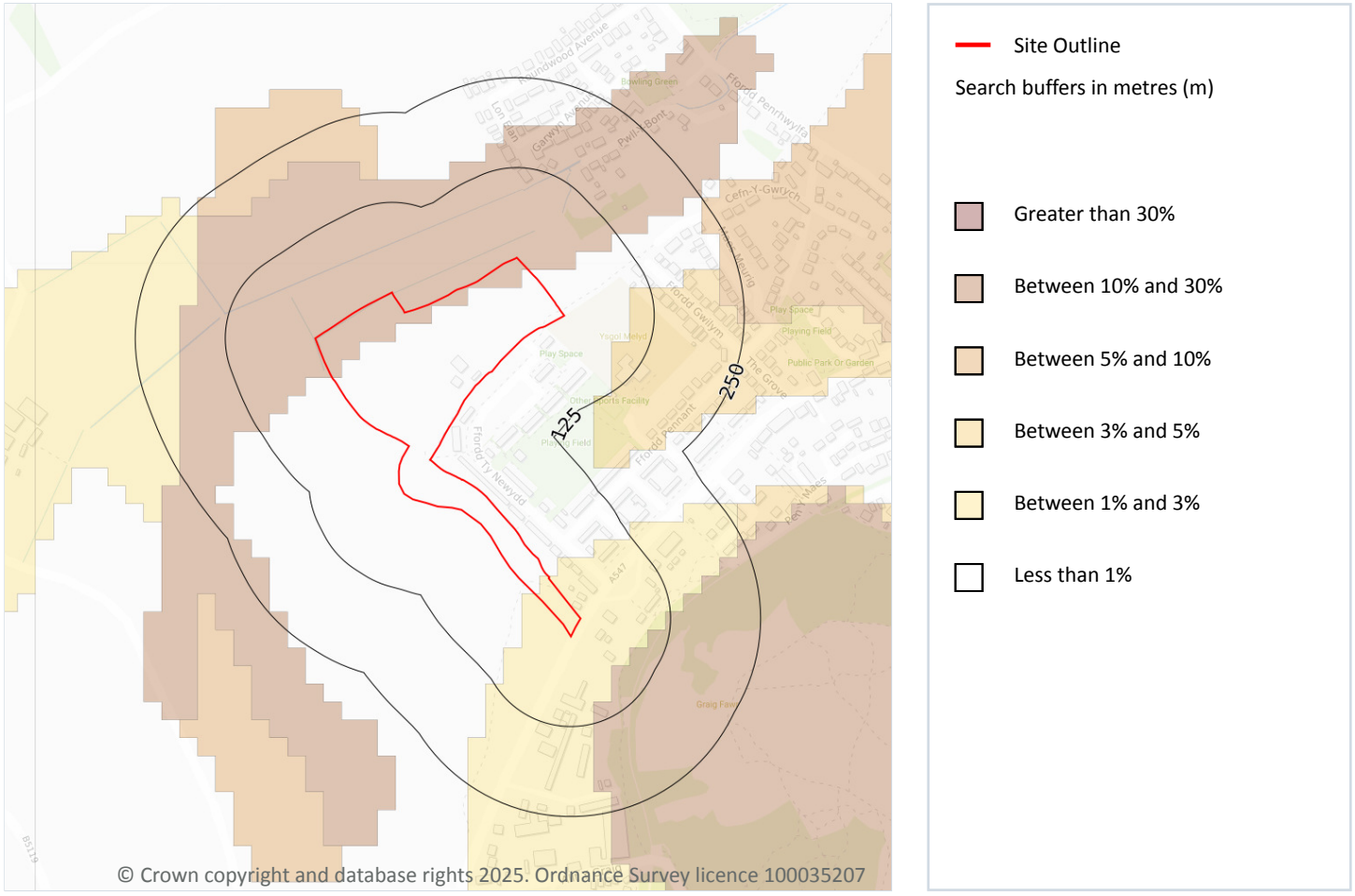
Records within 500m	0

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

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

This data is sourced from Groundsure.

20 Radon



20.1 Radon

Records on site	3

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 121 >**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 10% and 30%**	**Full**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Less than 1%**	**None**
On site	**Between 1% and 3%**	**None**

This data is sourced from the British Geological Survey and UK Health Security Agency.

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	14

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 mg/kg**	**No data**	**600 - 1200 mg/kg**	**360 - 720 mg/kg**	**2.2 - 3.0 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**600 - 1200 mg/kg**	**360 - 720 mg/kg**	**2.2 - 3.0 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**600 - 1200 mg/kg**	**360 - 720 mg/kg**	**1.8 - 2.2 mg/kg**	**40 - 60 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**600 - 1200 mg/kg**	**360 - 720 mg/kg**	**2.2 - 3.0 mg/kg**	**40 - 60 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**600 - 1200 mg/kg**	**360 - 720 mg/kg**	**3.0 - 6.0 mg/kg**	**40 - 60 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**600 - 1200 mg/kg**	**360 - 720 mg/kg**	**1.8 - 2.2 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**600 - 1200 mg/kg**	**360 - 720 mg/kg**	**2.2 - 3.0 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**600 - 1200 mg/kg**	**360 - 720 mg/kg**	**3.0 - 6.0 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**600 - 1200 mg/kg**	**360 - 720 mg/kg**	**1.8 - 2.2 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**600 - 1200 mg/kg**	**360 - 720 mg/kg**	**1.8 - 2.2 mg/kg**	**40 - 60 mg/kg**	**15 - 30 mg/kg**
3m NE	15 mg/kg	No data	600 - 1200 mg/kg	360 - 720 mg/kg	2.2 - 3.0 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
31m N	15 mg/kg	No data	600 - 1200 mg/kg	360 - 720 mg/kg	2.2 - 3.0 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
31m N	15 mg/kg	No data	600 - 1200 mg/kg	360 - 720 mg/kg	2.2 - 3.0 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
33m SW	15 mg/kg	No data	600 - 1200 mg/kg	360 - 720 mg/kg	2.2 - 3.0 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 km^2).

This data is sourced from the British Geological Survey.

