

Land off Gibbons Way, Bridgend CF33 4ND

Phase I Geo-Environmental Desk Study Report

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Executive Summary

HSP Consulting has been commissioned by Gleeds Management Services Ltd to provide technical studies to inform the feasibility study to enable design of a new educational facility at the site. The geo-environmental desk study (Phase I) is one of a series of studies providing information on likely constraints to the development of the site. The purpose of the report is to collate background historical and geo-environmental data to address where possible land contamination and stability matters within Planning Policy Guidance.

The site is irregular in shape and approximately 2.06Ha in area. Two thirds of the site is open access public land bound by Gibbons Way beyond which the remaining third of the site is occupied by housing, a hard play court and a training centre with car park.

The site is recorded as part of three fields on the 1st Edition mapping (1881). Gibbons Way and residential housing are shown on site from 1969 onwards. The housing centrally and in the south of the site are no longer shown on aerial mapping dated 2009 & 2013 respectively, presumed demolished. Historically, the surrounding land use is predominantly agricultural with limited development until the mid 1960's where the predominant land use changes to residential.

The BGS mapping does not indicate any made ground on the site. However, limited made ground may be present associated with the former housing in the centre and south of the site. Any Made Ground encountered would be of an unknown composition. The majority of the site is underlain by superficial Till deposits. No superficial deposits are expected to be encountered in the south east of the site. The superficial deposits have been designated as a Secondary Undifferentiated Aquifer.

Bedrock geology of the Mercia Mudstone Group is expected to be encountered across the majority of the site. Bedrock deposits of the Blue Anchor Mudstone Formation are expected in the south east of the site. Both formations have been designated as Secondary B Aquifers.

Potential sources of ground gas have been identified within a 250m radius of the site consisting of made ground potentially on site, infilled ponds and a cemetery.

The Preliminary Conceptual Site Model indicates a low to moderate possibility that harm could arise to a designated receptor from identified hazards. A ground investigation is recommended to provide information as part of the feasibility study and assess the geo-environmental constraints identified on site by this desk study.

The executive summary contains an overview of key findings and conclusions. However no reliance should be placed on the executive summary until the whole of the report has been read. Other sections of the report may contain information which puts into context the findings noted within the executive summary.



1. Introduction

1.1 Background

This report has been prepared to support a feasibility study and at present no detailed development plans have been provided, it is understood that the intention is for a new educational facility with car parking and associated hard and soft landscaping.

1.2 Scope and Limitations

HSP Consulting has been commissioned by Gleeds Management Services Ltd to provide technical studies to inform the feasibility study to enable design of a new education facility on the site. The geo-environmental desk study (Phase I) is one of a series of studies providing information on likely constraints to the development of the site. The purpose of the report is to collate background historical and geo-environmental data to address where possible land contamination and stability matters within Planning Policy Guidance.

The recommendations made in this report are based on the assessment of the published information and information provided by the Client.

1.3 Report Objectives

The objectives of this report are to:

- Establish the geological and hydrogeological conditions using existing available/published information;
- Summarise available information and identify site specific geotechnical and environmental hazards which may place a constraint upon the proposed site use;
- Produce a Conceptual Site Model and preliminary qualitative environmental risk assessment identifying potential pollution linkages between sources of contamination, pathways and receptors;
- Provide recommendations for Phase II Ground Investigation and any other assessments required.

1.4 Sources of Information

The following sources of information were used during the preparation of this report.

- EmapSite Historical Mapping ref. EMS-619811_825925
- EmapSite Geoinsight & Enviroinsight Report ref. EMS-619811_825926
- British Geological Survey. Geology of Britain Map Viewer www.bgs.ac.uk
- DEFRA Magic Map: <http://defra.gov.uk/magicmap.aspx>
- Department of the Environment. Industry Profiles.

A walkover was undertaken by HSP Consulting on 16th July 2020. The purpose of the walkover was to record the current land use, topography and principal physical features and to identify, where possible, visual and olfactory indicators of contamination.

2. Site Setting

2.1 The Site

2.1.1 Location

The site is located off Gibbons Way in the north east of North Cornelly Village, approximately 9km north east of Bridgend. The approximate National Grid Reference for the centre of the site is (NGR) 282109, 181862. A Site Location Plan is included in Appendix I.

2.1.2 Description

The site is irregular in shape and approximately 2.06Ha in area. Two thirds of the site is open space bound by Gibbons Way beyond which the remaining third of the site is occupied by housing, a hard play MUGA court and a training centre (modular construction) with car park. The open space is mown grass with a central asphalt concrete square and footpaths linking the areas of housing. The levels across the site rise gently from the southwest to the north east with a rapid increase in elevation including terracing and low level retaining walls in the south east of the site.

2.1.3 Surrounding Land Use

The main features of interest identified are:

- North: Residential properties with roads and soft landscaping areas.
- East: Pill-Y-Cynffig & Ael-Y-Bryn (highways) with residential properties and gardens.
- South: Public open space with residential properties and gardens.
- West: Heol-Y-Parc (highways) with residential properties beyond.

2.1.4 Proposed End Use

No development options are currently available for the site. It is understood that part of the site will be developed as an educational facility, at this stage it is not known where on the site the new development would be positioned.

2.2 Geology

2.2.1 Made Ground

The BGS mapping does not indicate any made ground on the site. However, given the historical development on the site some made ground should be expected.

2.2.2 Superficial Deposits

The BGS mapping indicates the majority of the site to be underlain by superficial Till deposits. No superficial deposits are expected to be encountered in the south eastern corner of the site.

2.2.3 Bedrock Geology

BGS bedrock mapping indicates the majority of the site is underlain by the Mercia Mudstone Ground – Mudstone of the Triassic Period, described by the BGS as '*Dominantly red, less commonly green-grey, mudstones and subordinate siltstones with thick halite-bearing units in*

some basinal areas. Thin beds of gypsum/anhydrite widespread; sandstones are also present.’

The mapping indicates the south eastern corner of the site is underlain by the Blue Anchor Mudstone Formation Mudstone of the Triassic Period. These deposits are described by the BGS as ‘typically comprises pale green-grey, dolomitic silty mudstones and siltstones with thin arenaceous lenses and a few thin, commonly discontinuous beds of hard, dolomitic, pale yellowish-grey, porcellanous mudstone and siltstone.’

2.2.4 Structural Geology

Three faults have been identified within 250m of the site boundary. The closest fault is recorded on site, orientated in a north to south direction. The displacement is unknown.

2.2.5 Historical Boreholes

There are five BGS borehole records within 250m of the site. All of the borehole records are recorded as publicly available and have been reviewed. The borehole records are located within the same bedrock and superficial strata. Below is a summary of the most pertinent ground conditions recorded:

Table 2.1 - Summary of Historical BGS Borehole Information

BGS Reference		Summary of Ground Conditions
SS88SW149 51m South West of site boundary	Drilled by: Glamorgan CC Highways Department Date: 1974 Method: Cable Percussion	Light brown TOPSOIL with some gravel to 0.30m begl. Dense to very dense GRAVEL with little sand and occasional boulders to 6.15m begl.
SS88SW151 230m South of site boundary	Drilled by: Glamorgan CC Highways Department Date: 1974 Method: Cable Percussion	Dark brown silty TOPSOIL with some cobbles to 1.50m begl. Medium dense to dense GRAVEL and SAND with occasional boulders to 4.30m begl. Soft to firm brown grey clayey SILT with occasional sand and gravel to 6.00m begl.

2.2.6 Geological Hazard Ratings

The Emapsite GeolInsight™ Report provides ground stability data for the site and surrounding area, a summary is provided in Table 2.2 below.

Table 2.2 - Summary of BGS Hazard Ratings

Hazard	Located	Direction	Hazard Potential
Potential for Collapsible Rocks Stability Hazards	On-site	-	Very Low
Potential for Landslide Ground Stability Hazards	On-site	-	Low
Potential for Ground Dissolution Stability Hazards	On-site	-	Negligible
Potential for Compressible Ground Stability Hazards	On-Site	-	Negligible
Potential for Running Sand Ground Stability Hazards	On-site	-	Very Low
Potential for Shrinking or Swelling Clay Ground Stability Hazards	On-site	-	Very Low

2.3 Mining

2.3.1 BGS Mineral Sites

There are no BGS recorded Mineral Sites within a 250m radius of the site.

2.3.2 Brine Extraction

No Brine Extraction Areas have been identified within a 250m radius of the site.

2.3.3 Coal Mining

The site does not lie within a Coal Authority standing advice or reporting area.

2.3.4 Historical Surface Workings

Six historical surface workings have been identified within a 250m radius of the site. The closest relates to a pond recorded on historical mapping from 1914 to 1947, 120m south of the site. The remaining workings relate to ponds, cemetery, cutting and unspecified heap (terracing for playing fields).

2.4 Hydrogeology

2.4.1 Aquifer Units

The superficial Till deposits are classified as a Secondary Undifferentiated Aquifer, defined by the Environment Agency as *'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.'*

The bedrock Mercia Mudstone and Blue Anchor Mudstone Formation deposits are classified as Secondary B Aquifers, defined by the Environment Agency as *'predominantly lower permeability layers which may store / yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water bearing parts of the former non- aquifers.'*

2.4.2 Groundwater Vulnerability

No Source Protection Zones have been identified within 500m radius of the site.

The soils in the south east of the site are recorded to be of high vulnerability which is described as 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.

The remainder of the soils on the site are recorded to be of medium vulnerability which is described as intermediate risk of transmitting pollution to groundwater due to the variability of the underlying soils.

The site is within a 1km square with a 'very significant soluble rocks risk category' where solution features that enable rapid movement of a pollutant are likely to be present, with a high possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, especially in adverse conditions such as concentrated surface or sub-surface water flow. The percentage of the grid square covered by the maximum risk is 7%. This risk is likely to relate to Limestone bedrock shown approximately 600m to the south of the site and is therefore unlikely to adversely impact the subject site.

2.4.3 Groundwater Abstractions

No groundwater abstraction licences have been identified within 250m of the site.

Furthermore, no potable abstractions have been identified within 2km of the site boundary.

2.5 Hydrology

2.5.1 Nearest Surface Water Course

The closest surface water feature is recorded 121m north of the site and relates to the Afon Fach, an inland river that not influenced by tidal action.

2.5.2 Surface Water Quality

No Environment Agency River Quality Records have been identified within 250m of the site.

2.5.3 Surface Water Abstractions

No licensed surface water abstraction points are recorded within a 250m radius of the site.

2.5.4 Surface Water Discharge Consents

Three Surface Water Discharge Consents are recorded within a 250m of the site. The closest relates to Marlas Housing Site located 160m northeast of the site boundary. The entry relates to the discharge of unspecified effluent into the Marlas Brook. The consent was issued in 1969 and revoked in 2003.

2.6 Flood Risk

The site does not lie within an Environment Agency Zone 2 or Zone 3 floodplain.

The site does not lie within an area benefitting from flood defences or within an area used for flood storage.

The risk for surface water flooding on site is recorded to be Low, for a 1 in 1000 year event the depth of flood range is between 0.10m to 0.30m depth.

The risk of groundwater flooding on site is recorded to be Low.

Although the report provides information on flood risk this does not constitute a flood risk assessment for the site. The flood risk information provided only relates to flooding from Rivers or Seas and does not account for flooding from other sources such as groundwater, blockages in drainage systems, artificial water features and overland flow. A separate Flood Risk Assessment may be required for the site.

2.7 Radon

The majority of the site is not recorded to be within a Radon Affected Area as less than 1% of the properties are above the Action Level. The western corner of the site is recorded between 1% and 3% of properties being above the Action Level, therefore radon protective measures are not required across these areas of the site.

The eastern corner of the site is recorded to be within a Radon Affected Area as between 5% and 10% of properties are above the Action Level. Should the proposed development be located within this area of the site basic radon protective measures will be required to be installed.

2.8 Sensitive Land Uses, Ecological and Statutory Designations

No records of sensitive land use (SSSI, NVZ, SAC, Nature Reserves, Environmentally Sensitive Areas, etc) have been identified within a 250m radius of the site.

3. Site History

The following section details the historical development of the site, with reference to historical Ordnance Survey maps. All distances are approximate and given from the site boundary. Descriptions in italics are as identified on the historical plans. For a complete list of maps consulted refer to the Emapsite Historical Maps presented in Appendix III.

Table 3.1 - Summary of Historical Maps

Published Map Date & Scale	Land Use on Site	Surrounding Land Use
Date : 1881 - 1882 Scale: 1:2,500 1:10,560 County Series	The site is part of a three open fields. An area of trees is recorded in the east of the site. A footpath/track bisects the centre of the site in a north to southwest direction.	A river <i>Afon Fach</i> is recorded 90m to the north of the site flowing west to east. A pond is located 100m east of the site. <i>The Hall</i> , a building, gardens and ponds is located 120m to the south of the site. A <i>Well</i> is recorded 120m north of the site. A railway line is recorded 200m north of the site. The village of <i>North Cornelau</i> is located 250m south of the site.
Date : 1941 - 1947 Scale: 1:2,500 1:10,000 County Series Provisional	No significant change.	The railway is named as <i>The Great Western Railway</i> . A branch of the railway has been constructed 240m northeast of the site. The <i>Well</i> 120m to the north of the site is no longer recorded. A <i>Cemetery</i> is recorded 200m southeast of the site.
Date : 1965 - 1966 Scale: 1:2,500 1:10,560 National Grid	No significant change.	<i>Heol-Y-Parc</i> (Highway) is shown adjacent to the southwestern boundary. Residential housing and gardens are also recorded adjacent to the road. <i>Marlas Infants School and Corneli Junior School</i> are recorded from 90m to the southwest of the site. Roads and housing are shown 100m to the south of the site. The village has been renamed as <i>North Cornelly</i> . Residential housing and gardens are recorded to the north of the railway line 250m to the north of the site.
Date : 1969 Scale: 1:2,500 1:10,000 National Grid	<i>Gibbons Way</i> is recorded in the north east of the site, orientated in a north to southeast direction. Seven residential accommodation blocks are shown in the east of the site, with a further four blocks in the south of the site. The remaining site area is un-used and appears to be public open space.	Residential housing, roads and gardens have been recorded adjacent to the northern, eastern and southern boundaries of the site. The pond 100m east and 120m south of the site are no longer recorded.
Date : 1980 Scale: 1:2,500 1:10,000 National Grid	Six residential dwellings are shown centrally adjacent to <i>Gibbons Way</i> . A turning circle is shown at the terminus of <i>Gibbons Way</i>	No significant change.
Date : 2010 - 2020 Scale: 1:10,000 National Grid	The dwellings in the centre (2009) and south of the site (2013) of the site are no longer shown (aerial mapping). An unidentified building with car park and hard play area are shown centrally on site	No significant change.

4. Environmental Data

4.1 Polluting Activity

4.1.1 Pollution Incidents to Controlled Water

No Environment Agency Recorded Pollution Incidents to Controlled Water have been recorded within a 250m radius of the site.

4.2 Licensed Industrial Activity

4.2.1 Licensed Sites

No Environment Agency Integrated Pollution Prevention and Controls are recorded within 250m of the site.

No Local Authority Integrated Pollution Controls, Environmental Permits or Enforcements are recorded within a 250m radius of the site.

There are no Environment Agency Pollution Incidents recorded within 250m of the site.

There are no Registered Radioactive Substance Licences recorded within 250m of the site.

There are no records of Licensed Industrial Activities Part A (1) within 250m of the site.

No Part A (2) or Part B Activities have been identified within a 250m radius of the site.

4.2.2 Industrial Activities

Five current industrial activities are recorded within a 250m radius of the site. The closest of which relates to a Chimney 118m southwest of the site. The remaining records relate to a Publishers 139m west, Vehicle Garage 191m south west, Railway Station 220m north east and a Construction and Tool Hire Company 139m south east of the site.

Three historical industrial activities are recorded within a 250m radius of the site (more are recorded but relate to the same point of interest). The closest of which relates to Railway Sidings recorded on mapping from 1947 154m north east. The remaining records relate to a Cemetery 162m south east and an Unspecified Heap 214m west (historical mapping indicates this is terracing to create school playing fields).

Three electrical substations are recorded within 250m of the site boundary. The closest is located 137m north of the site.

4.2.3 Fuel Stations & Tanks

No fuel station entries have been identified within a 250m radius of the site.

There are no records of tanks identified within a 250m radius of the site

There are no records of high-pressure underground pipelines (oil and gas) within 250m of the site.

4.3 Waste and Material Storage Locations

4.3.1 Landfill

There are no Historical Landfill Sites within a 250m radius of the site.

There are no Licensed Waste Management Facilities recorded within a 250m radius of the site.

4.3.2 Waste Transfer Stations

No operational or non-operational Registered Waste Treatment, Transfer or Disposal sites have been identified within a 250m radius of the site.

4.5 Summary

Based on the information collated for the desk study, the geo-environmental setting of the site is summarised as follows:

- The site is recorded as part of three fields on the 1st Edition mapping (1881). Gibbons Way and residential housing are shown in the centre, east and south of the site by 1969. The buildings in the centre and south of the site are no longer shown by 2009 and 2013 respectively.
- Historically, the surrounding land use was predominantly agricultural with limited development until the mid 1960's when the village of North Cornelly expands, and the land uses becomes mainly residential.
- The BGS mapping does not indicate any made ground on the site. However, limited made ground may be present associated with the development in the centre, east and south of the site. Any Made Ground encountered would be of an unknown composition.
- The majority of the site is underlain by superficial Till deposits. No superficial deposits are expected to be encountered in the south east of the site.
- Bedrock geology of the Mercia Mudstone Group is expected to be encountered across the majority of the site, with the Blue Anchor Mudstone Formation expected in the south east of the site.
- The superficial deposits have been designated as a Secondary Undifferentiated Aquifer. The bedrock geology are both designated as Secondary B Aquifers.

Based on the above, the environmental sensitivity of the site can be considered to be Low to Moderate at this stage.

5. Preliminary Conceptual Site Model (PCSM)

5.1 Introduction

The UK approach to risk assessment for both 'Contaminated Land' as defined by Part 2A of the Environmental Protection Act 1990 (EPA 1990) and for 'land affected by contamination' as defined in National Planning Policy Framework Planning Practice Guidance follows a risk-based tiered framework published by Defra and the Environment Agency in their guidance document '*CLR11 Model Procedures for the Management of Land Contamination*'.

The basis of CLR11 is the development of the conceptual site model (CSM) which is the representation of the source-pathway-receptor (pollutant) linkages upon which the assessment of risk can be based.

5.2 Risk Assessment Approach

The approach to the human health risk assessment reported here follows the principals given in CLR 11, i.e. application of the following assessment hierarchy:

- Tier 1 risk screening by establishment of potential pollutant linkages, i.e. the preliminary conceptual site model (PCSM), or
- Tier 2 generic quantitative assessment using generic assessment criteria (GACs) that represent 'acceptably low' risk, or
- Tier 3 quantitative risk assessment using site specific assessment criteria (SSACs) that represent 'unacceptable risk', or where generic assessment criteria are not available or they are not applicable to the CSM.

At this stage there is no site-specific data available. The potential sources of contamination based on historical and current land uses were identified using the Emapsite Groundsure Enviro+Geo Insight (Appendix II) and Department of the Environment Industry Profiles. In the absence of a standard exposure scenario for a school environment, a conservative standard exposure scenario of residential without home-grown produce has been used to identify potential exposure pathways for human health receptors, in accordance with the precautionary principle the CLR Guidance advocates. Controlled water, flora and fauna and property receptors have also been included within the PCSM.

5.3 Preliminary Conceptual Site Model

The PCSM was produced by undertaking a Source-Pathway-Receptor analysis of the site:

Sources (**S**) are potential or known contaminant sources, e.g. a former land use:

Pathways (**P**) are environmental systems through which a contaminant could migrate, e.g. air, groundwater;

Receptors (**R**) are sensitive environmental receptors that could be adversely affected by a contaminant, e.g. Site Occupiers, groundwater resources.

For a pollutant linkage to exist between a contaminant source and a receptor, a pathway must be present.

5.3.1 Sources

The potential sources of contamination within 250m of the site and associated groups of potentially contaminative substances are outlined below. The list of potential contaminants was derived from the Department of the Environment Industry Profiles. The activities and substances listed below should not be considered exhaustive and provides a guide to the likely range of contaminants which may be present.

On Site

S1: Historical and Contemporary land use: Agricultural land, Historical residential development in the east, south and centre of the site.
Inorganic and organic contaminants including heavy metals, metalloids, acids/alkalis, TPH, PAHs, asbestos and ground gases.

Off Site

S2: Historical and Contemporary land use: Agricultural land, Infilled ponds, Cemetery (limited plausibility for ground gases)
Inorganic and organic contaminants including heavy metals, metalloids, acids/alkalis, TPH, PAHs and ground gases.

5.3.2 Pathways

The site is underlain by Secondary B Aquifers, Secondary Undifferentiated Aquifer.

- P1:** Human uptake;
- Dermal contact with soils and dust
 - Ingestion of soils and dust
 - Inhalation of soils, dust and vapour
- P2:** Horizontal and vertical migration of contaminants through potentially permeable soils and rocks
- P3:** Migration along preferential pathways via underground services and drainage runs (pipes, culverts and granular material)
- P4:** Overland flow / surface runoff
- P5:** Vertical and lateral migration of ground gases and/or vapour
- P6:** Root uptake

5.3.3 Receptors

- R1:** End Users: Staff, pupils and visitors to the Educational Facilities
- R2:** Construction and maintenance workers
- R3:** Controlled Water, Secondary B Aquifer.
- R4:** Controlled Water, Surface Water – Limited receptors
- R5:** Property: Services (e.g. drinking water supply pipes) and structures/buildings (concrete used in foundations)
- R6:** Adjacent residential properties
- R7:** Proposed flora and fauna

5.3.4 Preliminary Qualitative Risk Assessment

For each potential pollutant linkage identified within the PCSM, the potential risk has been assessed on the probability of a pollution event and the severity it may have on the identified receptors. The results are presented in Table 5.1 below. The methodology for the assessment is presented in Appendix IV.

Table 5.1 Preliminary Conceptual Site Model and Qualitative Risk Assessment

Source	Pathway	Receptor	Consequence	Probability	Risk	Comments
<p>On site</p> <p>S1: Historical and Contemporary land use: Agricultural land, Historical residential development in the east, south and centre of the site</p> <p>Off Site (within 250m)</p> <p>S2: Historical and Contemporary land use: Agricultural land, Infilled Ponds and Cemetery.</p>	<p>P1: Human uptake pathways</p>	<p>R1: End Users R2: Construction and maintenance workers</p>	Minor	Low	Low	It is possible that end users / construction workers will come into contact with the soils across the site, however given the limited potential for contamination, the risk is considered to be LOW.
	<p>P2: Horizontal and vertical migration of contaminants through potentially permeable soils and rocks. P3: Migration of contaminants along preferential pathways (man- made). P4: Surface runoff.</p>	<p>R3: Controlled Water: Groundwater & Surface Water</p>	Mild	Low	Low	<p>The bedrock geology is classified as a Secondary B Aquifer. The superficial deposits are classified as a Secondary Undifferentiated Aquifer.</p> <p>Based on the lack of plausible source on and within the immediate vicinity of the site plus the distance of possible sources from the site, the risk to surface water and groundwater is considered to be LOW.</p>
	<p>P2: Horizontal and vertical migration of contaminants through potentially permeable soils and rocks. P3: Migration of contaminants along preferential pathways (man- made). P4: Surface runoff.</p>	<p>R1: End Users R2: Construction and maintenance workers</p>	Mild	Low	Low	Due to the lack of plausible source on and within the immediate vicinity of the site plus the distance of potential off site sources, the risk is considered to be LOW.
	<p>P5: Vertical and lateral migration of ground gases and/or vapour.</p>	<p>R1: End Users</p>	Mild	Likely	Low to Moderate	Deeper made ground may be present on site but is considered unlikely at this stage. No landfills are recorded within a 250m radius of the site. Infilled pond locally were small scale and may potentially have been infilled. A cemetery is recorded 160m southeast of the site Based on the information available at this stage the risk is considered to be LOW to MODERATE.
	<p>P2: Horizontal and vertical migration of contaminants through potentially permeable soils and rocks. P3: Migration of contaminants along preferential pathways (man- made). P4: Surface runoff. P5: Vertical and lateral migration of ground gases and/or vapour.</p>	<p>R4: Property, services and substructures R5: Adjacent Residential Properties</p>	Mild	Low	Low	Shallow Made Ground and natural deposits may be aggressive to concrete and underground utilities. Until the potential has been investigated further, the risk is considered to be LOW.
	<p>P6: Root uptake.</p>	<p>R6: Proposed Flora and fauna</p>	Mild	Low	Low	There is unlikely to be any vegetable planting or fruit bearing trees. Provided this remains the case the risk of uptake to proposed flora and fauna is LOW.

6. Preliminary Engineering Constraints and Recommendations

No development options are currently available for the site. It is understood that the site will be developed as an educational facility, at this stage it is not known where on the site the new development will be positioned.

6.1 Geotechnical Constraints

It is considered that limited Made Ground is likely to be encountered within the area of the former buildings in the centre of site and where construction has occurred to the east and south, any made ground encountered would have an unknown composition and strength.

The groundwater regime on site is unknown and should be assessed further if possible.

It is likely that levels will need to be altered to accommodate the new educational facility and the suitability of soils for reuse as engineered fill at the site should be considered during any ground investigation.

6.2 Environmental Constraints

Any made ground on site may contain elevated concentrations of potentially harmful contaminants which may present a risk to the receptors identified in the PCSM including end users, adjacent residential properties or construction workers.

Several sources of ground gas generation have been identified within a 250m radius of the site. Monitoring wells should be installed as part of the Phase II investigation and a series of four monitoring visits be carried out to assess the ground gas regime.

The Preliminary Conceptual Site Model indicates an overall low possibility that harm could arise to a designated receptor from identified hazards.

