PRELIMINARY RISK ASSESSMENT REPORT FOR 6-8 NANT HALL ROAD, PRESTATYN

TE1835-TE-00-XX-RP-GE-001-V01

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DRAFT

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EXECUTIVE SUMMARY

Introduction	Tier Environmental was commissioned by Cassidy & Ashton on behalf of Nant Hall Developments Ltd to undertake a desk study and Phase I Preliminary Risk Assessment of the proposed residential development at 6-8 Nant Hall Road in Prestatyn. The purpose of this investigation was to establish land use history and review the available information to determine the geoenvironmental setting of the site and develop a preliminary conceptual site model with due consideration of potential soil and groundwater contamination, hazardous ground gases and mining.
Proposed land use	It is proposed that the development will comprise the repurposing and partial demolition of the building currently present on site, into a 2.5 No. storey residential apartment building. Works will also include a new extension to the rear/south of the development. Soft landscaped and parking areas will be located in the south of the development.
Site location and surrounding land uses	The site is set within a mixed commercial and residential area, in the town centre of Prestatyn. The site is predominantly occupied by a disused commercial building that was formerly an old fire station followed by the town hall and council offices. Parking and limited soft landscaped areas are present to the south of the site. There are 2 No. garages / vehicle workshops located within 100m of the site.
Site history	The earliest available historic mapping in 1871 shows the site comprised agricultural fields containing trees. From 1900 the site contained buildings labelled as Fire Station and U.D Council Offices. Residential properties were present to the southwest of the site. Following WWII, the building was extended multiple times and labelled only as Town Hall or Council Offices. Due to the site repurposing from a fire station in the first half of the 20th century, it is considered that there is a negligible risk from potential PFAS in firefighting foams and liquids, as it is understood that firefighting foams containing PFAS termed fluorosurfactants have been used for extinguishment of flammable liquid (Class B) fires since 1962. Pertinent historical surrounding features include unspecified works, gas works, garages, railway lines, alkaline works, quarries and a depot.
Geology, Hydrogeology and Hydrology	The site in underlain by Peat Deposits (Unproductive Aquifer) in the north of the site and Till Deposits (Secondary Undifferentiated Aquifer) in the south of the site. The bedrock comprises sedimentary successions of the Pennine Coal Measure Group (Secondary A Aquifer). The site is not located within a Source Protection Zone. There are no groundwater abstractions within 1000m of the site. The nearest surface water features are small unnamed streams located 115m and 150m north of the site. Based on the regional river network, it is assumed that the groundwater flow direction would be northwards toward the Irish Sea. As such, the controlled waters sensitivity is considered to be low.
Ground Gases	There are no recorded landfills within 250m of the site and no evidence of landfilling. The site is underlain by Peat Deposits, and due to the multiple stages or redevelopment, the retaining wall and age of the buildings on site, the site is anticipated to be potentially underlain by some Made Ground deposits. The site is underlain by Coal Measures. It is therefore considered that the risk posed to the site via ground gases is low/moderate.
Radon Requirements	The southeastern section of the site is within an area where between 5% and 10% of properties would be affected by Radon. The rest of the site lies within an area that records less than 1%. Basic Radon protection measures are required.
Ecological Sensitivity	The site does not lie within an ecologically sensitive area.
Potential contaminative features	Plant room located in centre of the ground floor of building.
Mining and quarrying	The site is located within an area that historically has been subject to limestone and lead extraction. This is not considered to pose a potential risk to the development.
Phosphorus	The site does not fall within a Phosphorus Sensitive SAC Freshwater catchment area and no further action is required.
Unexploded Ordnance	Low risk.
Waste Soils Classification	Based on the history of the site and the anticipated potential contaminants of concern it is considered possible that hazardous waste soil materials may be present beneath some areas of the site; however, this will be subject to confirmatory investigation, sampling, laboratory analysis and waste classification in accordance with the Guidance on the Classification and Assessment of Waste (WM3).
Materials re-use	Subject to volumetric fill requirements and a future assessment of suitability of re-use (both chemically and geotechnically), some materials may be considered for potential re-use in line with an appropriate end-of-waste protocol such as WRAP Quality Protocol for Aggregates from Inert Waste, U1 Exemption or a Materials Management Plan in accordance with the CL:AIRE Definition of Waste Code of Practice (DoWCoP). Please note that any previously landfilled or mining waste materials may not be appropriately subject to consideration under DoWCoP and may not

	be re-used under DoWCoP unless sufficient lines of evidence and agreement with the local Environment Agency Waste Team can be sought beforehand. In addition, Section 4.10 of this report includes statements with respect to re-use of excavated and stockpiled clean naturally occurring soils within the site and re-use on other sites. These statements are designed to provide a clear intention to reuse any clean, naturally occurring soils derived from future excavations at this site (which may also include temporary future stockpiling these materials).
Further works	It is recommended that an intrusive ground investigation is undertaken in order to further assess the potential risks associated with the pollutant linkages identified in the Preliminary Conceptual Site Model.

1. INTRODUCTION

Tier Environmental was commissioned by Cassidy & Ashton on behalf of Nant Hall Developments Ltd to undertake a Land Contamination Risk Management (LCRM) Preliminary Risk Assessment for an area of located at 6-8, Nant Hall Road, Prestatyn, Denbighshire, LL19 9LL (the "site").

The full title of this report, a *'Stage 1 - LCRM Tier 1 Preliminary Risk Assessment Report'*, is in accordance with that described in the Land Contamination Risk Management guidance (available at https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm) which has superseded CLR 11.

1.1. Proposed Development

Under current proposals the development will comprise the repurposing and partial demolition of the building currently present on site, into a 2.5 No. storey residential apartment building. Works will also include a new extension to the south of the development. Soft landscaped and parking areas will be located in the south of the development.

The proposed development layout is presented in Appendix A. As such, in accordance with the *'Updated technical background to the CLEA model'* (Environment Agency, 2009) and *'Suitable 4 Use Levels'* (LQM / CIEH 2015) the proposed generic land use for this development is Residential without homegrown.

1.2. Previous Reports

No previous pertinent reports pertaining to this site have been made available.

1.3. Objectives

Taking into account the proposed development of the site, the objectives of this appraisal were:

- To determine the historical and current land use.
- To establish the environmental setting of the site.
- To evaluate whether past mining or other extractive industries could have an influence on the site.
- To determine likely ground and groundwater conditions.
- To determine the potential risks to human health and the wider environment.
- To determine potential risks posed to the site from hazardous ground gases and / or vapours.
- To derive a Preliminary Conceptual Site Model.

1.4. Assumptions

The following assumptions are made in this report:

- It is assumed that ground levels will not change significantly from those described in this report or a shown on proposed development drawings. If this is not the case, then amendments to the recommendations made in this report may be required.

- Any references to observations of suspected asbestos-containing materials are for information only and should be verified by a suitably qualified asbestos specialist and/or confirmed by laboratory analysis.
- The use of the term 'Topsoil' within this report is based on a visual identification only and that these materials have not been classified in accordance with BS3882:2015.
- The use of the terms ‘shallow’ and ‘deep’ within this report (from a geotechnical perspective) assume *typically* between ground level to circa 3.00m below ground level (bgl) for ‘shallow’ and greater than 3.00m bgl regarded as ‘deep’;
- The comments and opinions presented in this report are based on the findings of the desk study performed by Tier Environmental. There may be other conditions prevailing on the site which have not been revealed by this investigation and which have not been taken into account by this report at this stage.
- Responsibility cannot be accepted for any conditions not revealed by this investigation. Any diagram or opinion on the possible configuration of the findings is conjectural and given for guidance only. Confirmation of ground conditions should be undertaken if deemed necessary.

This report has been prepared for the sole use of Nant Hall Development Ltd. No other third party may rely upon or reproduce the contents of this report without the written approval of Tier Environmental. If any unauthorised third party comes into possession of this report, they rely on it entirely at their own risk and the authors do not owe them any Duty of Care or Skill.

2. SITE DETAILS AND DESCRIPTION

Table 2.1 Current Site Overview.

Site name	6-8 Nant Hall Road, Prestatyn
Site address	6-8, Nant Hall Road, Prestatyn, Denbighshire, LL19 9LL. A site location plan is included as Drawing No. TE1835-TE-00-XX-DW-GE-001-V01 within Appendix A.
National Grid Reference (NGR)	306643, 382903
Approximate site area	0.16 ha
Site shape	Roughly rectangular shape
Current land use on the site	The site is currently occupied predominantly be a disused commercial building that previously was used as a fire station then the town hall and council offices. The south of the site contains parking areas and external paved areas. There are localised soft landscaped areas. There is a plant room located on the ground floor of the building. Most of the building has been stripped and emptied. No tanks were visible during the site walkover. At the rear of the property there is a retaining wall that separates the car park level and the ground floor elevation of the building. The property contains gas, electric and water meters. Multiple manhole covers were observed to the front, side and rear elevations of the property. Underground service drawings have not been provided to Tier Environmental; however, there remains a potential for such features to be present beneath the site. There are 2 No. mature trees to the far south of the site, with immature shrubs present surrounding the southern boundary of the property.
Surrounding land uses	The site is set within a mixed commercial and residential area.
General topography and ground levels	The site is generally flat lying at an elevation between 5m and 10m AOD.

An aerial photograph (from the Groundsure report) of the site and site boundary is shown below. Relevant site photographs are presented in Appendix B.

Figure 2.1 Recent Aerial Photograph from Groundsure

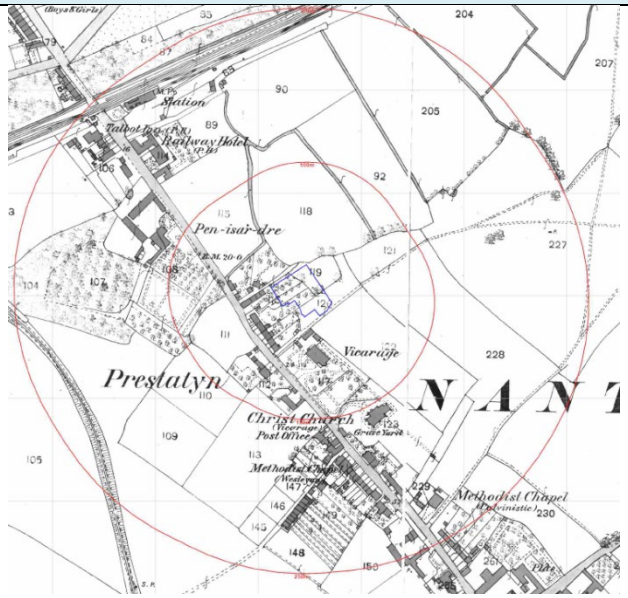
3. SITE HISTORY

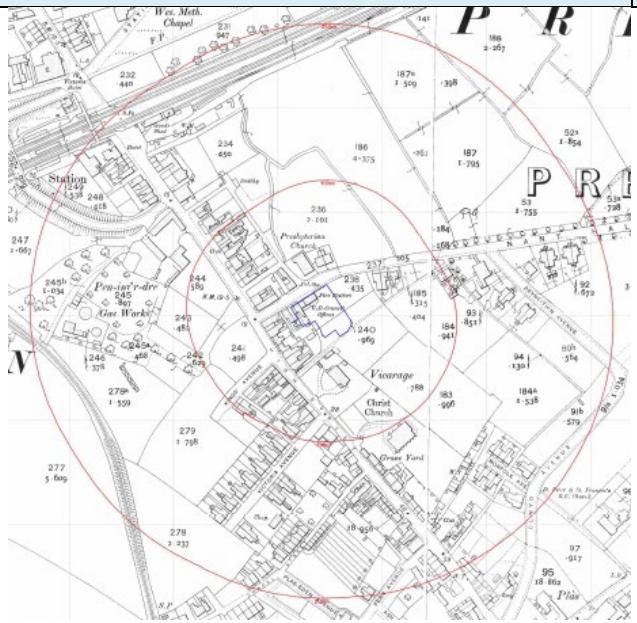
3.1. Site History Review

Extracts of Ordnance Survey (OS) plans dated from 1871 to 2024 were reviewed. These were obtained as part of the Groundsure report for the site, which is presented in Appendix C.

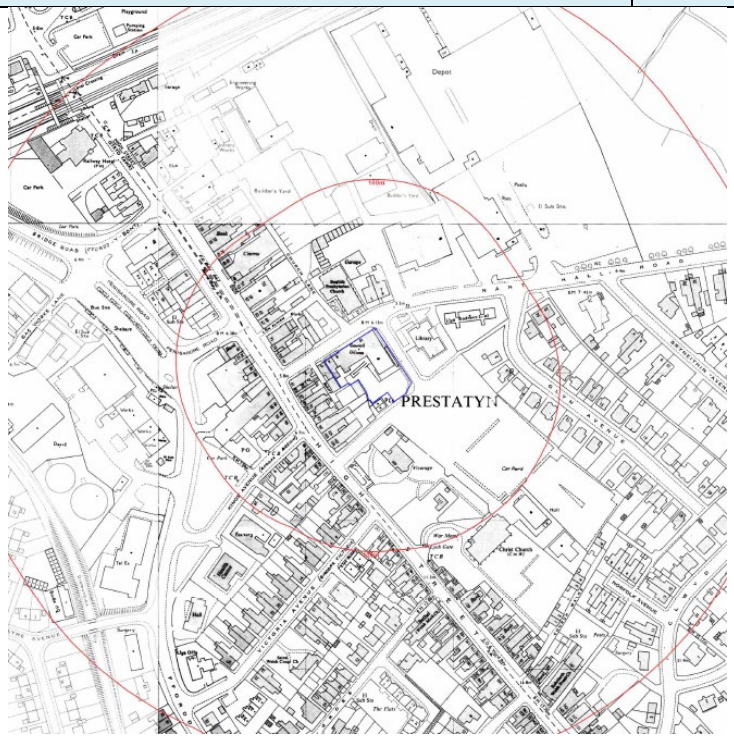
Table 3.1 below presents a summary of the main aspects of the site relevant to the current and proposed future end uses. It is not the intention of this report to describe in detail all of the changes that have occurred on or adjacent to the site, where these are not relevant to the land use.

Table 3.1 Site History.

Time Period	On-site features	Off-site features
Pre-1900	 1871	
	• The site currently comprises a series of agricultural fields, that look to contain predominantly trees.	• There is a gas works located 180m west of the site. • There is a tank located 300m northeast of the site • There is a railway line present 225m north of the site, running northeast southwest, with a spur that runs 210m west of the south that runs north south. • There is a blacksmith located 270m southeast. • There is an alkaline works located 600m northeast of the site. • There is a mill located 600m east of the site. • There are multiple limekilns and limestone quarries located 750m southeast of the site.

Time Period	On-site features	Off-site features
1900 to 1939 (Pre-war period)	 1912	
	• The western section of the site now comprises a series of buildings marked Fire Station and U.D. Council Officers. • The western boundary of the site comprises 2 No. residential properties. • The east and south of the site is shown as undeveloped.	• There is a goods shed located 200m north of the site. • There is a black smith located 250m north of the site. • There is an old shaft located 670m southeast of the site. With further old shafts located between 750m and 800m east of the site. • The limestone quarries located 750m southeast of the site are now marked as old quarries. • There is a pumping station and sewage works located 900m northeast of the site.

Time Period	On-site features	Off-site features
1945-1980 (Post war period)	 1962	
	• The north of the site now comprises a large building labelled as the town hall. • There are smaller unlabelled buildings present on the central eastern and western boundaries.	• There is a garage located 60m north of the site. • There is a commercial yard labelled corporation yard located 150m west of the site. • There is a disused unspecified works located 170m west of the site. • There are 2 No. large tanks located 170m west, southwest west of the site. • There is an unspecified works located 160m north of the site. • There is a territorial army base located 450m north-northwest of the site.

Time Period	On-site features	Off-site features
1980 – 2000 (Late 20th century period)	 1990	
	• The building occupying the majority of the site has been extended to the southeast.	• There is an unspecified works located 40m northwest of the site. • There is an electric substation located 110m west of the site, with further sub stations located 120m southwest west of the site and 120m northeast of the site. • There is an engineering works located north of the site. • There is a depot located 110m northwest of the site. • There is a pumping station located 260m northwest of the site. • There is a factory located 100m southwest of the site.

Time Period	On-site features	Off-site features
2000 to 2020 (Modern day period)		
	2024	
	• No significant changes	• No significant changes

3.2. Preliminary Unexploded Ordnance Risk Assessment

From the historical and anecdotal evidence, the site wasn't a target for bombing historically. No former site uses are associated with munitions or MOD use. The online Zetica risk maps state the site is located in a low-risk area.

4. ENVIRONMENTAL SETTING

4.1. Geology

Table 4.1 Geological Summary.

Maps and publications referenced	Groundsure British Geological Survey County Series 1:10,560 Flintshire 1NW
Made ground / artificial ground	The site isn't shown to be located within an area of artificial ground according to the Groundsure report. Given the history of development on the site, the presence of Made Ground is anticipated.
Drift geology	The northern section of the site is shown to be underlain by Peat Deposits. The southern section of the site is underlain by Till deposits. Local borehole records indicate superficial thickness is approximately 20m thick.
Solid geology	The site is underlain by the Pennine Coal Measures Group.
Dip of solid strata	Not recorded
Faults	385m west of the site.
Coal seams	None shown to outcrop or subcrop on or in the immediate vicinity of the site.

4.2. Mining and Quarrying

Table 4.2 Coal Mining Activities.

	Yes/No	**Comments**
Is the site located in a Coal Authority Reporting Area?	**No**	
Is the site in an area of potential shallow coal workings?	No	
Is the site in a high risk development area?	No	
Are there any known shafts, adits, tips, lagoons, or opencast workings likely to affect the site?	No	
Is exploratory work required to investigate the potential risk from shallow mining or quarrying?	No	

Table 4.3 Other Extractive Industries.

	Yes/No	Comments
Superficial drift deposits		
Evidence of extraction on or within 250 m of the site?	No	
Action required?	No	
Solid Strata		
Any evidence of mineral extraction on or within 250 m of the site?	No	Historic mapping shows multiple shafts and quarries the surround the site within 1km. These are associated with historic limestone and lead extraction. The Coal Authority does hold abandonment plans to an area 200m south of the site, assumed to be related to lead mining.
Action required?	No	

Other, undocumented mineral workings on or close to the site cannot be completely dismissed.

4.3. Hydrogeology

Table 4.4 Groundwater Occurrence and Abstraction.

	Presence/location	Comments
Environment Agency aquifer designation – Superficial Deposits	On site – Till Deposits On site – Peat Deposits	Secondary Undifferentiated Unproductive
Environment Agency aquifer designation – Bedrock	On site – Pennine Coal Measures Group	Secondary A Aquifer
Groundwater vulnerability	On site - Superficial On site - Bedrock	Low vulnerability, .10m thickness, medium recharge potential Low vulnerability, well connected fractures flow mechanism
Anticipated groundwater depth(s)	Not stated	
Direction of flow	North – assumed to be toward the closest surface water features and the sea.	
Current licensed abstractions – potable	NR within 1km	
Current licensed abstractions – non-potable	NR within 1km	
Private wells	NR within 500m	
Source Protection Zones	NR within 500m	
Springs	NR within 500m	

NR - none recorded.

For definition of Source Protection Zones, see Appendix F.

4.4. Hydrology

Table 4.5 Surface Water Features.

	Presence/location	Comments
Nearest surface water feature	115m north of the site.	Inland unnamed river
Other surface water features	150m north of the site 195m north of the site 205m north of the site 240m north of the site	Inland unnamed river Inland unnamed river Inland unnamed river Inland unnamed river
Canals, ponds, lakes, etc.	NR within 250m	
Water Framework Directive (WFD) Surface Water Bodies	NR within 250m	
Licensed surface water abstractions	NR within 250m	
Surface run-off and site drainage	Water from gutters and surface water run off drains into gullies that enter the local drainage system. Most of the site is covered by hard landscaped areas, although there are some soft landscaped areas which allows precipitation to freely infiltrate through the surface.	The full nature and extent of underground drainage system is unknown at this stage.

NR - none recorded. Environment Agency GQA assessments: A = very good to E = poor

4.5. Flood Risk Summary

Table 4.6 below represents a summary of the flood risk data contained within the Groundsure report obtained for the site.

Table 4.6 Flood Risk Summary

	Presence/location	Comments
Risk of Flooding from Rivers and Sea (RoFRaS)	0-50m from the site	Low (less than 1 in 200)
Historical Flood Events	NR within 250m	
Flood Defences	NR within 250m	
Areas Benefiting from Flood Defences	10m north of the site	
Flood Storage Areas	NR within 250m	
Records of Flood Zone 2	NR within 250m	
Records of Flood Zone 3	NR within 250m	
Surface water flooding	On site – negligible Within 50m – 1 in 30 year	
Groundwater flooding	On site – Low risk Within 50m – Moderate risk	

NR - none recorded

4.6. Environmental Designations

Table 4.7 Summary of Environmental Designations.

	Presence/location	Comments
Sites of Special Scientific Interest (SSSI)	NR within 250m	
Conserved wetland sites (Ramsar sites)	NR within 250m	
Special Areas of Conservation (SAC)	NR within 250m	
Special Protection Areas (SPA)	NR within 250m	
National Nature Reserves (NNR)	NR within 250m	
Local Nature Reserves (LNR)	NR within 250m	
Designated Ancient Woodland	NR within 250m	
Biosphere Reserves	NR within 250m	
Forest Parks	NR within 250m	
Marine Conservation Zones	NR within 250m	
Green Belt	NR within 250m	
Proposed Ramsar sites	NR within 250m	
Possible Special Areas of Conservation (pSAC)	NR within 250m	
Potential Special Protection Areas (pSPA)	NR within 250m	
Nitrate Sensitive Areas	NR within 250m	
Nitrate Vulnerable Zones	On site – Groundwater	

NR - none recorded

4.7. Landfill and Waste Management Activity

Table 4.8 Waste Management Activities.

	Presence/location	Comments
Active or recent landfill	NR within 250m	
Historical landfill (BGS records)	NR within 250m	
Historical landfill (LA/mapping records)	NR within 250m	
Historical landfill (EA/NRW records)	NR within 250m	
Historical waste sites	NR within 250m	
Licensed waste sites	NR within 250m	
Waste exemptions	225m southwest of the site.	Sorting and de-naturing of controlled drugs for disposal
Evidence of other landfilling or potential infilling on or within 250m of site	NR	

	Presence/location	Comments
Walkover evidence of fly-tipping on site?	NR	
Is a landfill/ground gas risk assessment required?	Yes	Site is underlain by Peat Deposits, Coal Measures and potentially by Made Ground.

NR - none recorded

4.8. Local Industrial Land Uses

Other potentially contaminative activities are shown in Table 4.9 below with those features considered pertinent to the conceptual site model highlighted in **bold**. The entries relate to activities within *circa* 250 m of the site, with the exception of COMAH facilities where the assessment is extended to a distance of *circa* 500m from the site.

Table 4.9 Other Potentially Contaminative Processes in the Locality

	Location	Comments
Recent industrial land uses	15m west of the site 45m north of the site 90m northwest of the site 105m west of the site 130m southwest of the site 140m west of the site 150m northwest of the site 160m northwest of the site 180m west and northeast of the site 200m southwest of the site 200m southeast, northwest and south of the site 225m north of the site 240m west of the site	Electrical equipment Vehicle repair and servicing Electricity sub station Electricity sub station Electricity sub station Bus station Electricity sub station Petrol station Electricity sub station Vehicle repair and servicing Electricity sub station Electricity sub station Works
Current or recent petrol stations	40m north of the site 210m northwest of the site	
Electricity cables	NR within 250m	
Gas pipelines	NR within 250m	
Sites determined as Contaminated Land	NR within 250m	
Control of Major Accident Hazards (COMAH)	NR within 250m	
Regulated explosive sites	NR within 250m	
Hazardous substance storage/usage	NR within 250m	
Historical licensed industrial activities (IPC)	NR within 250m	
Licensed industrial activities (Part A(1))	NR within 250m	
Licensed pollutant release (Part A(2)/B)	20m northwest of the site. 170m northwest of the site.	Waste oil burner Unloading of petrol into storage at service stations

	Location	Comments
Radioactive Substance Authorisations	NR within 250m	
Licensed Discharges to controlled waters	175m north of the site. 230m north of the site.	Effluent type – unspecified. Status – revoked Effluent type – unspecified. Status – consent expired
Pollutant release to surface waters (Red List)	NR within 250m	
Pollutant release to public sewer	NR within 250m	
List 1 Dangerous Substances	NR within 250m	
List 2 Dangerous Substances	NR within 250m	
Pollution Incidents (EA/NRW)	240m northwest of the site	2001, Diesel. Minor Impact to land and water.
Pollution inventory substances	NR within 250m	
Pollution inventory waste transfers	NR within 250m	
Pollution inventory radioactive waste	NR within 250m	

NR - none recorded

COMAH – Control of Major Accident Hazards (regulations); NIHHS – Notification of Installations Handling Hazardous Substances (regulations)

4.9. Radon Risk

Table 4.10 Radon Risk Status.

	Comments
Estimated properties affected	West of the site - <1% of properties affected. East of the site – Between 5% and 10%
Radon Protection Measures required?	Basic Radon protection measures are required

4.10. Waste Classification and Materials Re-Use

If the site is to be redeveloped and materials are disposed off site, the material exported from the site to landfill should be hauled by a register waste character in accordance with Duty of Care Regulations 1991 and the Hazardous Waste Regulations 2005.

Based on the history of the site and the anticipated potential contaminants of concern, it is considered possible that hazardous waste soil materials may be present beneath some areas of the site; however, this will be subject to confirmatory investigation, sampling, laboratory analysis and waste classification in accordance with the Guidance on the Classification and Assessment of Waste (WM3).

It will be necessary to register the site in advance of the intended reclamation works with the Environment Agency before disposal to landfill can take place. There will be requirement for the waste producer to provide appropriate Waste Acceptance Criteria (WAC) testing of the Soils for disposal to ensure that the soils are appropriately classified and that the landfill is licensed to receive such soils. A consignment note shall be completed, signed and retained by all parties involved. The consignment note shall state the volume of waste, a physical description of the material and statement of its chemical composition. The waste consignment notes shall be kept by the contractor for a period of at least two years.

Subject to volumetric fill requirements and a future assessment of suitability of re-use (both chemically and geotechnically), some materials may be considered for potential re-use in line with an appropriate end-of-waste protocol such as WRAP Quality Protocol for Aggregates from Inert Waste, U1 Exemption or a Materials Management Plan in accordance with the CL:AIRE Definition of Waste Code of Practice (DoWCoP). Please note that any previously landfilled or mining waste materials may not be appropriately subject to consideration under DoWCoP and may not be re-used under DoWCoP unless sufficient lines of evidence and agreement with the local Environment Agency Waste Team can be sought beforehand.

Re-Use of Excavated and Stockpiled Clean Naturally Occurring Soils on Other Sites

In addition, Tier Environmental are aware that CL:AIRE is classing stockpiled clean, naturally occurring soils as waste, unless their final destination is identified in a Materials Management Plan, before they are excavated. However, Tier Environmental consider that any clean naturally occurring soils arising from enabling works, earthworks or construction activities would be regarded as an asset and the default assumption for this site (prior to excavation and stockpiling) is not the intention to discard these materials where they may be reasonably re-used on this, or another, development site. Stockpiling is a recognised, recommended means of safely storing soils. Whilst there may be advantages to leaving soils in-situ, stripping topsoil and subsoil prior to earthworks is a routine construction activity. Tier Environmental consider that it is not unreasonable to state that in the event that the developer owns another site where the construction phase is ongoing, soils can be transferred between their sites as an owned product and never become waste.

The above paragraph above is therefore considered a clear intention to reuse any clean, naturally occurring soils derived from excavations at this site (which may also include temporary stockpiling these materials). It is considered; however, that in addition to this the following must be adhered to:

- Reuse does need to occur within a 'reasonable' timeframe (12 No. months); and,
- If soils are transferred to a third party (another developer), there needs to be some contractual agreement in place, as in this situation it is important to have something in place confirming that surplus soils are required by the third party.

Re-Use of Excavated and Stockpiled Clean Naturally Occurring Soils Within The Site They Are Excavated From

Further to the above, where soils are naturally occurring, uncontaminated and re-used on the site they are excavated from, they fall outside of the Waste Framework Directive (WFD) i.e. they will not be classified as a waste Currently the CL:AIRE Definition of Waste Code of Practice states the following which appears to support this position: *"If the material is waste an Environmental Permit will be required to lawfully deposit or re-use it unless the material is "uncontaminated soil and other naturally occurring material excavated in the course of construction activities where it is certain that the material will be used for the purposes of construction in its natural state on the site from which it was excavated", which is excluded from waste regulation by the Waste Framework Directive (2008)."*

4.11. Regulator Provided Information

Relevant searches for the site have been conducted by the Environment Agency, Local Authority, Fire Service and Petroleum Licencing Officer . The responses from these searches is currently outstanding and will be provided in an updated version of this report

.

5. PREVIOUS INVESTIGATION FINDINGS

No previous desk study or site investigation reports pertaining to this site have been made available.

6. PRELIMINARY CONCEPTUAL SITE MODEL

Based on the information provided in the previous sections of this report a combined preliminary conceptual site model and conceptual exposure model has been developed for the proposed future land use. This summarises the understanding of surface and sub-surface features, the potential contaminant sources, transport pathways and receptors. In assessing the likely contaminants of concern present at the site, reference has also been made to Defra and Environment Agency supporting documentation. A preliminary qualitative risk assessment has also been made of the likelihood of the linkage operating and its potential significance in accordance with CIRIA C552.

The potential pollutant linkages identified and the qualitative risk assessment for these are presented in Table 6.1 below. The terms used in the preliminary qualitative risk assessment are defined in Appendix E.

6.1. Uncertainties

The following uncertainties exist in the preliminary conceptual model:

- The presence of any features unrecorded by the historic maps.
- Any unrecorded geological features.
- Any unrecorded pollution events during the site's history.

Table 6.1 Preliminary Assessment of Potential Pollutant Linkages (Continued on Next Page).

Justification / Comments
The site is set within a mixed commercial and residential area, in the town centre of Prestatyn. The site is predominantly occupied by a disused commercial building that was formerly an old fire station followed by the town hall and council offices. Parking and limited soft landscaped areas are present to the south of the site. The earliest available historic mapping in 1871 shows the site comprised agricultural fields containing trees. From 1900 the site containing buildings labelled as Fire Station and U.D Council Offices. Residential properties were present to the southwest of the site. Following WWII the building was extended multiple times and labelled only as Town Hall or Council Offices. Due to the site repurposing from a fire station in the first half of the 20th century, it is considered that there is a negligible risk from potential PFAS in fire fighting foams and liquids, as it is understood that firefighting foams containing PFAS termed fluorosurfactants have been used for extinguishment of flammable liquid (Class B) fires since 1962. Pertinent historical surrounding features include unspecified works, gas works, garages, railway lines, alkaline works, quarries and a depot. The site in underlain by Peat Deposits (Unproductive Aquifer) in the north of the site and Till Deposits (Secondary Undifferentiated Aquifer) in the south of the site. The bedrock comprises sedimentary successions of the Pennine Coal Measure Group (Secondary A Aquifer). The site is not located within a Source Protection Zone. There are no groundwater abstractions within 1000m of the site. The nearest surface water features are small unnamed streams located 115m and 150m north of the site. Based on the regional river network it is assumed that flow direction would be northwards towards the Irish Sea. As such, the controlled waters sensitivity is considered to be low. There are no recorded landfills within 250m of the site and no evidence of landfilling. The site is underlain by Peat Deposits, and due to the multiple stages or redevelopment, the retaining structure and age of the buildings on site, the site is anticipated to be potentially underlain by some Made Ground deposits. The site is underlain by coal measures. It is therefore considered that the risk posed to the site via ground gases Is low/moderate. The southeastern section of the site is within an area where between 5% and 10% of properties would be affected by Radon. The rest of the site lies within an area that records less than 1%. Basic Radon protection measures are required. The site is not located within an ecologically sensitive area.

Source	Potential Contaminants of Concern	Pathway	Receptor	Consequence	Probability	Qualitative Risk Assessment
Anticipated Potential Made Ground	Metals PAHs pH Hexavalent chromium Acids Alkalis	Direct contact, dust inhalation and ingestion	Future site users (residential)	Medium	Low Likelihood	Moderate / Low Risk
			Adjacent site users (commercial/residential)	Medium	Low Likelihood	Moderate / Low Risk
			Construction, site investigation, demolition and future maintenance workers	Medium	Low Likelihood	Moderate / Low Risk
		Migration of mobile contaminants from Made Ground soils to adjacent sites along services and conduits	Adjacent site users (commercial/residential)	Medium	Low Likelihood	Moderate / Low Risk
		Migration via water pipes	Future site users (residential)	Medium	Low Likelihood	Moderate / Low Risk
		Lateral and/or vertical migration of mobile contaminants.	Aquifer 1 - Secondary (Undifferentiated) Aquifer associated with Till	Medium	Low Likelihood	Moderate / Low Risk
			Aquifer 2 - Secondary A Aquifer associated with Pennine Coal Measures Group	Medium	Low Likelihood	Moderate / Low Risk
			Unnamed stream located 115m north of the site	Medium	Low Likelihood	Moderate / Low Risk
	Naphthalene (a semi-volatile PAH) TPH / BTEX / MTBE VOCs / SVOCs Phenols Cyanides	Vapour inhalation, direct contact, dust inhalation and ingestion	Future site users (residential)	Medium	Low Likelihood	Moderate / Low Risk
			Adjacent site users (commercial/residential)	Medium	Low Likelihood	Moderate / Low Risk
			Construction, site investigation, demolition and future maintenance workers	Medium	Low Likelihood	Moderate / Low Risk
		Migration of mobile contaminants from Made Ground soils to adjacent sites along services and conduits	Adjacent site users (commercial/residential)	Medium	Low Likelihood	Moderate / Low Risk
		Migration via water pipes	Future site users (residential)	Medium	Low Likelihood	Moderate / Low Risk
		Lateral and/or vertical migration of mobile contaminants.	Aquifer 1 - Secondary (Undifferentiated) Aquifer associated with Till	Medium	Low Likelihood	Moderate / Low Risk
			Aquifer 2 - Secondary A Aquifer associated with Pennine Coal Measures Group	Medium	Low Likelihood	Moderate / Low Risk
			Unnamed stream located 90m southwest of the site	Medium	Low Likelihood	Moderate / Low Risk
	Asbestos	(Dust migration and) dust inhalation	Future site users (residential)	Medium	Low Likelihood	Moderate / Low Risk
			Adjacent site users (commercial/residential)	Medium	Low Likelihood	Moderate / Low Risk
			Construction, site investigation, demolition and future maintenance workers	Medium	Low Likelihood	Moderate / Low Risk
Peat Deposits, Potential Made Ground underlying the site Coal Measures located beneath the site.	Hazardous ground gasses (methane, carbon dioxide, hydrogen sulphide, carbon monoxide and depleted oxygen)	Inhalation (indoor and outdoor)	Future site users (residential)	Medium	Likely	Moderate Risk
			Adjacent site users (commercial/residential)	Medium	Low Likelihood	Moderate / Low Risk
			Construction, site investigation, demolition and future maintenance workers	Medium	Low Likelihood	Moderate / Low Risk
		Migration of hazardous ground gases from beneath the site to adjacent sites along services or other preferential conduits	Adjacent site users (commercial/residential)	Medium	Low Likelihood	Moderate / Low Risk
		Migration of ground gas / explosion	Buildings and services	Severe	Low Likelihood	Moderate Risk

For definition of the terms used in the qualitative risk assessment, please see Appendix E.

7. PROPOSED FURTHER WORKS

7.1. Further works

This Preliminary Risk Assessment has determined a low/moderate risk to human health and a low risk to controlled waters at the site with respect to potential contamination and hazardous ground gases.

It is recommended that a ground investigation is undertaken in order to further assess the potential risks associated with the pollutant linkages identified in the Preliminary Conceptual Site Model (presented in Section 6).

The objectives of the Phase II Ground Investigation will be:

- To determine shallow soil and groundwater (if encountered) conditions, including whether significant contamination has resulted from past or current land uses;
- To determine the risks posed by any ground contamination and provide recommendations on remedial measures to manage such risks;
- To determine the risks posed to the site from hazardous ground gases;
- To determine the existence, and if applicable, the extent of contamination within local groundwater beneath the site; and,
- To provide advice relating to geotechnical issues associated with the redevelopment of the site.

7.2. Proposed Scope of Works

The following scope of works are proposed:

- 2 No. days trial pitting to expose foundations of the surrounding buildings and determine how they may affect the proposed development.
- 1 No. day window sample drilling and installation of 3 No. monitoring wells for gas and groundwater (if encountered) monitoring purposes and to facilitate soil sampling for environmental and geotechnical testing.
- 1 No. deeper cable percussive borehole to determine deeper ground conditions and allow the installation of a deeper groundwater monitoring well (if required for groundwater risk assessment and/or to aid foundation design based on the results of the window sample boreholes).
- *In situ* geotechnical testing to assist with foundation design and recommendations;
- Geoenvironmental chemical testing on selected soil samples for metals, pH, speciated PAH, speciated TPH, phenol, SVOC/SVOC, sulphate, TOC and asbestos screens in order to assess potential risks to human health based on historical land uses on and within close proximity to the site and to assist with basic waste characterisation for soil disposal.
- The Control of Asbestos Regulations 2012 should be adhered to. A summary of complying with CAR: risk assessments, licensing and training is provided in Appendix G.

8. REGULATORY APPROVALS

The conclusions and recommendations presented above are considered reasonable based on the findings of the site investigation. However, these cannot be guaranteed to gain regulatory approval and, therefore, the report should be passed to the appropriate regulatory authorities and/or other organisations for their comment and approval prior to undertaking any works on site.

It is recommended that conditions placed on any planning permission are discharged prior to commencement of site works.