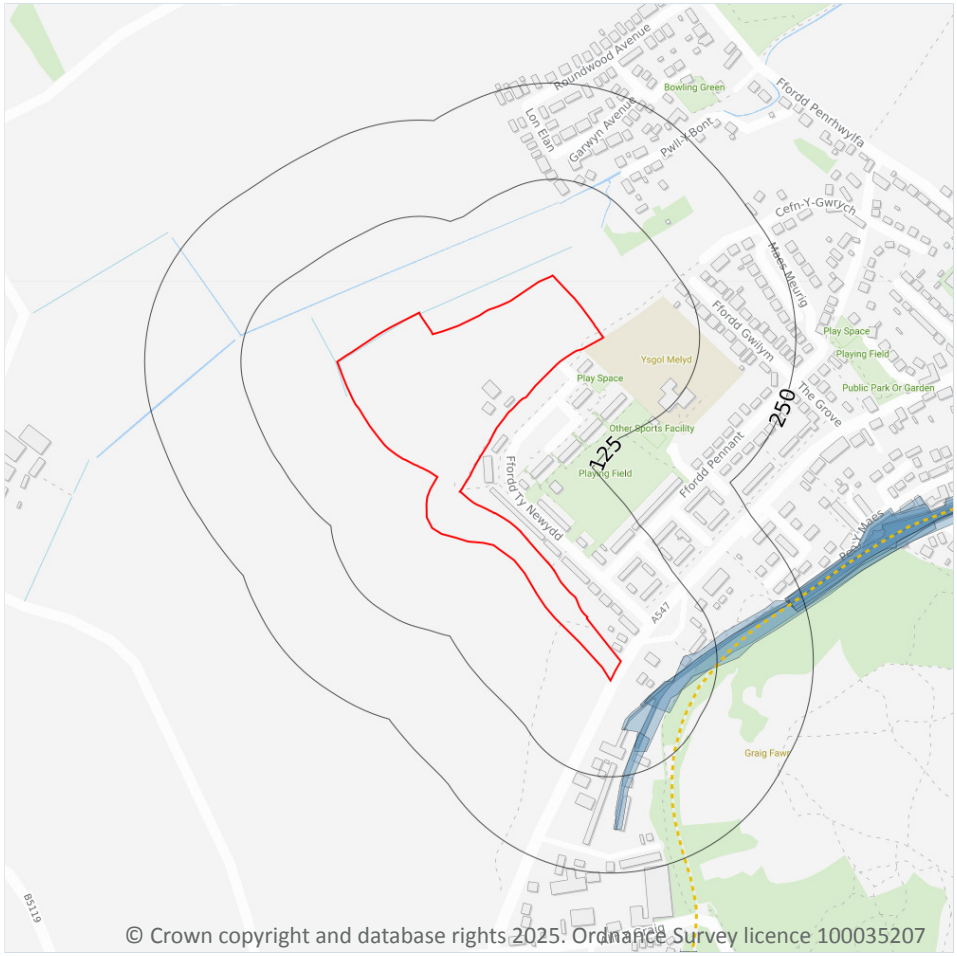
21.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects



Site Outline

Search buffers in metres (m)

- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

22.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m	10

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

Features are displayed on the Railway infrastructure and projects map on **page 125 >**

Location	Land Use	Year of mapping	Mapping scale
50m SE	Railway Sidings	1899	2500
50m SE	Railway Sidings	1871	2500
52m SE	Railway Sidings	1898	10560
53m SE	Railway Sidings	1871	10560
77m SE	Railway Sidings	1898	10560
228m E	Railway Sidings	1938	10560
228m E	Railway Sidings	1949	10560
231m E	Railway Sidings	1912	2500
231m E	Railway Sidings	1911	10560
232m E	Railway Sidings	1959	10560

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m	1

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

Features are displayed on the Railway infrastructure and projects map on **page 125 >**

Location	Description
106m SE	Abandoned

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 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

22.9 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

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

Terms and conditions

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

APPENDIX D

Mining Search Report

Groundsure
LOCATION INTELLIGENCE

GeoRisk

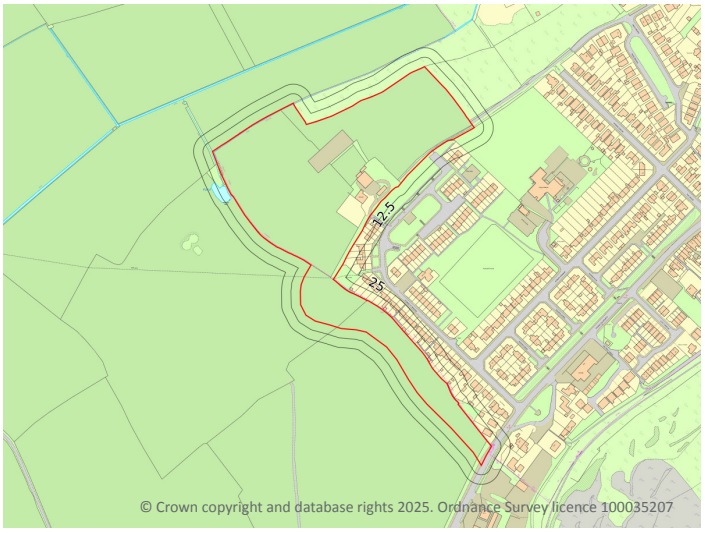
FFORDD TY NEWYDD, GALLT MELYD, PRESTATYN, SIR DDINBYCH, LL19 8PX

Professional opinion

ACTION REQUIRED

There is an identified mining risk and further action is recommended. See guidance on page 2 >.

Site plan



Search results

Non-coal mining
Further action page 4 >

Historical features
Identified page 4 >

Geological features
Identified page 4 >

Oil and gas
Identified page 4 >

Natural instability
Identified page 5 >

Infilled land
Identified page 5 >

Sinkholes
Not identified

Coal mining alert
Not identified

Cheshire brine alert
Not identified

Assesses mining risk from; **Stone**, **Clay**, **Metals**, **Evaporites** and **Hydrocarbons**

Contact us with any questions at:
info@groundsure.com ↗
01273 257 755

Ref: BRO-LGJ-R5C-OHV-V9K
Your ref: C6347-70136-SD
Grid ref: 305565 380834
Date: 29 October 2025

Certified B Corporation

To save you time when assessing the report, we only provide maps and data tables of features we have identified to be of note.

You can view a full list of the information we have searched on **page 25 >**.

Non-coal mining assessment

We consider there to be a non-coal mining-related risk to the property. Please refer to the assessment of mining experts Groundsure below for further details.

Non-coal mining

Mining types: Metals, Stone, Unspecified

Past mining activity

The property lies within an area of historic lead mining activity. Due to the independent and unsystematic manner of the local mining, some of which are of considerable antiquity, records are very poor and incomplete.

A mineralised vein is recorded to pass through the property at surface outcrop.

A mineralised vein is recorded to pass through the property at an undefined elevation.

There is a possibility of unrecorded mining features associated with these mineralised veins within the property.

Current and future mining

According to our archive the property does not presently lie within an area with planning permission for non-coal mineral development. We are not aware of any planned future mining activity.

Next steps for consideration:

- Unless there is already a detailed survey available, a prudent purchaser may wish to consider obtaining a visual inspection, looking for visible defects and signs of mining-related settlement or subsidence effects within the property area. This inspection should be carried out by a suitably qualified and experienced person, who could be sought through www.ricsfirms.com.
- If the property is subject to future development in the vicinity of the recorded mining features, a mining site investigation is recommended to clarify the mining risk to the proposed development.