6.3 Recommendations

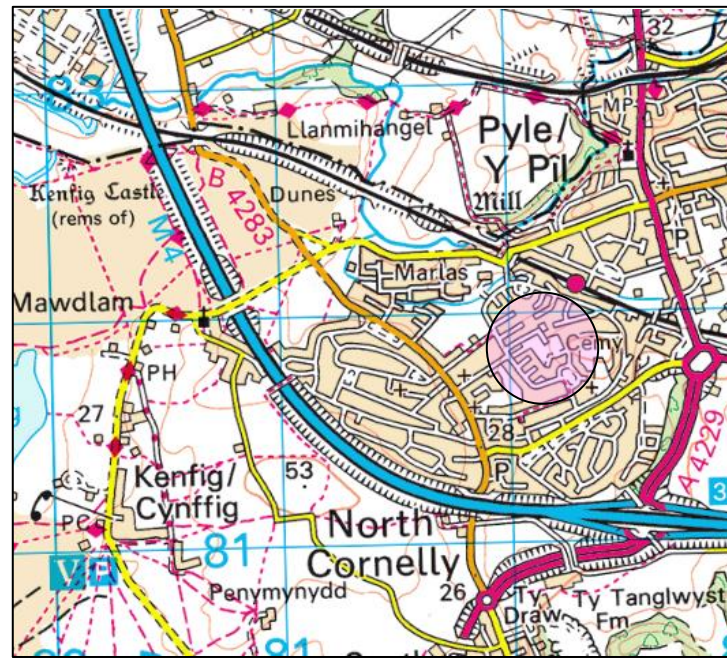
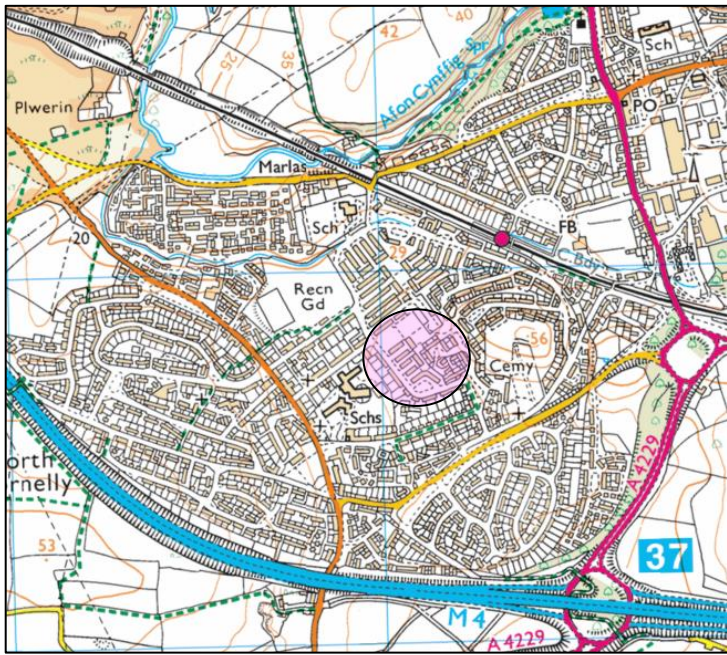
A ground investigation is recommended to provide information as part of the feasibility study and assess the geo-environmental constraints identified on site by this desk study. The objectives of the investigation should be as follows:

- To establish the ground conditions laterally and vertically across the site, including the presence, distribution and composition of any made ground.
 - To obtain soil samples for contamination analysis in order to refine the PCSM and undertake generic quantitative risk assessment.
 - To obtain data on the groundwater and ground gas regime.
 - To obtain geotechnical design parameters for the proposed building and any proposed changes in level including in-situ and laboratory testing.
 - To assess if the soils and groundwater on site are likely to be aggressive to buried/surface concrete and proposed utilities.
-



Appendix I





DO NOT SCALE
NOTES:



- Approximate
Site Red Line
Boundary



Lawrence House, Meadowbank Way,
Eastwood, Nottingham, NG16 3SB
Tel: 01773 535 555 Fax: 0870 600 6091
www.hspconsulting.com

CLIENT:

Gleeds Management
Services Ltd

PROJECT:

Gibbons Way, Cornelli

TITLE:

Site Location Plan

SCALE@SIZE :

NTS

ISSUE:

FINAL

DESIGN/DRAWN :

HEB

DATE:

Sept. 2020

PROJECT No:

C3341

DRAWING No:

500

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Appendix II



Gibbons Way, Bridgend, CF33 4ND,

Order Details

Date: 07/07/2020
Your ref: EMS_619811_825926
Our Ref: EMS-619811_825926
Client: emapsite

Site Details

Location: 282109 181862
Area: 2.06 ha
Authority: [Pen-y-bont ar Ogwr - Bridgend County Borough Council](#)



Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.13

groundsure.com/insightuserguide

Contact us with any questions at:

info@groundsure.com

08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	<u>Historical industrial land uses</u>	0	0	8	27	-
16	1.2	Historical tanks	0	0	0	0	-
16	1.3	<u>Historical energy features</u>	0	0	5	19	-
17	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	<u>Historical garages</u>	0	0	0	1	-
18	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
19	2.1	<u>Historical industrial land uses</u>	0	0	8	39	-
21	2.2	Historical tanks	0	0	0	0	-
21	2.3	<u>Historical energy features</u>	0	0	6	25	-
23	2.4	Historical petrol stations	0	0	0	0	-
23	2.5	<u>Historical garages</u>	0	0	0	2	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
24	3.1	Active or recent landfill	0	0	0	0	-
24	3.2	Historical landfill (BGS records)	0	0	0	0	-
25	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
25	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
25	3.5	Historical waste sites	0	0	0	0	-
25	3.6	Licensed waste sites	0	0	0	0	-
25	3.7	<u>Waste exemptions</u>	0	0	0	10	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
27	4.1	<u>Recent industrial land uses</u>	0	0	8	-	-
28	4.2	<u>Current or recent petrol stations</u>	0	0	0	1	-
28	4.3	Electricity cables	0	0	0	0	-
29	4.4	Gas pipelines	0	0	0	0	-
29	4.5	Sites determined as Contaminated Land	0	0	0	0	-



29	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
29	4.7	Regulated explosive sites	0	0	0	0	-
29	4.8	Hazardous substance storage/usage	0	0	0	0	-
30	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
30	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
30	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
30	4.12	Radioactive Substance Authorisations	0	0	0	0	-
30	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	4	7	-
32	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
32	4.15	Pollutant release to public sewer	0	0	0	0	-
32	4.16	List 1 Dangerous Substances	0	0	0	0	-
33	4.17	List 2 Dangerous Substances	0	0	0	0	-
33	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	0	4	-
33	4.19	Pollution inventory substances	0	0	0	0	-
34	4.20	Pollution inventory waste transfers	0	0	0	0	-
34	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
35	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
37	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
39	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
40	5.4	<u>Groundwater vulnerability- soluble rock risk</u>	Identified (within 0m)				
41	5.5	Groundwater vulnerability- local information	None (within 0m)				
42	5.6	<u>Groundwater abstractions</u>	0	0	0	0	4
44	5.7	Surface water abstractions	0	0	0	0	0
44	5.8	Potable abstractions	0	0	0	0	0
44	5.9	Source Protection Zones	0	0	0	0	-
44	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
45	6.1	<u>Water Network (OS MasterMap)</u>	0	0	7	-	-



46	6.2	<u>Surface water features</u>	0	0	4	-	-
46	6.3	<u>WFD Surface water body catchments</u>	2	-	-	-	-
47	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
47	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
48	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	None (within 50m)				
48	7.2	Historical Flood Events	0	0	0	-	-
48	7.3	Flood Defences	0	0	0	-	-
48	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
49	7.5	Flood Storage Areas	0	0	0	-	-
50	7.6	Flood Zone 2	None (within 50m)				
50	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
51	8.1	<u>Surface water flooding</u>	1 in 100 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding					
53	9.1	<u>Groundwater flooding</u>	Low (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
54	10.1	<u>Sites of Special Scientific Interest (SSSI)</u>	0	0	0	0	7
55	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
55	10.3	<u>Special Areas of Conservation (SAC)</u>	0	0	0	0	2
56	10.4	Special Protection Areas (SPA)	0	0	0	0	0
56	10.5	<u>National Nature Reserves (NNR)</u>	0	0	0	0	2
57	10.6	<u>Local Nature Reserves (LNR)</u>	0	0	0	0	2
57	10.7	<u>Designated Ancient Woodland</u>	0	0	0	1	24
58	10.8	Biosphere Reserves	0	0	0	0	0
58	10.9	Forest Parks	0	0	0	0	0
59	10.10	Marine Conservation Zones	0	0	0	0	0
59	10.11	Green Belt	0	0	0	0	0
59	10.12	Proposed Ramsar sites	0	0	0	0	0



59	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
59	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
60	10.15	Nitrate Sensitive Areas	0	0	0	0	0
60	10.16	<u>Nitrate Vulnerable Zones</u>	0	0	0	0	1
61	10.17	SSSI Impact Risk Zones	0	-	-	-	-
61	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
62	11.1	World Heritage Sites	0	0	0	-	-
63	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
63	11.3	National Parks	0	0	0	-	-
63	11.4	<u>Listed Buildings</u>	0	0	1	-	-
64	11.5	Conservation Areas	0	0	0	-	-
64	11.6	Scheduled Ancient Monuments	0	0	0	-	-
64	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
65	12.1	Agricultural Land Classification	None (within 250m)				
65	12.2	Open Access Land	0	0	0	-	-
65	12.3	Tree Felling Licences	0	0	0	-	-
65	12.4	Environmental Stewardship Schemes	0	0	0	-	-
66	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
67	13.1	Priority Habitat Inventory	0	0	0	-	-
67	13.2	Habitat Networks	0	0	0	-	-
67	13.3	Open Mosaic Habitat	0	0	0	-	-
67	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
68	14.1	<u>10k Availability</u>	Identified (within 500m)				
69	14.2	Artificial and made ground (10k)	0	0	0	0	-
70	14.3	Superficial geology (10k)	0	0	0	0	-



70	14.4	Landslip (10k)	0	0	0	0	-
71	14.5	Bedrock geology (10k)	0	0	0	0	-
71	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
72	15.1	<u>50k Availability</u>	Identified (within 500m)				
73	15.2	Artificial and made ground (50k)	0	0	0	0	-
73	15.3	Artificial ground permeability (50k)	0	0	-	-	-
74	15.4	<u>Superficial geology (50k)</u>	1	1	1	6	-
75	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
75	15.6	Landslip (50k)	0	0	0	0	-
75	15.7	Landslip permeability (50k)	None (within 50m)				
76	15.8	<u>Bedrock geology (50k)</u>	3	0	7	11	-
77	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
78	15.10	<u>Bedrock faults and other linear features (50k)</u>	1	0	2	5	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
79	16.1	<u>BGS Boreholes</u>	0	0	5	-	-
Page	Section	Natural ground subsidence					
81	17.1	<u>Shrink swell clays</u>	Very low (within 50m)				
82	17.2	<u>Running sands</u>	Very low (within 50m)				
84	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
85	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
86	17.5	<u>Landslides</u>	Low (within 50m)				
88	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
89	18.1	<u>Natural cavities</u>	0	0	0	4	-
90	18.2	<u>BritPits</u>	0	0	0	1	-
90	18.3	<u>Surface ground workings</u>	0	0	11	-	-
91	18.4	<u>Underground workings</u>	0	0	0	0	5
92	18.5	Historical Mineral Planning Areas	0	0	0	0	-



92	18.6	<u>Non-coal mining</u>	0	0	0	0	1
92	18.7	Mining cavities	0	0	0	0	0
92	18.8	JPB mining areas	None (within 0m)				
93	18.9	Coal mining	None (within 0m)				
93	18.10	Brine areas	None (within 0m)				
93	18.11	Gypsum areas	None (within 0m)				
93	18.12	Tin mining	None (within 0m)				
93	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
94	19.1	<u>Radon</u>	Between 5% and 10% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
96	20.1	<u>BGS Estimated Background Soil Chemistry</u>	5	3	-	-	-
97	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
97	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
98	21.1	Underground railways (London)	0	0	0	-	-
98	21.2	Underground railways (Non-London)	0	0	0	-	-
99	21.3	Railway tunnels	0	0	0	-	-
99	21.4	<u>Historical railway and tunnel features</u>	0	0	2	-	-
99	21.5	Royal Mail tunnels	0	0	0	-	-
99	21.6	<u>Historical railways</u>	0	0	1	-	-
100	21.7	<u>Railways</u>	0	0	6	-	-
100	21.8	Crossrail 1	0	0	0	0	-
100	21.9	Crossrail 2	0	0	0	0	-
101	21.10	HS2	0	0	0	0	-



Recent aerial photograph



Capture Date: 18/09/2019

Site Area: 2.06ha



Contact us with any questions at:

info@groundsure.com

08444 159 000

Date: 7 July 2020

Recent site history - 2017 aerial photograph



Capture Date: 26/05/2017

Site Area: 2.06ha



Contact us with any questions at:

info@groundsure.com

08444 159 000

Date: 7 July 2020

Recent site history - 2013 aerial photograph



Capture Date: 14/07/2013

Site Area: 2.06ha



Contact us with any questions at:

info@groundsure.com

08444 159 000

Date: 7 July 2020



Recent site history - 2009 aerial photograph



Capture Date: 12/10/2009

Site Area: 2.06ha



Contact us with any questions at:

info@groundsure.com

08444 159 000

Date: 7 July 2020

Recent site history - 2000 aerial photograph



Capture Date: 21/07/2000

Site Area: 2.06ha



Contact us with any questions at:

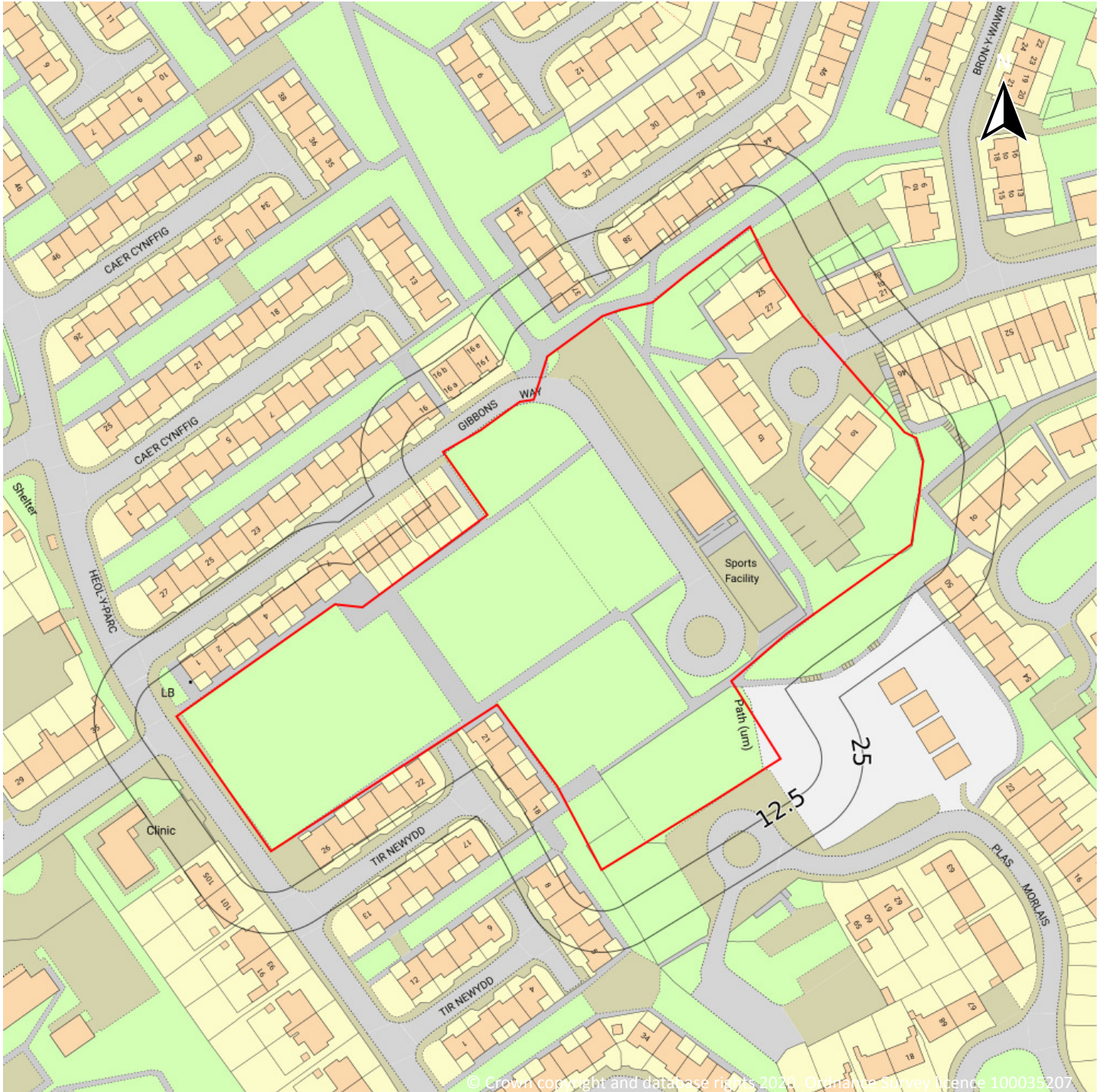
info@groundsure.com

08444 159 000

Date: 7 July 2020



OS MasterMap site plan



Site Area: 2.06ha



Contact us with any questions at:

info@groundsure.com

08444 159 000

Date: 7 July 2020

1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical energy features
- Historical garages

1.1 Historical industrial land uses

Records within 500m **35**

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
1	154m NE	Railway Sidings	1947	380022



ID	Location	Land use	Dates present	Group ID
A	162m SE	Cemetery	1969	373838
A	164m SE	Cemetery	1985	341581
A	206m SE	Cemetery	1947	366170
2	212m N	Cuttings	1876	361389
3	212m SE	Burial Ground	1876	331071
4	214m NW	Unspecified Heap	1969	327894
A	214m SE	Cemetery	1947	377707
5	252m W	Unspecified Heap	1969 - 1985	369378
D	261m NW	Cuttings	1914 - 1947	378309
F	276m SW	Unspecified Pit	1876	373186
F	278m SW	Unspecified Ground Workings	1947	334492
F	282m SW	Unspecified Old Quarries	1900 - 1914	349409
F	283m SW	Unspecified Pit	1947	358951
7	285m E	Cuttings	1947	357257
G	303m SW	Unspecified Pit	1947	359833
H	304m S	Unspecified Old Quarries	1900 - 1914	353724
G	305m SW	Unspecified Pit	1985	368270
D	308m NW	Cuttings	1947	352672
H	308m S	Unspecified Pit	1947	344874
G	308m SW	Unspecified Old Quarries	1900	329303
G	309m SW	Unspecified Ground Workings	1914 - 1947	374737
G	309m SW	Unspecified Pit	1969	357383
D	317m NW	Cuttings	1876	358878
I	347m E	Cuttings	1947	339430
I	347m E	Cuttings	1969	358917
I	348m E	Cuttings	1985	354266
K	398m NW	Unspecified Mill	1900 - 1914	371753
L	402m SE	Cuttings	1947	351620



ID	Location	Land use	Dates present	Group ID
L	405m SE	Cuttings	1969 - 1985	359002
M	407m S	Smithy	1876	343415
K	413m NW	Corn Mill	1876	321493
M	417m S	Smithy	1900 - 1914	365051
K	418m NW	Unspecified Disused Mill	1947	329064
8	447m E	Railway Station	1876	332015

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

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

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

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	24
----------------------------	-----------

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
B	166m SE	Electricity Substation	1993	21066
B	166m SE	Electricity Transformer	1969	19964
B	166m SE	Electricity Substation	1980 - 1983	22154
C	234m SW	Electricity Substation	-	18886
C	234m SW	Electricity Substation	1993	19303



ID	Location	Land use	Dates present	Group ID
6	258m E	Gas Governor	1980 - 1993	22430
E	276m N	Electricity Substation	1986	22191
E	276m NE	Electricity Substation	1995	22643
E	276m NE	Electricity Substation	1995	23013
E	276m NE	Electricity Transformer	1968	19875
E	276m NE	Electricity Substation	1977	22387
E	276m NE	Electricity Substation	1992	21771
J	390m S	Electricity Substation	1993	22292
J	394m S	Electricity Substation	1980	23529
J	394m S	Electricity Substation	1983	22842
N	442m NE	Electricity Transformer	1968	19876
N	442m NE	Electricity Substation	1977	20969
N	444m NE	Electricity Substation	1992	20269
N	444m NE	Electricity Substation	1986	21566
N	445m NE	Electricity Substation	1995	21617
N	456m NE	Electricity Substation	1995	19304
O	468m SE	Electricity Substation	1983 - 1993	22251
O	469m SE	Electricity Substation	1980	22820
9	475m S	Electricity Substation	1969 - 1993	20598

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



1.5 Historical garages

Records within 500m

1

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
F	299m SW	Garage	1966 - 1993	7849

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

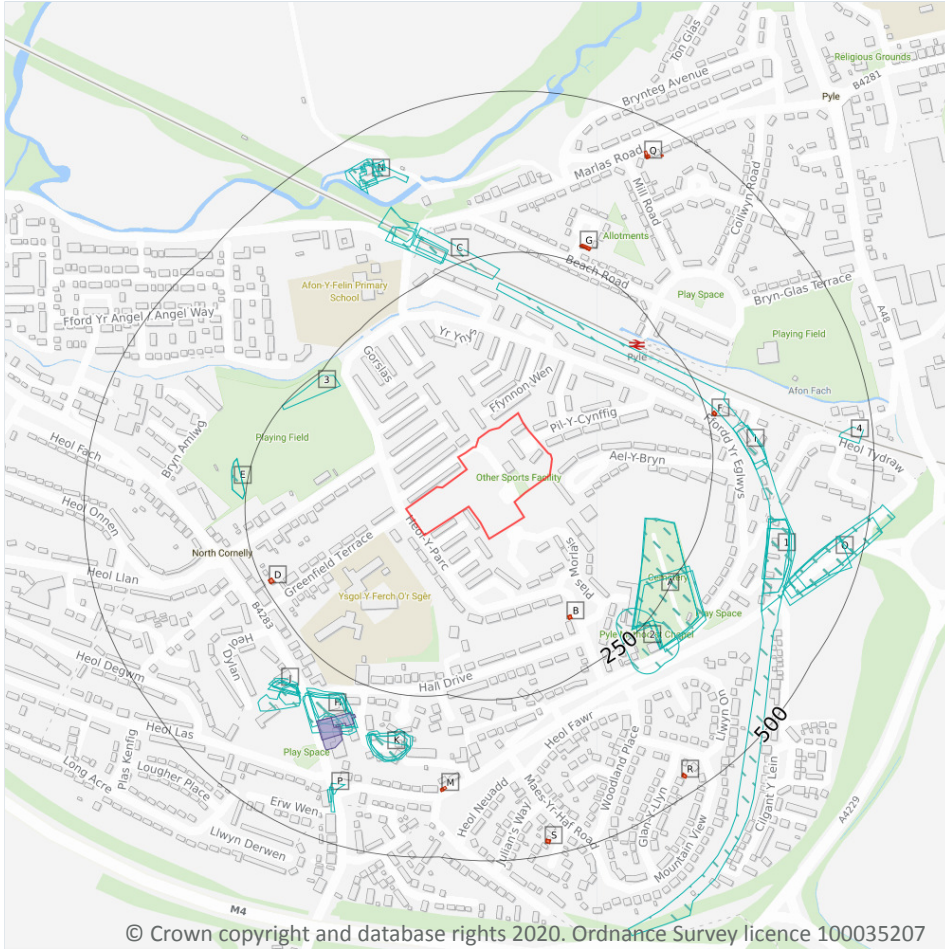
0

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 energy features
- Historical garages

2.1 Historical industrial land uses

Records within 500m

47

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 19**

ID	Location	Land Use	Date	Group ID
1	154m NE	Railway Sidings	1947	380022
A	162m SE	Cemetery	1969	373838
A	164m SE	Cemetery	1985	341581

ID	Location	Land Use	Date	Group ID
A	206m SE	Cemetery	1947	366170
C	212m N	Cuttings	1876	361389
2	212m SE	Burial Ground	1876	331071
3	214m NW	Unspecified Heap	1969	327894
A	214m SE	Cemetery	1947	377707
E	252m W	Unspecified Heap	1969	369378
E	252m W	Unspecified Heap	1985	369378
C	261m NW	Cuttings	1947	378309
C	261m NW	Cuttings	1914	378309
H	276m SW	Unspecified Pit	1876	373186
H	278m SW	Unspecified Ground Workings	1947	334492
H	282m SW	Unspecified Old Quarries	1900	349409
H	283m SW	Unspecified Pit	1947	358951
I	285m E	Cuttings	1947	357257
H	287m SW	Unspecified Old Quarries	1914	349409
I	289m E	Cuttings	1947	357257
J	303m SW	Unspecified Pit	1947	359833
K	304m S	Unspecified Old Quarries	1900	353724
J	305m SW	Unspecified Pit	1985	368270
C	308m NW	Cuttings	1947	352672
K	308m S	Unspecified Pit	1947	344874
J	308m SW	Unspecified Old Quarries	1900	329303
J	309m SW	Unspecified Ground Workings	1947	374737
J	309m SW	Unspecified Pit	1969	357383
K	310m S	Unspecified Old Quarries	1914	353724
J	312m SW	Unspecified Ground Workings	1914	374737
C	317m NW	Cuttings	1876	358878
K	319m S	Unspecified Pit	1947	344874



ID	Location	Land Use	Date	Group ID
L	347m E	Cuttings	1969	358917
L	347m E	Cuttings	1947	339430
L	348m E	Cuttings	1985	354266
L	351m E	Cuttings	1947	339430
N	398m NW	Unspecified Mill	1914	371753
O	402m SE	Cuttings	1947	351620
O	404m SE	Cuttings	1947	351620
O	405m SE	Cuttings	1969	359002
P	407m S	Smithy	1876	343415
O	409m E	Cuttings	1985	359002
N	413m NW	Corn Mill	1876	321493
P	417m S	Smithy	1900	365051
N	418m NW	Unspecified Disused Mill	1947	329064
P	421m S	Smithy	1914	365051
N	424m NW	Unspecified Mill	1900	371753
4	447m E	Railway Station	1876	332015

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

0

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'.

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

31

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 19**

ID	Location	Land Use	Date	Group ID
B	166m SE	Electricity Substation	1993	21066
B	166m SE	Electricity Transformer	1969	19964
B	166m SE	Electricity Substation	1980	22154
B	166m SE	Electricity Substation	1983	22154
D	234m SW	Electricity Substation	1993	19303
D	234m SW	Electricity Substation	-	18886
F	258m E	Gas Governor	1980	22430
F	259m E	Gas Governor	1993	22430
F	259m E	Gas Governor	1983	22430
G	276m N	Electricity Substation	1986	22191
G	276m NE	Electricity Substation	1995	22643
G	276m NE	Electricity Substation	1995	23013
G	276m NE	Electricity Substation	1977	22387
G	276m NE	Electricity Transformer	1968	19875
G	276m NE	Electricity Substation	1992	21771
M	390m S	Electricity Substation	1993	22292
M	394m S	Electricity Substation	1980	23529
M	394m S	Electricity Substation	1983	22842
Q	442m NE	Electricity Substation	1977	20969
Q	442m NE	Electricity Transformer	1968	19876
Q	444m NE	Electricity Substation	1992	20269
Q	444m NE	Electricity Substation	1986	21566
Q	445m NE	Electricity Substation	1995	21617
Q	456m NE	Electricity Substation	1995	19304
R	468m SE	Electricity Substation	1993	22251
R	469m SE	Electricity Substation	1983	22251
R	469m SE	Electricity Substation	1980	22820



ID	Location	Land Use	Date	Group ID
S	475m S	Electricity Substation	1993	20598
S	475m S	Electricity Substation	1969	20598
S	475m S	Electricity Substation	1980	20598
S	475m S	Electricity Substation	1983	20598

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0
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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	2
----------------------------	----------

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 19**

ID	Location	Land Use	Date	Group ID
H	299m SW	Garage	1966	7849
H	318m SW	Garage	1993	7849

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

0

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

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

3.5 Historical waste sites

Records within 500m

0

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

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

3.6 Licensed waste sites

Records within 500m

0

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

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

3.7 Waste exemptions

Records within 500m

10

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

Features are displayed on the Waste and landfill map on **page 24**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	366m NW	Marlas Farm Pyle Bridgend Pen-y-bont ar Ogwr CF334PE	NRW- WME000868	Using waste exemption	On a farm	Use of waste in construction

ID	Location	Site	Reference	Category	Sub-Category	Description
A	366m NW	Marlas Farm Pyle Bridgend Pen-y-bont ar Ogwr CF334PE	NRW-WME000868	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
A	366m NW	Marlas Farm Pyle Bridgend Pen-y-bont ar Ogwr CF334PE	NRW-WME000868	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
A	366m NW	Marlas Farm Pyle Bridgend Pen-y-bont ar Ogwr CF334PE	NRW-WME000868	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
A	366m NW	Marlas Farm Pyle Bridgend Pen-y-bont ar Ogwr CF334PE	NRW-WME000868	Disposing of waste exemption	On a farm	Burning waste in the open
A	372m NW	Marlas Farm, Pyle, Bridgend, Pen-y-bont ar Ogwr, CF33 4PE	NRW-WME000868	Using waste exemption	Waste Exemption - Agricultural	Use of waste in construction
A	372m NW	Marlas Farm, Pyle, Bridgend, Pen-y-bont ar Ogwr, CF33 4PE	NRW-WME000868	Using waste exemption	Waste Exemption - Agricultural	Burning of waste as a fuel in a small appliance
A	372m NW	Marlas Farm, Pyle, Bridgend, Pen-y-bont ar Ogwr, CF33 4PE	NRW-WME000868	Using waste exemption	Waste Exemption - Agricultural	Spreading waste on agricultural land to confer benefit
A	372m NW	Marlas Farm, Pyle, Bridgend, Pen-y-bont ar Ogwr, CF33 4PE	NRW-WME000868	Disposing of waste exemption	Waste Exemption - Agricultural	Deposit of waste from dredging of inland waters
A	372m NW	Marlas Farm, Pyle, Bridgend, Pen-y-bont ar Ogwr, CF33 4PE	NRW-WME000868	Disposing of waste exemption	Waste Exemption - Agricultural	Burning waste in the open

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- ▲ Current or recent petrol stations
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m **8**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Company	Address	Activity	Category
1	118m SW	Chimney	Mid Glamorgan, CF33	Chimneys	Industrial Features
2	137m N	Electricity Sub Station	Mid Glamorgan, CF33	Electrical Features	Infrastructure and Facilities
3	139m W	Goylake Publishing	16a, Meadow Street, North Cornelly, Bridgend, Mid Glamorgan, CF33 4LL	Published Goods	Industrial Products



ID	Location	Company	Address	Activity	Category
5	166m SE	Electricity Sub Station	Mid Glamorgan, CF33	Electrical Features	Infrastructure and Facilities
6	191m SW	L V V Trim & Technical	8, Greenfield Terrace, North Cornelly, Bridgend, Mid Glamorgan, CF33 4LW	Vehicle Repair, Testing and Servicing	Repair and Servicing
7	220m NE	Pyle Rail Station	Mid Glamorgan, CF33	Railway Stations, Junctions and Halts	Public Transport, Stations and Infrastructure
8	239m SE	Martin J Walsh Plant Hire	1, Heol-y-Parc, North Cornelly, Bridgend, Mid Glamorgan, CF33 4LT	Construction and Tool Hire	Hire Services
10	247m SW	Electricity Sub Station	Mid Glamorgan, CF33	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	1
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Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Company	Address	LPG	Status
11	386m S	OBSOLETE	Heol Fach, North Cornelly, Bridgend, Bridgend, CF33 4HY	Not Applicable	Obsolete

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0
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High voltage underground electricity transmission cables.

This data is sourced from National Grid.



