Caulmert Limited

Engineering, Environmental & Planning
Consultancy Services

Bodnant Avenue Housing Site

Adra

Bodnant Avenue, Prestatyn

Phase I and Phase II Geo-Environmental Report

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Phase I and Phase II Geo-Environmental Report

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

1.1 Details of Commission

1.1.1 Caulmert Ltd have been appointed by Adra (the client) to undertake a combined Phase I desk study and Phase II geo-environmental appraisal at land adjacent to Bodnant Avenue, Prestatyn, to support a planning application and preliminary scheme design. A site location plan is provided as Figure 2, see over.

1.2 Limitations of this Study

1.2.1 This report is solely for the use of the Client and should not be relied upon by third parties without prior written consent from Caulmert.

1.2.2 Information used within this report has been gathered from data sets compiled by third party organisations and purchased on behalf of the Client. The validity and accuracy of this third-party information is outside the control of Caulmert.

1.2.3 Interpretation and recommendations contained within this report should not be assumed valid for adjacent areas of land or alternative land uses and are based upon the proposed layout provided to Caulmert at the time of compiling this report.

1.3 Objectives of Report

1.3.1 The objective of this report is to complete an assessment of potential environmental and geotechnical liabilities associated with the proposed residential development of the site. The scope of works consists of the following:

- Phase 1 desk study and site walkover.
- Ground investigation comprising trial pits, in-situ permeability CBR testing.
- Chemical laboratory testing of soils whether there are any significant contamination sources onsite.
- Geotechnical testing for soil classification.
- Interpretative ground investigation report.
- An assessment of general ground conditions.
- Identification of any significant environmental or geotechnical constraints.
- Review and confirmation of anticipated ground conditions.
- Assess the ground permeability.
- Formulation of a ground and groundwater model.

- Investigate potential contamination sources and undertake a Generic Quantitative Risk Assessment.
- Develop a conceptual site model (CSM) identifying potential sources, pathways and receptors of contaminants based on current ground investigation data.
- Recommendations for further investigations (as necessary).

1.4 Previous Works

1.4.1 Caulmert are not aware of any previous ground investigation works carried out on site.

1.5 Sources of Information

1.5.1 This report comprises the review of the Envirocheck Report (ref: 354776573 dated 05.08.2024) and information obtained from readily available online sources:

- British Geological Survey (BGS) website
  - http://mapapps2.bgs.ac.uk/geoindex/home.html;
- Grid Reference Finder website
  - – https://gridreferencefinder.com;
- DEFRA maps website
  - https://magic.defra.gov.uk;
- Coal Authority - Interactive Map Viewer, ArcGIS
  - - https://datamine-cauk.hub.arcgis.com/;
- UKradon website (UK Health Security Agency)
  - – https://www.ukradon.org;
- Zetica UXO Risk Maps
  - – https://zeticauxo.com/downloads-and-resources/risk-maps/;
- Natural Resources Wales Flood Risk Map Viewer
  - https://maps.cyfoethnaturiolcymru.gov.uk/
- Surface Water and Small Water Courses Flood Zones
  - https://datamap.gov.wales/layers/inspire-nrw:NRW_FLOODZONE_SURFACE_WATER_AND_SMALL_WATERCOURSES

2.0 PROPOSED DEVELOPMENT

2.1.1 The proposed development will consist of a housing scheme comprising of approximately 62no. affordable dwellings with private gardens, access roads and public open space over 2.6 acres of land.

2.1.2 The development will comprise low-rise properties of varying sizes. No construction details or structural loads have been made available at the time of writing this report. A initial development layout is presented as Figure 1 below:

Figure 1: Proposed development area.

3.0 ENVIRONMENTAL CONTEXT

3.1 Site Location and Description

3.1.1 The site is located off Bodnant Avenue, Prestatyn, Denbighshire (National Grid Reference 307185, 383091). The site location plan is presented as Figure 2 below.

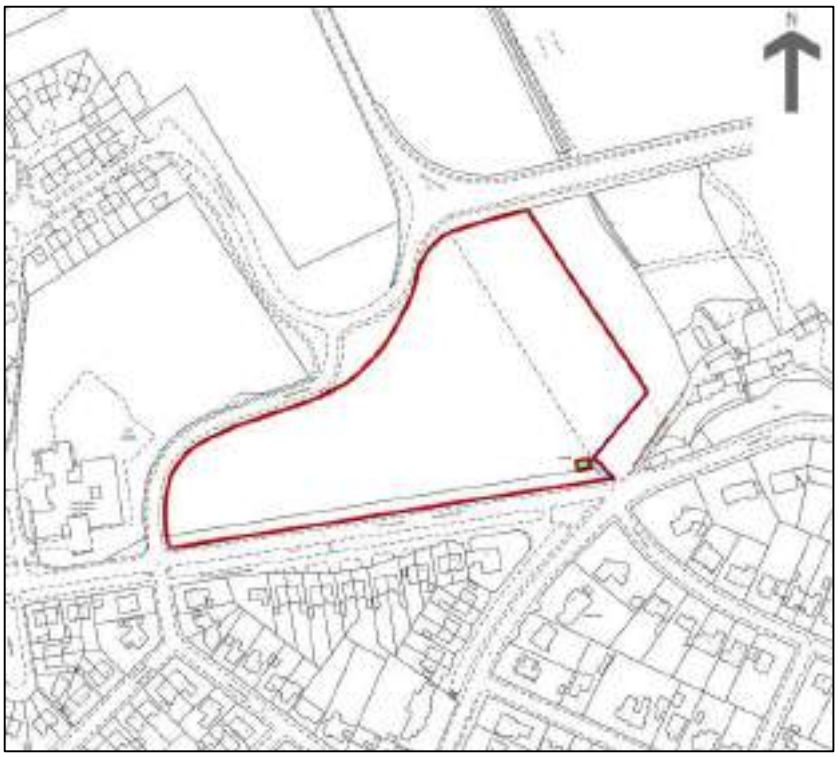

Figure 2: Site location plan.

3.1.2 The site is located approximately 500m east of the Prestatyn town centre, within the county of Denbighshire. The site slopes upwards by approximately 9m from north (6.5m AOD) to south (15.3m AOD) and approximately 5m from east to west.

3.1.3 The land is bordered by Bodnant Avenue, Ffordd Parc Bodnant and Prestatyn Road to the north and Nant Hall Road to the south, and measures approximately 2.6Ha. Nant Hall Touring Park caravan park is located immediately to the east of the site.

3.1.4 The land consists of one open field which is laid to grass and currently vacant. A large number of mature trees subject to a 1950 Tree Preservation Order are situated across the southern fringe of the site along the boundary with Nant Hall Road. A number of smaller trees are located along the boundary with Bodnant Avenue and Ffordd Parc Bodnant.

3.1.5 The land is traversed north-to-south by a public footpath, as shown by the dotted line on Figure 2.

3.1.6 An electricity substation, located immediately adjacent to this land, is identified in green on Figure 2.

3.1.7 The surrounding area predominantly consists of residential and agricultural use. A summary of the site and surrounding areas is presented in Table 1.

Table 1: Site description.

Site Location		
National Grid Reference		307185, 383091
Site Area		2.6 Hectares
Site Setting / Description	Current Land Use	Agricultural land.
	Surrounding Area	North: Bodnant Avenue with agricultural land beyond.
		East: Caravan Park (recreational).
		South: Nant Hall Road, with residential land use south of road.
		West: Bodnant Community School.

3.2 Site Walkover Survey

3.2.1 A site walkover survey was completed by a Caulmert Engineer on the 17th of September 2024 as part of the Phase II investigation works. A summary of the observations made during the site visit are presented in Table 2 below.

Table 2: Summary of observations from the site walkover survey.

Observations	Comments
Buildings and Structures	No buildings or structures are present across the site except the electric substation in the southeastern corner of the site.
Topography	The site slope to the north and northwest with the highest point to the southeast at 15.3m AOD and the lowest point to the north at 6.5m AOD.
Site Access and Security	Site is accessed via a field entrance off Fford Parc Bodnant to the north and there is another pedestrian access off Nant Hall Road to the south. Both site access points are connected by a footpath crossing the site from south to north in the easter half of the site.
Site Surface	The site is covered by grazed grass.
Services	A six inch uPVC distribution water main runs north to south in the eastern half of the site along the existing footpath. An electricity substation is present in the southeastern corner of the site, but no cables are understood to cross the site. No other services are known to be present onsite.
Vegetation	Grass, with trees adjacent to the sites southern and western boundary.
Invasive Species	None identified, note survey not carried out by qualified ecologist.

Observations	Comments
Surface Water Features	None observed.
Potential Contaminative Sources (on site)	No significant contamination sources identified.
Potential Contaminative Sources (off site)	No significant contamination sources identified.
Other Information	None.

3.3 Site History

3.3.1 In compiling this desk study, historical maps and historical aerial photography from the Envirocheck report (2024) dating from 1872 to 2024 were analysed. The maps are presented in Appendix 2 with extracts provided below.

Table 3: Summary of historical maps 1872-2024.

Historical Map	Site	Surrounds
1872 1:2,500	The site is mapped as agricultural land.	The surrounding areas are shown as agricultural land. A railway line is mapped 220m to the northwest. *Nant Mill* is shown immediately to the southeast of the site, with associated mill pond.

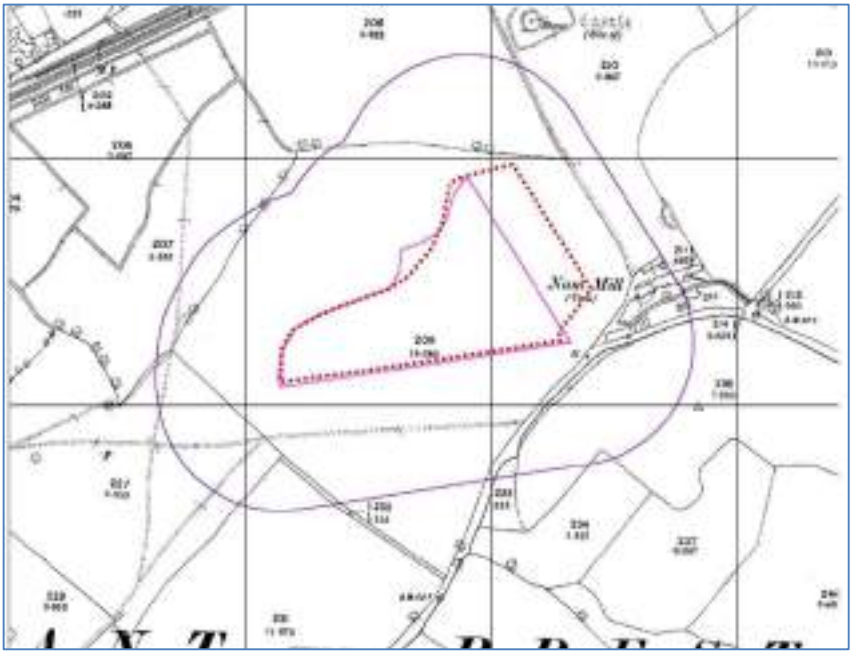

Figure 3A: Historical Map dated 1872 *(red line-site boundary).*

1878 1:10,560	No significant changes.	The town of Prestatyn is shown 400m to the west. Prestatyn Alkali Works mapped 250m to the northwest.
1899 1:2,500	No significant changes.	New buildings (residential) 90m to the south and 220m to the west. A sluice and a sluice house are shown 100m-120m east of the site.
1900 1:10,560	No significant changes.	*Prestatyn Alkali Works* no longer shown on the map.
1912 1:2,500	No significant changes.	Bodnant Avenue is mapped along the western, northwestern site boundary.

Figure 3B: Historical Map dated 1912 *(red line-site boundary).*

1914-1915 1:10,560	No significant changes.	No significant changes.
1938 1:10,560	No significant changes.	Further residential housing development to the southwest, south and southeast of the site. Prestatyn Road is now mapped immediately to the north of the site and to the northeast.
1953 1:10,560	No significant changes.	No significant changes.
1962 1:1,250	A footpath is mapped crossing the eastern part of the site from southeast to northwest. An electric substation is shown in the southeastern corner of the site.	Further residential housing development to the southwest, south and southeast of the site. A pond is mapped west/northwest, 100m of the site boundary. The area between Nant Mill and Gronant Road, 30m east of the site, is now labelled as a *pond*.

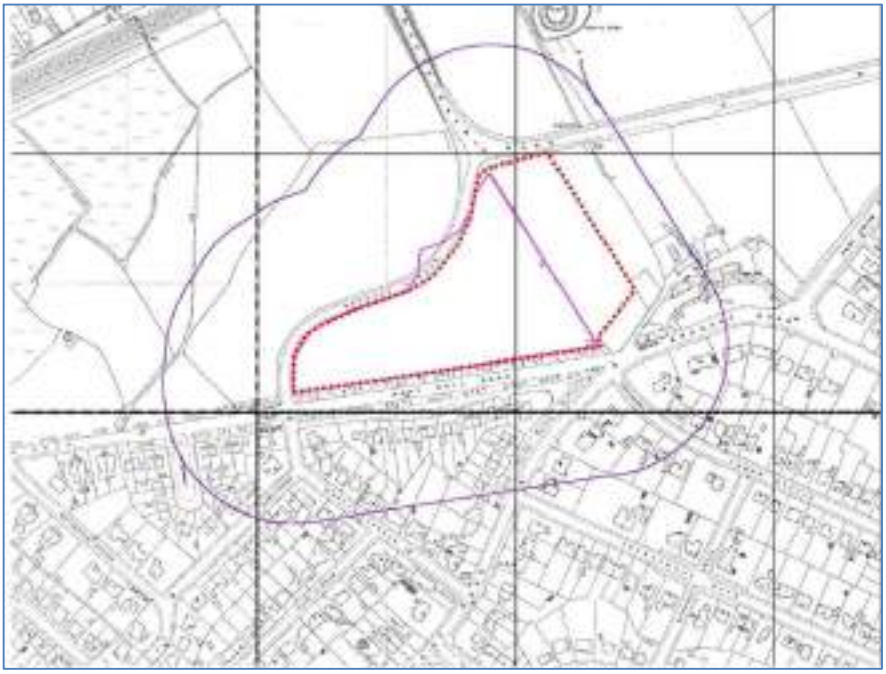

Figure 3C: Historical Map dated 1962 *(red line-site boundary).*

1964 1:10,000 1963-1964 1:2,500	No significant changes.	No significant changes.
1969 1:10,000	No significant changes.	New residential housing to the east of Nant Mill. Works shown 500m to the west.
1979 1:10,000	No significant changes.	A school is mapped 30m to the west. The land 15m to the northwest is described as *Playing Field*. Depot shown 490m to the west.
1962-1990 1:1,250	No significant changes.	The school 30m to the west is named *Ysgol Bodnant*.

1993 1:1,250	No significant changes.	The pond mapped west/northwest 100m of the site boundary is no longer shown. The land to the east is named *Caravan Site.*
2000 1:10,000	No significant changes.	New roads and residential housing 120m northwest of the site. Further housing development east of *Nant Mill*.
2001 Historical Aerial Photography	No significant changes.	No significant changes.

Figure 3D: Historical Aerial Photography 2001 *(red line-site boundary).*

2006 1:10,000	No significant changes.	No significant changes.

2024 1:10,000	No significant changes.	Former Depot shown 490m to the west is now Prestatyn Shopping Centre 270m-490m east of the site.

3.3.2 The site has been agricultural land since, the earliest available historical map of 1872, until present day. An electric substation is shown in the southeastern corner of the site from1962, along with a public footpath crossing the eastern part of the site from the southeast to northwest. No other significant changes were observed in the period 1872 and 2024.

3.3.3 The surrounding areas were mainly of agricultural land use from 1872 until 1899 when the town of Prestatyn grows and new residential houses can be seen to the southwest from 1899, further housing development continues to the south and southeast of the site from 1938. Further housing development to the northwest of the site is shown from 2000. The Bodnant School east of the site is first mapped in 1979.

3.3.4 No significant contamination sources identified within the vicinity of the site that are likely to significantly impact the site.

3.4 Geology

3.4.1 The British Geological Society online geological maps (1:50,000) indicate the following ground conditions at the site:

- Glacial Till is shown underlying most of the site except the northern and northwestern low lying areas.
- Glacifluvial Deposits to the north and northwest which comprise sand and gravel.
- The bedrock underlying the site is identified as the Pennine Coal Measures which is described by the BGS as alternating sandstone, siltstone and grey mudstone, with frequent coal seams, ironstone nodules or beds and seatearth horizons.

3.4.2 The nearest historical BGS borehole (SJ08SE20) is located 60m north of the site boundary and recorded the following strata down to a depth of 5.79m: *sandy clay with stones, sand with stones and gravels, red sand, stones and gravel, brown running sand and gravel and dark coarse sand and gravel*.

3.5 Mining

3.5.1 Although the site is underlain by Pennine Coal Measures, the site is not within a Coal Mining Reporting Area and there are no recorded coal outcrops or probable shallow coal workings(Coal Authority Interactive viewer online).

3.6 Ground Gas

3.6.1 We have provisionally assessed the risk of ground gas impacting the site, by reference to guidance given in the paper "A pragmatic approach to ground gas risk assessment for the 21st Century" Card and Wilson, 2011. This is a follow up paper to the CIRIA Report 665 and is compatible with that document.

- No credible sources or pathways for landfill gas migration from an off site landfill have been identified.
- The site has not been a registered landfill (Greenfield).
- The Made Ground is not expected on site.
- The site is not located on a carbonate rich rock that can produce carbon dioxide.
- Radon protection measures are required for this site.
- Table 2 in the Card and Wilson 2011 paper has been referenced and the site does not lie on a potential naturally organic soil or a humic or degradable Made Ground soil, as defined in this table.

3.6.2 The UKradon map indicates that the site is within the Highest Radon Potential area (greater than 30%). However, the Envirocheck report indicates that the majority of the site is in a intermediate probability radon area where 5%to 10% of homes are estimated to be at or above the action level and as such basic radon protection measures will be required for all new dwellings.

4.0 ENVIRONMENTAL DATABASE

4.1 Environmental Database

4.1.1 A Envirocheck assessment report was procured (ref: 354776573, 05.08.2024) and is presented as Appendix 2. The pertinent information from the report is presented in Table 4.

Table 4: Summary of environmental information.

Reference	Description
Historical Industrial Sites	
Potentially Contaminative Uses identified from 1:10,000 scale Mapping	There is an electricity substation in the southeastern corner of the site. However, given its size and age this is unlikely to be a significant contamination risk to the site There are no other potentially contaminative past land uses recorded within 250m of the site boundary.
Historical Tank Database	There are no historical tanks identified within 500m.
Potentially Infilled Land	None within the site or within 500m of the site boundary.
Environmental Permits, Incidents and Registers	
Discharge Consents	The nearest discharge consent associated with a nearby drainage ditch is located approximately 40m northeast of the site, there are another discharge consents at 422m, 473m and 488m of the site. All of them are operated by Dwr Cymru.
Landfill and Other Waste	
Records of Environment Agency/BGS historic landfill sites	There are none recorded within 500m of the site.
Hydrogeology and Hydrology	
Bedrock Aquifer Designation	Secondary A Aquifer.
Superficial Aquifer Designation	East and North: Secondary Undifferentiated. West: Secondary A Aquifer.
Groundwater Vulnerability	Secondary Superficial Aquifer - High Vulnerability. Productive Bedrock Aquifer, Productive Superficial Aquifer.
Source Protection Zones	None recorded within 500m of the site.
Environment Agency information on groundwater vulnerability and soil	Soils have a high vulnerability and are likely to provide vertical and lateral migration of contaminants if present.

Reference	Description
Surface Water Features	The nearest watercourse, Nant Mill Stream, is located 30m to the east.
Flooding (Rivers and Coastal)	The site is not in the area of flooding from rivers or sea. The site is not in the area of flooding from surface waters.
Flooding (Groundwater)	The site is located in an area with potential for groundwater flooding to occur at surface.
Geological	
Mineral and Coal Extraction	No BGS Minerals sites have been recorded within the vicinity of the site.
Radon	The Envirocheck report indicates that the site is in the intermediate probability radon area (where between 5-10% of homes are estimated to be at or above the Action Level).
Potential for stability hazards	Collapsible ground - very low Compressible ground - no hazard Ground dissolution - no hazard Landslide - very low Running sand - very low Shrinking and swelling of clay - very low
Industrial Land Use	
Records of potentially contaminative industrial sites	There is a small electricity substation in the southeastern corner of the site. There are no other significant contamination sources within the site or within 250m of the site. *Historically* Immediately east of the site is the Nant Mill (unlikely to be a significant source contamination).
Hazardous Substances	
COMAH/NIHHS Sites (Dangerous or Hazardous Sites)	None recorded within 500m of the site.
Explosive Sites	None recorded within 500m of the site.
Planning Hazardous Substance (consents/Enforcements)	None recorded within 500m of the site.
Sensitive Land Use	
Area of *Outstanding Natural Beauty*	Recorded 375m to southeast.
Ramsar site, Special Protection Area, Site of Special Scientific Interest	River Dee estuary ca. 400m northeast of the site.

Reference	Description
Nitrates	The site lies within a nitrate vulnerable zone.

5.0 PRELIMINARY RISK ASSESSMENT

5.1 Preliminary Risk Assessment

5.1.1 En Environmental Risk has been addressed by adopting a site-specific, qualitative approach, to identify the risk of environmental harm. The guiding principle of this approach is an attempt to establish connecting links between a hazardous 'source', via an exposure 'pathway', to a potential 'receptor'. This is in accordance with the Department of the Environment, Transport and Regions (DETR) guidance on Contaminated Land (Ref. 2) and the Construction Industry Research and Information Association (Ref. 3).

5.1.2 This assessment will identify where pollutant linkages may exist, by considering where a viable pathway may exist, which connects a potential source with a receptor. A pollutant linkage is the term used by the DETR in their standard procedure on risk assessment. If there is no pollutant linkage, then there is no risk. The site does not fit with the standard CLEA model end-use; the most relevant CLEA end-use is 'Commercial'. The site has therefore been assessed using this standard end-use model.

5.2 Preliminary Conceptual Site Model

5.2.1 Contaminated land risk assessment is based on the development of a conceptual model for the site. This is a representation of the relationship between potential contaminant sources, pathways and receptors. A preliminary conceptual site model is based on the inferred ground conditions and environmental data obtained from existing data sources. A preliminary conceptual site model is discussed in the following sections.

5.3 Identified Potential Sources

5.3.1 The following potential sources of contamination have been identified from historic uses of the site and the surrounding area:

5.4 On-site Sources

5.4.1 Potential sources of contamination associated with the historical and current activities on the site include:

- Electrical substation present to the southeastern corner of the site since 1962, given the size of the site limited potential for Poly-Chlorinated Biphenyl (PCBs) within the footprint of the substation and area immediately surrounding the substation. Very unlikely to impact the rest of the subject site.

5.5 Offsite Sources

5.5.1 No significant potential sources of contamination have been identified in the immediate area surroundings the site.

5.6 Receptors

5.6.1 The following receptors have been identified:

- Future site users (residents).
- Construction workers during development works.
- Controlled Waters (groundwater) – Secondary A aquifer.
- In ground services and construction materials.
- Pathways

5.6.2 The following pathways link the potential contaminants with the sensitive receptors:

- Contact, ingestion and inhalation of contaminated soil and dust.
- Leaching and migration via soil mass and rock discontinuities.
- Humans: ingestion, skin contact, inhalation of dust and outdoor air.
- Buildings: direct contact.
- Buildings: ingress via permeable soils and/or construction gaps.
- Underlying groundwater: migration of leachable contaminants.
- Surface water: overland flow/ lateral migration of contaminants in ground.
- Surface water: drainage discharge.
- Plant uptake.

5.7 Qualitative Risk Assessment

5.7.1 A qualitative risk assessment has been undertaken for these potential source-pathway-receptor linkages. This is based on consideration of both:

- The likelihood of an event (takes into account both the presence of the hazard and receptor and the integrity of the pathway).
- The severity of the potential consequence (takes into account both the potential severity of the hazard and the sensitivity of the receptor).
- The risk assessment has been based on development of the site with a proposed 'Residential' end-use (Table 5).

Table 5: Qualitative risk ratings.

Probability (P)	Impact (I)				
	Negligible	Minor	Moderate	Significant	Severe
Very Likely	Low/Med	Medium	Med/High	High	High
Likely	Low	Low/Med	Medium	Med/High	High
Possible	Low	Low/Med	Medium	Med/High	Med/High
Unlikely	Low	Low/Med	Low/Med	Medium	Med/High
Very Unlikely	Low	Low	Low/Med	Medium	Medium

Table 6: Summary of potential pollutant linkages (Preliminary Conceptual Site Model).

Potential Source	Potential Contaminant	Potential Pathways	Potential Receptor	Pollutant Linkage Present	Impact	Risk	Comments
Made Ground.	Metals, semi-metals, non-metals, PAH, petroleum hydrocarbons	Inhalation	Human Health – End user and on-site worker	Very Unlikely	Minor	Low	Made Ground not anticipated. The site has been agricultural land until present day.
		Ingestion					
		Direct contact					
		Infiltration	Groundwater and Surface Water Quality				
		Lateral migration; groundwater					
		Vertical diffusion; groundwater					
	Asbestos	Inhalation Ingestion Direct contact	Human Health – End user and on-site worker	Very Unlikely	Minor	Low	No Made Ground or construction remnants anticipated on site. The site has been agricultural land until present day.
Ground gas generation from Made Ground or organic soils.	Carbon dioxide, carbon monoxide and hydrogen sulphide	Inhalation	Human Health – Future site users and site workers	Very Unlikely	Minor	Low	No ground gas sources have been identified on site. Made Ground not anticipated. Organic soils not anticipated.
		Migration through Superficial Deposits					
		Vertical migration; groundwater.	Groundwater and Surface Water Quality.				
Radon gas from natural ground.	Radon gas.	Inhalation	Humans – future site users.	Very Likely	Moderate	Med/ High	The site is within the intermediate Radon Potential area. Basic radon protection measures are likely to be required to satisfy planning conditions.
Off-site sources	Heavy metals, TPH, PAHs.		Human Health – site workers. Humans – future site users.	Unlikely	Minor	Low	Historical agricultural land use followed by residential development.