Other considerations

Other ground hazards have been identified at the site. Please refer to the findings and recommendations below for further details. If the property is to be redeveloped, these findings should be used to inform geotechnical investigations at the site. Please also note, recommendations assume structures are present within the site boundary. If there are no structures or multiple structures present these recommendations should be treated appropriately.

Ground stability

The property is indicated to lie within an area that could be affected by infilled land.

The property is indicated to lie within an area that could be affected by natural instability.

Next steps for consideration:

- if a survey has been undertaken at the property that considers ground instability and no issues were found, no further action is required
- however, based on the findings of this report, the purchaser should be encouraged to consider potential instability in any future development or alteration of the ground including planting and removing trees, and regardless of the survey outcome
- if no survey has yet been undertaken, we recommend one is carried out by a suitably qualified and experienced person
- if ground instability issues have been or are subsequently identified in a survey we recommend following any advice given in the survey findings
- if the property is in an area at risk of shrink-swell subsidence and has clay drainage pipes, consideration should be given to replacing these with a modern equivalent
- if a residential property, check whether it benefits from an NHBC guarantee or other builder warranty that often covers structural issues. Please note the presence of an NHBC guarantee wouldn't change the risk assessment of this report.

Energy

Oil and gas

A record of a well used for oil and gas extraction, exploration, or development has been identified in the locality of the property, although not in close proximity. The presence of a well does not necessarily mean that any active exploration or producing is occurring. We recommend checking the data within the report to see if the well has a ‘completed by’ date within the data as this would indicate that no further activity is taking place at the site.
You may wish to visit the website of any identified operator for further information.

Non-coal mining summary

Mining records

Records relating to recorded mining areas or activity have been identified in the vicinity of the site.

See page 6 > for details. The Non-coal mining assessment on page 2 > will cover any next steps relating to these features, if applicable.

Mining features	Identified
Mine plans	Identified
Researched mining	Identified
BritPits	Identified
Mineral Planning Areas	Identified
Non-coal mining areas	Identified
Mining cavities	Identified
Coal mining areas	Not identified
Brine areas	Not identified
Gypsum areas	Not identified
Tin mining areas	Not identified

Historical features

Historical mapping has identified mining features in the vicinity of the site.

See page 12 > for details. The Non-coal mining assessment on page 2 > will cover any next steps relating to these features, if applicable.

Non-coal mining	Identified
Coal and associated mining	Not identified
Industry associated with mining	Identified

Geological features

There are geological features that could indicate the presence of mining operations in the area or other sources of ground instability.

See page 17 > for details. The Non-coal mining assessment on page 2 > will cover any next steps relating to these features, if applicable.

Artificial and made ground	Not identified
Mineral veins	Identified

Oil and gas

Historical, active or planned wells or extraction areas have been identified near the property.

See page 18 > for details and page 3 > for recommended next steps.

Oil and gas areas	Not identified
Oil and gas wells	Identified

Ground stability summary

Natural instability

Searches of natural ground stability data have identified potential ground stability risks.

See page 20 > for details and page 3 > for recommended next steps.

Shrink-swell hazard	Non-Plastic
Natural ground subsidence	Moderate
Landslides	Not identified
Natural cavities	Information
Coastal erosion	Not identified

Infilled land

Areas of infilled land or landfill have been identified in the vicinity of the site.

See page 23 > for details and page 3 > for recommended next steps.

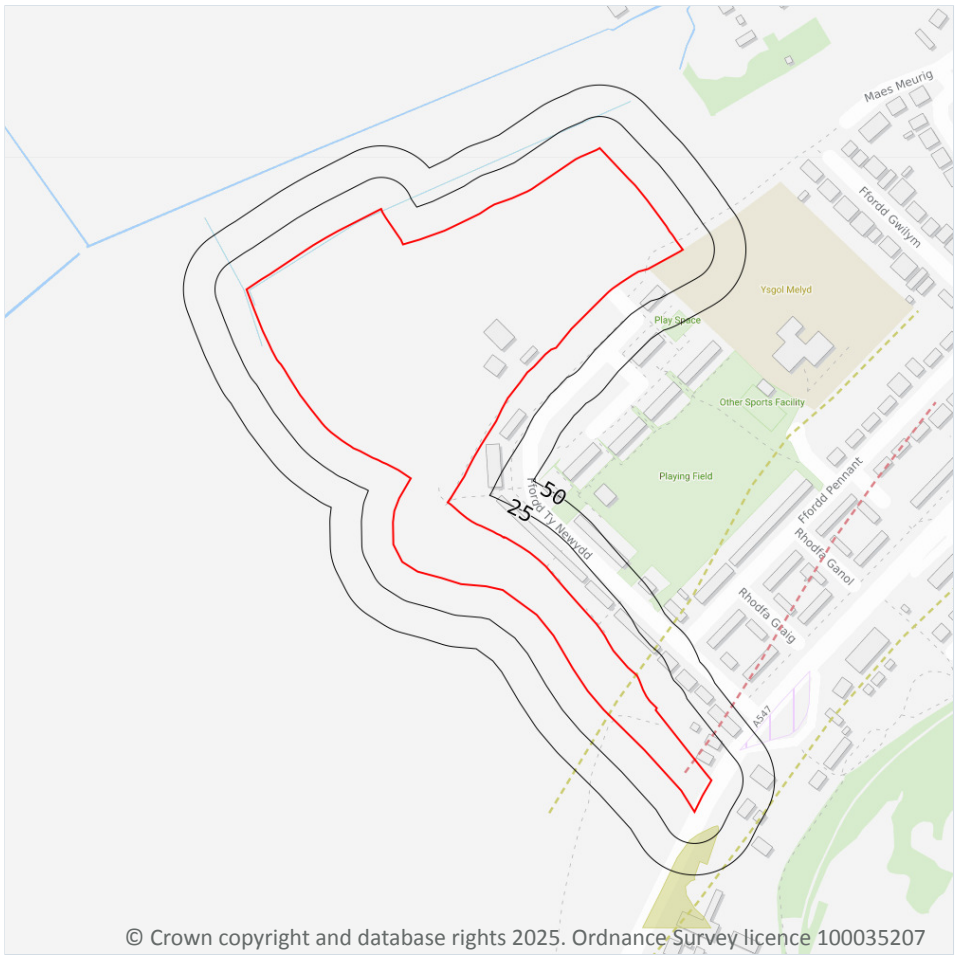
Infilled land	Identified
Historical landfill sites	Information

Sinkholes

No records of sinkholes have been identified in the vicinity of the property.

Reported recent incidents	Not identified
Recorded incidents (Stantec)	Not identified
Historical incidents	Not identified

Non-coal mining / Mining features



Site Outline

Search buffers in metres (m)

Shaft
Portal
Surface Outcrop
Undefined Elevation
Surface working
Tin streaming
Quarry
Aerial Photographic Anomaly
Suspect enclosure
Wasteland
Pond
Cutting
Adit
Tunnel
Underground mining extent
Reported subsidence
Dump (mine waste tip)
Secured feature
Licence boundary

Mineralised veins

Mineralised veins identified from OS, BGS Geological mapping, Lidar data, and mine plans sourced from the BGS and various collections and sources.