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10.GLOSSARY OF TERMS

ACEC	Aggressive Chemical Environment for Concrete (classification)
aOD	Above Ordnance Datum
bgl	Below ground level
BGS	British Geological Survey
BRE	Building Research Establishment
CBR	California Bearing Ratio (test)
COMAH	Control of Major Accident Hazards (regulations)
Designated location	Site (and the ecosystem on that site) protected under national of international legislation. A potential ecological receptor to be considered as part of the assessment of land contamination. Example designated locations include SSSIs (q.v.), SACs (q.v.), national nature reserves, Ramsar sites and bird special protection areas.
DQA	Data Quality Assessment
DQO	Data Quality Objective
DQRA	Detailed Quantitative Risk Assessment
DWS	Drinking Water Standard
EQS	Environmental Quality Standard
GAC	Generic Assessment Criterion
GQA	General Quality Assessment (Environment Agency)
GSV	Gas Screening Value
HCV	Health Criteria Value
IPPC	Integrated Pollution Prevention and Control (regulations)
K_{ow}	Octanol-water partition coefficient
LEL	Lower Explosive Limit
LL	Liquid Limit
LoD	Limit of Detection (analytical)
LoQ	Limit of Quantification (analytical)
Mean Value Test	Statistical test (described in the CIEH Guidance) to estimate the mean value of a normally distributed population of data at a given level of confidence. Normally for contaminated land assessment, the 95th percentile (referred to as the 95%UCL or US95) is applied as a reasonable but conservative estimate of the mean concentration for comparison with the relevant assessment criteria.
Maximum Value Test	Statistical test (described in the CIEH Guidance) to identify whether an elevated concentration within a normally distributed data set forms part of the underlying population from which it has been sampled or whether it is an outlier (such as a localised area of contamination) that merits further consideration.
MC	Moisture Content
NGR	National Grid Reference
NIHHS	Notification of Installations Handling Hazardous Substances (regulations)
OS	Ordnance Survey
PI	Plasticity Index
PID	Photoionisation Detector
PL	Plastic Limit
ppm	Parts per million
ppmv	Parts per million by volume
QA	Quality Assurance
QC	Quality Control
SAC	Special Area of Conservation
SOM	Soil Organic Matter

SPT	Standard Penetration Test
SPZ	Source Protection Zone (see Appendix F)
SSAC	Site-Specific Assessment Criterion
SSSI	Site of Special Scientific Interest
SVOC	Semi-Volatile Organic Compound
TEF	Toxicity Equivalent Factor
TPH	Total Petroleum Hydrocarbons
TWA	Time Weighted Average
US95	95th percentile estimate of the true mean value of a data population (also known as 95%UCL).
VOC	Volatile Organic Compound

APPENDIX A - DRAWINGS

Contract Number	TE1835
Contract	The Old Fire Station
Client	Nant Hall Developments Ltd

Site Location Plan

Scale	NTS		
Drawn by	AP	Approved	SL
Drawing Number	TE1835-TE-00-XX-DR-GE-001-V01		

1 **00Front Elevation (NW)_Existing**
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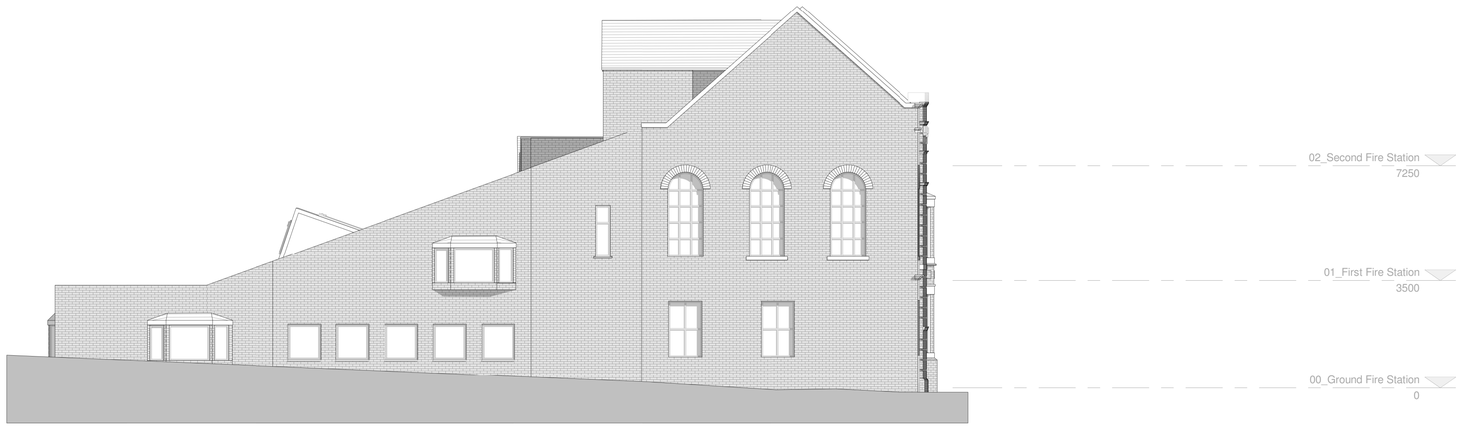

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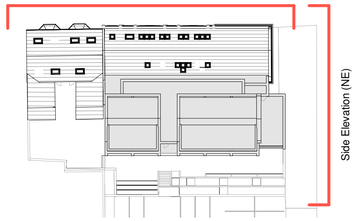
Front Elevation (NW)



Rev	Description	By	Date
P2	Minor Amendments	RAW	08.05.24
P1	First Issue	RAW	08.03.24

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Client

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Project

6-8 Nant Hall Road Redevelopment
Prestatyn, LL19 9LH

Drawing Title

GA_Elevations_Existing

Drawn by	RAW	Checked by		Date	08/03/24
Suitability	S3			Scale @ A1	As indicated

C+A JOB NO.	PROJECT - ORIGINATOR - VOL. - LEVEL - TYPE - ROLE - NUMBER	REV.
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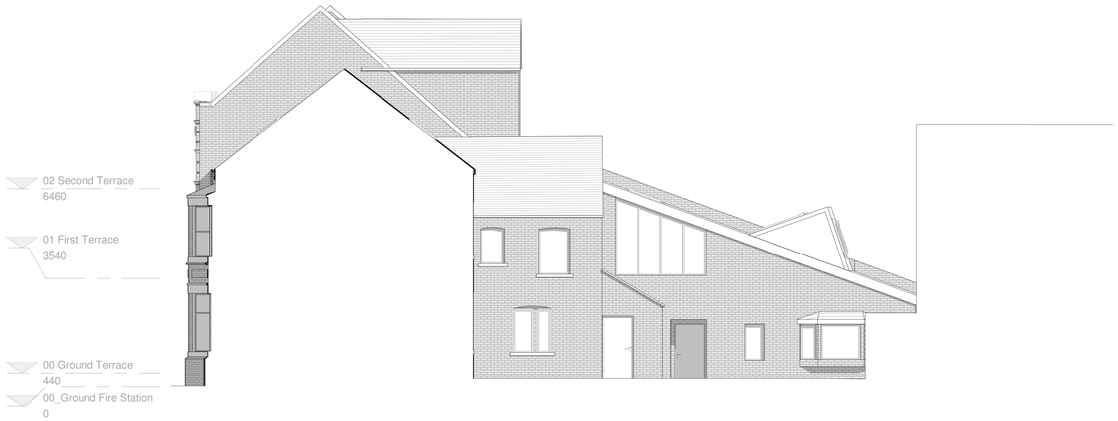

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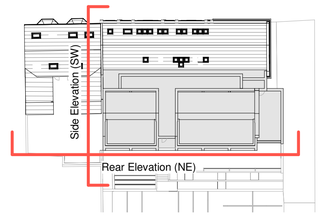

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Suitability				Scale @ A1	As indicated

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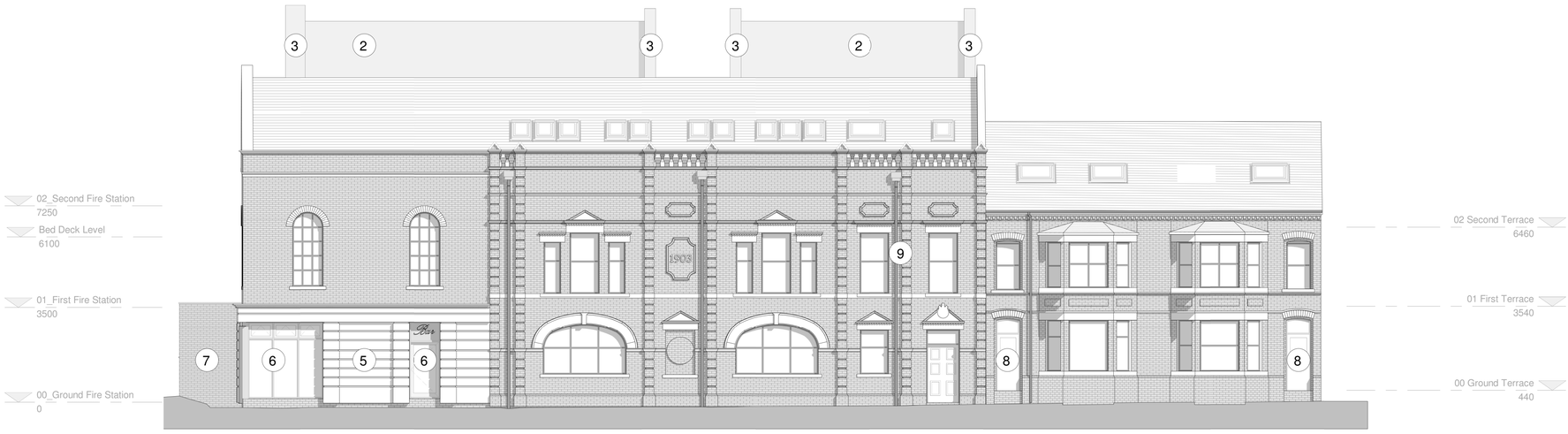

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3 **00Side Elevation (NE)_Proposed**
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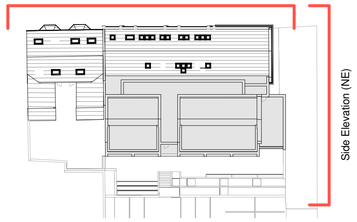
Drawing Scale 1:100 @ A1

Front Elevation (NW)



Hard/Soft Landscaping Finishes

1. Proposed Retaining Wall. Brick Type 1. Colour: TBC
2. Proposed Metal Roof. Colour: Grey, to match existing slates.
3. Pressed Metal Coping. Colour: Grey. RAL TBC
4. Proposed flat roof. Colour: Grey
5. Proposed Horizontal Metal Cladding. Colour: Grey. RAL TBC
6. Proposed Metal frame Glazing and doors. Colour: Grey. RAL TBC
7. Proposed Wall. Brick Type 2. Colour: TBC
8. Proposed Wooden Entrance Doors. Colour: Brown. To match existing.
9. Existing Rainwater goods re-decorated. Colour: Grey. RAL TBC.
10. Proposed Wall. Brick Type 3. Colour: To match existing.
11. Proposed Vertical Metal Cladding. Colour: Grey. RAL TBC
12. Proposed MAsonry Cladding. Colour: TBC

Rev	Description	By	Date
P2	First Issue	RAW	08.05.24
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Drawing Title
GA_Elevations_Proposed

Drawn by	RAW	Checked by		Date	08/03/24
Suitability	S3			Scale @ A1	As indicated

C+A JOB NO.	PROJECT - ORIGINATOR - VOL. - LEVEL - TYPE - ROLE - NUMBER	REV.
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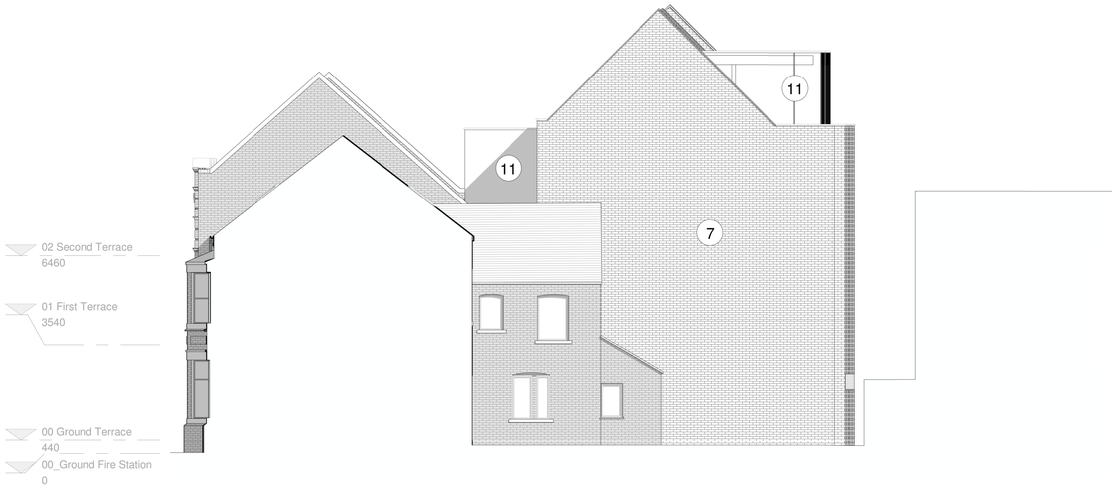

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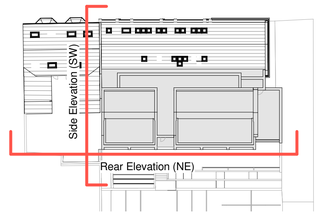
Drawing Scale 1:100 @ A1



Hard/Soft Landscaping Finishes

1. Proposed Retaining Wall. Brick Type 1. Colour: TBC
2. Proposed Metal Roof. Colour: Grey, to match existing slates.
3. Pressed Metal Coping. Colour: Grey. RAL TBC
4. Proposed flat roof. Colour: Grey
5. Proposed Horizontal Metal Cladding. Colour: Grey. RAL TBC
6. Proposed Metal frame Glazing and doors. Colour: Grey. RAL TBC
7. Proposed Wall. Brick Type 2. Colour: TBC
8. Proposed Wooden Entrance Doors. Colour: Brown. To match existing.
9. Existing Rainwater goods re-decorated. Colour: Grey. RAL TBC.
10. Proposed Wall. Brick Type 3. Colour: To match existing.
11. Proposed Vertical Metal Cladding. Colour: Grey. RAL TBC
12. Proposed MAsonry Cladding. Colour: TBC

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Drawing Title
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Drawn by	RAW	Checked by		Date	08/05/24
Suitability	S3			Scale @ A1	As indicated

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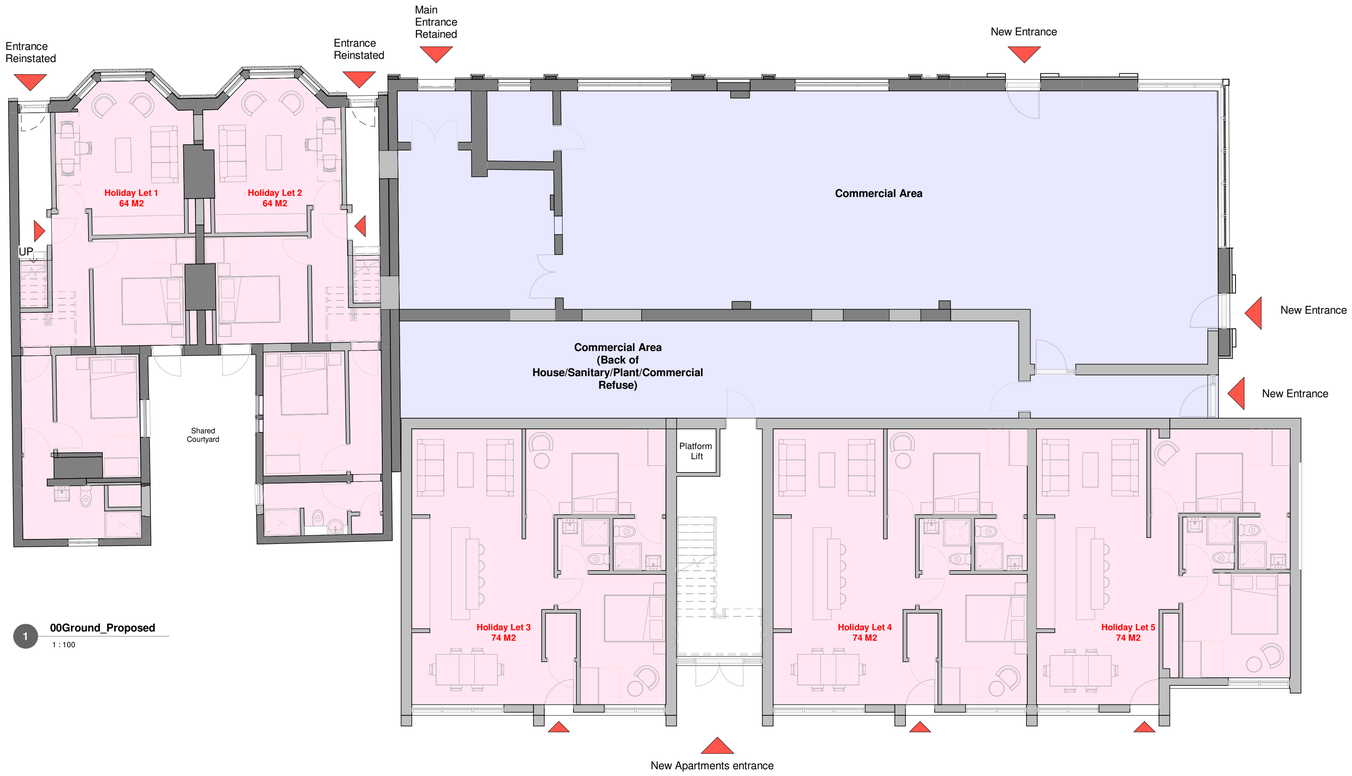

1 **00Ground_Proposed**
1 : 100

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Drawing Scale 1:100 @ A1

Key - Use Classes

- Commercial (Holiday Let)
- Commercial
- Residential

Schedule of Accomodation

Name	Level	Area (m2)	Bedrooms
H/Let 1	GF	64	2B3P
H/Let 2	GF	64	2B3P
H/Let 3	GF	74	2B4P
H/Let 3	GF	74	2B4P
H/Let 4	GF	74	2B4P
Commercial	GF	285	-

Rev	Description	By	Date
P4	Minor Amendments	RAW	13.05.24
P3	Minor Amendments	RAW	08.05.24
P2	Stage 2	RAW	18.03.24
P1	First Issue	RAW	08.03.24

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Drawing Title
GA_Plan_00Ground_Proposed

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Suitability	S3			Scale @ A1	As indicated

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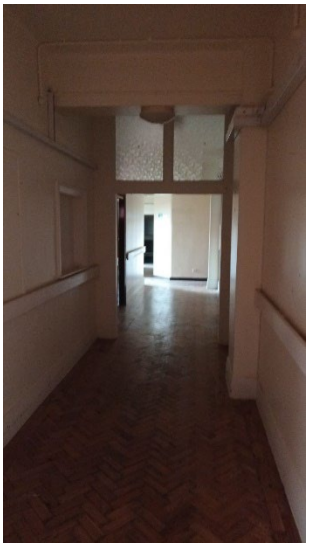
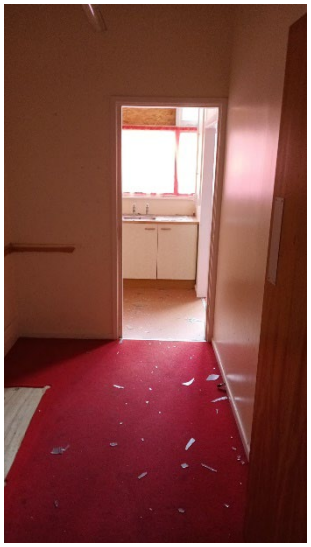
C+A JOB NO.	PROJECT - ORIGINATOR - VOL. - LEVEL - TYPE - ROLE - NUMBER	REV.

APPENDIX B - PHOTOGRAPHS

TE1835 – Old Fire Station, Prestatyn

Site Walkover

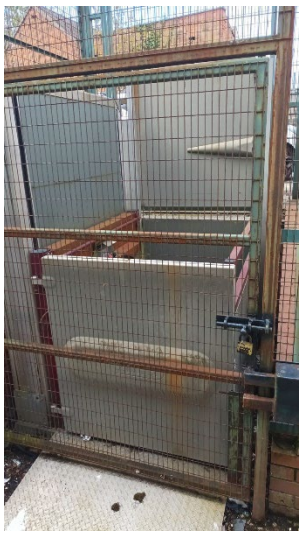


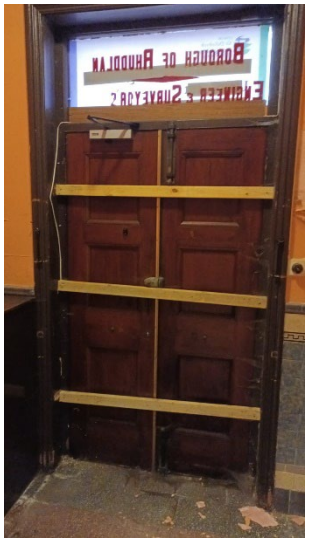




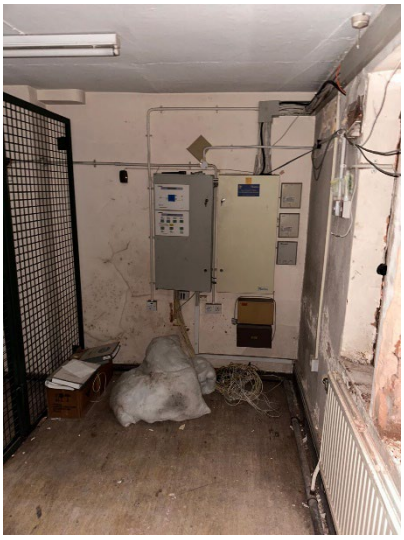


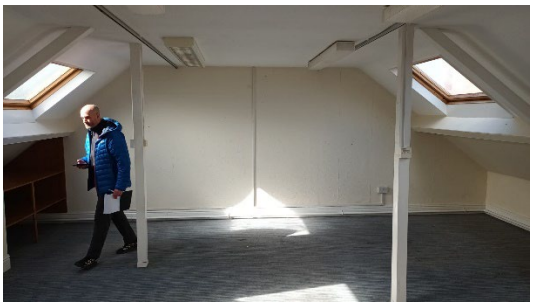








APPENDIX C - GROUNDSURE REPOR

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

6-8, NANT HALL ROAD, PRESTATYN, DENBIGHSHIRE, LL19 9LL

Order Details

Date: 22/04/2024

Your ref: 3058_TE1835

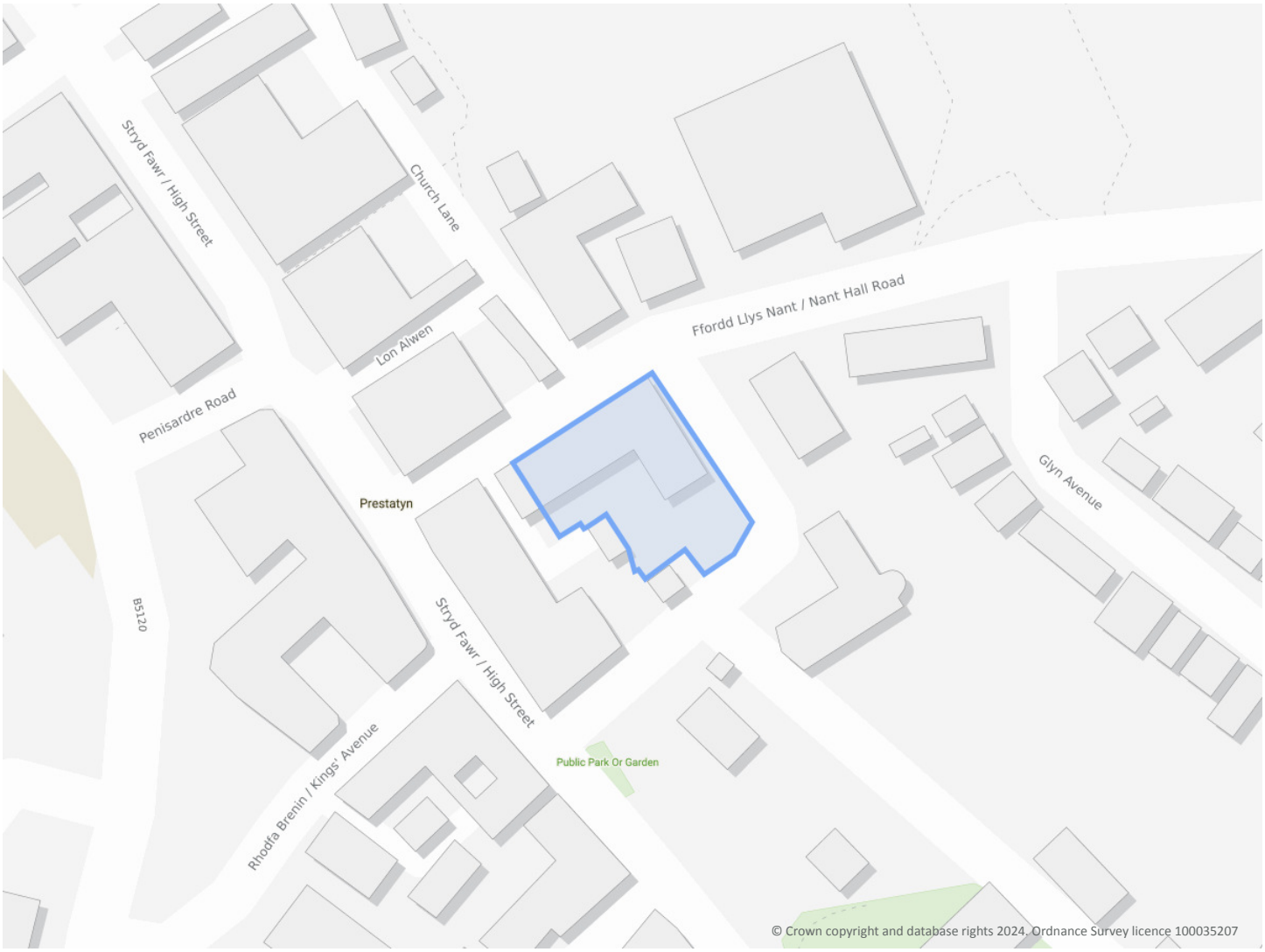
Our Ref: GS-A66-ZJ6-9EL-F4R

Site Details

Location: 306643 382903

Area: 0.16 ha

Authority: Sir Ddinbych - Denbighshire County Council ↗



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

Certified B Corporation

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	1	3	38	32	-
18 >	1.2 >	Historical tanks >	0	0	8	7	-
19 >	1.3 >	Historical energy features >	0	0	12	4	-
20	1.4	Historical petrol stations	0	0	0	0	-
20 >	1.5 >	Historical garages >	0	2	1	25	-
22	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
23 >	2.1 >	Historical industrial land uses >	1	4	49	44	-
27 >	2.2 >	Historical tanks >	0	0	10	14	-
28 >	2.3 >	Historical energy features >	0	0	27	13	-
30	2.4	Historical petrol stations	0	0	0	0	-
30 >	2.5 >	Historical garages >	0	5	7	44	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
33	3.1	Active or recent landfill	0	0	0	0	-
33	3.2	Historical landfill (BGS records)	0	0	0	0	-
34	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
34	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
34	3.5	Historical waste sites	0	0	0	0	-
34	3.6	Licensed waste sites	0	0	0	0	-
34 >	3.7 >	Waste exemptions >	0	0	1	0	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
36 >	4.1 >	Recent industrial land uses >	0	5	24	-	-
39 >	4.2 >	Current or recent petrol stations >	0	1	1	1	-
39	4.3	Electricity cables	0	0	0	0	-
39	4.4	Gas pipelines	0	0	0	0	-
39	4.5	Sites determined as Contaminated Land	0	0	0	0	-

40	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
40	4.7	Regulated explosive sites	0	0	0	0	-
40	4.8	Hazardous substance storage/usage	0	0	0	0	-
40	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
40	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
41 >	**4.11 >**	**Licensed pollutant release (Part A(2)/B) >**	0	1	1	4	-
42	4.12	Radioactive Substance Authorisations	0	0	0	0	-
42 >	**4.13 >**	**Licensed Discharges to controlled waters >**	0	0	2	5	-
43	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
43	4.15	Pollutant release to public sewer	0	0	0	0	-
43	4.16	List 1 Dangerous Substances	0	0	0	0	-
44	4.17	List 2 Dangerous Substances	0	0	0	0	-
44 >	**4.18 >**	**Pollution Incidents (EA/NRW) >**	0	0	1	3	-
44	4.19	Pollution inventory substances	0	0	0	0	-
45	4.20	Pollution inventory waste transfers	0	0	0	0	-
45	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	**Hydrogeology >**	On site	0-50m	50-250m	250-500m	500-2000m
46 >	**5.1 >**	**Superficial aquifer >**	Identified (within 500m)				
48 >	**5.2 >**	**Bedrock aquifer >**	Identified (within 500m)				
49 >	**5.3 >**	**Groundwater vulnerability >**	Identified (within 50m)				
50 >	**5.4 >**	**Groundwater vulnerability- soluble rock risk >**	Identified (within 0m)				
51	5.5	Groundwater vulnerability- local information	None (within 0m)				
52 >	**5.6 >**	**Groundwater abstractions >**	0	0	0	0	1
53 >	**5.7 >**	**Surface water abstractions >**	0	0	0	0	3
54 >	**5.8 >**	**Potable abstractions >**	0	0	0	0	1
54	5.9	Source Protection Zones	0	0	0	0	-
55	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	**Hydrology >**	On site	0-50m	50-250m	250-500m	500-2000m
56 >	**6.1 >**	**Water Network (OS MasterMap) >**	0	0	5	-	-

57	6.2	Surface water features	0	0	0	-	-
57 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
58	6.4	WFD Surface water bodies	0	0	0	-	-
58 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
59 >	7.1 >	Risk of flooding from rivers and the sea >	Low (within 50m)				
60	7.2	Historical Flood Events	0	0	0	-	-
60	7.3	Flood Defences	0	0	0	-	-
60 >	7.4 >	Areas Benefiting from Flood Defences >	0	1	0	-	-
61	7.5	Flood Storage Areas	0	0	0	-	-
62	7.6	Flood Zone 2	None (within 50m)				
62	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
63 >	8.1 >	Surface water flooding >	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding >					
65 >	9.1 >	Groundwater flooding >	Moderate (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
66 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	5
67 >	10.2 >	Conserved wetland sites (Ramsar sites) >	0	0	0	0	2
69 >	10.3 >	Special Areas of Conservation (SAC) >	0	0	0	0	1
70 >	10.4 >	Special Protection Areas (SPA) >	0	0	0	0	8
72	10.5	National Nature Reserves (NNR)	0	0	0	0	0
72 >	10.6 >	Local Nature Reserves (LNR) >	0	0	0	0	1
73 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	11
73	10.8	Biosphere Reserves	0	0	0	0	0
74	10.9	Forest Parks	0	0	0	0	0
74	10.10	Marine Conservation Zones	0	0	0	0	0
74	10.11	Green Belt	0	0	0	0	0
74	10.12	Proposed Ramsar sites	0	0	0	0	0

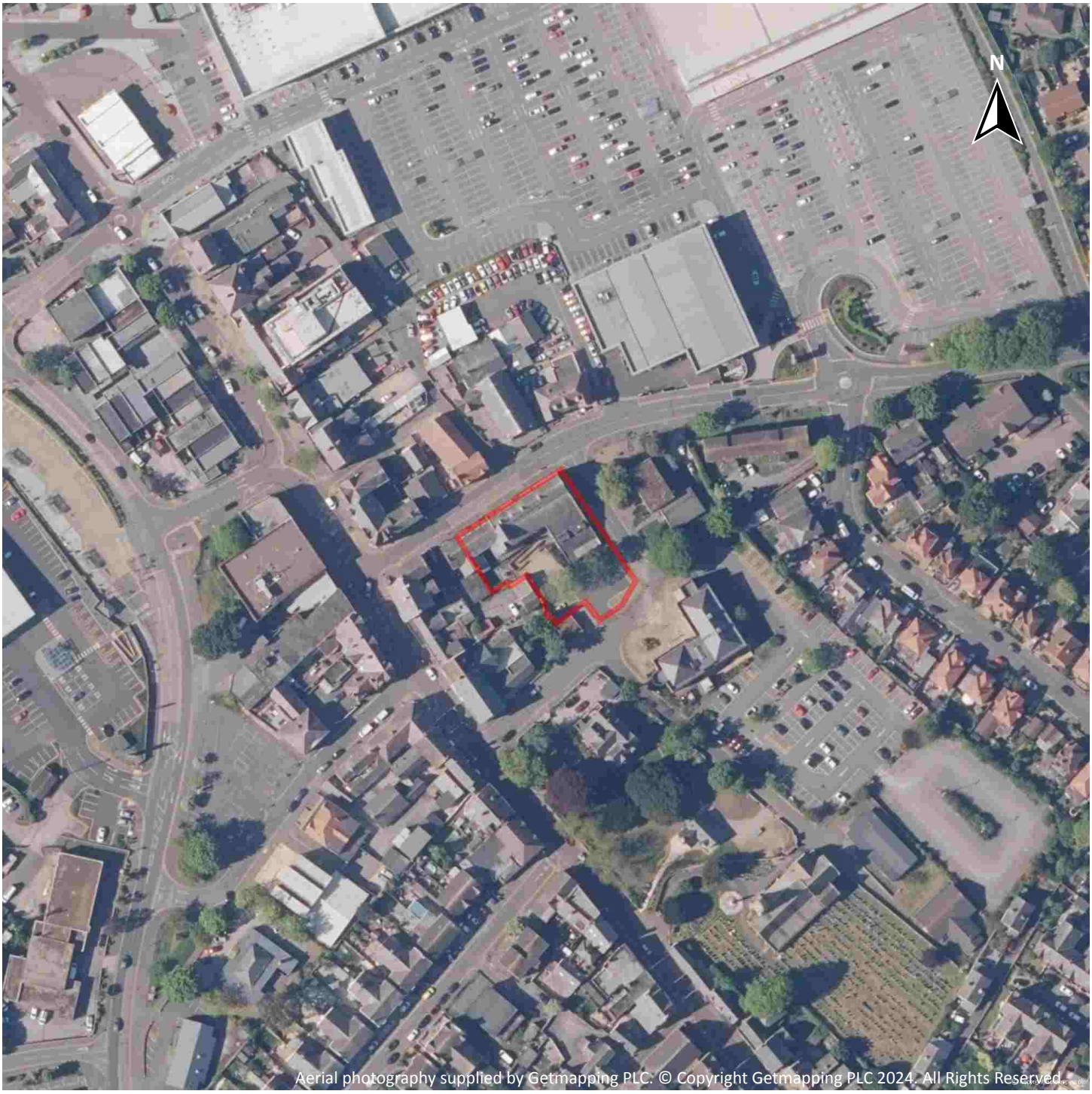
74	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
75	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
75	10.15	Nitrate Sensitive Areas	0	0	0	0	0
75 >	10.16 >	Nitrate Vulnerable Zones >	1	0	0	0	0
76 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
77	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
78	11.1	World Heritage Sites	0	0	0	-	-
79	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
79	11.3	National Parks	0	0	0	-	-
79 >	11.4 >	Listed Buildings >	0	1	7	-	-
80 >	11.5 >	Conservation Areas >	1	0	0	-	-
81	11.6	Scheduled Ancient Monuments	0	0	0	-	-
81	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
82	12.1	Agricultural Land Classification	None (within 250m)				
82	12.2	Open Access Land	0	0	0	-	-
82	12.3	Tree Felling Licences	0	0	0	-	-
82	12.4	Environmental Stewardship Schemes	0	0	0	-	-
83	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
84	13.1	Priority Habitat Inventory	0	0	0	-	-
84	13.2	Habitat Networks	0	0	0	-	-
84	13.3	Open Mosaic Habitat	0	0	0	-	-
84	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
85 >	14.1 >	10k Availability >	Identified (within 500m)				
86	14.2	Artificial and made ground (10k)	0	0	0	0	-
87	14.3	Superficial geology (10k)	0	0	0	0	-

87	14.4	Landslip (10k)	0	0	0	0	-
88	14.5	Bedrock geology (10k)	0	0	0	0	-
88	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
89 >	15.1 >	50k Availability >	Identified (within 500m)				
90	15.2	Artificial and made ground (50k)	0	0	0	0	-
90	15.3	Artificial ground permeability (50k)	0	0	-	-	-
91 >	15.4 >	Superficial geology (50k) >	2	1	2	1	-
92 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
92	15.6	Landslip (50k)	0	0	0	0	-
92	15.7	Landslip permeability (50k)	None (within 50m)				
93 >	15.8 >	Bedrock geology (50k) >	1	0	0	1	-
94 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
94 >	15.10 >	Bedrock faults and other linear features (50k) >	0	0	0	1	-
Page	Section	**Boreholes >**	On site	0-50m	50-250m	250-500m	500-2000m
95 >	16.1 >	BGS Boreholes >	0	0	8	-	-
Page	Section	**Natural ground subsidence >**					
97 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
98 >	17.2 >	Running sands >	Very low (within 50m)				
99 >	17.3 >	Compressible deposits >	High (within 50m)				
100 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
101 >	17.5 >	Landslides >	Very low (within 50m)				
102 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	**Mining and ground workings >**	On site	0-50m	50-250m	250-500m	500-2000m
104	18.1	BritPits	0	0	0	0	-
105	18.2	Surface ground workings	0	0	0	-	-
105 >	18.3 >	Underground workings >	0	0	0	0	4
105	18.4	Underground mining extents	0	0	0	0	-
105	18.5	Historical Mineral Planning Areas	0	0	0	0	-

106 >	18.6 >	Non-coal mining >	1	0	0	1	11
107	18.7	JPB mining areas	None (within 0m)				
107	18.8	The Coal Authority non-coal mining	0	0	0	0	-
108	18.9	Researched mining	0	0	0	0	-
108	18.10	Mining record office plans	0	0	0	0	-
108	18.11	BGS mine plans	0	0	0	0	-
108	18.12	Coal mining	None (within 0m)				
109	18.13	Brine areas	None (within 0m)				
109	18.14	Gypsum areas	None (within 0m)				
109	18.15	Tin mining	None (within 0m)				
109	18.16	Clay mining	None (within 0m)				
Page	Section	**Ground cavities and sinkholes** >	On site	0-50m	50-250m	250-500m	500-2000m
110	19.1	Natural cavities	0	0	0	0	-
111 >	19.2 >	Mining cavities >	0	0	0	1	1
111	19.3	Reported recent incidents	0	0	0	0	-
111	19.4	Historical incidents	0	0	0	0	-
112	19.5	National karst database	0	0	0	0	-
Page	Section	**Radon** >					
113 >	20.1 >	Radon >	Between 5% and 10% (within 0m)				
Page	Section	**Soil chemistry** >	On site	0-50m	50-250m	250-500m	500-2000m
115 >	21.1 >	BGS Estimated Background Soil Chemistry >	2	1	-	-	-
115	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
115	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	**Railway infrastructure and projects** >	On site	0-50m	50-250m	250-500m	500-2000m
116	22.1	Underground railways (London)	0	0	0	-	-
116	22.2	Underground railways (Non-London)	0	0	0	-	-
117	22.3	Railway tunnels	0	0	0	-	-
117 >	22.4 >	Historical railway and tunnel features >	0	0	18	-	-
118	22.5	Royal Mail tunnels	0	0	0	-	-

118 >	22.6 >	Historical railways >	0	0	1	-	-
118 >	22.7 >	Railways >	0	0	9	-	-
119	22.8	Crossrail 1	0	0	0	0	-
119	22.9	Crossrail 2	0	0	0	0	-
119	22.10	HS2	0	0	0	0	-

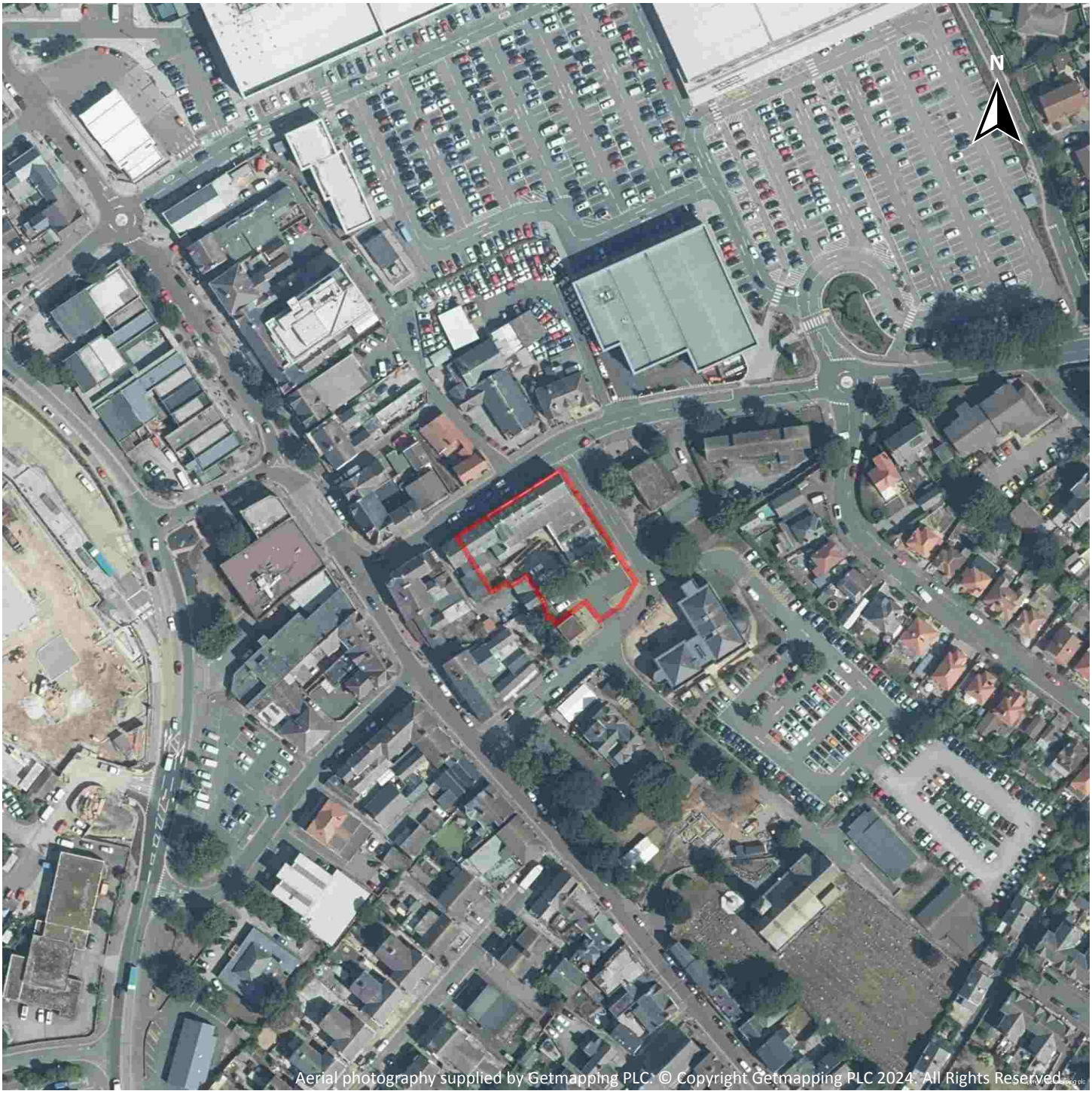
Recent aerial photograph



Capture Date: 06/05/2020

Site Area: 0.16ha

Recent site history - 2018 aerial photograph



Capture Date: 26/07/2018

Site Area: 0.16ha

Recent site history - 2013 aerial photograph

Capture Date: 26/05/2013

Site Area: 0.16ha

Recent site history - 2001 aerial photograph

Capture Date: 28/08/2001

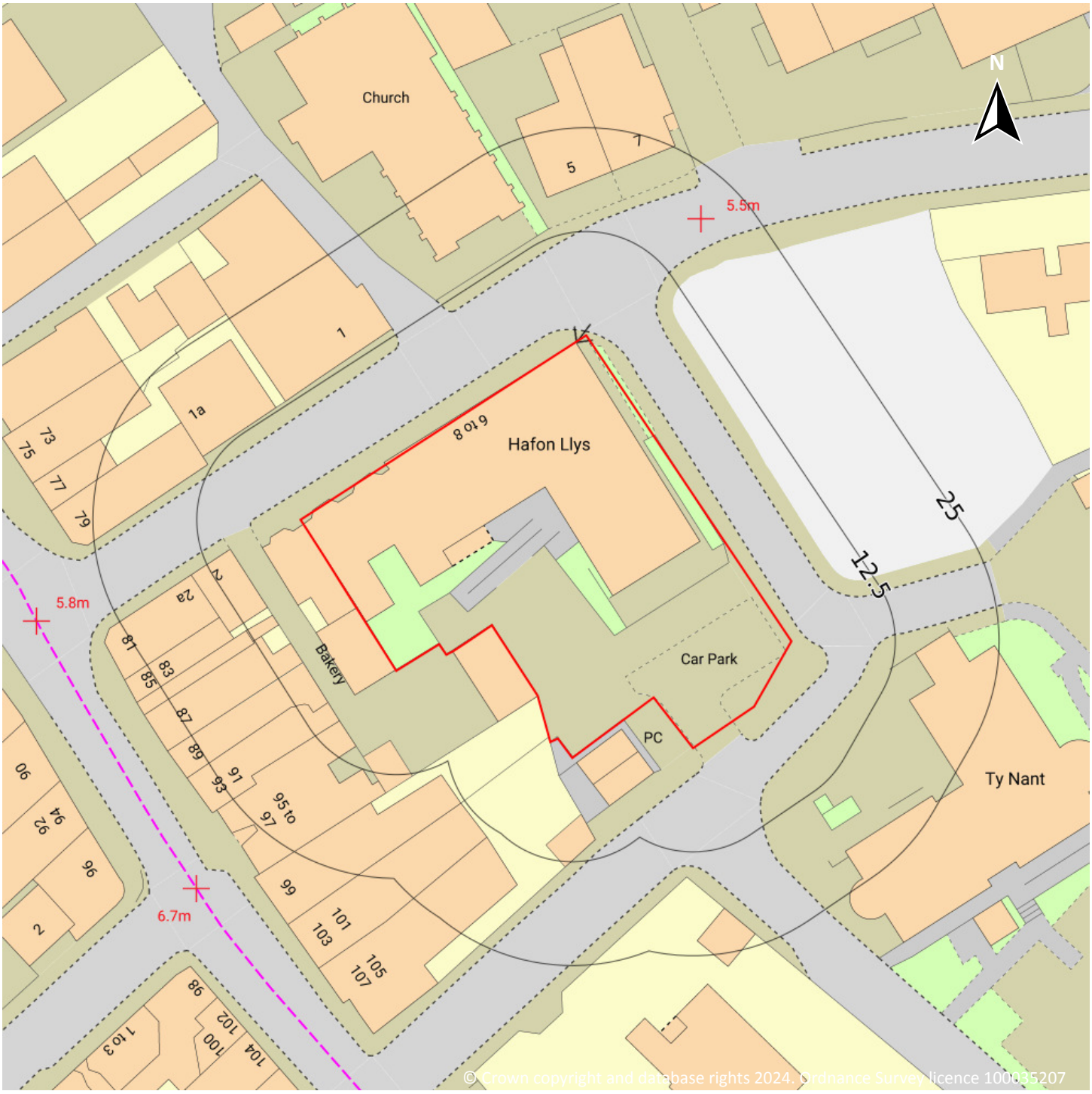
Site Area: 0.16ha

Recent site history - 2000 aerial photograph

Capture Date: 22/07/2000

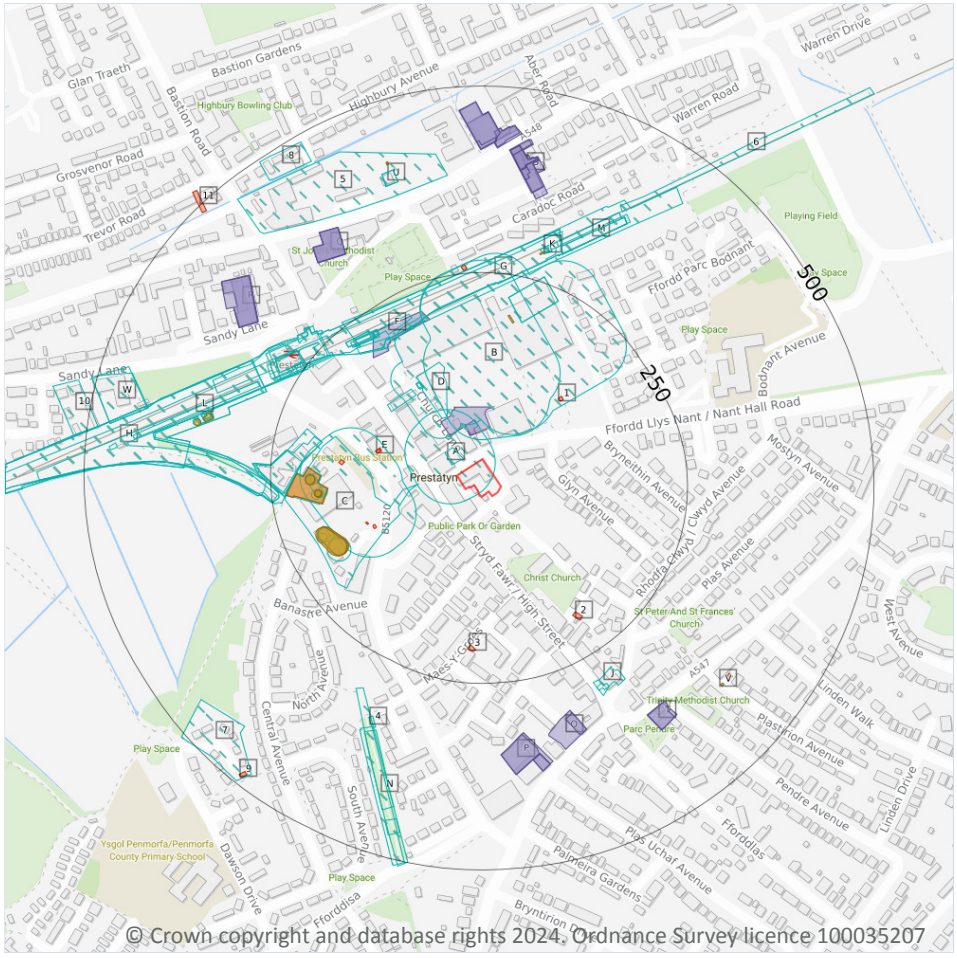
Site Area: 0.16ha

OS MasterMap site plan



Site Area: 0.16ha

1 Past land use



1.1 Historical industrial land uses

Records within 500m	74

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

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

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Smithy**	**1898**	**938930**