6.0 GROUND INVESTIGATION

6.1.1 The site works were carried out by PT Drainage Limited and supervised by Caulmert following the procedures based on BS 5930:2015+A1:2020 – Code of Practice for Site Investigations and BS 10175:2011+A2:2017 - Investigation of Potentially Contaminated Sites. The soils encountered have been described in accordance with BS5930:2015+A1:2020.

6.1.2 Utility plans were provided by the client. A total of ten machine excavated trial pits were formed at the site on the 17th and the 18th of September 2024 followed by soakaway testing. The positions of the exploratory holes were selected by Caulmert to provide a wide coverage of information on the site areas. The exploratory hole location plan is provided in Appendix 1 and the logs are provided in Appendix 3.

6.1.3 The trial pits, TP1 to TP8, SA1 and SA2 were excavated with a 3 ton mini excavator to a maximum dig depth of 2.4m below ground level. Environmental samples were collected at shallow depths and small-disturbed samples were taken at regular intervals down to the base of the holes for subsequent laboratory testing and inspection.

6.1.4 Soakaway testing was undertaken in trial pits SA1 and SA2 in accord with BRE Digest 365 'Soakaway Design'.

6.1.5 On completion, all trial pits were carefully backfilled with arisings in thin layers, ensuring that excavated material was replaced in the same order as it had been removed.

6.1.6 In addition to the exploratory holes, in-situ testing Transport Research Laboratory Dynamic Cone Penetration (TRL DCP) was carried out by Celtest in fourteen locations (DCP1-DCP14). The works were carried out on 10th of October 2024

7.0 SAMPLING STRATEGY

7.1 General

7.1.1 The principal objectives of the study were to examine the ground conditions present on site. The strategy was to provide an assessment of the environmental risks, geotechnical constraints and liabilities for the proposed development.

7.2 Chemical Testing

7.2.1 Environmental samples were collected and submitted to the laboratory by a Caulmert Engineer. Chemical laboratory testing of soils was carried out by Envirolab Ltd laboratories accredited by UKAS, working where possible to MCERTS and / or ISO 17025 accreditation. Chain of custody documentation was completed and is retained by Caulmert.

7.2.2 Contamination analyses have been performed on ten soil samples, seven samples of Topsoil and three samples of underlying Subsoil. All samples were tested to determine a default suite of contaminants which include:

- Total petroleum hydrocarbons (TPHs), aromatic and aliphatic, from the TPH Criteria Working Group suite.
- Polycyclic(polyaromatic) aromatic hydrocarbons (PAHs), sixteen compounds (16MS).
- Benzene, ethylbenzene, toluene, xylene (BTEX), and MTBE.
- Metals, semimetals (As, Cd, Cu, Cr, Cr *hexavalent,* Pb, Hg, Ni and Zn).
- Asbestos.
- pH and organic content.

7.2.3 Five samples of subsoil were tested for soil soluble sulphates and pH according to BRE SD1 Concrete in aggressive ground.

7.2.4 Summaries of locations and strata of the samples are provided below:

Table 7: Summary of soil chemical testing.

Strata	Sample ref	Depth (m bgl)	Laboratory testing
Topsoil	TP1ES1	0.15	Asbestos/Metals/OM/PAH/TPH/BTEX
	TP2ES1	0.10	Asbestos/Metals/OM/PAH/TPH/BTEX
	TP4ES1	0.10	Asbestos/Metals/OM/PAH/TPH/BTEX
	TP5ES1	0.10	Asbestos/Metals/OM/PAH/TPH/BTEX
	TP6ES1	0.10	Asbestos/Metals/OM/PAH/TPH/BTEX
	TP7ES1	0.10	Asbestos/Metals/OM/PAH/TPH/BTEX
	TP8ES1	0.10	Asbestos/Metals/OM/PAH/TPH/BTEX
Subsoil	TP2D1	0.80	BRE
	TP3ES1	0.30	Asbestos/Metals/OM/PAH/TPH/BTEX
	TP5ES2	0.30	Asbestos/Metals/OM/PAH/TPH/BTEX
	TP5D1	0.60	BRE
	TP6D1	0.70	BRE
	TP7ES2	0.40	Asbestos/Metals/OM/PAH/TPH/BTEX
	TP7D1	0.80	BRE
	TP8D1	0.70	BRE

Asbestos – asbestos screen

Metals – general metals/inorganics suite

OM – soil organic matter

PAH – soil PAHs suite

TPH – soil TPHs suite inc. BTEX & MTBE

BRE – pH and SO_4

7.3 Geotechnical Laboratory Testing

7.3.1 In total, five geotechnical samples were collected and submitted to the laboratory by a Caulmert Engineer. The laboratory testing of soils was carried out by i2 Analytical Ltd laboratory accredited by UKAS, working in accordance with BS.1377: 1990.

Table 8: Summary of soil geotechnical testing.

Strata	Sample ref	Depth (m bgl)	Laboratory testing
Glacial Till	TP2D2	1.10	PSD/Plasticity Index/MC
	TP4D1	1.40	PSD/Plasticity Index/MC
	TP5D2	1.10	PSD
	TP6D2	1.10	PSD
	TP8D2	0.90	PSD

PSD – particle size distribution (BS1377-2-2022 Clause 10)

Plasticity Index - 1 Point Liquid Limit (BS1377-2-2022 Clause 5.3)

MC – moisture content (BS1377-2-2022 Clause 4.1)

8.0 GROUND CONDITIONS

8.1 General Stratigraphy

8.1.1 The general stratigraphy at the site comprised a veneer of topsoil overlying Glacial Till present in the more elevated area of the site in the east and southeast, and Glaciofluvial Sheet Deposits were present in the west and northwest. Bedrock was not observed during the ground investigation. This generally reflected the published geology; however, the Glaciofluvial Deposits were confirmed to extend a bigger area to the west.

8.2 Topsoil

8.2.1 Topsoil was recorded across the entire site to depths of between 0.2m to 0.3m below ground level (bgl) and generally comprised dark brown very slightly sandy clay with grass roots.

8.3 Glacial Till

8.3.1 Glacial Till was encountered directly below the topsoil from between 0.2m and 0.3m bgl down to the base of trial pits at 2.4m which is the maximum digging depth of the excavator. The Glacial Till is typically reddish brown sandy to very sandy slightly gravelly to gravelly clay, however more granular layers were observed, slightly clayey to clayey slightly gravelly sand in TP3 (1.4-.2.4m) and in TP4 (1.8m – 2.4m). Gravel is fine to coarse subrounded limestone, mudstone and sandstone.

8.3.2 Two samples were tested for Particle Size Distribution and the Atterberg Limits and the results indicate very clayey gravelly sand (classification as SC according to USCS, Unified Soil Classification System).

8.3.3 Atterberg Limit tests on two abovementioned samples recorded a moisture content of 9.8% and 11.7%, and a Modified Plasticity Index value of 10%. This would correspond to soils with a low volume change potential. However, the samples are classified as SC soils; very clayey gravelly sand with the percentage of 26% and 32%. Taking into account all of the above the soils can be considered as non-plastic.

8.4 Glaciofluvial Deposits

8.4.1 Glacifluvial Deposits were encountered directly below the topsoil from between 0,2m and 0.3m down to the base of trial pits at 2.4m which is the maximum digging depth of the excavator. The Glacifluvial Deposits were observed to comprise initially of a layer of dark brown sandy slightly gravelly clay in TP5 (0.2-0.8m), TP7 (0.3-0.5m), TP8 (0.2-0.5m) and sandy to very sandy slightly gravelly clay in SA1 (0.2-0.4m) and in SA2 (0.2-0.3m). This initial cohesive layer is underlain by alternating layers of sandy to very sandy, locally slightly clayey to clayey, gravel, slightly gravelly to gravelly sand, locally very clayey, as well as occasional lenses or layers of clay. The abovementioned proves the variable nature of Glaciofluvial Deposits. Gravel is fine to coarse subrounded limestone, mudstone and sandstone.

8.4.2 Three samples were tested for Particle Size Distribution and the results indicate very clayey gravelly sand with 34% of fines in one sample, and clayey very sandy gravel with 9% and 11% of fines in another two samples.

8.4.3 According to Unified Soil Classification System (USCS) the soils can be classified as SC; poorly graded very clayey gravelly sand, and GP-GC poorly graded clayey very sandy gravel.

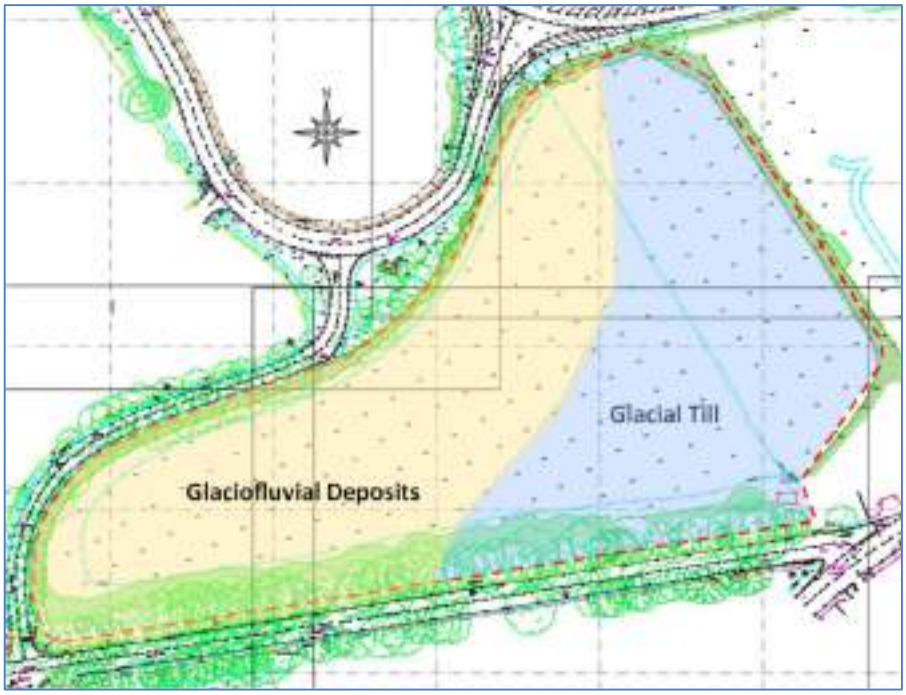

Figure 4: Observed site superficial deposits (red line-site boundary).

8.5 Groundwater

8.5.1 Groundwater was not observed during the intrusive ground investigation to a maximum depth of 3.25m bgl.

8.6 Permeability Testing

8.6.1 The permeability testing was undertaken on the 18th of September 2024 and comprised the excavation of two trial pits, SA1 and SA2, with follow on infiltration tests, which were undertaken in accordance with BRE 365. Due to time restrictions three fill cycles could not be undertaken.

8.6.2 The permeability testing was carried out in the western/northwestern low lying part of the site where the trial pits recorded granular Glacifluvial Deposits.

Table 9: Summary of permeability tests.

Location	Depth (mbgl)	Infiltration Cycle 1 (m/s)	Infiltration Cycle 2 (m/s)	Design Infiltration Rate (m/s)	Comments
SA1	1.20	2.5×10^{-5}	2.4×10^{-5}	2.4×10^{-5}	Good drainage
SA2	1.50	1.0×10^{-5}	1.3×10^{-5}	1.0×10^{-5}	Good drainage

8.6.3 The infiltration tests results generally indicate soakaways would be viable in the western/northwestern area where granular Glaciofluvial are present.

8.6.4 The infiltration rates in SA1 and SA2 indicate good infiltration materials with the calculated infiltration design rates of 2.4×10^{-5} m/s and 1.0×10^{-5} m/s respectively.

8.6.5 It is recommended that groundwater monitoring is undertaken to understand seasonal variations of groundwater levels.

8.7 CBR In-situ testing

8.7.1 In-situ testing Transport Research Laboratory Dynamic Cone Penetration (TRL DCP) was carried out by Celtest in fourteen locations (DCP1-DCP14).

8.7.2 CBR values for the soils at a nominal 600mm depth, estimated from in situ dynamic cone penetration tests are presented in Table 10:

Table 10: Estimated CBR values at an approximate depth of 0.6m.

Test ID	CBR%	Formation	Test ID	CBR%	Formation
DCP1	7.6	Glacial Till	DCP8	7.3	Glaciofluvial Deposits
DCP2	7.7		DCP9	6.7	
DCP3	7.4		DCP10	7.4	Glacial Till
DCP4	11.9		DCP11	9.1	Glaciofluvial Deposits
DCP5	6.2		DCP12	7.4	
DCP6	6.8	Glaciofluvial Deposits	DCP13	7.9	
DCP7	7.5		DCP14	14.2	

9.0 CONTAMINATION ASSESSMENT

9.1 Methodology for Contamination Risk Assessment

9.1.1 This section assesses the likely potential contamination to be present, and the risk it may pose to human health, the natural environment and the built environment.

9.1.2 In the United Kingdom, the legislative regime for identifying and dealing with contaminated land is set out in Part IIA of the Environmental Protection Act 1990. The Act, together with associated Regulations and Guidance (published separately for England, Wales, Scotland and Northern Ireland), describe the regulatory functions and actions aimed at identifying contaminated land, and defining the persons liable for voluntary or enforced remediation.

9.1.3 The methodology recommended for identifying contaminated land is outlined in the DEFRA / EA published guidance document, CLR11 "Model Procedures for the Management of Land Contamination" (2004). The methodology takes the form of the identification of potential contaminant sources, pathways and sensitive receptors and their likely predilection to be linked. Under the guidance, this is termed a "pollutant linkage".

9.1.4 For there to be a potential risk from contamination, a complete-source-pathway-receptor pollutant linkage must exist, or potentially exist, during and after development of the site. Risk can be defined as the combination of the consequence of a harmful effect and the probability of its occurrence. Each aspect of the pollutant linkage is defined below:

- Source (contaminant): A substance that is in or under the land that has the potential to cause harm to the receptor.
- Pathway: The route(s) or means via which a receptor can be exposed to, or affected by, a contaminant.
- Receptor: The factor (person, built environment or ecosystems) that might adversely be affected by the source.

9.1.5 The potential sources, pathways and receptors for each site are encapsulated into a conceptual site model (CSM). A CSM is the means by which the sources, pathways and receptors are systematically considered; and either discounted, or else earmarked as potentially valid and warranting further investigation.

9.1.6 In accordance with the approach advocated in CLR11, a CSM has therefore been derived for the Site using information obtained during the desk study and site walkover, as reported earlier in this document, as well as the results from the ground investigation and from the laboratory chemical analyses of the samples collected from site.

9.2 Human Health - Generic Assessment Criteria (GAC)

9.2.1 Seven samples of topsoil and three samples of the underlying superficial deposits were selected for laboratory chemical testing.

9.2.2 The pH values of the samples ranged between 8.13 and 9.09.

9.2.3 The soil organic matter content of the samples ranged between 1.3% and 10.5%. The results have been compared to 1% soil organic matter content values, in the first instance, as the most conservative value.

9.2.4 The results of the laboratory testing confirmed that all of the analysed metals, and all poly aromatic hydrocarbons (PAH) are present at concentrations below the appropriate GAC threshold value for residential with plant uptake values.

9.2.5 All TPH CWG bandings are present at concentrations below the limit of detection or below the appropriate GAC threshold values for residential with plant uptake end use.

9.2.6 No visual or olfactory evidence of chemical contamination was encountered during the investigation.

9.2.7 All the samples submitted for testing also underwent asbestos screening, no fibres were identified within any samples.

9.3 Plant Life

9.3.1 All samples were below the most conservative GAC threshold criteria for a 'residential' end-use, for all inorganic and organic contaminant species assessed. Where there is no exceedance of a GAC, the risks are deemed to be insignificant and the site is suitable for use without further consideration.

9.3.2 Further advice from a landscape architect should be sought with regards to reusing topsoil onsite and depth of a clean growing medium within proposed landscaped areas.

9.4 Groundwater

9.4.1 The European Water Framework Directive (2000/60/EC) (WFD) and its daughter Directives establish a consolidated way of controlling water quality. The Environment Agency (July 2008) has issued a revised Groundwater Protection Policy (known as GP3). The UK Government has set out a timetable for the adoption of the WFD which formalises the way in which the quality of surface water and groundwater are to be assessed. This is set out in 'The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions' 2017.

9.4.2 A groundwater body is defined as groundwater in an aquifer capable of supporting an abstraction of $10m^3$/day or 50 people over a sustained period under the WFD. Groundwater bodies are a strategic resource, even if there is no current abstraction. Lesser amounts of groundwater in an aquifer are not considered as receptors in their own right but may still be pathways to other receptors such as surface water bodies or aquatic ecosystems.

9.4.3 No potentially contaminative sources have been identified onsite and the soil testing indicates that there are no elevated concentrations of Chemicals of Concern within the soils. Caulmert

believe that the site does not pose a significant risk to Controlled Waters and no mitigation measures are required.

9.5 Ground Gas

9.5.1 It is judged from the available evidence that the gas generation potential at the site is very low as the ground conditions comprise Glacial Till and Glaciofluvial Deposits.

9.5.2 No Made Ground, peat or organic soils were observed during the ground investigation.

9.5.3 No potential sources of ground gas were found in the desk study.

9.5.4 Basic Radon protective measures will be required and will provide a further level of protection against any anticipated ground gas risk.

9.6 Conceptual Site Model (CSM)

9.6.1 An updated CSM has been derived from the desk study, site walkover, ground investigation and laboratory testing is presented in Table 11 below.

Table 11: Summary of updated potential pollutant linkages (Conceptual Site Model).

Potential Source	Potential Contaminant	Potential Pathways	Potential Receptor	Pollutant Linkage Present	Impact	Risk	Comments
Made Ground.	Metals, semi-metals, non-metals, PAH, petroleum hydrocarbons	Inhalation	Human Health – End user and on-site worker	Very Unlikely	Minor	Low	The site is an agricultural field. Made Ground was not observed during the ground investigation.
		Ingestion					
		Direct contact					
		Infiltration	Groundwater and Surface Water Quality				
		Lateral migration; groundwater					
		Vertical diffusion; groundwater					
	Asbestos	Inhalation Ingestion Direct contact	Human Health – End user and on-site worker	Very Unlikely	Minor	Low	The site has been agricultural land until present day. No Made Ground or construction remnants observed during the site walkover and ground investigation.
Ground gas generation from Made Ground or organic soils.	Carbon dioxide, carbon monoxide and hydrogen sulphide	Inhalation	Human Health – Future site users and site workers	Very Unlikely	Minor	Low	No ground gas sources have been identified on site. Made Ground and organic soils not recorded during the ground investigation. Basic radon protection measures are required which will provide a level of protection above against the perceived ground gas risk.
		Migration through Superficial Deposits					
		Vertical migration; groundwater.	Groundwater and Surface Water Quality.				
Radon gas from natural ground.	Radon gas.	Inhalation	Humans – future site users.	Very Likely	Moderate	Med/ High	The site is within the Intermediate Radon Potential area (5-10% of properties at or above the action level). Basic radon protection measures are likely to be required to satisfy planning conditions.
Off-site sources	Heavy metals, TPH, PAHs.		Human Health – site workers.	Unlikely	Minor	Low/ Med	The site walkover confirms the agricultural use of the site and

Potential Source	Potential Contaminant	Potential Pathways	Potential Receptor	Pollutant Linkage Present	Impact	Risk	Comments
			Humans – future site users.				agricultural, recreational and residential use of the surrounds.

10.0 ENVIRONMENTAL ASSESSMENT AND RECOMMENDATIONS

10.1 Human Health

10.1.1 The risk assessment undertaken in previous section indicates that there are no contaminants of concern with respect to the proposed residential end –use. It is also worth noting that the majority of TPH and some PAH concentrations are below the limit of detection. The site is suitable for the proposed end use within its current state and no remedial measures are required in respect to contamination.

10.1.2 However, should unlikely contamination be encountered during the ground works/construction then works should be ceased in that area until it has been assessed by an Environmental Engineer.

10.1.3 At this stage, the CSM constitutes a risk assessment which determines only the likelihood of a linkage being present. The CSM should be refined and revised if during site works ground conditions are found to differ and potential contamination is encountered.

10.1.4 The identification of a potential pollutant linkage does not necessarily mean that there is a risk, or that the linkage is present, but that further investigation is required to establish whether or not that risk exists. Whereby a risk is identified and verified, the potential consequence of harmful effect and the likelihood of its occurrence should then be established in order to determine whether the risk is acceptable or unacceptable.

10.1.5 Table 11 assumes that the land uses will be residential with private gardens and is not valid for other land uses.

10.2 Plant Life

10.2.1 The risk assessment undertaken in Section 9 indicates that there are no contaminants of concern in concentrations which may be harmful to plant life present on-site. The results indicate that the topsoil is chemically suitable, however it is recommended that a landscape architect is contacted for further advice regarding the requirements for any growing medium associated with landscaped areas.

10.3 Controlled Waters

10.3.1 No contamination sources have been identified and therefore it is concluded that the site is currently unlikely to pose a significant risk to controlled waters.

10.4 Precautions Against Ground Gas

10.4.1 The site is within the Intermediate Radon Potential area and basic radon protection measures will be required.

10.5 Water Supply Pipes

10.5.1 Permeation and accelerated deterioration of pipe material can occur due to chemical reactions between the pipe and contaminants in the ground in which it is laid. This can lead to premature failures resulting in leakage and loss of water quality.

10.5.2 No contaminants of concern have been identified and standard PPE water supply pipes are anticipated to be appropriate at the site however water supply pipes should be specified and laid in accordance with the regional water supply company's specifications.

10.6 Waste Management

10.6.1 The handling, re-use or disposal of waste is regulated by The Environment Agency. Any material excavated on-site may be classified as waste and it is the responsibility of the holder of a material to form their own view on whether or not it is waste. One of the ways this can be achieved is set out in the Development Industry Code of Practice (CoP; Ref. 9). This builds on the Environment Agency guidance document Definition of waste: developing greenfield and brownfield sites (2006). The Agency will take into account the use of the CoP in deciding whether to regulate materials as waste. If materials are dealt with in accordance with the CoP, the Agency considers that those materials are unlikely to be waste at the point when they are to be used for the purpose of land development.

10.6.2 All material proposed for off-site disposal (e.g. during future construction works) should be given a proper description and waste classification assessment as required by the Environmental Protection Duty of Care Regulations (Ref. 10), and in accordance with WM3 and the Environment Agency Technical Guidance on the assessment and classification of Hazardous Waste.

10.6.3 It is anticipated that all soils onsite would be classified as 'inert'.

10.7 Outline Remedial Measures

10.7.1 No specific risks have been identified which require remedial action at this stage.

11.0 GEOTECHNICAL ASSESSMENT AND RECOMMENDATIONS

11.1 Geotechnical Categorization of the Proposed Development

11.1.1 Eurocode 7, Section 2 advocates the use of geotechnical categorization of the proposed structure(s) to establish the design requirements. Initial categorisation can be made before site investigation and can be used to define the scope and extent of geotechnical investigation required. For the purposes of this investigation, the proposed structures have been classed as follows:

- Geotechnical Category 1.

11.2 Site Preparation, Earthworks, Groundworks and Landscaping

11.2.1 There is a 6 inch uPVC water main crossing the eastern part of the site, from southeast and northwest and following the existing public footpath.

11.2.2 Excavation in close proximity to services will need to ensure that the excavation walls are stable or appropriately battered to a safe angle, where these are to be kept live. Temporary slope stability works may be required in any deep excavations.

11.2.3 No relic structures or obstructions were recorded during the ground investigation and given the site history are not anticipated to be encountered.

11.2.4 A Topsoil strip should be undertaken at the start of the groundworks and appropriately stockpiled. Where more clayey soils are present are found at shallow depth, they are likely to be susceptible to 'wetting up' and trafficking and should be protected by the construction of an appropriate working platform.

11.2.5 Groundwater was not encountered during the ground investigation which was carried out in September under warm and dry weather conditions. However, groundwater levels may rise during wetter months or during the periods of inclement weather, mainly in the low-lying northern, northwestern and western part of the site, and where granular soils are present. It is envisaged that any groundwater seepages will generally be minor to moderate and may be controlled by sump pumping methods. Care should be taken to ensure no significant loss of fines. Due to seasonal variations, it is recommended that long term groundwater monitoring is undertaken to assess the changes in groundwater levels particularly in the north and west of the site where it is anticipated that SUDS features will be constructed.

11.2.6 It should be noted that while the trial pits were generally stable at shallow depth down to a depth of 2.4m, due to potential seasonal variations, groundwater may be encountered in excavations, especially in the low lying areas to the north, northwest and west. This may cause the ground to become unstable. Therefore, trench supports may be required in areas where excavations are required below groundwater levels. It is recommended that no site personnel enter any trenches unless there is adequate support, and this has been assessed by a competent person.

11.2.7 At this stage, Caulmert are not aware of proposals for significant reuse of existing soils as part of development proposals. Should earthworks be required, an earthworks specification along with earthworks testing of targeted soils will be necessary to ensure the appropriate management and reuse of the existing soils.

11.3 Foundations

11.3.1 It is understood that the development will comprise low-rise dwellings with private gardens.

11.3.2 Although no loadings are known at this stage it is anticipated that loadings will be moderate.

11.3.3 The Glacial Till and Glaciofluvial Deposits are considered to be a suitable bearing stratum for conventional shallow foundations at not less than 0.75m below existing ground level or 0.20m into the top of the formation, whichever is the deeper. In granular, frost-susceptible soils, a minimum depth of 450mm is recommended.

11.3.4 No in-situ testing was undertaken to determine the strength of soils and based on the visual assessment during the ground investigation at the abovementioned depths a safe bearing capacity of 150kPa may be adopted for foundations not exceeding 1.0m in width. This allows for a factor of safety of three against shear failure and for settlements generally not to exceed 25mm and the majority should occur during the construction period however it may take place over a number of years in case of more cohesive soils.

11.3.5 The more cohesive soils of the Glacial Till should be considered as being of low volume change potential. The Glaciofluvial Deposits are considered non-plastic.

11.3.6 In order to minimise differential settlement of spread foundations spanning variable soils it is recommended that suitable reinforcing be incorporated into the foundations to avoid the occurrence of localised movement and the creation of hard spots.