4.4 Gas pipelines

Records within 500m	0
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High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0
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Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0
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Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0
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Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0
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Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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

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

Records within 500m

0

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

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m

0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m

11

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 27**



ID	Location	Address	Details	
4	160m NE	MARLAS HOUSING SITE,	Effluent Type: UNSPECIFIED Permit Number: BB3011801 Permit Version: 1 Receiving Water: MARLAS BROOK	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV Issue date: 06/02/1969 Effective Date: 06/02/1969 Revocation Date: 31/03/2003
A	192m NW	Lon-Y-Caridan Cso, Lon-Y-Cariadon, North Cornelly, Bridgend, CF33 4NL	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BP0303101 Permit Version: 0 Receiving Water: AFON FACH	Status: Effective Issue date: 29/08/2019 Effective Date: 29/08/2019 Revocation Date: -
A	194m NW	CSO AT LON Y CARIADON NORTH CORNELL, CSO, LON Y CARIADON, NORTH CORNELLY, Bridgend	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BP0303101 Permit Version: 1 Receiving Water: THE AFON FACH	Status: Effective Issue date: 05/03/2003 Effective Date: 05/03/2003 Revocation Date: -
9	243m NW	PRIMARY SCHOOL SURFACE WATER, SURFACE WATER	Effluent Type: UNSPECIFIED Permit Number: BB4012501 Permit Version: 1 Receiving Water: AFAN FACH	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 15/01/1975 Effective Date: 15/01/1975 Revocation Date: 28/09/1992
B	273m NW	MARLAS PS SSO\AFON FACH	Effluent Type: UNSPECIFIED Permit Number: BW3200801 Permit Version: 1 Receiving Water: AFON FACH	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 10/03/1964 Effective Date: 10/03/1964 Revocation Date: 14/03/1994
B	277m NW	Swo.Marlas Stw Pt 55	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BW3200901 Permit Version: 0 Receiving Water: RIVER CYNFFIG	Status: Surrendered Issue date: 08/09/2010 Effective Date: 09/08/2010 Revocation Date: -
D	379m SW	HEOL FACH CSO NORTH CORNELLY, A COMBINED SEWER OVERFLOW, HEOL FACH, NORTH CORNELLY, NEATH PORT TALBOT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BP0303401 Permit Version: 1 Receiving Water: TO SEA	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 29/01/2003 Effective Date: 29/01/2003 Revocation Date: -
D	379m SW	HEOL FACH CSO NORTH CORNELLY, A COMBINED SEWER OVERFLOW, HEOL FACH, NORTH CORNELLY, NEATH PORT TALBOT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BP0303401 Permit Version: 1 Receiving Water: TO SEA	Status: Effective Issue date: 29/01/2003 Effective Date: 29/01/2003 Revocation Date: -



ID	Location	Address	Details	
D	398m SW	Heol Fach Cso North Cornelly, Opposite 1 Heol Las, North Cornelly, Bridgend, CF33 4AP	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BP0303401 Permit Version: 0 Receiving Water: Kenfig/Sea via Sker Surface Water Sewer	Status: Effective Issue date: 08/08/2019 Effective Date: 08/08/2019 Revocation Date: -
12	445m NW	NORTH CORNELLY OS 6400 BRYN AMLYG N, NORTH CORNELLY OS 6400 BRYN AMLY, OS 6400 BRYN AMLYG NTH CORNELLY, BRYN AMLYG NTH CORNELLY, NTH CORNELLY, NTH CORNEL	Effluent Type: UNSPECIFIED Permit Number: BP0119901 Permit Version: 1 Receiving Water: AFON FACH	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 20/04/1989 Effective Date: 20/04/1989 Revocation Date: 02/07/1994
13	466m NW	SSO.MARLAS STW.PT56 ALSO N	Effluent Type: UNSPECIFIED Permit Number: BW3200701 Permit Version: 1 Receiving Water: AFON FACH	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 31/07/1956 Effective Date: 31/07/1956 Revocation Date: 05/07/1995

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

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

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

4.15 Pollutant release to public sewer

Records within 500m

0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m

0

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

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



4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

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 27**

ID	Location	Details	
C	316m NE	Incident Date: 27/09/2016 Incident Identification: 1605893 Pollutant: Oils and Fuels Pollutant Description: Unidentified Oil	Water Impact: Category 4 (No Impact) Land Impact: Other Air Impact: Other
C	316m NE	Incident Date: 27/09/2016 Incident Identification: 1605893 Pollutant: - Pollutant Description: -	Water Impact: Category 4 (No Impact) Land Impact: Other Air Impact: Other
E	421m E	Incident Date: 17/06/2016 Incident Identification: 1603336 Pollutant: - Pollutant Description: -	Water Impact: Category 3 (Minor) Land Impact: No Details Air Impact: No Details
E	421m E	Incident Date: 17/06/2016 Incident Identification: 1603336 Pollutant: Oils and Fuels Pollutant Description: Unidentified Oil	Water Impact: Category 3 (Minor) Land Impact: No Details Air Impact: No Details

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

4.19 Pollution inventory substances

Records within 500m

0

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



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

4.20 Pollution inventory waste transfers

Records within 500m

0

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

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

4.21 Pollution inventory radioactive waste

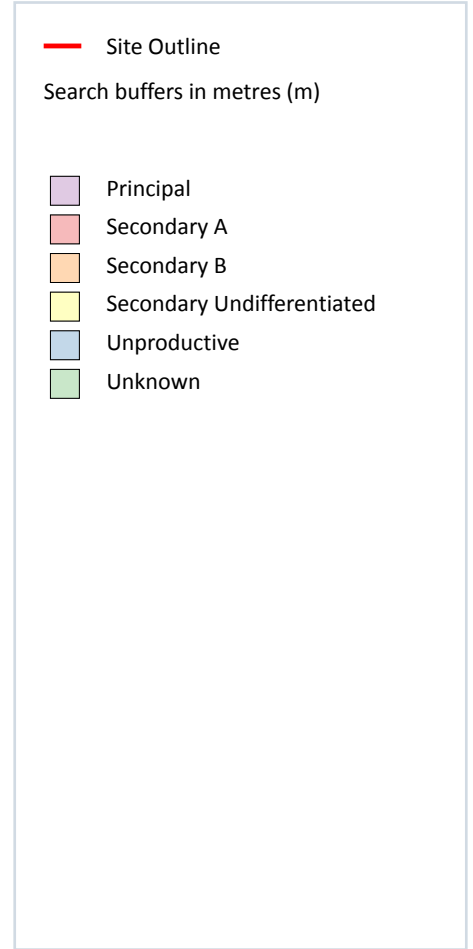
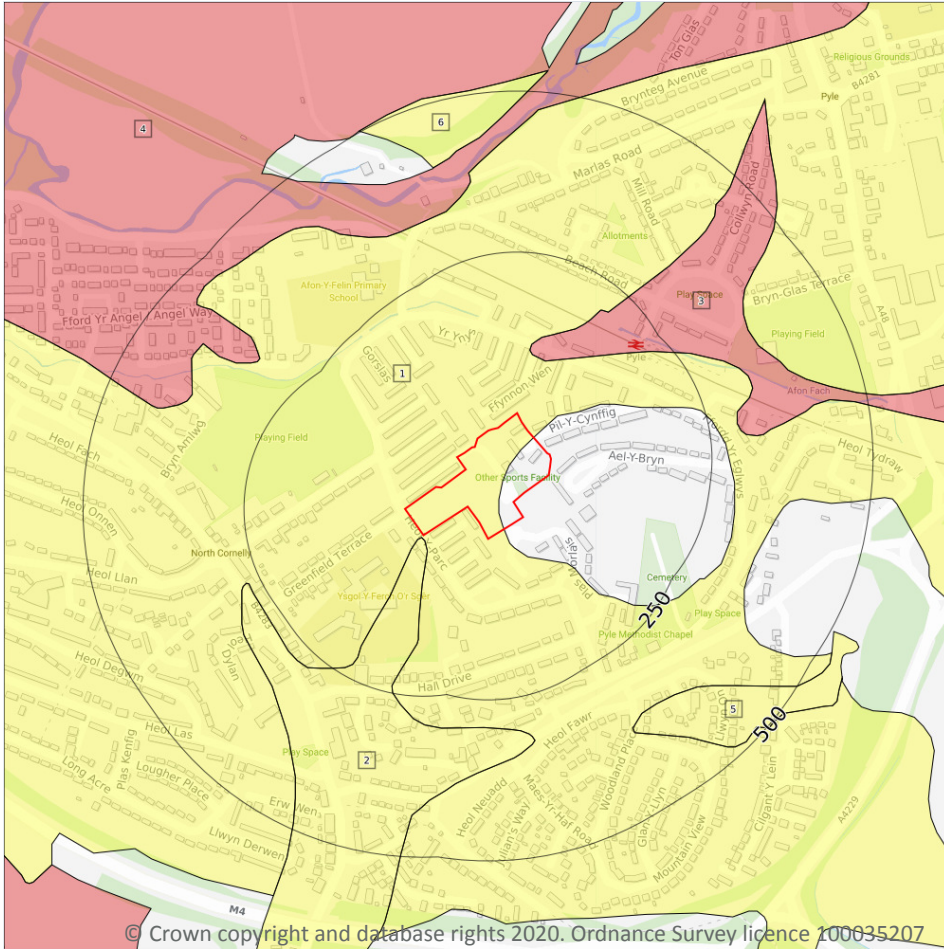
Records within 500m

0

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

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

5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m

6

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 35**

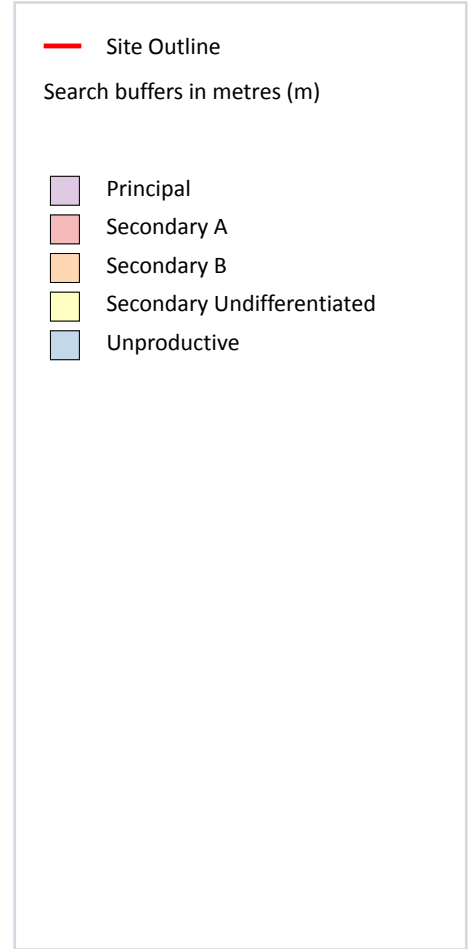
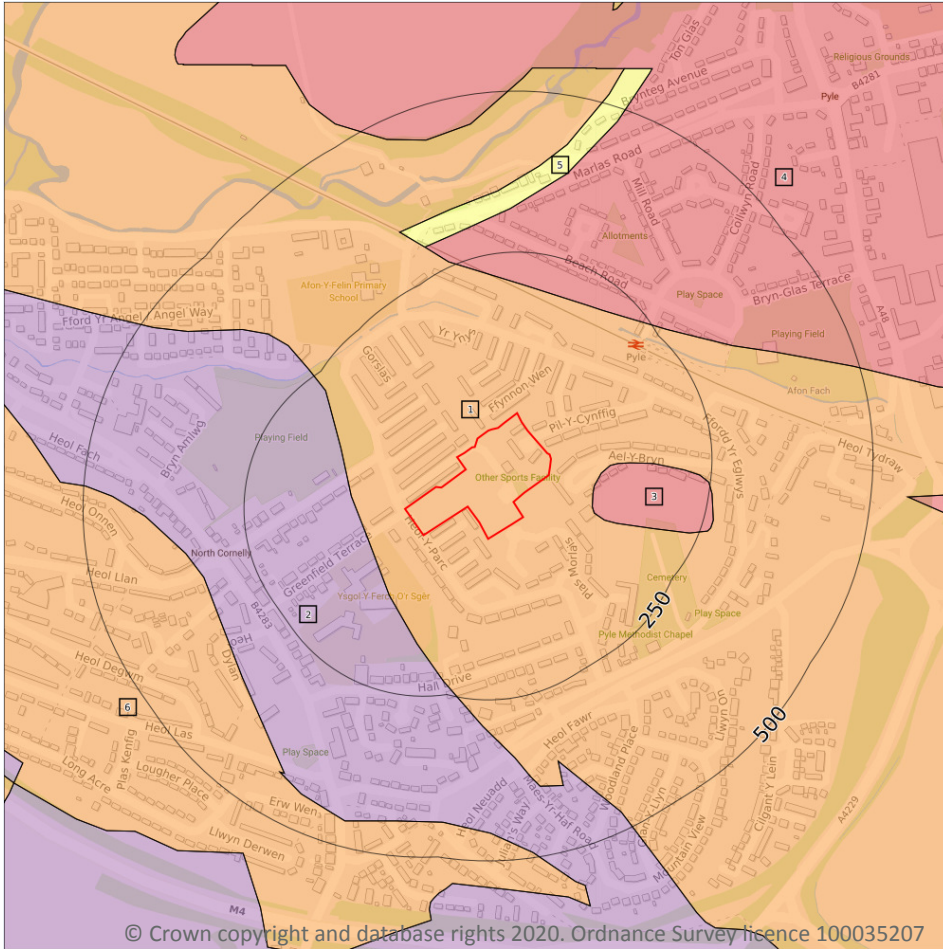
ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	5m 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

ID	Location	Designation	Description
3	92m NE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	324m NW	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	356m SE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
6	403m N	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



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 37**

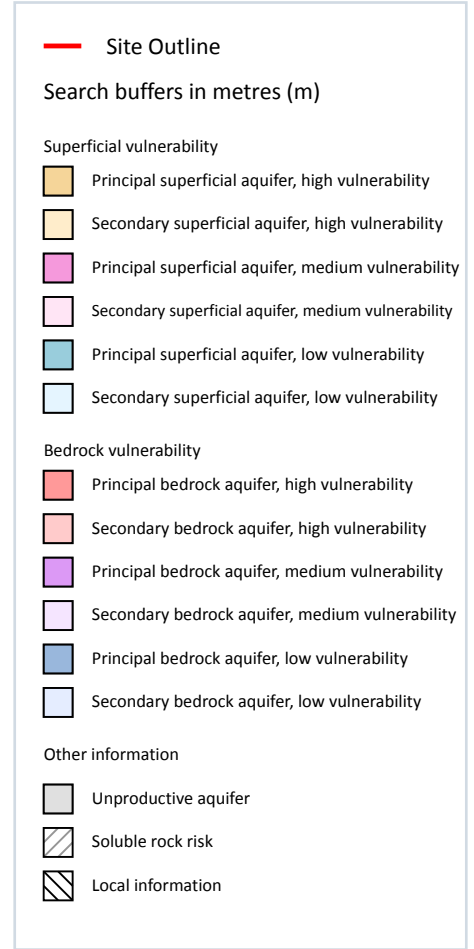
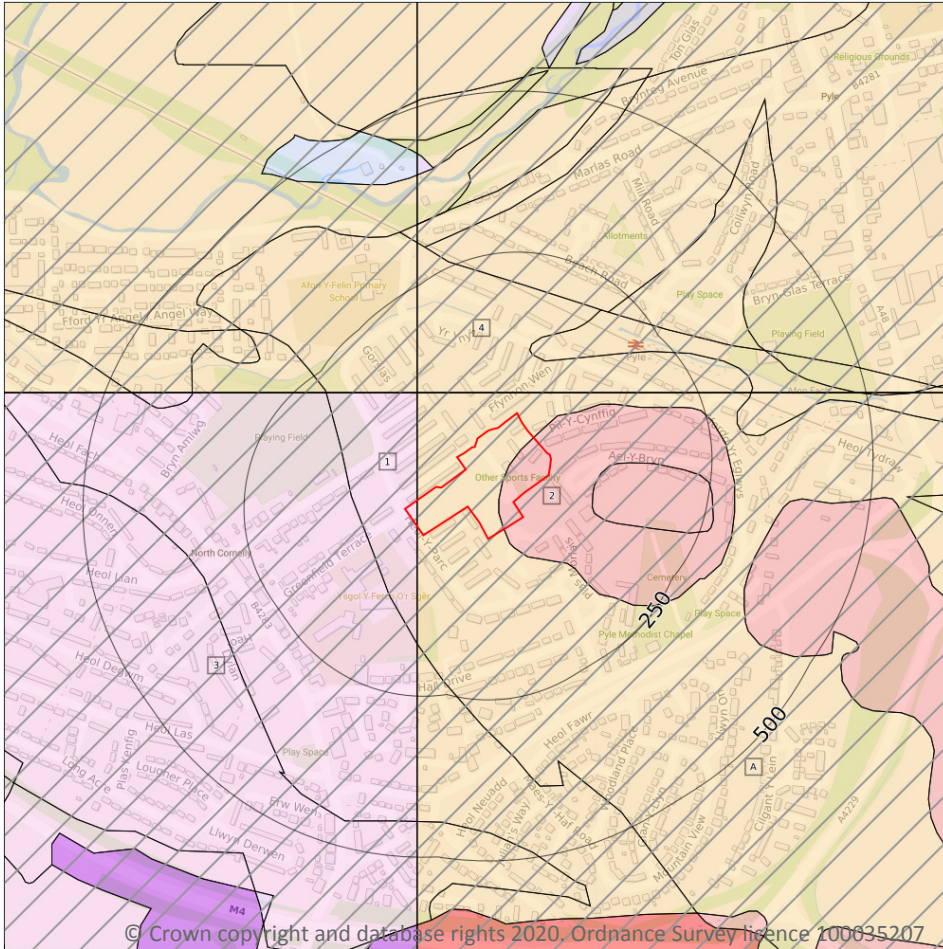
ID	Location	Designation	Description
1	On site	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers
2	71m 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

ID	Location	Designation	Description
3	73m 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
4	193m N	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	294m 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
6	330m W	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

4

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 39**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: High	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
A	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: High	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
4	31m N	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

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

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

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
3	Very significant soluble rocks are likely to be present with a high possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, especially in adverse conditions such as concentrated surface or subsurface water flow.	7.000000000000001%



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 high possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, especially in adverse conditions such as concentrated surface or subsurface water flow.	6.0%

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

5.5 Groundwater vulnerability- local information

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

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

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

Abstractions and Source Protection Zones



5.6 Groundwater abstractions

Records within 2000m

4

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 42**

ID	Location	Details	
-	957m S	Status: Active Licence No: WA/058/0033/0004 Details: Animal Watering & General use in non-farming situations - Medium Direct Source: Oxwich Head Limestone Formation Point: - Data Type: Point Name: - Easting: 282212 Northing: 180821	Annual Volume (m ³): 10,950 Max Daily Volume (m ³): 96 Original Application No: - Original Start Date: Feb 27 2020 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	991m S	Status: Historical Licence No: 21/58/51/0030 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: U/G LIMESTONE CYNFFIG IN THE DISTRICT OF OGWR MID GLAM Data Type: Point Name: Messrs Lougher & Son Easting: 282240 Northing: 180790	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 22/04/1996 Version End Date: -
-	1888m SW	Status: Historical Licence No: 21/58/33/0010 Details: Spray Irrigation - Storage Direct Source: EAW Groundwater Point: BOREHOLE A Data Type: Point Name: Pyle & Kenfig Golf Club Easting: 280930 Northing: 180230	Annual Volume (m ³): 28000 Max Daily Volume (m ³): 120 Original Application No: - Original Start Date: 02/06/2006 Expiry Date: 31/03/2017 Issue No: 1 Version Start Date: 02/06/2006 Version End Date: -
-	1888m SW	Status: Active Licence No: 21/58/33/0010 Details: Spray Irrigation - Storage - High Direct Source: Mercia Mudstone Point: - Data Type: Point Name: - Easting: 280930 Northing: 180230	Annual Volume (m ³): 28,000 Max Daily Volume (m ³): 120 Original Application No: - Original Start Date: Apr 1 2017 12:00AM Expiry Date: Mar 31 2029 12:00AM Issue No: - Version Start Date: - 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
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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.

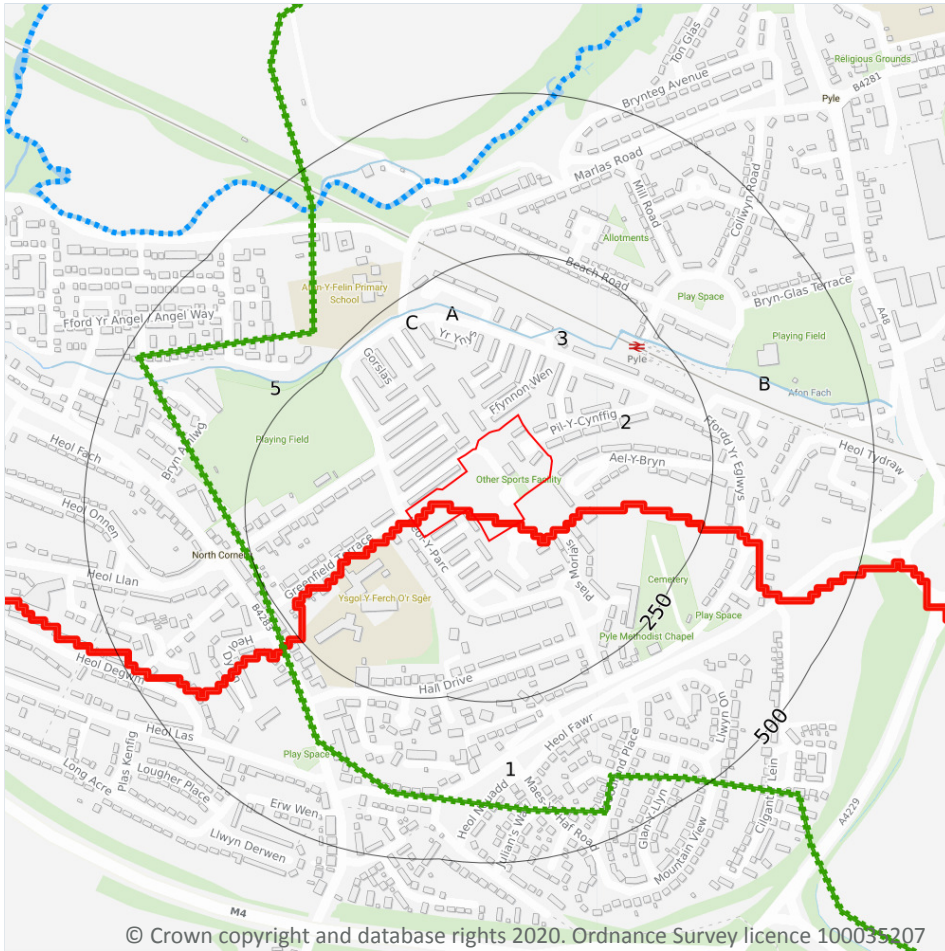
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0
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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

7

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 45**

ID	Location	Type of water feature	Ground level	Permanence	Name
3	121m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Afon Fach

ID	Location	Type of water feature	Ground level	Permanence	Name
A	161m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Fach
B	204m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Fach
C	226m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Afon Fach
C	228m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Fach
C	236m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Afon Fach
5	238m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Fach

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

4

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 45**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

2

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 45**



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	240	Ogmore	Tawe to Cadoxton
A	On site	River WB catchment	Kenfig - headwaters to tidal	GB110058026170	Kenfig	Tawe to Cadoxton

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

6.4 WFD Surface water bodies

Records identified	1
---------------------------	----------

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

Features are displayed on the Hydrology map on **page 45**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
7	377m N	River	Kenfig - headwaters to tidal	GB110058026170	Moderate	Fail	Moderate	2016

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

6.5 WFD Groundwater bodies

Records on site	1
------------------------	----------

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

Features are displayed on the Hydrology map on **page 45**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	On site	Swansea Carboniferous Coal Measures	GB41002G201000	Poor	Poor	Good	2016

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



7 River and coastal flooding

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m

0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; 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).

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

7.2 Historical Flood Events

Records within 250m

0

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

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

7.3 Flood Defences

Records within 250m

0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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



7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

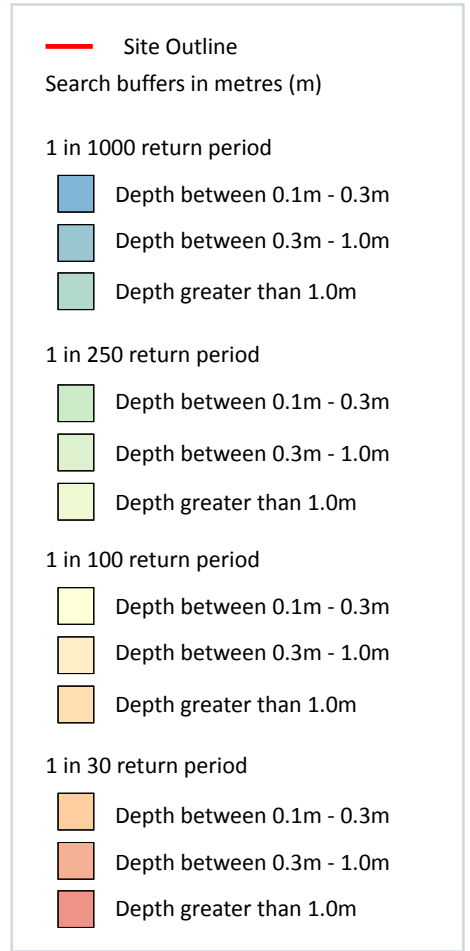
0

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

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 1000 year, 0.1m - 0.3m

Highest risk within 50m

1 in 100 year, 0.1m - 0.3m

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 51**

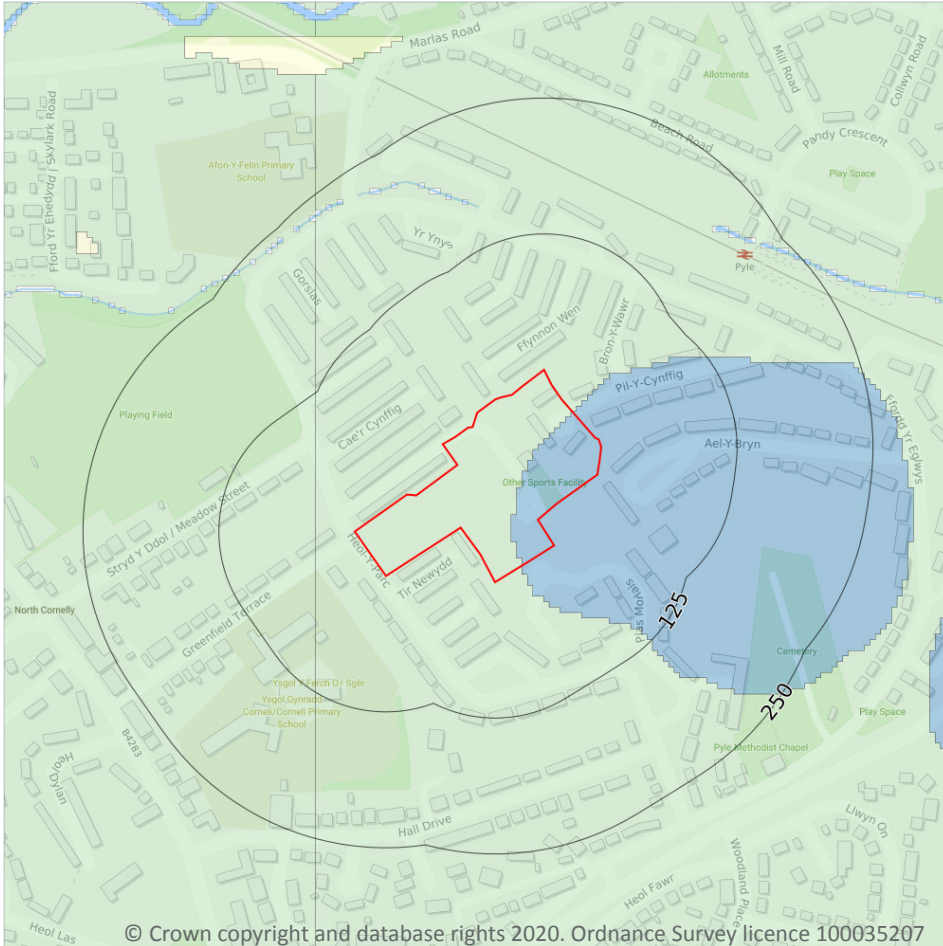
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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 0.1m and 0.3m
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site	Low
Highest risk within 50m	Low

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

Features are displayed on the Groundwater flooding map on **page 53**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Sites of Special Scientific Interest (SSSI)
- + Special Areas of Conservation (SAC)
- X National Nature Reserves (NNR)
- + Local Nature Reserves (LNR)
- / Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

7

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 54**

ID	Location	Name	Data source
2	801m NW	Cynffig/kenfig	Natural Resources Wales

ID	Location	Name	Data source
3	844m NW	Cynffig/kenfig	Natural Resources Wales
7	1068m NW	Cynffig/kenfig	Natural Resources Wales
8	1158m NW	Cynffig/kenfig	Natural Resources Wales
-	1254m W	Cynffig/kenfig	Natural Resources Wales
-	1528m W	Cynffig/kenfig	Natural Resources Wales
-	1871m E	Penycastell, Cefn Cribwr	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

2

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.