ID	Location	Land use	Dates present	Group ID
A	15m NW	Police Station	1969	832525
B	26m N	Unspecified Works	1993	878149
B	41m N	Unspecified Works	1969 - 1977	988558
C	54m W	Unspecified Commercial/Industrial	1938	796574
C	67m W	Bus Station	1993	842913
D	73m NW	Smithy	1959	919230
D	120m NW	Smithy	1938	843124
D	124m NW	Smithy	1949	852039
D	126m NW	Smithy	1911	870196
C	171m SW	Unspecified Tank	1959	972041
C	172m SW	Unspecified Tank	1993	920347
C	172m SW	Unspecified Tank	1969 - 1977	946625
C	175m W	Unspecified Tank	1959	824459
C	175m W	Gas Works	1898 - 1911	849369
C	181m W	Unspecified Tanks	1938 - 1949	888024
C	182m W	Gasometer	1898 - 1911	889242
C	182m W	Unspecified Tank	1993	860118
C	182m W	Unspecified Tank	1959 - 1977	944801
C	184m W	Unspecified Tank	1959	824463
C	186m W	Unspecified Works	1993	892382
C	186m W	Unspecified Works	1977	919336
C	189m W	Gasometer	1911	809727
B	190m N	Unspecified Depot	1993	970034
B	190m N	Unspecified Depot	1977	976639
C	192m W	Unspecified Tank	1949	946197
G	194m NW	Railway Sidings	1959 - 1969	935762
H	197m NW	Railway Sidings	1938 - 1949	924258
H	197m NW	Railway Sidings	1910	932400

ID	Location	Land use	Dates present	Group ID
H	202m NW	Railway Sidings	1871 - 1898	983424
F	209m NW	Railway Sidings	1911	967984
C	209m W	Unspecified Works	1969	916167
F	213m NW	Railway Building	1959	948096
F	214m NW	Railway Building	1938 - 1949	941869
F	216m NW	Railway Building	1911	981860
F	217m NW	Railway Station	1871	822878
F	218m NW	Railway Building	1898	931030
H	232m NW	Railway Station	1938 - 1959	891233
I	233m W	Railway Sidings	1959 - 1977	976469
H	236m NW	Railway Station	1911	862990
H	239m NW	Railway Station	1898	878752
I	243m W	Railway Sidings	1949	965382
H	252m NW	Railway Station	1969	865145
H	255m NW	Railway Station	1977	907156
H	255m NW	Railway Station	1993	917465
J	279m SE	Smithy	1898	850361
I	279m W	Railway Sidings	1993	907207
K	287m N	Railway Building	1898	819636
K	289m N	Unspecified Tank	1871 - 1898	887772
J	290m SE	Smithy	1910	850877
L	290m NW	Railway Sidings	1911	871792
M	294m N	Railway Sidings	1938	927498
M	296m N	Railway Sidings	1910	885205
M	296m N	Railway Sidings	1910	916404
K	296m N	Railway Building	1871	819638
N	300m SW	Cuttings	1871	906954
4	328m SW	Railway Building	1959	819637

ID	Location	Land use	Dates present	Group ID
L	335m W	Railway Building	1959	980005
L	337m W	Railway Building	1969	899010
L	339m W	Railway Building	1938	971395
N	341m SW	Cuttings	1911 - 1949	930195
N	343m SW	Cuttings	1959	859802
L	351m W	Unspecified Tank	1969	824464
5	371m N	Fire Station	1938	859872
6	381m NE	Railway Sidings	1871	846311
U	388m N	Fire Station	1977	901481
U	388m N	Fire Station	1993	949759
W	424m W	Unspecified Works	1993	897243
W	425m W	Unspecified Works	1977	991170
7	435m SW	Nursery	1977	831766
N	446m S	Cuttings	1959	936126
I	457m W	Railway Building	1898	819639
8	461m NW	Fire Station	1949 - 1959	923657
10	486m W	Garage	1938	844108

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**15**

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

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

ID	Location	Land use	Dates present	Group ID
C	171m SW	Tanks	1962	123218

ID	Location	Land use	Dates present	Group ID
C	172m SW	Tanks	1962	141079
C	174m W	Gas Works	1899 - 1912	127051
C	174m SW	Tanks	1985 - 1989	129349
C	183m W	Gas Works	1899	139081
C	184m W	Gasometer	1912	108426
B	187m N	Tanks	1973	105465
C	191m W	Gasometer	1912	108427
K	285m N	Unspecified Tank	1871	112155
L	336m W	Unspecified Tank	1962	146323
L	350m W	Unspecified Tank	1962	126207
V	394m SE	Tank or Trough	1871	121146
U	414m N	Unspecified Tank	1990	144795
U	415m N	Unspecified Tank	1973	146628
U	416m N	Unspecified Tank	1994 - 1995	137731

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**16**

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

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

ID	Location	Land use	Dates present	Group ID
E	107m W	Electricity Substation	1968	68829
E	107m W	Electricity Substation	1988 - 1990	65241
C	128m SW	Electricity Substation	1988 - 1990	69176
1	130m NE	Electricity Substation	1990 - 1995	76403

ID	Location	Land use	Dates present	Group ID
C	135m W	Electricity Substation	1985 - 1989	69739
C	152m W	Electricity Substation	1985 - 1989	81775
C	174m W	Gas Works	1899 - 1912	81021
C	183m W	Gas Works	1899	65118
C	184m W	Gasometer	1912	59619
C	191m W	Gasometer	1912	59620
2	191m SE	Electricity Substation	1968 - 1990	79880
3	199m S	Electricity Substation	1968 - 1990	76168
G	254m N	Electricity Substation	1973 - 1995	69242
V	394m SE	Electricity Substation	1990	60897
9	480m SW	Electricity Substation	1989	60884
11	489m NW	Electricity Substation	1973 - 1988	84776

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	28

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

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

ID	Location	Land use	Dates present	Group ID
A	35m N	Garage	1962 - 1990	24943
A	35m N	Garage	1962 - 1968	25027
F	190m NW	Garage	1990 - 1995	27553
O	306m S	Garage	1962 - 1968	24367
O	309m S	Garage	1962	20808
P	320m S	Garage	1962 - 1968	26169
P	321m S	Garage	1962 - 1988	26414
Q	330m NW	Garage	1962 - 1973	25465
Q	331m NW	Garage	1961	21533
Q	331m NW	Garage	1985 - 1988	26558
R	337m NW	Garage	1961	21151
R	337m NW	Garage	1985	23242
R	337m NW	Garage	1962 - 1973	27520
P	351m S	Garage	1962 - 1968	24296
P	352m S	Garage	1962	21268
S	356m N	Garage	1962 - 1973	26591
T	358m SE	Garage	1962 - 1990	27363
T	358m SE	Garage	1962	22807
S	362m N	Garage	1990	22841
S	364m N	Garage	1994	24259
S	379m N	Garage	1961	22791
S	390m N	Garage	1995	25805
S	391m N	Garage	1995	20879
S	415m N	Garage	1990	21611
S	415m N	Garage	1973	23385
S	417m N	Garage	1961	20768
S	419m N	Garage	1962	20959
S	421m N	Garage	1994 - 1995	25980

This data is sourced from Ordnance Survey / Groundsure.

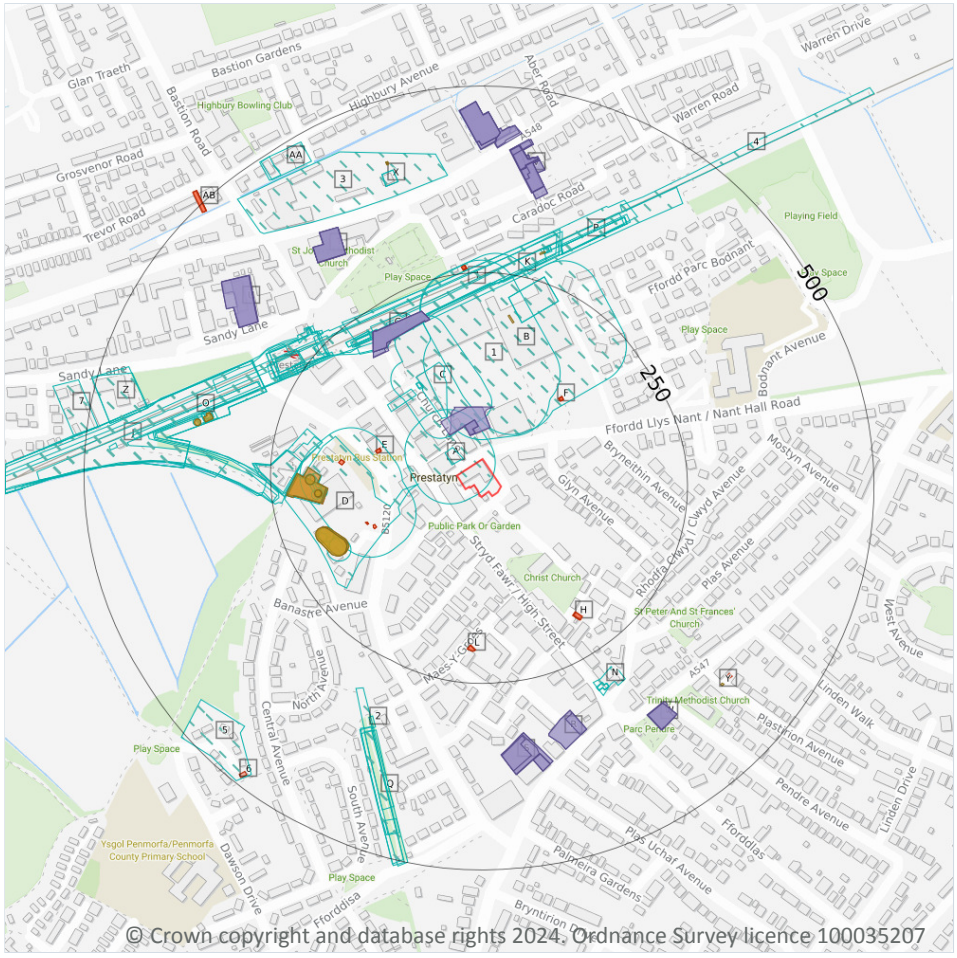
1.6 Historical military land

Records within 500m	0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.

2 Past land use - un-grouped



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

2.1 Historical industrial land uses

Records within 500m	98

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

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

ID	Location	Land Use	Date	Group ID
A	**On site**	**Smithy**	**1898**	**938930**
A	15m NW	Police Station	1969	832525
1	26m N	Unspecified Works	1993	878149

ID	Location	Land Use	Date	Group ID
B	41m N	Unspecified Works	1977	988558
C	49m NW	Unspecified Works	1969	988558
D	54m W	Unspecified Commercial/Industrial	1938	796574
D	67m W	Bus Station	1993	842913
C	73m NW	Smithy	1959	919230
C	120m NW	Smithy	1938	843124
C	124m NW	Smithy	1949	852039
C	126m NW	Smithy	1911	870196
D	171m SW	Unspecified Tank	1959	972041
D	172m SW	Unspecified Tank	1977	946625
D	172m SW	Unspecified Tank	1993	920347
D	172m SW	Unspecified Tank	1969	946625
D	175m W	Unspecified Tank	1959	824459
D	175m W	Gas Works	1911	849369
D	177m W	Gas Works	1898	849369
D	181m W	Unspecified Tanks	1949	888024
D	182m W	Gasometer	1911	889242
D	182m W	Unspecified Tank	1977	944801
D	182m W	Unspecified Tank	1993	860118
D	182m W	Unspecified Tank	1959	944801
D	182m W	Unspecified Tank	1969	944801
D	182m W	Unspecified Tanks	1938	888024
D	184m W	Unspecified Tank	1959	824463
D	184m W	Gasometer	1898	889242
D	186m W	Unspecified Works	1977	919336
D	186m W	Unspecified Works	1993	892382
D	189m W	Gasometer	1911	809727
B	190m N	Unspecified Depot	1977	976639

ID	Location	Land Use	Date	Group ID
B	190m N	Unspecified Depot	1993	970034
D	192m W	Unspecified Tank	1949	946197
I	194m NW	Railway Sidings	1959	935762
J	197m NW	Railway Sidings	1938	924258
K	198m NW	Railway Sidings	1969	935762
J	202m NW	Railway Sidings	1871	983424
J	204m NW	Railway Sidings	1898	983424
I	208m NW	Railway Sidings	1949	924258
G	209m NW	Railway Sidings	1911	967984
D	209m W	Unspecified Works	1969	916167
G	213m NW	Railway Building	1959	948096
G	214m NW	Railway Building	1949	941869
G	216m NW	Railway Building	1911	981860
G	217m NW	Railway Station	1871	822878
G	218m NW	Railway Building	1938	941869
G	218m NW	Railway Building	1898	931030
J	232m NW	Railway Station	1959	891233
M	233m W	Railway Sidings	1959	976469
J	234m NW	Railway Station	1949	891233
J	236m NW	Railway Station	1938	891233
J	236m NW	Railway Station	1911	862990
J	239m NW	Railway Station	1898	878752
M	243m W	Railway Sidings	1949	965382
J	252m NW	Railway Station	1969	865145
J	255m NW	Railway Station	1977	907156
J	255m NW	Railway Station	1993	917465
N	279m SE	Smithy	1898	850361
M	279m W	Railway Sidings	1977	976469

ID	Location	Land Use	Date	Group ID
M	279m W	Railway Sidings	1993	907207
M	279m W	Railway Sidings	1969	976469
K	287m N	Railway Building	1898	819636
K	289m N	Unspecified Tank	1898	887772
K	289m N	Unspecified Tank	1871	887772
N	290m SE	Smithy	1910	850877
N	290m SE	Smithy	1910	850877
N	290m SE	Smithy	1910	850877
N	290m SE	Smithy	1910	850877
O	290m NW	Railway Sidings	1911	871792
P	291m N	Railway Sidings	1949	924258
P	294m N	Railway Sidings	1938	927498
P	296m N	Railway Sidings	1910	932400
P	296m N	Railway Sidings	1910	885205
P	296m N	Railway Sidings	1910	932400
P	296m N	Railway Sidings	1910	916404
K	296m N	Railway Building	1871	819638
Q	300m SW	Cuttings	1871	906954
2	328m SW	Railway Building	1959	819637
O	335m W	Railway Building	1959	980005
O	337m W	Railway Building	1969	899010
O	339m W	Railway Building	1938	971395
Q	341m SW	Cuttings	1949	930195
Q	342m SW	Cuttings	1938	930195
Q	343m SW	Cuttings	1959	859802
Q	346m SW	Cuttings	1911	930195
O	351m W	Unspecified Tank	1969	824464
3	371m N	Fire Station	1938	859872

ID	Location	Land Use	Date	Group ID
4	381m NE	Railway Sidings	1871	846311
X	388m N	Fire Station	1977	901481
X	388m N	Fire Station	1993	949759
Z	424m W	Unspecified Works	1993	897243
Z	425m W	Unspecified Works	1977	991170
5	435m SW	Nursery	1977	831766
Q	446m S	Cuttings	1959	936126
M	457m W	Railway Building	1898	819639
AA	461m NW	Fire Station	1959	923657
AA	467m NW	Fire Station	1949	923657
7	486m W	Garage	1938	844108

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**24**

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

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

ID	Location	Land Use	Date	Group ID
D	171m SW	Tanks	1962	123218
D	172m SW	Tanks	1962	141079
D	174m W	Gas Works	1899	127051
D	174m SW	Tanks	1985	129349
D	174m SW	Tanks	1989	129349
D	176m W	Gas Works	1912	127051
D	183m W	Gas Works	1899	139081
D	184m W	Gasometer	1912	108426
B	187m N	Tanks	1973	105465

ID	Location	Land Use	Date	Group ID
D	191m W	Gasometer	1912	108427
K	285m N	Unspecified Tank	1871	112155
O	336m W	Unspecified Tank	1962	146323
O	336m W	Unspecified Tank	1962	146323
O	350m W	Unspecified Tank	1962	126207
O	351m W	Unspecified Tank	1962	126207
Y	394m SE	Tank or Trough	1871	121146
X	414m N	Unspecified Tank	1990	144795
X	415m N	Unspecified Tank	1973	146628
X	416m N	Unspecified Tank	1995	137731
X	416m N	Unspecified Tank	1995	137731
X	416m N	Unspecified Tank	1994	137731
X	416m N	Unspecified Tank	1994	137731
X	416m N	Unspecified Tank	1994	137731
X	416m N	Unspecified Tank	1995	137731

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**40**

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

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

ID	Location	Land Use	Date	Group ID
E	107m W	Electricity Substation	1968	68829
E	107m W	Electricity Substation	1988	65241
E	107m W	Electricity Substation	1990	65241
D	128m SW	Electricity Substation	1988	69176
D	128m SW	Electricity Substation	1990	69176

ID	Location	Land Use	Date	Group ID
F	130m NE	Electricity Substation	1990	76403
F	131m NE	Electricity Substation	1995	76403
F	131m NE	Electricity Substation	1995	76403
F	131m NE	Electricity Substation	1994	76403
F	131m NE	Electricity Substation	1994	76403
F	131m NE	Electricity Substation	1994	76403
F	131m NE	Electricity Substation	1995	76403
D	135m W	Electricity Substation	1985	69739
D	135m W	Electricity Substation	1989	69739
D	152m W	Electricity Substation	1985	81775
D	152m W	Electricity Substation	1989	81775
D	174m W	Gas Works	1899	81021
D	176m W	Gas Works	1912	81021
D	183m W	Gas Works	1899	65118
D	184m W	Gasometer	1912	59619
D	191m W	Gasometer	1912	59620
H	191m SE	Electricity Substation	1988	79880
H	191m SE	Electricity Substation	1990	79880
H	192m SE	Electricity Substation	1968	79880
L	199m S	Electricity Substation	1968	76168
L	199m S	Electricity Substation	1988	76168
L	199m S	Electricity Substation	1990	76168
I	254m N	Electricity Substation	1995	69242
I	254m N	Electricity Substation	1995	69242
I	254m N	Electricity Substation	1994	69242
I	254m N	Electricity Substation	1994	69242
I	254m N	Electricity Substation	1994	69242
I	254m N	Electricity Substation	1995	69242

ID	Location	Land Use	Date	Group ID
I	255m N	Electricity Substation	1973	69242
I	255m N	Electricity Substation	1990	69242
Y	394m SE	Electricity Substation	1990	60897
6	480m SW	Electricity Substation	1989	60884
AB	489m NW	Electricity Substation	1985	84776
AB	489m NW	Electricity Substation	1988	84776
AB	489m NW	Electricity Substation	1973	84776

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	**0**

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	**56**

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

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

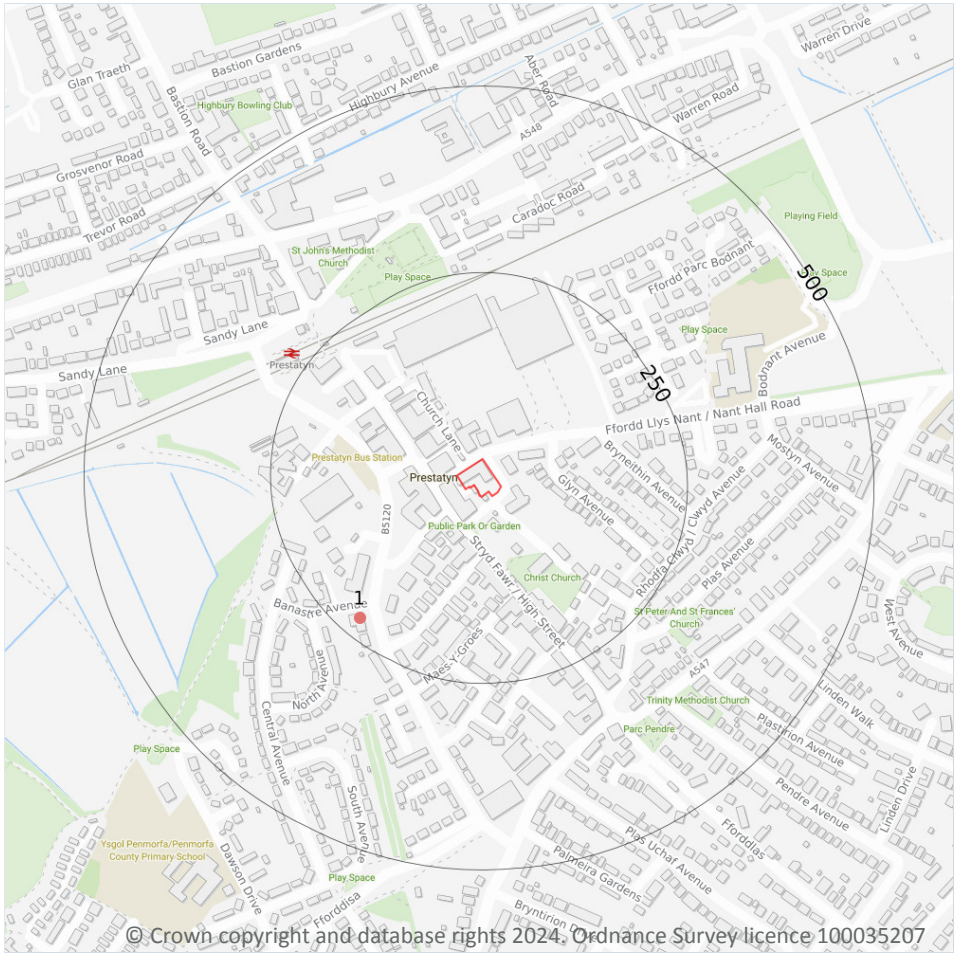
ID	Location	Land Use	Date	Group ID
A	35m N	Garage	1962	24943
A	35m N	Garage	1962	25027
A	36m N	Garage	1968	25027
A	36m N	Garage	1988	24943
A	36m N	Garage	1990	24943
G	190m NW	Garage	1995	27553

ID	Location	Land Use	Date	Group ID
G	192m NW	Garage	1990	27553
G	196m NW	Garage	1994	27553
G	196m NW	Garage	1995	27553
G	196m NW	Garage	1995	27553
G	196m NW	Garage	1994	27553
G	196m NW	Garage	1994	27553
R	306m S	Garage	1968	24367
R	306m S	Garage	1962	24367
R	309m S	Garage	1962	20808
S	320m S	Garage	1968	26169
S	320m S	Garage	1962	26169
S	321m S	Garage	1988	26414
S	324m S	Garage	1962	26414
T	330m NW	Garage	1973	25465
T	330m NW	Garage	1962	25465
T	331m NW	Garage	1961	21533
T	331m NW	Garage	1985	26558
T	331m NW	Garage	1988	26558
U	337m NW	Garage	1961	21151
U	337m NW	Garage	1985	23242
U	337m NW	Garage	1973	27520
U	337m NW	Garage	1962	27520
S	351m S	Garage	1968	24296
S	351m S	Garage	1962	24296
S	352m S	Garage	1962	21268
V	356m N	Garage	1973	26591
V	356m N	Garage	1962	26591
W	358m SE	Garage	1988	27363

ID	Location	Land Use	Date	Group ID
W	358m SE	Garage	1990	27363
W	358m SE	Garage	1962	22807
W	359m SE	Garage	1968	27363
W	359m SE	Garage	1962	27363
V	362m N	Garage	1990	22841
V	364m N	Garage	1994	24259
V	364m N	Garage	1994	24259
V	364m N	Garage	1994	24259
V	379m N	Garage	1961	22791
V	390m N	Garage	1995	25805
V	390m N	Garage	1995	25805
V	391m N	Garage	1995	20879
V	415m N	Garage	1990	21611
V	415m N	Garage	1973	23385
V	417m N	Garage	1961	20768
V	419m N	Garage	1962	20959
V	421m N	Garage	1994	25980
V	421m N	Garage	1995	25980
V	421m N	Garage	1995	25980
V	421m N	Garage	1995	25980
V	421m N	Garage	1994	25980
V	421m N	Garage	1994	25980

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



3.1 Active or recent landfill

Records within 500m	0

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

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

3.2 Historical landfill (BGS records)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	0

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

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

3.5 Historical waste sites

Records within 500m	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	1

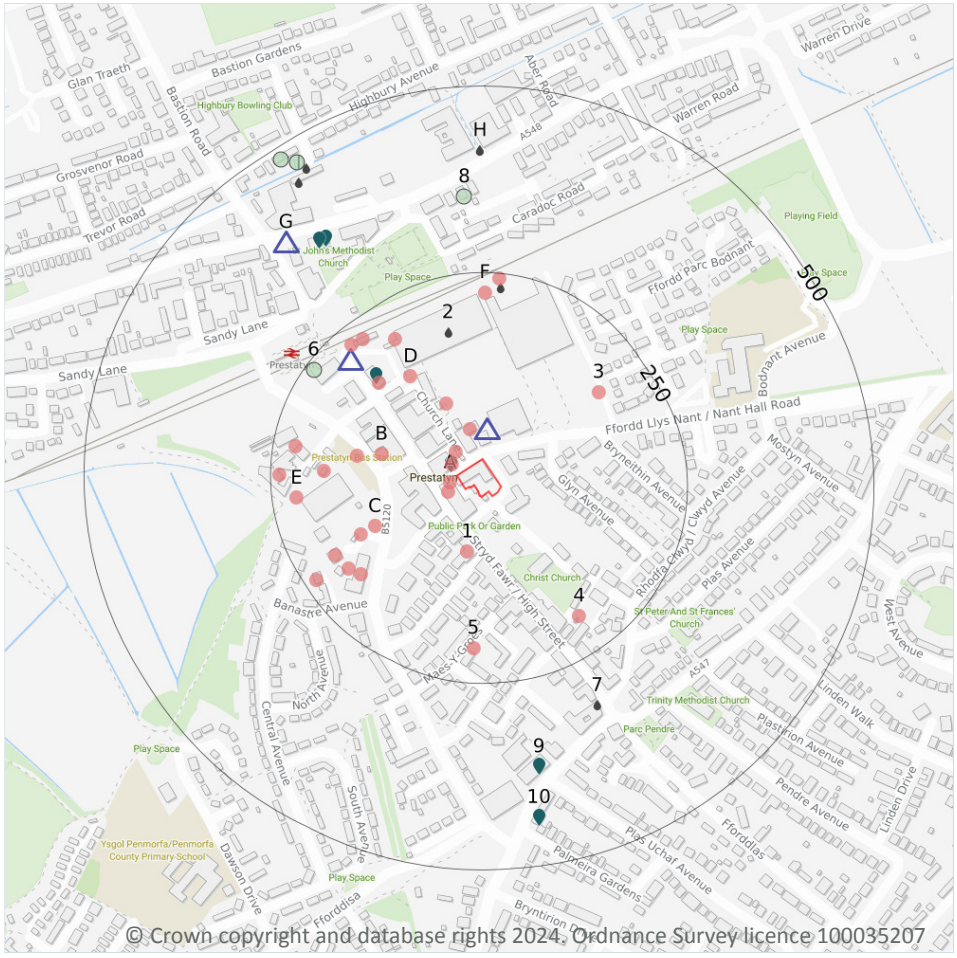
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

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

ID	Location	Site	Reference	Category	Sub-Category	Description
1	225m SW	AllPets Veterinary Surgery, All Pets Veterinary Surgery, Ffordd Pendyffryn, Prestatyn, Denbighshire, LL19 9DG	NRW-WME069828	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal

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

4 Current industrial land use



4.1 Recent industrial land uses

Records within 250m	29

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 36 >**

ID	Location	Company	Address	Activity	Category
A	13m W	B M Repairs	2, Nant Hall Road, Prestatyn, Clwyd, LL19 9LH	Electrical Equipment Repair and Servicing	Repair and Servicing
A	17m NW	U C Bed Bargains Ltd	1a, Nant Hall Road, Prestatyn, Clwyd, LL19 9LR	Beds and Bedding	Consumer Products

ID	Location	Company	Address	Activity	Category
A	22m W	Little Cheesemongerthe	87, High Street, Prestatyn, Clwyd, LL19 9AP	Dairy Products	Foodstuffs
A	28m NW	Bevan	1, Nant Hall Road, Prestatyn, Clwyd, LL19 9LR	General Construction Supplies	Industrial Products
A	43m N	Central Garage Prestatyn	-, Nant Hall Road, Prestatyn, Clwyd, LL19 9LR	Vehicle Repair, Testing and Servicing	Repair and Servicing
1	76m S	Specsavers Hearcare	124, High Street, Prestatyn, Clwyd, LL19 9BH	Disability and Mobility Equipment	Consumer Products
A	88m NW	Electricity Sub Station	Clwyd, LL19	Electrical Features	Infrastructure and Facilities
B	105m W	Electricity Sub Station	Clwyd, LL19	Electrical Features	Infrastructure and Facilities
C	130m SW	Electricity Sub Station	Clwyd, LL19	Electrical Features	Infrastructure and Facilities
B	137m W	Bus Station	Clwyd, LL19	Bus and Coach Stations, Depots and Companies	Public Transport, Stations and Infrastructure
D	146m NW	Electricity Sub Station	Clwyd, LL19	Electrical Features	Infrastructure and Facilities
C	151m SW	Mast (Telecommunication)	Clwyd, LL19	Telecommunications Features	Infrastructure and Facilities
D	162m NW	Tesco Petrol Station	Prestatyn Retail Park, Nant Hall Road, Prestatyn, Clwyd, LL19 9LR	Petrol and Fuel Stations	Road and Rail
B	178m W	Electricity Sub Station	Clwyd, LL19	Electrical Features	Infrastructure and Facilities
3	179m NE	Electricity Sub Station	Clwyd, LL19	Electrical Features	Infrastructure and Facilities
C	180m SW	Telephone Exchange	Clwyd, LL19	Telecommunications Features	Infrastructure and Facilities
C	190m SW	Mast	Clwyd, LL19	Telecommunications Features	Infrastructure and Facilities
C	195m SW	F E Jones & Sons Auto Centre	Unit 10 Parc Dyffryn Industrial Estate, Ffordd Pendyffryn, Prestatyn, Clwyd, LL19 9DG	Vehicle Repair, Testing and Servicing	Repair and Servicing

ID	Location	Company	Address	Activity	Category
4	198m SE	Electricity Sub Station	Clwyd, LL19	Electrical Features	Infrastructure and Facilities
D	199m NW	Electricity Sub Station	Clwyd, LL19	Electrical Features	Infrastructure and Facilities
5	203m S	Electricity Sub Station	Clwyd, LL19	Electrical Features	Infrastructure and Facilities
E	217m W	Electricity Sub Station	Clwyd, LL19	Electrical Features	Infrastructure and Facilities
E	221m W	Air Training Corps Headquarters	Clwyd, LL19	Armed Services	Central and Local Government
D	222m NW	David J Jones Furniture Craftsmen	Units 11 and 12 Prestatyn Shopping Park, Nant Hall Road, Prestatyn, Clwyd, LL19 9BJ	Furniture	Consumer Products
F	224m N	Electricity Sub Station	Clwyd, LL19	Electrical Features	Infrastructure and Facilities
D	225m NW	Electricity Sub Station	Clwyd, LL19	Electrical Features	Infrastructure and Facilities
C	235m SW	We Repair Washing Machines Dryers Cookers Ovens Fridge Freezers	12, Cwrt Dowell, Prestatyn, Clwyd, LL19 8TJ	Electrical Equipment Repair and Servicing	Repair and Servicing
E	238m W	Works	Clwyd, LL19	Unspecified Works Or Factories	Industrial Features
F	243m N	Electricity Sub Station	Clwyd, LL19	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	3

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 36 >**

ID	Location	Company	Address	LPG	Status
A	41m N	UNBRANDED	Nant Hall Road, Prestatyn, Denbighshire, LL19 9LR	Not Applicable	Obsolete
D	211m NW	TESCO	5, High Street, Prestatyn, Denbighshire, LL19 9LR	No	Open
G	388m NW	BP	55-57, Marine Road, Prestatyn, Denbighshire, LL19 7HA	No	Open

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m	0

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

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

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

Records within 500m	6

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

Features are displayed on the Current industrial land use map on **page 36 >**

ID	Location	Address	Details	
A	18m NW	Mostyn Rees And Sons, Central Garage, Nant Hall Road, Prestatyn, Denbighshire, LL19 9LR	Process: Waste Oil Burner 0.4 MW Status: New Legislation Applies Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
D	172m NW	Tesco, Prestatyn Shopping Park, Nant Hall Road, Prestatyn, Denbighshire, LL19 9LR	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
G	363m NW	Prestatyn Service Station, Marine Road, Prestatyn, Denbighshire, LL19 7HA	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
G	366m NW	Prestatyn Service Centre, Unit 1, Lighthouse Business Park, Bastion Road, Prestatyn, Denbighshire, LL19 7ND	Process: Waste Oil Burner 0.4 MW Status: New Legislation Applies Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
9	367m S	Celtic Cars Ltd, 6-8 Meliden Road, Prestatyn, Denbighshire, LL19 9RT	Process: Waste Oil Burner 0.4 MW Status: New Legislation Applies Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
10	434m S	Monarch Cleaners Ltd, 31-33 Meliden Road, Prestatyn, Denbighshire, LL19 9SD	Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 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	7

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 36 >**

ID	Location	Address	Details	
2	176m N	PRESTATYN MORLEY ROAD PS	Effluent Type: UNSPECIFIED Permit Number: CM0193401 Permit Version: 1 Receiving Water: PRESTATYN GUTTER	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV Issue date: 19/10/1989 Effective Date: 19/10/1989 Revocation Date: 31/03/2005
F	231m N	PRESTATYN WARREN DRIVE - KWIK SAVE, PRESTATYN WARREN DRIVE - KWIK SA, WARREN DRIVE - KWIK SAVE	Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: CM0084301 Permit Version: 1 Receiving Water: PRESTATYN DRAIN	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 21/11/1978 Effective Date: 21/11/1978 Revocation Date: 06/06/1994
7	313m SE	PRESTATYN MELIDEN ROAD - SSO, PRESTATYN MELIDEN ROAD - SSO, LL19 9NJ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CM0173101 Permit Version: 0 Receiving Water: PRESTATYN GUTTER	Status: Effective Issue date: 08/09/2010 Effective Date: 08/09/2010 Revocation Date: -
H	413m N	CSO and EO at Prestatyn Bodnant Pumping Station, At Marine Road E/Barkby Ave Junction, Prestatyn, LL19 7HT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CM0193101 Permit Version: 0 Receiving Water: Prestatyn Gutter	Status: Effective Issue date: 07/08/2023 Effective Date: 07/08/2023 Revocation Date: -
H	413m N	CSO and EO at Prestatyn Bodnant Pumping Station, At Marine Road E/Barkby Ave Junction, Prestatyn, LL19 7HT	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: CM0193101 Permit Version: 0 Receiving Water: Prestatyn Gutter	Status: Effective Issue date: 07/08/2023 Effective Date: 07/08/2023 Revocation Date: -

ID	Location	Address	Details	
I	444m NW	PRESTATYN MARINE ROAD T.A. CENTRE, PRESTATYN MARINE ROAD T.A. CENTR, MARINE ROAD T.A. CENTRE, T.A. CENTRE	Effluent Type: UNSPECIFIED Permit Number: CM0047501 Permit Version: 1 Receiving Water: PRESTATYN GUTTER	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 14/02/1968 Effective Date: 14/02/1968 Revocation Date: 10/08/1995
I	456m NW	PRESTATYN SEVEN SISTERS ROAD SPS, PRESTATYN SEVEN SISTERS ROAD SPS, SEVEN SISTERS ROAD SPS	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CM0148301 Permit Version: 0 Receiving Water: PRESTATYN GUTTER	Status: Effective Issue date: 04/07/1986 Effective Date: 04/07/1986 Revocation Date: -

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 36 >**

ID	Location	Details	
6	239m NW	Incident Date: 21/06/2001 Incident Identification: 10684 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
8	352m N	Incident Date: 26/04/2006 Incident Identification: 393885 Pollutant: Specific Waste Materials Pollutant Description: Commercial Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
I	469m NW	Incident Date: 19/07/2014 Incident Identification: 1258004 Pollutant: - Pollutant Description: -	Water Impact: - Land Impact: - Air Impact: -
I	484m NW	Incident Date: 19/07/2014 Incident Identification: 1258089 Pollutant: - Pollutant Description: -	Water Impact: - Land Impact: - Air Impact: -

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

4.19 Pollution inventory substances

Records within 500m	0

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

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

4.20 Pollution inventory waste transfers

Records within 500m	0

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

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

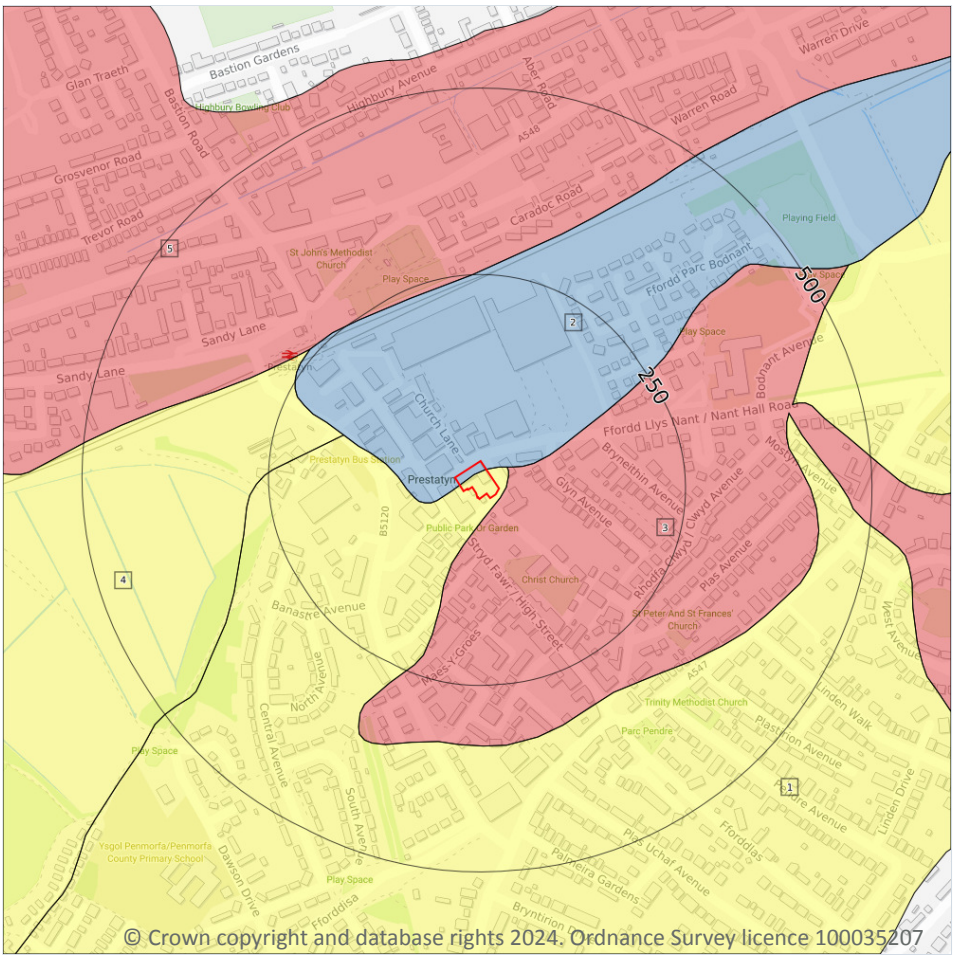
4.21 Pollution inventory radioactive waste

Records within 500m	0

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

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

5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m	5

Aquifer status of groundwater held within superficial geology.