Location	Feature	Mineral	Mining type
On site	Undefined elevation	Lead	Metals
45m SE	Undefined elevation	Lead	Metals
On site	Surface outcrop	Copper	Metals

This data is sourced from Groundsure

Surface features

Surface features, including suspect enclosures and wasteland, identified from OS, BGS Geological mapping,

Lidar data, and mine plans sourced from the BGS and various collections and sources.

Location	Feature	Mineral	Mining type
33m NE	Wasteland	Mined	Unspecified

This data is sourced from Groundsure

Mine waste tips

Mine waste tips identified from OS, BGS Geological mapping, Lidar data, and mine plans sourced from the BGS and various collections and sources.

Location	Feature	Mineral	Mining type
17m SE	Mine waste tip	Mined	Unspecified

This data is sourced from Groundsure

Researched mining

The property has been found to be either within or in proximity to 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. Any such risk areas or features in the vicinity of the property are presented on the 'Mining features' map and within the detailed sections on Mine entries, Mineralised veins, Surface workings, Surface features, Underground mine workings or Mine waste tips.

This data is sourced from Groundsure

Mining Record Office plans

The property has been found to be either within or in proximity to areas defined on Mining Record Office plans. This dataset is representative of Mining Record Office 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. Any such risk areas or features in the vicinity of the property are presented on the 'Mining features' map and within the detailed sections on Mine entries, Mineralised veins, Surface workings, Surface features, Underground mine workings or Mine waste tips.

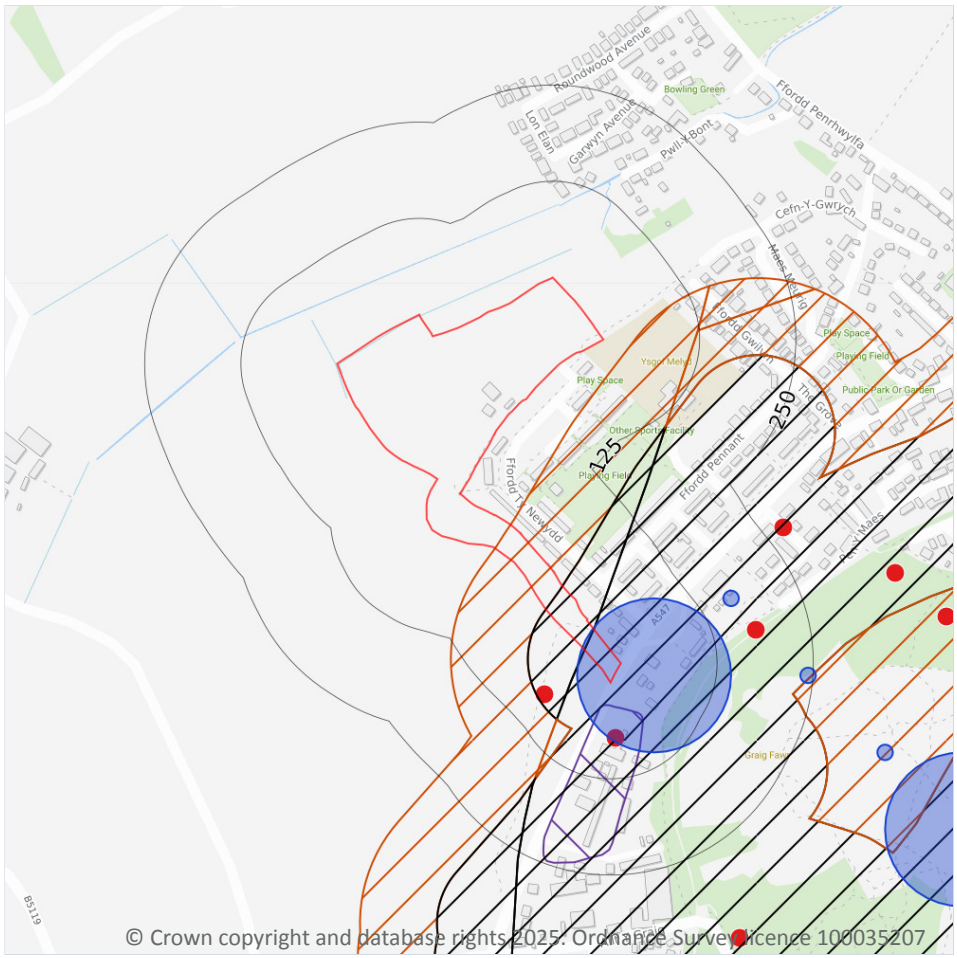
This data is sourced from Groundsure

BGS mine plans

The property has been found to be either within or in proximity to areas defined on BGS mine plans. This dataset is representative of BGS mine plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk depicted have been captured. Any such risk areas or features in the vicinity of the property are presented on the Mining features map and within detailed sections on Mine entries, Mineralised veins, Surface workings, Surface features, Underground mine workings or Mine waste tips.

This data is sourced from Groundsure.

Non-coal mining / Mining records



Site Outline

Search buffers in metres (m)

BritPits

Historical Mineral Planning Areas

Mining Cavities

Non Coal Mining

Underground mining known or likely within or in close proximity

Underground mining known within or in very close proximity

BritPits

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.

Location	Details	Description
73m S	Name: Talargoch Mine Address: Bryniau, Meliden, PRESTATYN, Flintshire Commodity: Lead Status: Ceased	Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
77m SW	Name: Talargoch Mine Address: Bryniau, Meliden, PRESTATYN, Flintshire Commodity: Lead Status: Ceased	Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
181m E	Name: Talargoch Mine Address: Bryniau, Meliden, PRESTATYN, Flintshire Commodity: Lead Status: Ceased	Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

This data is sourced from the British Geological Survey.

Mineral Planning Areas

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.

Location	Site Name	Mineral	Type	Planning Status	Planning Status Date	Additional information
30m S	Talargoch	Not available	Not available	Not available	Not available	No further details available

This data is sourced from the British Geological Survey.

Non-coal mining areas

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).

Location	Name	Commodity	Class	Likelihood
On site	Not available	Iron Ore (Bedded)	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
On site	Not available	Vein Mineral	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
On site	Not available	Iron Ore (Bedded)	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.

This data is sourced from the British Geological Survey.