Features are displayed on the Environmental designations map on **page 54**

ID	Location	Name	Features of interest	Habitat description	Data source
-	1254m W	Kenfig / Cynffig	Intertidal mudflats and sandflats; Cord-grass swards; Atlantic salt meadows; Shifting dunes; Shifting dunes with marram; Dune grassland; Coastal dune heathland; Dunes with sea-buckthorn; Dunes with creeping willow; Humid dune slacks; Calcium-rich nutrient-poor lakes, lochs and pools; Dry grasslands and scrublands on chalk or limestone; Alder woodland on floodplains; Great crested newt; Lesser horseshoe bat; Petalwort; Fen orchid.	Broad-leaved deciduous woodland; Coastal sand dunes, Sand beaches, Machair; Inland water bodies (Standing water, Running water); Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Salt marshes, Salt pastures, Salt steppes; Shingle, Sea cliffs, Islets; Heath, Scrub, Maquis and Garrigue, Phygrana; Bogs, Marshes, Water fringed vegetation, Fens	Natural Resources Wales
-	1871m E	Glaswelltiroedd Cefn Cribwr / Cefn Cribwr Grasslands	Wet heathland with cross-leaved heath; Purple moor-grass meadows; Marsh fritillary butterfly.	Humid grassland, Mesophile grassland; Broad-leaved deciduous woodland; Bogs, Marshes, Water fringed vegetation, Fens; Heath, Scrub, Maquis and Garrigue, Phygrana	Natural Resources Wales

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

2

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.

Features are displayed on the Environmental designations map on **page 54**

ID	Location	Name	Data source
-	1254m W	KENFIG POOL AND DUNES	Natural Resources Wales
-	1792m W	KENFIG POOL AND DUNES	Natural Resources Wales



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

10.6 Local Nature Reserves (LNR)

Records within 2000m

2

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

Features are displayed on the Environmental designations map on **page 54**

ID	Location	Name	Data source
-	1254m W	KENFIG POOL AND DUNES	Natural Resources Wales
-	1778m E	FROG POND WOOD	Natural Resources Wales

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

10.7 Designated Ancient Woodland

Records within 2000m

25

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 54**

ID	Location	Name	Woodland Type
1	414m N	Unknown	Ancient Semi Natural Woodland
4	976m N	Unknown	Restored Ancient Woodland Site
5	977m NW	Unknown	Ancient Semi Natural Woodland
6	1018m N	Unknown	Ancient Semi Natural Woodland
9	1198m NW	Unknown	Ancient Semi Natural Woodland
A	1215m SE	Unknown	Ancient Semi Natural Woodland
B	1224m NW	Unknown	Ancient Semi Natural Woodland
10	1250m SE	Unknown	Ancient Semi Natural Woodland
11	1252m SE	Unknown	Ancient Semi Natural Woodland
16	1257m NE	Unknown	Ancient Semi Natural Woodland



ID	Location	Name	Woodland Type
A	1278m S	Unknown	Restored Ancient Woodland Site
B	1284m NW	Unknown	Ancient Semi Natural Woodland
17	1321m SE	Unknown	Ancient Semi Natural Woodland
18	1383m NW	Unknown	Ancient Semi Natural Woodland
19	1453m SE	Unknown	Ancient Semi Natural Woodland
C	1453m NW	Unknown	Ancient Semi Natural Woodland
-	1497m NE	Unknown	Ancient Semi Natural Woodland
-	1505m NW	Unknown	Ancient Semi Natural Woodland
22	1579m SE	Unknown	Ancient Semi Natural Woodland
-	1631m N	Unknown	Ancient Semi Natural Woodland
-	1836m SE	Unknown	Ancient Semi Natural Woodland
-	1862m N	Unknown	Ancient Semi Natural Woodland
-	1862m SE	Unknown	Ancient Semi Natural Woodland
-	1919m S	Unknown	Ancient Semi Natural Woodland
-	1919m N	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

1

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

Location	Name	Type	NVZ ID	Status
576m S		Groundwater	159	New

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

SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site

0

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

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

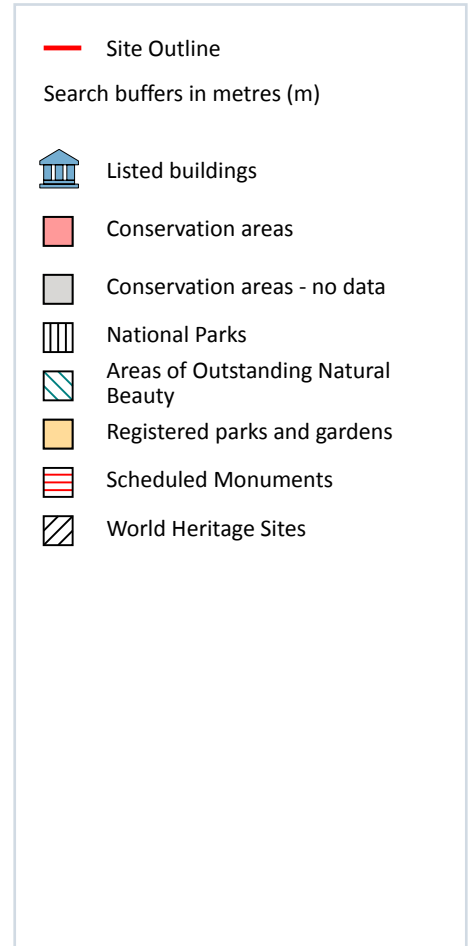
0

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

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



11 Visual and cultural designations



11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

1

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

Features are displayed on the Visual and cultural designations map on **page 62**

ID	Location	Name	Grade	Reference Number	Listed date
1	155m S	The Hall Farm, The Former Farmhouse Lies In The Midst Of Suburban Development At The End Of A Driveway Opening Between Nos 33 And 35 Hall Drive	II*	11349	22/06/1988

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



12 Agricultural designations

12.1 Agricultural Land Classification

Records within 250m

0

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.

This data is sourced from Natural Resources Wales.

12.2 Open Access Land

Records within 250m

0

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

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

12.3 Tree Felling Licences

Records within 250m

0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment.

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

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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 68**

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

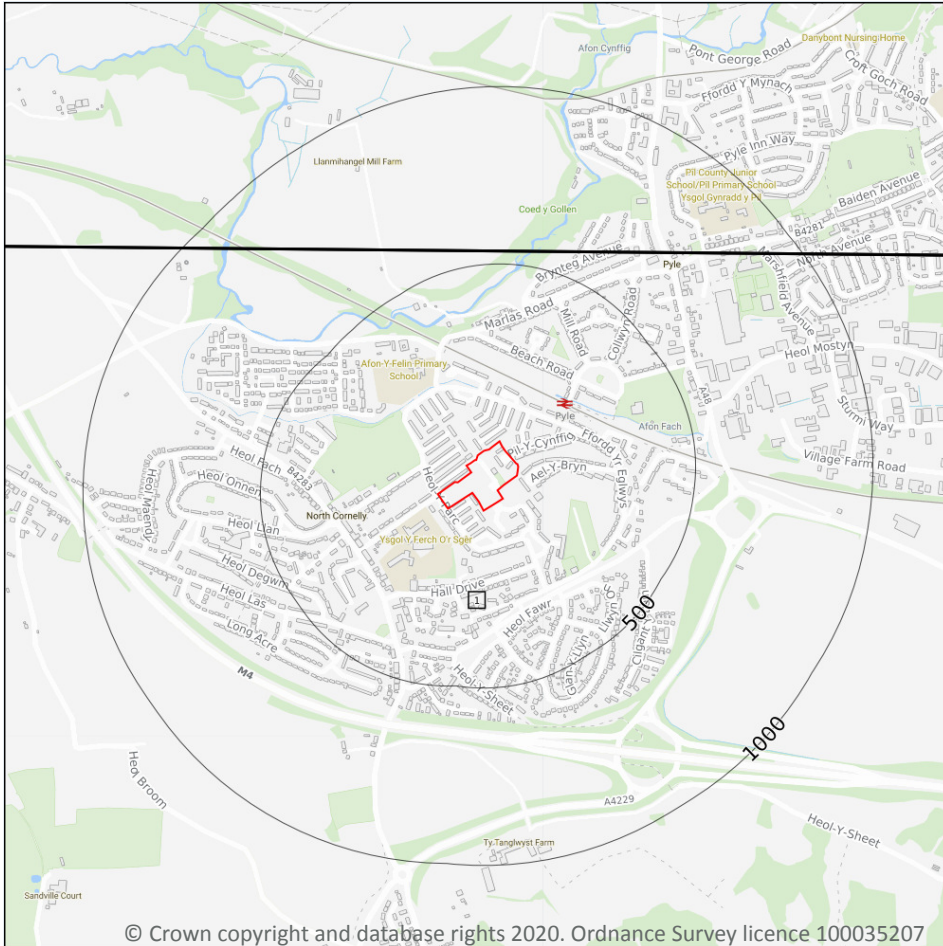
0

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 72**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW261_262_sker_point_and_bridgend_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

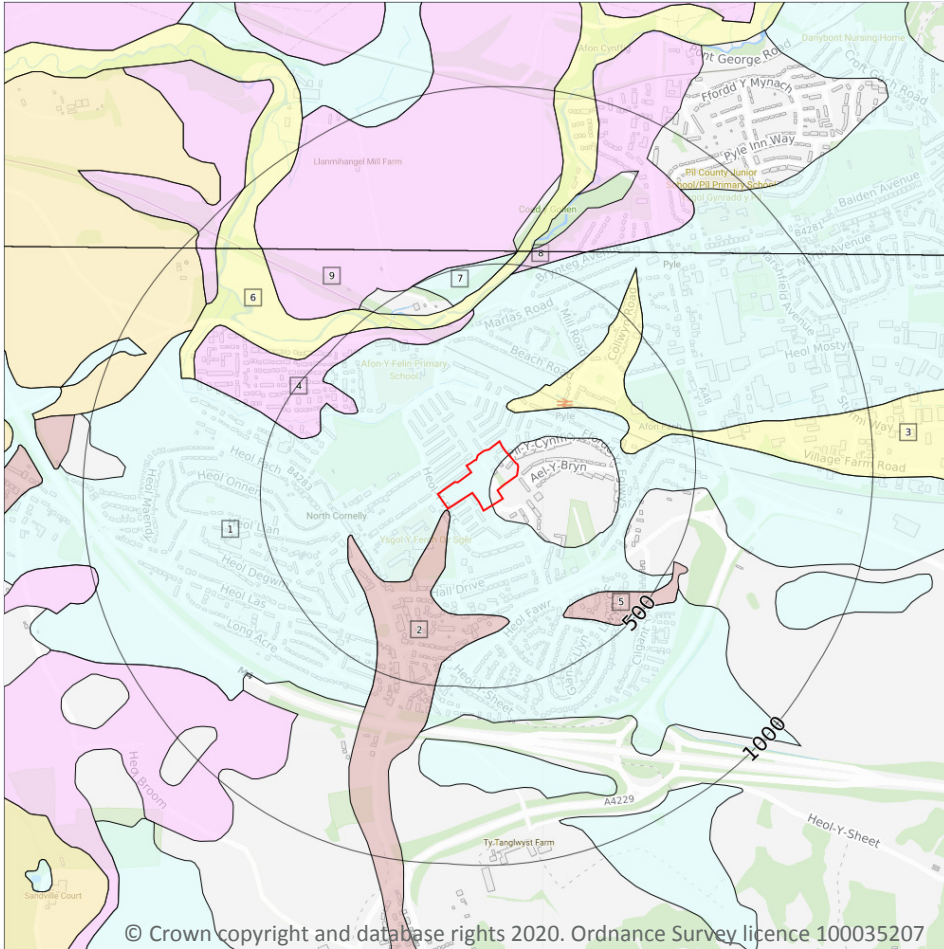
0

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

9

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 74**

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON
2	5m SW	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
3	92m NE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
4	324m NW	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
5	356m SE	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
6	360m NW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
7	403m N	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
8	472m N	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
9	500m NW	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

2

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	High	Low
5m S	Mixed	High	Very 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

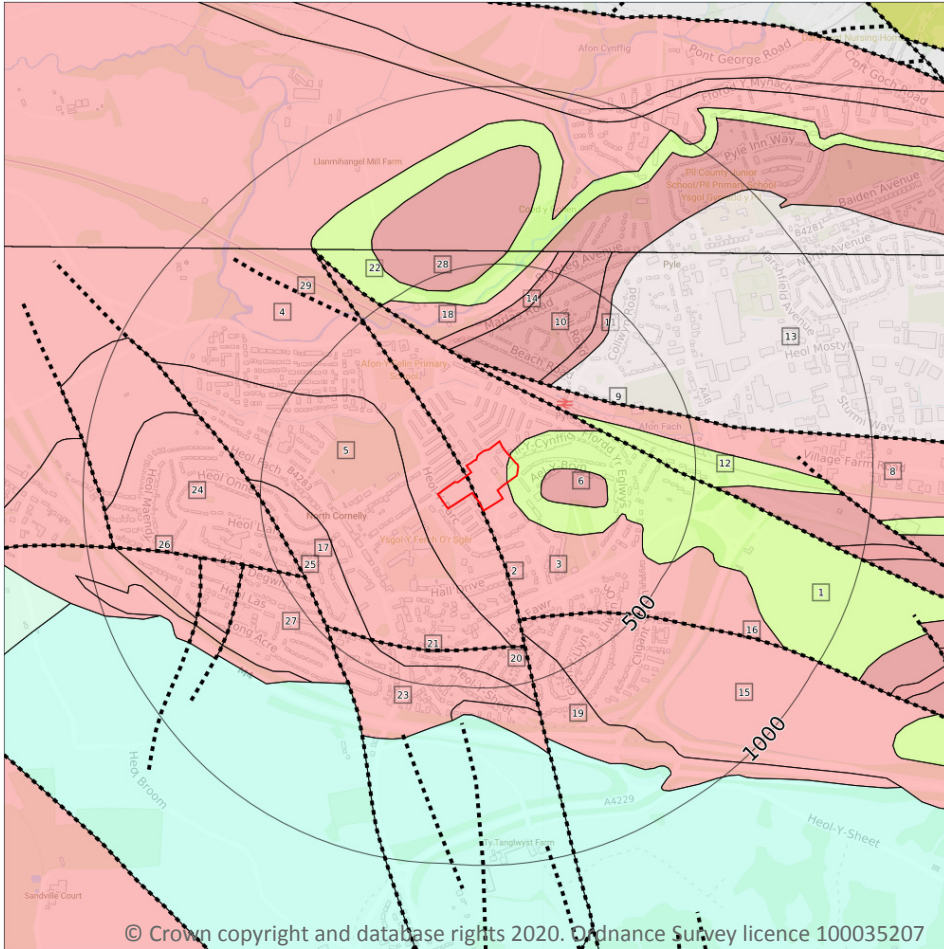
0

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

21

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 76**

ID	Location	LEX Code	Description	Rock age
1	On site	BAN-MDST	BLUE ANCHOR FORMATION - MUDSTONE	NORIAN
3	On site	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-
4	On site	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-

ID	Location	LEX Code	Description	Rock age
5	71m W	MMMF-CONG	MERCIA MUDSTONE GROUP (MARGINAL FACIES) - CONGLOMERATE	-
6	73m E	PNMF-SDST	PENARTH GROUP (MARGINAL FACIES) - SANDSTONE	RHAETIAN
8	157m NE	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-
10	193m N	PNMF-SDST	PENARTH GROUP (MARGINAL FACIES) - SANDSTONE	RHAETIAN
11	200m NE	PNMF-MDST	PENARTH GROUP (MARGINAL FACIES) - MUDSTONE	RHAETIAN
12	202m NE	BAN-MDST	BLUE ANCHOR FORMATION - MUDSTONE	NORIAN
13	211m NE	STM-LSMD	ST MARY'S WELL BAY MEMBER - LIMESTONE AND MUDSTONE, INTERBEDDED	RHAETIAN
14	294m NW	PNG-MDST	PENARTH GROUP - MUDSTONE	RHAETIAN
15	324m S	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-
17	330m W	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-
18	331m NW	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-
19	362m S	MMMF-CONG	MERCIA MUDSTONE GROUP (MARGINAL FACIES) - CONGLOMERATE	-
20	388m S	MMMF-CONG	MERCIA MUDSTONE GROUP (MARGINAL FACIES) - CONGLOMERATE	-
22	391m N	BAN-MDST	BLUE ANCHOR FORMATION - MUDSTONE	NORIAN
23	430m SW	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-
24	441m SW	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-
27	442m SW	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-
28	447m N	PNMF-SDST	PENARTH GROUP (MARGINAL FACIES) - SANDSTONE	RHAETIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m

2

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



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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

8

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.

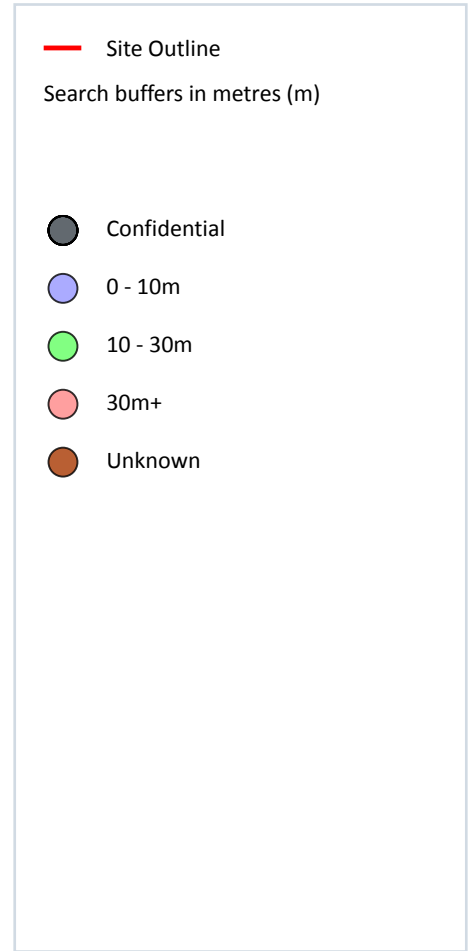
Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 76**

ID	Location	Category	Description
2	On site	FAULT	Fault, inferred, displacement unknown
7	157m NE	FAULT	Fault, inferred, displacement unknown
9	193m N	FAULT	Fault, inferred, displacement unknown
16	324m S	FAULT	Fault, inferred, displacement unknown
21	388m S	FAULT	Fault, inferred, displacement unknown
25	441m SW	FAULT	Fault, inferred, displacement unknown
26	442m SW	FAULT	Fault, inferred, displacement unknown
29	487m NW	FAULT	Fault, inferred, displacement unknown

This data is sourced from the British Geological Survey.



16 Boreholes



16.1 BGS Boreholes

Records within 250m

5

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 79**

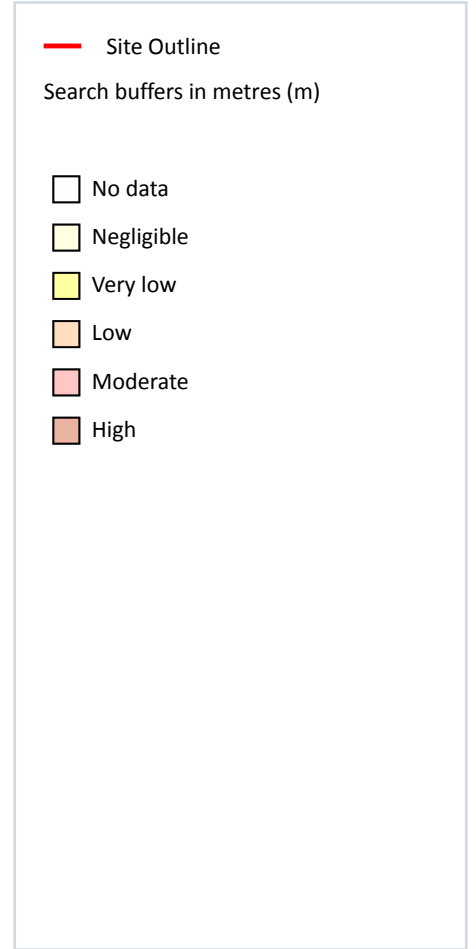
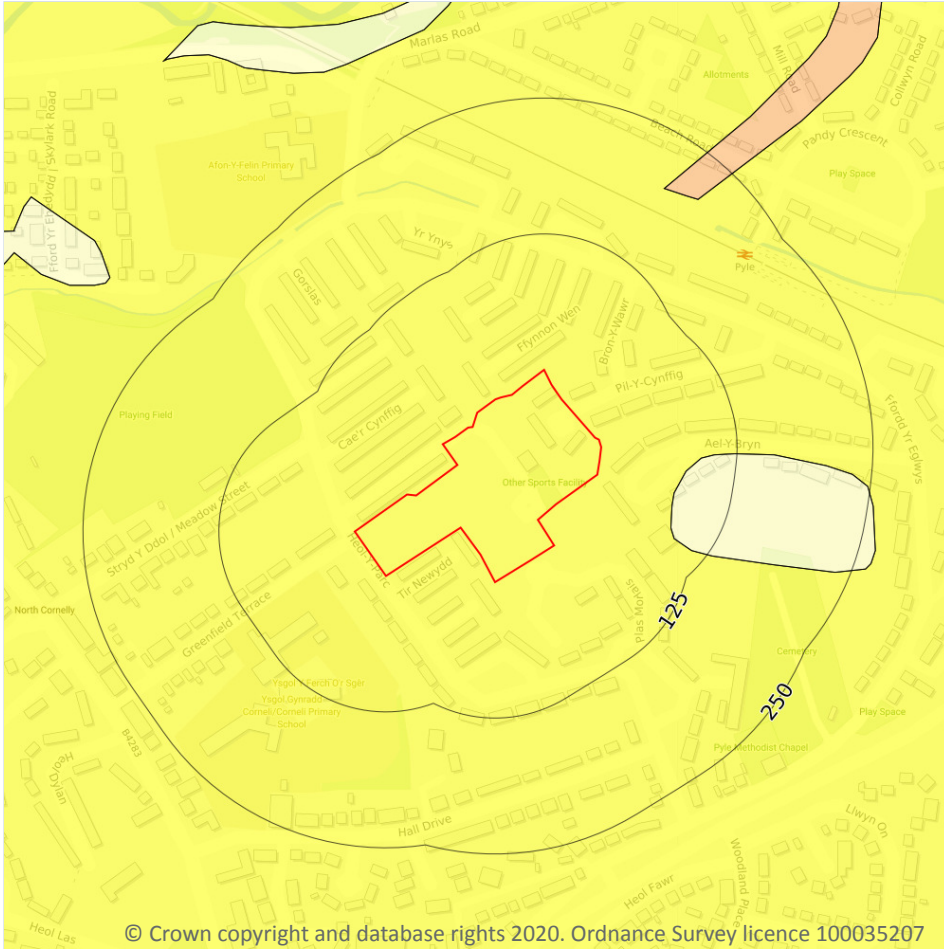
ID	Location	Grid reference	Name	Length	Confidential	Web link
1	51m SW	281940 181790	M4 STORMY DOWN, CORNELLY DRAIN, NO.1	6.15	N	372998
2	190m S	282030 181590	M4 STORMY DOWN, CORNELLY DRAIN, NO.2	6.45	N	372999
3	205m SE	282340 181700	PLAS MORLAIS, NORTH CORNELLY. 2	5.5	N	372995

ID	Location	Grid reference	Name	Length	Confidential	Web link
4	221m SE	282330 181660	PLAS MORLAIS, NORTH CORNELLY. 1	5.5	N	372994
5	230m S	282030 181550	M4 STORMY DOWN, CORNELLY DRAIN, NO.3	6.0	N	373000

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

1

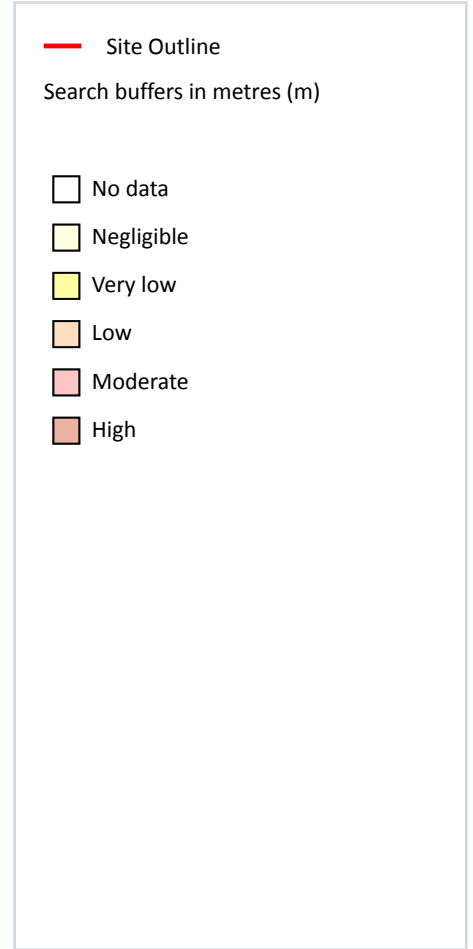
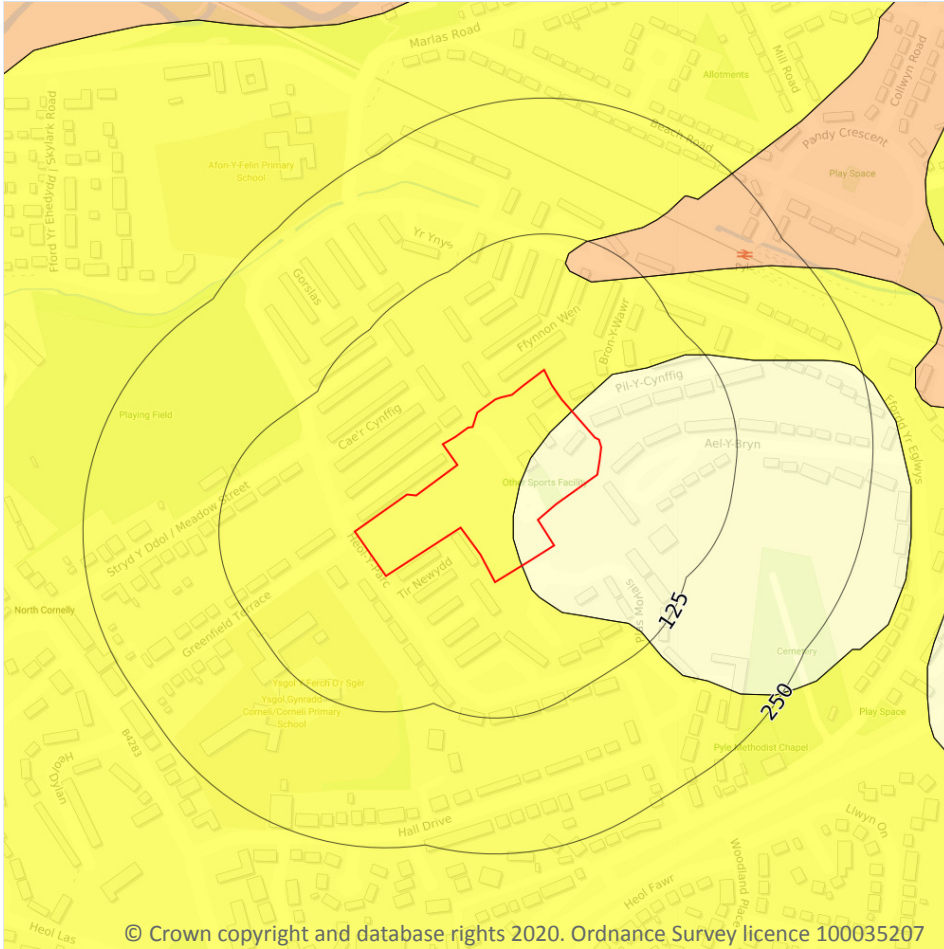
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 81**