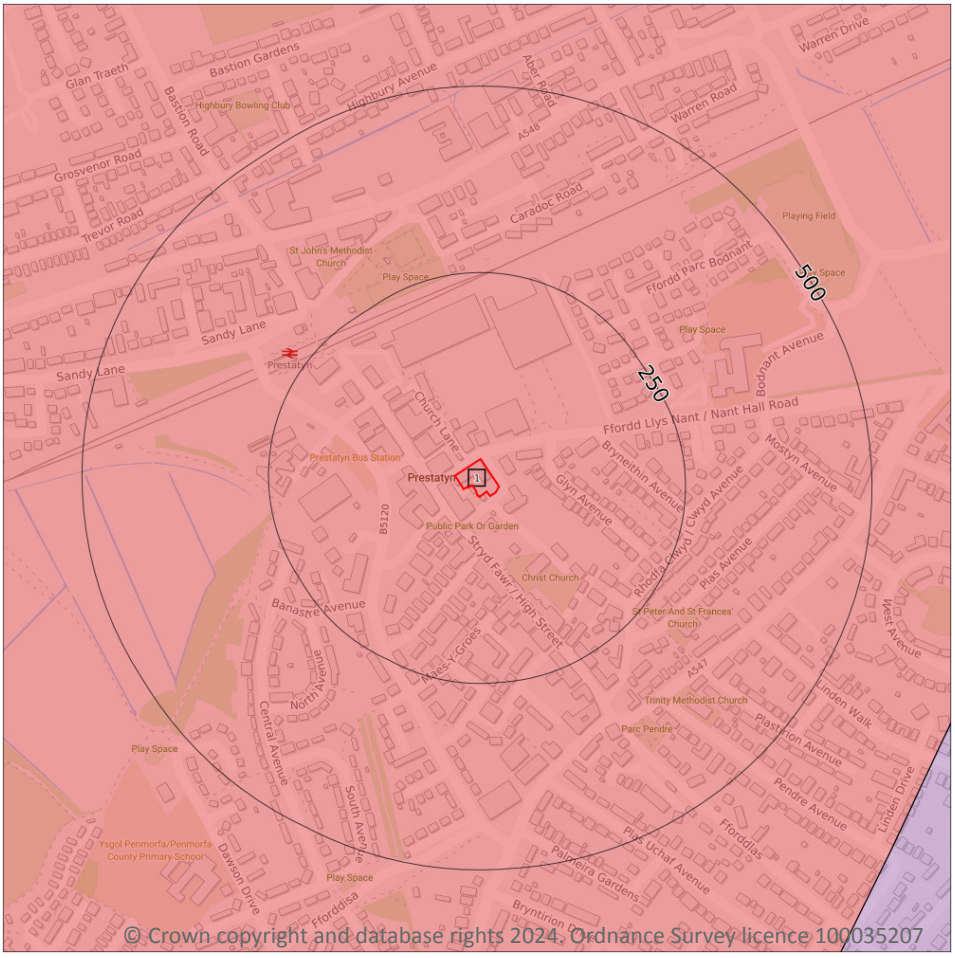
Features are displayed on the Hydrogeology map on **page 46 >**

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	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

ID	Location	Designation	Description
3	8m SE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	160m W	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
5	237m 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

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

Bedrock aquifer



Site Outline

Search buffers in metres (m)

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

5.2 Bedrock aquifer

Records within 500m	1

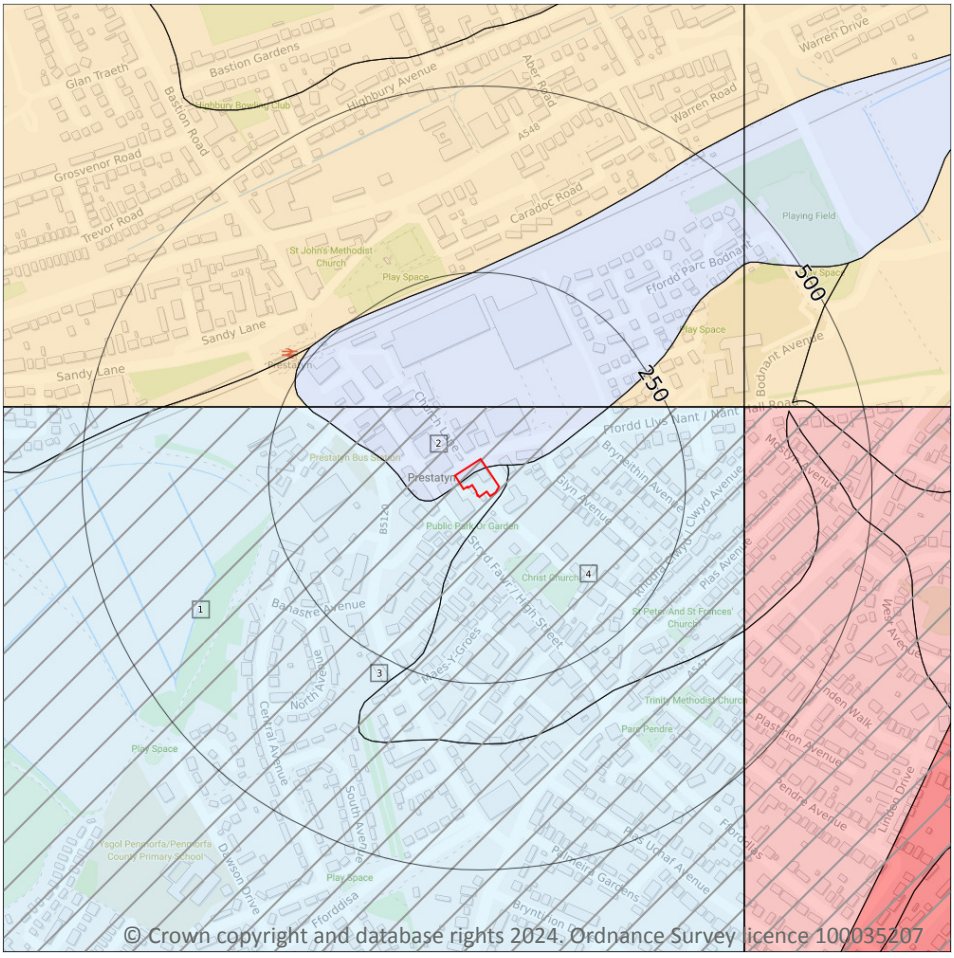
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 48 >**

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

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

Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m	3

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

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

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

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year**	**Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Medium**	**Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures**
2	**On site**	**Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year**	**Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: Medium**	**Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures**
4	7m SE	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	**1**

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

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
3	**Very significant soluble rocks are likely to be present with a moderate possibility of localised natural subsidence or dissolution-related degradation of bedrock, especially in adverse conditions such as concentrated surface or subsurface water flow.**	**0.0%**

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

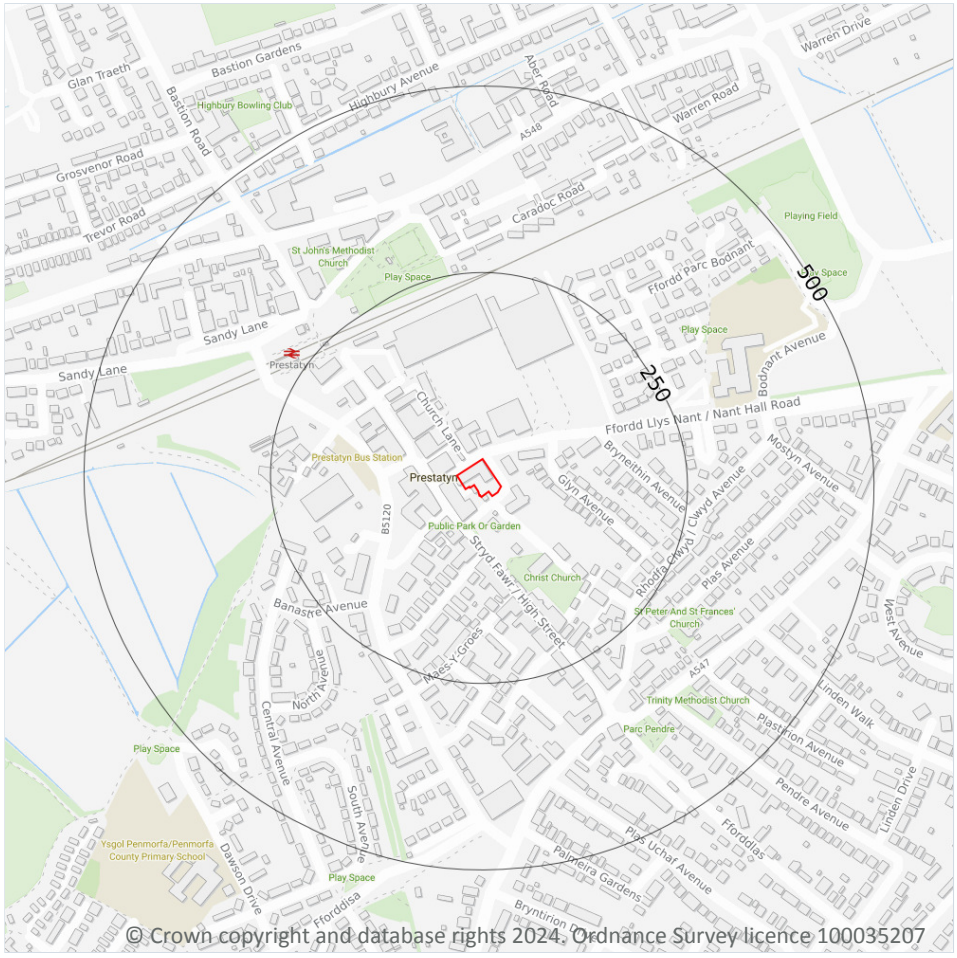
5.5 Groundwater vulnerability- local information

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



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- Site Outline

Search buffers in metres (m)

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

5.6 Groundwater abstractions

Records within 2000m	1

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 52 >**

ID	Location	Details	
-	1047m E	Status: Historical Licence No: 24/66/7/0003 Details: Potable Water Supply - Direct Direct Source: EAW Groundwater Point: MINESHAFT Data Type: Point Name: Dwr Cymru Cyf Easting: 307700 Northing: 383090	Annual Volume (m^3): 181840 Max Daily Volume (m^3): 1818.4 Original Application No: - Original Start Date: 25/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/12/1978 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	**3**

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 52 >**

ID	Location	Details	
-	1622m NE	Status: Active Licence No: 24/66/7/0025 Details: Spray Irrigation - Direct - High Direct Source: - Point: - Data Type: Point Name: - Easting: 307900 Northing: 383960	Annual Volume (m^3): 7091.8 Max Daily Volume (m^3): 272.8 Original Application No: - Original Start Date: 06/06/1967 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1622m NE	Status: Historical Licence No: 24/66/7/0025 Details: Spray Irrigation - Direct - High Direct Source: - Point: - Data Type: Point Name: - Easting: 307900 Northing: 383960	Annual Volume (m^3): 7091.8 Max Daily Volume (m^3): - Original Application No: - Original Start Date: 06/06/1967 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -

ID	Location	Details	
-	1622m NE	Status: Historical Licence No: 24/66/7/0025 Details: Spray Irrigation - Direct Direct Source: EAW Surface Water Point: PRESTATYN GUTTER Data Type: Point Name: Prestatyn Golf Club Easting: 307900 Northing: 383960	Annual Volume (m^3): 7091.8 Max Daily Volume (m^3): 272.8 Original Application No: - Original Start Date: 06/06/1967 Expiry Date: - Issue No: 100 Version Start Date: 06/06/1967 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	**1**

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.

Features are displayed on the Abstractions and Source Protection Zones map on **page 52 >**

ID	Location	Details	
-	1047m E	Status: Historical Licence No: 24/66/7/0003 Details: Potable Water Supply - Direct Direct Source: EAW Groundwater Point: MINESHAFT Data Type: Point Name: Dwr Cymru Cyf Easting: 307700 Northing: 383090	Annual Volume (m^3): 181840 Max Daily Volume (m^3): 1818.4 Original Application No: - Original Start Date: 25/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/12/1978 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m	**0**

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

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

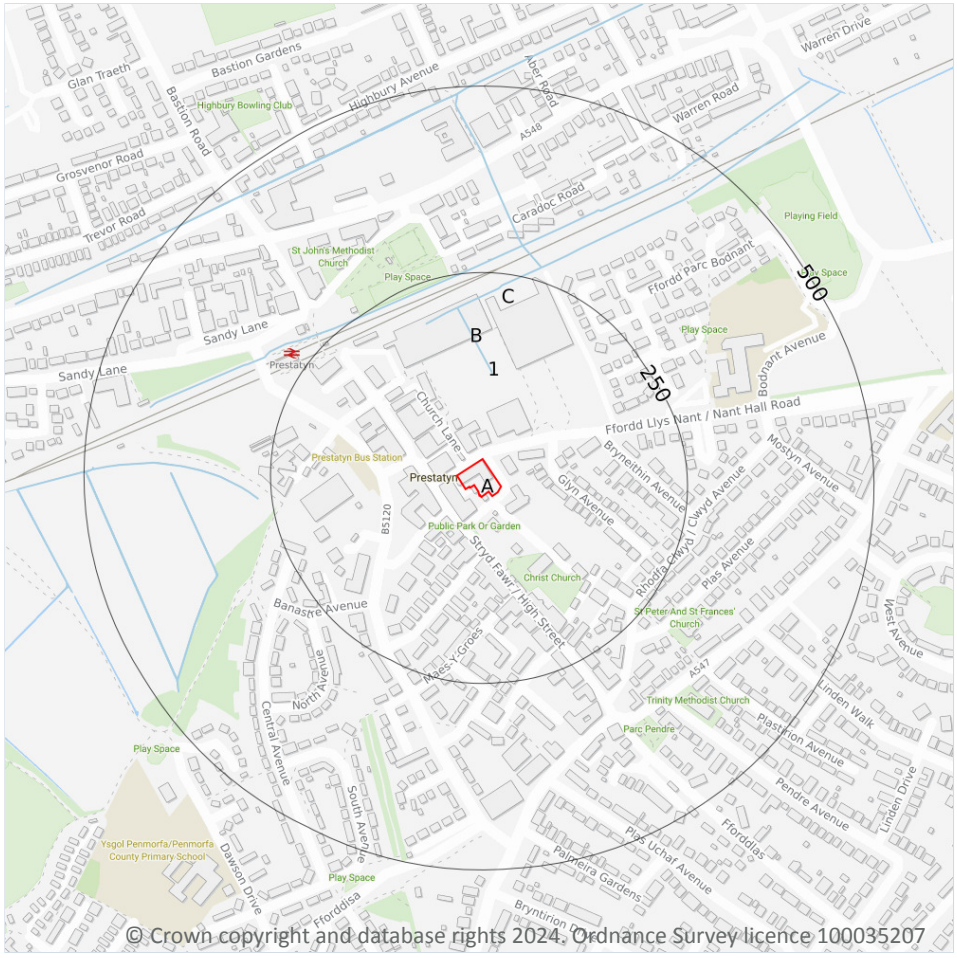
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

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

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

6 Hydrology



Site Outline

Search buffers in metres (m)

Water Network (OS MasterMap)

Surface water features (wider than 5m)

Surface water features (narrower than 5m)

WFD River, canal and surface water transfer water bodies

WFD Lake water bodies

WFD Transitional and coastal water bodies

WFD Surface water body catchments boundaries

WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m	5

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

Features are displayed on the Hydrology map on **page 56 >**

ID	Location	Type of water feature	Ground level	Permanence	Name
1	113m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
B	150m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	196m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	205m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	239m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	0

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.

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1

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

Features are displayed on the Hydrology map on **page 56 >**

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

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

6.4 WFD Surface water bodies

Records identified	0

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

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

6.5 WFD Groundwater bodies

Records on site	1

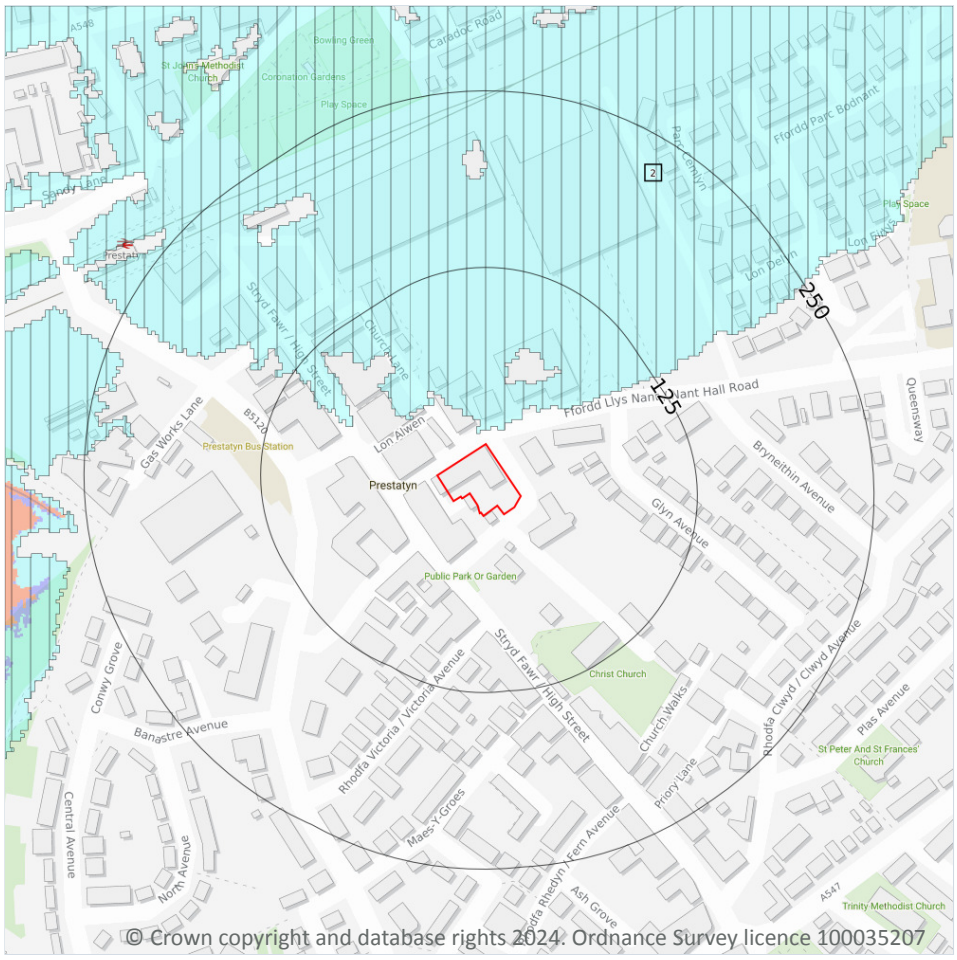
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place.

Features are displayed on the Hydrology map on **page 56 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**Clwyd Silurian**	**GB41002G200100**	**Good**	**Good**	**Good**	**2017**

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

7 River and coastal flooding



Site Outline

Search buffers in metres (m)

River and coastal flooding:

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

7.1 Risk of flooding from rivers and the sea

Records within 50m	1

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

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

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

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	**1**

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.

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

ID	Location	
2	9m N	Area benefiting from flood defences

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

7.5 Flood Storage Areas

Records within 250m	0

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

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

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

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

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

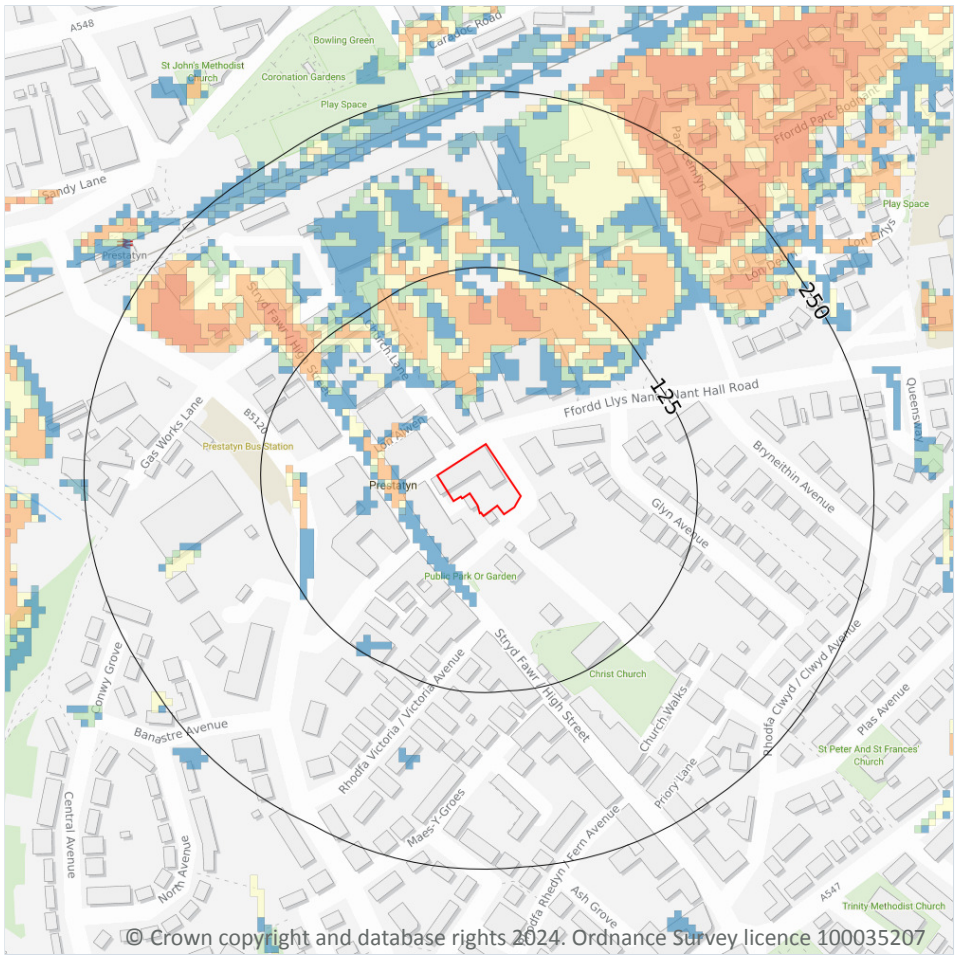
7.7 Flood Zone 3

Records within 50m	0

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

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

8 Surface water flooding



8.1 Surface water flooding

Highest risk on site	**Negligible**
Highest risk within 50m	**1 in 30 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 63 >**

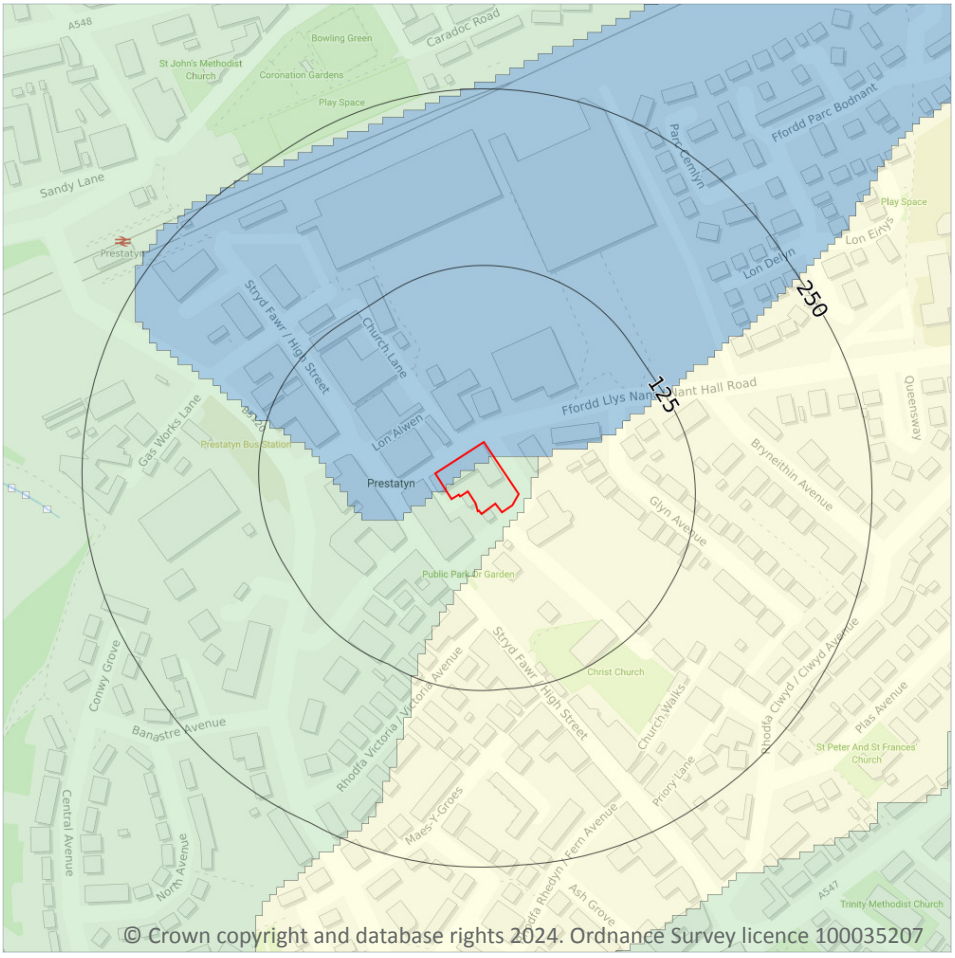
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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

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

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



9.1 Groundwater flooding

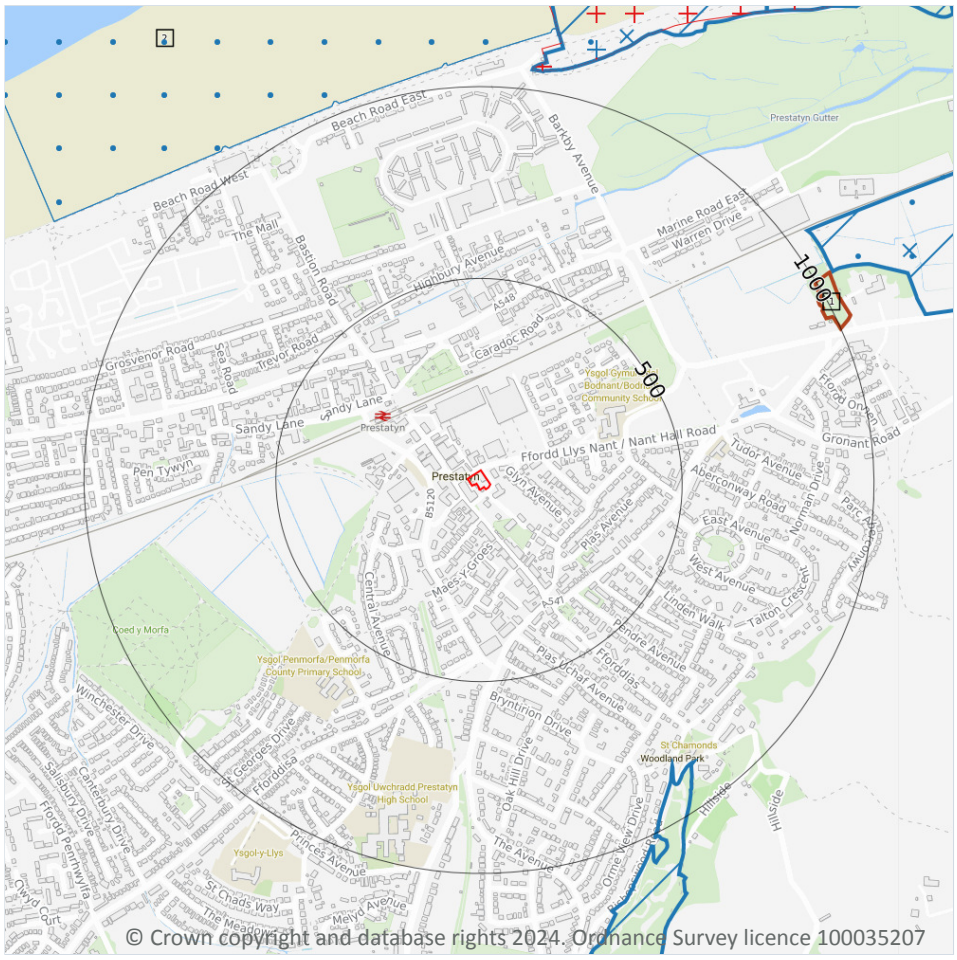
Highest risk on site	**Low**
Highest risk within 50m	**Moderate**

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

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

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	5

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

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

ID	Location	Name	Data source
A	870m SE	Prestatyn Hillside	Natural Resources Wales

ID	Location	Name	Data source
B	1051m NE	Dee Estuary / Aber Afon Dyfrdwy	Natural Resources Wales
4	1052m N	Gronant Dunes and Talacre Warren	Natural Resources Wales
10	1409m NE	Gronant Dunes and Talacre Warren	Natural Resources Wales
-	1929m SE	Teilia Quarry	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	**2**

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.

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

ID	Location	Site	Details
B	1051m NE	Name: The Dee Estuary (Wales) Site status: - Data source: Natural Resources Wales	Overview: The Dee is a large funnel-shaped sheltered estuary and is one of the top ten estuaries in the UK for wintering and passage waterfowl populations. The estuary supports internationally important numbers of waterfowl and waders. The estuary is an accreting system and the extent of saltmarsh continues to expand as the estuary seeks to achieve a new equilibrium situation following large-scale historical land-claim at the head of the estuary which commenced in the 1730s. Nevertheless, the estuary still supports extensive areas of intertidal sand and mudflats as well as saltmarsh. Where land-claim has not occurred, the saltmarshes grade into transitional brackish and freshwater swamp vegetation, on the upper shore. The site includes the three sandstone islands of Hilbre with their important cliff vegetation and maritime heathland/grassland, the sand dune system between the Point of Ayr and Prestatyn in Wales and Red Rocks in England, various Welsh coastal fields historically reclaimed from the estuary but used by the Dee Estuary wintering waterfowl populations, freshwater lagoons and reedbeds at Shotton supporting the largest common tern breeding colony in Wales and freshwater lagoons at Inner Marsh Farm used by waterfowl throughout the year but particularly in winter. The two shorelines of the estuary show a marked contrast between the industrialised usage of the coastal belt in Wales and residential and recreational usage in England. Ramsar criteria: Ramsar criterion 1 Extensive intertidal mud and sand flats (20 km by 9 km) with large expanses of saltmarsh towards the head of the estuary. Habitats Directive Annex I features present on the pSAC include: H1130 Estuaries H1140 Mudflats and sandflats not covered by seawater at low tide H1210 Annual vegetation of drift lines H1230 Vegetated sea cliffs of the Atlantic and Baltic coasts H1310 Salicornia and other annuals colonising mud and sand H1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) H2110 Embryonic shifting dunes H2120 Shifting dunes along the shoreline with Ammophila arenaria (“white dunes”) H2130 Fixed dunes with herbaceous vegetation (“grey dunes”) H2190 Humid dune slacks Criterion 2, it supports breeding colonies of the vulnerable Natterjack Toad, Epidalea calamita

ID	Location	Site	Details
C	1052m N	Name: The Dee Estuary (Wales) Site status: - Data source: Natural Resources Wales	Overview: The Dee is a large funnel-shaped sheltered estuary and is one of the top ten estuaries in the UK for wintering and passage waterfowl populations. The estuary supports internationally important numbers of waterfowl and waders. The estuary is an accreting system and the extent of saltmarsh continues to expand as the estuary seeks to achieve a new equilibrium situation following large-scale historical land-claim at the head of the estuary which commenced in the 1730s. Nevertheless, the estuary still supports extensive areas of intertidal sand and mudflats as well as saltmarsh. Where land-claim has not occurred, the saltmarshes grade into transitional brackish and freshwater swamp vegetation, on the upper shore. The site includes the three sandstone islands of Hilbre with their important cliff vegetation and maritime heathland/grassland, the sand dune system between the Point of Ayr and Prestatyn in Wales and Red Rocks in England, various Welsh coastal fields historically reclaimed from the estuary but used by the Dee Estuary wintering waterfowl populations, freshwater lagoons and reedbeds at Shotton supporting the largest common tern breeding colony in Wales and freshwater lagoons at Inner Marsh Farm used by waterfowl throughout the year but particularly in winter. The two shorelines of the estuary show a marked contrast between the industrialised usage of the coastal belt in Wales and residential and recreational usage in England. Ramsar criteria: Ramsar criterion 1 Extensive intertidal mud and sand flats (20 km by 9 km) with large expanses of saltmarsh towards the head of the estuary. Habitats Directive Annex I features present on the pSAC include: H1130 Estuaries H1140 Mudflats and sandflats not covered by seawater at low tide H1210 Annual vegetation of drift lines H1230 Vegetated sea cliffs of the Atlantic and Baltic coasts H1310 Salicornia and other annuals colonising mud and sand H1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) H2110 Embryonic shifting dunes H2120 Shifting dunes along the shoreline with Ammophila arenaria (“white dunes”) H2130 Fixed dunes with herbaceous vegetation (“grey dunes”) H2190 Humid dune slacks Criterion 2, it supports breeding colonies of the vulnerable Natterjack Toad, Epidalea calamita

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m	**1**

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 66 >**

ID	Location	Name	Features of interest	Habitat description	Data source
C	1052m N	Dee Estuary / Aber Dyfrdwy (Wales)	Estuaries; Intertidal mudflats and sandflats; Lagoons; Annual vegetation of drift lines; Vegetated sea cliffs; Glasswort and other annuals colonising mud and sand; Cord-grass swards; Atlantic salt meadows; Shifting dunes; Shifting dunes with marram; Dune grassland; Humid dune slacks; Dry heaths; Sea lamprey; River lamprey; Twaite shad; Otter; Grey seal; Petalwort.	Shingle, Sea cliffs, Islets; Salt marshes, Salt pastures, Salt steppes; Humid grassland, Mesophile grassland; Improved grassland; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Bogs, Marshes, Water fringed vegetation, Fens; Broad-leaved deciduous woodland; Coastal sand dunes, Sand beaches, Machair; Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	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	**8**

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.

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

ID	Location	Name	Species of interest	Habitat description	Data source
2	1025m N	Liverpool Bay / Bae Lerpwl (Wales)	Red-throated diver; Black (common) scoter; Little gull; Common tern; Little tern	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales
3	1025m N	Liverpool Bay	Red-throated diver; Black (common) scoter; Little gull; Common tern; Little tern	Marine areas, Sea inlets; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	Natural England

ID	Location	Name	Species of interest	Habitat description	Data source
B	1051m NE	The Dee Estuary (Wales)	Common shelduck; Eurasian teal; Northern pintail; Eurasian oystercatcher; Grey plover; Red knot; Bar-tailed godwit; Eurasian curlew; Common redshank; Common redshank; Sandwich tern; Common tern; Little tern; Black-tailed godwit; Dunlin	Broad-leaved deciduous woodland; Shingle, Sea cliffs, Islets; Coastal sand dunes, Sand beaches, Machair; Mixed woodland; Dry grassland, Steppes; Inland water bodies (Standing water, Running water); Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Improved grassland; Other arable land; Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Humid grassland, Mesophile grassland; Bogs, Marshes, Water fringed vegetation, Fens; Marine areas, Sea inlets	Natural Resources Wales
5	1052m N	The Dee Estuary (Wales)	Common shelduck; Eurasian teal; Northern pintail; Eurasian oystercatcher; Grey plover; Red knot; Bar-tailed godwit; Eurasian curlew; Common redshank; Common redshank; Sandwich tern; Common tern; Little tern; Black-tailed godwit; Dunlin	Broad-leaved deciduous woodland; Shingle, Sea cliffs, Islets; Coastal sand dunes, Sand beaches, Machair; Mixed woodland; Dry grassland, Steppes; Inland water bodies (Standing water, Running water); Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Improved grassland; Other arable land; Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Humid grassland, Mesophile grassland; Bogs, Marshes, Water fringed vegetation, Fens; Marine areas, Sea inlets	Natural Resources Wales
-	1388m N	Liverpool Bay / Bae Lerpwl (Wales)	Red-throated diver; Black (common) scoter; Little gull; Common tern; Little tern	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales
-	1388m N	Liverpool Bay	Red-throated diver; Black (common) scoter; Little gull; Common tern; Little tern	Marine areas, Sea inlets; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	Natural England

ID	Location	Name	Species of interest	Habitat description	Data source
-	1397m N	The Dee Estuary (Wales)	Common shelduck; Eurasian teal; Northern pintail; Eurasian oystercatcher; Grey plover; Red knot; Bar-tailed godwit; Eurasian curlew; Common redshank; Common redshank; Sandwich tern; Common tern; Little tern; Black-tailed godwit; Dunlin	Broad-leaved deciduous woodland; Shingle, Sea cliffs, Islets; Coastal sand dunes, Sand beaches, Machair; Mixed woodland; Dry grassland, Steppes; Inland water bodies (Standing water, Running water); Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Improved grassland; Other arable land; Salt marshes, Salt pastures, Salt steppes; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Humid grassland, Mesophile grassland; Bogs, Marshes, Water fringed vegetation, Fens; Marine areas, Sea inlets	Natural Resources Wales
-	1807m NW	Liverpool Bay / Bae Lerpwl (Wales)	Red-throated diver; Black (common) scoter; Little gull; Common tern; Little tern	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Marine areas, Sea inlets	Natural Resources Wales

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	1

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

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

ID	Location	Name	Data source
C	1052m N	Gronant Dunes	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	11

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

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

ID	Location	Name	Woodland Type
1	976m NE	Unknown	Ancient Semi Natural Woodland
-	1267m S	Unknown	Ancient Semi Natural Woodland
-	1269m S	Unknown	Ancient Semi Natural Woodland
-	1359m E	Unknown	Restored Ancient Woodland Site
-	1412m E	Unknown	Ancient Semi Natural Woodland
-	1472m SE	Unknown	Restored Ancient Woodland Site
-	1728m S	Unknown	Ancient Semi Natural Woodland
-	1784m E	Unknown	Restored Ancient Woodland Site
-	1801m E	Unknown	Ancient Semi Natural Woodland
-	1807m S	Unknown	Ancient Woodland Site of Unknown Category
-	1863m E	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

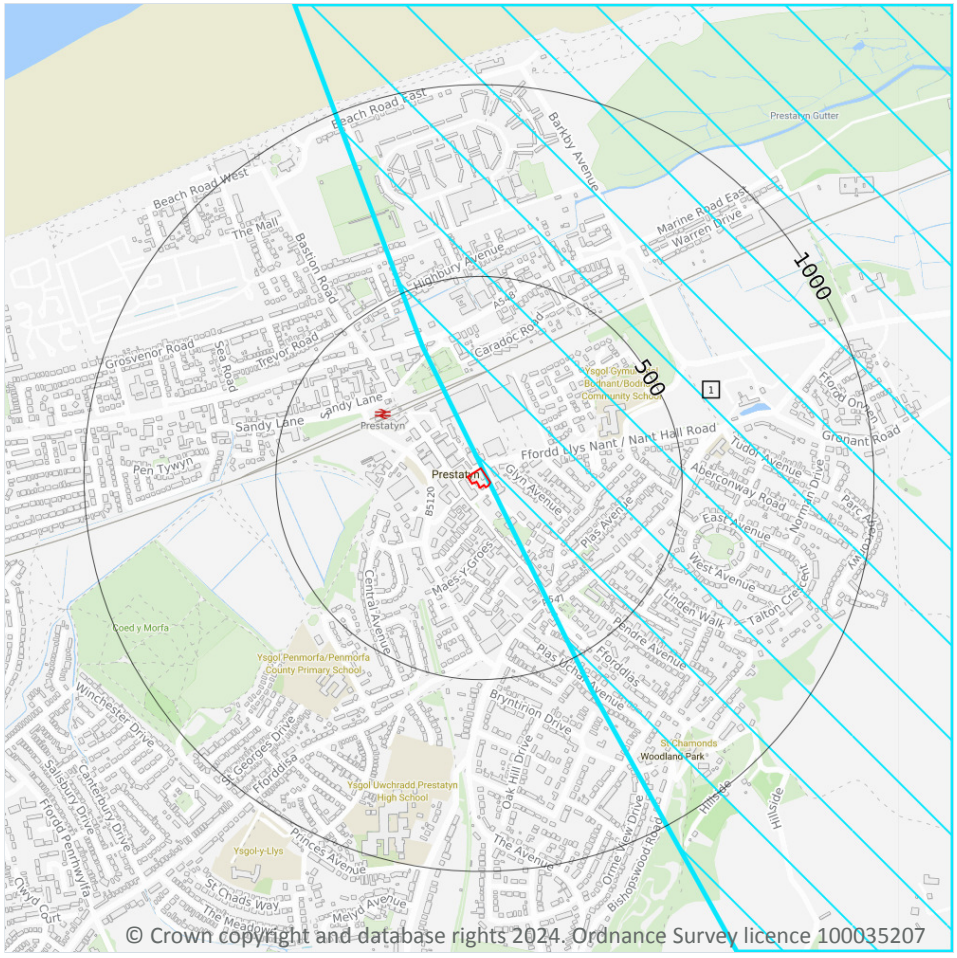
Records within 2000m	1

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
On site	**-**	**Groundwater**	**135**	**Existing**

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

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site	1

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

Features are displayed on the SSSI Impact Zones and Units map on **page 76 >**

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

This data is sourced from Natural England.

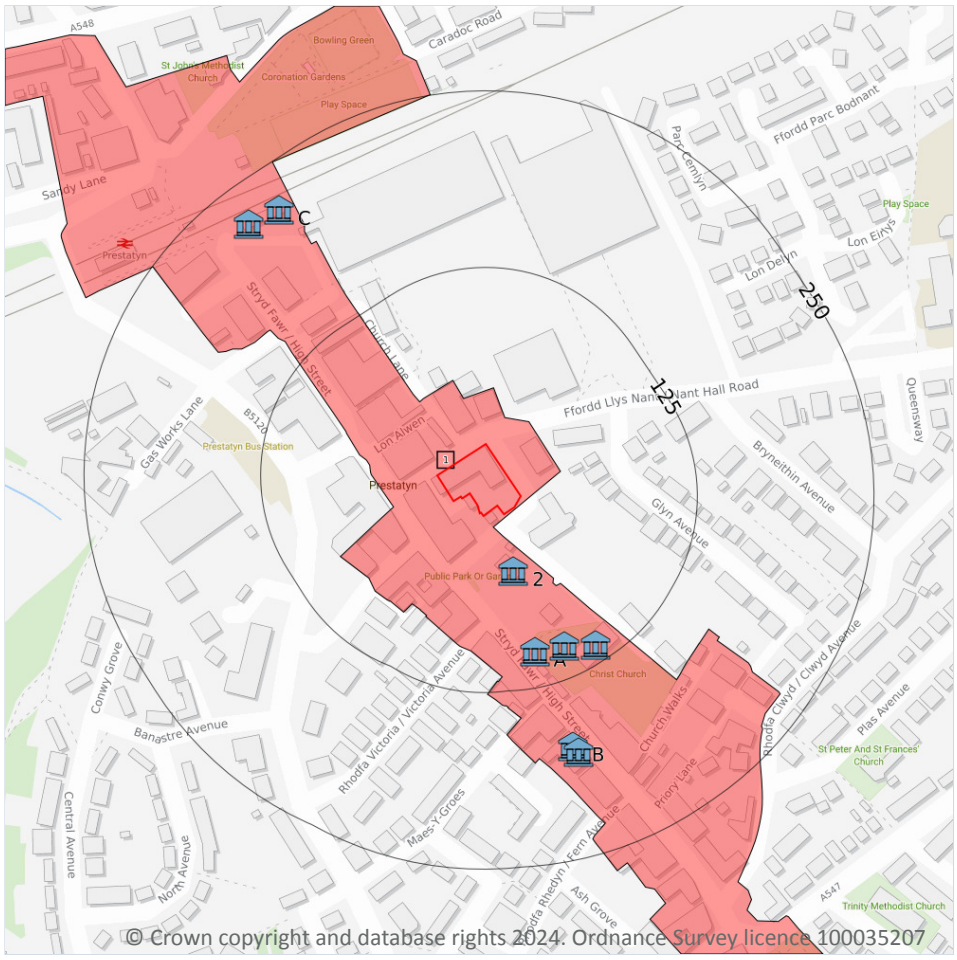
10.18 SSSI Units

Records within 2000m	0

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

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

11 Visual and cultural designations



Site Outline

Search buffers in metres (m)

Listed buildings

Conservation areas

Conservation areas - no data

National Parks

Areas of Outstanding Natural Beauty

Registered parks and gardens

Scheduled Monuments

World Heritage Sites

11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	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	8

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 78 >**

ID	Location	Name	Grade	Reference Number	Listed date
2	41m S	Christ Church Vicarage, To East Of High Street, 100 M North-West Of Christ Church, In A Walled Garden. Surrounding Limestone Rubble Garden Wall With Gothic Wrought-Iron Gates To East. Gothic Timber Door To West, Similar Gates (Restored) To North.	II	25741	12/09/2001
A	100m S	Lychgate At Christ Church, At Entrance To Christ Church Graveyard.	II	25742	12/09/2001

ID	Location	Name	Grade	Reference Number	Listed date
A	103m SE	War Memorial At Christ Church, Close To The West End Of Christ Church, Within The Churchyard.	II	25743	12/09/2001
A	113m SE	Christ Church, On Rising Ground To The East Of High Street, With A Large Graveyard Mainly To South; Lychgate To Street, Prominent War Memorial.	II	25740	12/09/2001
B	171m S	Presents With A Difference, On The West Side Of High Street, At Right Of Centre Of A Terrace Of Shops Situated Between Maes-Y-Groes And Fern Avenue.	II	25748	12/09/2001
B	176m S	Shelter Shop, On The West Side Of High Street, At Left Of Centre Of A Terrace Of Shops Situated Between Maes-Y-Groes And Fern Avenue.	II	25751	12/09/2001
C	219m NW	Former Goods Shed, At South Side Of Railway Line, East Of Present Railway Station, Reached Via Yard At East Of High Street	II	18159	31/01/1997
C	222m NW	Old Station, At South Side Of Railway Line, East Of Present Railway Station, Reached Via Yard At East Of High Street.	II	18158	31/01/1997

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

11.5 Conservation Areas

Records within 250m	**1**

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.