11.3.7 It is recommended that a detailed foundation assessment is undertaken on a plot by plot basis once a development layout has been fixed.

11.3.8 No groundwater was encountered during the ground investigation however seasonal variations may affect the position of groundwater level. The position of the groundwater level, relative to a foundation, has an important effect on the ultimate bearing capacity of foundations in granular soils.

11.3.9 With high groundwater levels, the effective stresses in the ground are lower than when the soils immediately below the foundations are dry, and the ultimate bearing capacity is reduced. In extreme cases, the ultimate bearing capacity of a flooded foundation may be only one-half of that in a dry condition.

11.3.10 The depth of foundations should be designed, and the formations inspected by a competent geotechnical engineer. Any sub-formation materials deemed as unsuitable such as soft or loose zones should be excavated and replaced with well compacted suitable granular fill or lean mix concrete.

11.3.11 The laboratory test results indicate the soils present on site should be considered frost susceptible.

11.3.12 Foundation excavations should be protected from water and inclement weather including frost and any water should be removed by pumping from a sump in the base of the excavation. Care should be taken to prevent the removal of fines when controlling groundwater. Further guidance should be sought if further groundwater control measures are required.

11.4 Ground Floor Slabs

11.4.1 It is recommended that suspended ground floor slabs are initially considered for all properties given the potential for low volume change soils to be present. Once a development layout has been fixed and detailed review should take place. Provided all Topsoil is stripped off, it may be possible to adopt ground bearing floor slabs in areas where granular soils are present at shallow depth.

11.5 Roads and Pavements

11.5.1 The conditions prevailing at the time of construction will affect the CBR of the subgrade soil and its strength.

11.5.2 Research has shown the importance of the equilibrium moisture content of the subgrade. The relationship between soil suction and the moisture content shows that a soil that becomes wet during construction will retain water and will therefore be weaker under the pavement in the equilibrium condition than a foundation that has remained dry, particularly for soils of low to medium plasticity.

11.5.3 The formation for new pavements is likely to be comprised of mainly Glacial Till and Glaciofluvial Deposits.

11.5.4 Equilibrium CBR values for various materials for poor and good construction conditions are given in a report by the TRRL (Report 1132), these equilibrium CBR values are indicated for poor and good construction conditions assuming a high water table, and a thick pavement construction, in the TRRL Report.

11.5.5 With the variations in CBR encountered, it would be prudent to adopt a conservative approach to pavement design, with the adoption of a preliminary design CBR value of 6% for the site. Where any weaker zones are encountered, the exposed surface should be proof-rolled and any soft spots that depress unduly should be removed and replaced with clean crushed stone or similar suitable granular fill. Further testing of the formation surface following the site strip and any re-grading would help to confirm the design CBR value.

11.5.6 Based on the in-situ Dynamic Cone Penetrometer test results and equivalent CBR values it is considered that a minimum CBR of 6% will be achievable over the majority of the site at a depth of approximately 0.5m and can be used for preliminary design, subject to in-situ testing during construction.

11.5.7 If any loose or soft spots observed than proof rolling of the formation level would be required and any loose or soft spots to be removed and replaced with an engineered fill, in accordance with a suitable Specification. The formation level will also need to be protected during inclement weather from deterioration.

11.5.8 Prior to the placement of the founding materials and the construction of the road pavement, the sub-formation and formation will need to be inspected and checked in accordance with a suitable Specification to ensure the ground conditions are as expected. All testing should be carried out in accordance with DMRB IAN 73/06 and confirm that the ground conditions at time of construction are consistent with the previous design parameters.

11.5.9 Where the CBR is found to be less than 2.5%, the sub-grade may be unsuitable for both the trafficking of site plant and as support for a permanent foundation, without improvement works being undertaken. Improvement works should be carried out in accordance with DMRB IAN 73/06 Rev 1 Chapter 5. In summary, consideration may be given to the following potential remedial techniques:

- excavation and re-engineering or replacement of weaker soils.
- the inclusion of geosynthetic reinforcement within the unbound layers of the capping and sub-grade.

11.6 Protection of Buried Concrete

11.6.1 Thirty-one samples submitted for chemical and geotechnical testing were tested for pH and sulphate content (2:1 water soluble extraction). The testing results were as follows:

Table 12: Assessment of aggressive chemical environment for concrete.

	Results Range
pH (units)	8.3-8.7
Water soluble sulphate (SO_4) (mg/l)	<10*

** - below the limit of detection of 10mg/l*

11.6.2 The results have been compared to the guidance contained in BRE Special Digest 1, Concrete in aggressive ground, 2005. Based on Greenfield conditions and a mobile groundwater regime, in the range of proposed foundations, the site is classed as follows:

Table 13: Assessment of concrete classification.

Design Sulphate class	DS-1
ACEC Class	AC-1

11.6.3 Concrete below ground must comply with the requirements of Parts D to F of Special Digest 1, as appropriate.

12.0 FURTHER WORKS

12.1.1 The results of the laboratory testing confirmed that all of the analysed contaminants are present at concentrations below the appropriate GAC threshold value for residential with plant uptake values.

12.1.2 All the samples submitted for testing also underwent asbestos screening, no fibres were identified within any samples.

12.1.3 No specific risks have been identified which require remedial action at this stage.

12.1.4 No groundwater was encountered during the ground investigation undertaken in September under warm and weather conditions.

12.1.5 The low lying area of the site are of concern due to possible groundwater variations during wetter seasons and it is recommended that further ground investigation is carried out comprising the drilling of boreholes with follow up long term groundwater level monitoring to better understand the potential seasonal variation there may be. In addition to this it would be prudent to undertake further infiltration testing once a development layout has been fixed.

12.1.6 The findings of this investigation should be shared with the wider design team to help develop the development layout.

12.1.7 It is recommended that a detailed geotechnical assessment including foundation assessment is undertaken for each plot, as part of the design appraisal once a development layout has been fixed.

13.0 REFERENCES

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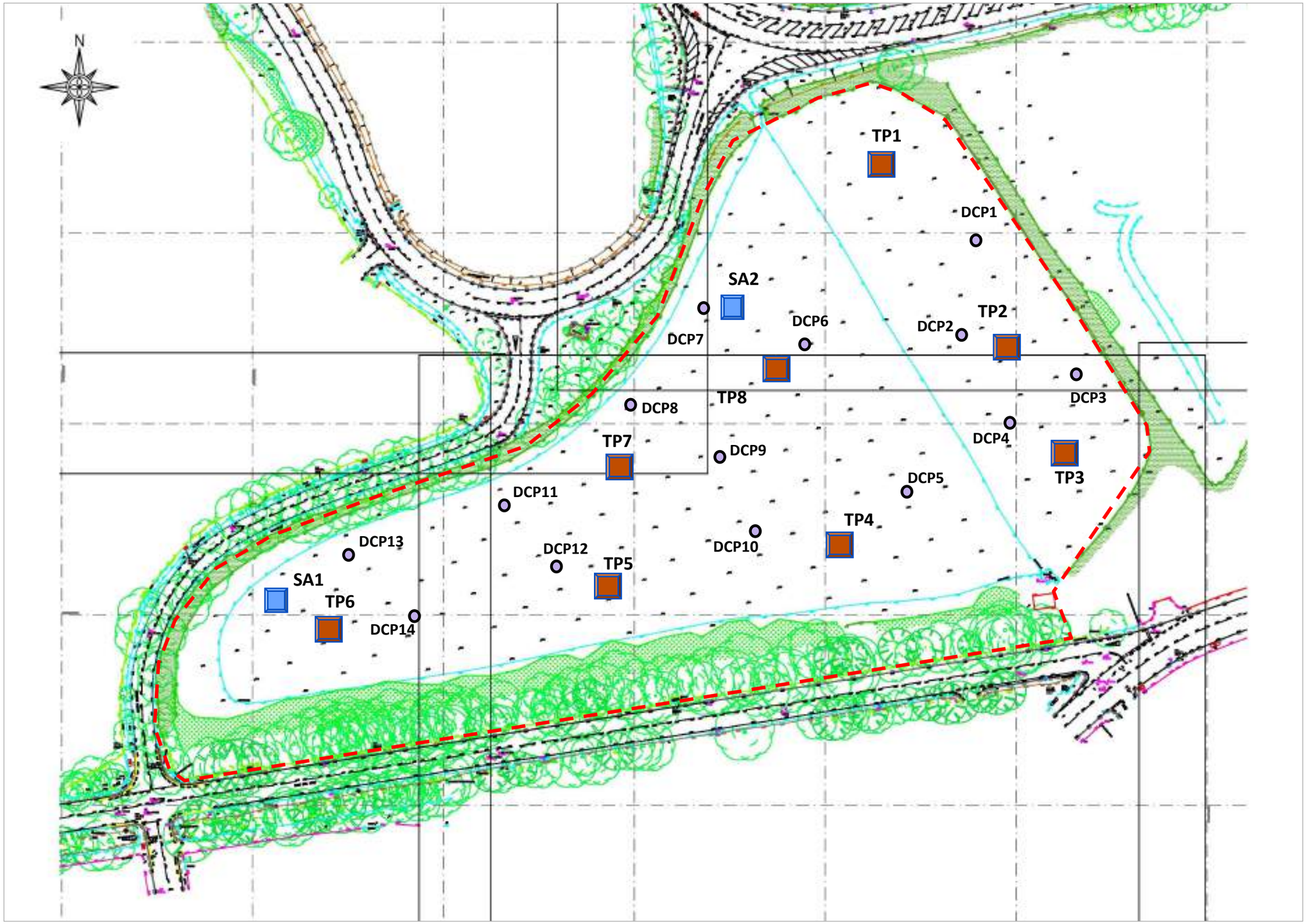
APPENDICES

APPENDIX 1

Ground Investigation Location Plan



Caulmert
engineering environmental planning

Drawing: Ground Investigation Location Plan
Job no: 5986
Project: Bodnant Avenue
Site: Bodnant Avenue, Prestatyn
Client: ADRA
Date: 18.09.2024

TP1 - machine excavated trial pit

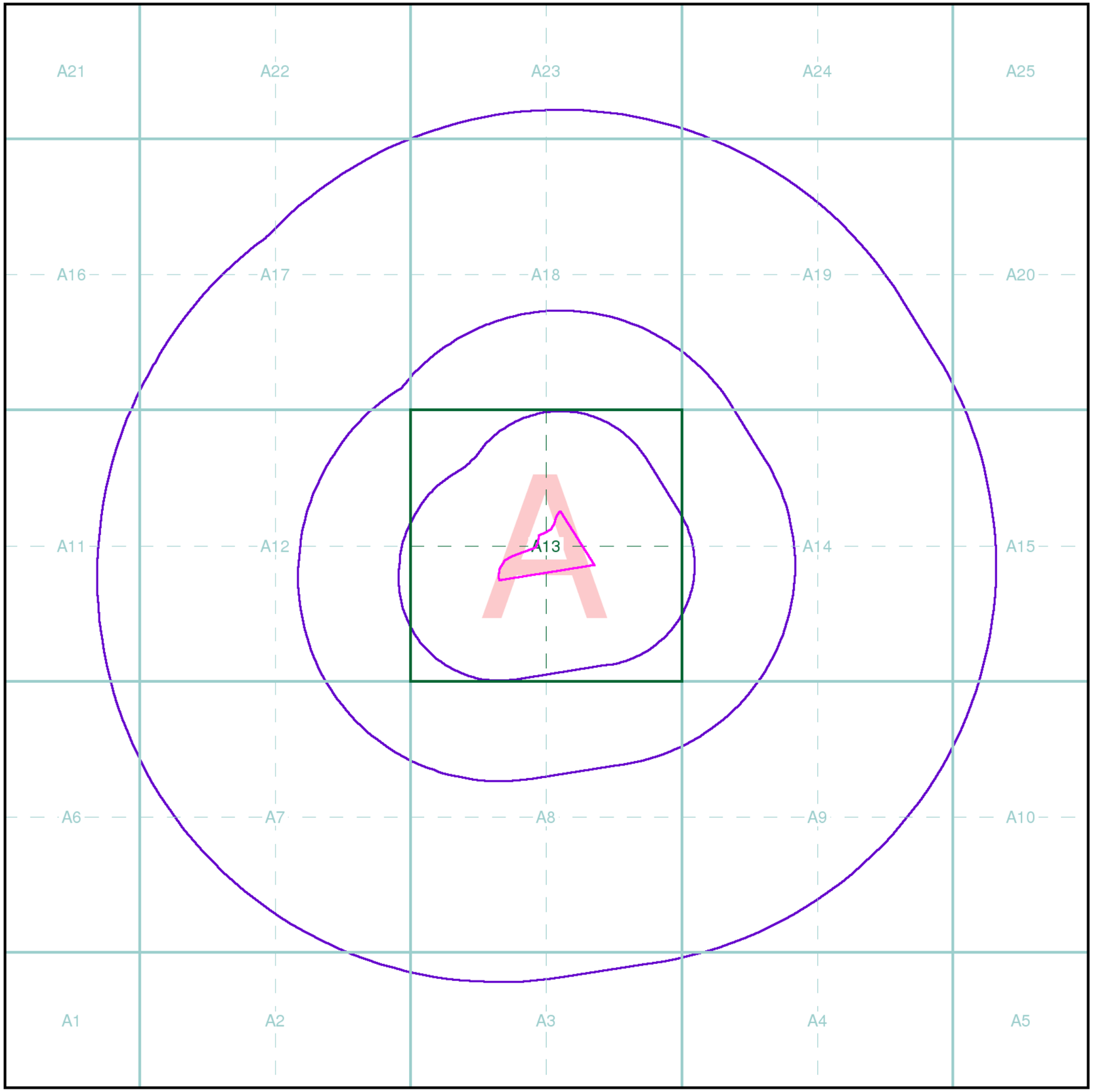
SA1 - permeability test

DCP1 - dynamic cone penetration test

Site boundary

APPENDIX 2

Envirocheck Report and Historical Maps



Envirocheck®

LANDMARK INFORMATION GROUP®

Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:

Map data

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Cyfoeth Naturiol Cymru
Natural Resources Wales

Envirocheck reports are compiled from 136 different sources of data.

Client Details

Mr A Jones, Caulmert Ltd, Unit 14, InTec, Parc Menai, Bangor, Gwynedd, LL57 4FG

Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

Full Terms and Conditions can be found on the following link:
http://www.landmarkinfo.co.uk/Terms/Show/515

Landmark® INFORMATION GROUP
Tel: 0844 844 9952
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Envirocheck® Report:

Datasheet

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Order Number:
354776573_1_1

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Contents

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.
In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

Report Version v53.0

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		5	12	13
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 8		1	1	4
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 9		Yes		
Pollution Incidents to Controlled Waters	pg 9			3	10
Prosecutions Relating to Authorised Processes	pg 12				1
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 12			1	
Water Abstractions	pg 12			1	(*2)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 13	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 13	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 13	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 13		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 13		Yes	n/a	n/a
Areas Benefiting from Flood Defences	pg 13		Yes	n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 13		13	18	94

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 28	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 28			1	8
Potentially Infilled Land (Water)	pg 28			10	17
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 30	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 30	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 32			2	12
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability	pg 34	Yes	n/a	n/a	n/a
Man-Made Mining Cavities	pg 34			2	2
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 35	Yes	Yes	n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 35	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 35		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 35	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 35	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 35	Yes		n/a	n/a
Radon Potential - Radon Affected Areas	pg 36	Yes	n/a	n/a	n/a
Radon Potential - Radon Protection Measures	pg 36	Yes	n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 37		2	28	47
Fuel Station Entries	pg 43			3	2
Points of Interest - Commercial Services	pg 44			11	20
Points of Interest - Education and Health	pg 46				1
Points of Interest - Manufacturing and Production	pg 47			6	21
Points of Interest - Public Infrastructure	pg 49		3	1	16
Points of Interest - Recreational and Environmental	pg 50		2	2	6
Gas Pipelines					
Underground Electrical Cables					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 52			1	2
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty	pg 52			1	
Environmentally Sensitive Areas	pg 52			1	
Forest Parks					
Local Nature Reserves	pg 52				1
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 52	1			
Ramsar Sites	pg 52			1	
Sites of Special Scientific Interest	pg 52			1	2
Special Areas of Conservation	pg 53				1
Special Protection Areas	pg 53			1	2
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SW (SW)	0	1	307145 383078
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (E)	86	1	307350 383050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	209	1	306900 382850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (NW)	231	1	307000 383350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SW (N)	317	1	307145 383500
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (S)	330	1	307300 382700
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SW (N)	436	1	307050 383600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (S)	442	1	307300 382600
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (E)	489	1	307750 383000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (E)	497	1	307750 382950
1	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Prestatyn Nant Hall Ps Nant Hall Ro, Nant Hall Road Prestatyn Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: CG0317701 Permit Version: 1 Effective Date: 8th October 1991 Issued Date: 8th October 1991 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Nant Mill Stream **Status:** **Effective** Positional Accuracy: Located by supplier to within 100m	A13NE (NE)	75	2	307240 383230
1	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Prestatyn Nant Hall Ps Nant Hall Ro, Nant Hall Road Prestatyn Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Cg0317701 Permit Version: Not Supplied Effective Date: 8th October 1991 Issued Date: 8th October 1991 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Nant Mill Stream **Status:** **Effective** Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	75	2	307240 383230

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Prestatyn Nant Hall Ps Nant Hall Ro, Nant Hall Road Prestatyn Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: CG0317702 Permit Version: 1 Effective Date: 1st October 1991 Issued Date: 1st October 1991 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Railway Ditch **Status: Effective** Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	75	2	307240 383230
1	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Prestatyn Nant Hall Ps Nant Hall Ro, Nant Hall Road Prestatyn Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Cg0317702 Permit Version: Not Supplied Effective Date: 1st October 1991 Issued Date: 1st October 1991 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Railway Ditch **Status: Effective** Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	75	2	307240 383230
1	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Cso At Meliden Road, At Junction Of Meliden/Gonant Road, Prestatyn, Ll19 9rt Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Cm0173101 Permit Version: Not Supplied Effective Date: 7th August 2023 Issued Date: 7th August 2023 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Prestatyn Gutter **Status: Effective** Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	80	2	307241 383236
2	**Discharge Consents** Operator: Kwik Save Group Ltd. Property Type: Retail Distribution Location: Prestatyn Warren Drive - Kwik Save Authority: Natural Resources Wales Catchment Area: Prestatyn Gutter (Mouth) Reference: Cm0084301 Permit Version: 1 Effective Date: 21st November 1978 Issued Date: 21st November 1978 Revocation Date: 6th June 1994 Discharge Type: Trade Effluent Discharge Environment: Not Supplied Receiving Water: Prestatyn Drain **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A12NE (W)	378	2	306670 383160

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Prestatyn Nant Ps, Ll19 7hn Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Cm0193101 Permit Version: Not Supplied Effective Date: 8th September 2010 Issued Date: 8th September 2010 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Overflow Via Sewage System Sur **Status: Effective** Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	422	2	306900 383500
3	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Prestatyn Nant Ps, Ll19 7hn Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Cm0193101 Permit Version: 2 Effective Date: 8th September 2010 Issued Date: 8th September 2010 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Overflow Via Sewage System Sur **Status: Effective** Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	422	2	306900 383500
3	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Prestatyn Nant Ps, Ll19 7hn Authority: Natural Resources Wales Catchment Area: Prestatyn Gutter (Mouth) Reference: CM0193101 Permit Version: 1 Effective Date: 19th October 1989 Issued Date: 19th October 1989 Revocation Date: 7th September 2010 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Overflow Via Sewage System Sur **Status: New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	422	2	306900 383500
4	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Prestatyn Morley Road Ps Authority: Natural Resources Wales Catchment Area: Prestatyn Gutter (Mouth) Reference: CM0193401 Permit Version: 1 Effective Date: 19th October 1989 Issued Date: 19th October 1989 Revocation Date: 31st March 2005 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Prestatyn Gutter **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A12NE (W)	433	2	306600 383100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Prestatyn Meliden Road - Sso, Ll19 9nj Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Cm0173101 Permit Version: Not Supplied Effective Date: 8th September 2010 Issued Date: 8th September 2010 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Prestatyn Gutter **Status: Effective** Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	473	2	306800 382600
5	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Prestatyn Meliden Road - Sso, Ll19 9nj Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Cm0173101 Permit Version: 2 Effective Date: 8th September 2010 Issued Date: 8th September 2010 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Prestatyn Gutter **Status: Effective** Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	473	2	306800 382600
5	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Prestatyn Meliden Road - Sso, Ll19 9nj Authority: Natural Resources Wales Catchment Area: Prestatyn Gutter (Mouth) Reference: CM0173101 Permit Version: 1 Effective Date: 20th October 1989 Issued Date: 20th October 1989 Revocation Date: 7th September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Prestatyn Gutter **Status: New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	473	2	306800 382600
6	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Cso And Eo At Prestatyn Bodnant Pumping Station, At Marine Road E/Barkby Ave Junction, Prestatyn, Ll19 7ht Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Cm0193101 Permit Version: Not Supplied Effective Date: 7th August 2023 Issued Date: 7th August 2023 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Prestatyn Gutter **Status: Effective** Positional Accuracy: Located by supplier to within 10m	A12NE (NW)	488	2	306643 383344

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Cso And Eo At Prestatyn Bodnant Pumping Station, At Marine Road E/Barkby Ave Junction, Prestatyn, Ll19 7ht Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Cm0193101 Permit Version: Not Supplied Effective Date: 7th August 2023 Issued Date: 7th August 2023 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Prestatyn Gutter **Status:** **Effective** Positional Accuracy: Located by supplier to within 10m	A12NE (NW)	488	2	306643 383344
7	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Coronation Gardens Ps Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: CM0052801 Permit Version: 1 Effective Date: 17th October 1968 Issued Date: 17th October 1968 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Prestatyn Gutter **Status:** **Effective** Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	497	2	307600 383450
7	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Coronation Gardens Ps Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Cm0052801 Permit Version: Not Supplied Effective Date: 17th October 1968 Issued Date: 17th October 1968 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Prestatyn Gutter **Status:** **Effective** Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	497	2	307600 383450
8	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Water Treatment Works Location: Mid Nant Wtw-Washout Authority: Natural Resources Wales Catchment Area: Prestatyn Gutter (Mouth) Reference: Cm0182801 Permit Version: 1 Effective Date: 2nd October 1989 Issued Date: 2nd October 1989 Revocation Date: 15th December 1998 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Colwyn Bay **Status:** **Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A14SE (E)	665	2	307880 382800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Prestatyn Seven Sisters Road Sps Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: CM0148301 Permit Version: 1 Effective Date: 4th July 1986 Issued Date: 4th July 1986 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Prestatyn Gutter **Status: Effective** Positional Accuracy: Located by supplier to within 10m	A12NW (W)	679	2	306410 383320
9	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Staions Location: Prestatyn Seven Sisters Road Sps Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Cm0148301 Permit Version: Not Supplied Effective Date: 4th July 1986 Issued Date: 4th July 1986 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Prestatyn Gutter **Status: Effective** Positional Accuracy: Located by supplier to within 10m	A12NW (W)	679	2	306410 383320
9	**Discharge Consents** Operator: T.& A.Forces Assoc.Denbigh/Flint Property Type: Undefined Or Other Location: Prestatyn Marine Road T.A. Centre Authority: Natural Resources Wales Catchment Area: Prestatyn Gutter (Mouth) Reference: Cm0047501 Permit Version: 1 Effective Date: 14th February 1968 Issued Date: 14th February 1968 Revocation Date: 10th August 1995 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Prestatyn Gutter **Status: Consent expired** Positional Accuracy: Located by supplier to within 100m	A12NW (W)	680	2	306400 383300
10	**Discharge Consents** Operator: Pontin'S (Prestatyn) Ltd Property Type: HOLIDAY ACCOM/CAMP SITE/CARAVAN SITE/HOTEL/HOSTEL Location: Pontins Holiday Centre Barkby Avenu, Barkby Avenue Prestatyn Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: CM0064001 Permit Version: 2 Effective Date: 24th May 1993 Issued Date: 24th May 1993 Revocation Date: Not Supplied Discharge Type: Trade And Other Matter Discharge Discharge Environment: Freshwater Stream/River Receiving Water: Prestatyn Gutter **Status: Surrendered** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	696	2	306500 383500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	**Discharge Consents** Operator: Pontin'S (Prestatyn) Ltd Property Type: Other Tourist/Short Stay Accommadation Location: Pontins Holiday Centre Barkby Avenu, Barkby Avenue Prestatyn Authority: Natural Resources Wales Catchment Area: Prestatyn Gutter (Mouth) Reference: Cm0064001 Permit Version: 1 Effective Date: 20th January 1971 Issued Date: 20th January 1971 Revocation Date: 23rd May 1993 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Prestatyn Gutter **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	729	2	306500 383550
11	**Discharge Consents** Operator: T.A.V.R. Association Property Type: Undefined Or Other Location: Prestatyn Marine Road T.A.V.R.Assoc, Marine Road T.A.V.R.Association Authority: Natural Resources Wales Catchment Area: Prestatyn Gutter (Mouth) Reference: Cm0098701 Permit Version: 1 Effective Date: 16th April 1985 Issued Date: 16th April 1985 Revocation Date: 10th August 1995 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Prestatyn Gutter **Status: Consent expired** Positional Accuracy: Located by supplier to within 100m	A12NW (NW)	724	2	306400 383400
12	**Discharge Consents** Operator: Allitt G & F Ltd Property Type: Retail Filling Stations Location: Marine Road Marine Garage Authority: Natural Resources Wales Catchment Area: Prestatyn Gutter (Mouth) Reference: Cm0051001 Permit Version: 1 Effective Date: 16th July 1968 Issued Date: 16th July 1968 Revocation Date: 21st November 1994 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Jubilee Drain **Status: Consent expired** Positional Accuracy: Located by supplier to within 100m	A12NW (W)	774	2	306300 383300
13	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Prestatyn Bastion Gardens Ps, Ll19 7nd Authority: Natural Resources Wales Catchment Area: Prestatyn Gutter (Mouth) Reference: Cm0193001 Permit Version: 2 Effective Date: 8th September 2010 Issued Date: 8th September 2010 Revocation Date: 26th March 2014 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Prestatyn Gutter **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 100m	A12NW (W)	813	2	306300 383400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Prestatyn Bastion Gardens Ps, Ll19 7nd Authority: Natural Resources Wales Catchment Area: Prestatyn Gutter (Mouth) Reference: CM0193001 Permit Version: 1 Effective Date: 19th October 1989 Issued Date: 19th October 1989 Revocation Date: 7th September 2010 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Prestatyn Gutter **Status: New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 100m	A12NW (W)	813	2	306300 383400
14	**Discharge Consents** Operator: Kwik Save Group Ltd. Property Type: Retail Distribution Location: Kwiksave Group Prestatyn Authority: Natural Resources Wales Catchment Area: Prestatyn Gutter (Mouth) Reference: Cm0097701 Permit Version: 1 Effective Date: 25th July 1984 Issued Date: 25th July 1984 Revocation Date: 21st November 1994 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Nant Hall Drain **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A19SE (NE)	850	2	307840 383720
15	**Discharge Consents** Operator: Mr B H Nant Property Type: Other Transport Location: Prestatyn Fire Station Authority: Natural Resources Wales Catchment Area: Prestatyn Gutter (Mouth) Reference: Cm0065601 Permit Version: 1 Effective Date: 16th June 1971 Issued Date: 16th June 1971 Revocation Date: 5th April 1995 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Prestatyn Cut **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A12NW (W)	893	2	306150 383200
16	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Water Treatment Works Location: Prestatyn Hillside - Chlorinat Authority: Natural Resources Wales Catchment Area: Prestatyn Gutter (Mouth) Reference: Cm0206101 Permit Version: 1 Effective Date: 2nd October 1989 Issued Date: 2nd October 1989 Revocation Date: 17th March 1994 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Ground **Status: Consent expired** Positional Accuracy: Located by supplier to within 100m	A8SE (S)	961	2	307400 382100
17	**Local Authority Pollution Prevention and Controls** Name: Tesco Prestatyn Location: Prestatyn Shopping Park, Nant Hall Road, Prestatyn, Denbighshire, Ll19 9lr Authority: Denbighshire County Council, Environmental Health Department Permit Reference: DCC/PPC/1.2/061.0 Dated: 14th March 2013 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station **Status: Permitted** Positional Accuracy: Manually positioned to the road within the address or location	A13SW (W)	210	3	306822 382976