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



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 82**

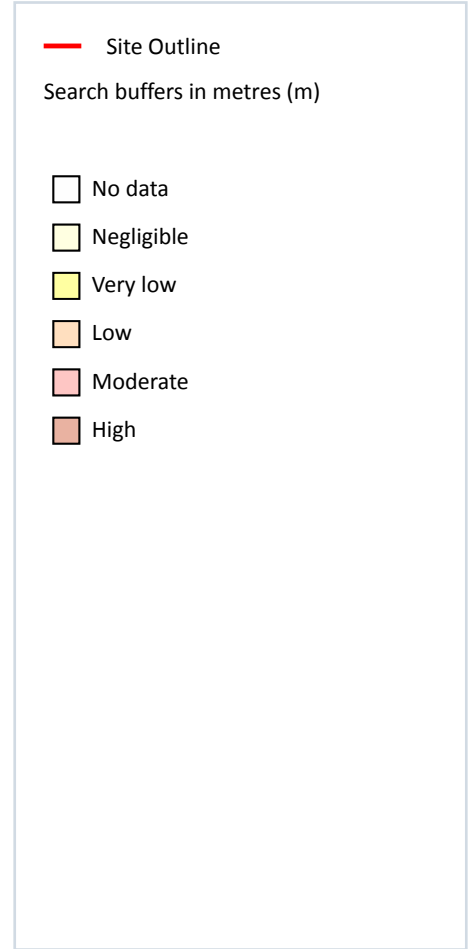
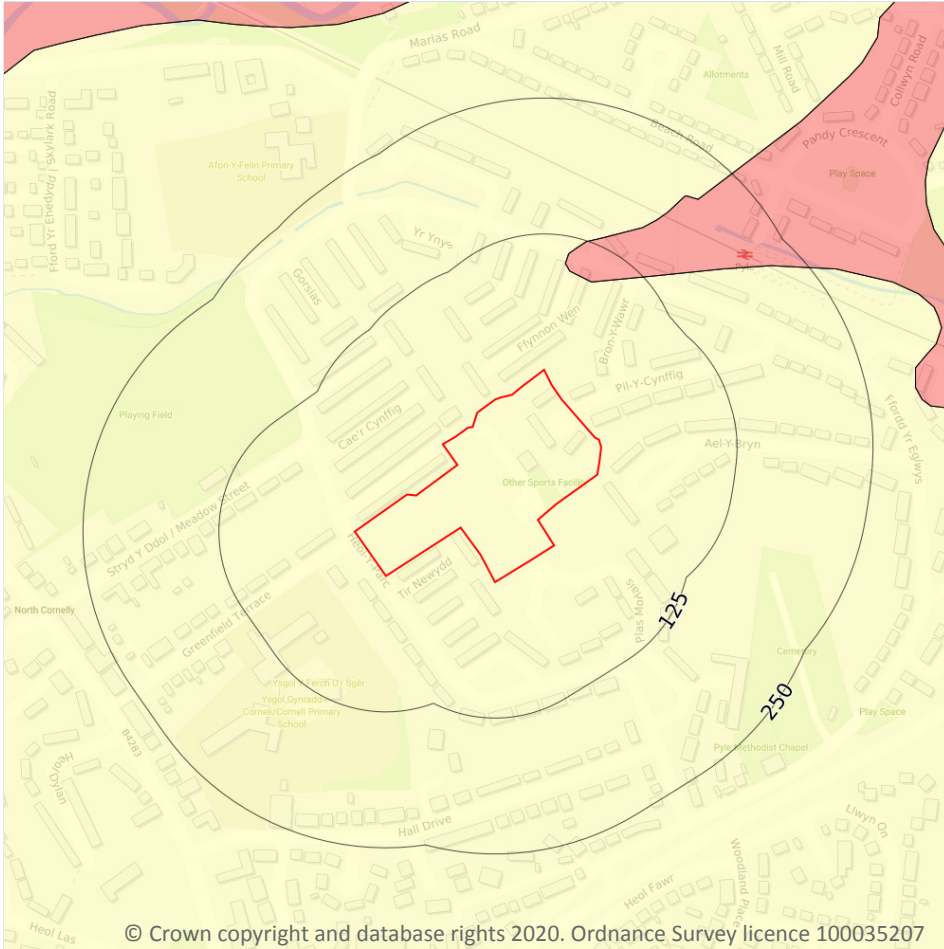
Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

1

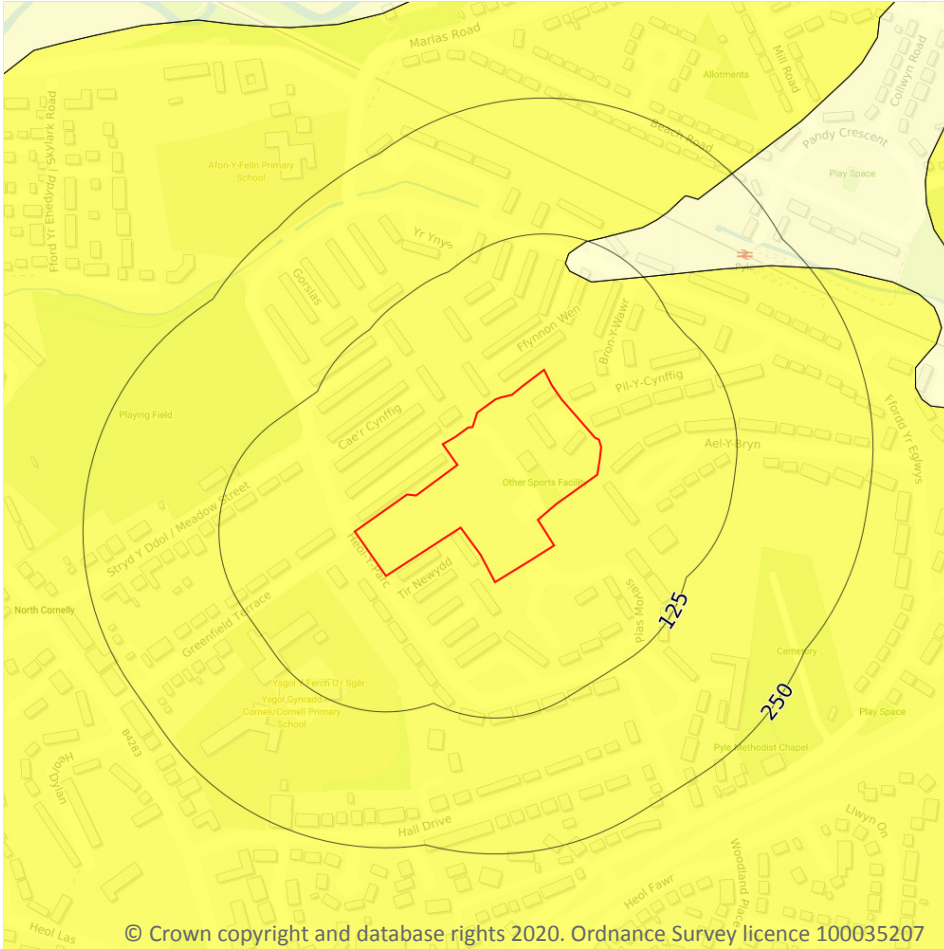
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 84**

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



— Site Outline
Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m

1

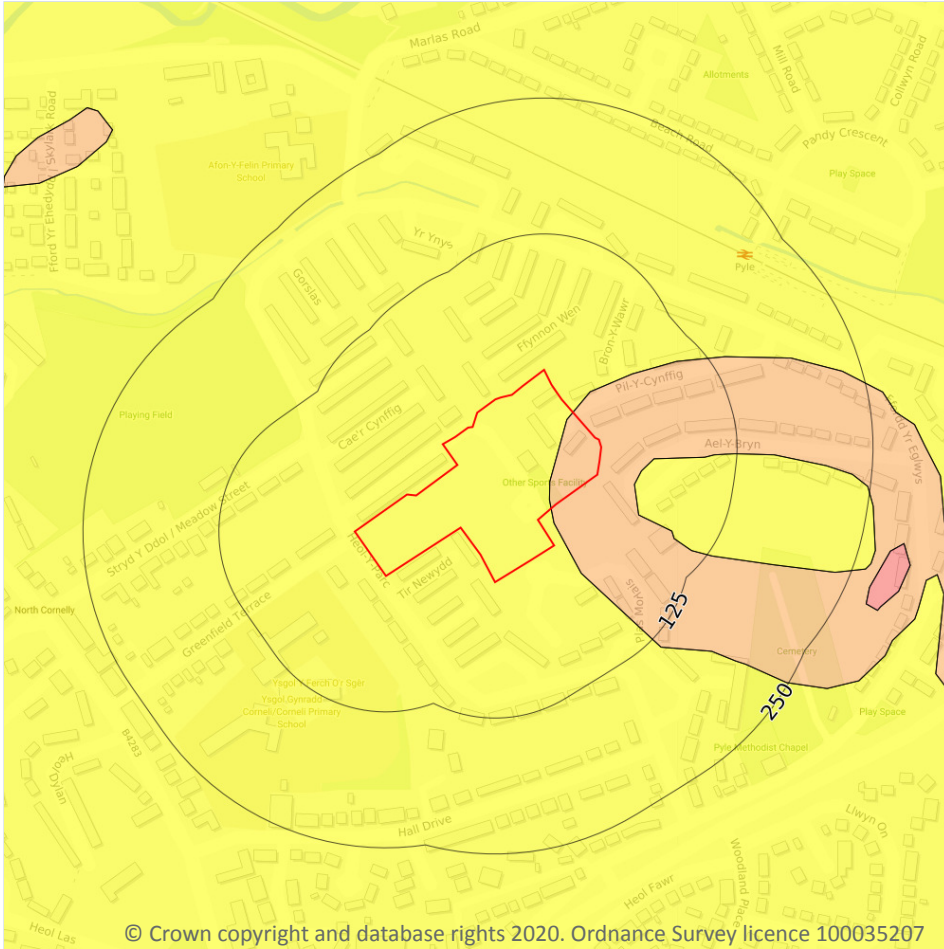
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 85**

Location	Hazard rating	Details
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



— Site Outline
Search buffers in metres (m)

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

17.5 Landslides

Records within 50m

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 86**

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.

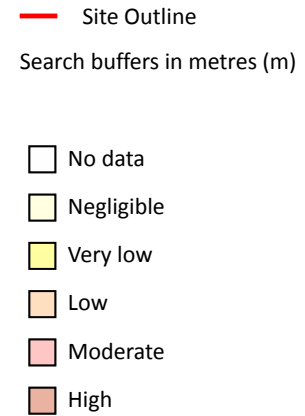
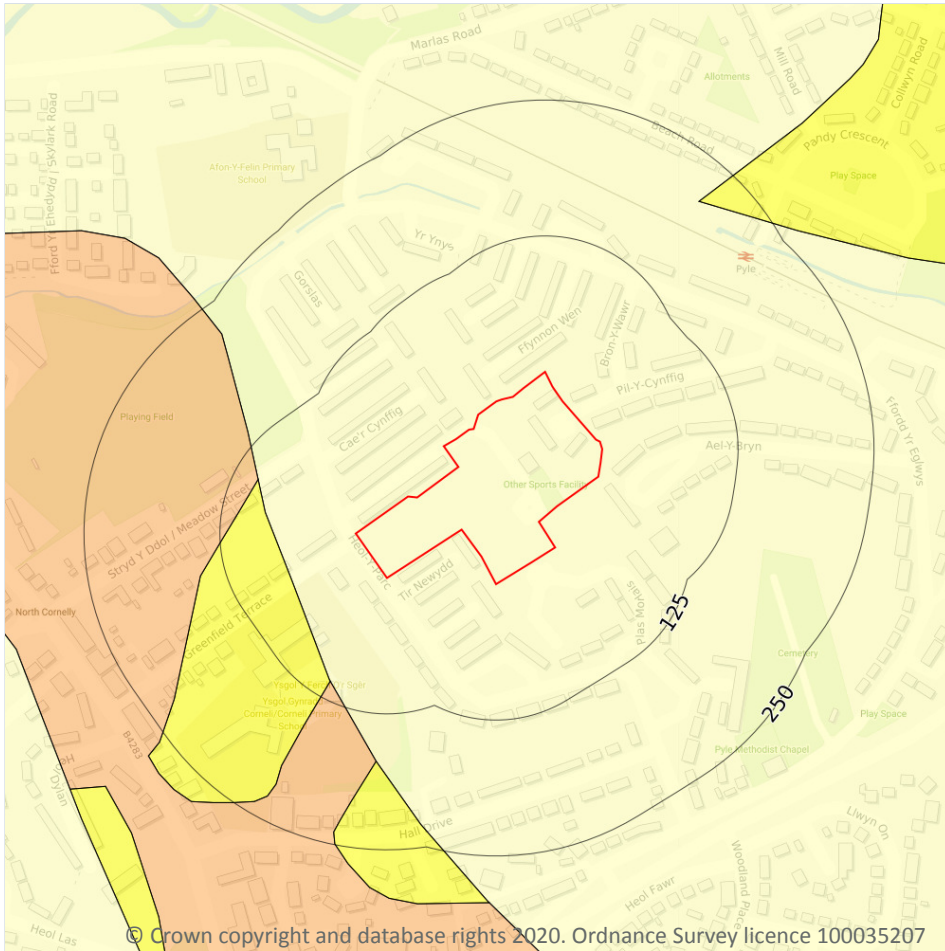


Location	Hazard rating	Details
On site	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
35m E	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

1

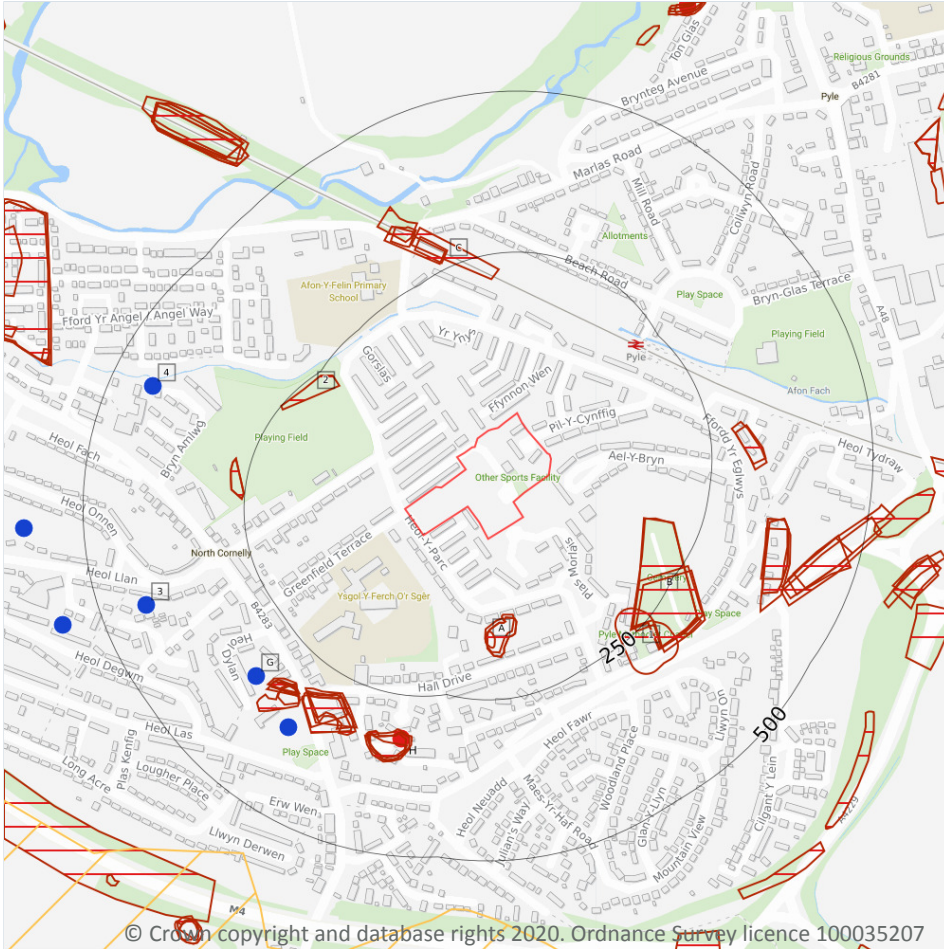
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 88**

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

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- 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 Natural cavities

Records within 500m

4

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 Mining, ground workings and natural cavities map on **page 89**

ID	Location	Details	Source
G	339m SW	Type: Sinkhole x 1, Solution Pipe x 1 Superficial Geology: Glacial Sand Bedrock Geology: Carboniferous Limestone Supergroup, Lower Carboniferous Limestone, Upper Carboniferous Limestone	Simple Bibliography: British Geological Survey Full Bibliography: - Confidentiality: Data source can be revealed, data can be used freely



ID	Location	Details	Source
G	365m SW	Type: Sinkhole x 1, Solution Pipe x 1 Superficial Geology: Glacial Sand Bedrock Geology: Carboniferous Limestone Supergroup, Lower Carboniferous Limestone, Upper Carboniferous Limestone	Simple Bibliography: British Geological Survey Full Bibliography: - Confidentiality: Data source can be revealed, data can be used freely
3	428m W	Type: Sinkhole x 1, Solution Pipe x 1 Superficial Geology: Glacial Till and morainic drift Bedrock Geology: Carboniferous Limestone Supergroup, Lower Carboniferous Limestone, Upper Carboniferous Limestone	Simple Bibliography: British Geological Survey Full Bibliography: - Confidentiality: Data source can be revealed, data can be used freely
4	435m NW	Type: Sinkhole x 1, Solution Pipe x 1 Superficial Geology: Glacial Sand Bedrock Geology: Carboniferous Limestone Supergroup, Lower Carboniferous Limestone, Upper Carboniferous Limestone	Simple Bibliography: British Geological Survey Full Bibliography: - Confidentiality: Data source can be revealed, data can be used freely

This data is sourced from Peter Brett Associates (PBA).

18.2 BritPits

Records within 500m

1

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, ground workings and natural cavities map on **page 89**

ID	Location	Details	Description
H	317m S	Name: Old House Address: North Cornelly, BRIDGEND, Mid Glamorgan Commodity: Sandstone Status: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Type: Ceased Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

11

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, ground workings and natural cavities map on **page 89**



ID	Location	Land Use	Year of mapping	Mapping scale
A	120m S	Pond	1947	1:10560
A	125m S	Pond	1947	1:10560
A	125m S	Pond	1914	1:10560
A	144m S	Pond	1900	1:10560
B	162m SE	Cemetery	1969	1:10560
B	164m SE	Cemetery	1985	1:10000
B	206m SE	Cemetery	1947	1:10560
C	212m N	Cuttings	1876	1:10560
1	212m SE	Burial Ground	1876	1:10560
2	214m NW	Unspecified Heap	1969	1:10560
B	214m SE	Cemetery	1947	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

5

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, ground workings and natural cavities map on **page 89**

ID	Location	Land Use	Year of mapping	Mapping scale
-	982m N	Disused Collieries	1947	1:10560
-	982m N	Collieries	1914	1:10560
-	982m N	Collieries	1921	1:10560
-	990m N	Unspecified Disused Mine	1969	1:10560
-	990m N	Unspecified Disused Mine	1947	1:10560

This is data is sourced from Ordnance Survey/Groundsure.



18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

1

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, ground workings and natural cavities map on **page 89**

ID	Location	Name	Commodity	Class	Likelihood
7	568m SW	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m

0

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

This data is sourced from Peter Brett Associates (PBA).

18.8 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.



18.9 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.

18.10 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.

18.11 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

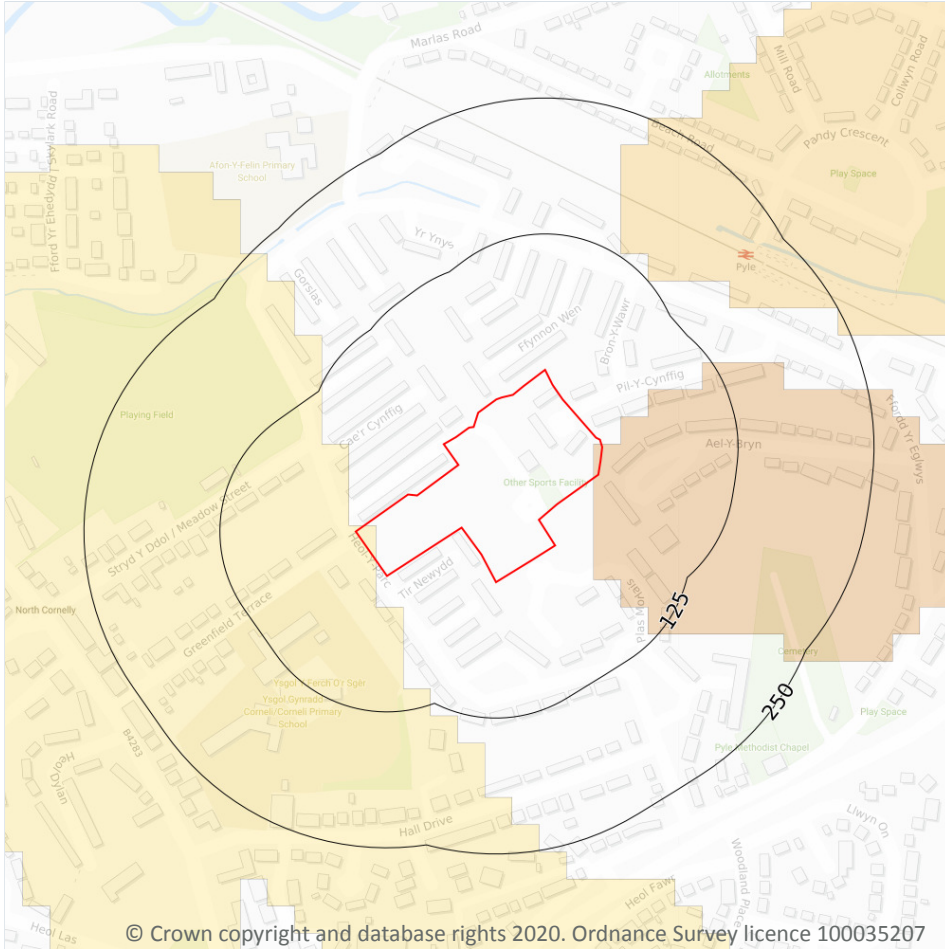
18.13 Clay mining

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 Radon



— Site Outline
Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

19.1 Radon

Records on site

3

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on [page 94](#)

Location	Estimated properties affected	Radon Protection Measures required
On site	Between 5% and 10%	Basic
On site	Between 1% and 3%	None



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

This data is sourced from the British Geological Survey and Public Health England.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

8

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
5m SW	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
13m SW	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
32m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.



20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m

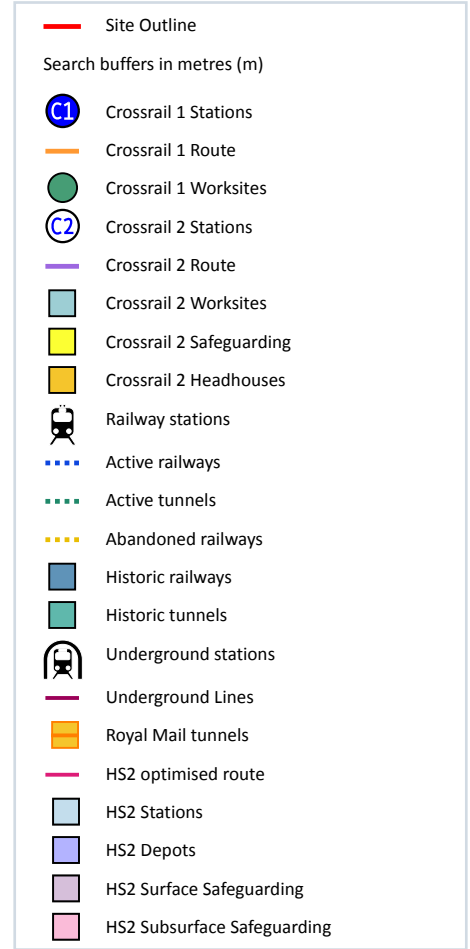
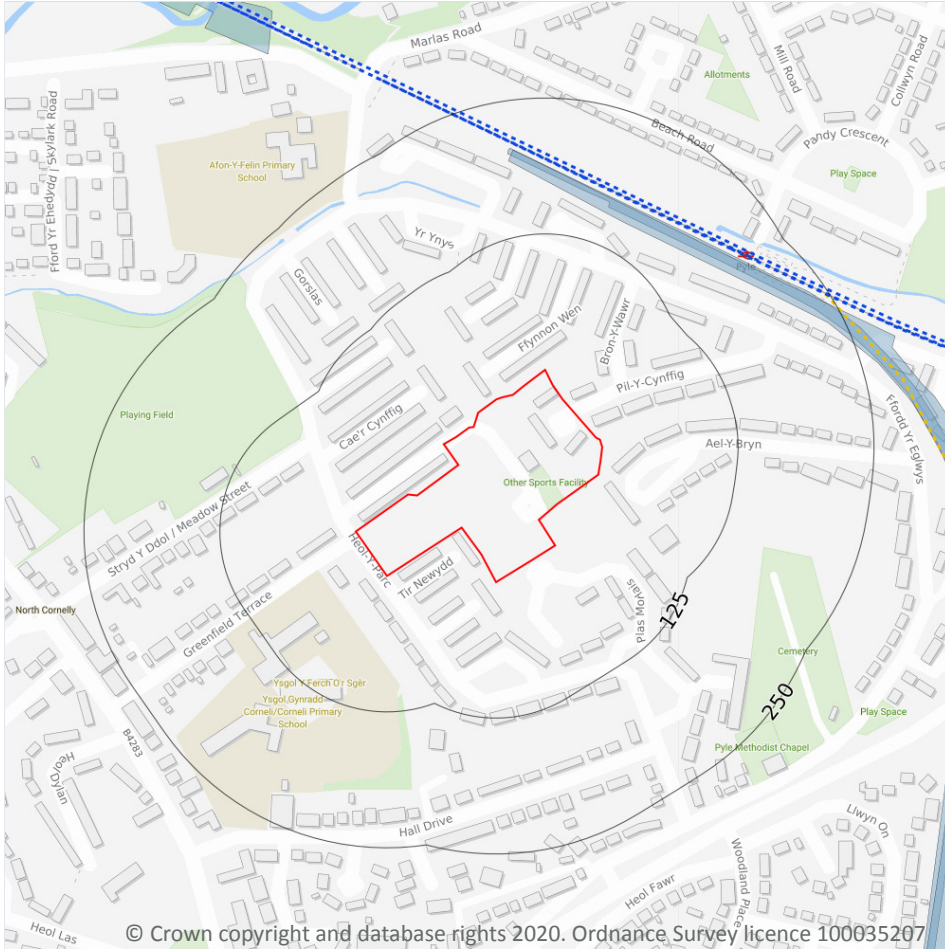
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The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects



21.1 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.

21.2 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.

21.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m

2

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 98**

Location	Land Use	Year of mapping	Mapping scale
154m NE	Railway Sidings	1947	10560
160m NE	Railway Sidings	1942	2500

This data is sourced from Ordnance Survey/Groundsure.

21.5 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.

21.6 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 98**



Location	Description
247m NE	Dismantled

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	6
----------------------------	----------

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

Features are displayed on the Railway infrastructure and projects map on **page 98**

Location	Name	Type
175m NE	South Wales Main Line	rail
175m NE	Not given	Multi Track
179m NE	South Wales Main Line	rail
181m N	Not given	Multi Track
204m NE	South Wales Main Line	rail
222m NE	Not given	Multi Track

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

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

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

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

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

This data is sourced from publicly available information by Groundsure.



21.10 HS2

Records within 500m

0

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

This data is sourced from HS2 ltd.