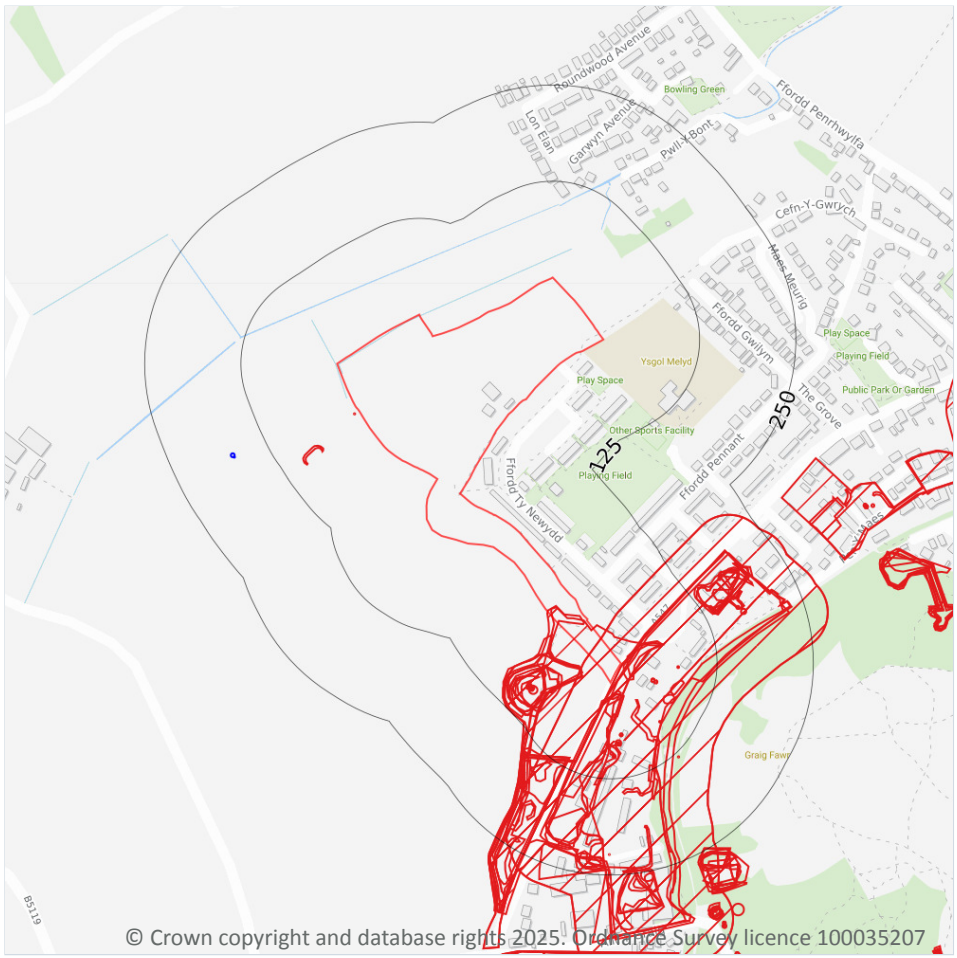
Mining cavities

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.

Location	Mine Address	Mineral
On site	Talargoch, Clwyd	Lead
156m NE	Talargoch Mine, Dyserth, Denbighshire	-
234m E	Graig Fawr, Dyserth, Denbighshire	-

This data is sourced from Stantec UK Ltd.

Non-coal mining / Historical features



Site Outline

Search buffers in metres (m)

Non-coal mining

Coal and associated mining

Industry associated with mining

Non-coal mining

Historical land uses identified from Ordnance Survey mapping that involved mining for substances other then coal.

Location	Land use	Date
On site	Disused Lead Mine	1938
On site	Disused Lead Mine	1912
On site	Lead Mine	1871
On site	Unspecified Disused Mine	1898
2m SE	Disused Mine	1899
5m SE	Ground Workings	1912

Location	Land use	Date
6m SE	Unspecified Ground Workings	1949
6m SE	Unspecified Ground Workings	1949
6m SW	Drain Shaft	1993
7m SE	Lead Mine	1871
9m E	Unspecified Heap	1959
14m SE	Unspecified Ground Workings	1959
17m SW	Unspecified Disused Mine	1959
17m S	Unspecified Ground Workings	1911
17m SE	Ground Workings	1871
21m SE	Ground Workings	1912
21m SW	Disused Lead Mine	1949
21m SW	Disused Lead Mine	1949
21m SW	Disused Lead Mine	1911
40m SE	Ground Workings	1964
45m SW	Unspecified Heap	1898
45m SE	Old Shafts	1912
45m SE	Shaft	1871
45m SE	Shaft	1899
49m SE	Unspecified Shaft	1871
50m SW	Unspecified Heap	1871
52m SW	Unspecified Heap	1959
55m SW	Ground Workings	1871
55m SW	Ground Workings	1899
55m SW	Unspecified Heap	1938
57m SW	Unspecified Heap	1911
65m SW	Ground Workings	1993
68m S	Old Shaft	1912
68m S	Shaft	1899

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Location	Land use	Date
68m SW	Refuse Tip	1964
71m SE	Old Shafts	1912
73m SE	Old Shafts	1912
74m E	Trial Shaft	1912
76m S	Unspecified Shafts	1898
78m S	Lead Shaft	1899
78m S	Shaft	1871
79m S	Lead Shafts	1871
79m SW	Unspecified Disused Shaft	1969
80m SW	Disused Shaft	1964
81m SW	Unspecified Old Shaft	1911
81m SE	Shaft	1899
82m S	Ground Workings	1899
82m SW	Unspecified Old Shaft	1898
83m SW	Lead Shaft	1871
83m SW	Unspecified Old Shaft	1938
84m SW	Lead Shaft	1871
84m SW	Old Lead Shaft	1899
84m SW	Old Shaft	1912
90m S	Lead Shaft	1871
94m S	Lead Shafts	1871
111m SW	Unspecified Ground Workings	1949
111m SW	Unspecified Ground Workings	1949
116m SW	Unspecified Ground Workings	1959
119m SE	Ground Workings	1993
121m SW	Unspecified Ground Workings	1911
129m NE	Unspecified Heaps	1911
129m NE	Ground Workings	1912

Location	Land use	Date
130m SE	Old Shaft	1993
131m SW	Unspecified Pit	1938
133m NE	Unspecified Pits	1949
133m NE	Unspecified Pits	1949
135m NE	Ground Workings	1987
136m NE	Ground Workings	1977
136m NE	Ground Workings	1962
137m NE	Ground Workings	1964
143m SW	Ground Workings	1964
145m SW	Unspecified Ground Workings	1969
149m NE	Unspecified Pit	1959
166m NE	Ground Workings	1871
167m NE	Old Shaft	1899
167m NE	Old Shaft	1912
168m S	Unspecified Ground Workings	1959
170m NE	Unspecified Old Shaft	1898
171m NE	Unspecified Heap	1949
171m NE	Unspecified Heap	1949
175m NE	Unspecified Heap	1959
191m S	Ground Workings	1964
199m S	Unspecified Ground Workings	1959
221m S	Unspecified Heap	1959
223m S	Old Shaft	1993
225m S	Unspecified Ground Workings	1911
241m S	Unspecified Ground Workings	1959
245m S	Unspecified Ground Workings	1911
246m S	Unspecified Pit	1959
246m S	Unspecified Ground Workings	1949

Location	Land use	Date
246m S	Unspecified Ground Workings	1949
248m SE	Unspecified Heap	1979
248m SE	Unspecified Heap	1994
248m SE	Unspecified Heap	1959
248m SE	Unspecified Heap	1969

This data is sourced from Groundsure.