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
18	**Local Authority Pollution Prevention and Controls** Name: Mostyn Rees & Sons Location: Central Garage, Nant Hall Road, Prestatyn, LL19 9LR Authority: Denbighshire County Council, Environmental Health Department Permit Reference: DCC/PPC/1.1/050.0 Dated: 13th March 2009 Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input **Status:** **Permitted** Positional Accuracy: Manually positioned to the address or location	A12SE (W)	401	3	306630 382970
19	**Local Authority Pollution Prevention and Controls** Name: Celtic Cars Ltd Location: 6-8 Meliden Road, Prestatyn, Denbighshire, Ll19 9rt Authority: Denbighshire County Council, Environmental Health Department Permit Reference: DCC/PPC/1.1/062.0 Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input **Status:** **Permitted** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	507	3	306768 382580
20	**Local Authority Pollution Prevention and Controls** Name: Prestatyn Service Station Location: 2 Marine Road, Prestatyn, Clwyd, LL19 7HD Authority: Denbighshire County Council, Environmental Health Department Permit Reference: DCC/PPC/1.2/009.1 Dated: 29th January 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station **Status:** **Permitted** Positional Accuracy: Automatically positioned to the address	A12NW (W)	637	3	306417 383218
21	**Local Authority Pollution Prevention and Controls** Name: Monarch Cleaners Ltd Location: 31-33 Meliden Road, Prestatyn, Ll19 9sd Authority: Denbighshire County Council, Environmental Health Department Permit Reference: DCC/PPC/7.0/044.0 Dated: 11th February 2008 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status:** **Permitted** Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	697	3	306700 382400
22	**Local Authority Pollution Prevention and Controls** Name: Prestatyn Service Centre Location: Unit 1a Lighthouse Business Park, Bastion Road, Prestatyn, Ll19 7nd Authority: Denbighshire County Council, Environmental Health Department Permit Reference: DCC/PPC/1.1/056.0 Dated: 1st February 2011 Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input **Status:** **Permitted** Positional Accuracy: Manually positioned to the address or location	A12NW (W)	843	3	306263 383392
	Nearest Surface Water Feature	A13SE (E)	62	-	307321 383073
23	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Winchester Drive, PRESTATYN Authority: Environment Agency, Welsh Region Pollutant: Stagnant Water Note: Not Supplied Incident Date: 2nd May 1995 Incident Reference: 23930 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	422	4	306700 382750

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
24	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Surface Water Outfall Location: 15 Maes, Frynderyn Authority: Environment Agency, Welsh Region Pollutant: Farm Effluent/Slurry Note: Accidental Spillage/Leakage Incident Date: 28th March 1995 Incident Reference: 23173 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	444	4	306600 382900
25	**Pollution Incidents to Controlled Waters** Property Type: Council Premises Location: Up Stream Of Prestatyn, Gutter Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 31st December 1991 Incident Reference: 4193 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	493	4	306800 383500
25	**Pollution Incidents to Controlled Waters** Property Type: Warehouses Location: With Halchem Authority: Environment Agency, Welsh Region Pollutant: Algae Note: Vandalism Incident Date: 1st May 1995 Incident Reference: 23927 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	522	4	306750 383495
25	**Pollution Incidents to Controlled Waters** Property Type: Waste Handling Facilities Location: Adjacent To, Allits Motors Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Poor Operational Practise Incident Date: 7th June 1991 Incident Reference: 2845 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	526	4	306750 383500
26	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Allits Garage, A545, PRESTATYN Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 17th June 1991 Incident Reference: 2817 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	528	4	306620 383380
27	**Pollution Incidents to Controlled Waters** Property Type: Land Location: Behind Territorial Army Centre, PRESTATYN Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Not Supplied Incident Date: 9th October 1995 Incident Reference: 26133 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	613	4	306500 383350

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
28	**Pollution Incidents to Controlled Waters** Property Type: Domestic/Residential Location: Bishops Wood Road, PRESTATYN Authority: Environment Agency, Welsh Region Pollutant: Algae Note: Vandalism Incident Date: 16th October 1995 Incident Reference: 26189 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	615	4	306500 382700
29	**Pollution Incidents to Controlled Waters** Property Type: Council Premises Location: Bach Avenue, Alecs Garage Authority: Environment Agency, Welsh Region Pollutant: Oils - Diesel (Including Agricultural) Note: Not Supplied Incident Date: 28th April 1992 Incident Reference: 4372 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	626	4	306550 383450
30	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: The Rear Of, White Rose Close Authority: Environment Agency, Welsh Region Pollutant: Chemicals - Other Organic Note: Not Supplied Incident Date: 27th June 1995 Incident Reference: 24487 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A12NW (W)	680	4	306400 383300
31	**Pollution Incidents to Controlled Waters** Property Type: Domestic/Residential Location: Two Chalets, Pontins Tower Beach, PRESTATYN Authority: Environment Agency, Welsh Region Pollutant: Sullage Note: Accidental Spillage/Leakage Incident Date: 28th April 1995 Incident Reference: 23711 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	710	4	306750 383750
32	**Pollution Incidents to Controlled Waters** Property Type: Council Premises Location: Morley Road, Pumping Station, PRESTATYN Authority: Environment Agency, Welsh Region Pollutant: Algae Note: Not Supplied Incident Date: 17th July 1995 Incident Reference: 24980 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NW (W)	746	4	306300 383200
33	**Pollution Incidents to Controlled Waters** Property Type: Other Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Deliberate Act Incident Date: 21st July 1995 Incident Reference: 25113 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	763	4	306500 383600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
34	**Prosecutions Relating to Authorised Processes** Location: Nant Hall Hotel, PRESTATYN, Flintshire Prosecution Text: Burning A Bonfire On 5-Nov-00 Contaiing Waste With The Potential To Cause Harm To Health. Only Brenda Physick Was Found Guilty Of Contravening S59. Prosecution Act: Epa90 S33(1)(B), (C) & S59 Hearing Date: 7th August 2001 Verdict: Guilty Fine: 2340 Costs: 500 Positional Accuracy: Manually positioned to the address or location	A14NW (NE)	536	4	307675 383405
35	**Substantiated Pollution Incident Register** Authority: Natural Resources Wales Incident Date: 26th April 2006 Incident Reference: 393885 Water Impact: Category 4 - No Impact Air Impact: Category 4 - No Impact Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Specific Waste Materials: Commercial Waste	A12NE (W)	473	2	306622 383282
36	**Water Abstractions** Operator: Dwr Cymru Cyf Licence Number: 24/66/7/0003 Permit Version: 100 Location: Mineshaft Authority: Environment Agency, Welsh Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Mineshaft Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st December 1978 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A14SW (E)	438	4	307700 383090
	Water Abstractions Operator: Prestatyn Golf Club Licence Number: 24/66/7/0025 Permit Version: 100 Location: Prestatyn Gutter Authority: Natural Resources Wales Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Prestatyn Gutter Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 6th June 1967 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A19NE (NE)	1058	2	307900 383960
	Water Abstractions Operator: Prestatyn Golf Club Licence Number: 24/66/7/0025 Permit Version: Not Supplied Location: Abstraction From Prestatyn Gutter For Spray Irrigation Authority: Natural Resources Wales Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 272.8 Yearly Rate (m3): 7091.8 Details: Not Supplied Authorised Start: 1 January Authorised End: 31 December Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19NE (NE)	1058	2	307900 383960

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: >70% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: High	A13SW (SW)	0	2	307145 383078
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: >70% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: High	A13SW (W)	0	2	307093 383097
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SW (SW)	0	2	307145 383078
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A13SW (SW)	0	2	307145 383078
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SW (W)	0	2	307093 383097
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (N)	26	2	307130 383195
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	244	2	307365 383345
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (N)	26	2	307175 383210
	Areas Benefiting from Flood Defences Type: Area Benefiting from Flood Defences Boundary Accuracy: As Supplied	A13NW (N)	13	2	307122 383178
	Flood Water Storage Areas None				
	Flood Defences None				
37	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 199.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13NE (NE)	77	5	307249 383220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
38	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 21.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13NE (NE)	77	5	307261 383202
39	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 144.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13NE (NE)	77	5	307279 383173
40	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13SE (E)	93	5	307348 383090
41	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 6.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13SE (E)	94	5	307349 383089
42	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 279.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13NE (N)	215	5	307160 383398
43	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13NE (N)	215	5	307160 383398
44	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 27.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13NE (N)	218	5	307157 383401
45	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 251.6 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13NW (NW)	226	5	306979 383320
46	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13NW (N)	238	5	307136 383418

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13NW (N)	243	5	307125 383420
48	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 43.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13NW (N)	245	5	307126 383423
49	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 212.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13NW (NW)	249	5	306917 383278
50	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 225.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13NW (NW)	261	5	306957 383347
51	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13NW (N)	270	5	307085 383437
52	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 22.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18SW (N)	273	5	307086 383440
53	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 598.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13NW (NW)	283	5	306900 383308
54	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 183.1 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18SW (N)	292	5	307070 383454
55	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 217.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A13NE (NE)	302	5	307384 383407

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
56	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 467.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 2	A13NE (NE)	302	5	307384 383407
57	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 125.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A12NE (W)	337	5	306726 383187
58	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 178.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 2	A12NE (W)	337	5	306726 383187
59	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 42.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A12SE (W)	367	5	306661 383043
60	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 60.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A12SE (W)	390	5	306641 383080
61	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 47.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A12NE (W)	427	5	306613 383133
62	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 456.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Prestatyn Gutter Catchment Name: Clwyd Primacy: 1	A18SW (NW)	469	5	306892 383555
63	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 37.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18SW (N)	474	5	306981 383615
64	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SW (NE)	477	5	307521 383518

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
65	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 270.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SW (NE)	482	5	307526 383521
66	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 84.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 2	A12NE (NW)	487	5	306644 383344
67	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 631.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Prestatyn Gutter Catchment Name: Clwyd Primacy: 1	A18SW (N)	496	5	307047 383662
68	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 264.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18SW (N)	530	5	307036 383695
69	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Prestatyn Gutter Catchment Name: Clwyd Primacy: 1	A12NE (NW)	558	5	306612 383419
70	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Prestatyn Gutter Catchment Name: Clwyd Primacy: 1	A12NE (NW)	562	5	306605 383416
71	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 647.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Prestatyn Gutter Catchment Name: Clwyd Primacy: 1	A12NE (NW)	562	5	306604 383416
72	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 28.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 2	A18NE (N)	609	5	307246 383790
73	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 165.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NE (N)	609	5	307246 383790

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 101.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NE (N)	623	5	307151 383806
75	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NW (N)	625	5	307132 383807
76	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 2	A18NE (N)	634	5	307235 383816
77	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 32.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NE (N)	641	5	307234 383823
78	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 196.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A14NW (NE)	643	5	307802 383401
79	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 78.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NW (N)	648	5	306988 383803
80	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 64.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NE (N)	669	5	307219 383852
81	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NW (N)	669	5	307052 383840
82	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 17.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NW (N)	669	5	307055 383841

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
83	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NW (N)	669	5	307074 383844
84	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 104.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NW (N)	669	5	307074 383844
85	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SW (NE)	671	5	307794 383469
86	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 116.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SW (NE)	671	5	307794 383469
87	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 74.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SW (NE)	671	5	307793 383470
88	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 131.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NE (N)	672	5	307243 383853
89	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 25.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A12SW (W)	674	5	306355 383067
90	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NE (N)	675	5	307176 383859
91	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 50.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 2	A18NE (N)	691	5	307403 383839

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
92	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 140.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NE (N)	691	5	307403 383839
93	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 100.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SW (NE)	694	5	307775 383544
94	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SW (NE)	694	5	307775 383544
95	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 214.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SW (NE)	696	5	307777 383543
96	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 233.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A12SW (W)	696	5	306346 382876
97	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 143.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A12SW (W)	697	5	306332 383057
98	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 165.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NE (N)	717	5	307371 383875
99	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SW (NE)	719	5	307739 383638
100	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 127.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SW (NE)	721	5	307738 383641

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
101	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 72.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NE (N)	769	5	307247 383950
102	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NE (N)	770	5	307261 383950
103	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 171.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NE (N)	770	5	307264 383949
104	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 15.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 2	A19NW (NE)	776	5	307548 383867
105	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 254.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Prestatyn Gutter Catchment Name: Clwyd Primacy: 1	A19NW (NE)	776	5	307548 383867
106	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 300.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A12SW (W)	776	5	306291 382775
107	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 15.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 2	A19NW (NE)	783	5	307540 383880
108	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 66.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	792	5	307532 383894
109	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SE (NE)	840	5	307851 383691

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
110	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 123.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SE (NE)	840	5	307851 383691
111	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 155.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A14NE (E)	840	5	308023 383411
112	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 20.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SE (NE)	841	5	307850 383693
113	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 29.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SE (NE)	847	5	307843 383712
114	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 111.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	850	5	307587 383931
115	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 2	A19NW (NE)	850	5	307587 383931
116	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SE (NE)	857	5	307833 383740
117	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SE (NE)	858	5	307832 383742
118	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 2	A19NW (NE)	859	5	307585 383942

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
119	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 20.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 2	A19NW (NE)	861	5	307584 383945
120	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 136.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SE (NE)	862	5	307828 383753
121	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 279.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SE (NE)	870	5	307996 383521
122	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 18.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A7NW (SW)	877	5	306237 382636
123	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 303.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A7NW (SW)	877	5	306237 382636
124	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 76.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 2	A19NW (NE)	878	5	307581 383965
125	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 135.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19SE (NE)	897	5	307986 383589
126	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 139.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A18NE (N)	901	5	307425 384052
127	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A11SE (W)	908	5	306125 382919

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
128	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A11SE (W)	910	5	306123 382916
129	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 95.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A11SE (W)	919	5	306115 382913
130	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (N)	924	5	307517 384045
131	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 76.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (N)	926	5	307521 384045
132	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 135.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	929	5	307792 383884
133	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 76.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	930	5	307694 383960
134	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 40.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 2	A19NW (NE)	930	5	307694 383960
135	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 27.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	933	5	307588 384023
136	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	939	5	307631 384009

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
137	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 199.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A7NW (SW)	942	5	306189 382587
138	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	945	5	307632 384014
139	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	945	5	307623 384019
140	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	945	5	307623 384019
141	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 30.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 2	A19NW (NE)	947	5	307616 384025
142	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 35.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 2	A19NW (NE)	948	5	307673 383994
143	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 16.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	951	5	307633 384020
144	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	963	5	307596 384053
145	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 21.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	964	5	307600 384052

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
146	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 23.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	965	5	307645 384031
147	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	965	5	307645 384031
148	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 19.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A15NW (E)	966	5	308174 383373
149	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 13.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	967	5	307640 384035
150	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 92.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	972	5	307667 384026
151	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	972	5	307621 384050
152	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 146.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A6NE (W)	972	5	306090 382760
153	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 20.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A6NE (W)	972	5	306090 382760
154	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 142.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	973	5	307624 384050

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
155	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 59.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A15NW (E)	975	5	308177 383392
156	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 91.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Prestatyn Gutter Catchment Name: Clwyd Primacy: 1	A19NW (NE)	990	5	307775 383976
157	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 22.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	990	5	307775 383976
158	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A6NE (W)	990	5	306076 382745
159	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 182.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A6NE (W)	993	5	306074 382742
160	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 29.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 2	A19NW (NE)	995	5	307756 383996
161	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Clwyd Primacy: 1	A19NW (NE)	997	5	307762 383994

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Landfill Coverage Name: Denbighshire County Council - Has supplied landfill data		0	3	307145 383078
162	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A14SW (SE)	318	-	307525 382870
163	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A8SW (S)	598	-	307071 382418
164	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A8NE (S)	606	-	307329 382448
165	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A8SE (SE)	685	-	307473 382399
166	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A8SE (S)	694	-	307379 382367
167	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A8SE (S)	833	-	307310 382216
168	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A8SW (S)	855	-	307114 382164
169	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A8SE (S)	868	-	307315 382181
170	**Potentially Infilled Land (Non-Water)** Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A8SE (S)	957	-	307406 382105
171	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A13NW (N)	262	-	307074 383424
172	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A18SW (N)	274	-	307119 383451
173	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12SE (W)	279	-	306748 383018
174	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12SE (W)	284	-	306750 383094
175	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12NE (W)	303	-	306752 383163
176	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12SE (W)	319	-	306714 382967
177	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12SE (W)	423	-	306610 382957
178	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A18SW (NW)	469	-	306897 383559

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
179	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12NE (NW)	480	-	306654 383345
180	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17SE (NW)	498	-	306804 383512
181	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A18SW (NW)	511	-	306893 383607
182	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1878	A18SW (NW)	512	-	306893 383608
183	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17SE (NW)	514	-	306757 383490
184	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A18SW (N)	537	-	306912 383650
185	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12NE (NW)	559	-	306613 383421
186	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A18SW (N)	573	-	306900 383684
187	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17SE (NW)	615	-	306761 383637
188	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17SE (NW)	641	-	306551 383475
189	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12NW (W)	655	-	306448 383343
190	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17SE (NW)	681	-	306758 383719
191	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17SE (NW)	687	-	306754 383723
192	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17NE (NW)	723	-	306763 383775
193	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17SW (NW)	732	-	306463 383510
194	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17SE (NW)	732	-	306691 383730
195	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17SE (NW)	750	-	306598 383666
196	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12NW (W)	763	-	306304 383278
197	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12NW (W)	944	-	306164 383420

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Warwickshire Group	A13SW (SW)	0	1	307145 383078
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (SW)	0	1	307145 383078
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (SW)	20	1	307095 383000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: 1.8 - 2.2 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 300 - 600 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (W)	27	1	307000 383078
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: 300 - 600 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (SW)	32	1	307000 383000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14SW (E)	230	1	307492 383019
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14SW (E)	236	1	307500 383078

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14SW (E)	237	1	307500 383037
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 300 - 600 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8NW (S)	316	1	307000 382700
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SW (N)	316	1	307145 383500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 300 - 600 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SE (W)	527	1	306500 383078
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A9NW (SE)	599	1	307500 382500
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8NE (S)	610	1	307326 382439

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: 1.8 - 2.2 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 600 - 1200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A17SE (NW)	696	1	306500 383500
198	**BGS Recorded Mineral Sites** Site Name: Nant Mill Location: Prestatyn, Flintshire Source: British Geological Survey, National Geoscience Information Service Reference: 134324 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Not Available Geology: ! Commodity: Lead Positional Accuracy: Located by supplier to within 10m	A14SW (SE)	314	1	307524 382875
199	**BGS Recorded Mineral Sites** Site Name: Homefield Location: Prestatyn, Flintshire Source: British Geological Survey, National Geoscience Information Service Reference: 134325 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Not Available Geology: ! Commodity: Lead Positional Accuracy: Located by supplier to within 10m	A14SW (E)	467	1	307692 382864
200	**BGS Recorded Mineral Sites** Site Name: Ty'N-Yr-Allt Location: Prestatyn, Flintshire Source: British Geological Survey, National Geoscience Information Service Reference: 134332 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Not Available Geology: ! Commodity: Lead Positional Accuracy: Located by supplier to within 10m	A8SW (S)	595	1	307093 382423
201	**BGS Recorded Mineral Sites** Site Name: Ty'N-Yr-Allt Location: Prestatyn, Flintshire Source: British Geological Survey, National Geoscience Information Service Reference: 134064 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Llanarmon Limestone Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A8NE (S)	612	1	307326 382442
202	**BGS Recorded Mineral Sites** Site Name: Homefield Location: Prestatyn, Flintshire Source: British Geological Survey, National Geoscience Information Service Reference: 134326 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Not Available Geology: ! Commodity: Lead Positional Accuracy: Located by supplier to within 10m	A14SE (E)	661	1	307893 382847

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
203	**BGS Recorded Mineral Sites** Site Name: Ty'N-Yr-Allt Location: Trelawnyd, Prestatyn, Flintshire Source: British Geological Survey, National Geoscience Information Service Reference: 134131 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Teilia Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A8SE (S)	693	1	307379 382368
204	**BGS Recorded Mineral Sites** Site Name: Ty'N-Yr-Allt Location: Prestatyn, Flintshire Source: British Geological Survey, National Geoscience Information Service Reference: 134129 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Teilia Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	700	1	307490 382389
205	**BGS Recorded Mineral Sites** Site Name: Middle Nant Location: Prestatyn, Flintshire Source: British Geological Survey, National Geoscience Information Service Reference: 134127 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Teilia Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A14SE (E)	753	1	308016 383072
206	**BGS Recorded Mineral Sites** Site Name: Ty'N-Yr-Allt Quarries Location: Prestatyn, Denbighshire Source: British Geological Survey, National Geoscience Information Service Reference: 17106 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Llanarmon Limestone Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A8SE (S)	853	1	307305 382195
207	**BGS Recorded Mineral Sites** Site Name: Ty'N-Yr-Allt Location: Prestatyn, Flintshire Source: British Geological Survey, National Geoscience Information Service Reference: 134333 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Not Available Geology: ! Commodity: Lead Positional Accuracy: Located by supplier to within 10m	A8SW (S)	857	1	307111 382162
208	**BGS Recorded Mineral Sites** Site Name: Top Nant Farm Location: Prestatyn, Flintshire Source: British Geological Survey, National Geoscience Information Service Reference: 134128 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Teilia Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	876	1	307941 382495

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
209	**BGS Recorded Mineral Sites** Site Name: Middle Nant Location: Prestatyn, Flintshire Source: British Geological Survey, National Geoscience Information Service Reference: 133896 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pentre Chert Formation Commodity: Chert Positional Accuracy: Located by supplier to within 10m	A14NE (E)	889	1	308150 383114
210	**BGS Recorded Mineral Sites** Site Name: Ty'N-Yr-Allt Quarries Location: Prestatyn, Denbighshire Source: British Geological Survey, National Geoscience Information Service Reference: 17107 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Llanarmon Limestone Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A8SE (S)	947	1	307405 382115
211	**BGS Recorded Mineral Sites** Site Name: Manor Hill Quarries Location: Prestatyn, Denbighshire Source: British Geological Survey, National Geoscience Information Service Reference: 17104 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Llanarmon Limestone Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A3NE (S)	980	1	307170 382045
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Mining Instability Mining Evidence: Conclusive Metaliferous Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13SW (SW)	0	-	307145 383078
	Man-Made Mining Cavities Easting: 307650 Northing: 382800 Distance: 461 Quadrant Reference: A14 Quadrant Reference: SW Bearing Ref: SE Cavity Type: Mine Shaft-Details Unknown Commodity: Lead Solid Geology Detail: Teilia Formation Superficial Geology Detail: Till	A14SW (SE)	461	7	307650 382800
	Man-Made Mining Cavities Easting: 306700 Northing: 383400 Distance: 480 Quadrant Reference: A12 Quadrant Reference: NE Bearing Ref: NW Cavity Type: Not supplied Commodity: Lead Solid Geology Detail: No Details Superficial Geology Detail: No Details	A12NE (NW)	480	7	306700 383400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Man-Made Mining Cavities Easting: 307700 Northing: 382800 Distance: 503 Quadrant Reference: A14 Quadrant Reference: SW Bearing Ref: SE Cavity Type: Mine Workings Commodity: Lead Solid Geology Detail: Teilia Formation Superficial Geology Detail: Till	A14SW (SE)	503	7	307700 382800
	Man-Made Mining Cavities Easting: 307700 Northing: 382800 Distance: 503 Quadrant Reference: A14 Quadrant Reference: SW Bearing Ref: SE Cavity Type: Not supplied Commodity: Lead Solid Geology Detail: No Details Superficial Geology Detail: No Details	A14SW (SE)	503	7	307700 382800
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	307145 383078
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	220	1	307452 382933
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A14SW (E)	230	1	307492 383019
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	307145 383078
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	26	1	307128 383190
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	307145 383078
	Potential for Compressible Ground Stability Hazards Hazard Potential: High Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	26	1	307128 383190
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	250	1	306991 383369
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	307145 383078
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	307145 383078
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	307145 383078
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	14	1	307091 383004
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	250	1	306991 383369
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	307145 383078

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	0	1	307093 383097
	Radon Potential - Radon Affected Areas Affected Area: The property is in an Intermediate probability radon area (5 to 10% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	0	1	307125 383078
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	307145 383078
	Radon Potential - Radon Protection Measures Protection Measure: Basic radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	0	1	307125 383078
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	307145 383078