Data providers

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Appendix III



Site Details:

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4ND

Client Ref: EMS_619811_825925
Report Ref: EMS-619811_825925
Grid Ref: 282095, 181871

Map Name: County Series

Map date: 1881

Scale: 1:2,500

Printed at: 1:2,500



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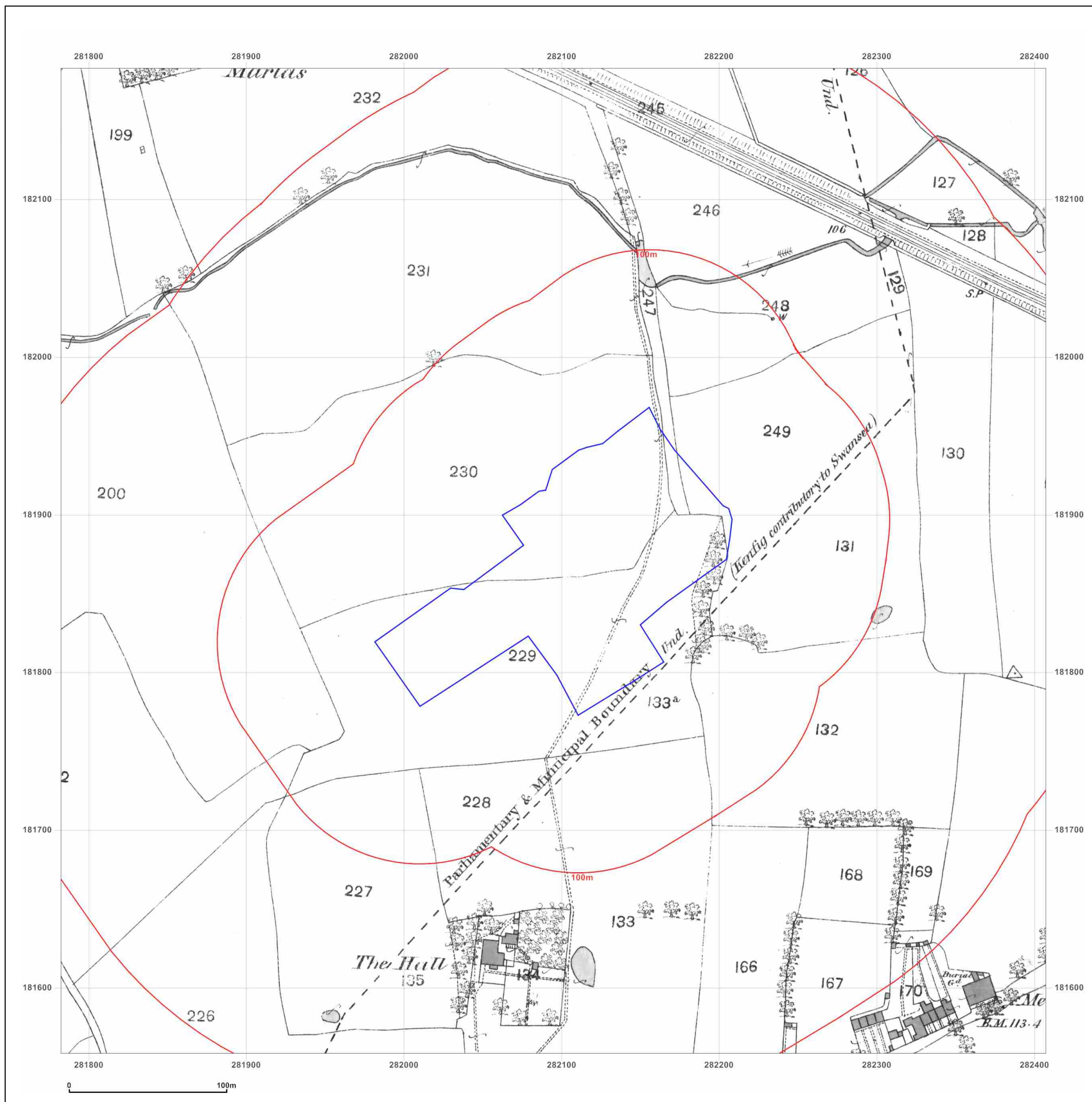


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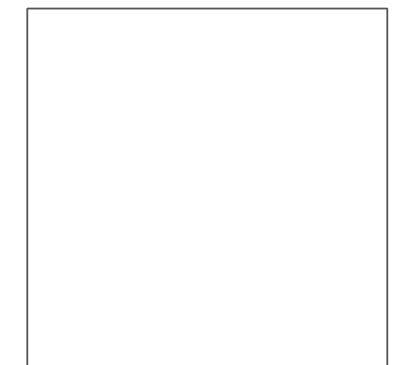
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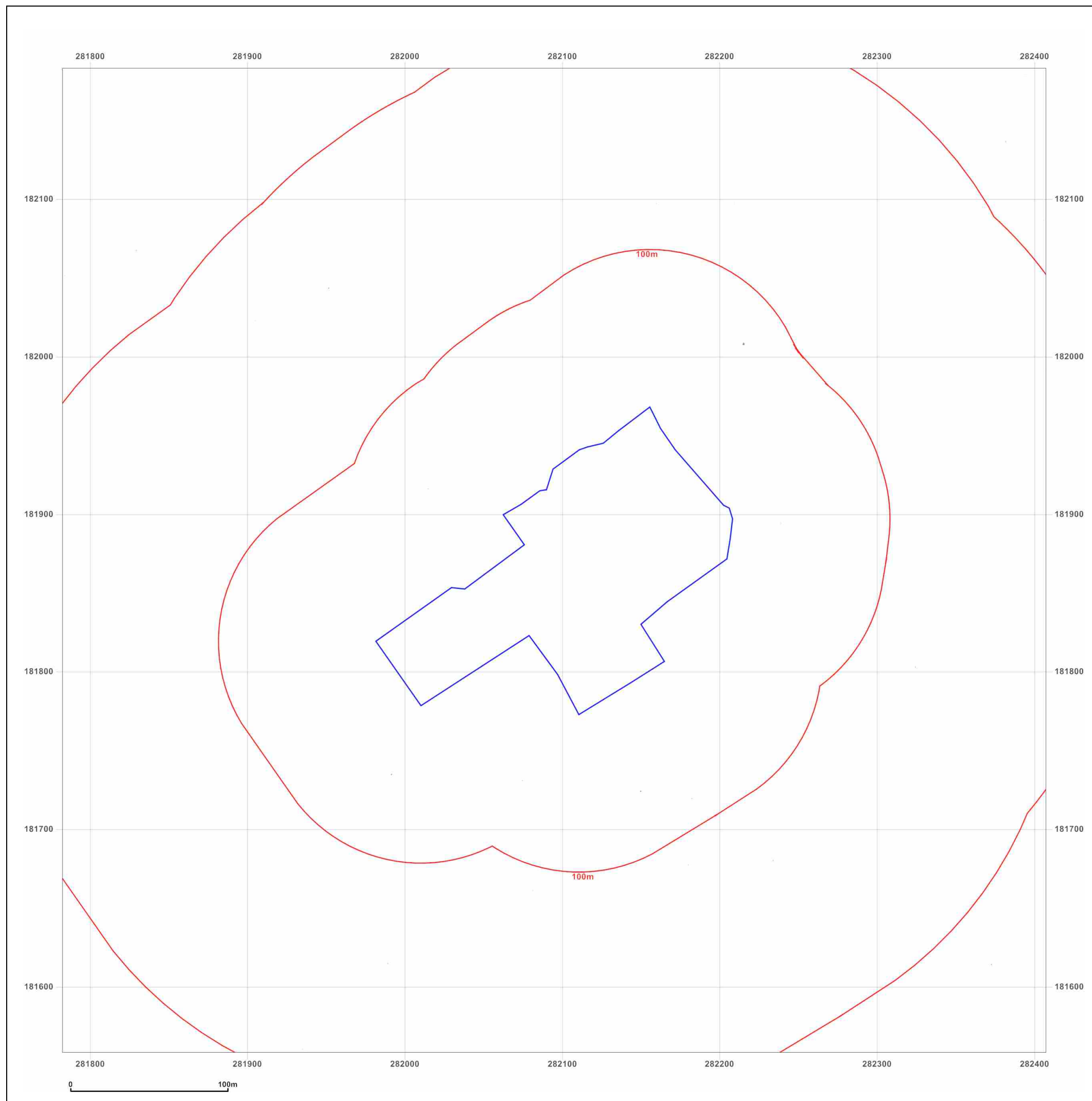
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Report Ref: EMS-619811_825925
Grid Ref: 282095, 181871

Map Name: County Series

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Scale: 1:2,500

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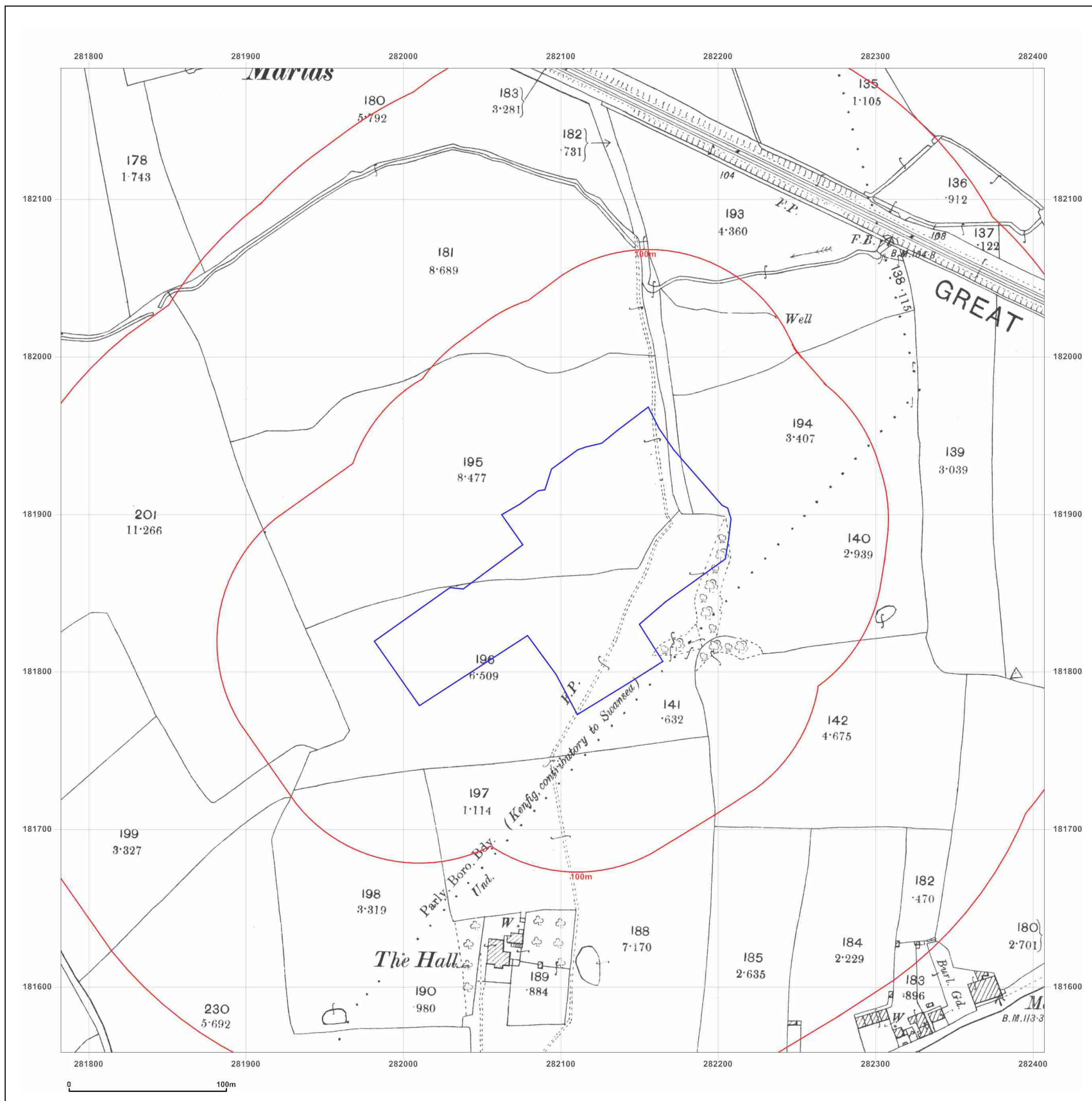


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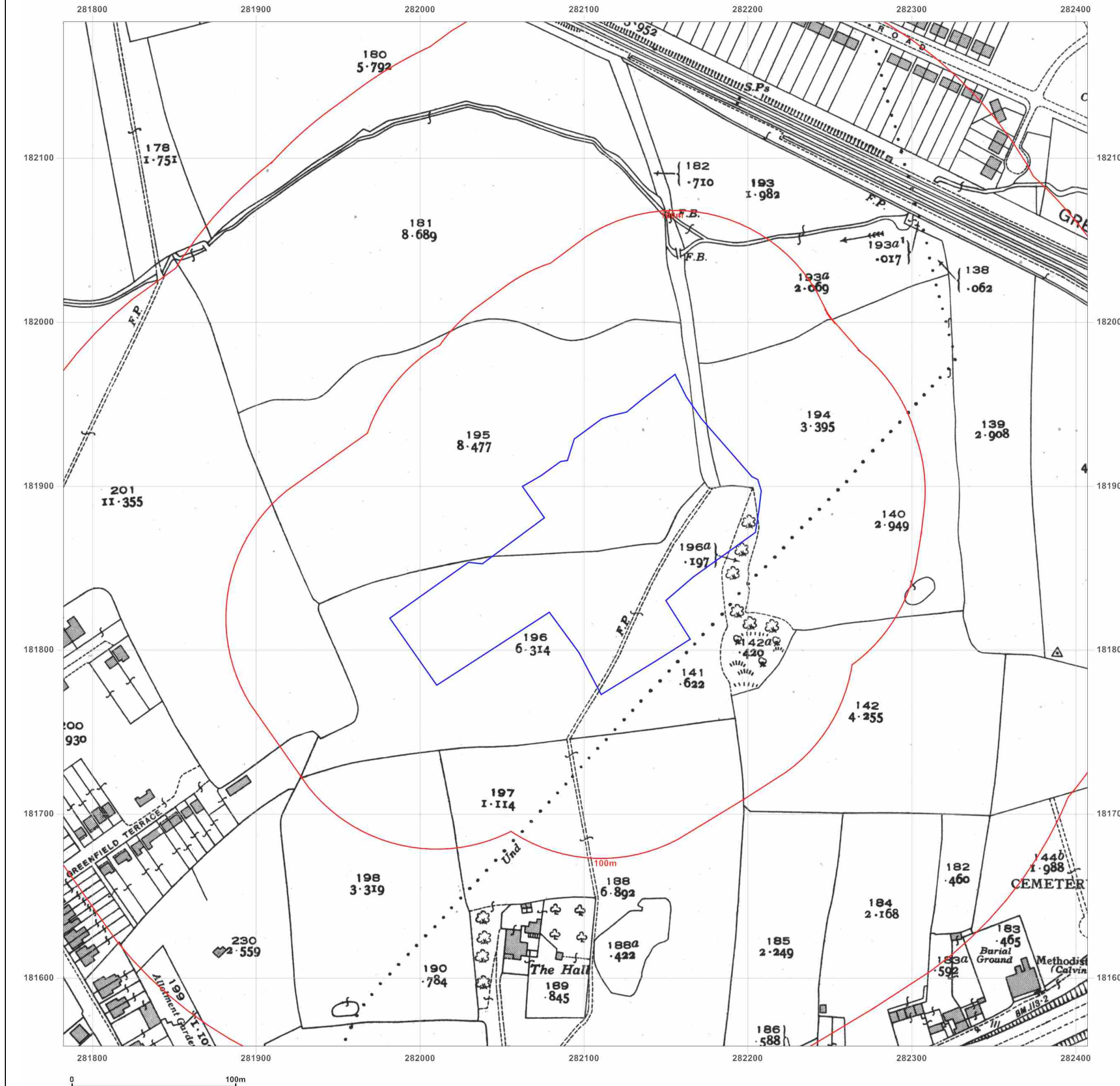
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Map date: 1962-1966

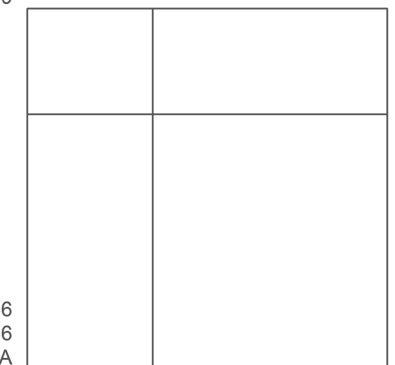
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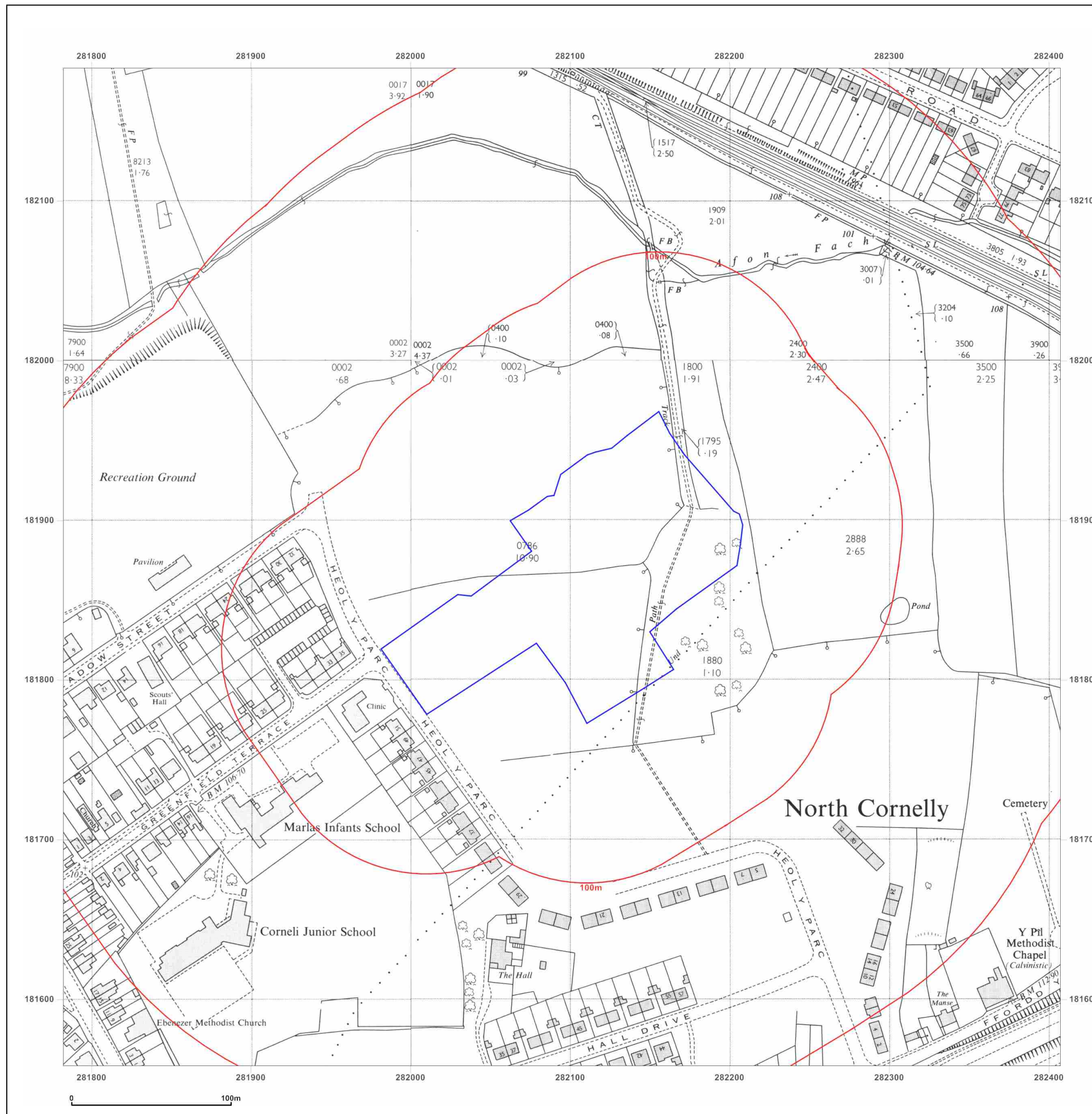
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Map Name: National Grid

Map date: 1963-1968

Scale: 1:2,500

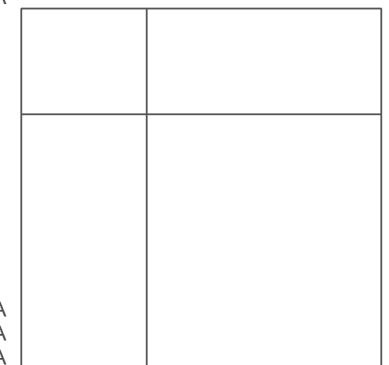
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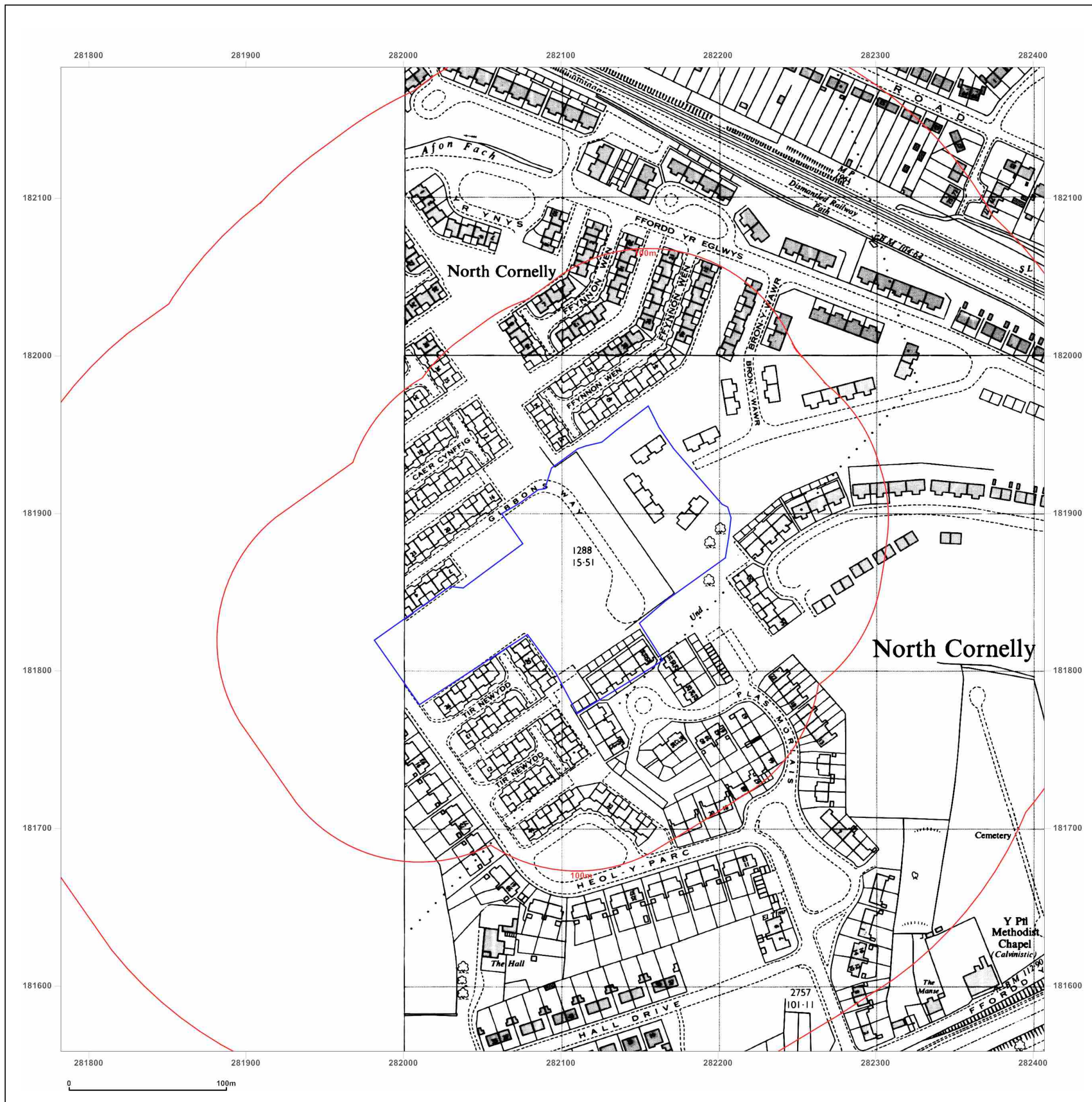


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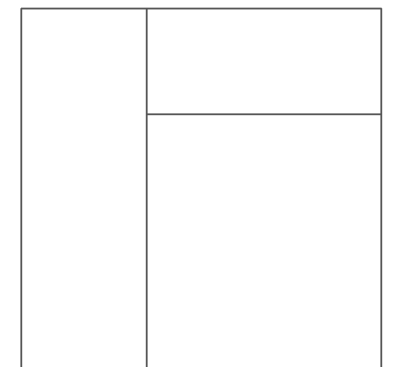
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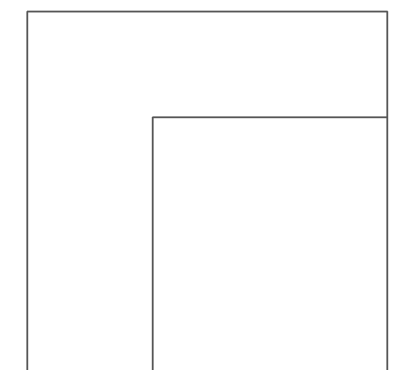
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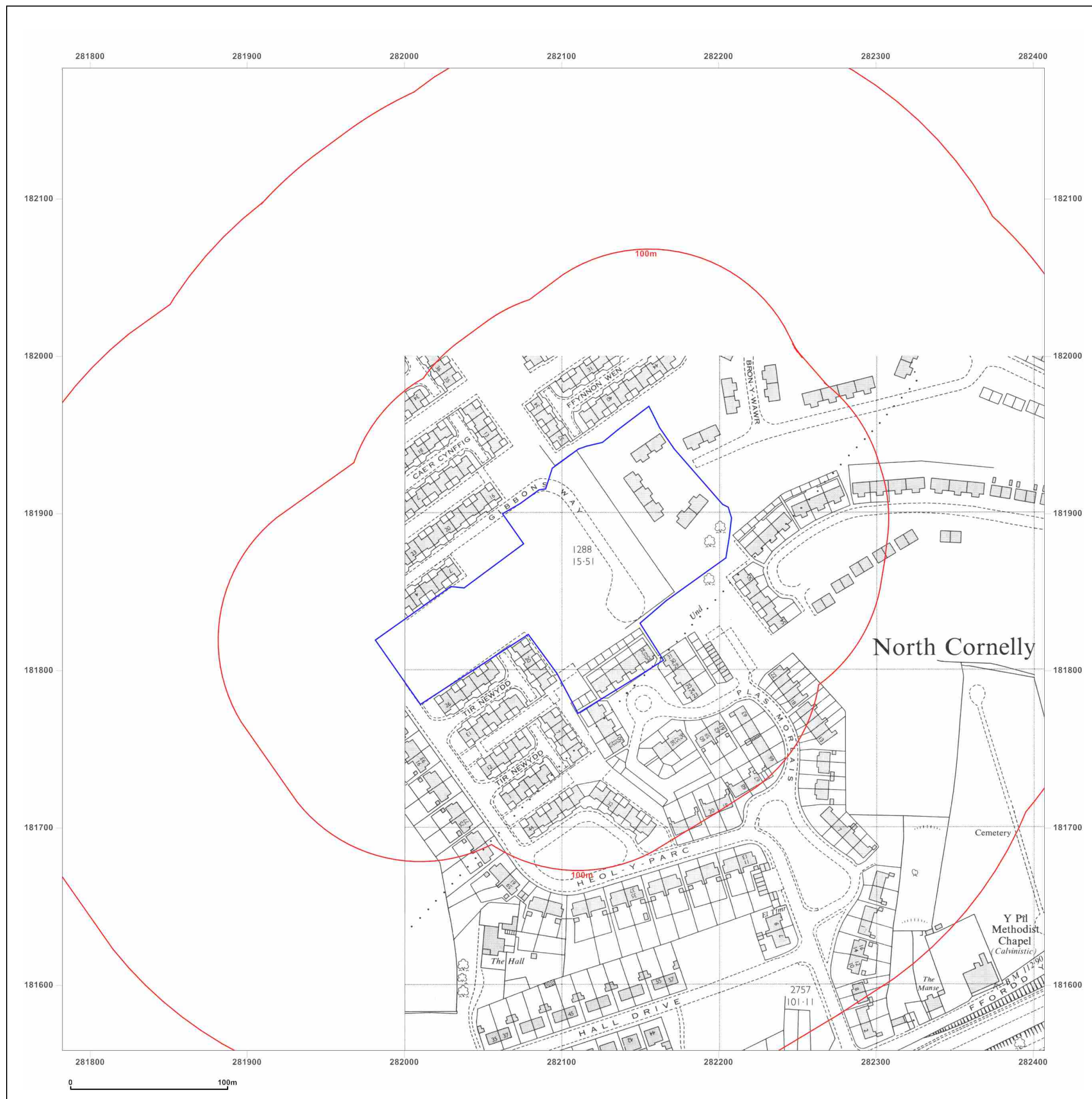
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Map Name: National Grid

Map date: 1977-1980

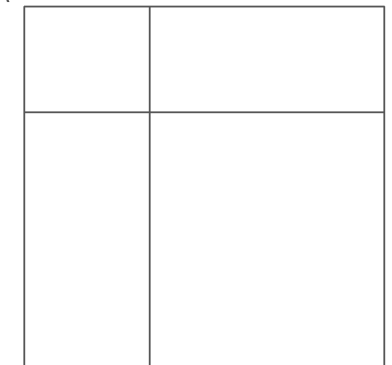
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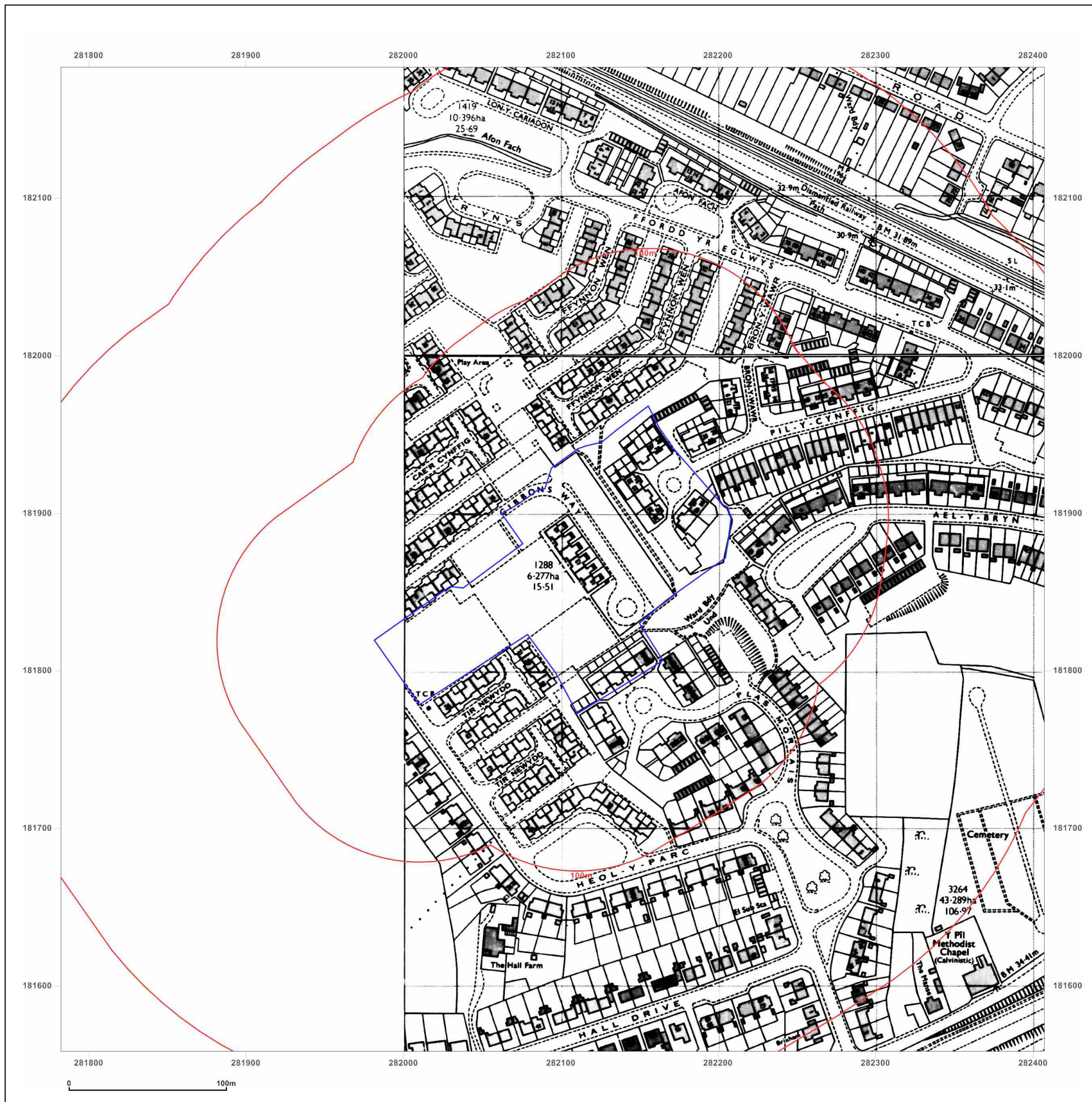
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Map Name: National Grid