Features are displayed on the Visual and cultural designations map on **page 78 >**

ID	Location	Name	District	Date of designation
1	**On site**	**Prestatyn High Street**	**DENBIGHSHIRE**	**1992-01-01**

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

11.6 Scheduled Ancient Monuments

Records within 250m	0

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

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

11.7 Registered Parks and Gardens

Records within 250m	0

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

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

12 Agricultural designations

12.1 Agricultural Land Classification

Records within 250m	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. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability

Site Outline

Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m	1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 85 >**

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.

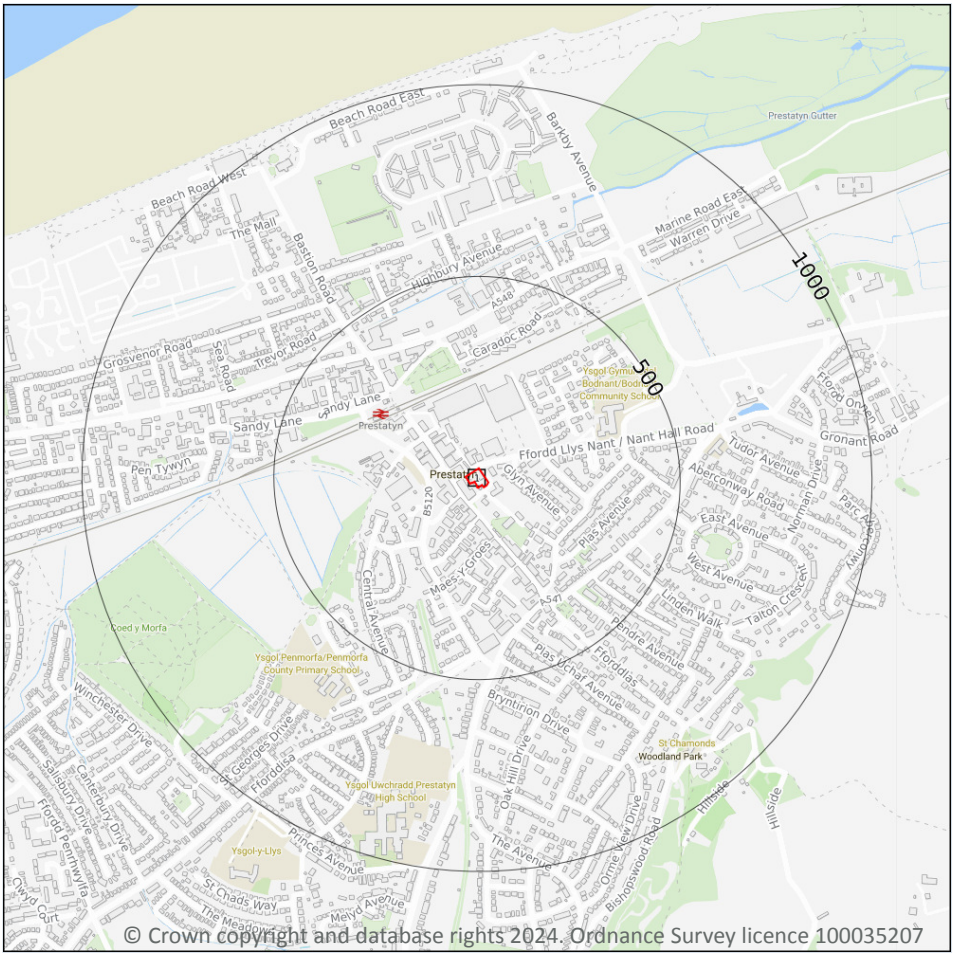
14.6 Bedrock faults and other linear features (10k)

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 89 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**Full**	**EW095_rhyl_v4**

This data is sourced from the British Geological Survey.

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

15.2 Artificial and made ground (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

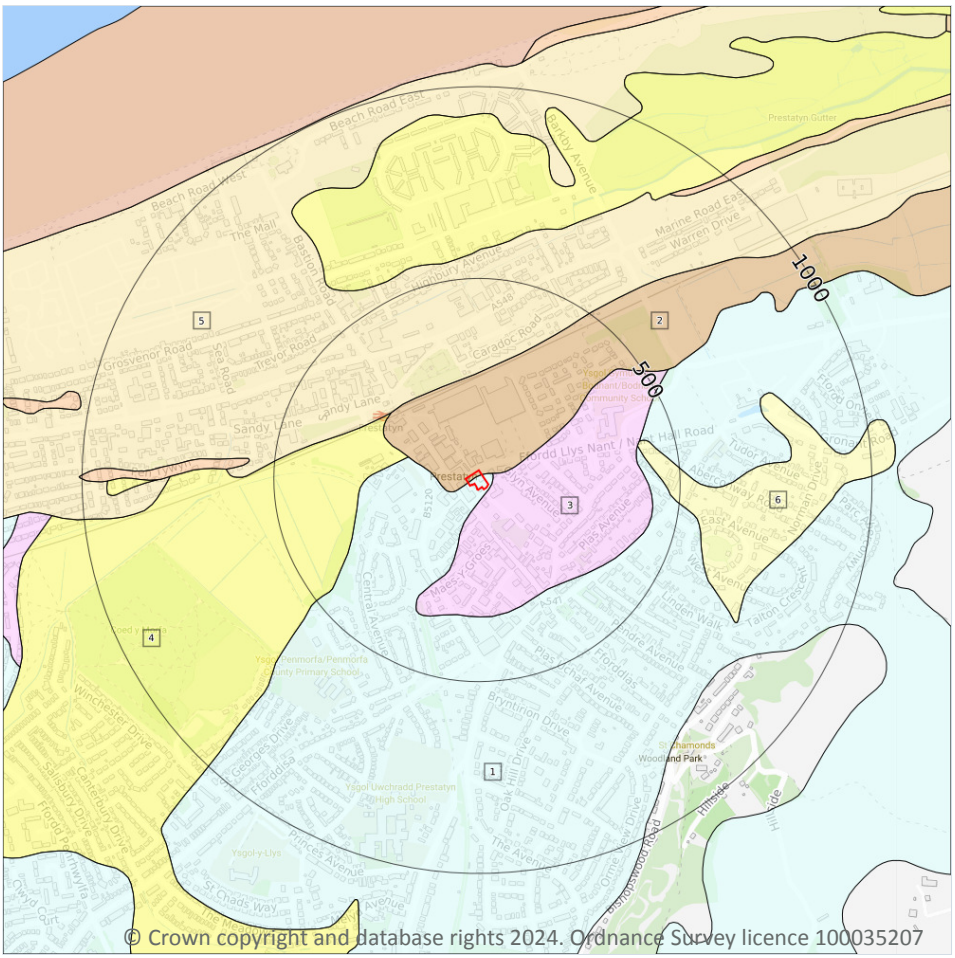
15.3 Artificial ground permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m **6**

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 91 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**
2	**On site**	**PEAT-P**	**PEAT**	**PEAT**
3	8m SE	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL

ID	Location	LEX Code	Description	Rock description
4	160m W	TFD-XCZS	TIDAL FLAT DEPOSITS	CLAY, SILT AND SAND
5	237m N	BSA-S	BLOWN SAND	SAND
6	402m E	TUFA-CATUFA	TUFA	TUFA, CALCAREOUS

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	**3**

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**Low**	**Very Low**
On site	**Mixed**	**High**	**Low**
8m SE	Intergranular	Very High	High

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	**0**

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

This data is sourced from the British Geological Survey.

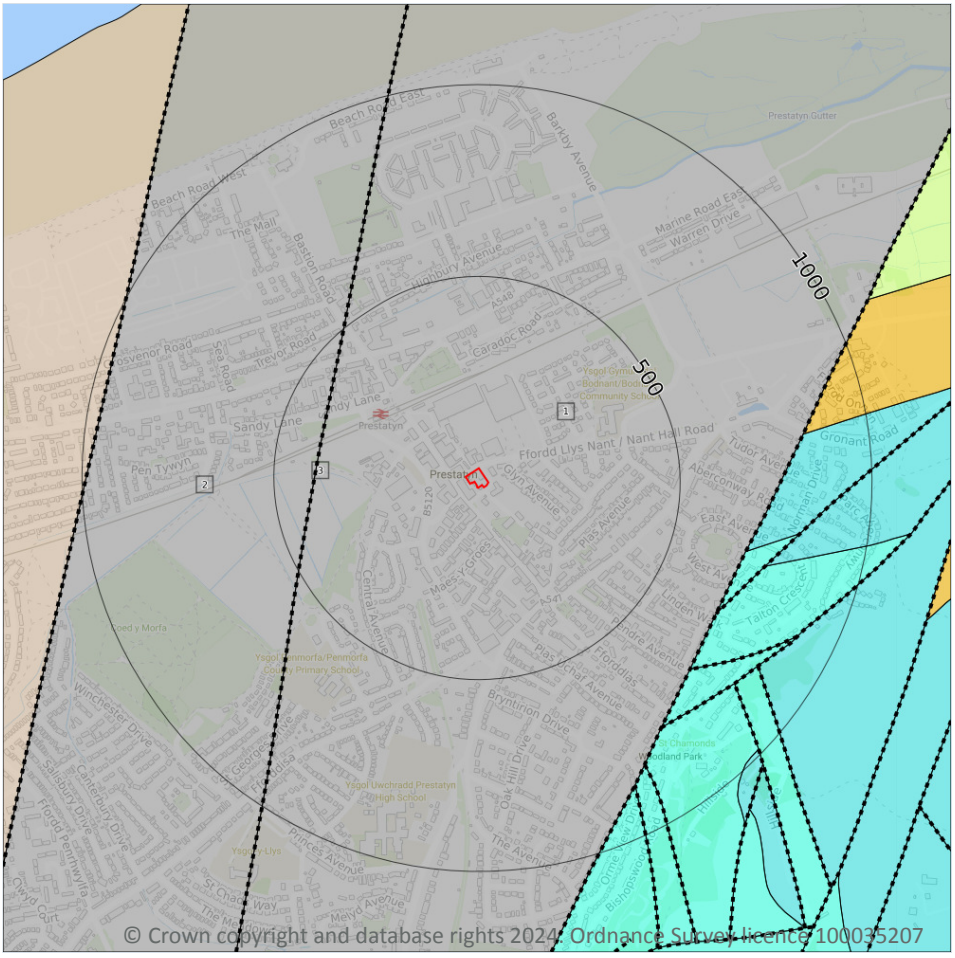
15.7 Landslip permeability (50k)

Records within 50m	**0**

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m **2**

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 93 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**PCM-CYCCM**	**PENNINE COAL MEASURES GROUP - SEDIMENTARY ROCK CYCLES, COAL MEASURE TYPE**	**WESTPHALIAN**
2	387m W	PCM-CYCCM	PENNINE COAL MEASURES GROUP - SEDIMENTARY ROCK CYCLES, COAL MEASURE TYPE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	1

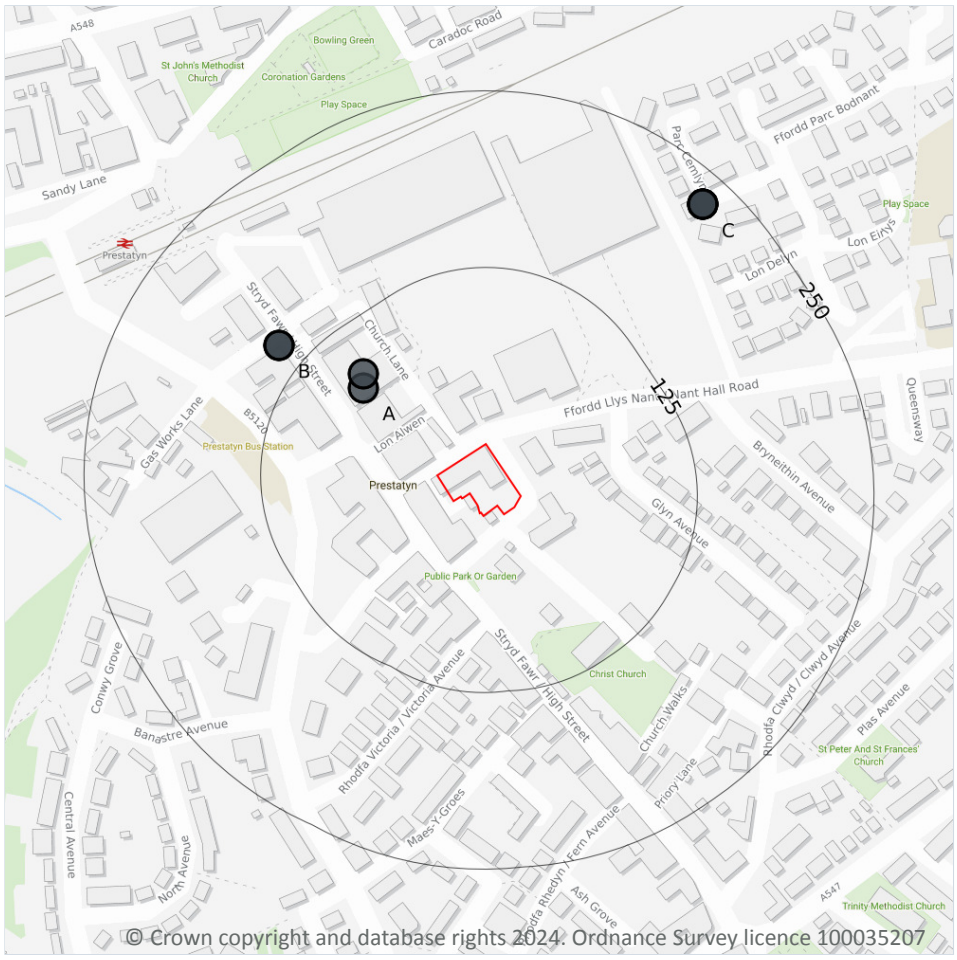
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 93 >**

ID	Location	Category	Description
3	387m W	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.

16 Boreholes



Site Outline

Search buffers in metres (m)

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

16.1 BGS Boreholes

Records within 250m	8

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.

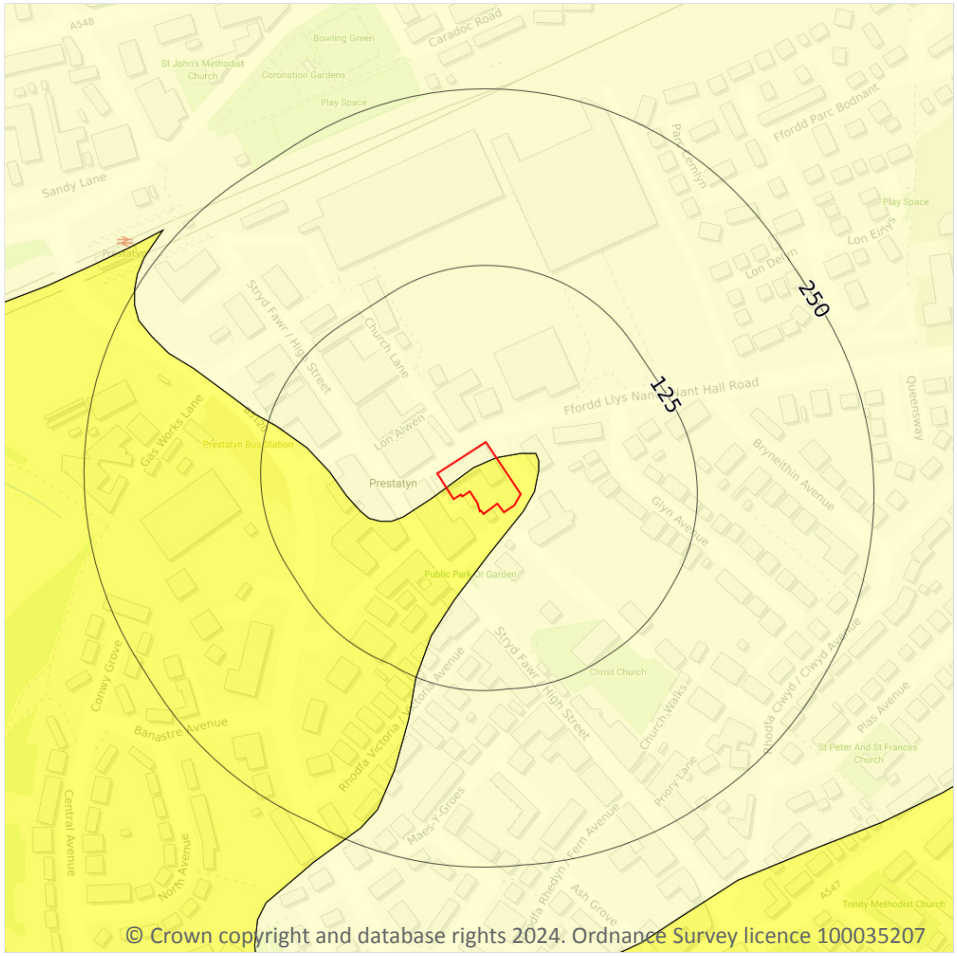
Features are displayed on the Boreholes map on **page 95 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	81m NW	306560 382970	SCALA CINEMA PRESTATYN 1	-	Y	N/A
A	89m NW	306560 382980	SCALA CINEMA PRESTATYN 2	-	Y	N/A
B	145m NW	306500 383000	KWIK SAVE, PRESTATYN 5	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
B	145m NW	306500 383000	KWIK SAVE, PRESTATYN 6	-	Y	N/A
C	229m NE	306800 383100	KWIK SAVE, PRESTATYN 3	-	Y	N/A
C	229m NE	306800 383100	KWIK SAVE, PRESTATYN 1	-	Y	N/A
C	229m NE	306800 383100	KWIK SAVE, PRESTATYN 4	-	Y	N/A
C	229m NE	306800 383100	KWIK SAVE, PRESTATYN 2	-	Y	N/A

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	2

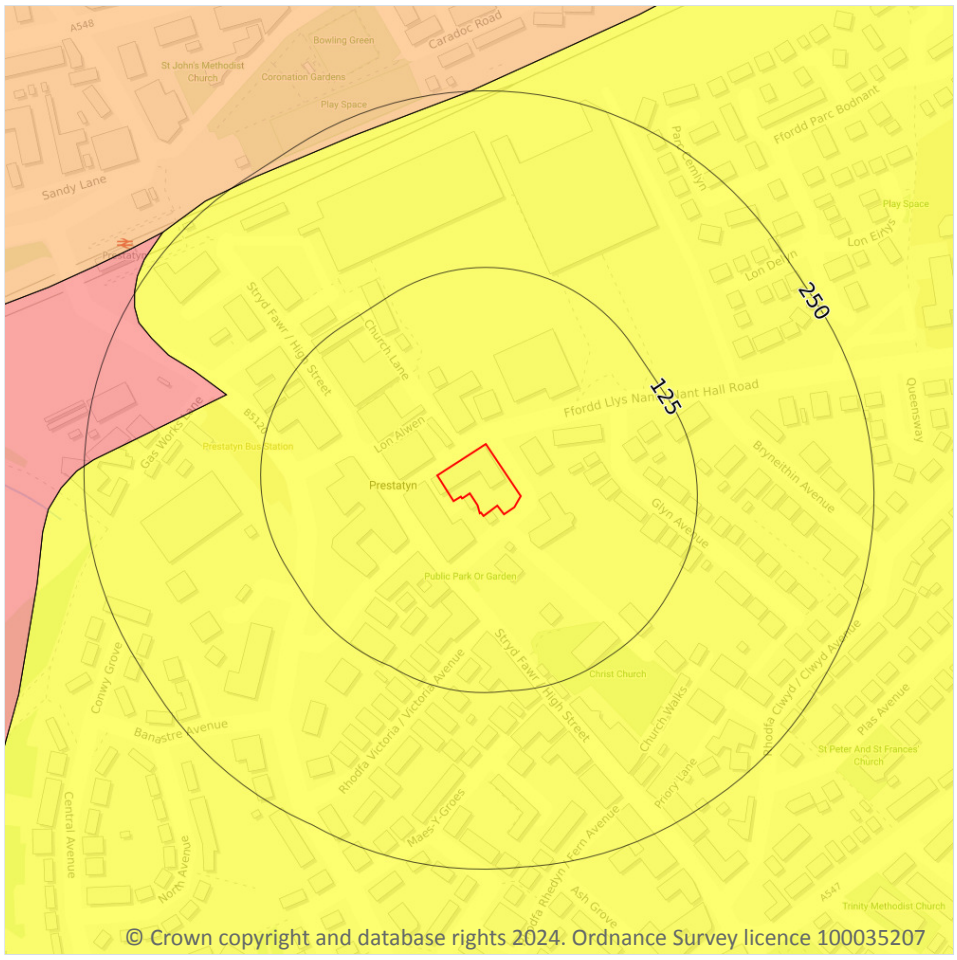
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 97 >**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**
On site	**Very low**	**Ground conditions predominantly low plasticity.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	1

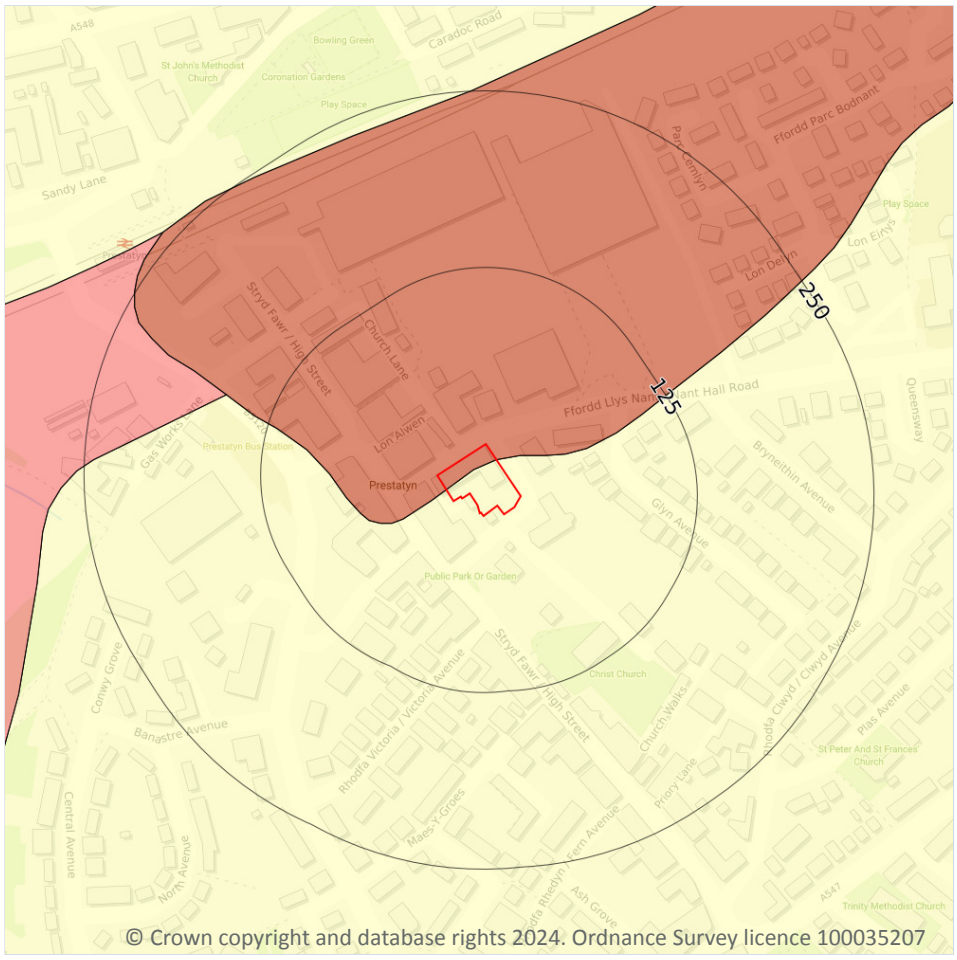
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

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

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	2

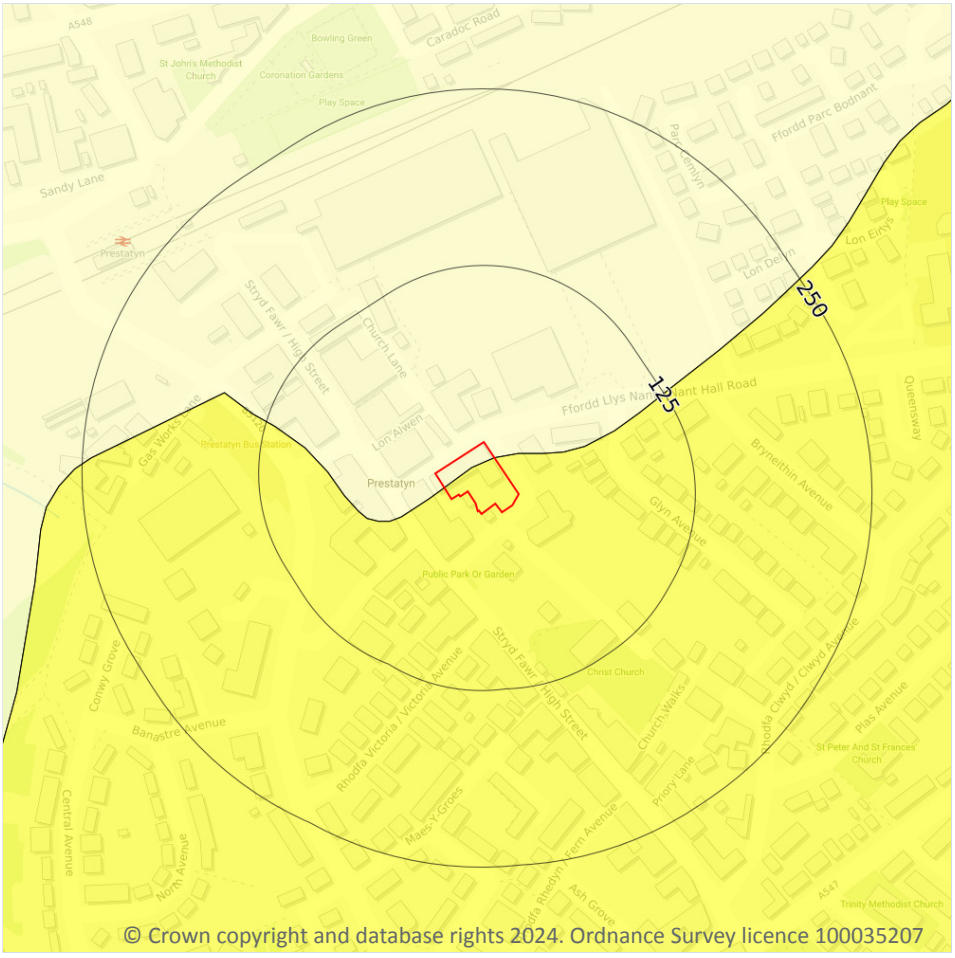
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 99 >**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
On site	**High**	**Highly compressible strata present. Significant constraint on land use depending on thickness.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	2

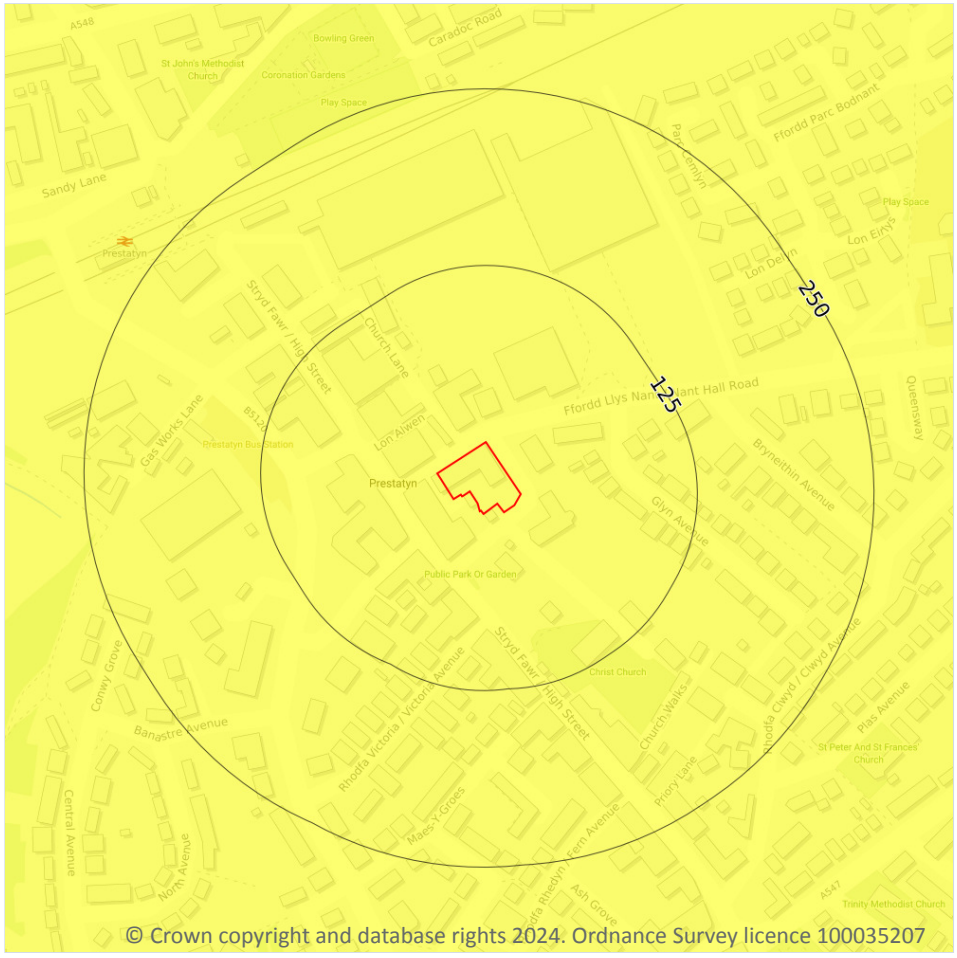
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 100 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	1

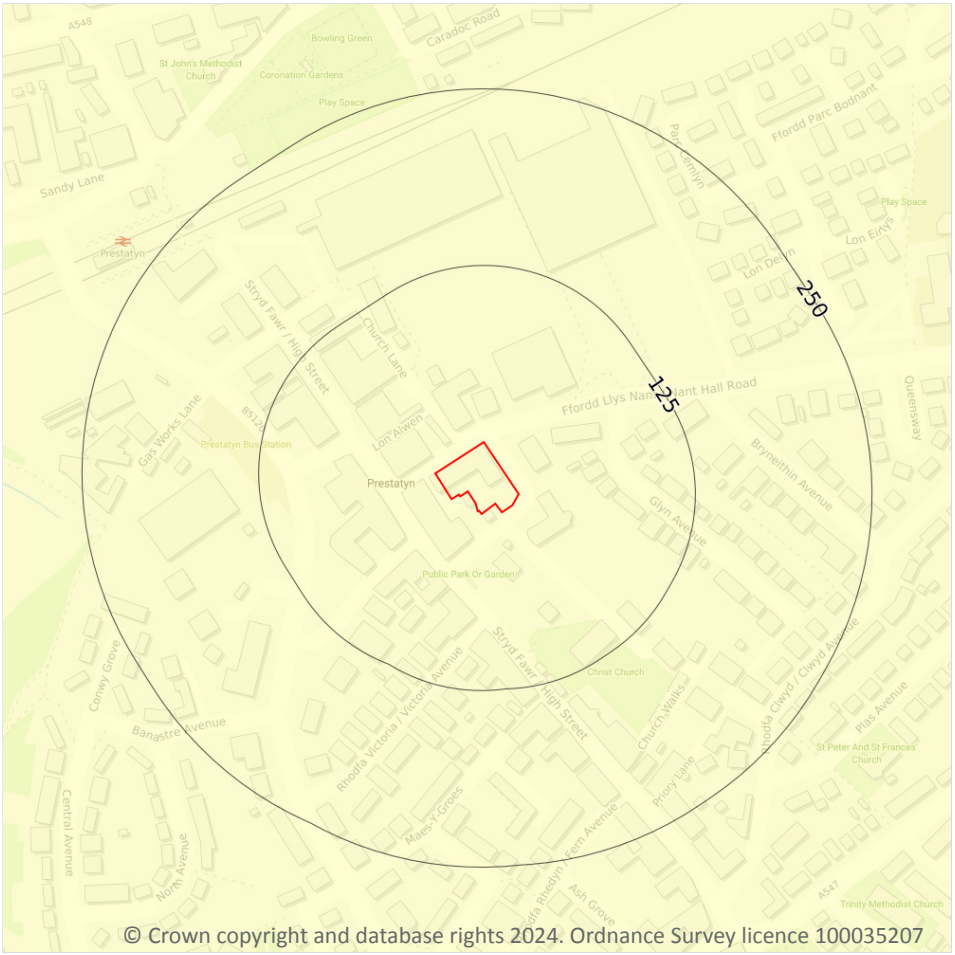
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 101 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

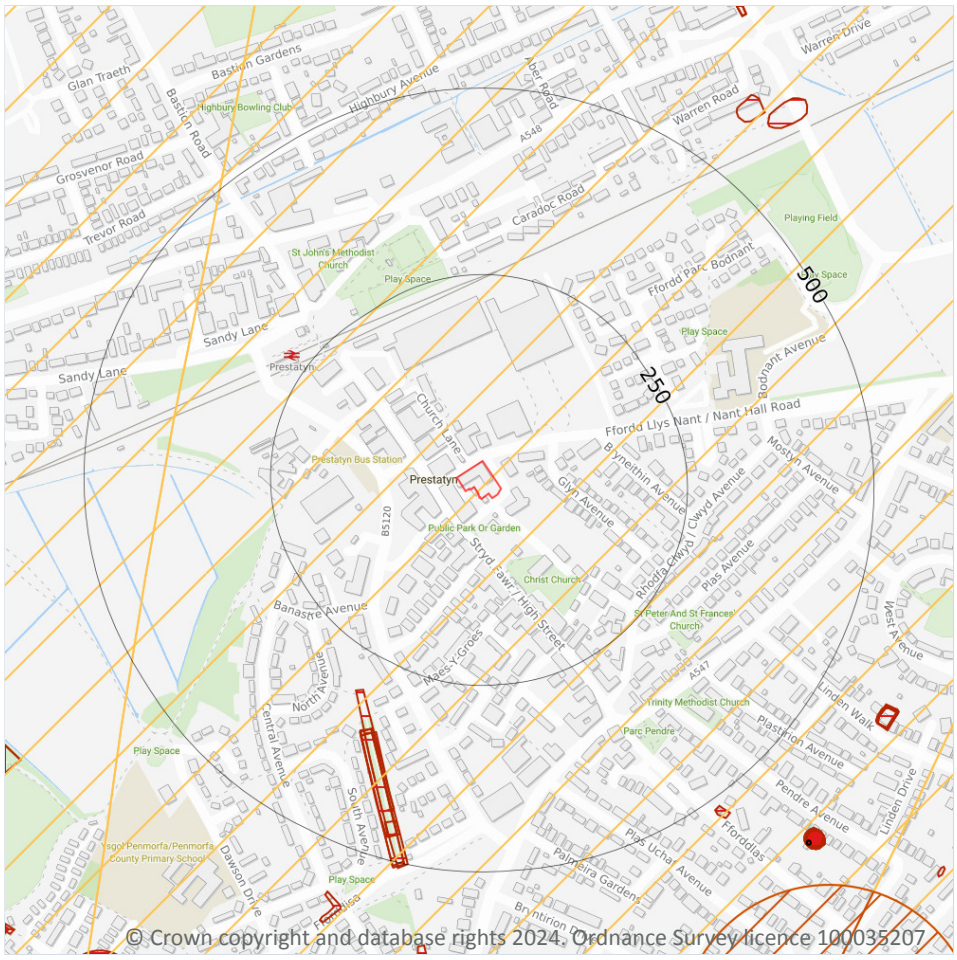
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 102 >**

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

This data is sourced from the British Geological Survey.

18 Mining and ground workings



- Site Outline

Search buffers in metres (m)

- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining

Non Coal Mining

- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	0

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.

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	4

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

Features are displayed on the Mining and ground workings map on **page 104 >**

ID	Location	Land Use	Year of mapping	Mapping scale
C	623m SE	Unspecified Old Shaft	1898	1:10560
-	845m SE	Unspecified Old Shaft	1898	1:10560
-	850m E	Unspecified Old Shaft	1898	1:10560
-	877m E	Unspecified Old Shaft	1959	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m	0

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	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	13

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

Features are displayed on the Mining and ground workings map on **page 104 >**

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**Not available**	**Iron Ore (Bedded)**	**B**	**Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.**
2	387m W	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
8	649m SE	Ty'n-yr-allt	Vein Minerals-Lead/Iron Ore (Bedded)	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	653m E	Homefield	Vein Minerals-Lead/Iron Ore (Bedded)	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
9	683m SE	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	707m E	Homefield	Vein Minerals-Lead	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
10	733m SE	Ty'n-yr-allt	Vein Minerals-Lead	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.

ID	Location	Name	Commodity	Class	Likelihood
-	749m SE	Ty'n-yr-allt	Vein Minerals-Lead/Iron Ore (Bedded)	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	753m E	Homefield	Vein Minerals-Lead/Iron Ore (Bedded)	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	753m E	Homefield	Vein Minerals-Lead	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	775m SE	Ty'n-yr-allt	Vein Minerals-Lead	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	865m E	Not available	Vein Mineral	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	951m E	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site	0

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m	0

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

Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m	0

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

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m	0

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m	0

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

This data is sourced from Groundsure.

18.12 Coal mining

Records on site	0

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

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site	0

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

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

18.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

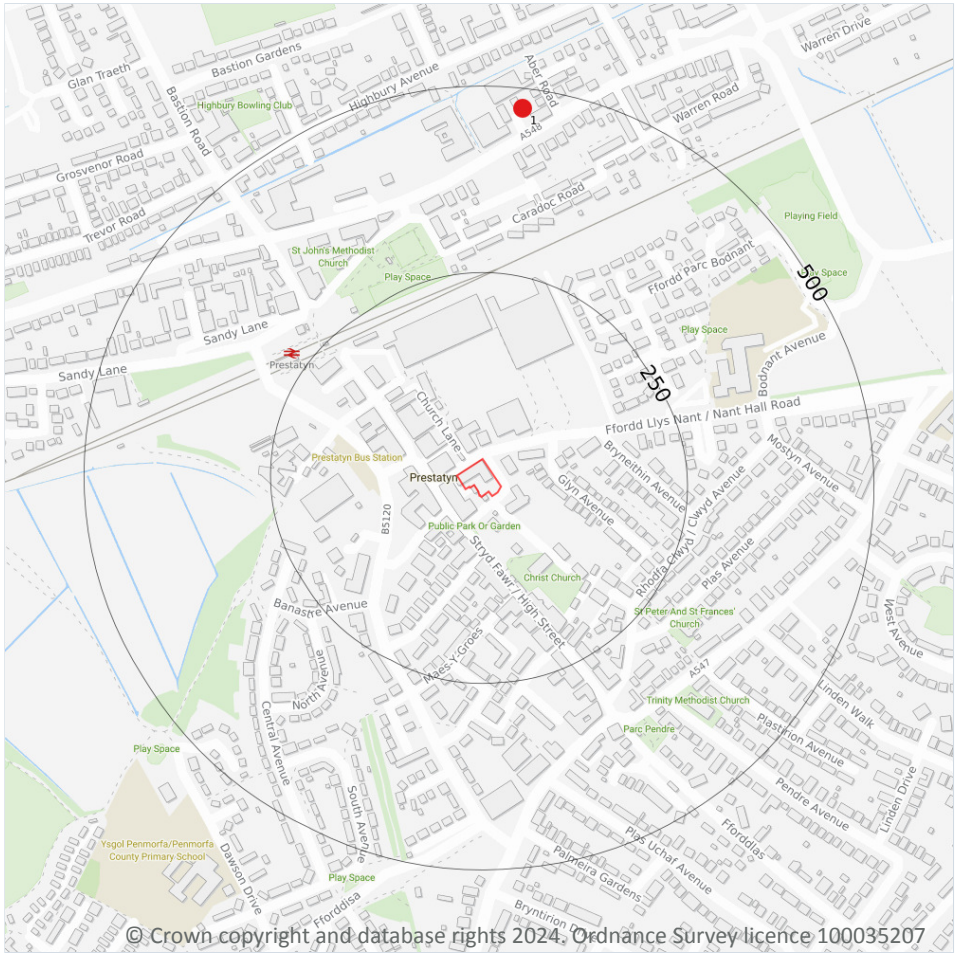
18.16 Clay mining

Records on site	0

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

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

19 Ground cavities and sinkholes



19.1 Natural cavities

Records within 500m	0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m	2

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

Features are displayed on the Ground cavities and sinkholes map on **page 110 >**

ID	Location	Mine Address	Mineral	Data source	Publisher
1	473m N	Talacre, Clwyd	Lead	THE NON FERROUS MINES OF FLINTSHIRE	NORTHERN CAVERN AND MINE RESEARCH SOC.
-	983m E	Nantymwyn, Prestatyn, Denbighshire	-	Clwyd and Powys Metal Mines Survey	-

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m	0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m	0

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

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

This data is sourced from Groundsure.