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
212	**Contemporary Trade Directory Entries** Name: Spotless Solutions Location: 35, Ffordd Parc Bodnant, Prestatyn, LL19 9LJ Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (W)	172	-	306889 383143
213	**Contemporary Trade Directory Entries** Name: Dampstop Location: 6, Parc Cemlyn, Prestatyn, Clwyd, LL19 9NX Classification: Damp & Dry Rot Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	238	-	306805 383120
214	**Contemporary Trade Directory Entries** Name: S P P S Ltd Location: 28, Glyn Avenue, Prestatyn, Clwyd, LL19 9NN Classification: Machine Tool Accessories & Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	276	-	306847 382807
215	**Contemporary Trade Directory Entries** Name: Joseph Holdsworth Location: 18, Gronant Road, Prestatyn, Clwyd, LL19 9DS Classification: Asphalt & Coated Macadam Laying Contractors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	301	-	307062 382715
216	**Contemporary Trade Directory Entries** Name: Cambrian Joinery Location: Unit 1, Rear of Kwik Save, Nant Hall Road, Prestatyn, Clwyd, LL19 9LR Classification: Joinery Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	372	-	306661 383094
217	**Contemporary Trade Directory Entries** Name: Deluxe Blinds Location: 98, Marine Road, Prestatyn, Clwyd, LL19 7HE Classification: Blinds, Awnings & Canopies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (NW)	376	-	306909 383445
218	**Contemporary Trade Directory Entries** Name: Brian Hayes Appliance Repair Centre Location: 24B, CARADOC ROAD, PRESTATYN, LL19 7PF Classification: Domestic Appliances - Servicing, Repairs & Parts **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (W)	386	-	306692 383228
219	**Contemporary Trade Directory Entries** Name: Central Garage Prestatyn Location: Nant Hall Road, Prestatyn, Clwyd, LL19 9LR Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (W)	400	-	306631 382970
219	**Contemporary Trade Directory Entries** Name: Central Garage Ltd Location: Nant Hall Road, Prestatyn, Clwyd, LL19 9LR Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	400	-	306631 382970
219	**Contemporary Trade Directory Entries** Name: Novatec Location: Nant Hall Road, Prestatyn, Clwyd, LL19 9LR Classification: Blinds, Awnings & Canopies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	409	-	306619 383012
219	**Contemporary Trade Directory Entries** Name: Bevan Location: 1, NANT HALL ROAD, PRESTATYN, LL19 9LR Classification: Hardware **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (W)	424	-	306611 382940
220	**Contemporary Trade Directory Entries** Name: Gleam Team Cleaning Services Location: The Old Stables, Nant Hall Road, Prestatyn, Clwyd, LL19 9LH Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (W)	412	-	306636 382889

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
220	**Contemporary Trade Directory Entries** Name: Gleam Team Cleaning Services Location: The Old Stables, Nant Hall Road, Prestatyn, Clwyd, LL19 9LH Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	412	-	306636 382889
220	**Contemporary Trade Directory Entries** Name: Spotless Solutions Location: 99B, HIGH STREET, PRESTATYN, LL19 9AP Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (W)	436	-	306618 382868
220	**Contemporary Trade Directory Entries** Name: Little Cheesemongerthe Location: 87, HIGH STREET, PRESTATYN, LL19 9AP Classification: Cheese Makers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	447	-	306600 382886
221	**Contemporary Trade Directory Entries** Name: Drivers Of Prestatyn Ltd Location: Nant Garage, Prestatyn Road, Prestatyn, Clwyd, LL19 9LE Classification: Car Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NW (E)	419	-	307624 383264
222	**Contemporary Trade Directory Entries** Name: Petrol Express Location: Petrol Express,Marine Rd, Prestatyn, Clwyd, LL19 7HA Classification: Petrol Filling Stations - 24 Hour **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12NE (NW)	446	-	306721 383372
223	**Contemporary Trade Directory Entries** Name: Halo & Co Location: 210, High Street, Prestatyn, LL19 9BP Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	453	-	306760 382650
224	**Contemporary Trade Directory Entries** Name: Top Of The Mops Location: 67, High Street, Prestatyn, Clwyd, LL19 9AH Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	458	-	306577 382936
224	**Contemporary Trade Directory Entries** Name: Max Spielmann Location: 82, High Street, Prestatyn, Clwyd, LL19 9BE Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	483	-	306562 382890
225	**Contemporary Trade Directory Entries** Name: Dutton Tyres Location: 2, Gronant Road, Prestatyn, Clwyd, LL19 9DS Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	459	-	306890 382577
225	**Contemporary Trade Directory Entries** Name: The Old Stable Garage Location: 2, Gronant Road, Prestatyn, Clwyd, LL19 9DS Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	459	-	306890 382577
225	**Contemporary Trade Directory Entries** Name: Old Stable Garage & Duttons Location: 2, Gronant Road, Prestatyn, LL19 9DS Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	460	-	306890 382576
226	**Contemporary Trade Directory Entries** Name: Andy'S Tyre Services Ltd Location: 61, Marine Road, Prestatyn, Clwyd, LL19 7HA Classification: Tyre Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	460	-	306770 383434

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
227	**Contemporary Trade Directory Entries** Name: Pet Zone Location: 218, High Street, Prestatyn, Clwyd, LL19 9BP Classification: Pet Foods & Animal Feeds **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	464	-	306770 382629
227	**Contemporary Trade Directory Entries** Name: Celtic Cars Location: 6-8, Meliden Road, PRESTATYN, Clwyd, LL19 9RT Classification: Car Dealers - Used **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	507	-	306768 382580
228	**Contemporary Trade Directory Entries** Name: Car Centre Ltd Location: 49, Marine Road, Prestatyn, Clwyd, LL19 7HA Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	486	-	306661 383364
228	**Contemporary Trade Directory Entries** Name: Car Centre Location: 49, Marine Road, Prestatyn, Clwyd, LL19 7HA Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	486	-	306661 383364
228	**Contemporary Trade Directory Entries** Name: Car Centre Ltd Location: 49, Marine Road, Prestatyn, Clwyd, LL19 7HA Classification: Car Dealers - Used **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	486	-	306661 383364
228	**Contemporary Trade Directory Entries** Name: S J Autocentre Ltd Location: Unit 13, Brook Park Avenue, Prestatyn, Clwyd, LL19 7HH Classification: Mot Testing Centres **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	504	-	306656 383387
228	**Contemporary Trade Directory Entries** Name: Webb Brothers Location: Unit 12, Brook Park Avenue, Prestatyn, Clwyd, LL19 7HH Classification: Car Body Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	508	-	306645 383380
229	**Contemporary Trade Directory Entries** Name: Mydentist High Street Prestatyn Location: 37, HIGH STREET, PRESTATYN, LL19 9AH Classification: Hospitals **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	488	-	306541 382987
229	**Contemporary Trade Directory Entries** Name: Tesco Petrol Station Location: Prestatyn Retail Park,Nant Hall Road, Prestatyn, Clwyd, LL19 9LR Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (W)	519	-	306509 383031
229	**Contemporary Trade Directory Entries** Name: Jones Supreme Cleaning Location: 42, High Street, Prestatyn, LL19 9BB Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	524	-	306509 382949
229	**Contemporary Trade Directory Entries** Name: Johnson Cleaners (Uk) Ltd Location: 28, High Street, Prestatyn, Clwyd, LL19 9BB Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	525	-	306505 382982
229	**Contemporary Trade Directory Entries** Name: Supreme Finish Cleaning Services Location: Supreme Finish Cleaning Services,High Street, Prestatyn, Clwyd, LL19 9BB Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A12SE (W)	527	-	306502 382989

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
230	**Contemporary Trade Directory Entries** Name: Body Style Location: Unit 8, Brook Park Avenue, Prestatyn, Clwyd, LL19 7HH Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	490	-	306693 383406
230	**Contemporary Trade Directory Entries** Name: Autocare Location: Unit 5, Brook Park Avenue, Prestatyn, Clwyd, LL19 7HH Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	502	-	306697 383428
230	**Contemporary Trade Directory Entries** Name: G & S Autos Location: Unit 5, Brook Park Avenue, Prestatyn, Clwyd, LL19 7HH Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	502	-	306697 383428
230	**Contemporary Trade Directory Entries** Name: Automedics Location: Unit 5 Brook Park Trading Estate,Brook Park Avenue, Prestatyn, Clwyd, LL19 7HH Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A12NE (NW)	504	-	306669 383402
230	**Contemporary Trade Directory Entries** Name: Rover Discount Location: Unit 3/4, Brook Park Avenue, Prestatyn, Clwyd, LL19 7HH Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	515	-	306678 383428
230	**Contemporary Trade Directory Entries** Name: S & J Autocentre Ltd Location: Unit6-13 Brook Park Avenue, Prestatyn, Clwyd, LL19 7HH Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	515	-	306668 383417
231	**Contemporary Trade Directory Entries** Name: The Morley Press Location: 1, Morley Road, Prestatyn, Clwyd, LL19 7HG Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	504	-	306574 383258
232	**Contemporary Trade Directory Entries** Name: P D Q Location: 21 Kings Av, Prestatyn, Clwyd, LL19 9AA Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (SW)	511	-	306570 382790
233	**Contemporary Trade Directory Entries** Name: David J Jones Furniture Craftsmen Location: Unit 11-12, Prestatyn Shopping Park, Nant Hall Road, Prestatyn, Clwyd, LL19 9BJ Classification: Seating Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	553	-	306478 383087
234	**Contemporary Trade Directory Entries** Name: Roberts Wardell Mini Buses Location: 14, High Street, Prestatyn, Clwyd, LL19 9BB Classification: Bus & Coach Operators & Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	560	-	306467 383030
235	**Contemporary Trade Directory Entries** Name: Wasteater Location: 61, Highbury Avenue, Prestatyn, LL19 7NT Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	573	-	306720 383536

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
235	**Contemporary Trade Directory Entries** Name: Waste Eaters Location: 61, Highbury Avenue, Prestatyn, Clwyd, LL19 7NT Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	573	-	306720 383537
236	**Contemporary Trade Directory Entries** Name: Avimo Optical Imaging Ltd Location: Parc Dyffryn Industrial Estate, Ffordd Pendyffryn, Prestatyn, Clwyd, LL19 9DG Classification: Optical Goods - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	574	-	306468 382890
237	**Contemporary Trade Directory Entries** Name: Classicarssoldquick.Com Location: 30, Meliden Road, Prestatyn, Clwyd, LL19 9RT Classification: Classic Car Specialists **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	592	-	306717 382511
237	**Contemporary Trade Directory Entries** Name: Caravanssoldquick.Com Location: 30, Meliden Road, Prestatyn, Clwyd, LL19 9RT Classification: Caravan Dealers & Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	592	-	306717 382511
237	**Contemporary Trade Directory Entries** Name: Carssoldquick.Com Location: 30, Meliden Road, Prestatyn, Clwyd, LL19 9RT Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	592	-	306717 382511
237	**Contemporary Trade Directory Entries** Name: County Garage Location: Unit 1, Invetek House, Meliden Road, Prestatyn, Clwyd, LL19 9RT Classification: Classic Car Specialists **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	595	-	306684 382530
238	**Contemporary Trade Directory Entries** Name: F E Jones & Sons Auto Centre Location: UNIT 10, PARC DYFFRYN INDUSTRIAL ESTATE, FFORDD PENDYFFRYN, PRESTATYN, LL19 9DG Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	618	-	306449 382801
238	**Contemporary Trade Directory Entries** Name: Jones & Sons Autos Location: Unit 10, Parc Dyffryn Industrial Estate, Ffordd Pendyffryn, Prestatyn, LL19 9DG Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	618	-	306449 382801
238	**Contemporary Trade Directory Entries** Name: G M S Auto Centre Ltd Location: Unit 10 Parc Dyffryn Industrial Estate,Ffordd Pendyffryn, Prestatyn, Clwyd, LL19 9DG Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	625	-	306431 382831
238	**Contemporary Trade Directory Entries** Name: We Repair Washing Machines Dryers Cookers Ovens Fridge Freezers Location: 12, CWRT DOWELL, PRESTATYN, LL19 8TJ Classification: Domestic Appliances - Servicing, Repairs & Parts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (SW)	654	-	306423 382768
239	**Contemporary Trade Directory Entries** Name: H & B Joinery (Prestatyn) Ltd Location: Gas Works Lane, Prestatyn, Clwyd, LL19 7SE Classification: PVC-U Products - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	628	-	306405 382938

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
240	**Contemporary Trade Directory Entries** Name: B P Service Station Location: Prestatyn Service Station, Marine Road, Prestatyn, Clwyd, LL19 7HA Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Manually positioned to the address or location	A12NW (W)	638	-	306417 383219
241	**Contemporary Trade Directory Entries** Name: Monarch Cleaners Ltd Location: 31-33, Meliden Road, Prestatyn, Clwyd, LL19 9SD Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	643	-	306725 382448
242	**Contemporary Trade Directory Entries** Name: Angels About The House Location: 42, Maes y Groes, Prestatyn, Clwyd, LL19 9DA Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	664	-	306504 382607
243	**Contemporary Trade Directory Entries** Name: All Steamed Up Location: 9, Bastion Road, Prestatyn, Clwyd, LL19 7ES Classification: Ironing & Home Laundry Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	674	-	306369 383174
244	**Contemporary Trade Directory Entries** Name: Impak Marketing Ltd Location: Parc Dyffryn,1-5 Ffordd Pendyffryn, Prestatyn, Clwyd, LL19 9DG Classification: Cleaning Materials & Equipment **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	683	-	306589 382492
245	**Contemporary Trade Directory Entries** Name: White Cleaning Services Location: Unit 7, Lighthouse Business Park, Bastion Road, Prestatyn, Clwyd, LL19 7ND Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	806	-	306286 383354
245	**Contemporary Trade Directory Entries** Name: Mosaic Co-Options Location: Unit 6a, Lighthouse Business Park, Bastion Road, Prestatyn, Clwyd, LL19 7ND Classification: Mirrors & Decorative Glass **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	814	-	306280 383361
245	**Contemporary Trade Directory Entries** Name: Prestatyn Service Centre Location: Unit 1, Lighthouse Business Park, Bastion Road, Prestatyn, LL19 7ND Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	843	-	306263 383392
245	**Contemporary Trade Directory Entries** Name: Prestatyn Service Centre Location: Unit 1, Lighthouse Business Park, Bastion Road, Prestatyn, Clwyd, LL19 7ND Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	843	-	306263 383392
245	**Contemporary Trade Directory Entries** Name: Prestatyn Service Centre Location: Unit 1, Lighthouse Business Park, Bastion Road, Prestatyn, LL19 7ND Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	843	-	306263 383392
246	**Contemporary Trade Directory Entries** Name: Morton'S Motoring Services Location: 21, SANDY LANE, PRESTATYN, LL19 7SF Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	839	-	306189 383001

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
247	**Contemporary Trade Directory Entries** Name: C H Mechanical Services Location: Unit 1, Sandy Lane Business Park, 25, Sandy Lane, Prestatyn, Clwyd, LL19 7SF Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (W)	906	-	306122 382993
247	**Contemporary Trade Directory Entries** Name: Crystal Cleaning Services Location: Sandy Lane Business Park,25 Sandy La, Prestatyn, Clwyd, LL19 7SF Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (W)	920	-	306108 382984
247	**Contemporary Trade Directory Entries** Name: Peak Performance Centre Location: Unit 3/5, Sandy Lane Business Park, 25, Sandy Lane, Prestatyn, Clwyd, LL19 7SF Classification: Car Engine Tuning & Diagnostic Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (W)	927	-	306102 382970
247	**Contemporary Trade Directory Entries** Name: Martin Services Ltd Location: Unit 7, Sandy Lane Business Park, 25, Sandy Lane, Prestatyn, Clwyd, LL19 7SF Classification: Gearboxes **Status: Active** Positional Accuracy: Automatically positioned to the address	A11SE (W)	936	-	306093 382987
247	**Contemporary Trade Directory Entries** Name: Premier Clean Uk Ltd Location: Unit 7, Sandy Lane Business Park, 25, Sandy Lane, Prestatyn, Clwyd, LL19 7SF Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (W)	936	-	306093 382987
247	**Contemporary Trade Directory Entries** Name: Tf Towbars & Trailers Location: Unit 7, Sandy Lane Business Park, 25, Sandy Lane, Prestatyn, Clwyd, LL19 7SF Classification: Trailers & Towing Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (W)	936	-	306093 382987
248	**Contemporary Trade Directory Entries** Name: Repair Centre Location: 10, South Avenue, Prestatyn, Clwyd, LL19 8TG Classification: Domestic Appliances - Servicing, Repairs & Parts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SW (SW)	927	-	306402 382331
249	**Contemporary Trade Directory Entries** Name: Prestatyn Gates Location: Unit 1 Sandy Lane, Prestatyn, Clwyd, LL19 7SF Classification: Joinery Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A11SE (W)	985	-	306042 383020
250	**Fuel Station Entries** Name: Central Garage Location: Nant Hall Road , , Prestatyn, Denbighshire, LL19 9LR Brand: Unbranded Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Manually positioned to the address or location	A12SE (W)	401	-	306630 382970
251	**Fuel Station Entries** Name: Drivers Of Prestatyn Ltd Location: Prestatyn Road , , Prestatyn, Denbighshire, LL19 9LE Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A14NW (E)	417	-	307623 383263

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
252	**Fuel Station Entries** Name: Dutton Brothers Location: Gronant Road , , Prestatyn, Denbighshire, LL19 9DS Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	459	-	306890 382577
253	**Fuel Station Entries** Name: Tesco Prestatyn Location: 5, High Street , , Prestatyn, Denbighshire, LL19 9LR Brand: Tesco Premises Type: Hypermarket **Status: Open** Positional Accuracy: Manually positioned to the address or location	A12SE (W)	519	-	306509 383032
254	**Fuel Station Entries** Name: Mfg Prestatyn Location: 55-57, Marine Road , , Prestatyn, Denbighshire, LL19 7HA Brand: Bp Premises Type: Petrol Station **Status: Open** Positional Accuracy: Manually positioned to the address or location	A12NW (W)	638	-	306417 383220
255	**Points of Interest - Commercial Services** Name: I K Refinishing Ltd Location: 18 West Avenue, Prestatyn, LL19 9HA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (S)	398	8	307224 382642
256	**Points of Interest - Commercial Services** Name: Central Garage Ltd Location: Nant Hall Road, Prestatyn, LL19 9LR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (W)	400	8	306631 382970
256	**Points of Interest - Commercial Services** Name: Central Garage Prestatyn Location: Nant Hall Road, Prestatyn, LL19 9LR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (W)	401	8	306630 382970
257	**Points of Interest - Commercial Services** Name: Old Stable Garage & Duttons Location: 2 Gronant Road, Prestatyn, LL19 9DS Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NW (SW)	455	8	306892 382580
257	**Points of Interest - Commercial Services** Name: The Old Stable Garage Location: 2 Gronant Road, Prestatyn, LL19 9DS Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NW (SW)	459	8	306890 382577
257	**Points of Interest - Commercial Services** Name: Dutton Bros Location: 2 Gronant Road, Prestatyn, LL19 9DS Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NW (SW)	459	8	306890 382577
257	**Points of Interest - Commercial Services** Name: Old Stables Garage Location: 2 Gronant Road, Prestatyn, LL19 9DS Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NW (SW)	459	8	306890 382577
258	**Points of Interest - Commercial Services** Name: Body Style Location: Unit 8, Brook Park Avenue, Prestatyn, LL19 7HH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (NW)	490	8	306693 383406

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
258	**Points of Interest - Commercial Services** Name: Automedics Location: Unit 5 Brook Park Trading Estate, Brook Park Avenue, Prestatyn, LL19 7HH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (NW)	492	8	306676 383392
258	**Points of Interest - Commercial Services** Name: R & B Car Hand Wash Ltd Location: 49 Marine Road, Prestatyn, LL19 7HA Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12NE (NW)	495	8	306651 383366
258	**Points of Interest - Commercial Services** Name: Webb Brothers Location: 12 Brook Park Avenue, Prestatyn, LL19 7HH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (NW)	497	8	306689 383412
258	**Points of Interest - Commercial Services** Name: Peak Performance Centre Location: Unit 1, Brook Park Avenue, Prestatyn, LL19 7HH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (NW)	502	8	306697 383428
258	**Points of Interest - Commercial Services** Name: S J Autocentre Ltd Location: Unit 13 Brook Park Industrial Estate, Brook Park Avenue, Prestatyn, LL19 7HH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (NW)	504	8	306655 383386
258	**Points of Interest - Commercial Services** Name: Webb Bros Car Body Repairs Ltd Location: Unit 12, Brook Park Avenue, Prestatyn, LL19 7HH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (NW)	508	8	306645 383380
258	**Points of Interest - Commercial Services** Name: S & J Autocentre Ltd Location: Unit6-13 Brook Park Avenue, Prestatyn, LL19 7HH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NE (NW)	515	8	306668 383417
259	**Points of Interest - Commercial Services** Name: Celtic Cars Location: 6-8 Meliden Road, Prestatyn, LL19 9RT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	507	8	306768 382580
260	**Points of Interest - Commercial Services** Name: Waste Eaters Location: 61 Highbury Avenue, Prestatyn, LL19 7NT Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A17SE (NW)	573	8	306720 383537
261	**Points of Interest - Commercial Services** Name: Prestatyn Service Station Location: Marine, Road, Prestatyn, LL19 7HA Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12NW (W)	613	8	306440 383212
261	**Points of Interest - Commercial Services** Name: B P Car Wash Location: Marine Road, Prestatyn, LL19 7HA Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12NW (W)	613	8	306440 383212
261	**Points of Interest - Commercial Services** Name: Car Wash Location: Marine Road, Prestatyn, Clwyd, LL19 7HA Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12NW (W)	638	8	306417 383220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
262	**Points of Interest - Commercial Services** Name: Jones & Sons Autos Location: Unit 10 Parc Dyffryn Industrial Estate, Ffordd Pendyffryn, Prestatyn, LL19 9DG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	619	8	306448 382800
262	**Points of Interest - Commercial Services** Name: F E Jones & Sons Auto Centre Location: Unit 10 Parc Dyffryn Industrial Estate, Ffordd Pendyffryn, Prestatyn, LL19 9DG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	619	8	306448 382800
262	**Points of Interest - Commercial Services** Name: G M S Auto Centre Ltd Location: Unit 10 Parc Dyffryn Industrial Estate, Ffordd Pendyffryn, Prestatyn, LL19 9DG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	625	8	306431 382831
262	**Points of Interest - Commercial Services** Name: F E Jones & Sons Location: Unit 9 Parc Dyffryn Industrial Estate, Ffordd Pendyffryn, Prestatyn, LL19 9DG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	630	8	306417 382861
263	**Points of Interest - Commercial Services** Name: Cool My Ride Location: 4 Highbury Crescent, Prestatyn, LL19 7PA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NW (NW)	710	8	306437 383435
264	**Points of Interest - Commercial Services** Name: Morton's Motoring Services Location: 21 Sandy Lane, Prestatyn, LL19 7SF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	840	8	306188 383001
265	**Points of Interest - Commercial Services** Name: Prestatyn Service Centre Location: Unit 1 Lighthouse Business Park, Bastion Road, Prestatyn, LL19 7ND Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NW (W)	843	8	306263 383392
265	**Points of Interest - Commercial Services** Name: Prestatyn Service Centre Location: Unit 1 Lighthouse Business Park, Bastion Road, Prestatyn, LL19 7ND Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NW (W)	843	8	306263 383392
266	**Points of Interest - Commercial Services** Name: Peak Performance Centre Location: Unit 3/5 Sandy Lane Business Park 25, Sandy Lane, Prestatyn, LL19 7SF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11SE (W)	927	8	306102 382970
266	**Points of Interest - Commercial Services** Name: Morton's Motoring Services Location: Unit 6-8 Sandy Lane Business Park 25, Sandy Lane, Prestatyn, LL19 7SF Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11SE (W)	927	8	306102 382970
267	**Points of Interest - Commercial Services** Name: K R Jones Pest Control Location: 65 Victoria Road, Prestatyn, LL19 7SP Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A11NE (W)	959	8	306073 383120
268	**Points of Interest - Education and Health** Name: Prestatyn Clinic Location: Prestatyn Clinic 23, Kings Avenue, Prestatyn, LL19 9AA Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A12SE (SW)	539	8	306546 382775

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
269	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	394	8	306812 383383
269	**Points of Interest - Manufacturing and Production** Name: Works Location: LL19 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	395	8	306809 383382
270	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	462	8	306568 383075
270	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	473	8	306556 383058
271	**Points of Interest - Manufacturing and Production** Name: Shaft (Disused) Location: LL19 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A14SW (E)	477	8	307700 382858
271	**Points of Interest - Manufacturing and Production** Name: Shaft (Disused) Location: LL19 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A14SW (E)	481	8	307707 382865
272	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	518	8	306561 382792
273	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL19 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SW (N)	536	8	306912 383648
274	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	558	8	306492 382860
274	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	558	8	306495 382850
274	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	563	8	306484 382872
275	**Points of Interest - Manufacturing and Production** Name: Works Location: LL19 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	577	8	306465 382893

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
275	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	658	8	306379 382910
275	**Points of Interest - Manufacturing and Production** Name: Works Location: LL19 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	663	8	306374 382909
276	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL19 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	579	8	306526 383327
277	**Points of Interest - Manufacturing and Production** Name: Shaft (Disused) Location: LL19 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A14SE (E)	664	8	307895 382844
277	**Points of Interest - Manufacturing and Production** Name: Shaft (Disused) Location: LL19 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	670	8	307903 382849
278	**Points of Interest - Manufacturing and Production** Name: Quarry (Disused) Location: LL19 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A14SE (E)	738	8	308002 383057
278	**Points of Interest - Manufacturing and Production** Name: Quarry (Disused) Location: LL19 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A14SE (E)	750	8	308013 383070
278	**Points of Interest - Manufacturing and Production** Name: Quarry (Disused) Location: LL19 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	776	8	308040 383066
279	**Points of Interest - Manufacturing and Production** Name: Lighthouse Business Park Location: LL19 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A12NW (W)	822	8	306281 383381
279	**Points of Interest - Manufacturing and Production** Name: Lighthouse Business Park Location: LL19 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A12NW (W)	825	8	306276 383378
280	**Points of Interest - Manufacturing and Production** Name: Works Location: LL19 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	849	8	306179 382996
280	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	860	8	306167 383017