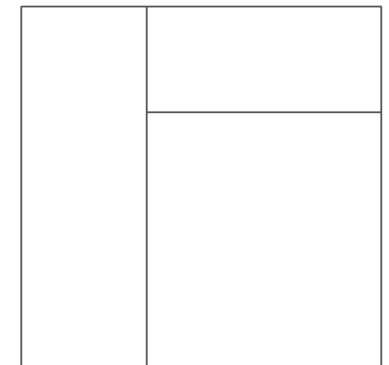
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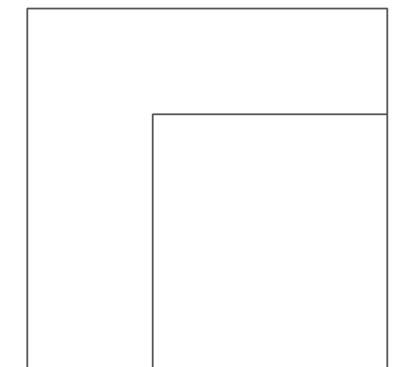
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Grid Ref: 282095, 181871

Map Name: National Grid

Map date: 1984

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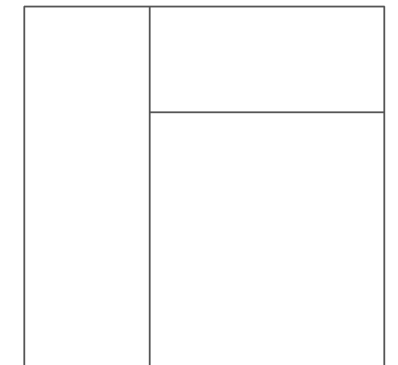
Map date: 1983-1986

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Map date: 1992-1993

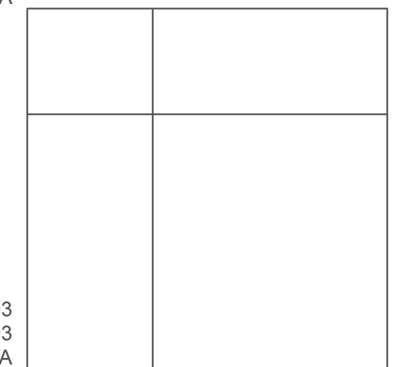
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 Edition N/A
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 Revised 1992
 Edition N/A
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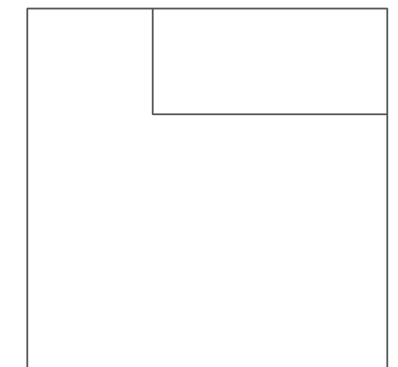
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Scale: 1:2,500

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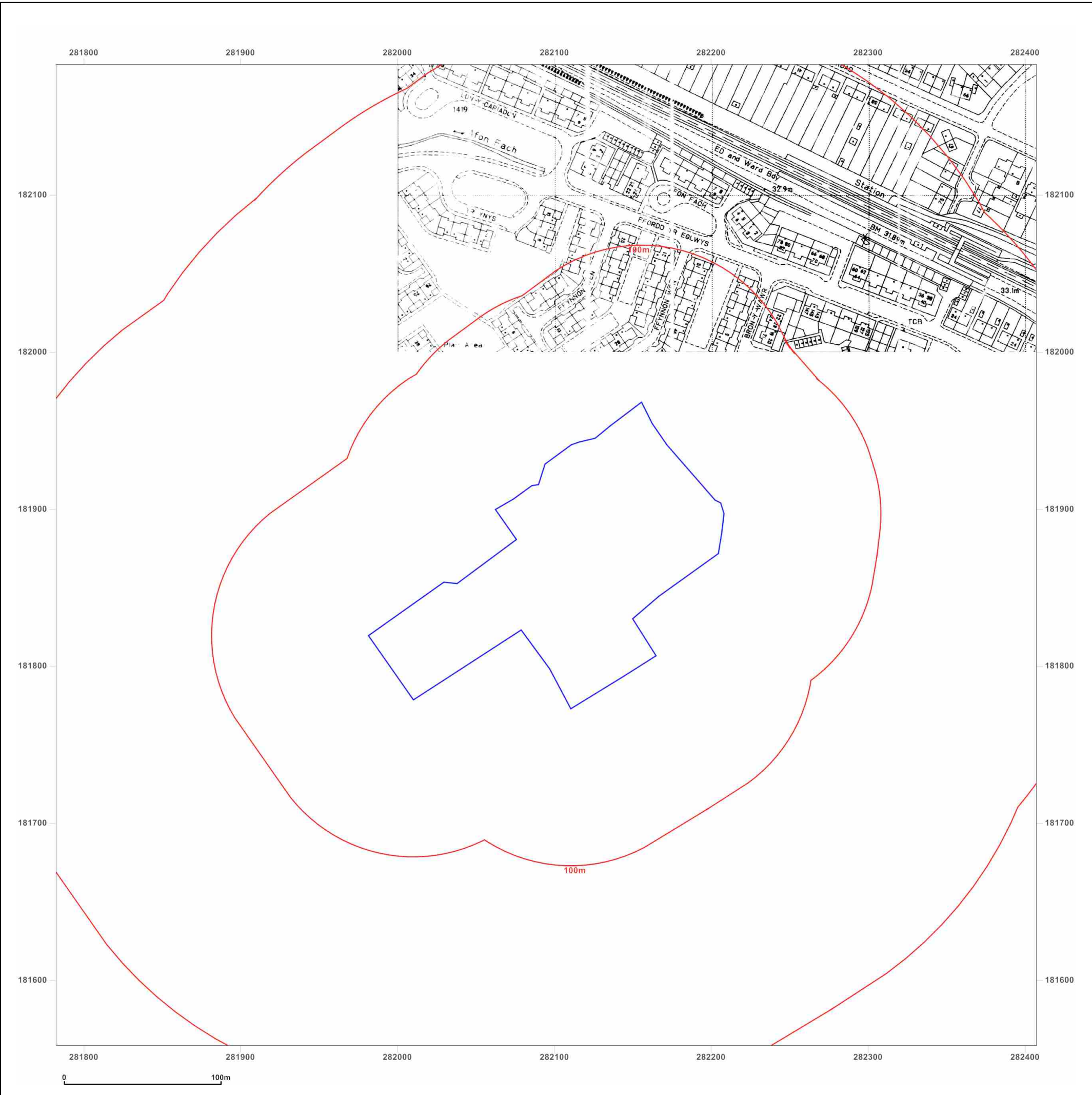
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Grid Ref: 282095, 181871

Map Name: National Grid

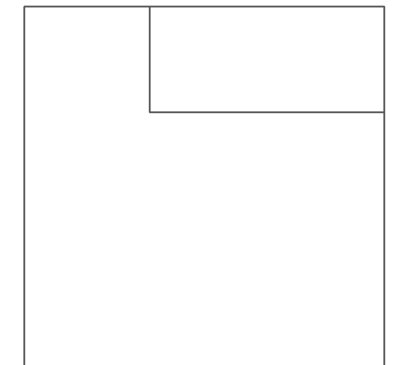
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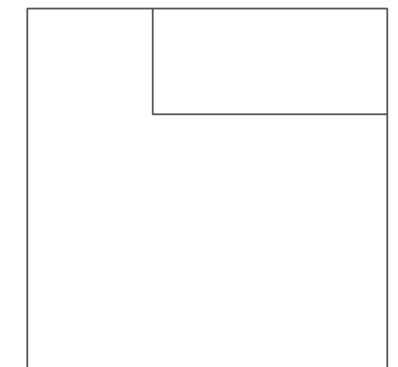
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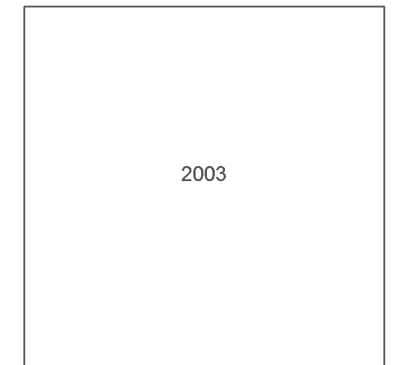
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Grid Ref: 282095, 181871

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

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Client Ref: EMS_619811_825925
Report Ref: EMS-619811_825925
Grid Ref: 282095, 181871

Map Name: County Series

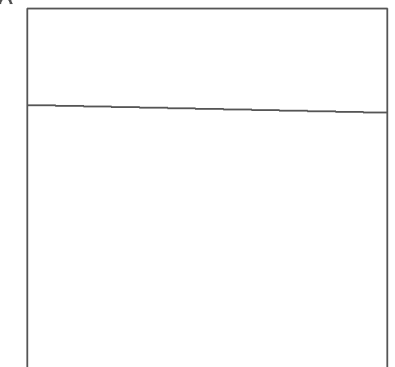
Map date: 1876

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Printed at: 1:10,560



Surveyed 1876
 Revised 1876
 Edition N/A
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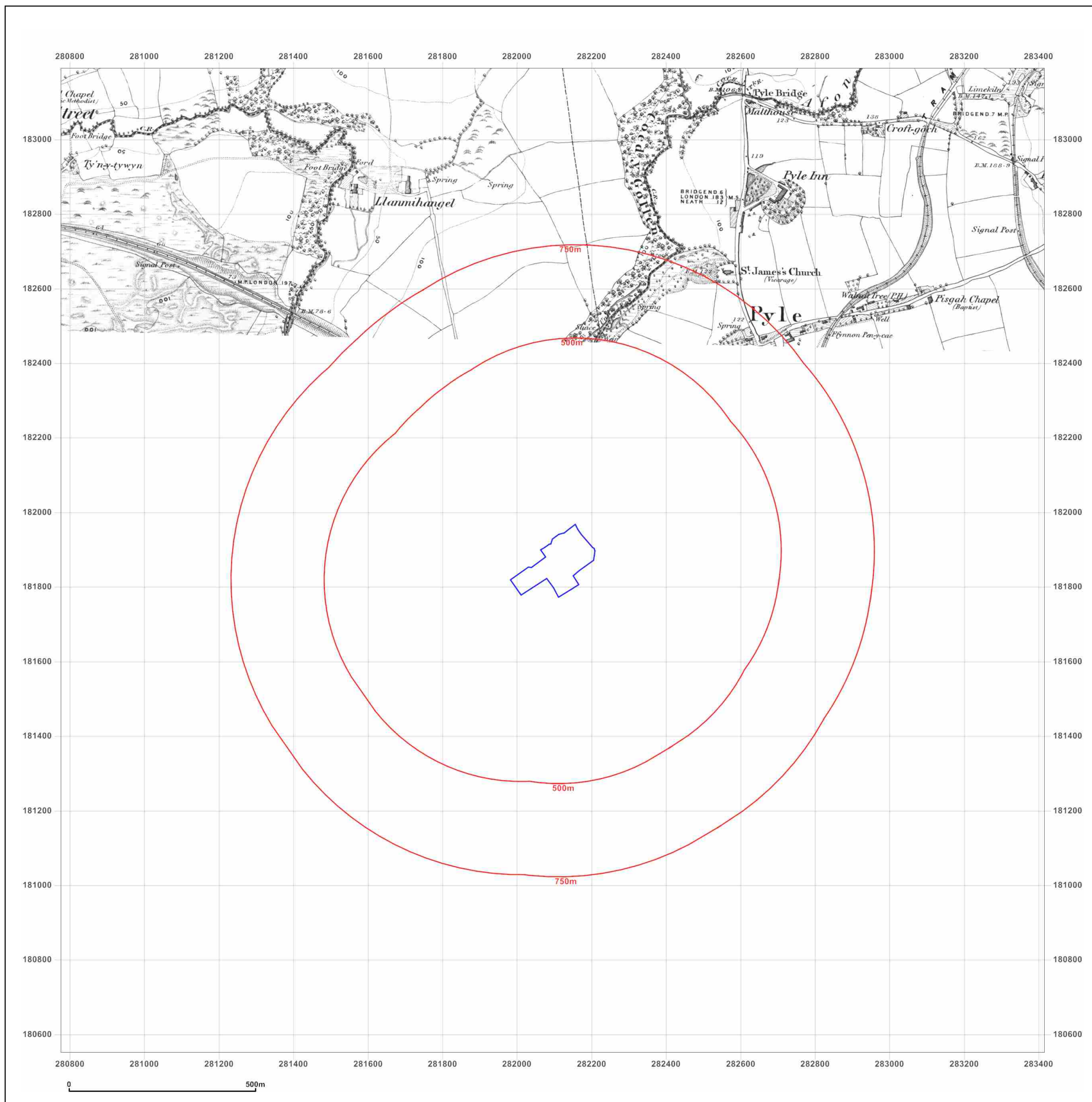


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Client Ref: EMS_619811_825925
Report Ref: EMS-619811_825925
Grid Ref: 282095, 181871

Map Name: County Series

Map date: 1884

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1876
 Revised 1876
 Edition 1884
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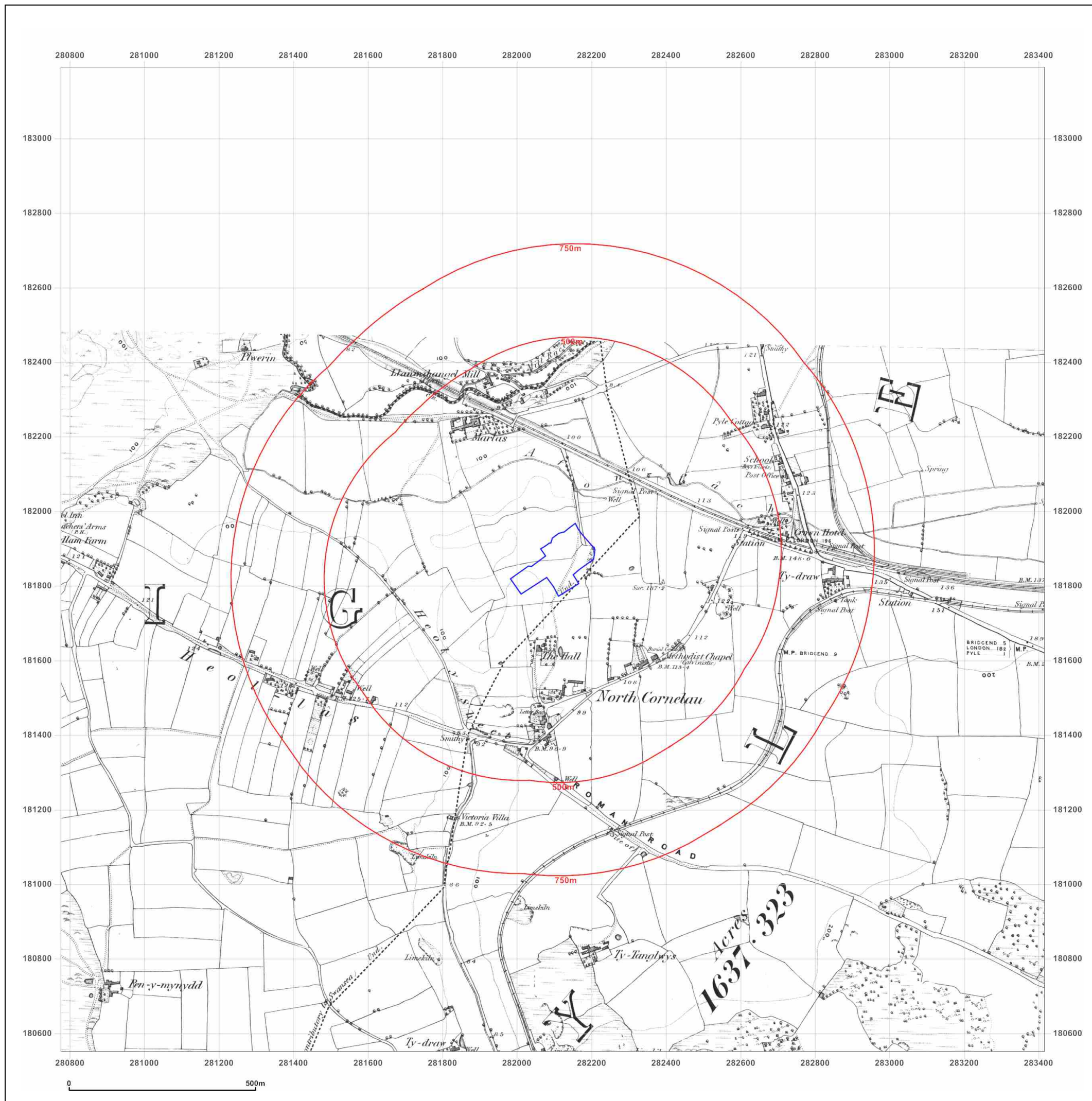


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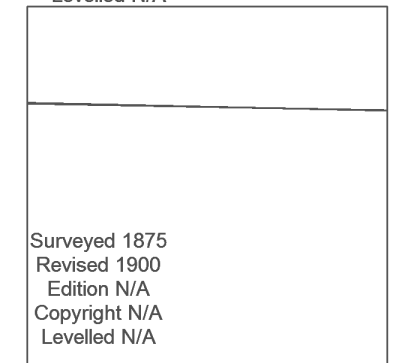
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Surveyed 1875
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 Revised 1900
 Edition N/A
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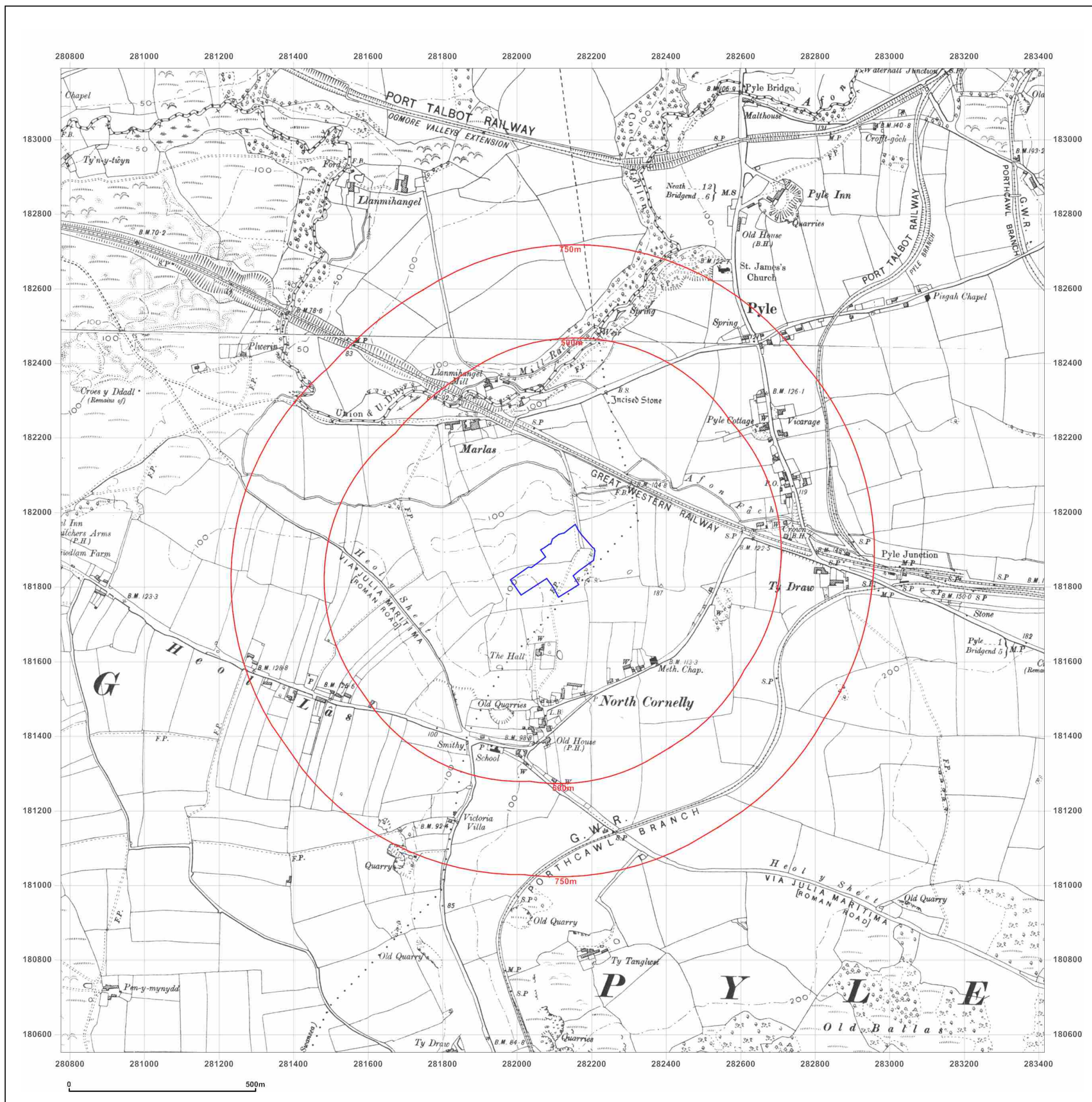


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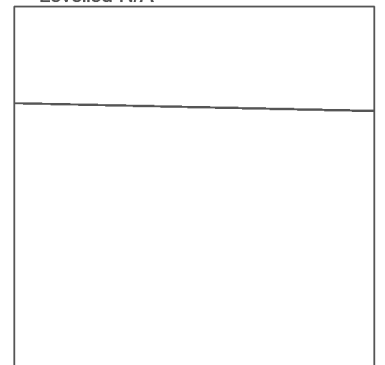
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Scale: 1:10,560

Printed at: 1:10,560



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 Revised 1914
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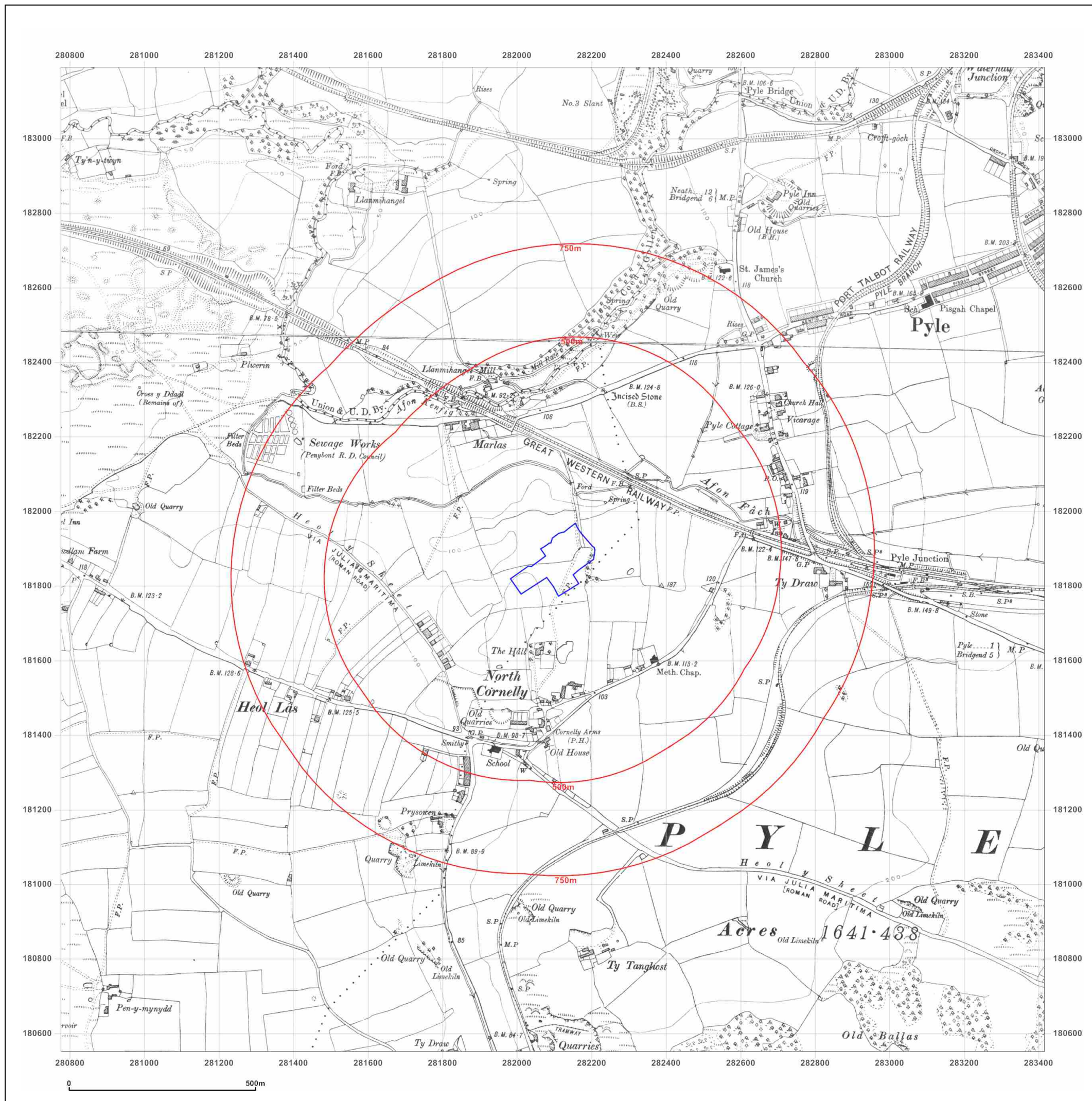


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Map Name: County Series

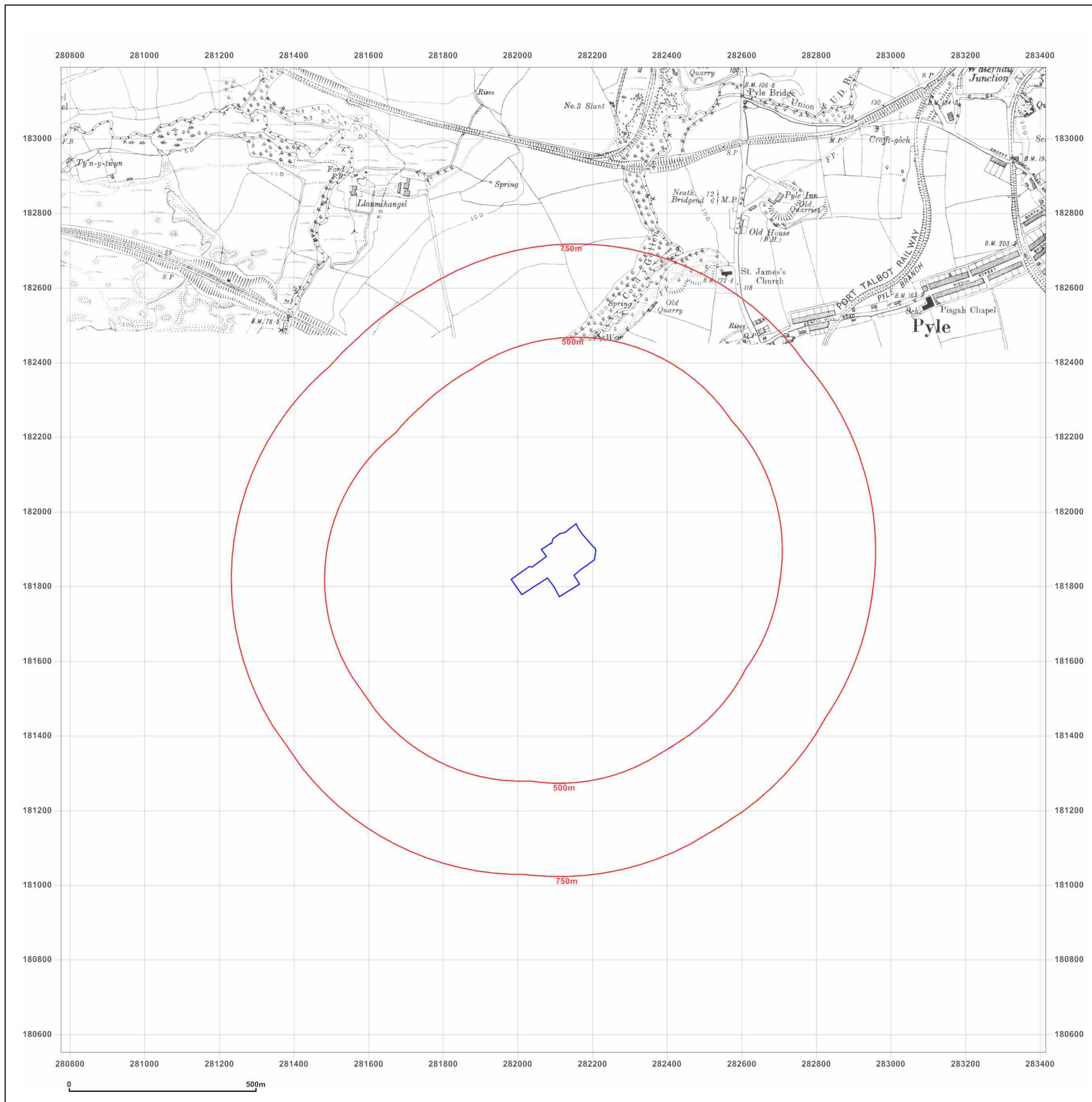
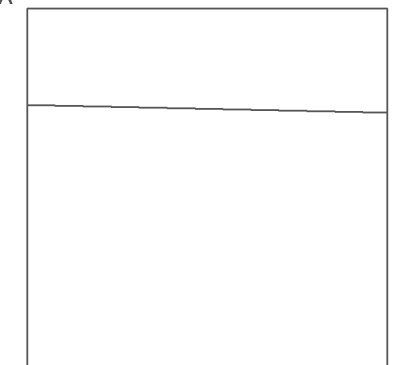
Map date: 1921