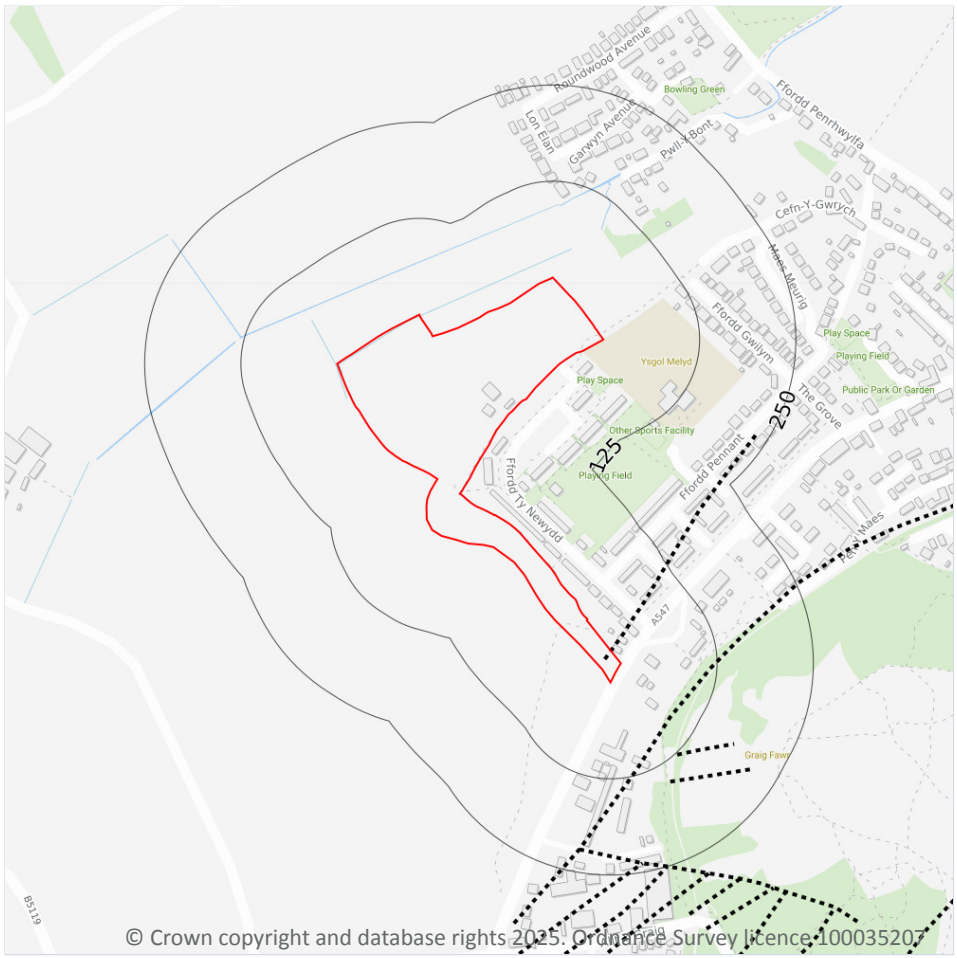
Industry associated with mining

Historical land uses identified from Ordnance Survey mapping that indicate the presence of industry which was often associated with mineral extraction. Extraction sites were often located in close proximity to these land uses.

Location	Land use	Date
169m SW	Wind Pump	1911
169m SW	Wind Pump	1912

This data is sourced from Groundsure.

Non-coal mining / Geological features 50k



Site Outline

Search buffers in metres (m)

- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground
- Mineral veins

Linear features - mineral veins (50k)

Detail of linear features such as mineral veins identified from geological maps at 1:50,000 scale. The presence of mineral veins in the area is an indicator that mining operations may have occurred in the area.

Location	Category	Description
On site	MINERAL_VEIN	Mineral vein, inferred
90m SE	MINERAL_VEIN	Mineral vein, inferred
128m SE	MINERAL_VEIN	Mineral vein, inferred
150m SE	MINERAL_VEIN	Mineral vein, inferred
220m S	MINERAL_VEIN	Mineral vein, inferred
238m S	MINERAL_VEIN	Mineral vein, inferred

Location	Category	Description
250m S	MINERAL_VEIN	Mineral vein, inferred

This data is sourced from the British Geological Survey.

Non-coal mining / Oil and gas

Oil or gas drilling well

The database of oil and gas wells shows all existing and historic licensed oil, gas, shale gas, and coalbed methane extraction sites. These wells may have been licensed in any one of the 14 licensing rounds since 1910.

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info@groundsure.com ↗
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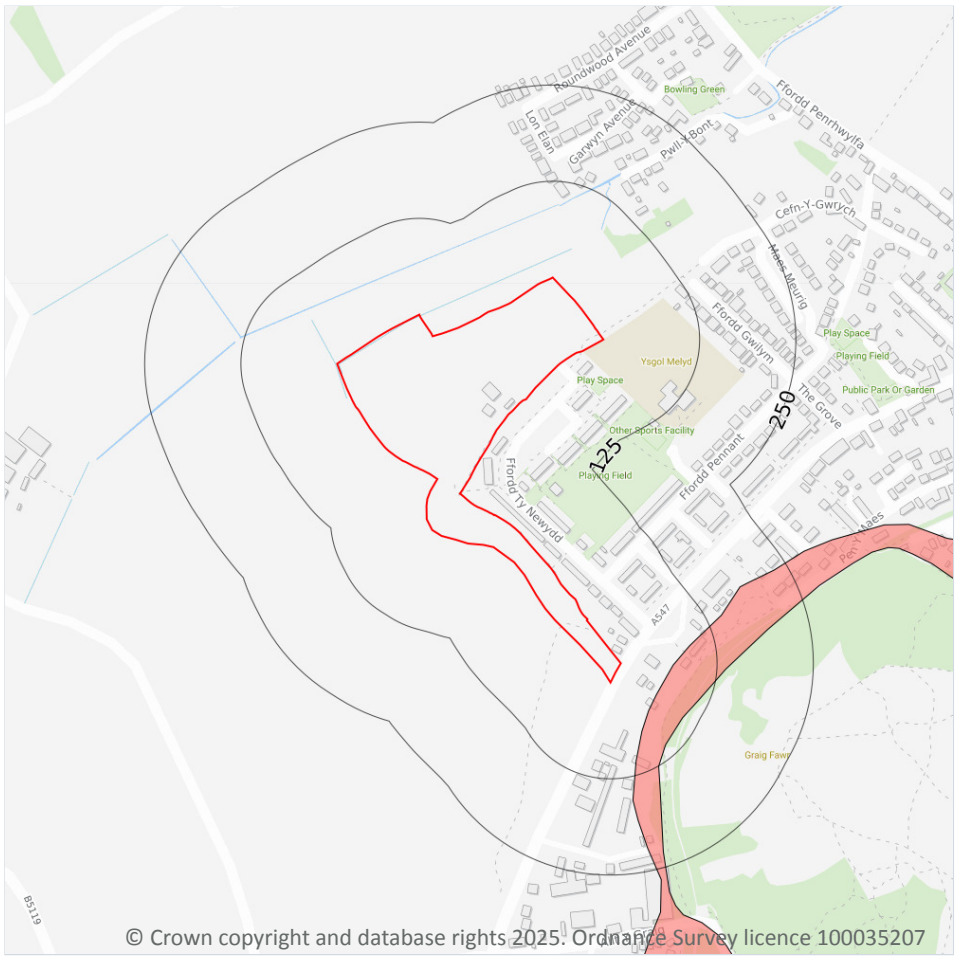
ID	Distance	Direction	Details	
1	4-5 km	SW	Site Name: RHUDDLAN 1 Operator: EVERGREEN Type: Coalbed Methane Intent: Exploration	NSTA References: L110/23- 1 Licence Number: EXL201 Date of first drilling: 02/02/1993 Date of well completion: 16/04/2003 Licence Expiry: 16/04/2008