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
280	**Points of Interest - Manufacturing and Production** Name: Works Location: LL19 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	860	8	306167 383017
280	**Points of Interest - Manufacturing and Production** Name: Business Park Location: LL19 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A11SE (W)	928	8	306100 382982
281	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL19 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SE (S)	950	8	307410 382112
282	**Points of Interest - Public Infrastructure** Name: Sluice Location: LL19 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A13SE (E)	97	8	307354 383087
282	**Points of Interest - Public Infrastructure** Name: Sluice Location: LL19 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A13SE (E)	132	8	307391 383086
282	**Points of Interest - Public Infrastructure** Name: Sluice Location: LL19 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A13SE (E)	137	8	307396 383087
283	**Points of Interest - Public Infrastructure** Name: Central Garage Location: Nant Hall Road, Prestatyn, LL19 9LR Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12SE (W)	401	8	306630 382970
284	**Points of Interest - Public Infrastructure** Name: Tesco Prestatyn Location: 5 High Street, Prestatyn, LL19 9BB Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12SE (W)	519	8	306509 383032
284	**Points of Interest - Public Infrastructure** Name: Tesco Petrol Station Location: Prestatyn Retail Park, Nant Hall Road, Prestatyn, LL19 9LR Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12SE (W)	520	8	306508 383032
284	**Points of Interest - Public Infrastructure** Name: Bus Station Location: LL19 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	556	8	306478 382934
284	**Points of Interest - Public Infrastructure** Name: Roberts Wardell Mini Buses Location: 14 High Street, Prestatyn, LL19 9BB Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A12SW (W)	560	8	306467 383030
284	**Points of Interest - Public Infrastructure** Name: Prestatyn Rail Station Location: Bridge Road (Ffordd Y Bont), LL19 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A12SW (W)	645	8	306384 383065

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
284	**Points of Interest - Public Infrastructure** Name: Prestatyn Station Location: Bridge Road (Ffordd Y Bont), LL19 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A12SW (W)	645	8	306384 383065
285	**Points of Interest - Public Infrastructure** Name: Sluice Location: LL19 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A18SW (NW)	525	8	306889 383621
285	**Points of Interest - Public Infrastructure** Name: Sluice Location: LL19 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A18SW (NW)	529	8	306885 383623
286	**Points of Interest - Public Infrastructure** Name: Bus Station Location: LL19 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A12SE (W)	552	8	306483 382928
287	**Points of Interest - Public Infrastructure** Name: Wasteater Location: 61 Highbury Avenue, Prestatyn, LL19 7NT Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A17SE (NW)	573	8	306720 383536
287	**Points of Interest - Public Infrastructure** Name: Waste Eaters Location: 61 Highbury Avenue, Prestatyn, LL19 7NT Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A17SE (NW)	573	8	306720 383537
288	**Points of Interest - Public Infrastructure** Name: Prestatyn Fire Station Location: Marine Road, Prestatyn, LL19 7HA Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A12NE (W)	574	8	306519 383304
289	**Points of Interest - Public Infrastructure** Name: BP Service Station Location: Marine Road, Prestatyn, LL19 7HA Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NW (W)	638	8	306417 383219
289	**Points of Interest - Public Infrastructure** Name: Murco Prestatyn Fs637 Location: Marine Road, Prestatyn, Clwyd, LL19 7HA Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NW (W)	638	8	306417 383219
289	**Points of Interest - Public Infrastructure** Name: Murco Petroleum Ltd Location: Marine Road, Prestatyn, LL19 7HA Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NW (W)	638	8	306417 383220
289	**Points of Interest - Public Infrastructure** Name: Prestatyn Service Station Location: Marine Road, Prestatyn, LL19 7HA Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12NW (W)	638	8	306417 383220
290	**Points of Interest - Recreational and Environmental** Name: Play Area Location: LL19 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	56	8	307098 383173

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
291	**Points of Interest - Recreational and Environmental** Name: Playground Location: (Lon Eirlys), LL19 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A13NW (W)	102	8	306945 383100
292	**Points of Interest - Recreational and Environmental** Name: Playground Location: Caradoc Road, LL19 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A12NE (W)	474	8	306573 383169
292	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	496	8	306549 383165
292	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	551	8	306488 383142
292	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Station Road (Ffordd Yr Orsaf), LL19 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A12NE (W)	555	8	306485 383148
293	**Points of Interest - Recreational and Environmental** Name: Play Area Location: LL19 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A17SE (NW)	622	8	306799 383676
294	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	851	8	306478 382366
294	**Points of Interest - Recreational and Environmental** Name: Playground Location: South Avenue, LL19 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A7SW (SW)	865	8	306466 382358
295	**Points of Interest - Recreational and Environmental** Name: Play Area Location: LL19 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A7NW (SW)	957	8	306203 382531

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
296	**Ancient Woodland** Name: Not Supplied Reference: 35086 Area(m²): 6299.67 Type: Ancient and Semi-Natural Woodland	A14NW (NE)	386	2	307547 383326
297	**Ancient Woodland** Name: Not Supplied Reference: 28570 Area(m²): 17605.06 Type: Ancient and Semi-Natural Woodland	A14SE (E)	816	2	308079 383010
298	**Ancient Woodland** Name: Not Supplied Reference: 36935 Area(m²): 8767.48 Type: Restored Ancient Woodland Site	A9NE (SE)	918	2	307956 382447
299	**Areas of Outstanding Natural Beauty** Name: Bryniau Clwyd A Dyffryn Dyfrdwy/Clwydian Range And Dee Valley Multiple Areas: N Total Area (m2): 389277308.58 Designation Date: 22nd November 2011 Source: Natural Resources Wales	A14SW (SE)	375	2	307601 382888
300	**Environmentally Sensitive Areas** Name: Clwydian Range (decommissioned) Multiple Areas: N Total Area (m2): 278715136 Source: The National Assembly for Wales, GI Services (Department of Planning & Countryside)	A14SW (E)	284	9	307543 382997
301	**Local Nature Reserves** Name: Gronant Dunes Multiple Area: N Area (m2): 1881428.7 Source: Denbighshire County Council Designation Date: 31st December 1999	A18NW (N)	847	10	306891 383981
302	**Nitrate Vulnerable Zones** Name: Not Supplied Description: Groundwater Source: Natural Resources Wales	A13SW (SW)	0	2	307145 383078
303	**Ramsar Sites** Name: The Dee Estuary (Wales) Multiple Areas: Y Total Area (m2): 79439005.91 Source: Natural Resources Wales Reference: UK11082 Designation Date: 10th December 2009	A19SW (NE)	466	2	307564 383449
304	**Sites of Special Scientific Interest** Name: Dee Estuary / Aber Afon Dyfrdwy Multiple Areas: Y Total Area (m2): 74086462.57 Source: Natural Resources Wales Reference: 83931whj Designation Details: Biological Designation Date: 1st January 1972 Date Type: Notified	A19SW (NE)	466	2	307564 383449
305	**Sites of Special Scientific Interest** Name: Gronant Dunes And Talacre Warren Multiple Areas: N Total Area (m2): 5185345.33 Source: Natural Resources Wales Reference: 91831wjp Designation Details: Biological Designation Date: 29th January 1998 Date Type: Notified	A18NW (N)	847	2	306891 383981
306	**Sites of Special Scientific Interest** Name: Prestatyn Hillside Multiple Areas: N Total Area (m2): 244531.89 Source: Natural Resources Wales Reference: 49031wjq Designation Details: Biological Designation Date: 1st January 1959 Date Type: Notified	A8SE (S)	862	2	307200 382169

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
307	**Special Areas of Conservation** Name: Dee Estuary / Aber Dyfrdwy (Wales) Multiple Areas: N Total Area (m2): 75231693.17 Source: Natural Resources Wales Reference: UK0030131 **Status: Designated**	A18NW (N)	847	2	306891 383981
308	**Special Protection Areas** Name: The Dee Estuary (Wales) Multiple Areas: Y Total Area (m2): 79439005.93 Source: Natural Resources Wales Reference: UK9013011 Designation Date: 10th December 2009	A19SW (NE)	466	2	307564 383449
309	**Special Protection Areas** Name: Liverpool Bay / Bae Lerpwl (Wales) Multiple Areas: N Total Area (m2): 786840845.92 Source: Natural Resources Wales Reference: UK9020294 Designation Date: 31st October 2017	A18NW (N)	954	2	306827 384070
310	**Special Protection Areas** Name: Liverpool Bay Multiple Areas: N Total Area (m2): 2527577344.19 Source: Natural England Reference: UK9020294 Designation Date: Not Supplied	A18NW (N)	954	11	306827 384070

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Natural Resources Wales	November 2023	Annually
Flintshire Council - Environmental Health Department	October 2017	Annual Rolling Update
Denbighshire County Council - Public Protection Department	September 2017	Annual Rolling Update
Discharge Consents		
Environment Agency - Welsh Region	August 2014	Quarterly
Natural Resources Wales	May 2024	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Welsh Region	March 2013	
Integrated Pollution Controls		
Environment Agency - Welsh Region	January 2009	
Integrated Pollution Prevention And Control		
Environment Agency - Welsh Region	July 2024	Quarterly
Natural Resources Wales	May 2024	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Flintshire Council - Environmental Health Department	April 2016	Variable
Denbighshire County Council - Environmental Health Department	December 2014	Variable
Local Authority Pollution Prevention and Controls		
Flintshire Council - Environmental Health Department	April 2016	Annual Rolling Update
Denbighshire County Council - Environmental Health Department	December 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
Flintshire Council - Environmental Health Department	April 2016	Variable
Denbighshire County Council - Environmental Health Department	December 2014	Variable
Nearest Surface Water Feature		
Ordnance Survey	June 2024	
Pollution Incidents to Controlled Waters		
Environment Agency - Welsh Region	December 1998	
Prosecutions Relating to Authorised Processes		
Environment Agency - Welsh Region	July 2015	
Natural Resources Wales	July 2015	
Prosecutions Relating to Controlled Waters		
Environment Agency - Welsh Region	March 2013	
Natural Resources Wales	March 2013	
Registered Radioactive Substances		
Natural Resources Wales	January 2015	
Environment Agency - Welsh Region	June 2016	
Substantiated Pollution Incident Register		
Environment Agency Wales - North Area	January 2021	Quarterly
Natural Resources Wales	July 2024	Quarterly
Water Abstractions		
Environment Agency - Welsh Region	July 2024	Quarterly
Natural Resources Wales	May 2024	Quarterly
Water Industry Act Referrals		
Environment Agency - Welsh Region	October 2017	
Natural Resources Wales	October 2022	
Groundwater Vulnerability Map		
Natural Resources Wales	June 2018	As notified
Bedrock Aquifer Designations		
Natural Resources Wales	January 2018	As notified
Superficial Aquifer Designations		
Natural Resources Wales	January 2018	As notified

Agency & Hydrological	Version	Update Cycle
Source Protection Zones Natural Resources Wales	July 2022	Annual Rolling Update
Extreme Flooding from Rivers or Sea without Defences Natural Resources Wales	September 2020	
Flooding from Rivers or Sea without Defences Natural Resources Wales	September 2020	
Areas Benefiting from Flood Defences Natural Resources Wales	November 2019	Quarterly
Flood Water Storage Areas Natural Resources Wales	August 2019	Quarterly
Flood Defences Natural Resources Wales	November 2019	
OS Water Network Lines Ordnance Survey	July 2024	Quarterly
Surface Water 1 in 30 year Flood Extent Natural Resources Wales	May 2018	Annually
Surface Water 1 in 100 year Flood Extent Natural Resources Wales	May 2018	Annually
Surface Water 1 in 1000 year Flood Extent Natural Resources Wales	May 2018	Annually
Surface Water Suitability Natural Resources Wales	February 2016	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	As notified

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	November 2002	As notified
Historical Landfill Sites		
Natural Resources Wales	March 2023	As notified
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Welsh Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency Wales - North Area	January 2023	Quarterly
Natural Resources Wales	October 2021	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency Wales - North Area	July 2024	Quarterly
Natural Resources Wales	May 2024	Quarterly
Local Authority Landfill Coverage		
Denbighshire County Council - Environmental Health Department	February 2003	Not Applicable
Flintshire Council - Environmental Health Department	February 2003	Not Applicable
Local Authority Recorded Landfill Sites		
Denbighshire County Council - Environmental Health Department	October 2018	
Flintshire Council - Environmental Health Department	October 2018	
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	
Registered Landfill Sites		
Environment Agency Wales - North Area	March 2006	Not Applicable
Registered Waste Transfer Sites		
Environment Agency Wales - North Area	April 2018	
Registered Waste Treatment or Disposal Sites		
Environment Agency Wales - North Area	June 2015	
Hazardous Substances	**Version**	**Update Cycle**
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	January 2024	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements		
Denbighshire County Council - Planning Department	February 2016	Variable
Flintshire Council	January 2016	Variable
Planning Hazardous Substance Consents		
Denbighshire County Council - Planning Department	February 2016	Variable
Flintshire Council	January 2016	Variable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	As notified
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	As notified
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	January 2024	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified
Coal Mining Affected Areas The Coal Authority - Property Searches	February 2023	Annual Rolling Update
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	October 2023	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	October 2023	Annually

Data Currency

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	June 2024	Quarterly
Fuel Station Entries Catalist Ltd - Experian	February 2024	Quarterly
Gas Pipelines National Grid	October 2021	Bi-Annually
Points of Interest - Commercial Services PointX	June 2024	Quarterly
Points of Interest - Education and Health PointX	June 2024	Quarterly
Points of Interest - Manufacturing and Production PointX	June 2024	Quarterly
Points of Interest - Public Infrastructure PointX	June 2024	Quarterly
Points of Interest - Recreational and Environmental PointX	June 2024	Quarterly
Underground Electrical Cables National Grid	January 2024	Bi-Annually

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural Resources Wales	April 2024	Bi-Annually
Areas of Adopted Green Belt		
Denbighshire County Council	July 2024	Quarterly
Flintshire Council	July 2024	Quarterly
Areas of Unadopted Green Belt		
Denbighshire County Council	July 2024	Quarterly
Flintshire Council	July 2024	Quarterly
Areas of Outstanding Natural Beauty		
Natural Resources Wales	May 2024	Bi-Annually
Environmentally Sensitive Areas		
The National Assembly for Wales - GI Services (Department of Planning & Countryside)	January 2017	
Forest Parks		
Forestry Commission	May 2023	Not Applicable
Local Nature Reserves		
Denbighshire County Council	February 2024	Bi-Annually
Flintshire Council	February 2024	Bi-Annually
Marine Nature Reserves		
Natural Resources Wales	February 2024	Bi-Annually
National Nature Reserves		
Natural Resources Wales	February 2024	Bi-Annually
National Parks		
Natural Resources Wales	February 2018	Annually
Nitrate Vulnerable Zones		
The National Assembly for Wales - GI Services (Department of Planning & Countryside)	April 2016	
Natural Resources Wales	April 2024	Bi-Annually
Ramsar Sites		
Natural Resources Wales	February 2024	Bi-Annually
Sites of Special Scientific Interest		
Natural Resources Wales	October 2023	Bi-Annually
Special Areas of Conservation		
Natural Resources Wales	April 2024	Bi-Annually
Special Protection Areas		
Natural England	April 2024	Bi-Annually
Natural Resources Wales	April 2024	Bi-Annually

Data Suppliers

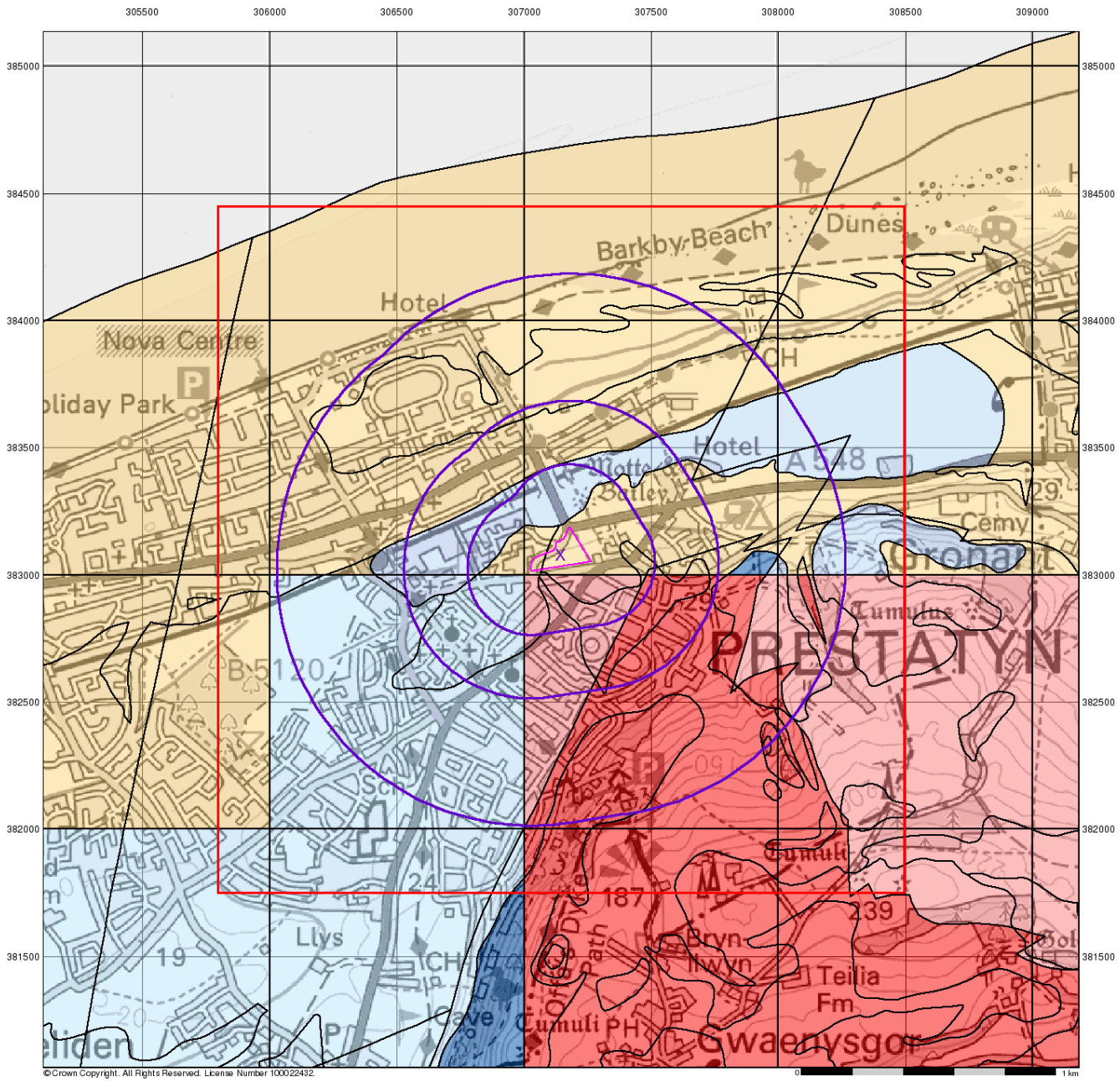
A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Stantec UK Ltd	

Useful Contacts

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Natural Resources Wales** Ty Cambria, 29 Newport Road, Cardiff, CF24 0TP	Telephone: 0300 065 3000 Email: enquiries@naturalresourceswales.gov.uk
3	**Denbighshire County Council - Environmental Health Department** Caledfryn, Smithfield, Denbigh, Denbighshire, LL16 3RJ	Telephone: 01824 706000 Fax: 01824 705026 Website: www.denbighshire.gov.uk
4	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
5	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	**The Coal Authority - Property Searches** 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
7	**Stantec UK Ltd** Caversham Bridge House, Waterman Place, Reading, RG1 8DN	Telephone: 0118 950 0761 Email: pba.reading@stantec.com Website: www.stantec.com
8	**PointX** 5-6 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
9	**The National Assembly for Wales - GI Services (Department of Planning & Countryside)** Yr Hen Ysgol Gymraeg, Alexandria Road, Aberystwyth, Ceredigion, SY23 1LD	Telephone: 02920 825111 Website: www.wales.gov.uk
10	**Denbighshire County Council** Council Offices, Wynnstay Road, Ruthin, Clwyd, LL15 1YN	Telephone: 01824 706000 Fax: 01824 705026 Website: www.denbighshire.gov.uk
11	**Natural England** County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.



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Groundwater Vulnerability

General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

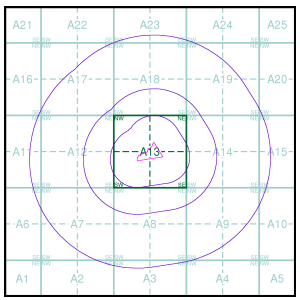
Agency and Hydrological

Bedrock Aquifers	Superficial Aquifers
High Vulnerability, Principal Aquifer	High Vulnerability, Principal Aquifer
High Vulnerability, Secondary Aquifer	High Vulnerability, Secondary Aquifer
Medium Vulnerability, Principal Aquifer	Medium Vulnerability, Principal Aquifer
Medium Vulnerability, Secondary Aquifer	Medium Vulnerability, Secondary Aquifer
Low Vulnerability, Principal Aquifer	Low Vulnerability, Principal Aquifer
Low Vulnerability, Secondary Aquifer	Low Vulnerability, Secondary Aquifer

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

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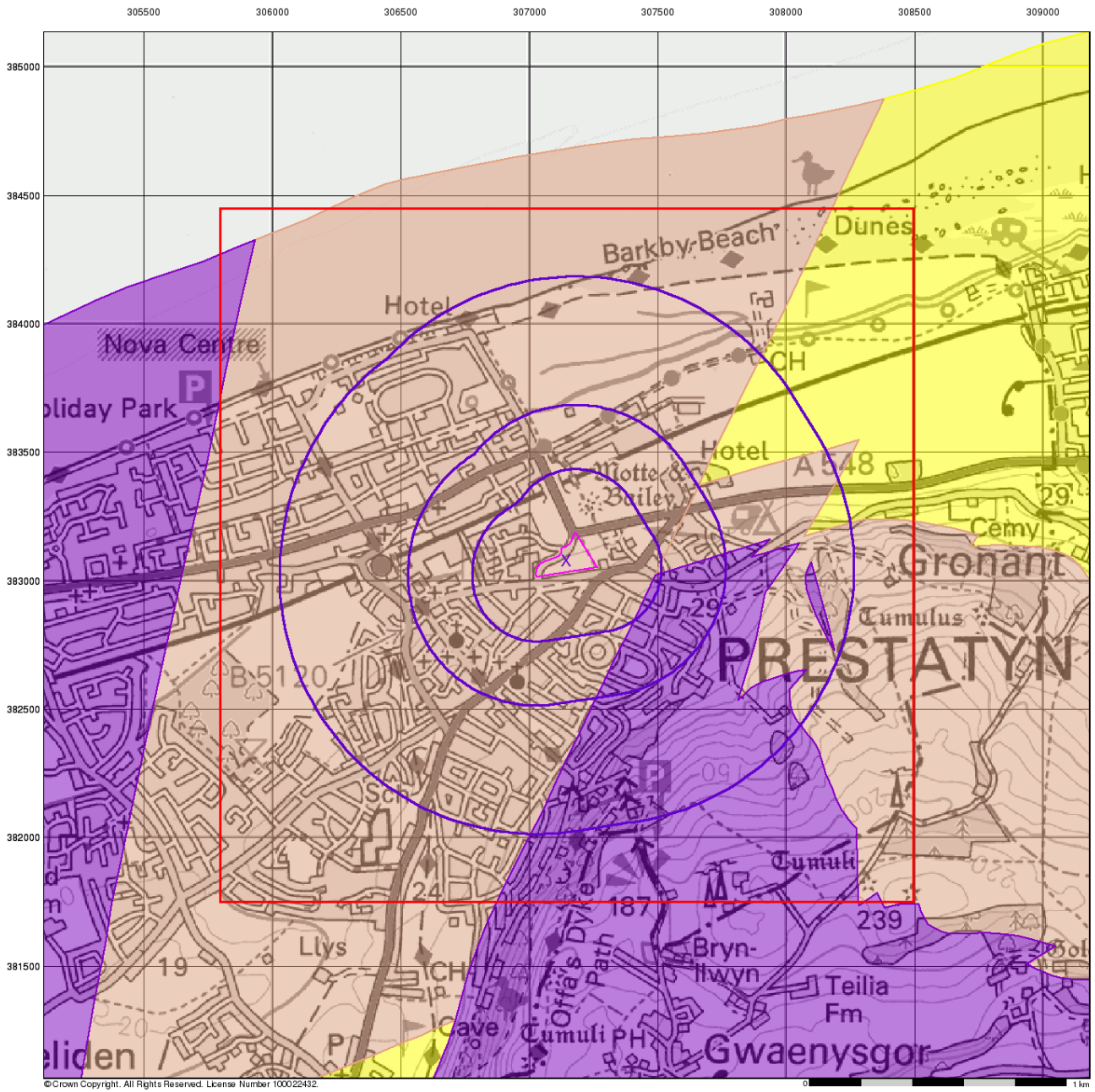

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Bedrock Aquifer Designation

General

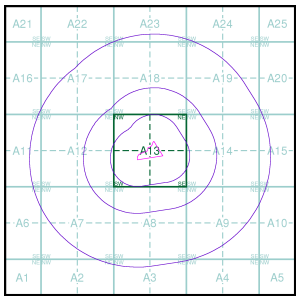
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