19.5 National karst database

Records within 500m	0

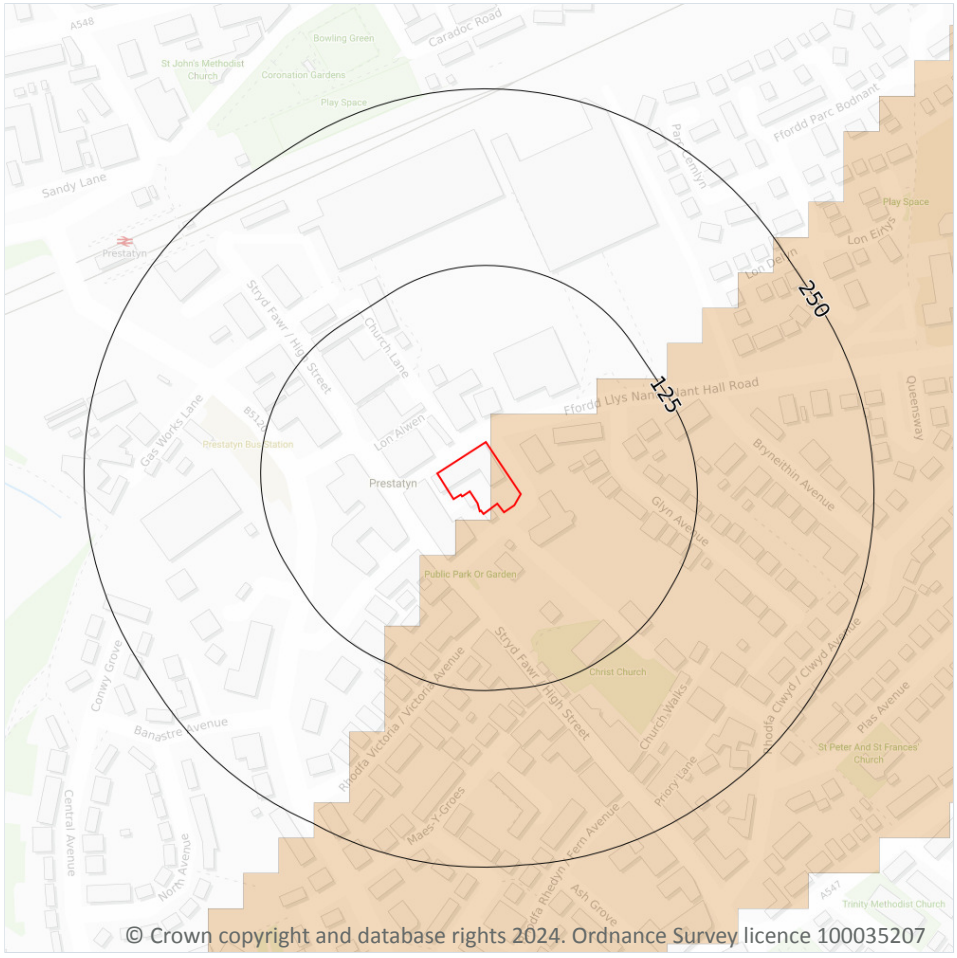
This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

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

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

This data is sourced from the British Geological Survey.

20 Radon



20.1 Radon

Records on site	2

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on **page 113 >**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 5% and 10%**	**Basic**

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

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

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	3

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 mg/kg**	**No data**	**300 - 600 mg/kg**	**240 - 360 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**300 - 600 mg/kg**	**240 - 360 mg/kg**	**1.8 mg/kg**	**40 - 60 mg/kg**	**15 - 30 mg/kg**
8m SE	15 mg/kg	No data	300 - 600 mg/kg	240 - 360 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

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

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects

- Site Outline

Search buffers in metres (m)

- Crossrail 1 Stations
- Crossrail 1 Route
- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

22.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m	18

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 116 >**

Location	Land Use	Year of mapping	Mapping scale
194m NW	Railway Sidings	1959	10560
197m NW	Railway Sidings	1938	10560
198m NW	Railway Sidings	1969	10560
202m NW	Railway Sidings	1871	10560
204m NW	Railway Sidings	1898	10560
206m NW	Railway Sidings	1961	2500
207m NW	Railway Sidings	1912	2500
208m NW	Railway Sidings	1962	1250
208m NW	Railway Sidings	1949	10560
208m NW	Railway Sidings	1899	2500
209m NW	Railway Sidings	1911	10560
210m NW	Railway Sidings	1871	2500
229m N	Railway Sidings	1899	2500
233m W	Railway Sidings	1959	10560
240m W	Railway Sidings	1962	2500
241m W	Railway Sidings	1962	1250
243m W	Railway Sidings	1949	10560

Location	Land Use	Year of mapping	Mapping scale
244m W	Railway Sidings	1912	2500

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m	1

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

Features are displayed on the Railway infrastructure and projects map on **page 116 >**

Location	Description
209m SW	Abandoned

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m	9

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 116 >**

Location	Name	Type
221m N	North Wales Coast Line	rail
222m N	Not given	Single Track
229m N	North Wales Coast Line	rail
230m N	Not given	Single Track

Location	Name	Type
234m NW	North Wales Coast Line	rail
237m NW	Not given	Single Track
238m NW	North Wales Coast Line	rail
238m N	Not given	Single Track
246m NW	Not given	Single Track

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

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

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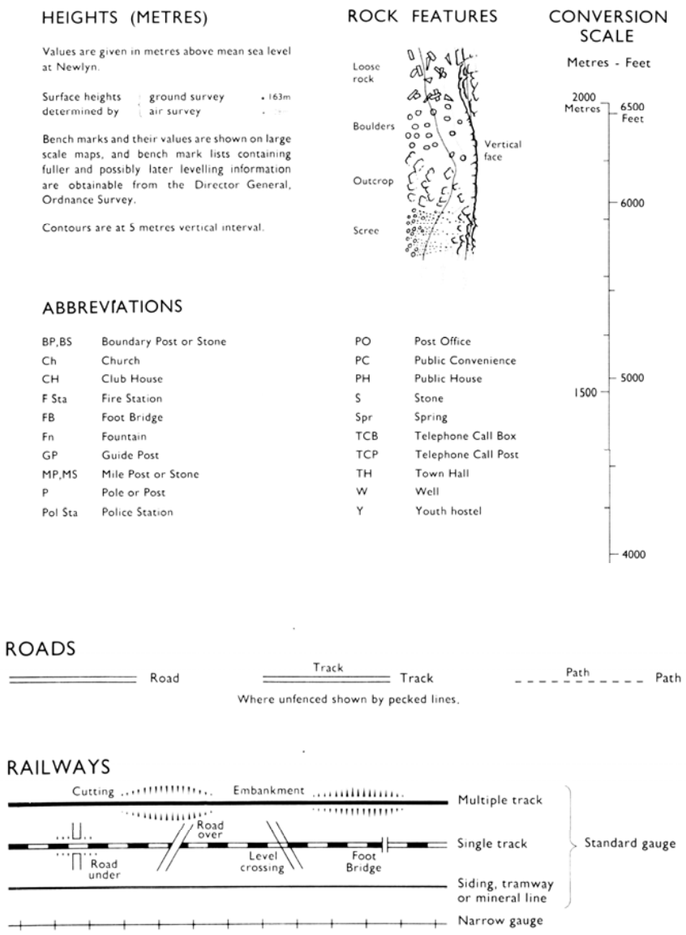
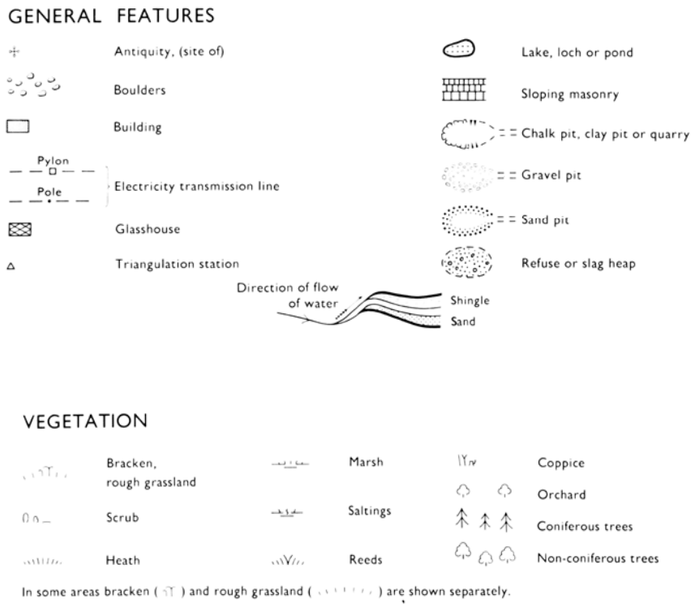
County Series 1:10,560 scale

National Grid 1:10,000 scale





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Historical Map Pack Legend

County Series & National Grid

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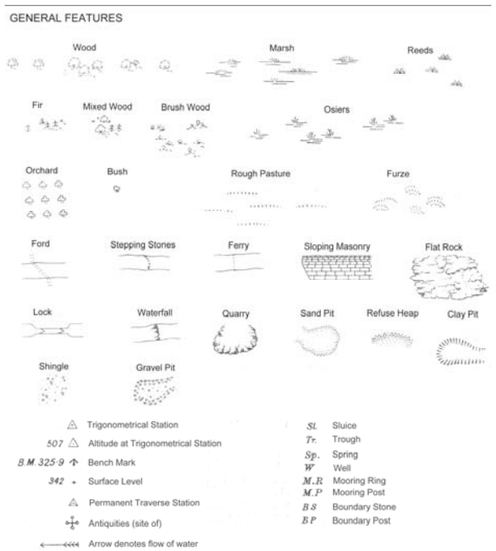
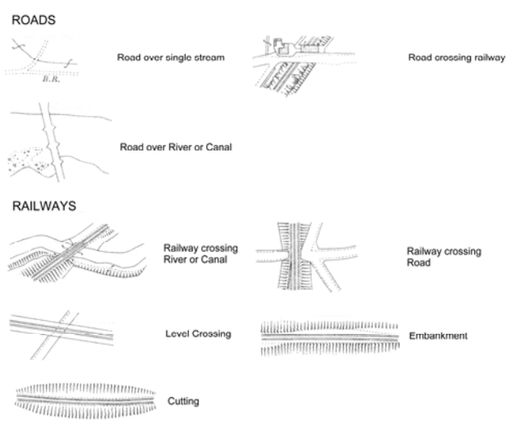
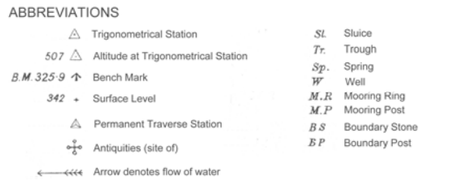
County Series 1:2,500 scale







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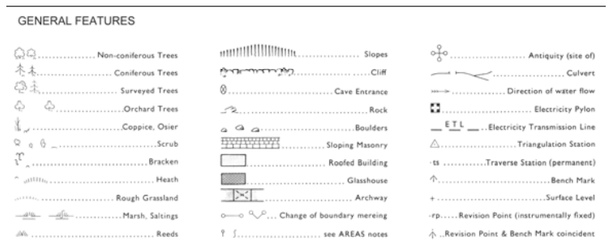

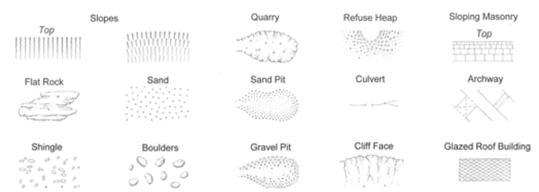

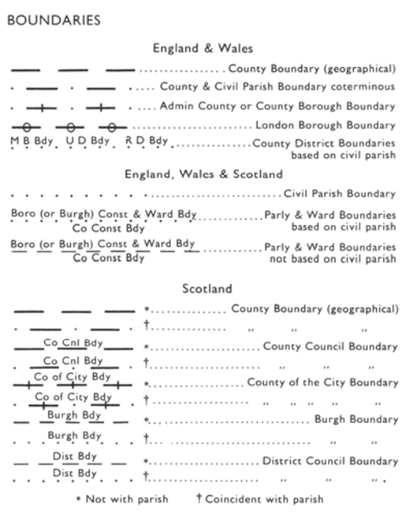

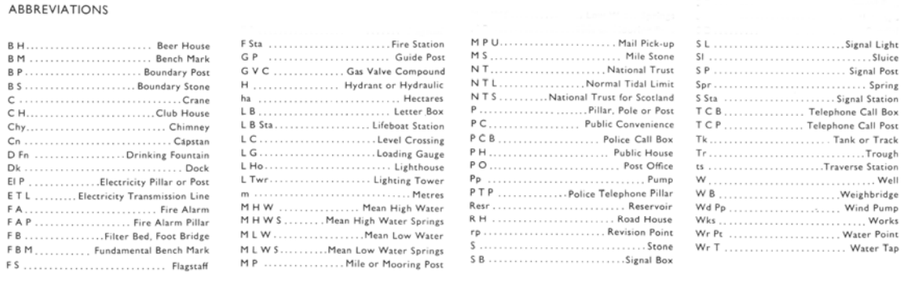

Historical Map Pack Legend

County Series

1:1,250 scale

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County Series & National Grid

1:2,500 scale

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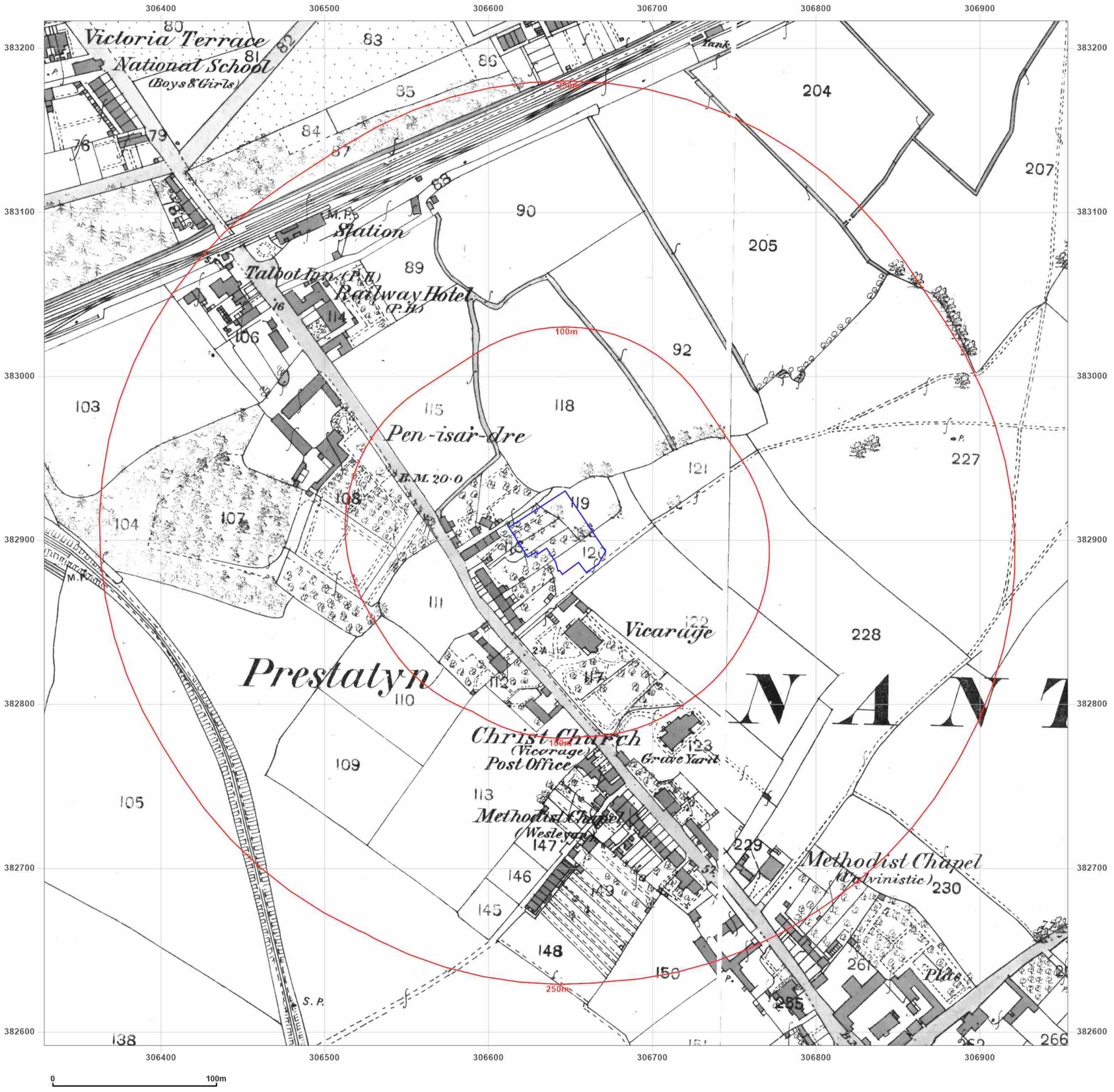

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Site Details:

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Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

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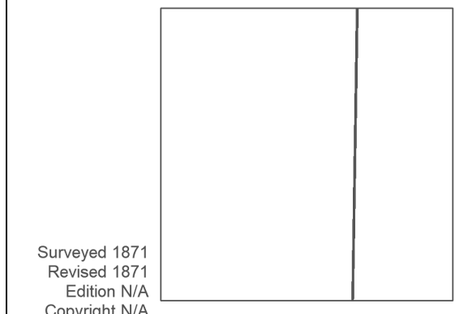

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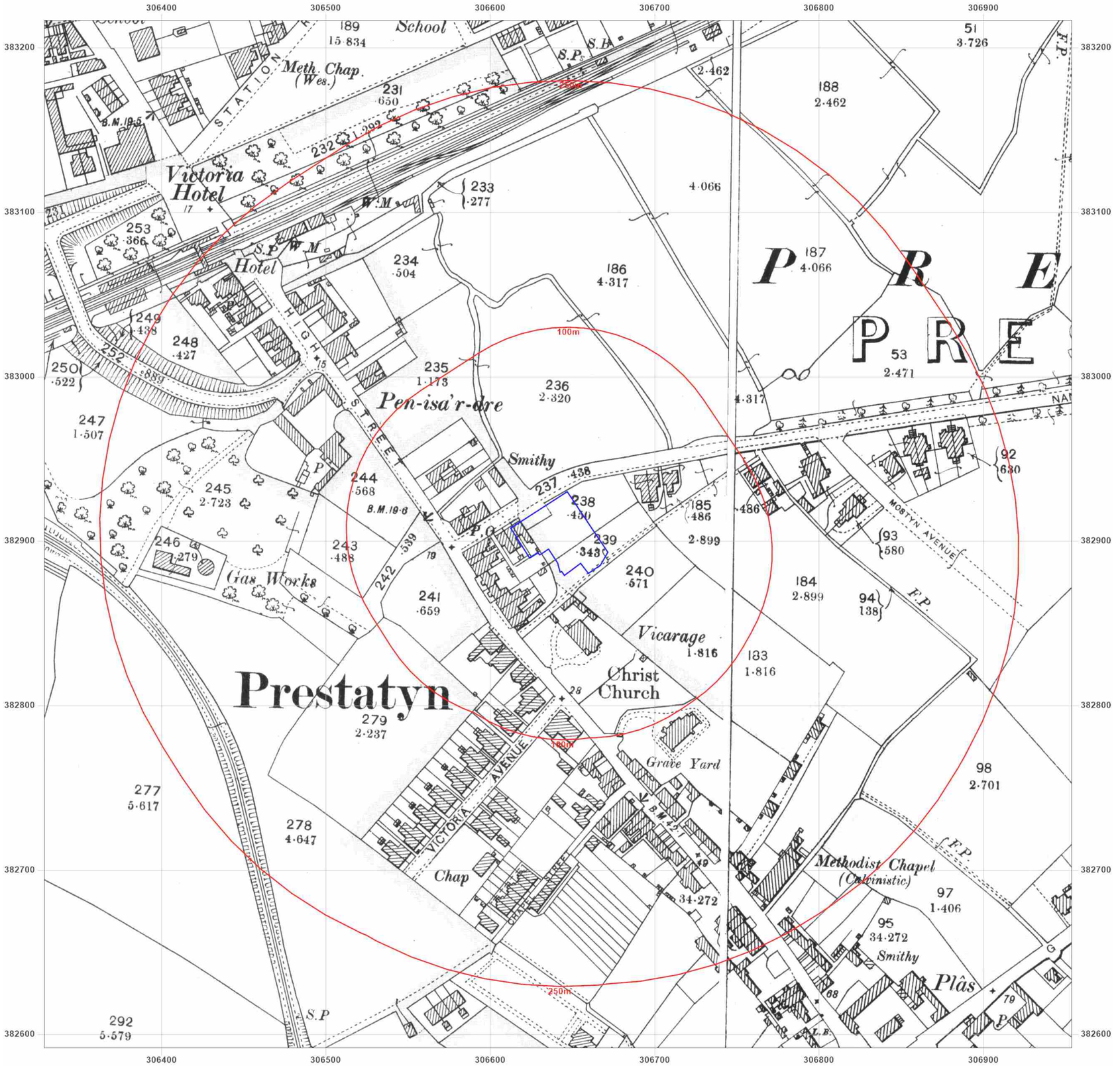

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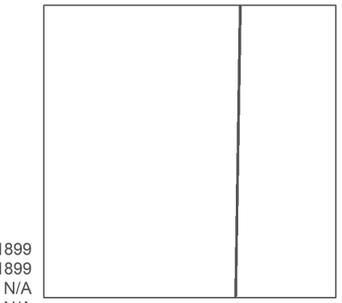

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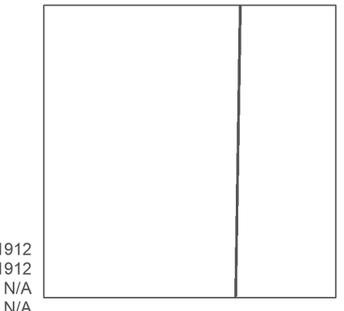

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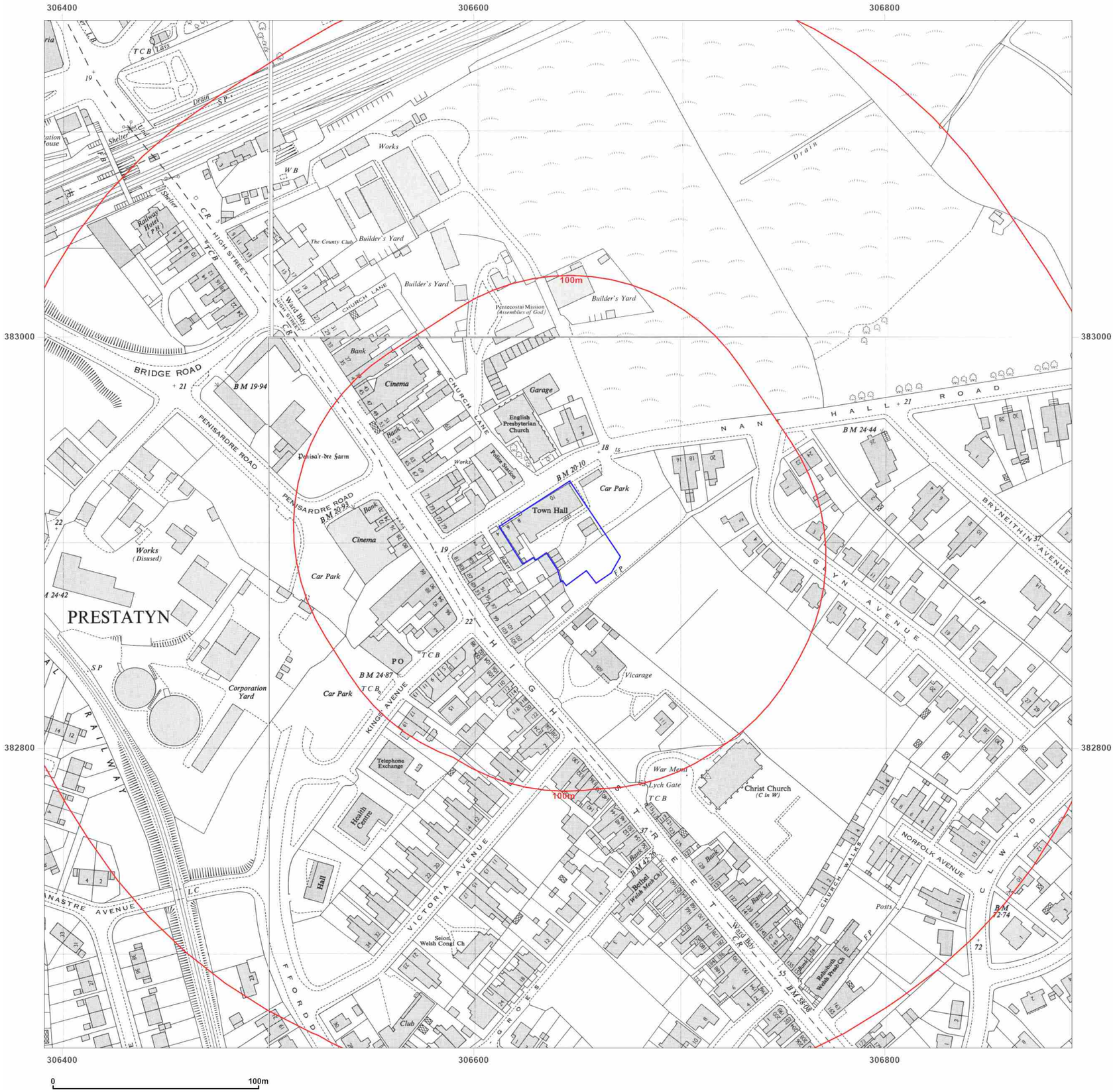

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Grid Ref: 306641, 382904

Map Name: National Grid

Map date: **1962**

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Map Name: National Grid

Map date: **1963-1964**

Scale: 1:2,500

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Grid Ref: 306641, 382904

Map Name: National Grid

Map date: **1963-1964**

Scale: 1:2,500

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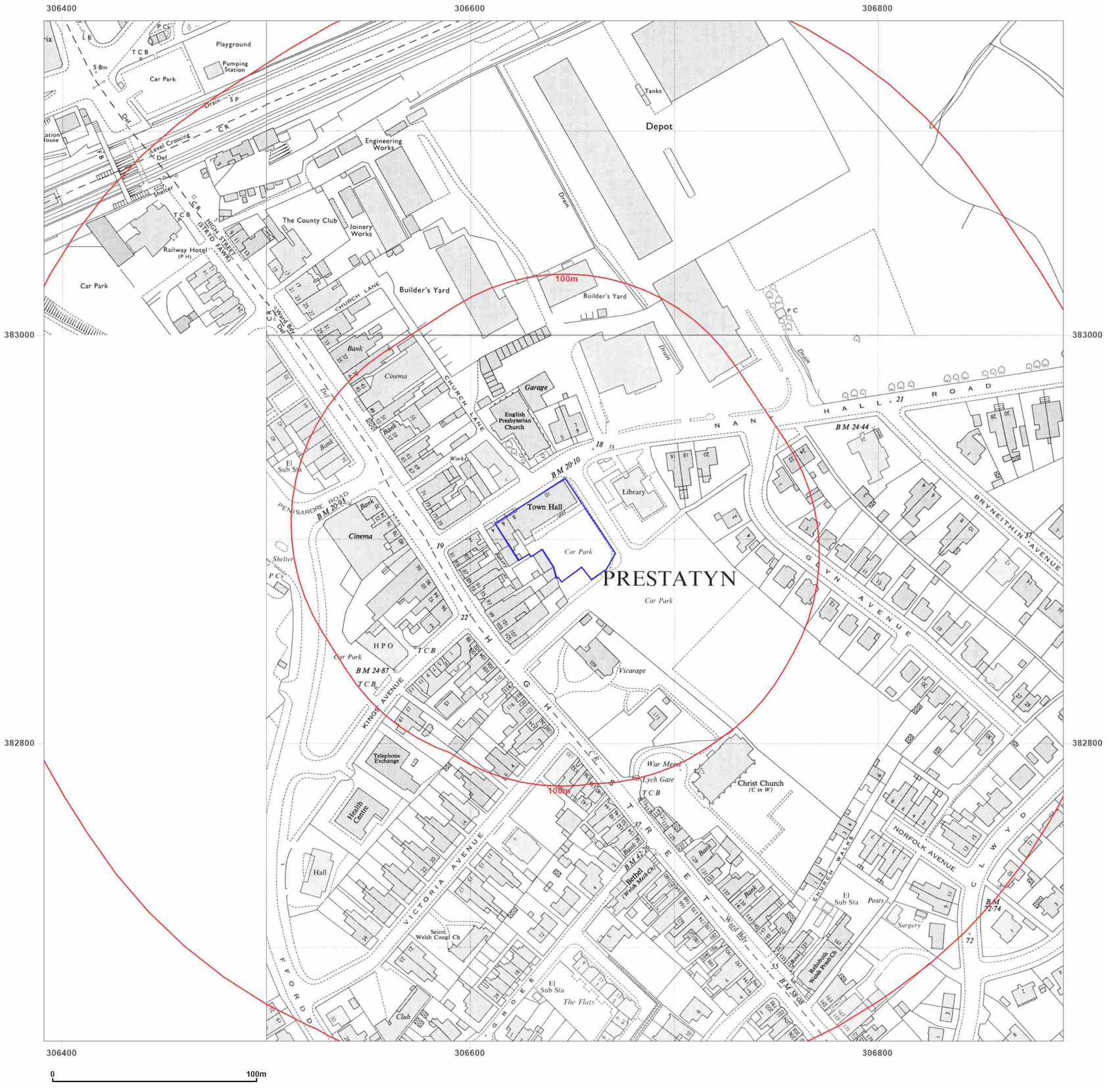

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DENBIGHSHIRE, LL19
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Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: National Grid

Map date: **1968-1973**

Scale: 1:1,250

Printed at: 1:2,000

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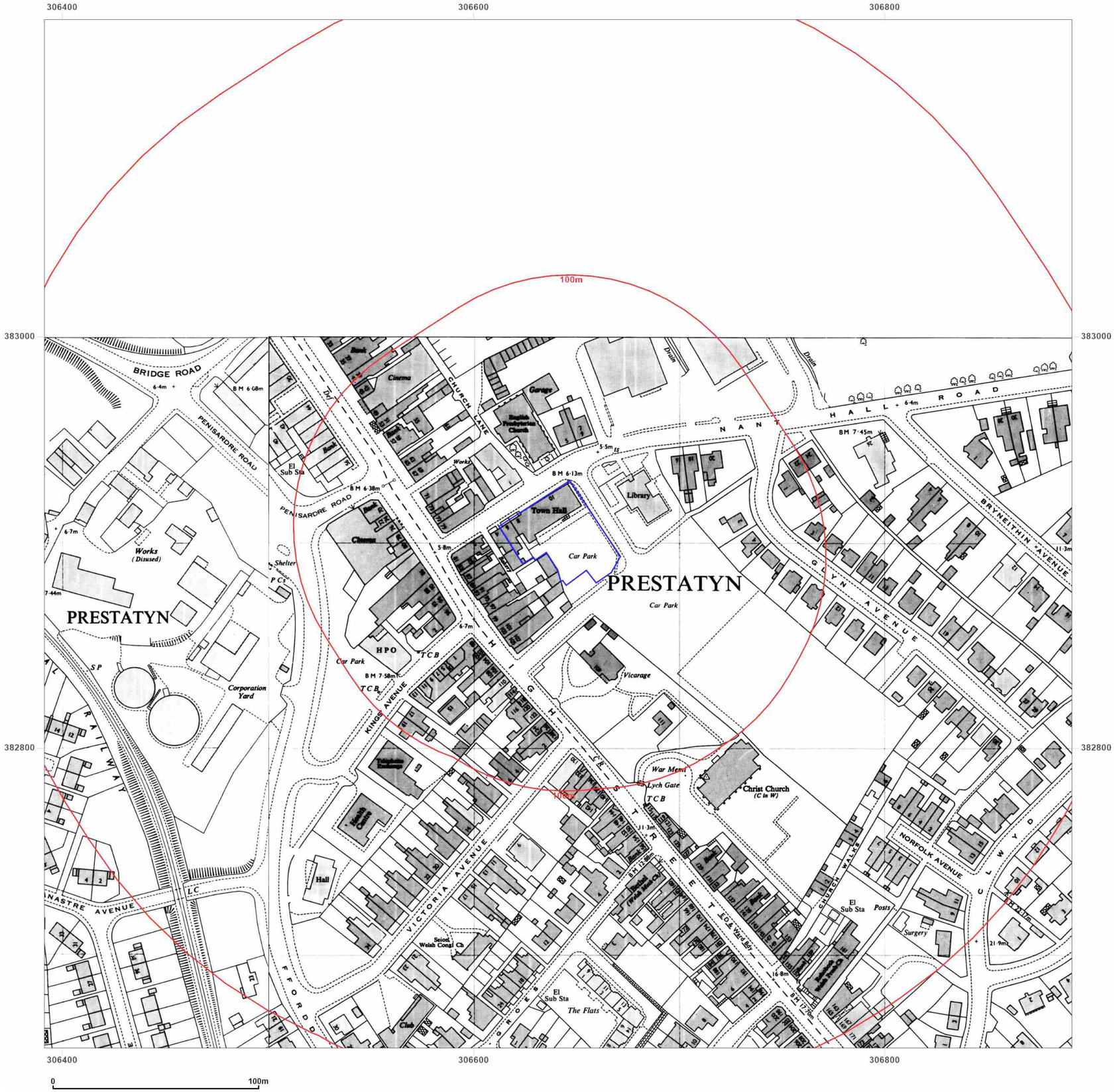

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Map Name: National Grid

Map date: **1976**

Scale: 1:1,250

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Surveyed 1961 Revised N/A Edition N/A Copyright 1976 Levelled N/A	Surveyed 1961 Revised 1968 Edition N/A Copyright 1968 Levelled N/A

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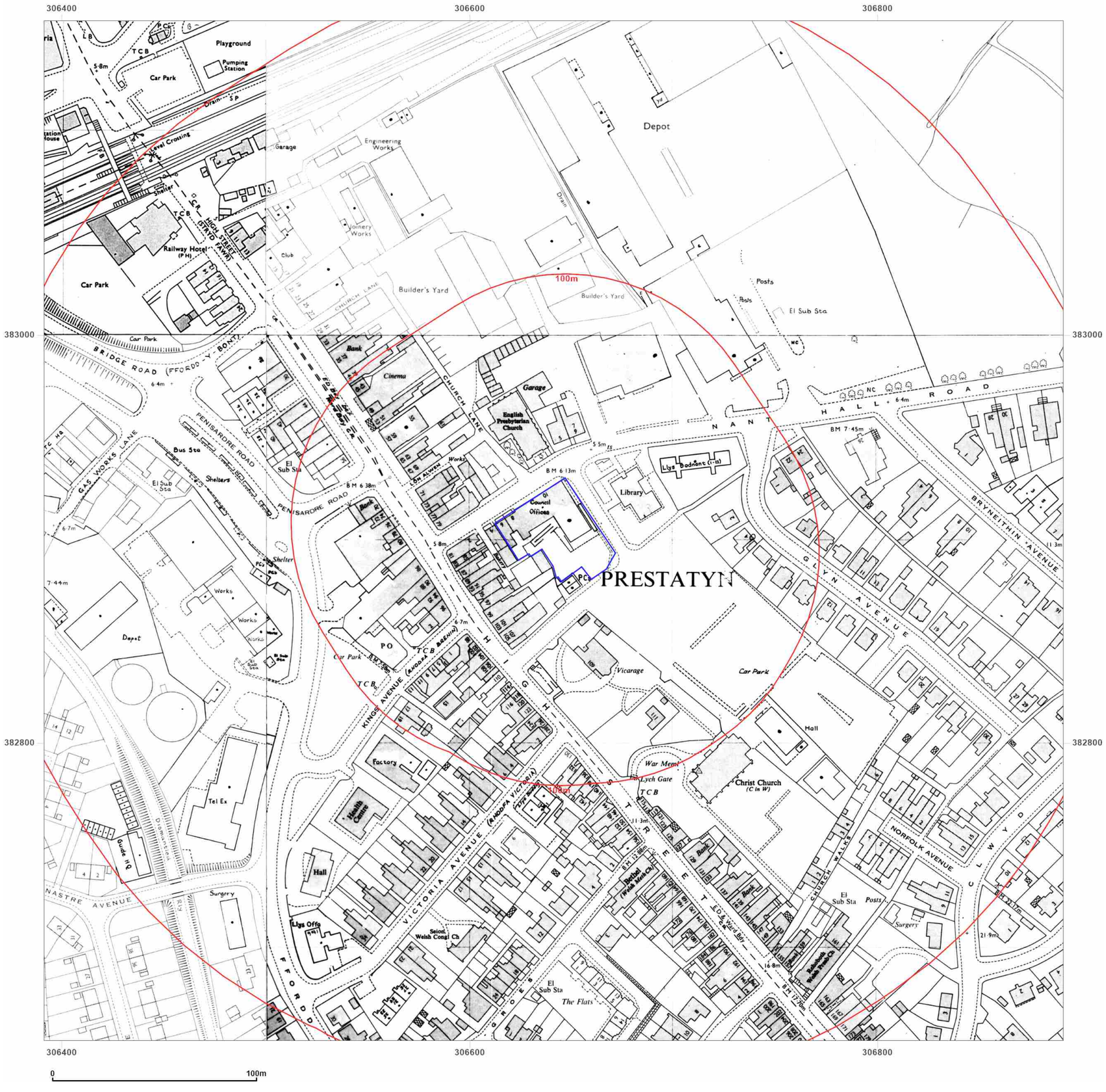

Groundsure INSIGHTS

Site Details:

6-8, NANT HALL
ROAD, PRESTATYN,
DENBIGHSHIRE, LL19
9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: National Grid

Map date: **1985-1990**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1960
Revised 1985
Edition N/A
Copyright 1985
Levelled 1960

Surveyed 1960
Revised 1990
Edition N/A
Copyright 1990
Levelled 1960

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Revised 1989
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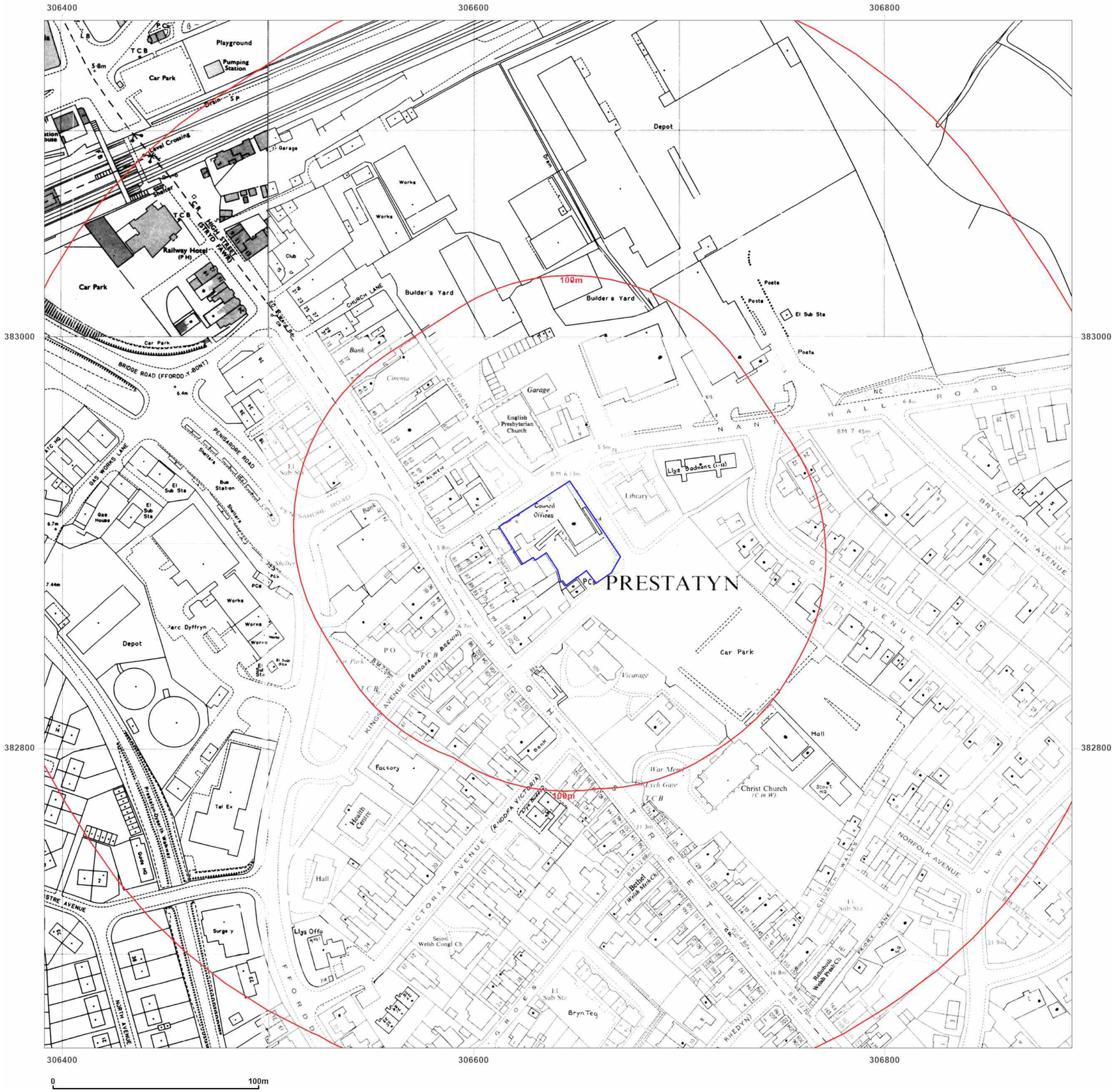

Groundsure INSIGHTS

Site Details:

6-8, NANT HALL ROAD,
PRESTATYN,
DENBIGHSHIRE, LL19
9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: National Grid