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1875
 Revised 1921
 Edition N/A
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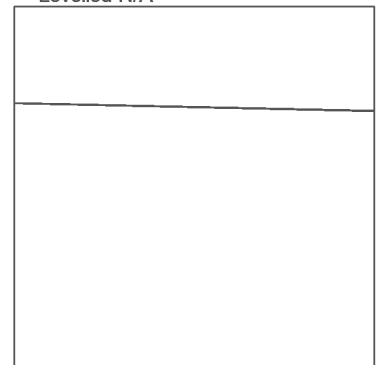
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Scale: 1:10,560

Printed at: 1:10,560



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 Edition N/A
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Surveyed 1875
 Revised 1947
 Edition N/A
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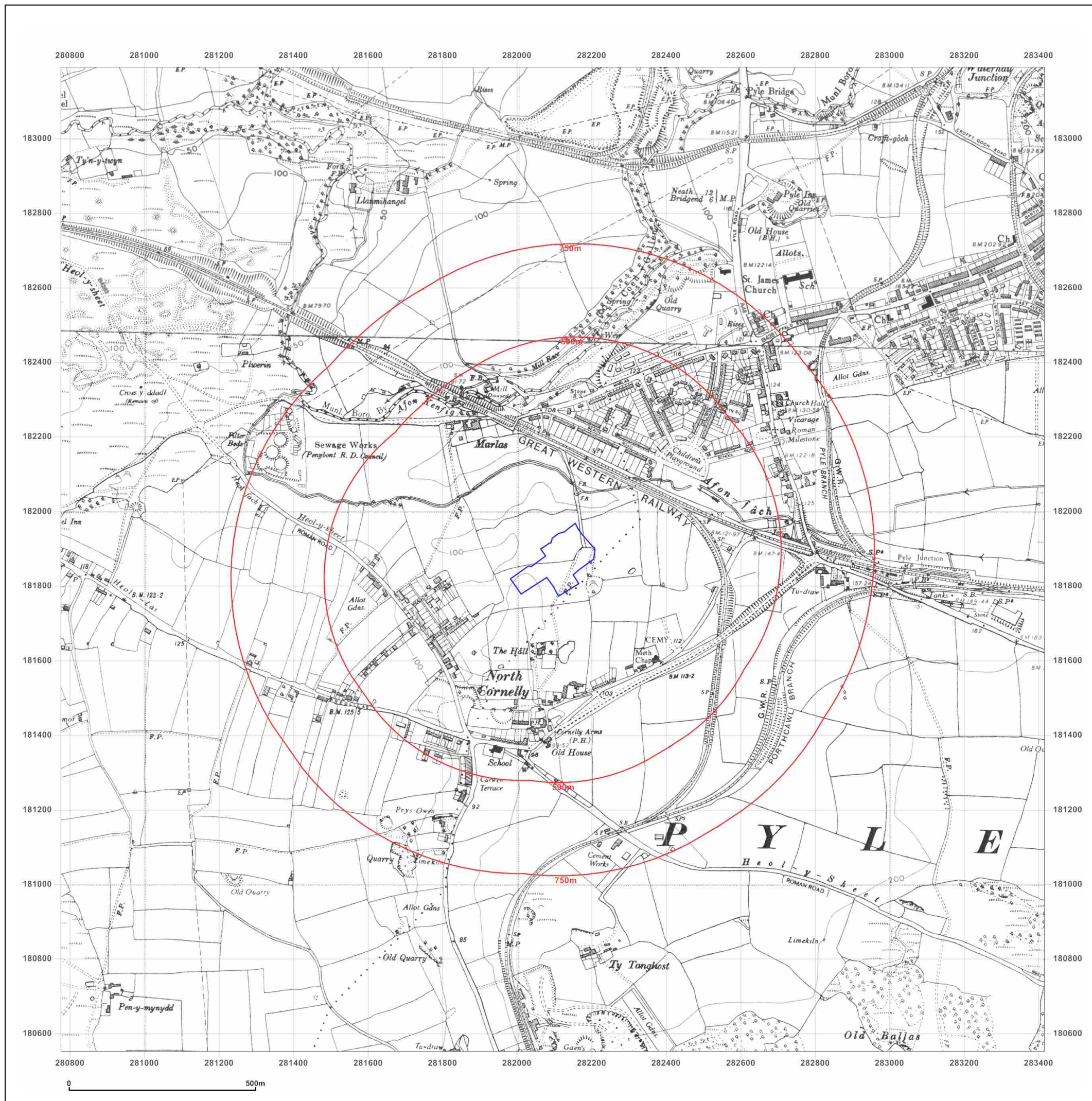


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Report Ref: EMS-619811_825925
Grid Ref: 282095, 181871

Map Name: Provisional

Map date: 1965

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1961
 Revised 1964
 Edition N/A
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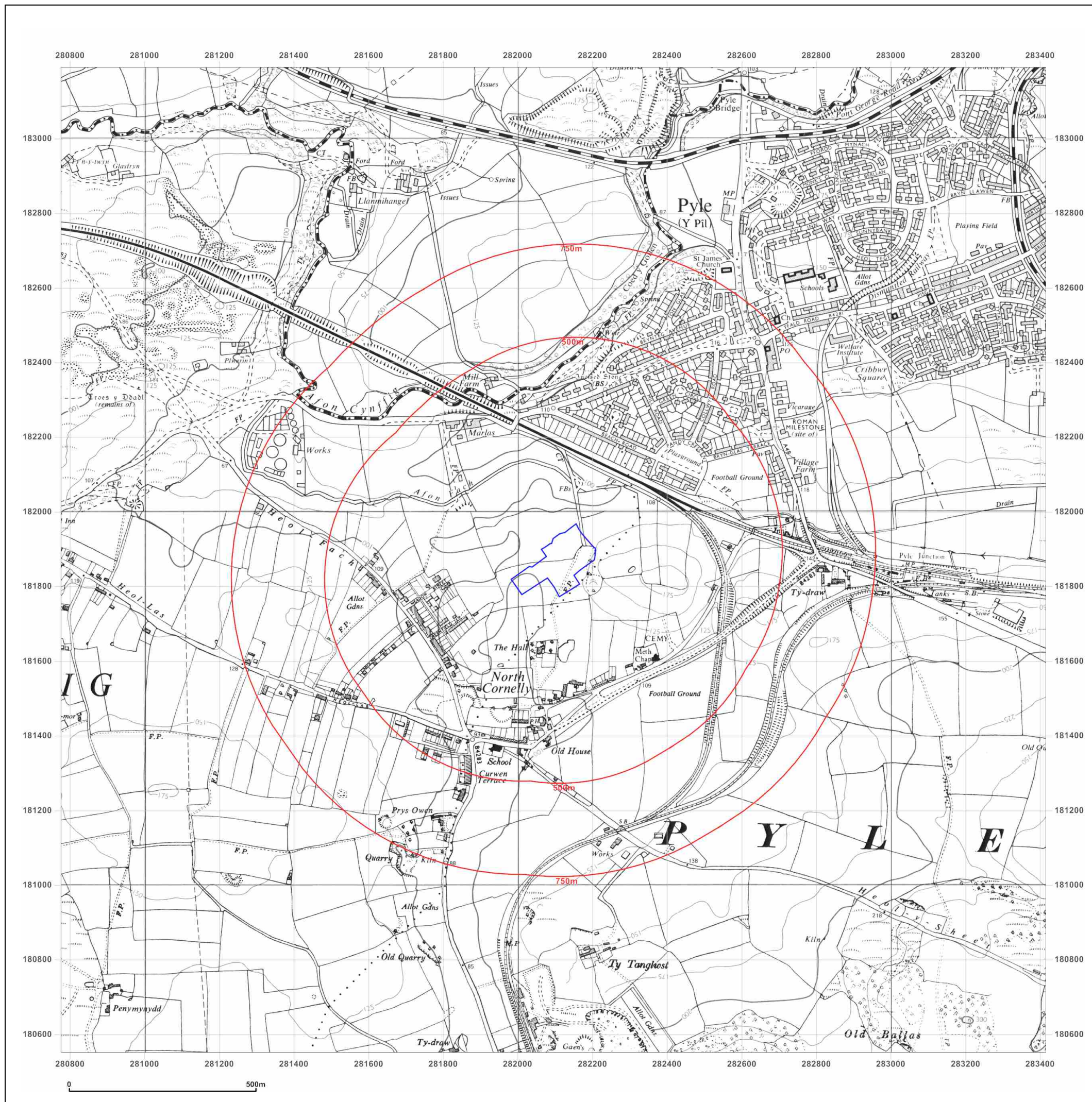


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Report Ref: EMS-619811_825925
Grid Ref: 282095, 181871

Map Name: Provisional

Map date: 1969

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1969
 Revised 1969
 Edition N/A
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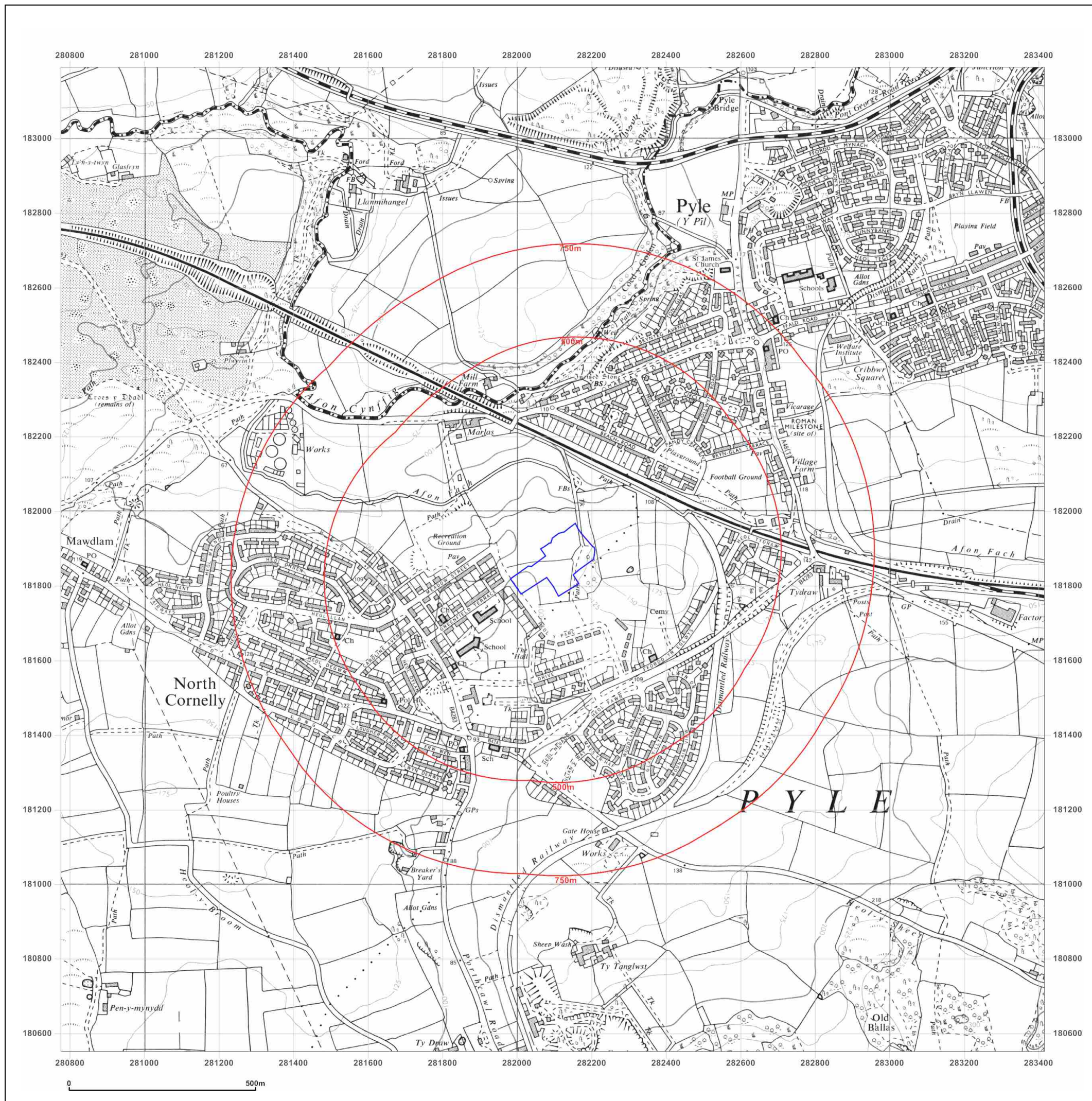


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Report Ref: EMS-619811_825925
Grid Ref: 282095, 181871

Map Name: National Grid

Map date: 1985

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1983
 Revised 1985
 Edition N/A
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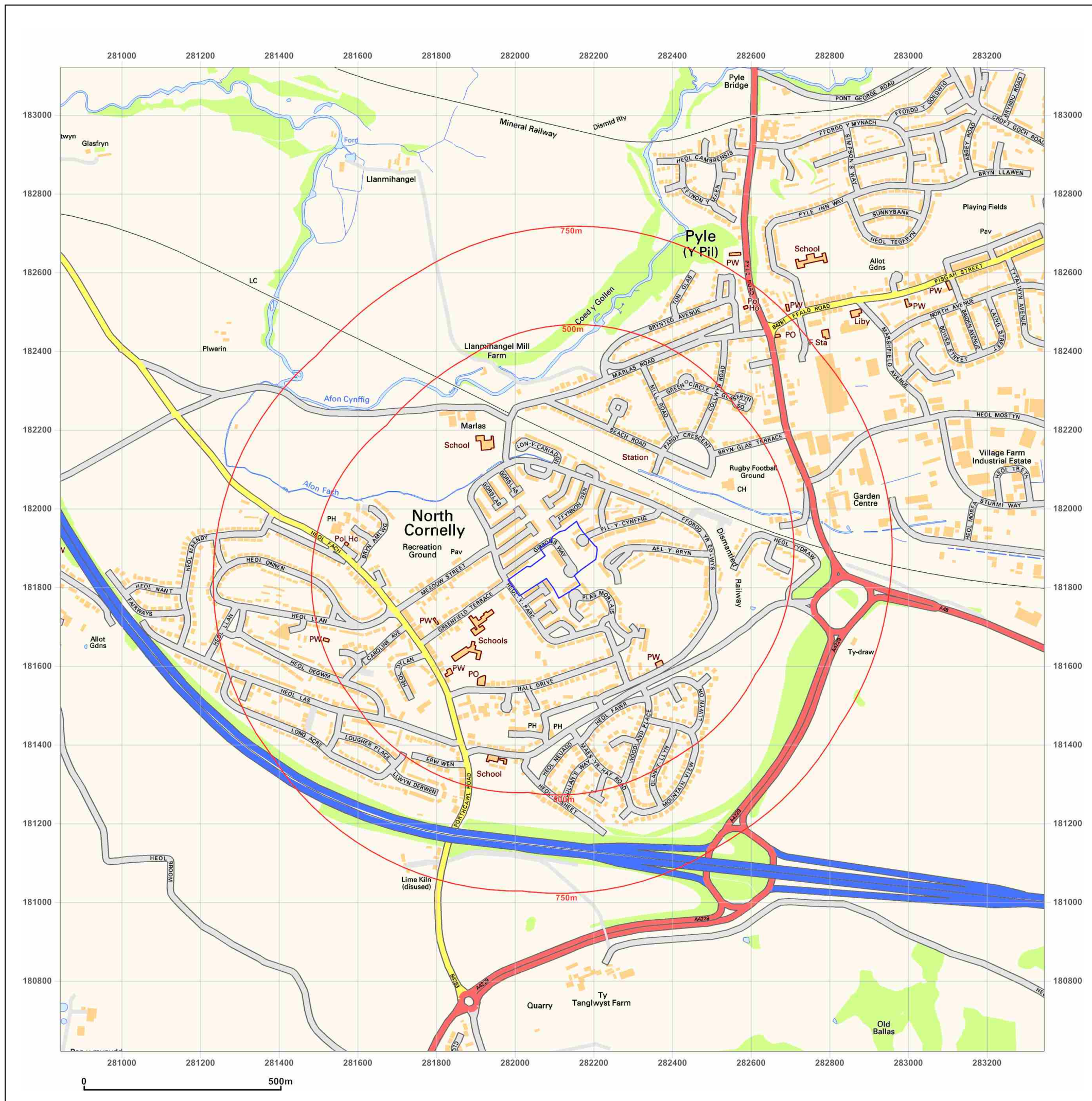
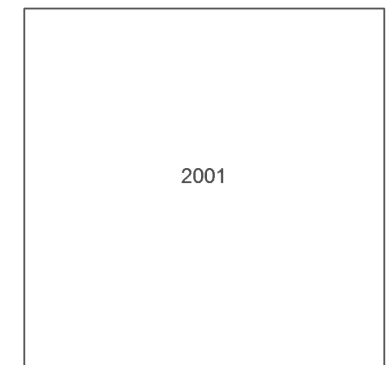
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Report Ref: EMS-619811_825925
Grid Ref: 282095, 181871

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



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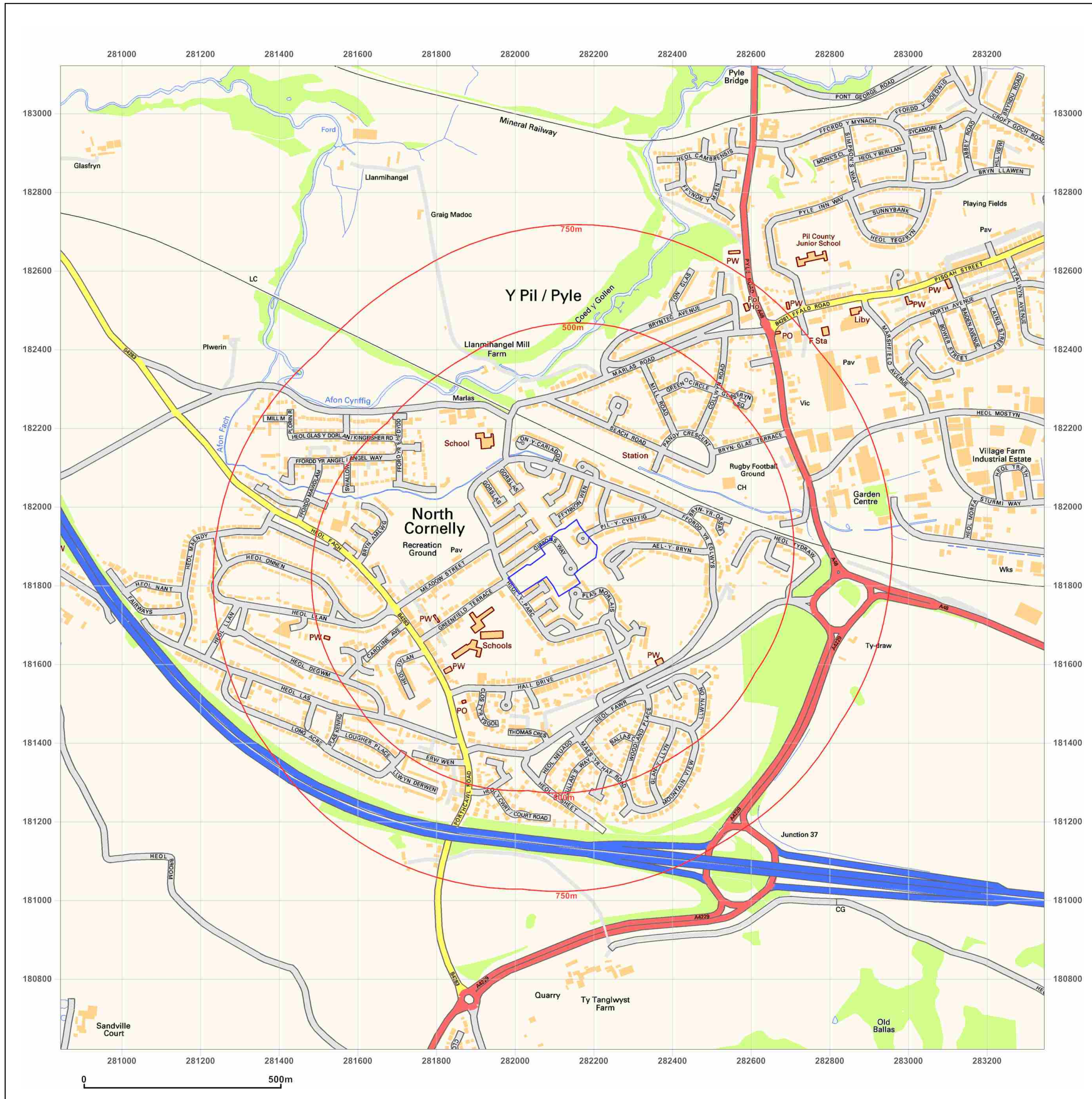
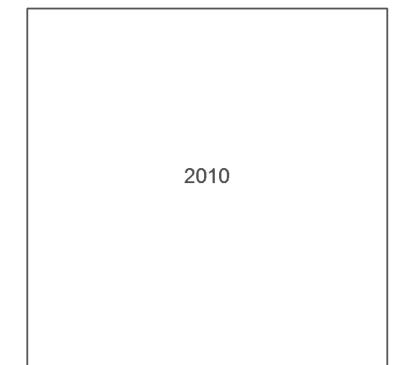
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Report Ref: EMS-619811_825925
Grid Ref: 282095, 181871

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



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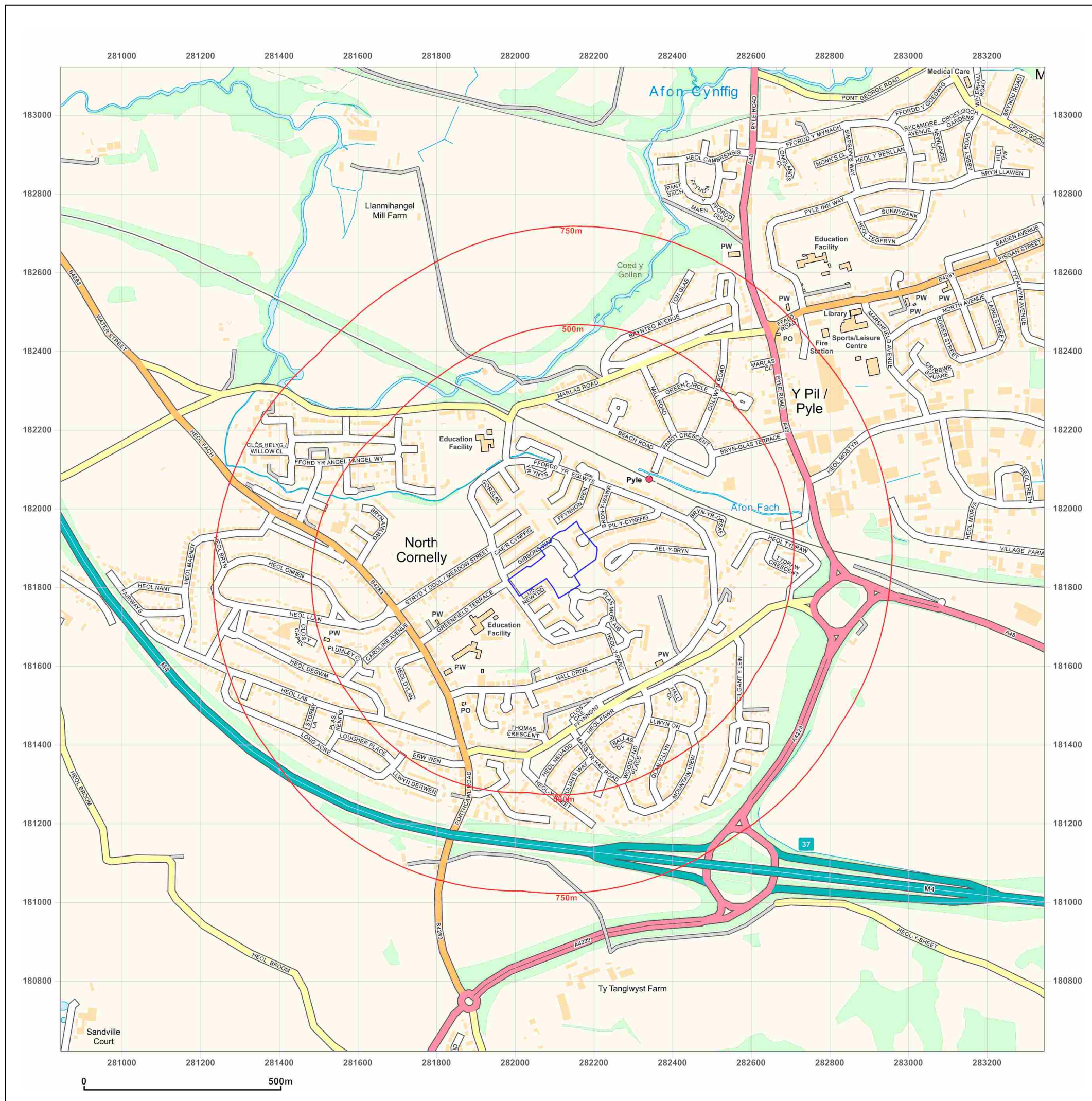
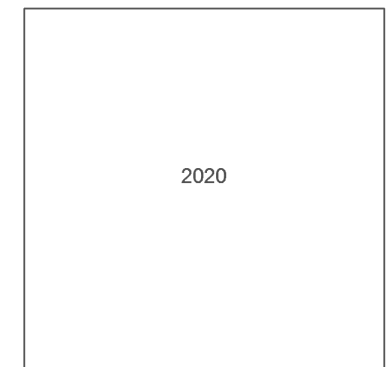
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Map Name: National Grid

Map date: 2020

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Appendix IV



Appendix IV

Basis for Contaminated Land Qualitative Risk Assessment

The following Contaminated Land Risk Assessment methodology is based on CIRIA C552 (2001) *Contaminated Land Risk Assessment – A Guide to Good Practice*, in order to quantify potential risk via **risk estimation** and **risk evaluation**, which can be adopted at the Phase I (Desk Study) stage. This will then determine an overall risk category which can be used to identify potential investigation or remedial actions. This methodology uses qualitative descriptors and therefore is a qualitative approach based on desk information. The risk assessment should be refined following receipt of ground investigation data.

The methodology requires the classification of:

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

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

Table IV-1: Classification of Consequence

Classification	Definition of Consequence
Severe	Short-term (acute) risks to human health likely to result in “significant harm” as defined by the Environmental Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem, or organism forming part of such an ecosystem.
Medium	Chronic damage to Human Health (significant harm as defined in DEFRA, 2012). Pollution of sensitive water resources. A significant change in a particular ecosystem, or organism forming part of such an ecosystem.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services (“significant harm” as defined in the DEFRA, 2012). Damage to sensitive buildings/structures/services or the environment.
Minor	Harm, though not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.). Easily repairable effects of damage to buildings, structures and services.

Source: CIRIA C552

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

Table IV-2: Classification of Probability

Classification	Definition of Probability
High Likelihood	There is a pollutant linkage and an event that appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptor of harm or pollution.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low Likelihood	There is a pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such an event would take place, and is less likely in the shorter term.
Unlikely	There is a pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long term.

For each possible pollution linkage (source-pathway-receptor) identified, the potential risk can be evaluated based upon the following probability x consequence matrix shown in Table VI-3.



Table IV-3: Overall Contamination Risk Matrix

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

Based upon this, CIRIA C552 present definitions of the risk categories, together with the investigatory and remedial actions that are likely to be necessary in each case, as in Table VI-4. These risk categories apply to each pollutant linkage, not simply to each hazard or receptor.

Table IV-4: Definition of Risk Categories and Likely Actions Required

Risk Category	Definition and likely actions 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 to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) 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 (if not undertaken already) 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, if [it] is relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential 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 be relatively mild.
Very Low	There is a low possibility that harm could rise to a receptor. In the event of such harm being realised it is not likely to be severe.