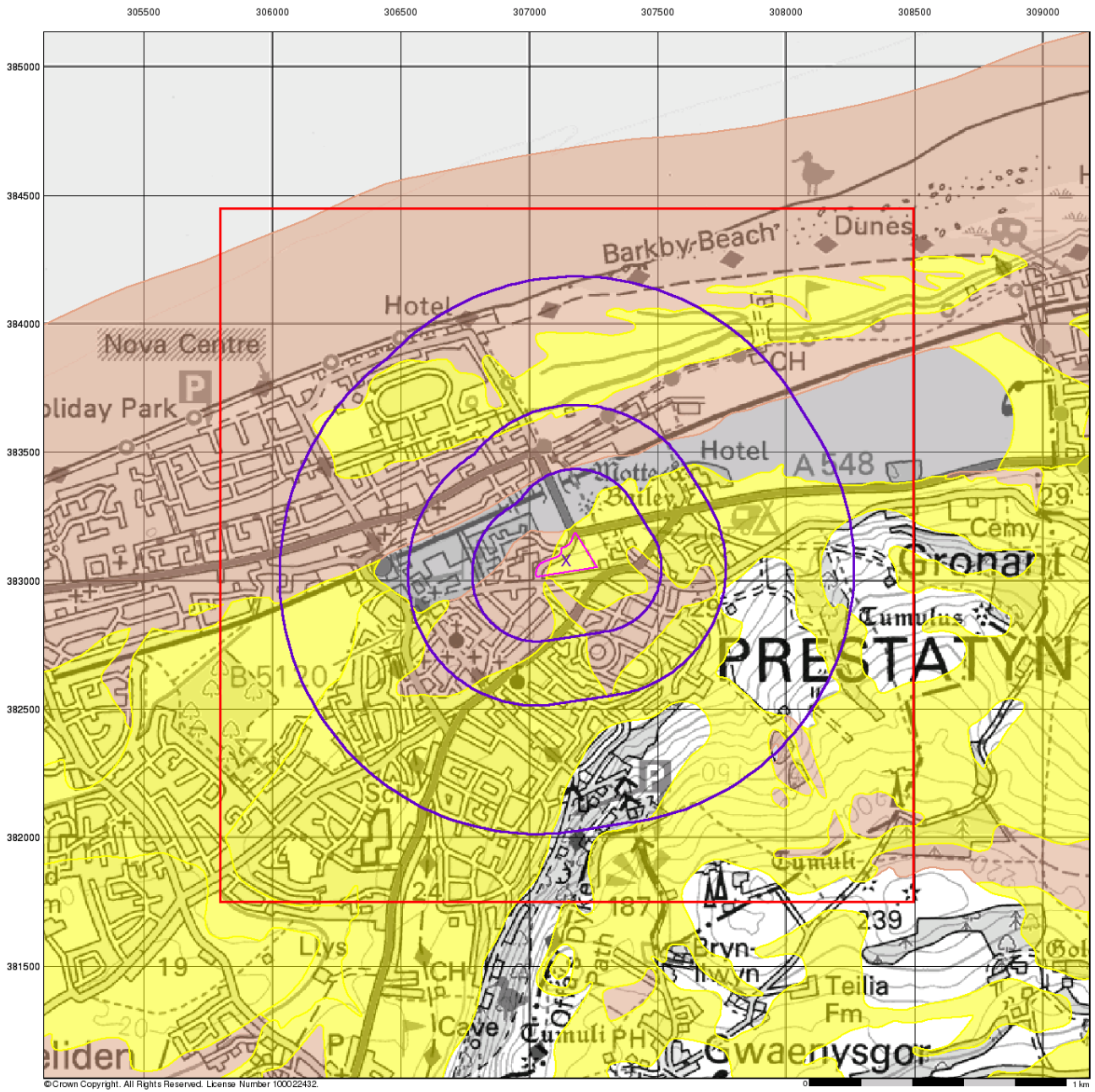
Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

Landmark® INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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Superficial Aquifer Designation

General

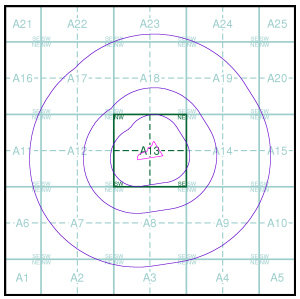
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

Landmark® INFORMATION GROUP

Tel: 0844 844 9952
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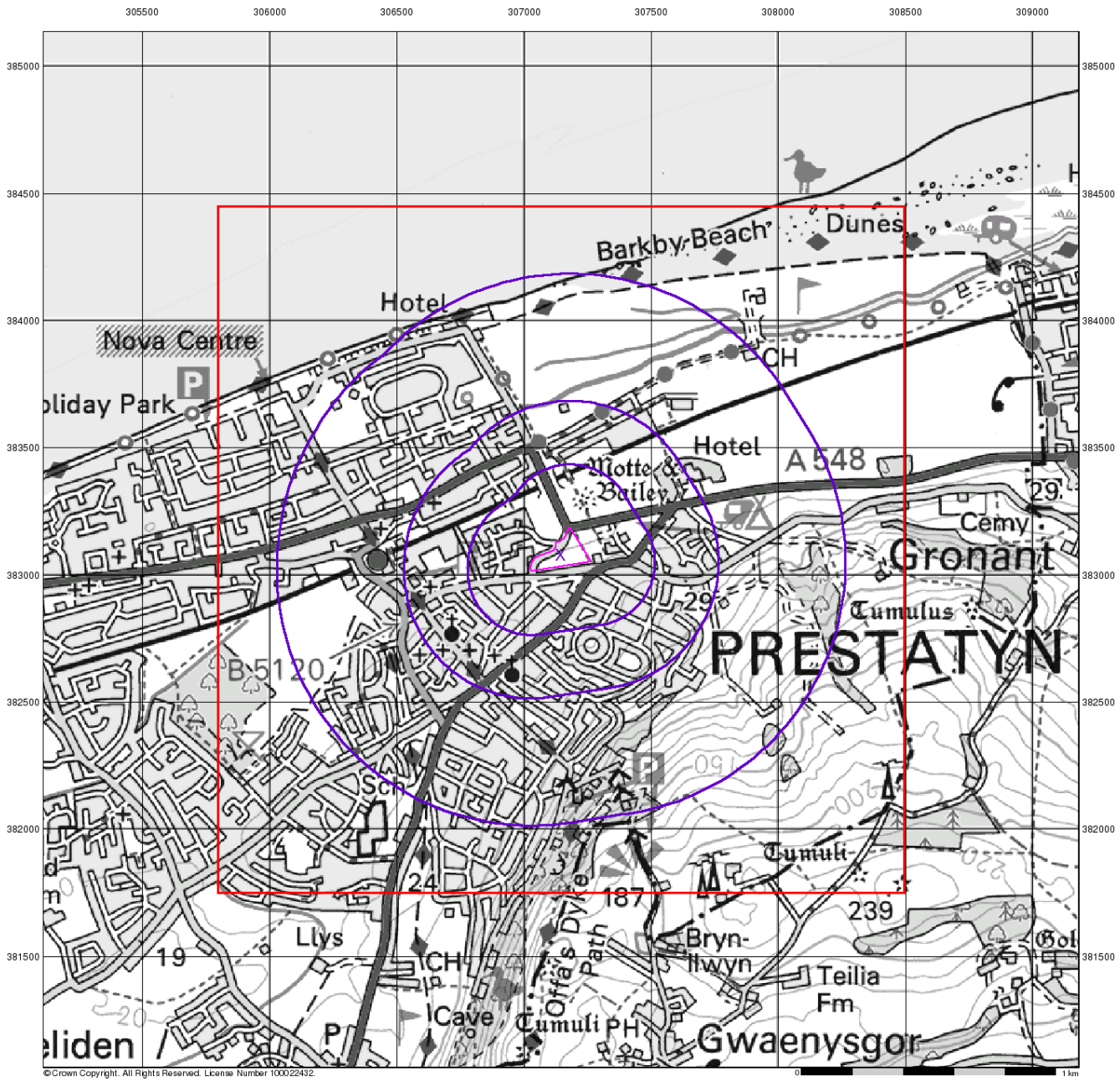

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Source Protection Zones

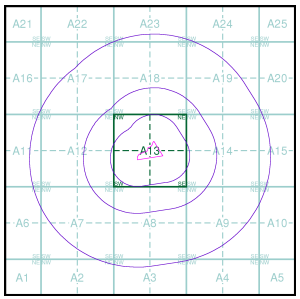
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

Site Sensitivity Context Map - Slice A



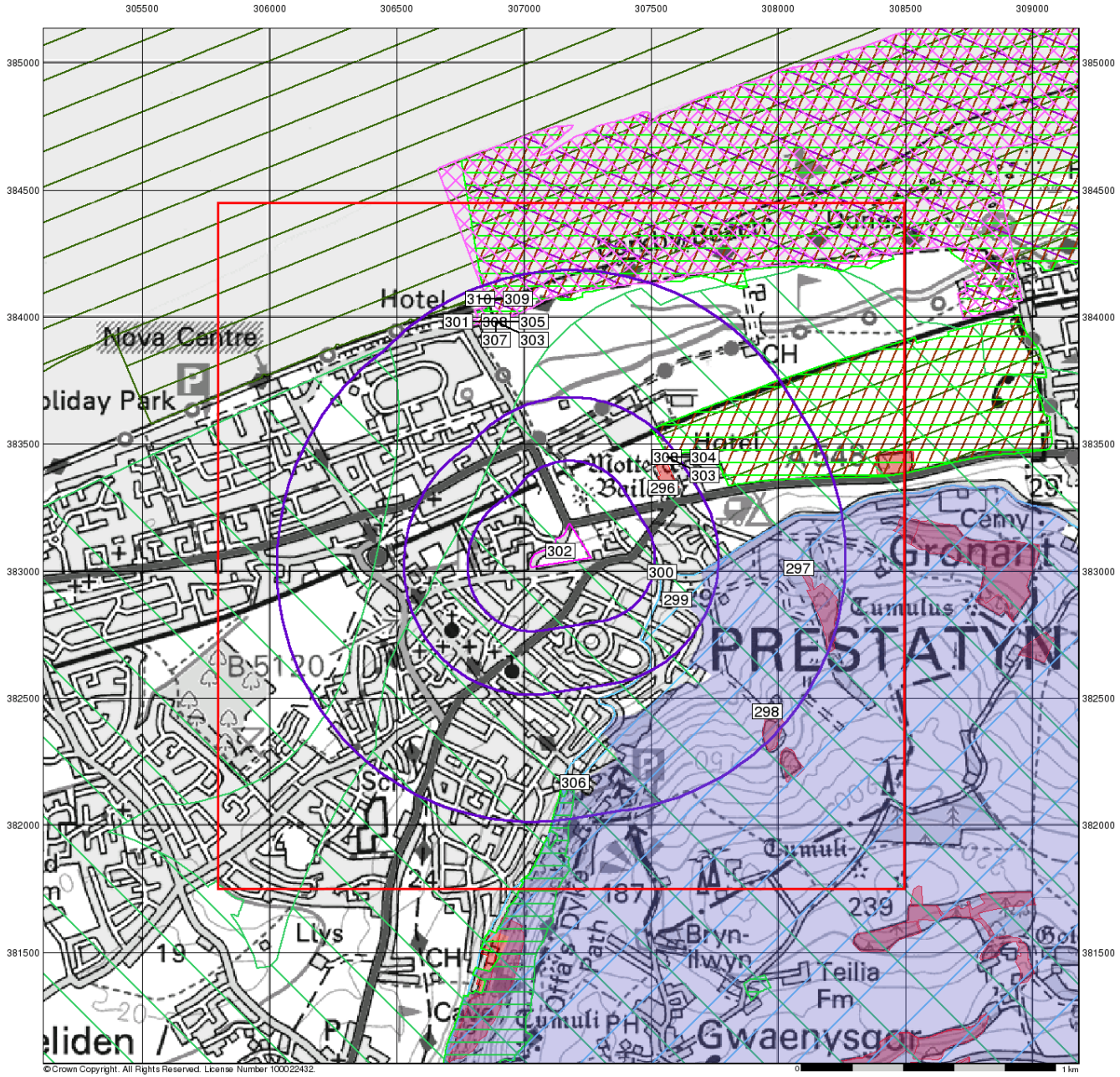
Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

Landmark® INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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Sensitive Land Uses

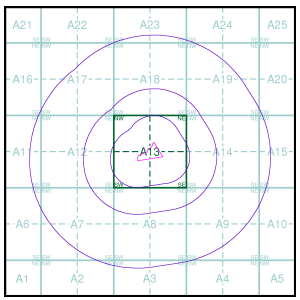
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

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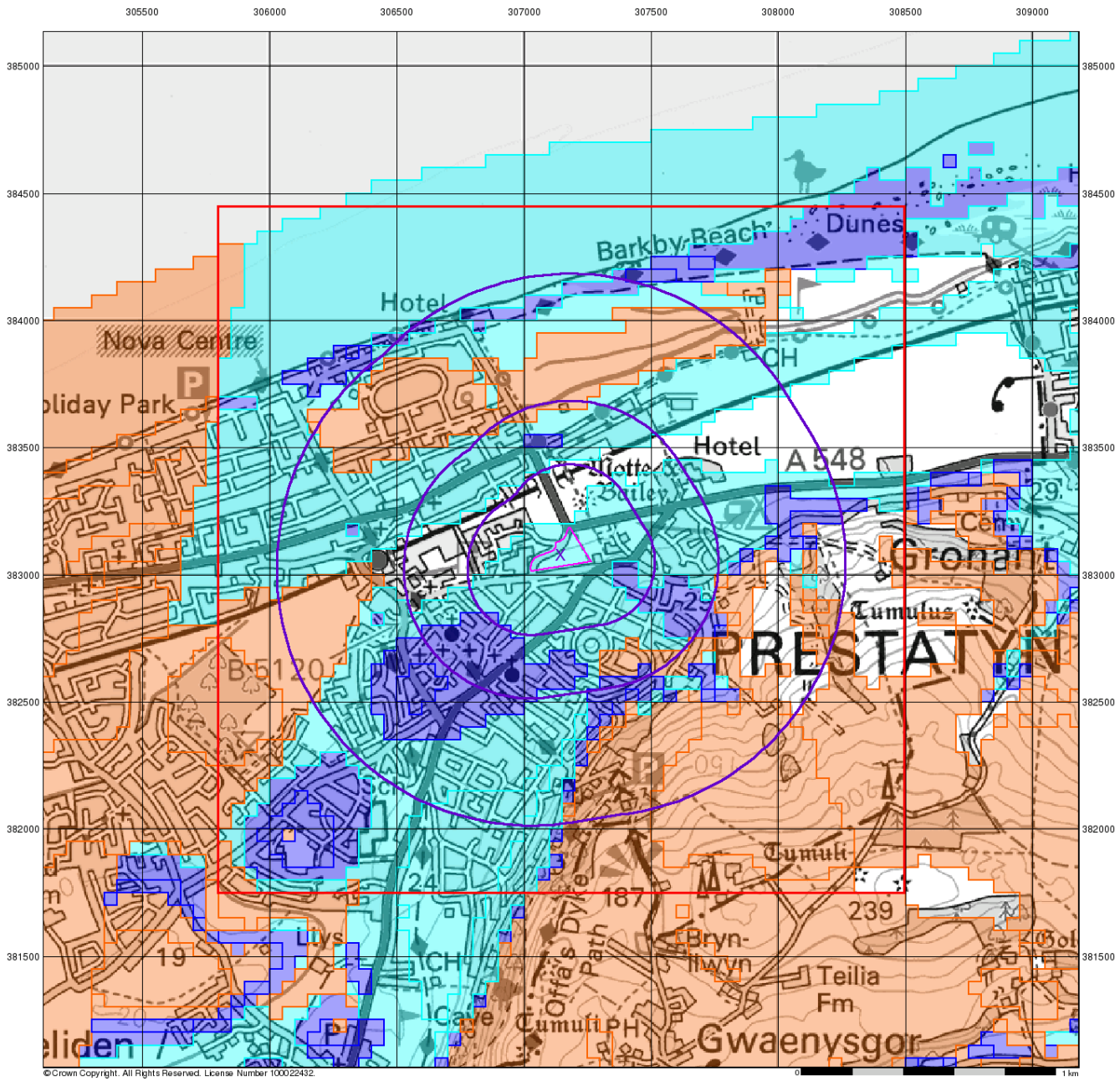

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BGS Flood GFS Data

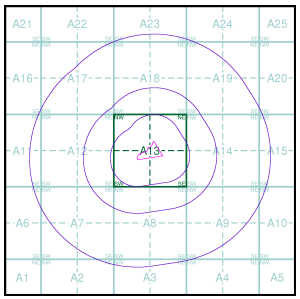
General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

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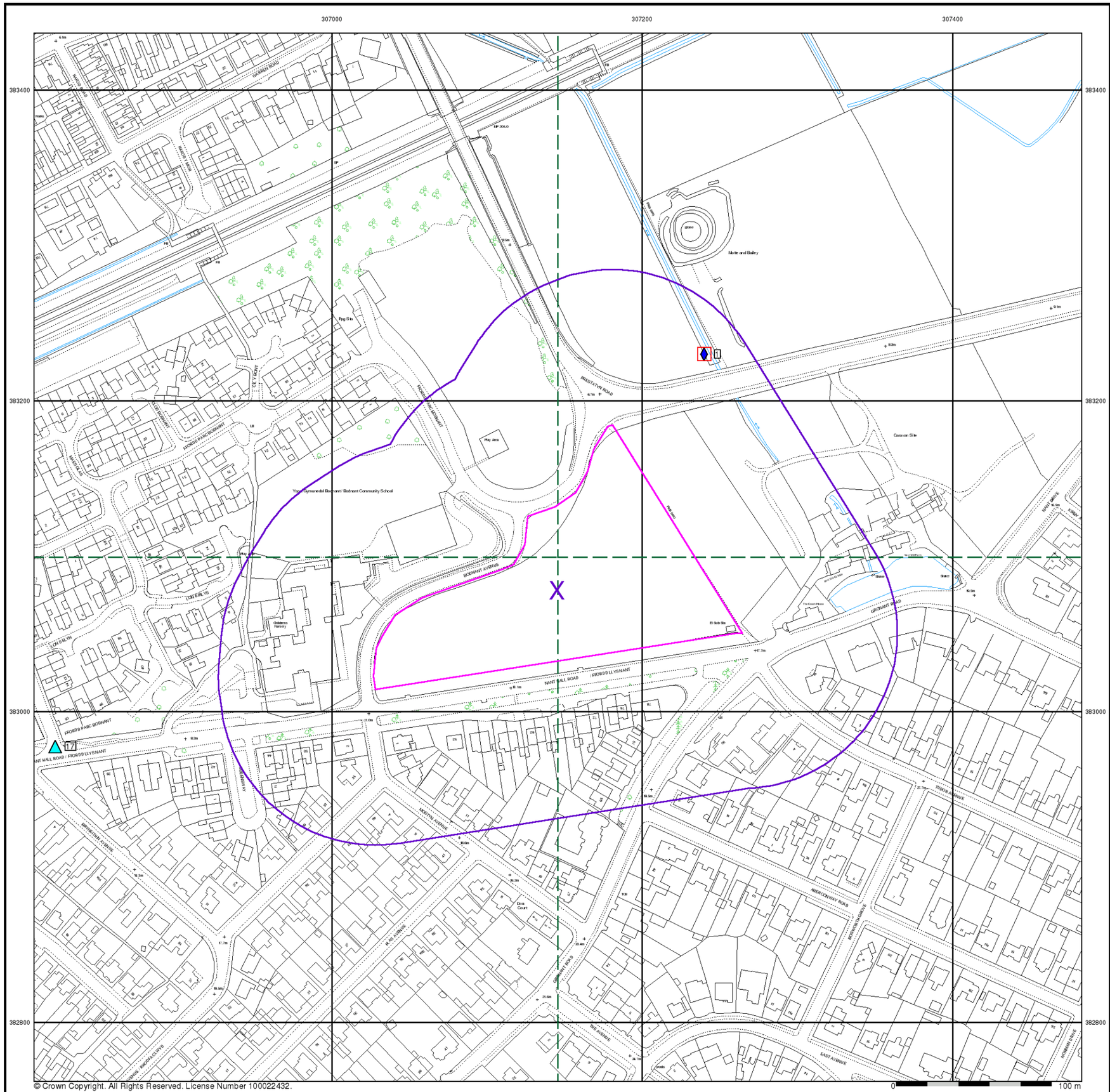

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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location
- Pylon
- Overhead Transmission Line

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

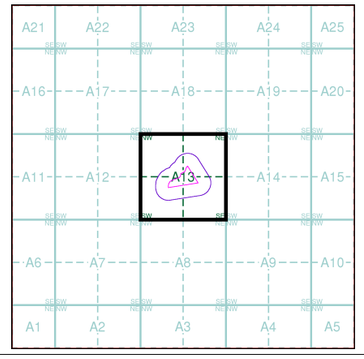
Geological

- BGS Recorded Mineral Site

Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Segment A13



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Plot Buffer (m):	100

Site Details

Site at 307190, 383090

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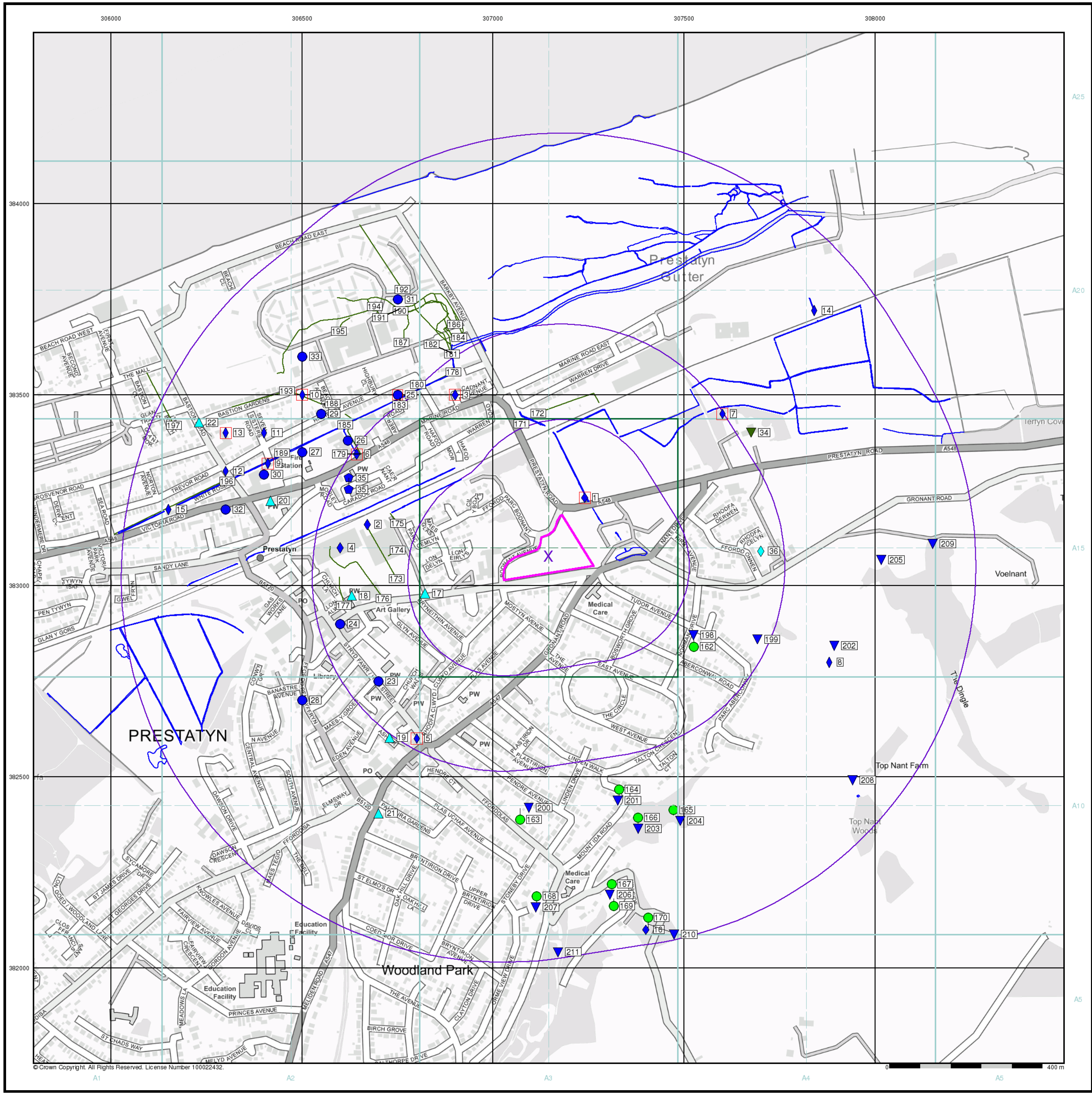

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General

Specified Site
Specified Buffer(s)
Bearing Reference Point
Map ID
Several of Type at Location