This data is sourced from the North Sea Transition Authority (NSTA).

Ground stability / Landslides



Site Outline

Search buffers in metres (m)

Slope instability

- Moderate
- High

National landslide database

- Landslide record

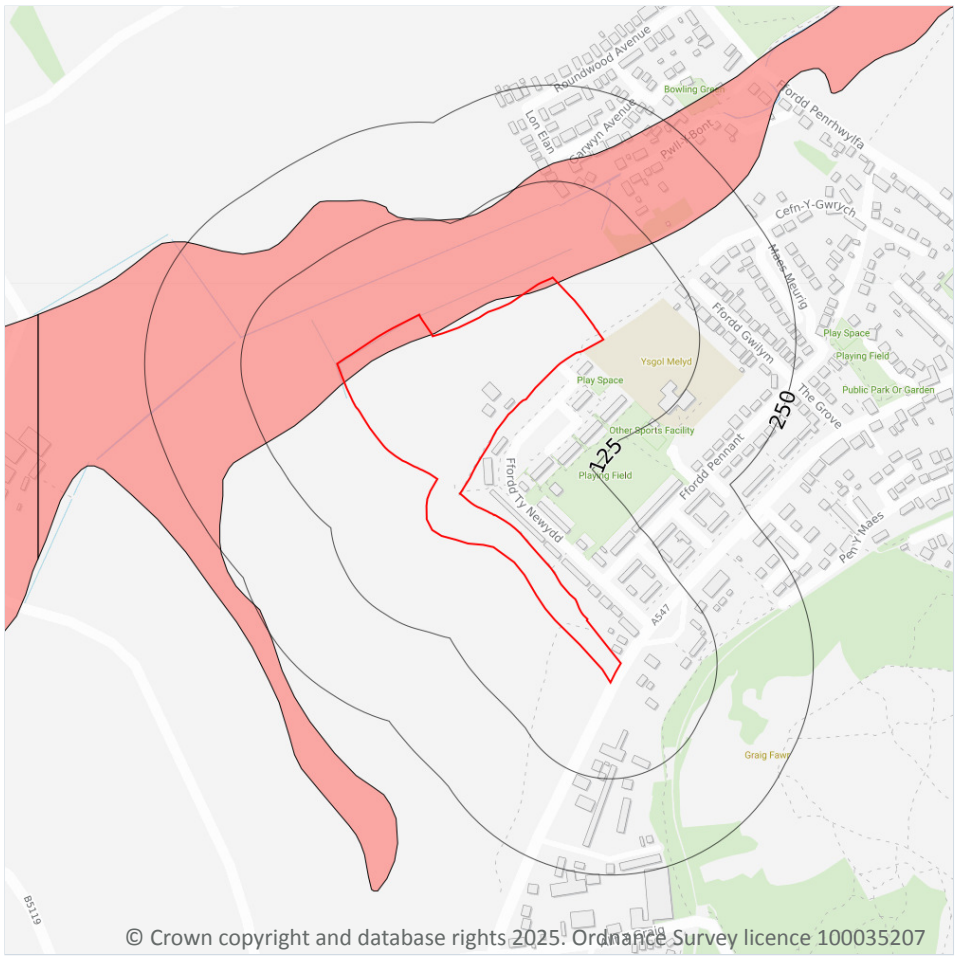
Landslides

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.

Location	Hazard rating	Details
60m SE	Moderate	Slope instability problems are probably present or have occurred in the past. Land use should consider specifically the stability of the site.

This data is sourced from the British Geological Survey.

Ground stability / Compressible deposits



Site Outline

Search buffers in metres (m)

Moderate

High

Compressible deposits

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.

Location	Hazard rating	Details
On site	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

This data is sourced from the British Geological Survey.

Ground stability / Natural cavities

Site Outline

Search buffers in metres (m)

Natural cavities (Polygon)

Natural cavities (Line)

Natural cavities

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.

Location	Details
237m SE	Type: Vadose Cave x 1 Superficial Geology: None Bedrock Geology: Carboniferous Limestone Supergroup, Lower Carboniferous Limestone, Upper Carboniferous Limestone

This data is sourced from Stantec UK Ltd.

Ground stability / Infilled land

Site Outline

Search buffers in metres (m)

Active landfill sites

Historical landfill (LA/mapping)

Infilled Land

Historic landfill sites

Infilling from historical mapping

These are records of areas of land that have been potentilly infilled with unknown materials. Groundsure have identified these areas from our comprehensive collection of historical maps. Depending on the nature of the materials that have been used for infilling there is the potential for these areas to settle over time. As such, any buildings situated on these areas could be at risk from ground instability or subsidence.

Location	Year of mapping	Land Use	Mapping scale
On site	1938	Disused Lead Mine	10560
On site	1898	Unspecified Disused Mine	10560
6m SE	1949	Unspecified Ground Workings	10560
6m SE	1949	Unspecified Ground Workings	10560

Location	Year of mapping	Land Use	Mapping scale
7m SE	1871	Lead Mine	10560
9m E	1959	Unspecified Heap	10560
14m SE	1959	Unspecified Ground Workings	10560
17m SW	1959	Unspecified Disused Mine	10560
17m S	1911	Unspecified Ground Workings	10560
21m SW	1949	Disused Lead Mine	10560
21m SW	1949	Disused Lead Mine	10560
21m SW	1911	Disused Lead Mine	10560
45m SW	1898	Unspecified Heap	10560
49m SE	1871	Unspecified Shaft	10560
50m SW	1871	Unspecified Heap	10560
52m SW	1959	Unspecified Heap	10560
55m SW	1938	Unspecified Heap	10560
57m SW	1911	Unspecified Heap	10560

This data is sourced from Groundsure.