Map date: **1988-1993**

Scale: 1:1,250

Printed at: 1:2,000

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

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

Surveyed N/A
Revised N/A
Edition N/A
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Surveyed 1960
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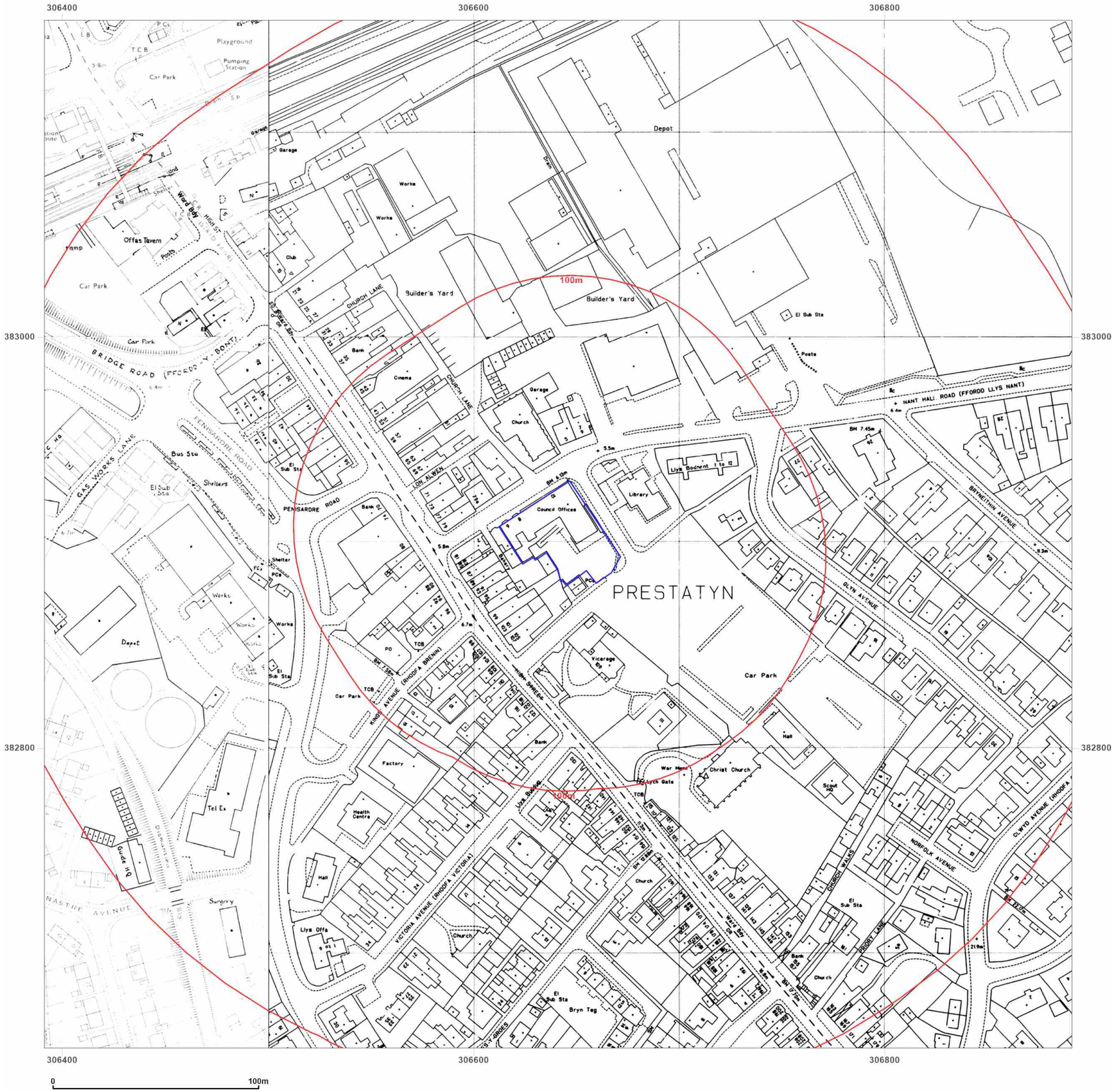

Groundsure INSIGHTS

Site Details:

6-8, NANT HALL ROAD,
PRESTATYN,
DENBIGHSHIRE, LL19
9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: National Grid

Map date: **1985-1994**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1960 Revised 1990 Edition N/A Copyright 1990 Levelled 1960	Surveyed N/A Revised N/A Edition N/A Copyright 1994 Levelled N/A
Surveyed N/A Revised N/A Edition N/A Copyright 1985 Levelled 1960	Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A

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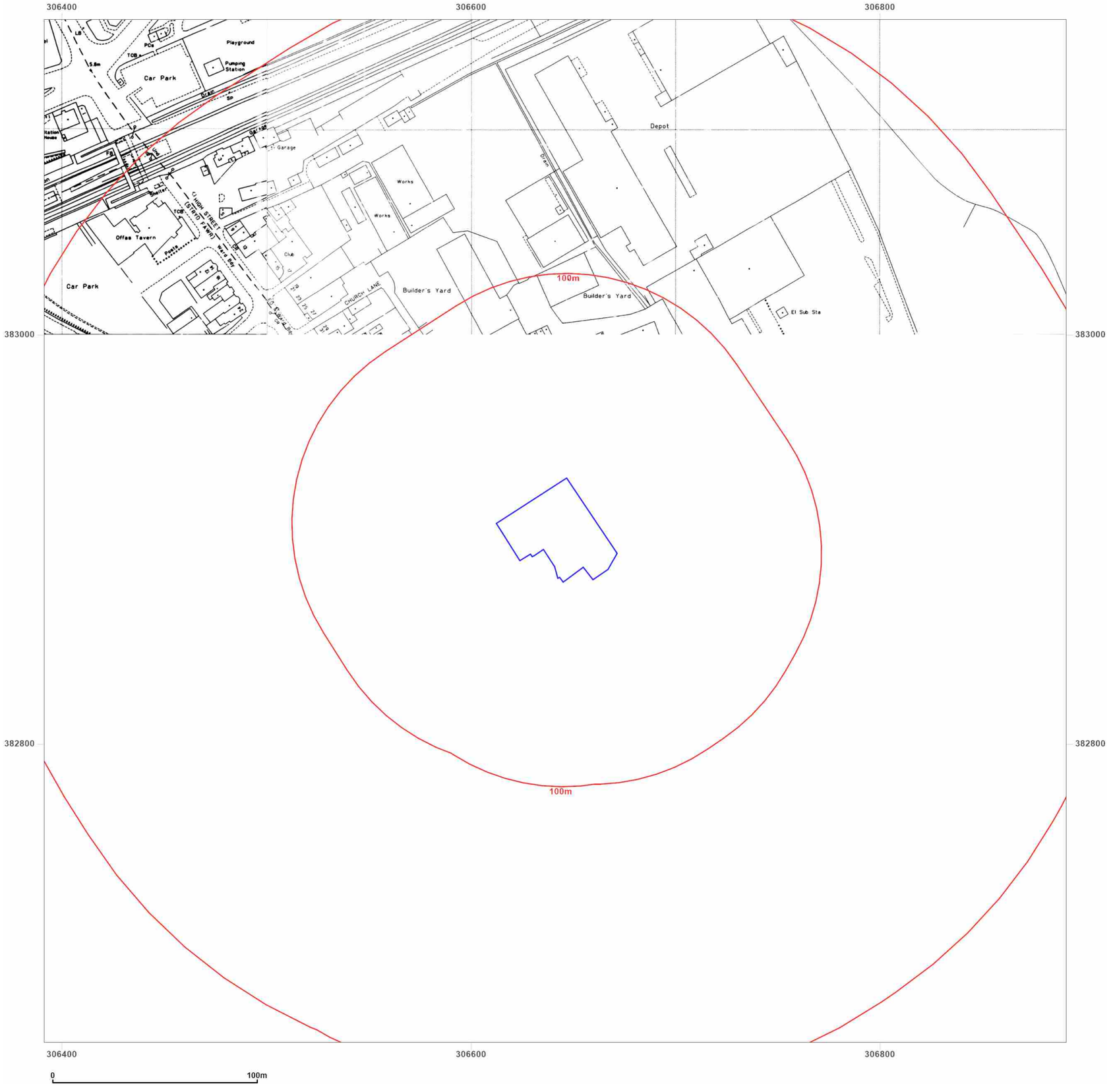

Groundsure INSIGHTS

Site Details:

6-8, NANT HALL ROAD,
PRESTATYN,
DENBIGHSHIRE, LL19
9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: National Grid

Map date: **1993-1994**

Scale: 1:1,250

Printed at: 1:2,000

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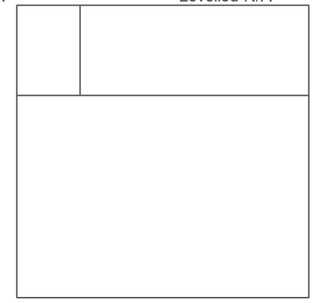
Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

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



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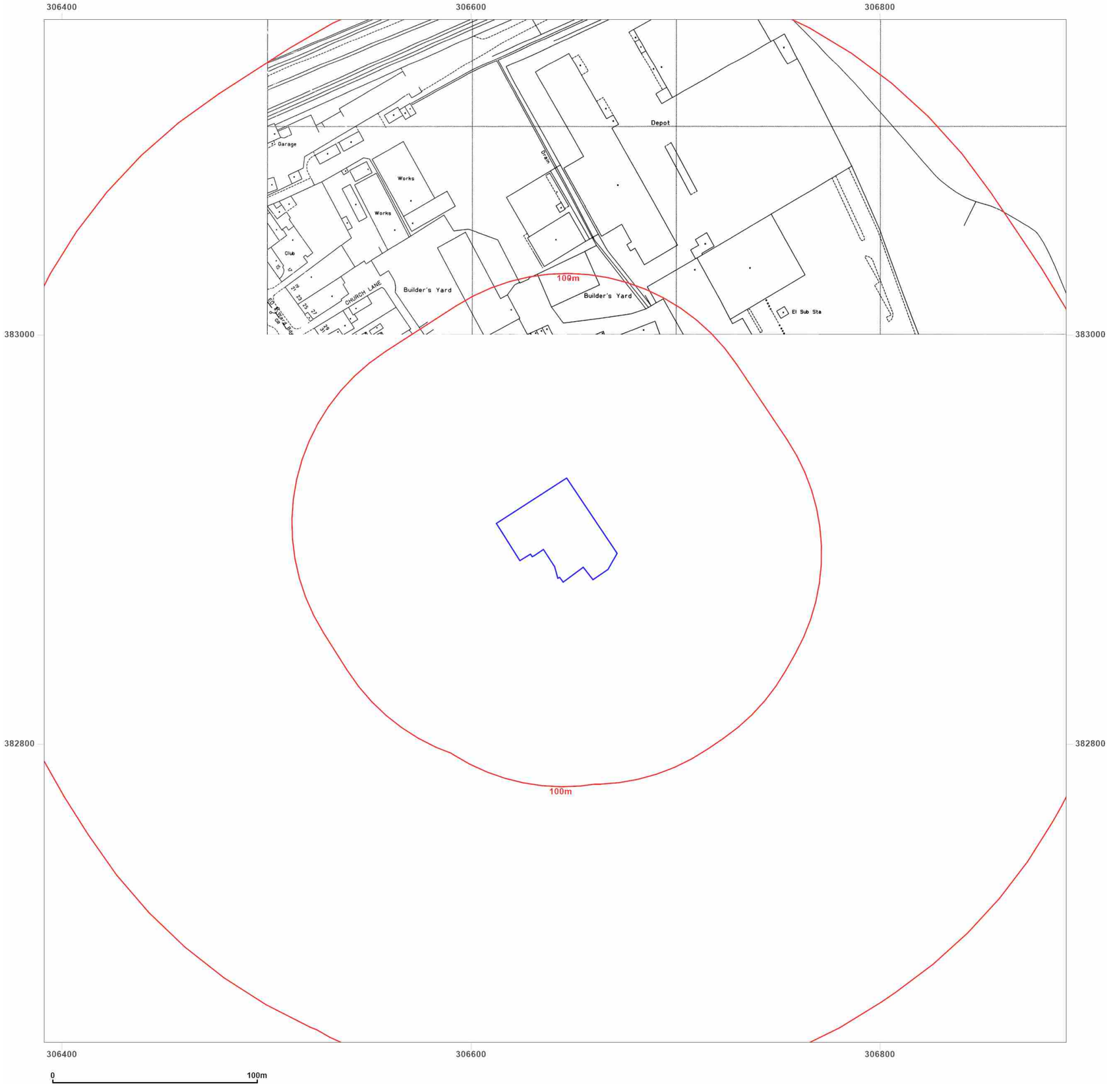

Groundsure INSIGHTS

Site Details:

6-8, NANT HALL ROAD,
PRESTATYN,
DENBIGHSHIRE, LL19
9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: National Grid

Map date: **1994**

Scale: 1:1,250

Printed at: 1:2,000

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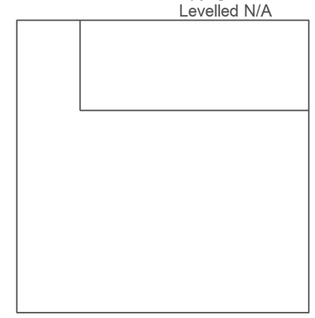
Surveyed 1994
Revised 1994
Edition N/A
Copyright 1994
Levelled N/A



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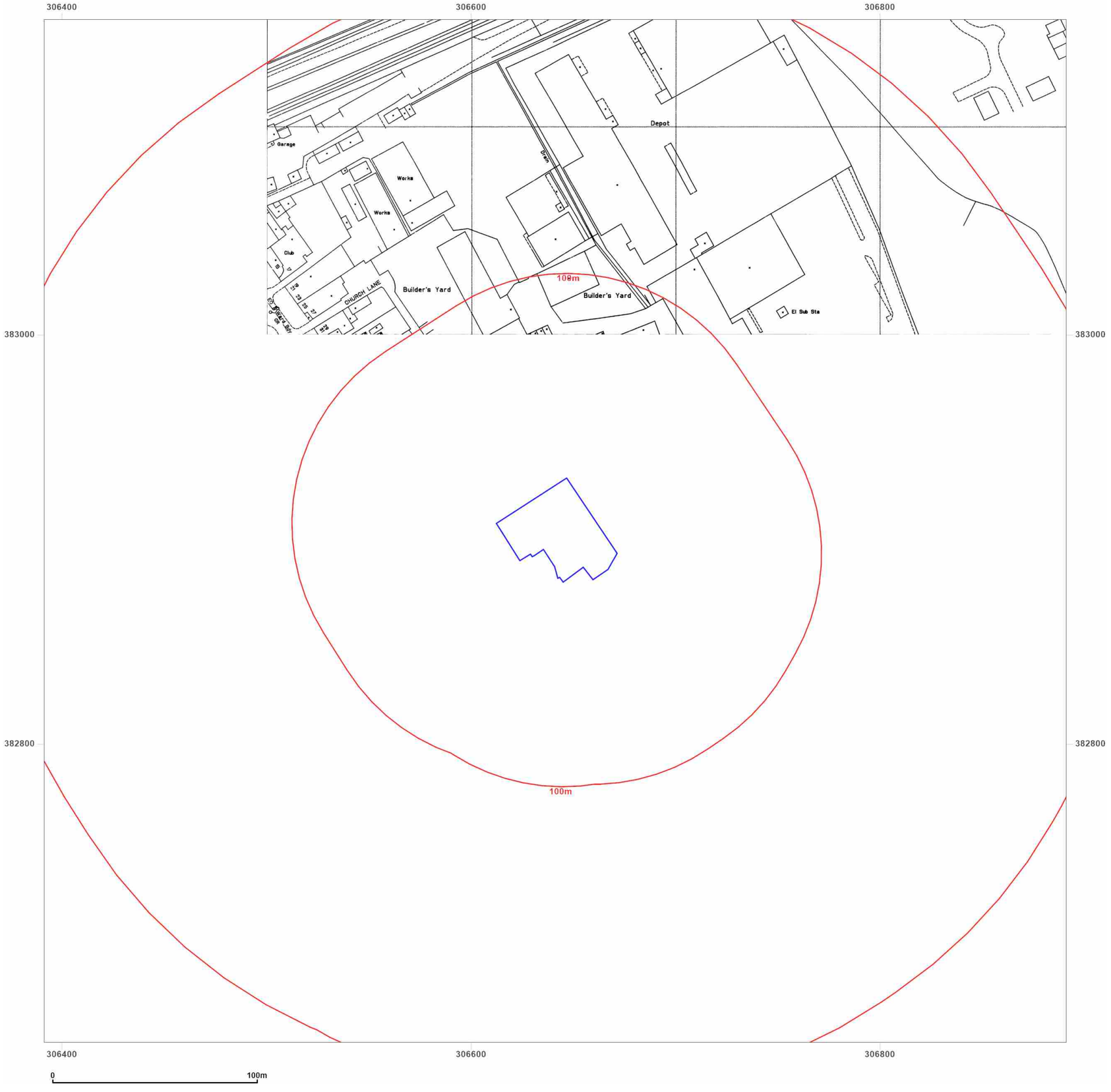

Groundsure INSIGHTS

Site Details:

6-8, NANT HALL
ROAD, PRESTATYN,
DENBIGHSHIRE, LL19
9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

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

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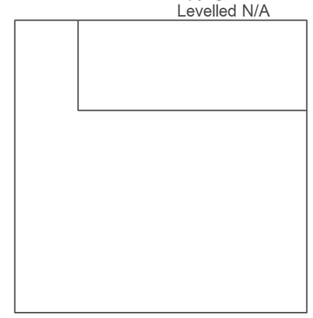
Surveyed 1994
Revised 1994
Edition N/A
Copyright 1994
Levelled N/A



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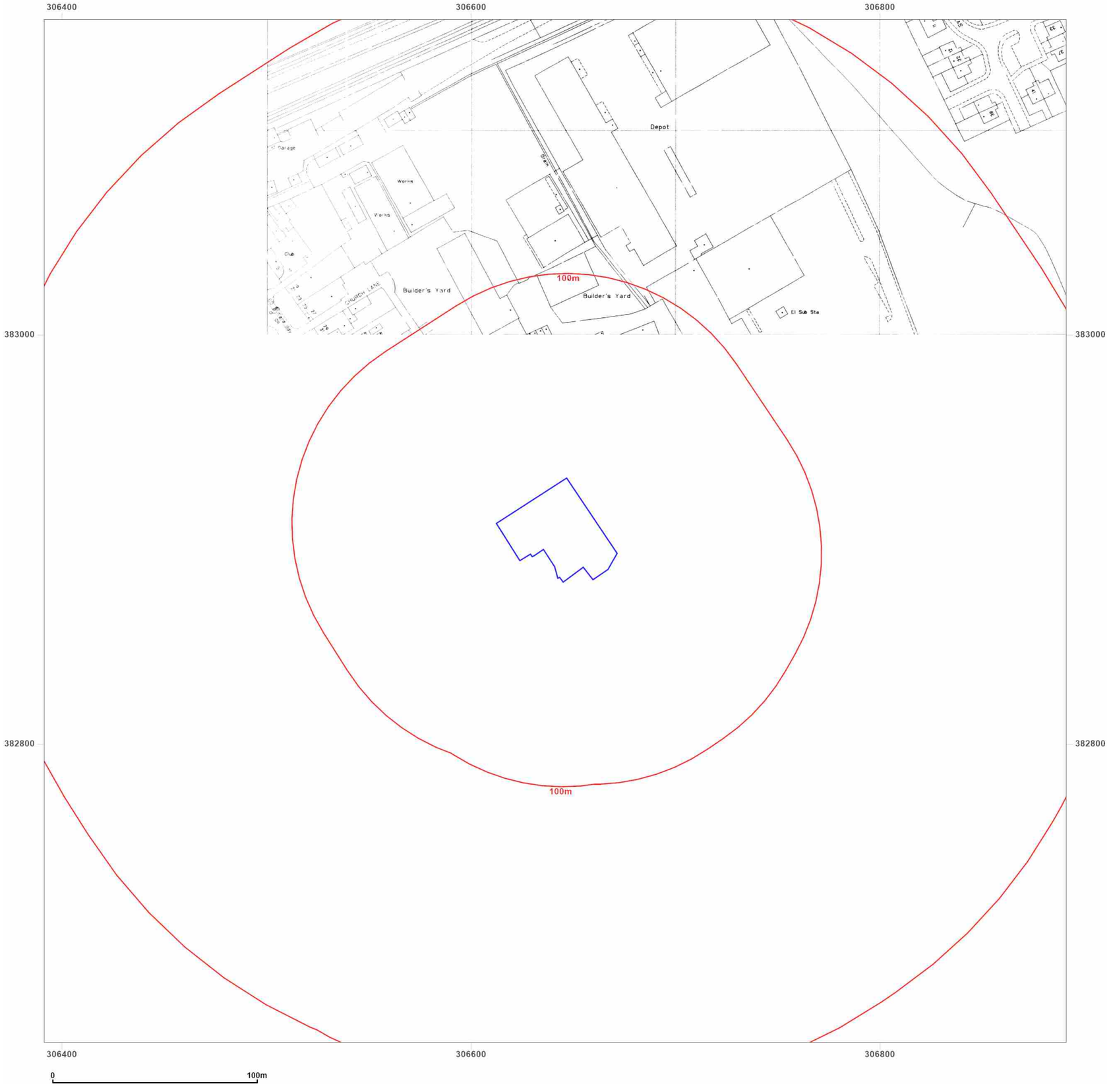

Groundsure INSIGHTS

Site Details:

6-8, NANT HALL ROAD,
PRESTATYN,
DENBIGHSHIRE, LL19 9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: National Grid

Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

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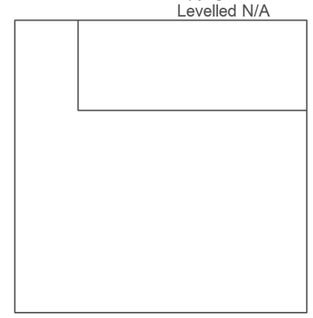
Surveyed N/A
Revised N/A
Edition N/A
Copyright 1995
Levelled N/A



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Groundsure INSIGHTS

Site Details:

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DENBIGHSHIRE, LL19
9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: National Grid
Map date: **1995**
Scale: 1:1,250
Printed at: 1:2,000

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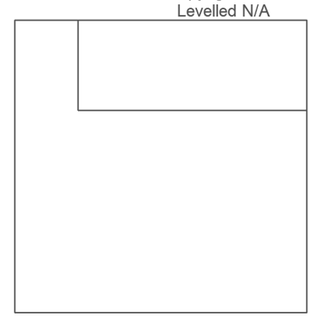
Levelled N/A



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Groundsure INSIGHTS

Site Details:

306637.45,382911.70

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: National Grid

Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

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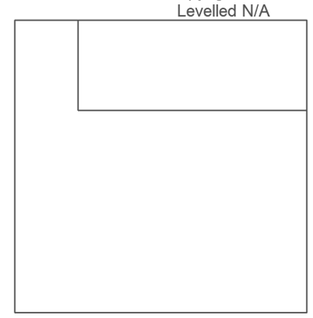
Revised 1995
Edition N/A
Copyright 1995
Levelled N/A



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Site Details:

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Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: National Grid
Map date: **1995**
Scale: 1:1,250
Printed at: 1:2,000

N
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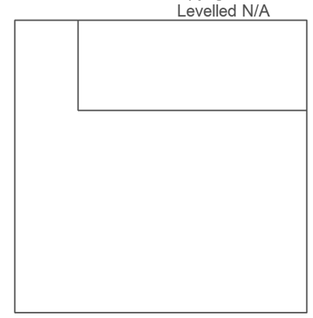
Surveyed 1995
Revised 1995
Edition N/A
Copyright 1995
Levelled N/A



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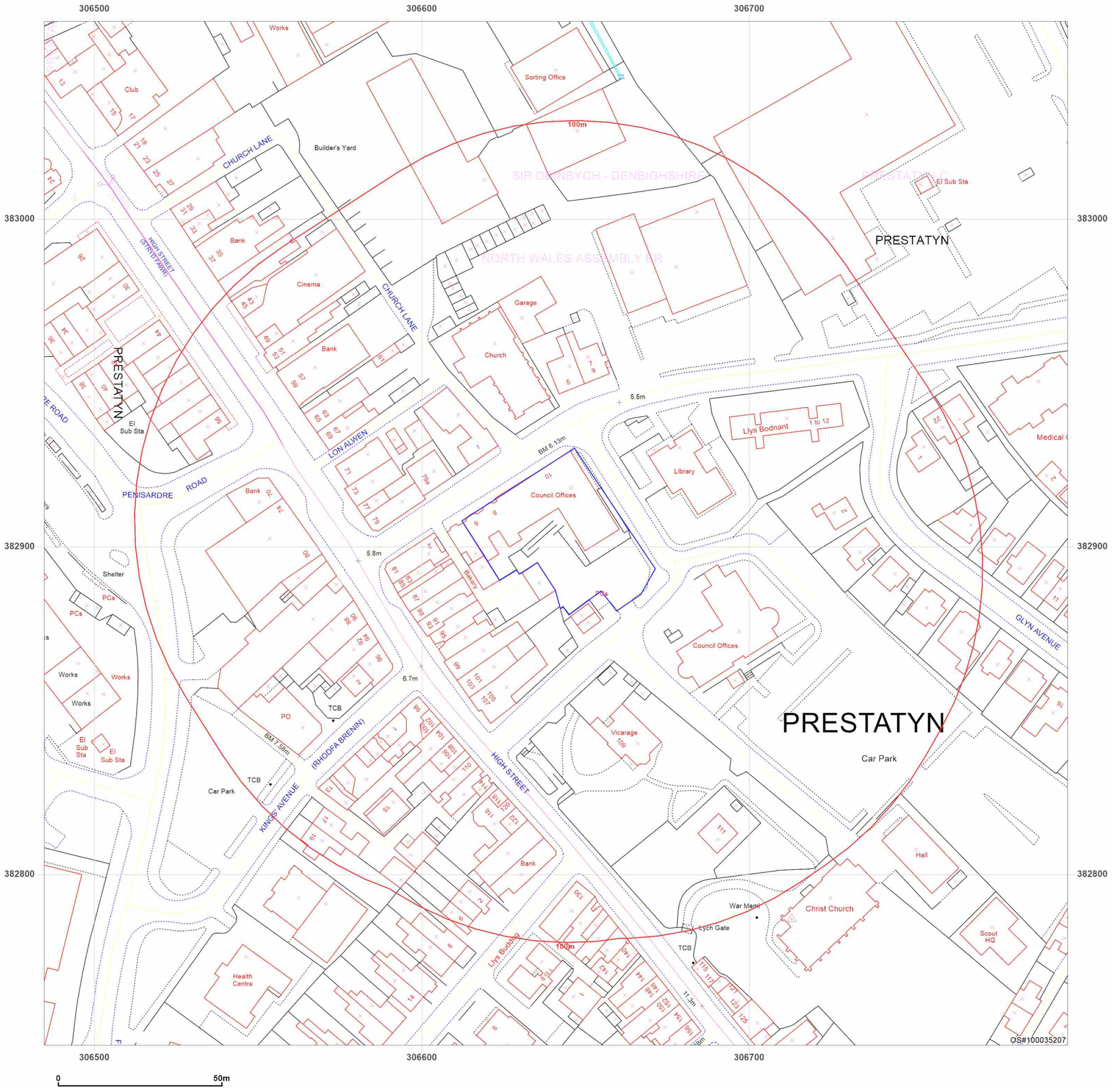

Groundsure INSIGHTS

Site Details:

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ROAD, PRESTATYN,
DENBIGHSHIRE, LL19
9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

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

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2003

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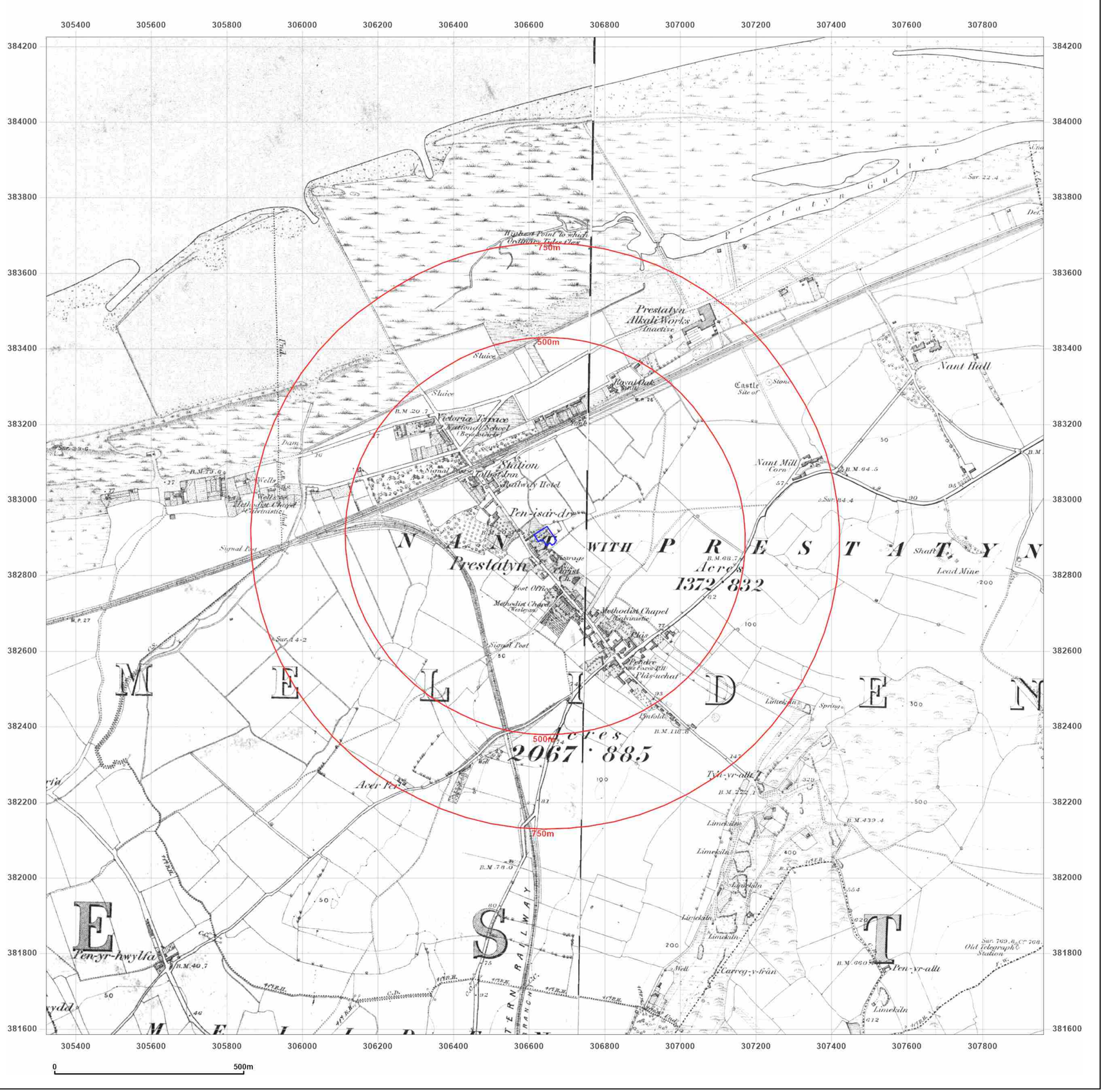

Groundsure INSIGHTS

Site Details:
6-8, NANT HALL ROAD, PRESTATYN, DENBIGHSHIRE, LL19 9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

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

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Production date: 22 April 2024

Map legend available at:
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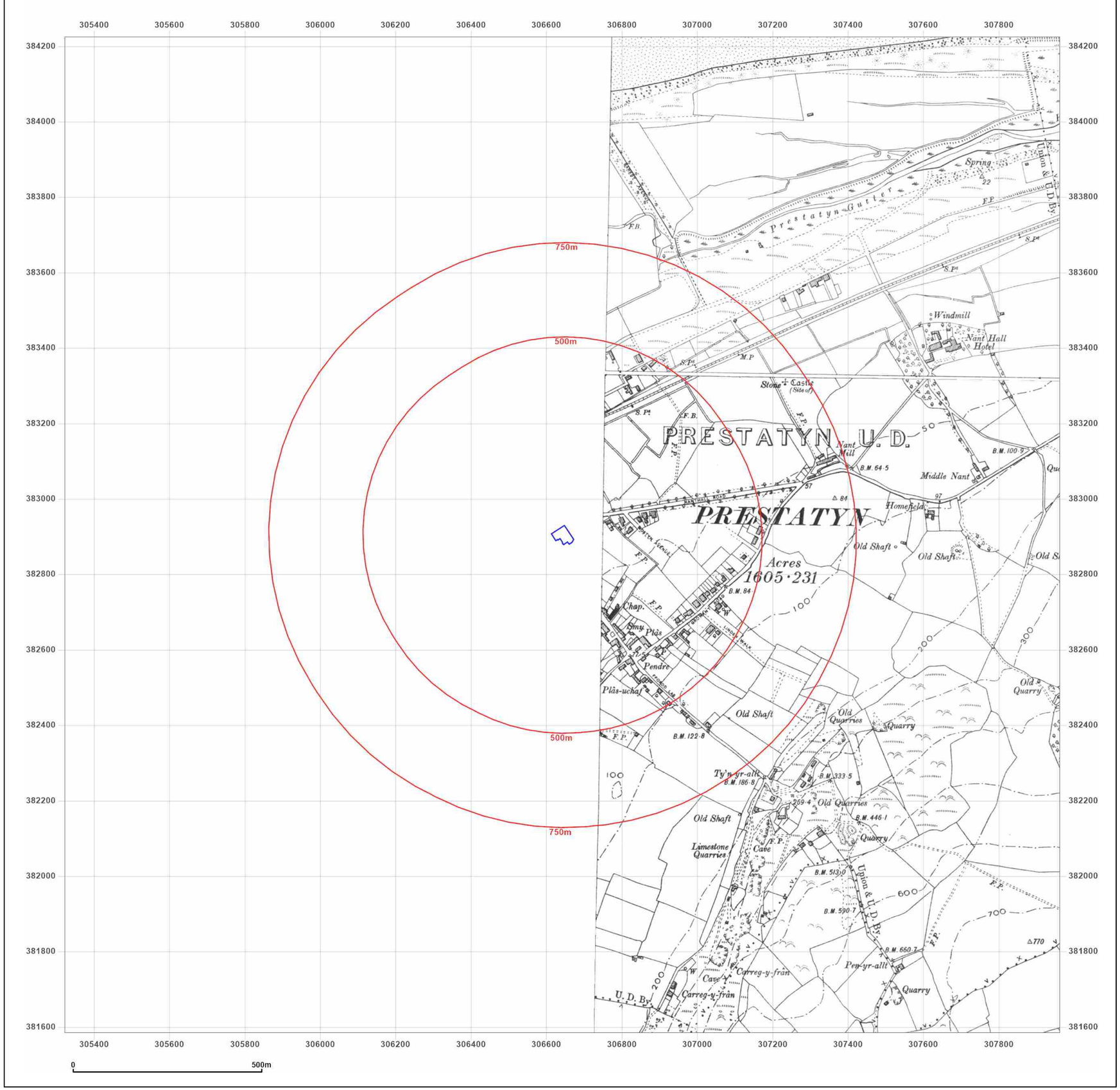

Groundsure INSIGHTS

Site Details:

6-8, NANT HALL ROAD,
PRESTATYN,DENBIGHSHIRE, LL19 9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: County Series

Map date: **1898**

Scale: 1:10,560

Printed at: 1:10,560

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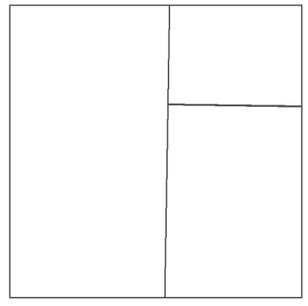
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A



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

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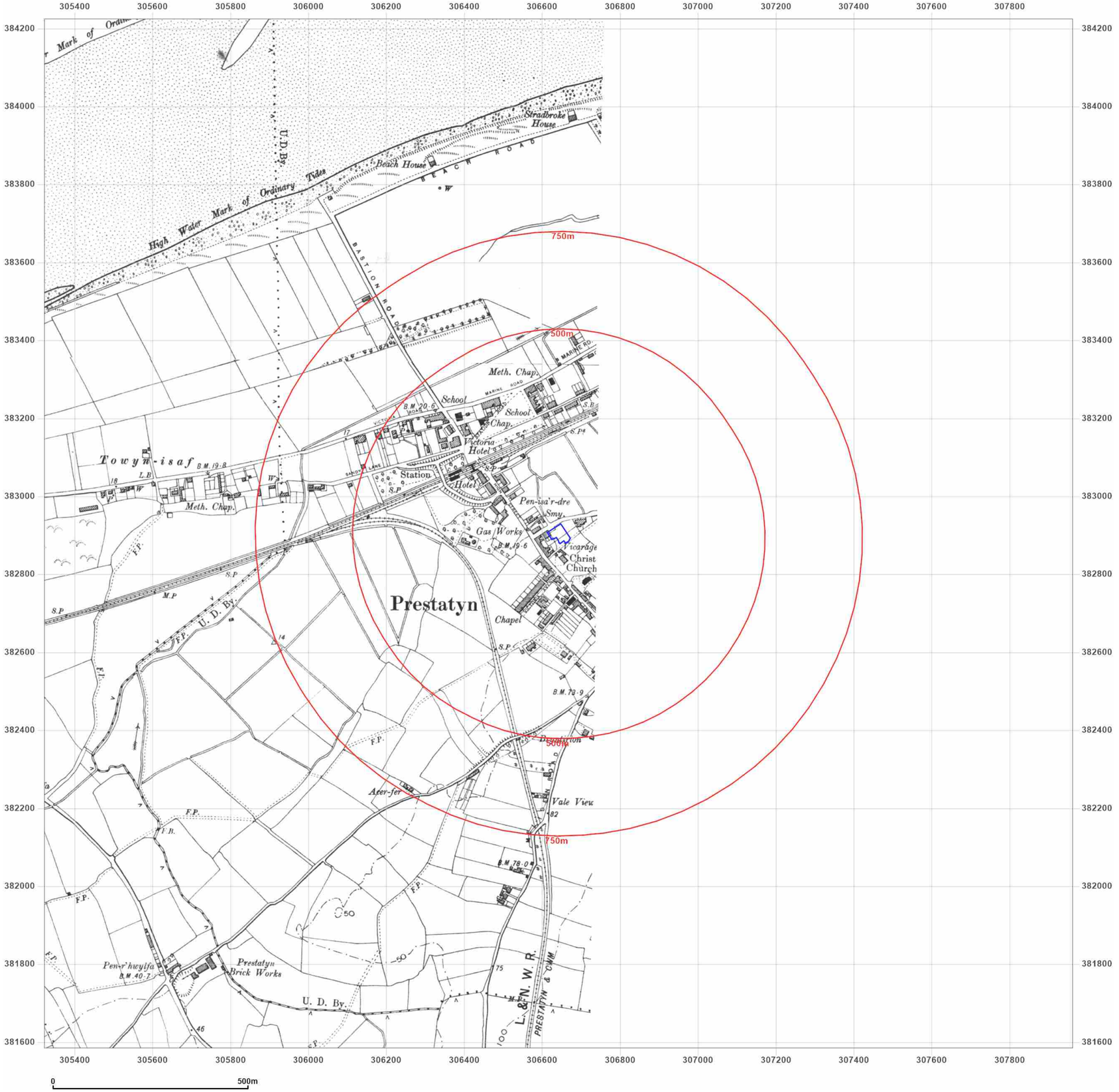

Groundsure INSIGHTS

Site Details:

6-8, NANT HALL ROAD,
PRESTATYN, DENBIGHSHIRE,
LL19 9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: County Series

Map date: **1898**

Scale: 1:10,560

Printed at: 1:10,560

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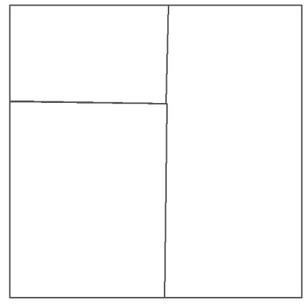
Surveyed 1870
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1871
Revised 1898
Edition N/A
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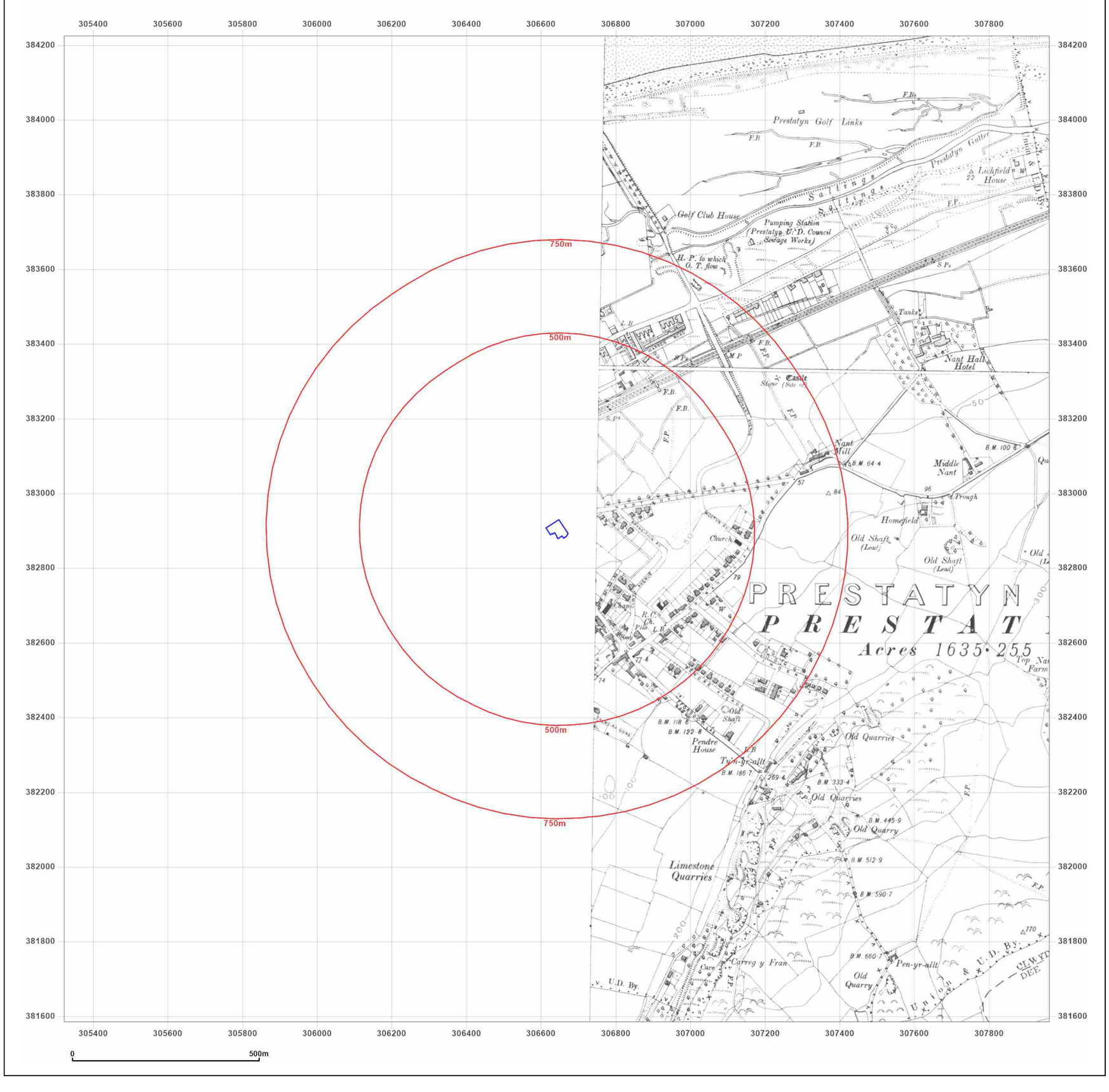

Groundsure INSIGHTS

Site Details:

6-8, NANT HALL ROAD,
PRESTATYN, DENBIGHSHIRE,
LL19 9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: County Series

Map date: **1910**

Scale: 1:10,560

Printed at: 1:10,560

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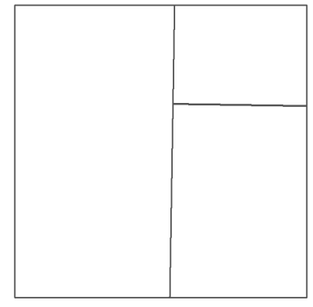
Surveyed 1870
Revised 1910
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1871
Revised 1910
Edition N/A
Copyright N/A
Levelled N/A

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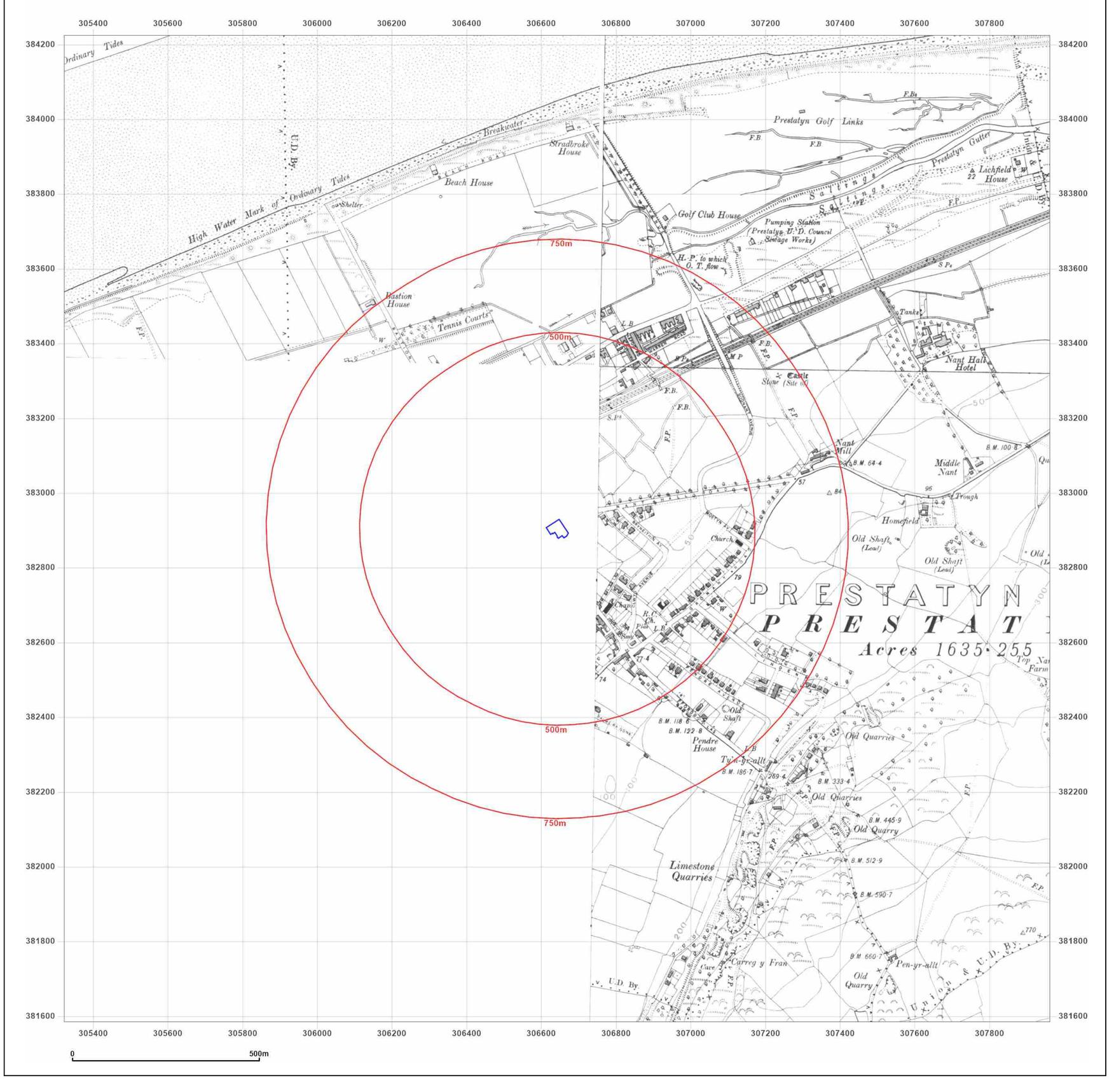

Groundsure INSIGHTS

Site Details:

6-8, NANT HALL ROAD,
PRESTATYN, DENBIGHSHIRE,
LL19 9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: County Series

Map date: **1910**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1870
Revised 1910
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1870
Revised 1910
Edition N/A
Copyright N/A
Levelled N/A

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Revised 1910
Edition N/A
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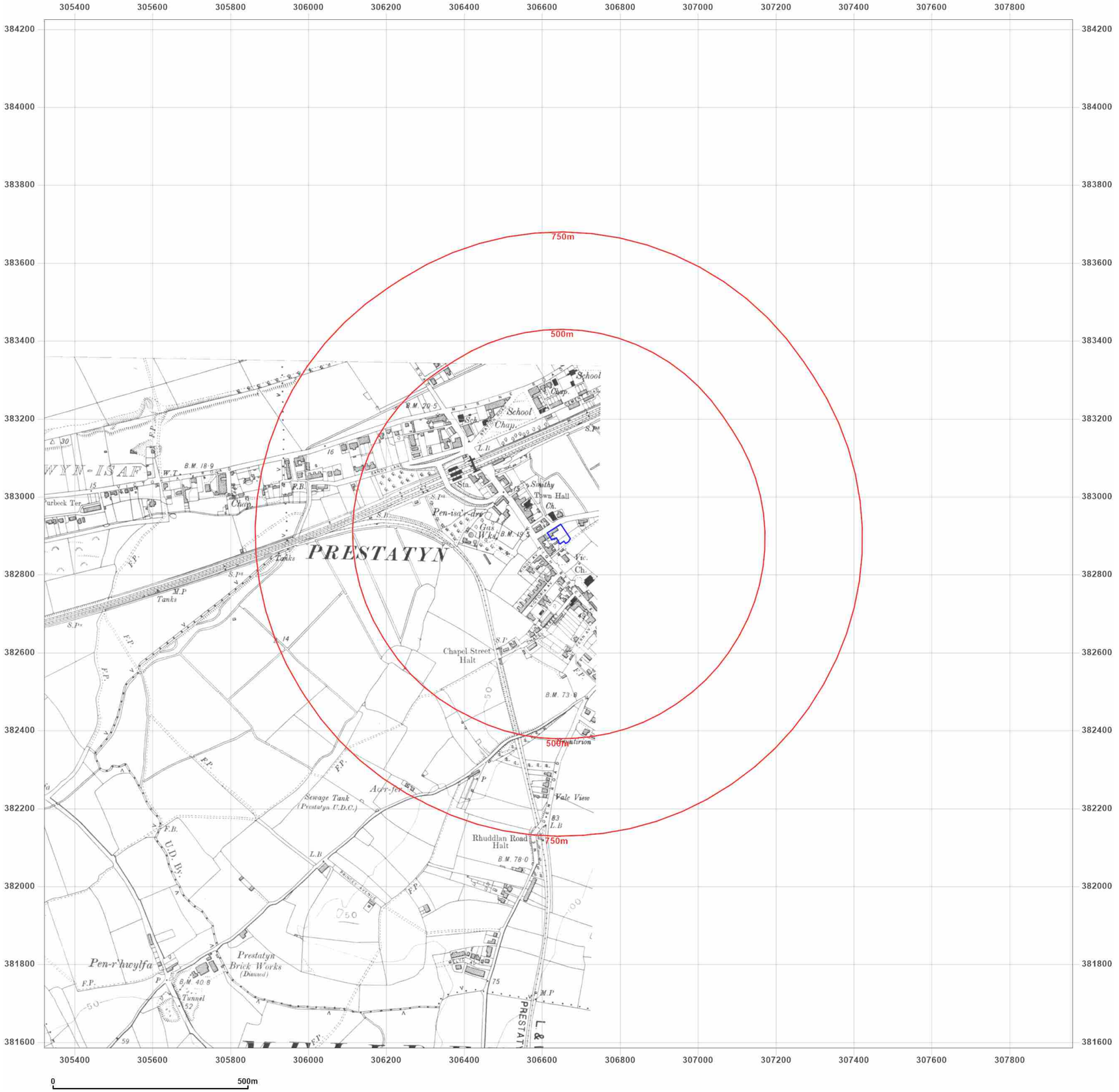

Groundsure INSIGHTS

Site Details:

6-8, NANT HALL ROAD,
PRESTATYN, DENBIGHSHIRE,
LL19 9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: County Series

Map date: **1911**

Scale: 1:10,560

Printed at: 1:10,560

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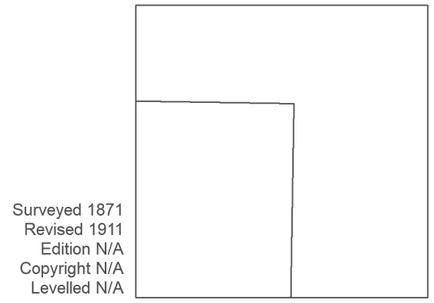

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Revised 1911
Edition N/A
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Groundsure INSIGHTS

Site Details:

6-8, NANT HALL ROAD,
PRESTATYN, DENBIGHSHIRE,
LL19 9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

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Edition 1938
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Levelled N/A

Surveyed 1870
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

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Site Details:

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LL19 9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: County Series

Map date: **1949**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1870
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Edition N/A
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Surveyed 1870
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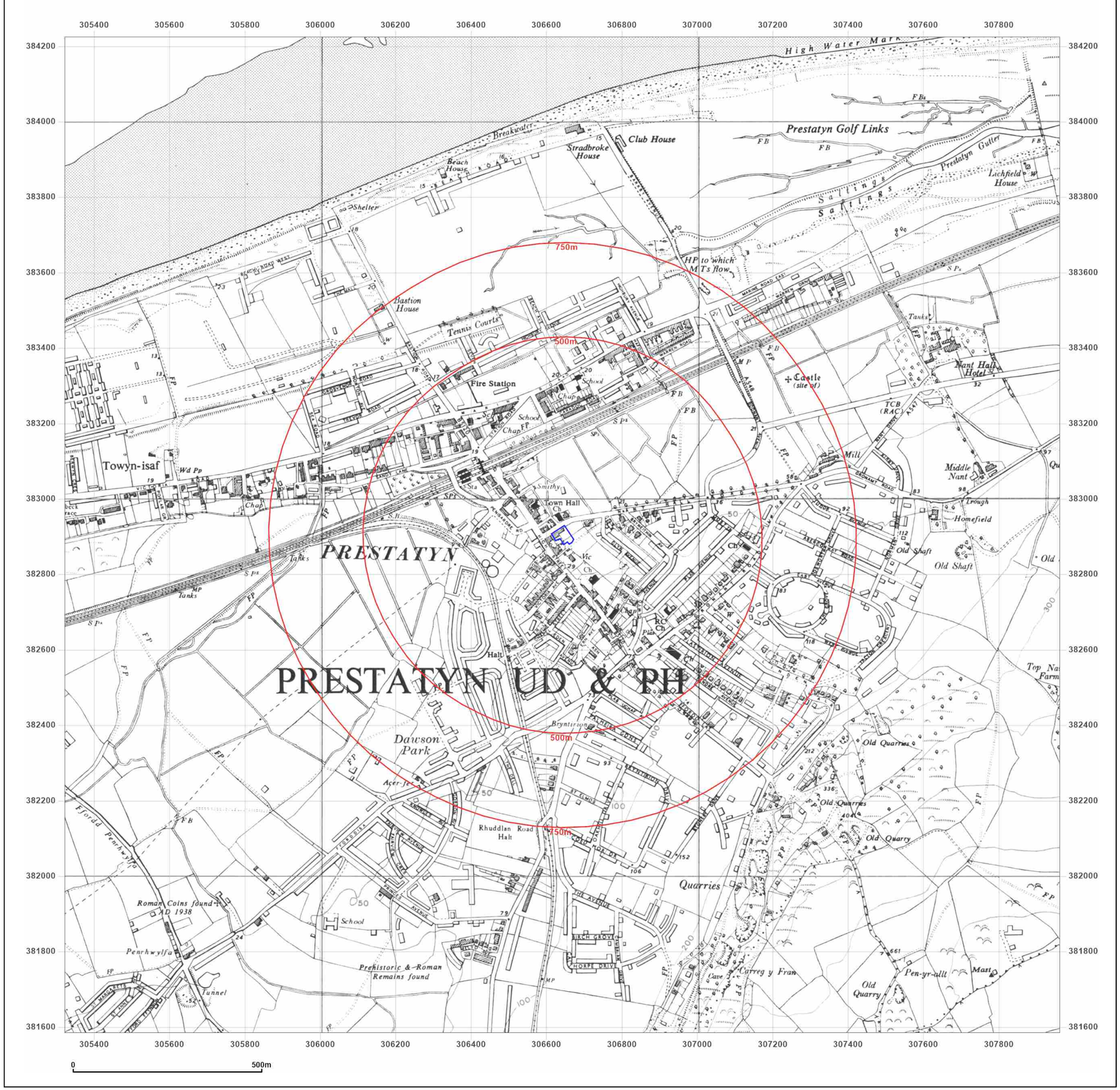

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Site Details:

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LL19 9LL

Client Ref: 3058_TE1835
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Grid Ref: 306641, 382904

Map Name: Provisional

Map date: **1959**

Scale: 1:10,560

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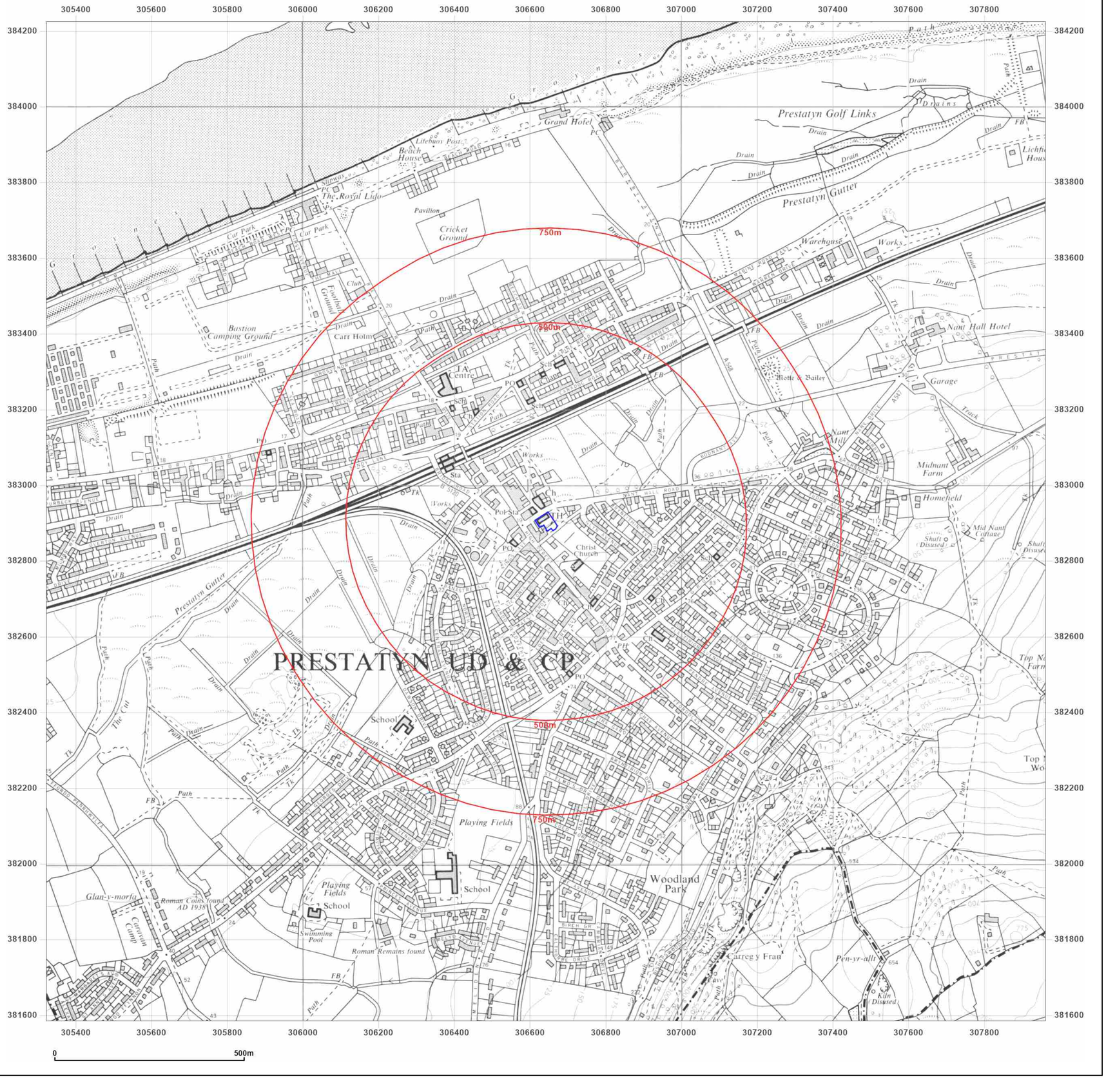

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Site Details:

6-8, NANT HALL ROAD,
PRESTATYN, DENBIGHSHIRE,
LL19 9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: Provisional

Map date: **1969**

Scale: 1:10,560

Printed at: 1:10,560

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Revised 1969
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LL19 9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: National Grid

Map date: **1979**

Scale: 1:10,000

Printed at: 1:10,000

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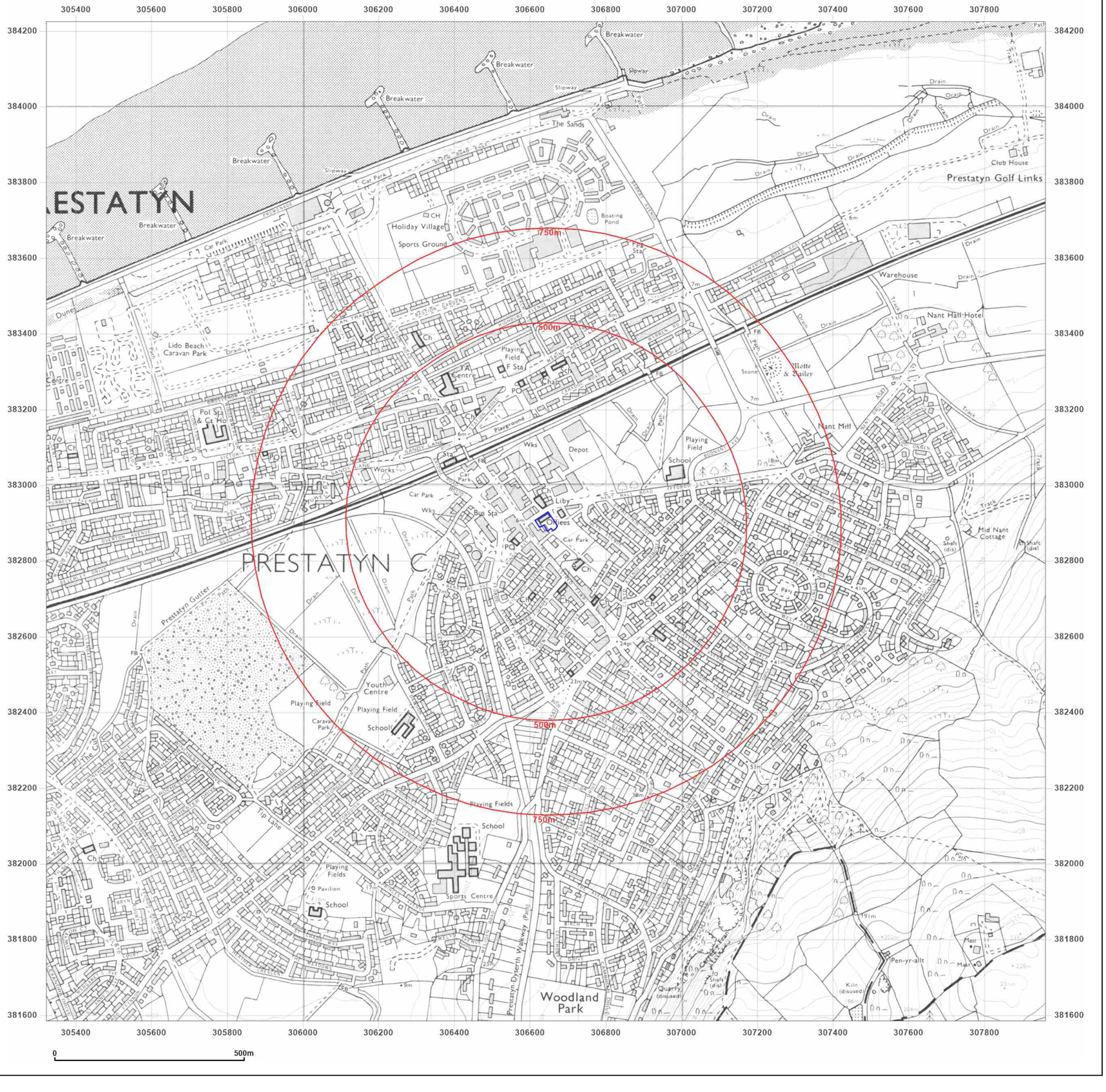

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6-8, NANT HALL ROAD,
PRESTATYN, DENBIGHSHIRE,
LL19 9LL

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Grid Ref: 306641, 382904

Map Name: Provisional

Map date: **1994**

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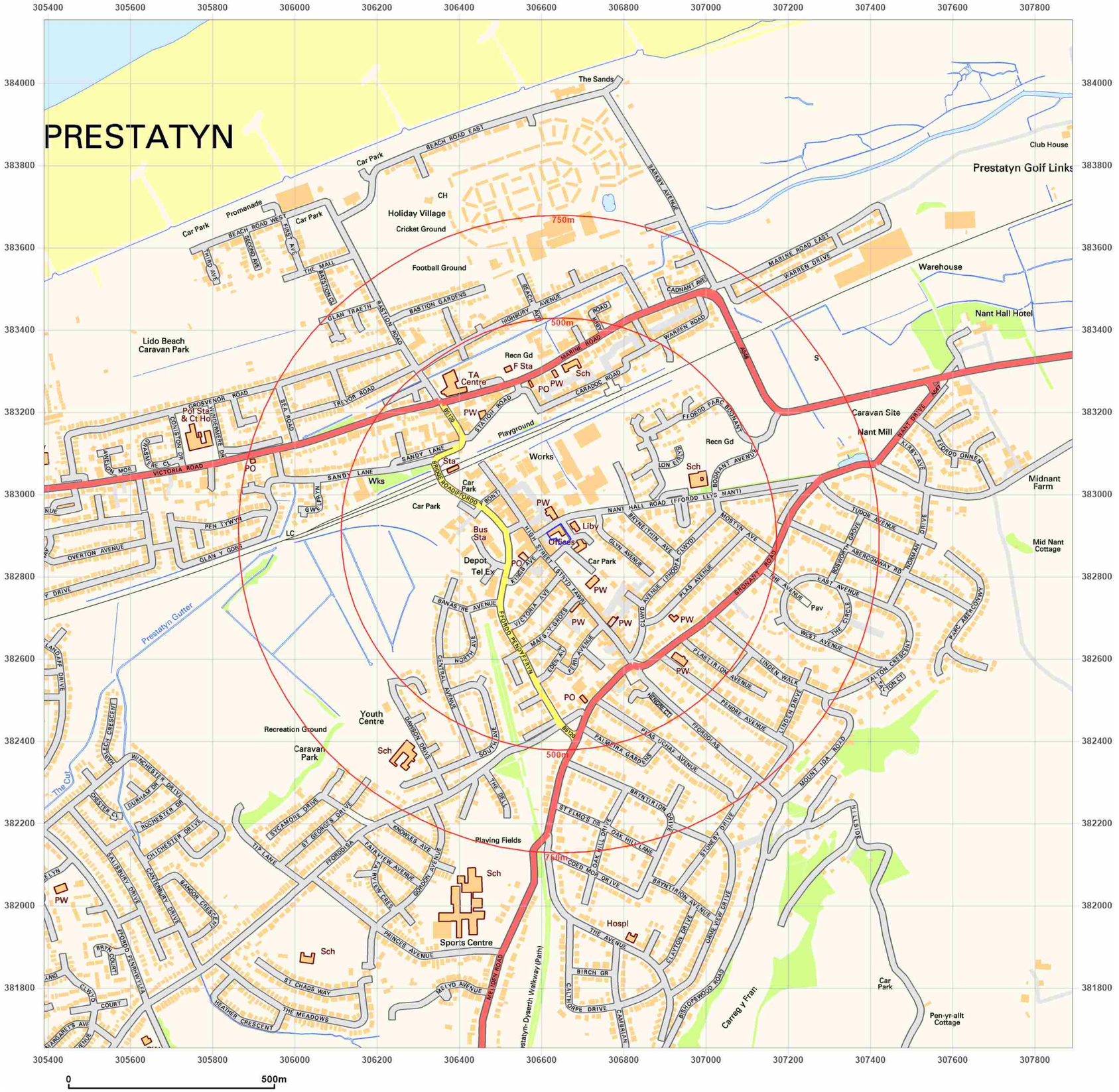

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PRESTATYN, DENBIGHSHIRE,
LL19 9LL

Client Ref: 3058_TE1835
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Grid Ref: 306641, 382904

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

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LL19 9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

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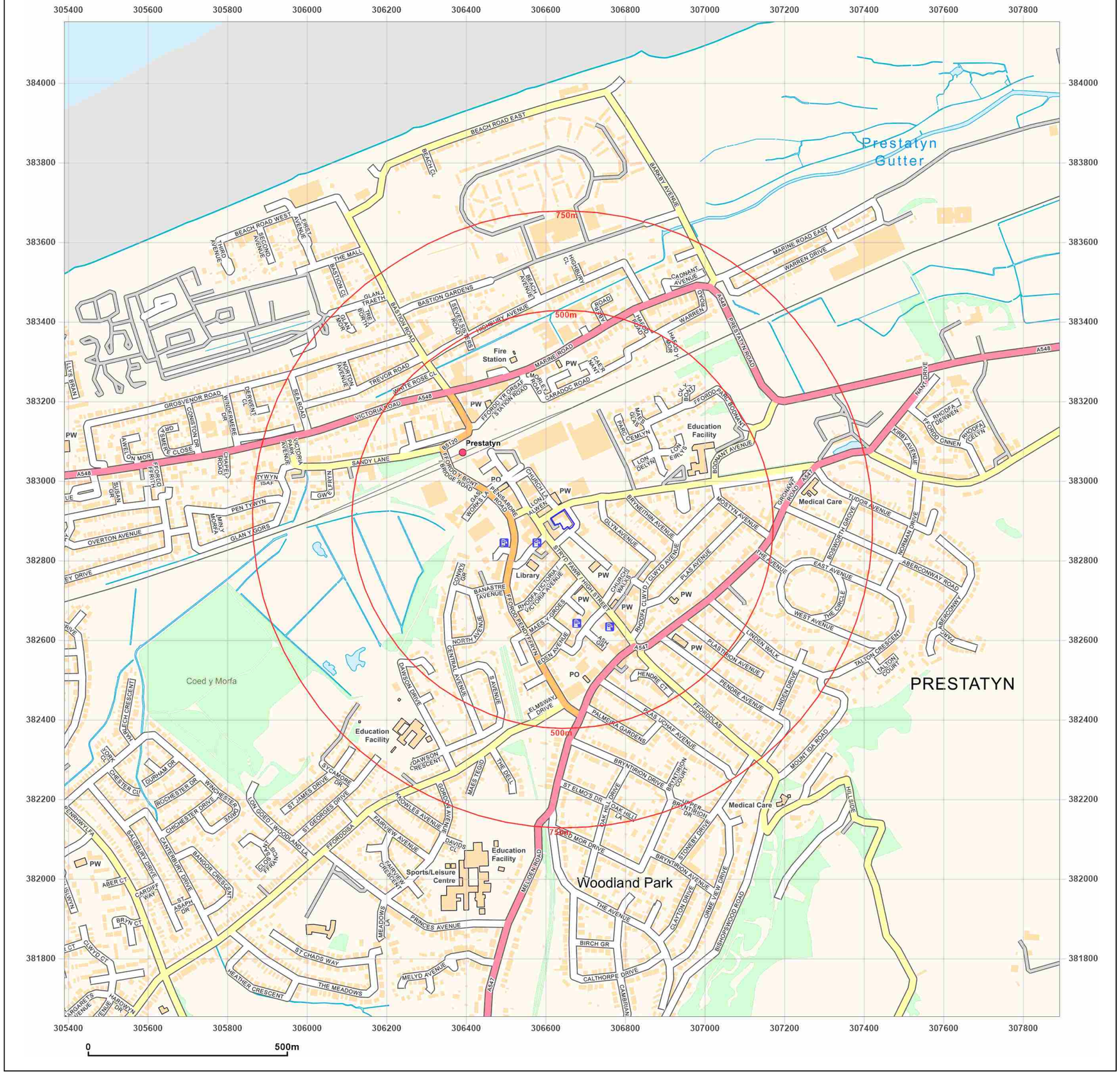

Groundsure INSIGHTS

Site Details:

6-8, NANT HALL ROAD,
PRESTATYN, DENBIGHSHIRE,
LL19 9LL

Client Ref: 3058_TE1835
Report Ref: GS-1B8-FM7-EDD-4Q7
Grid Ref: 306641, 382904

Map Name: National Grid

Map date: **2024**

Scale: 1:10,000

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APPENDIX D - REGULATOR PROVIDED INFORMATION

APPENDIX E - DEFINITIONS OF TERMS USED IN QUALITATIVE AND QUANTITATIVE RISK ASSESSMENTS

CIRIA C552 Terminology

For the qualitative and quantitative assessment of risks posed by potential pollutant linkages have been undertaken using the risk matrix adapted from CIRIA C552 and outlined in the table below.

	Category	Definition
Potential severity	Severe	Acute (short term) risk to human health, Major pollution of sensitive controlled waters, ecosystems or habitat. Catastrophic damage to buildings or property or crops.
	Medium	Chronic (Medium / long term) risk to human health Pollution of sensitive controlled waters, ecosystems or species, Significant damage to crops, buildings or structures
	Mild	Easily preventable permanent health effects on humans. Pollution of non-sensitive controlled waters. Minor damage to buildings or structures.
	Minor	Easily preventable non-permanent health effects on humans, or no effects. Minor, low level and localised contamination of on-site soil. Easily repairable damage to buildings or structures.
Probability of risk	High Likelihood	Pollutant linkage may be present, and the risk is almost certain to occur , or there is evidence of harm already occurring.
	Likely	Pollutant linkage may be present, and it is probable that the risk will occur over the long term.
	Low Likelihood	Pollutant linkages may be present and there is a possibility of the risk occurring, although there is no certainty that it will do so.
	Unlikely	Pollutant linkage may be present but the circumstances under which harm would occur are improbable.

		Potential Severity			
		Severe	**Medium**	**Mild**	**Minor**
Probability of risk	**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

APPENDIX F - CONTROLLED WATERS RISK ASSESSMENT

CURRENT GUIDANCE FOR CONTROLLED WATERS RISK ASSESSMENT

Regulatory Context

Government policy is based upon a "suitable for use approach," which is relevant to both the current use of land and also to any proposed future use. When considering the current use of land, Part IIA of the Environment Protection Act 1990 (EPA 1990) provides the regulatory regime, which was introduced by Section 57 of the Environment Act 1995, which came into force in England on 1 April 2000. The main objective of introducing the Part IIA regime is to provide an improved system for the identification and remediation of land where contamination is causing unacceptable risks to human health, controlled waters or the wider environment given the current use and circumstances of the land. Part IIA provides a statutory definition of contaminated land under Section 78A(2) as:

> *"any land which appears to the Local Authority in whose area it is situated to be in such a condition, by reason of substances in, on, or under the land, that:*
>
> *(a) Significant harm is being caused or there is a significant possibility of such harm being caused; or*
>
> *(b) Pollution of controlled waters is being, or is likely to be, caused."*

Part IIA provides a statutory definition of the pollution of controlled waters under Section 78A(9) as:

> *"the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter"*

Controlled Waters are defined Section 104 of the Water Resources Act 1991. In summary, the comprise relevant territorial waters which extend seaward for three miles from the low-tide limit from which the territorial sea adjacent to England and Wales is measured.

The Environment Agency has powers under Part 7 of The Water Resources Act (1991) to take action to prevent or remedy the pollution of controlled waters, including circumstances where the pollution arises from contamination in the land. This is reinforced in The Contaminated Land (England) (Amendment) Regulations 2012 and Contaminated Land Statutory Guidance (DEFRA, 2012) which came into force in early April 2012.

Part IIA introduces the concept of a contaminant linkage; where for potential harm to exist there must be a connection between the source of the hazard and the receptor via a pathway. Risk assessment in contaminated land is therefore directed towards identifying the contaminants, pathways and receptors that can provide contaminant linkages. This is known as the contaminant-pathway-receptor link (CPR or contaminant linkage).

Part IIA places contaminated land responsibility as a part of the planning and redevelopment process, rather than Local Authority or Environment Agency directly, except in cases of very high pollution risk or where harm is occurring. In the planning process, guidance is provided by National Planning Policy Framework (NPPF) of March 2012. The NPPF requires that a site which has been developed shall not be capable of being determined "contaminated land" under Part IIA. Therefore, appropriate risk-based investigation is required to identify the contaminant linkages that can then be assessed, and then mitigated using methods that can be agreed with the planners.

Source Protection Zones

Source Protection Zones (SPZs) are defined by the Environment Agency (for England and Wales), SEPA (Scotland) and the Environment and Heritage Service (Northern Ireland) for groundwater sources such as wells, boreholes and springs that are used for public drinking water supply. The zones show the risk of contamination from activities that might cause groundwater pollution in the area. The size and shape of a zone depends upon subsurface conditions, how the groundwater is removed, and other environmental factors.

SPZs are classified into four categories:

- **Zone 1 (Inner protection zone).** Any pollution that can travel to the abstraction point within 50 days from any point within the zone is classified as being inside Zone 1. This applies at and below the groundwater table. This zone also has a minimum 50 m protection radius around the abstraction point. These criteria are designed to protect against the transmission of toxic chemicals and water-borne disease.
- **Zone 2 (Outer protection zone).** The outer zone covers pollution that takes up to 400 days to travel to the abstraction point, or 25% of the total catchment area, whichever area is the largest. This travel time is the minimum period over which the Environment Agency considers that pollutants need to be diluted, reduced in strength or delayed by the time they reach the abstraction point.
- **Zone 3 (Total catchment).** This is the total area needed to support removal of water from the abstraction point, and to support any discharge from this.
- **Zone of special interest.** This may occasionally be defined as a special case. This is usually where local conditions mean that industrial sites and other potential sources of contamination could affect the groundwater source, even though they are outside the normal catchment area.

Groundwater Vulnerability Assessments

From 1 April 2010 The Environment Agency Groundwater Protection Policy began to use aquifer designations which are consistent with the Water Framework Directive. These designations reflect the importance of aquifers in terms of groundwater as a resource (drinking water supply) but also their role in supporting surface water flows and wetland ecosystems.

The aquifer designation data is based on geological mapping provided by the British Geological Survey. It is updated regularly to reflect their ongoing programme of improvements to these maps. The maps are split into two different type of aquifer designation:

- Superficial (Drift) - permeable unconsolidated (loose) deposits. For example, sands and gravels.
- Bedrock -solid permeable formations e.g. sandstone, chalk and limestone.

The maps display the following aquifer designations:

Table 1. Aquifer Classification ("Geological Classification").

Classification	Definition
Principal Aquifers (Highly Permeable)	These are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.
Secondary A Aquifers	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.
Secondary B Aquifers	Predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.
Secondary Undifferentiated Aquifers	This has been assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.
Unproductive Strata	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

Environment Agency Guidance

The Environment Agency's stance on groundwater resources is:

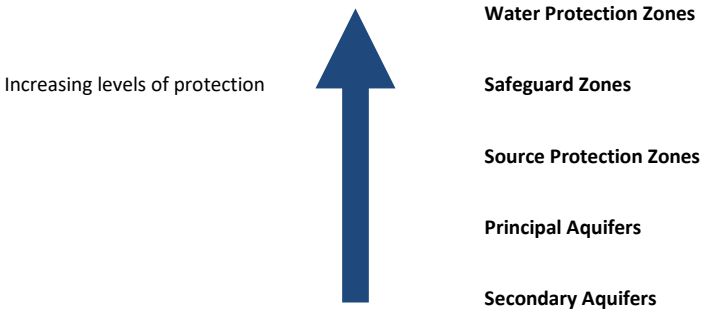
> *"to protect and manage groundwater resources for present and future generations in ways that are appropriate for the risks we identify"* (Groundwater Protection: Policy and Practice GP3, 2012).

At present, the legislation and guidance pertaining to the protection of controlled waters in the UK is complex; however, the core objectives seek to enforce the position given above.

In 1992, the National Rivers Authority published their Policy and Practice for the Protection of Groundwater (PPPG), this document introduced areas of focus for developments such as Source Protection Zones (SPZs) and Groundwater Vulnerability Maps. The Policy was revised in 1998, since which there have been substantial changes in legislation, driven by key European Directives relating to groundwater include the Groundwater Directive (80/68/EEC) and the Water Framework Directive (2000/60/EC). Aspects of these directives are controlled by primary UK legislation such as the Water Resources Act 1991 as amended by the Water Act 2003. Gaps in the 1998 PPPG that emerged as the result of further legislative changes were addressed in the Environment Agency Policy document Groundwater Protection: Policy and Practice (GP3), Version 1 of November 2012. The three main parts of GP3 were:

- Groundwater principals;
- Position statements and legislation; and
- Technical information.

The Environment Agency has a tiered risk-based approach to drinking water protection as summarised below:



APPENDIX G - COMPLYING WITH CONTROL OF ASBESTOS REGULATIONS 2012

Complying with Control of Asbestos Regulations (CAR): Risk Assessments, Licensing and Training

This appendix outlines CAR risk assessments and where they should be applied in relation to assessing and remediating brownfield sites. The information below details the different classifications of work with asbestos under CAR, summarises the legal requirements for asbestos awareness training for all involved in the investigation and management of asbestos containing soil (ACS), and details the potential requirements for suitable proficiency training relating specifically to ACS.

CAR RISK ASSESSMENTS

A CAR Risk Assessment is required for any work which may expose employees to asbestos. It is recommended that a precautionary approach is adopted if there is any doubt about risks associated with asbestos.

There are three main activities for potential asbestos exposure during work on brownfield sites:

- Site reconnaissance visits;
- Site investigation works; and
- Site remediation.

CAR risk assessments are needed at each stage but may be incorporated during the site investigation stage into the overarching health and safety risk assessments.

The CAR risk assessment must:

- Identify the type of asbestos to which employees are liable to be exposed, where possible, or assume it is present in different forms;
- Determine the type and extent of exposures to asbestos that may occur during the work
- Identify the steps to be taken to prevent exposure or reduce it to the lowest level reasonably practicable; and,
- Consider the effects of control measures that have been or will be taken.

The CAR risk assessment should include any information used to inform the risk assessment such as asbestos reports or desk study information. In the event that this information is not available, the assessor should be assumed that all forms of asbestos may be present on site.

For all investigation and remediation of ACSs, a detailed written work plan should he produced and followed as detailed on the HSE website and in the CAR.

The CAR risk assessments for specific investigations or remediation projects, will determine whether or not work is 'licensable work' (LW)**,** notifiable non-licensable work' (NNLW) or 'non-licensed work' (NLW). In addition, training requirements are also defined by the CAR risk assessment.

Some examples of control measures that apply during site reconnaissance, site investigation works, and site remediation are given below and should be applied depending on the asbestos risks identified for the site at each stage of investigation:

- Avoiding stirring up dust;
- Cleaning footwear after site works;
- Removing and bagging any overalls for disposal/laundering;
- Respirators and hygiene facilities for high-risk sites;
- Segregated welfare units;
- Wetting ground
- Minimising soil disturbances;
- Implementation or retention of capping/break layers;
- Implementation of awareness training;
- Air monitoring;
- Managing stockpiles;
- Area segregation;
- Wheel washing
- Road washing/cleaning

It is important to note that during site reconnaissance visits, site investigation works and site remediation that asbestos should not be considered in isolation and control measures are likely to form part of a wider health and safety precautions.

Respiratory protective equipment (RPE)

RPE is the last line of defence, and its requirement would be defined by the CAR risk assessment. HSE (2013b) advises that RPE should have an assigned protection factor of 20 or more for all work with asbestos. In certain instances, full face-piece, positive pressure respirators with a protection factor of 40 are necessary (to EN 12942:1998, TM3).

Suitable types of RPE for most ***short*** duration non-licensed asbestos work:

- Disposable respirator to standards EN149 (type FFP3) or EN1827 (type FMP3)
- Half mask respirator (to standard EN140) with P3 filter
- Semi-disposable respirator (to EN405) with P3 filter

These filters are not suitable for people with beards/stubble or for long or continuous use.

LICENSING

CAR defined certain types of activities involving asbestos as 'licensable work' (LW) or as 'notifiable non-licensable work' (NNLW). All other work would be 'non-licensable work' (NLW).

LW is defined as:

- work where exposure is not 'sporadic and low intensity'
- work where the risk assessment cannot demonstrate that the control limits (four hour and 10-minute limits) will not be exceeded
- work on asbestos coating
- work on AIB or insulation where risk assessment is either of first two points above or not of short duration (where short duration is defined for any work liable to disturb asbestos as taking less than two hours per week (including ancillary work) and no one person carries out that work for more than one hour').

NNLW includes work with:

- AIB or asbestos insulation of short duration that is not licensable
- fire-damaged asbestos cement or asbestos cement damaged so as to create significant dust and debris
- asbestos ropes, yarns, woven cloths in poor condition or handling cutting or breaking up the materials
- asbestos papers, felts and cardboard in poor condition, unencapsulated or not bound into another material.

Work with weathered asbestos cement, air monitoring and collecting samples of ACM in buildings would not normally be notifiable.

It is impossible to specify definitively what activities will and will not be licensable. This decision should be made as part of the CAR risk assessment. CAR is not primarily aimed at work with ACSs and there is little published information on airborne asbestos concentrations during work with ACSs. Nevertheless, CAR will require some remediation projects, and occasionally site investigations, to be LW. Investigations on other sites may involve NNLW. The decision as to whether work is LW or NNLW should be made during the CAR risk assessment by those in charge of the brownfield site investigations and remediation projects.

TRAINING REQUIREMENTS

Asbestos health and safety courses are offered by a number of providers in the UK. Training courses that include the problem of identifying ACMs in soil should be undertaken at regular intervals by those involved in the investigation, assessment and management of sites where ACs are known or suspected. It is the role of the employer to identify the level of training required for an employee based on their role, experience and duties. Reference to Regulation 10 of CAR should be referred to for more information on training requirements.

Recognising asbestos within soils is challenging due to the heterogeneity of such soils and the discolouration of asbestos by smeared soil. Specific training for ground workers should include understanding fibre release potential, potential control measures in the field, how to take representative ACSs safely, sample labelling and what analytical tests are available and when the y should be implemented.

Health and safety training required under CAR includes asbestos awareness, non-licensable work (including notifiable non-licensable work) and licensable work with asbestos.

In addition to health and safety training, some staff involved in the technical identification on site of ACMs, sampling and analysis may require technical proficiency training (competency training).

Training vs. Competence

HSE (2005) identifies that ‘training alone does not make people competent. Training must be consolidated by practical experience so that the person becomes confident, skilful and knowledgeable in practice on the job’. It is critical that ACS surveyors demonstrate competency with details of relevant field experience alongside training and examples of previous works/references.