Historical landfill (from Local Authority and historical mapping records)

These are records of former areas of landfill. These areas of land are likely to have been redeveloped for other uses since the landfill closed. Depending on the nature of the waste these landfill sites accepted, they may still pose a risk of contamination (including from landfill gases). Former landfill sites can also cause issues with ground instability.

Location	Site address	Source	Data type
68m SW	Refuse Tip	1962 mapping	Polygon

This data is sourced from Groundsure.

Datasets searched

This is a full list of the data searched in this report. If we have found results of note we will state "Identified". If no results of note are found, we will state "Not identified". Our intelligent filtering will hide "Not identified" sections to speed up your workflow. Please note: if a GeoRisk + report, the CON29M and Cheshire Salt Search content is not covered in the below.

Mining features	
Mine entries	Not identified
Mineralised veins	**Identified**
Surface workings	Not identified
Surface features	**Identified**
Underground mine workings	Not identified
Reported subsidence	Not identified
Mine waste tips	**Identified**
Secured features	Not identified
Licence boundaries	Not identified
Researched mining	**Identified**
Mining Record Office plans	**Identified**
BGS mine plans	**Identified**

Mining records	
BritPits	**Identified**
Mineral Planning Areas	**Identified**
Non-coal mining areas	**Identified**
Mining cavities	**Identified**
Coal mining areas	Not identified
Brine areas	Not identified
Gypsum areas	Not identified
Tin mining areas	Not identified

Historical Features	
Non-coal mining	**Identified**
Coal and associated mining	Not identified
Industry associated with mining	**Identified**

Geological features	
Artificial and made ground (10k)	Not identified
Linear features - mineral veins (10k)	Not identified
Artificial and made ground (50k)	Not identified
Linear features - mineral veins (50k)	**Identified**

Oil and gas	
Oil or gas drilling well	**Identified**
Proposed oil or gas drilling well	Not identified
Licensed blocks	Not identified
Potential future exploration areas	Not identified

Natural instability	
Property shrink-swell assessment	Not identified
Shrink-swell clays	Not identified
Landslides	**Identified**
National landslide database	Not identified
Running sands	Not identified
Compressible deposits	**Identified**
Collapsible deposits	Not identified
Dissolution of soluble rocks	Not identified

Contact us with any questions at:
info@groundsure.com
01273 257 755

Natural instability	
Natural cavities	**Identified**

Coastal Erosion	
Complex cliffs	Not identified
Projections with intervention measures in place	Not identified
Projections with no active intervention	Not identified

Infilled land	
Infilling from historical mapping	**Identified**
Active landfill sites	Not identified
Historical landfill (from Environment Agency records)	Not identified
Historical landfill (from Local Authority and historical mapping records)	**Identified**

Sinkholes	
Reported recent incidents	Not identified
Recorded incidents (Stantec)	Not identified
Historical incidents	Not identified

Methodologies and limitations

Groundsure's methodologies and limitations are available here: knowledge.groundsure.com/methodologies-and-limitations ↗.

Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information in your Georisk Commercial report. To find out who they are and their areas of expertise see www.groundsure.com/sources-reference ↗.

Conveyancing Information Executive and our terms & conditions

IMPORTANT CONSUMER PROTECTION INFORMATION

This search has been produced by Groundsure Ltd. Groundsure adheres to the Conveyancing Information Executive Standards.

In addition to The Property Ombudsman (TPO) redress scheme covering consumers, TPO will also provide redress to small businesses (including Charities and Trusts) and where the customer meets the following criteria:

- a small business (or group of companies) with an annual turnover of less than £3 million;
- a charity with an annual income of less than £3 million;
- a Trust with a net asset value of less than £3 million.

Complaints Advice

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure.

If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award up to £5,000 to you if the Ombudsman finds that you have suffered actual financial loss and/or aggravation, distress or inconvenience as a result of your search provider failing to keep to the Standards.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs.

COMPLAINTS PROCEDURE: If you want to make a complaint, we will:

- acknowledge it within 5 working days of receipt
- normally deal with it fully and provide a final response, in writing, within 20 working days of receipt
- liaise, at your request, with anyone acting formally on your behalf

Complaints should be sent to:
Operations Director, Groundsure Ltd, Nile House, Nile Street, Brighton, BN1 1HW. Tel: 01273 257 755. Email: info@groundsure.com ↗ If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOs): Tel: 01722 333306, E-mail: admin@tpos.co.uk ↗ We will co-operate fully with the Ombudsman during an investigation and comply with their final decision.

Groundsure's Terms and Conditions can be viewed here: www.groundsure.com/terms-and-conditions-april-2023/ ↗

All of the advice and reports that Groundsure produces are covered by a comprehensive Remediation Contribution policy to ensure customers are protected, see www.groundsure.com/remediation ↗ for full details.

APPENDIX E

UXO Screening Map

UNEXPLODED BOMB RISK MAP

zeticaUXO

SITE LOCATION

Location: LL19 8PJ,
Map Centre: 306102,380767

This map principally indicates a hazard from Unexploded Bombs (UXB) due to WWII bombardment. Other sources of Unexploded Ordnance (UXO) may be present. It should be noted that this map does not represent UXO risk and should not be reported as such when reproduced.

LEGEND

- **High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- **Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- **Low:** Areas indicated as having 15 bombs per 1000acre or less.

Miltary | **Industry** | **UXO find** | **Other**
Transport | **Docks** | **Luftwaffe targets**
Utilities | **Bombing decoy** | **Airfields**

How to use your Unexploded Bomb (UXB) risk map?

This map indicates the potential for UXBs to be present because of World War Two (WWII) bombing. It can be incorporated into a technical report, such as a Phase 1 Desk Study, or similar document as an indication of the potential for UXO encounter on a Site. Other sources of UXO may also be indicated, although note that these are not comprehensive and more detailed research is required to confirm their presence.

What if my Site is in a moderate or high density area?

We typically recommend that a detailed UXO desk study and risk assessment is undertaken for sites in an area with a moderate or high bombing density.
Additionally, if your site is in close proximity to a strategic target, military establishment, airfield or bombing decoy, then additional detailed research is recommended.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirm that there is a low potential for UXO to be present on your site, then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

If you are unsure whether other sources of UXO may be present, you can request one of our pre-desk study assessments (PDSA) by emailing a site boundary and location to pdsa@zetica.com.

You should never plan site work or undertake a risk assessment using these maps alone. More detail is required, to include an assessment of the likelihood of a source of UXO hazard from other military activity not reflected on these maps.

If I have any questions, who do I contact?

tel: +44 (0) 1993 886682 **email:** uxo@zetica.com **web:** www.zeticauxo.com

The information in this UXB risk map is derived from a range of sources and should be used with the accompanying notes on our website.

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