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

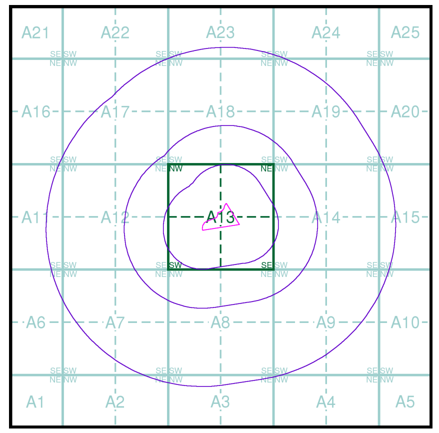
Geological

- BGS Recorded Mineral Site

Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Slice A



N

Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

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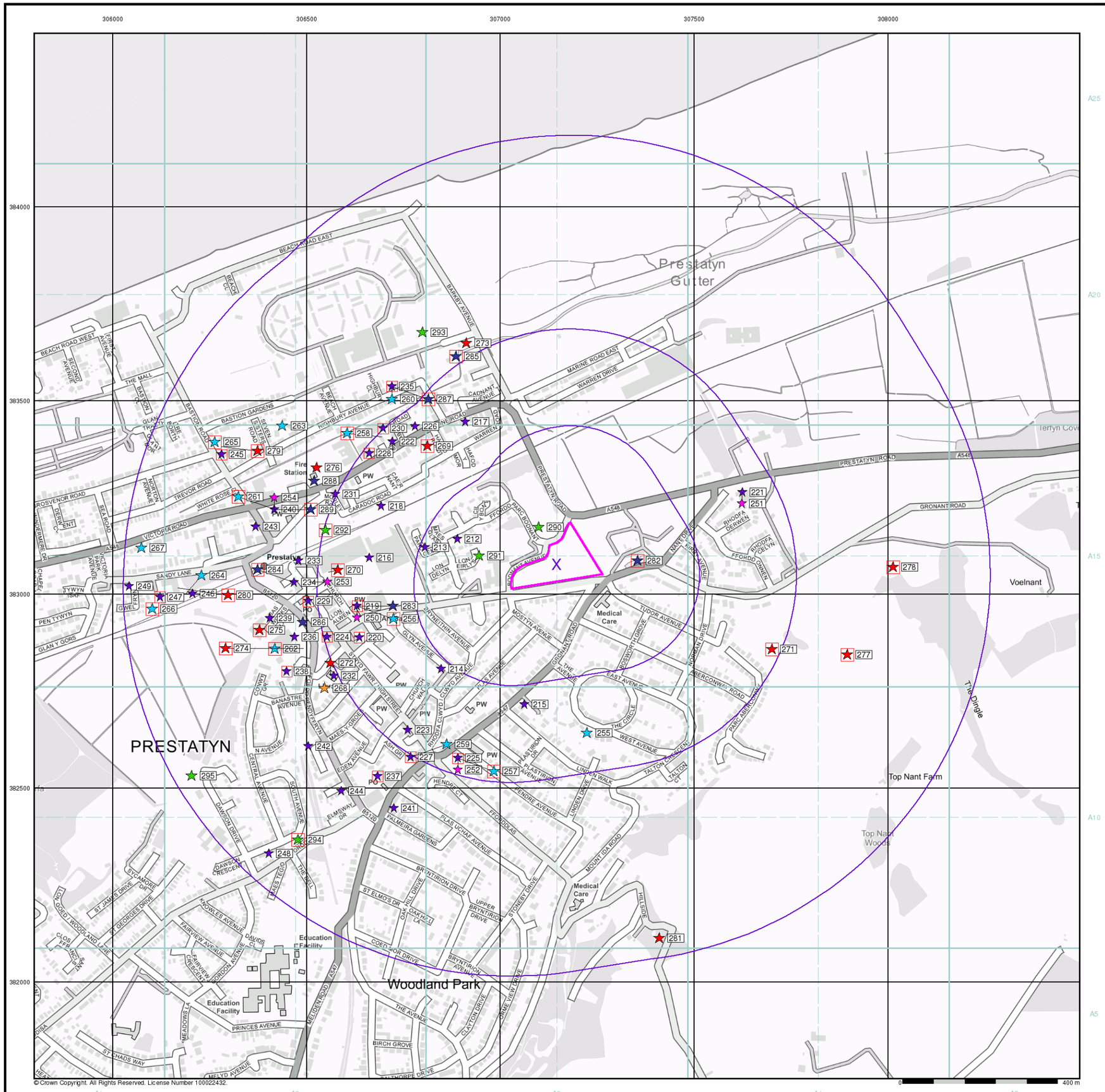

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Industrial Land Use Map

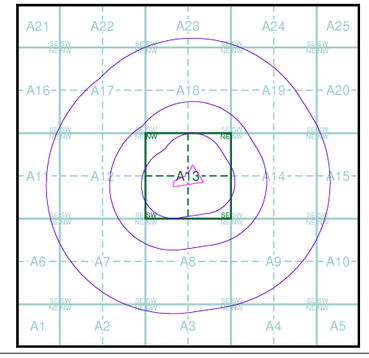
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Points of Interest - Commercial Services
- Points of Interest - Education and Health
- Points of Interest - Manufacturing and Production
- Points of Interest - Public Infrastructure
- Points of Interest - Recreational and Environmental
- Underground Electrical Cables

Industrial Land Use Map - Slice A



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

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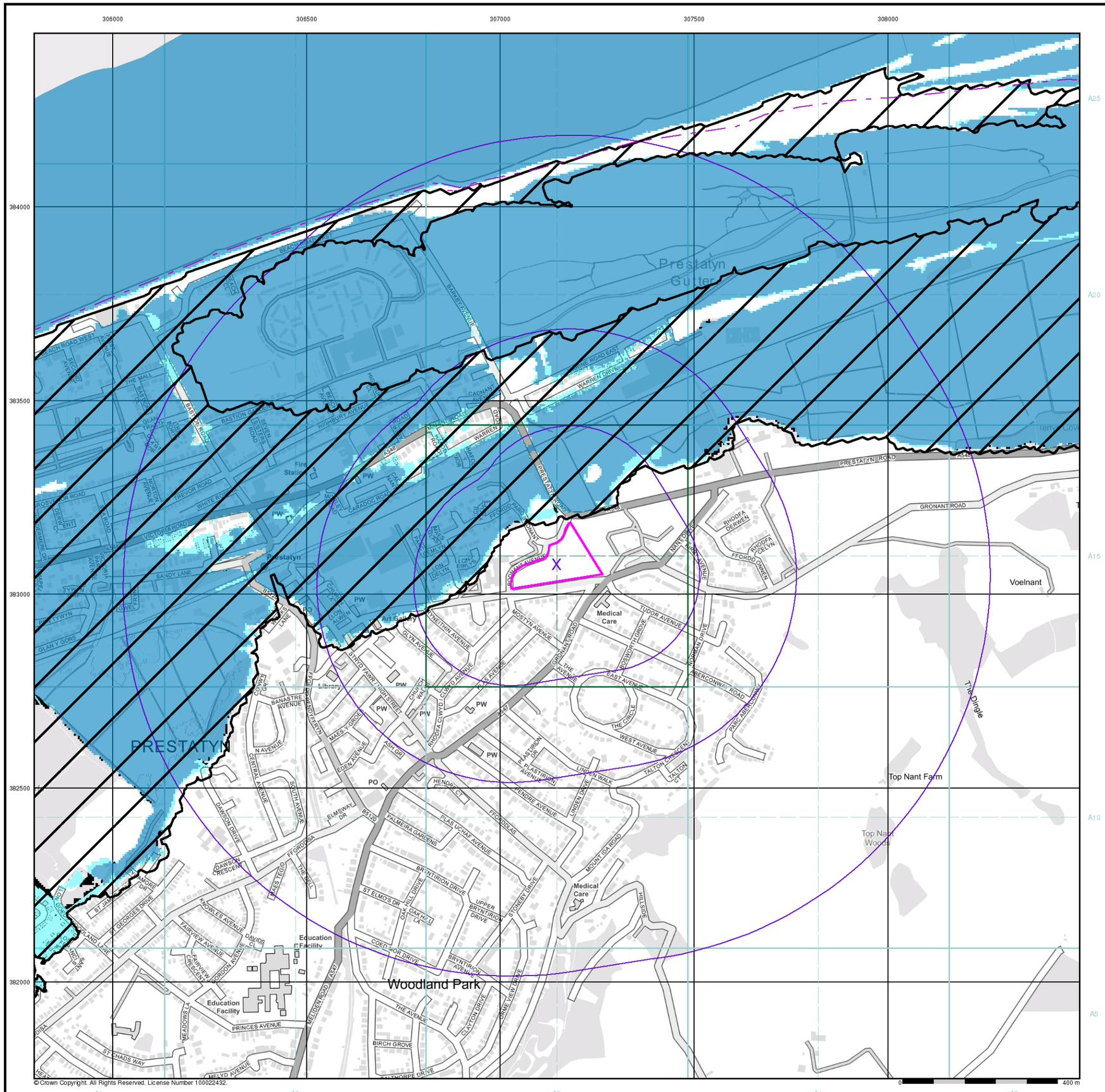

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LANDMARK INFORMATION GROUP®

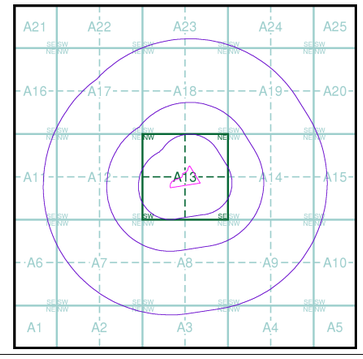
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Flood Map - Slice A



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

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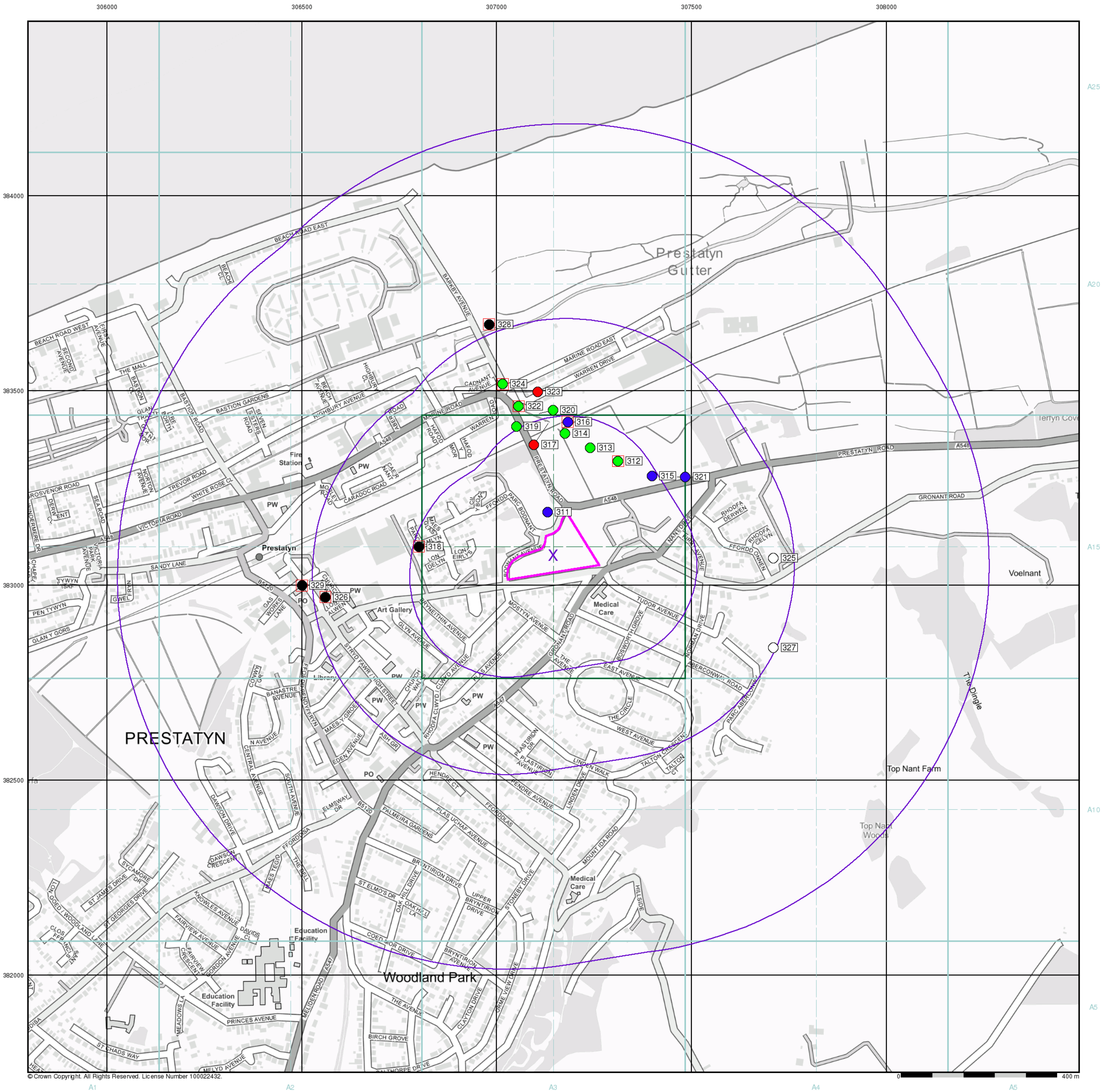

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LANDMARK INFORMATION GROUP®

General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- 8 Map ID
- Several of Type at Location

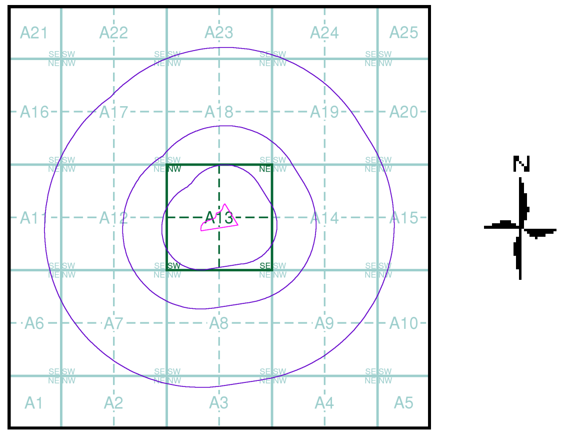
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A

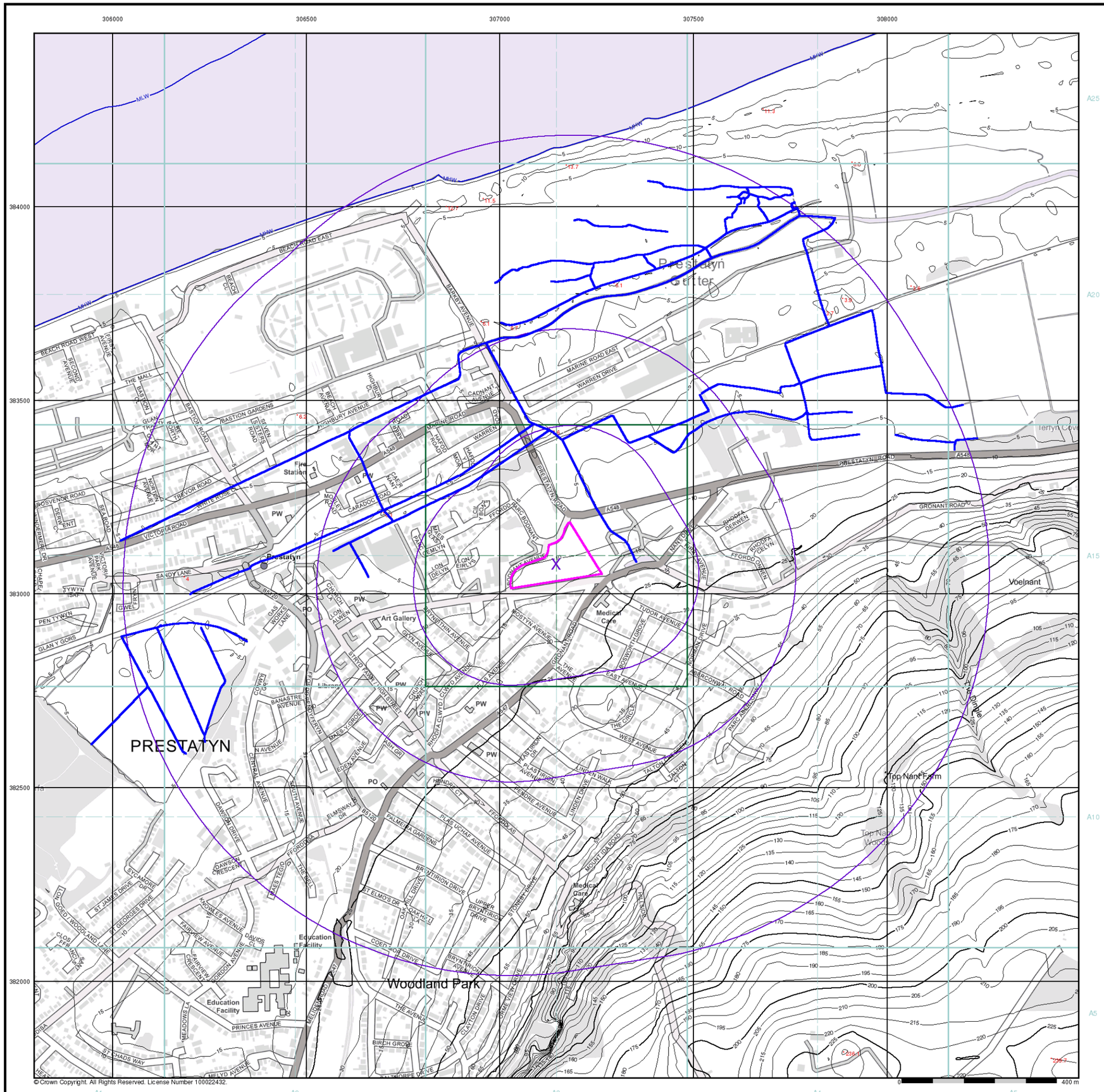


Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090



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LANDMARK INFORMATION GROUP®

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

OS Water Network Data

- Canal
- Reservoir
- Foreshore
- Marsh
- Tidal River
- Inland River
- Drain
- Other
- Lake
- Transfer
- Lock Or Flight Of Locks
- Sea

Contours (height in meters)

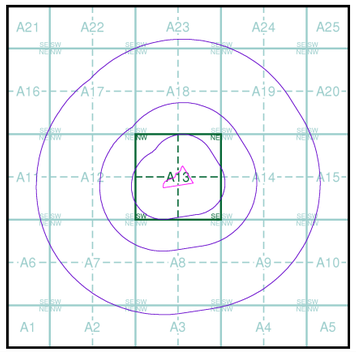
Standard Contour 105 100 95

Master Contour

Spot Height 167.3

- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

Landmark INFORMATION GROUP

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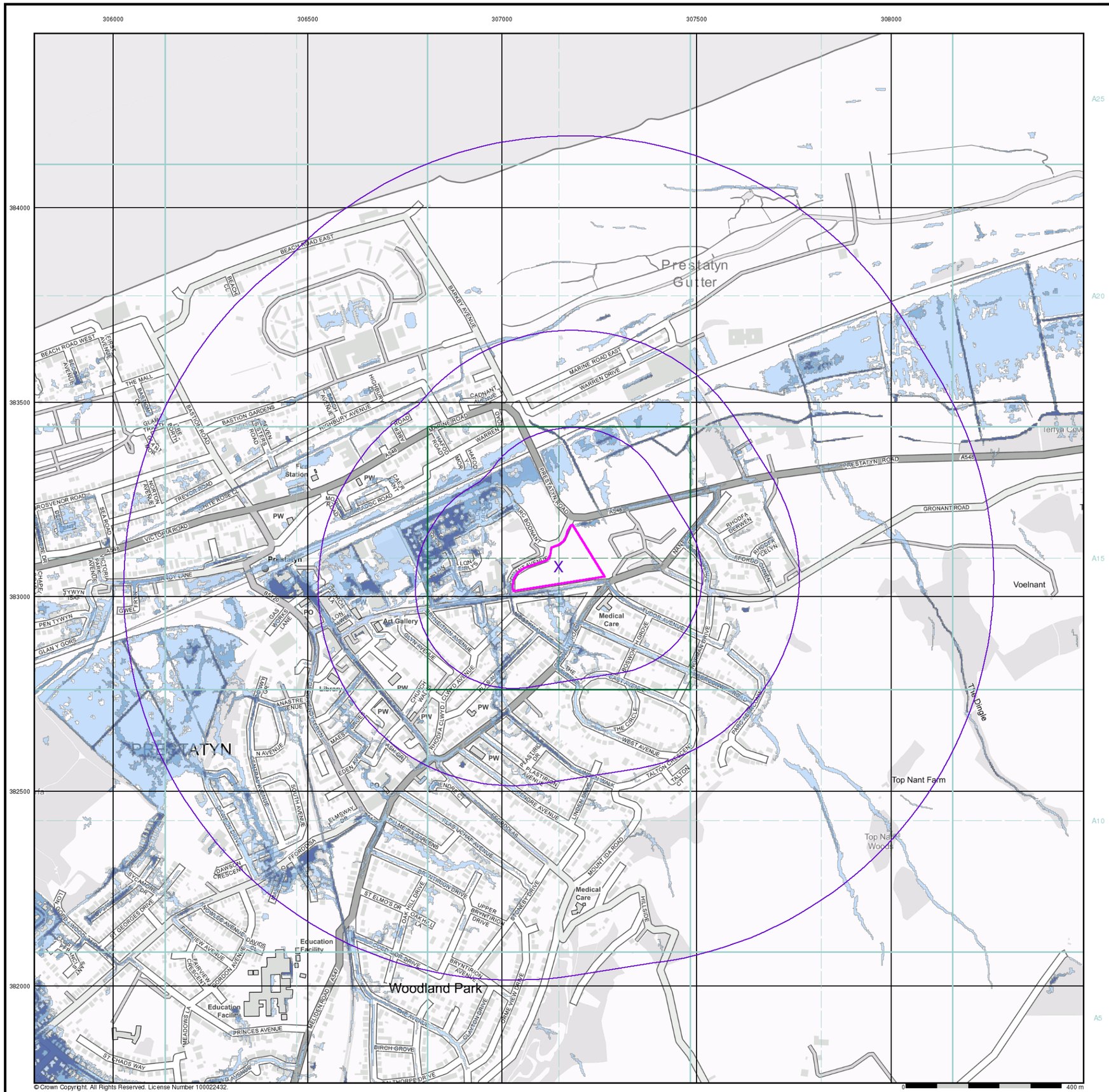
Web: www.envirocheck.co.uk



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LANDMARK INFORMATION GROUP®

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Risk of Flooding from Surface Water

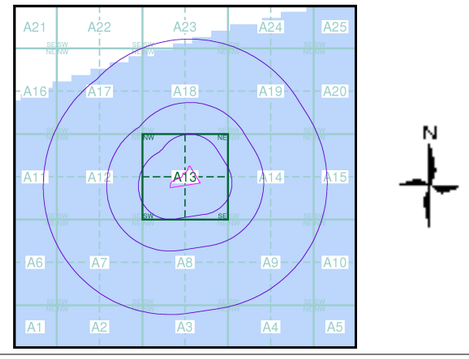
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

- National to county
- County to town
- Town to street
- Street to parcels of land
- Property

EA/NRW Suitability Map - Slice A



Order Details

Order Number:	354776573_1_1
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National Grid Reference:	307150, 383080
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Site Details

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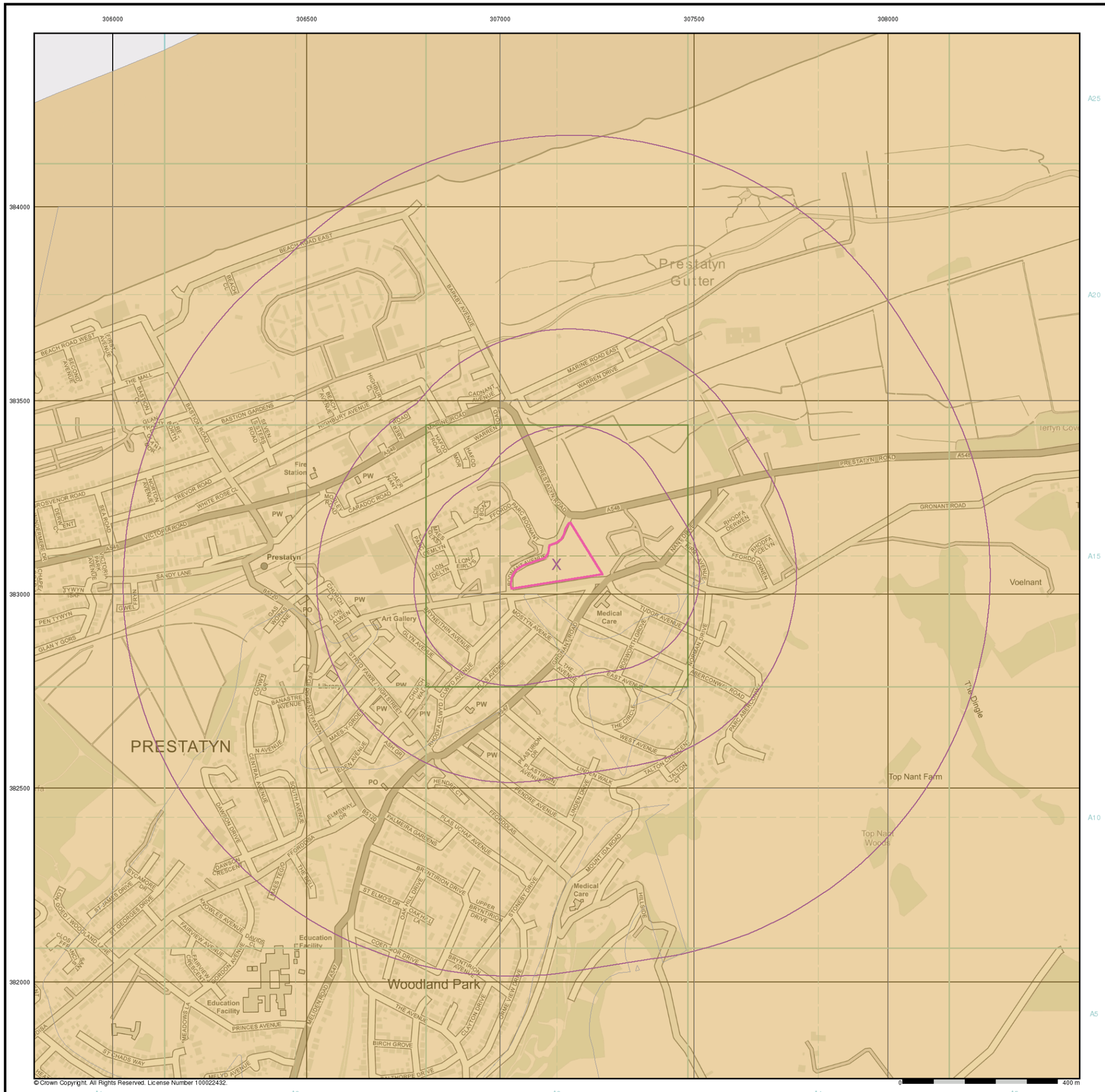

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LANDMARK INFORMATION GROUP®

General

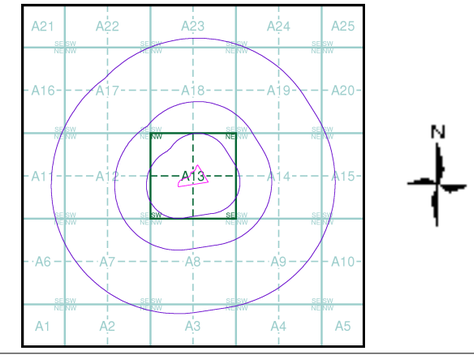
Specified Site Specified Buffer(s) X Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg

- < 15
- 15 - 25
- 25 - 35
- 35 - 45
- 45 - 60
- 60 - 120
- > 120

Estimated Soil Chemistry Arsenic - Slice A



Order Details

Order Details:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

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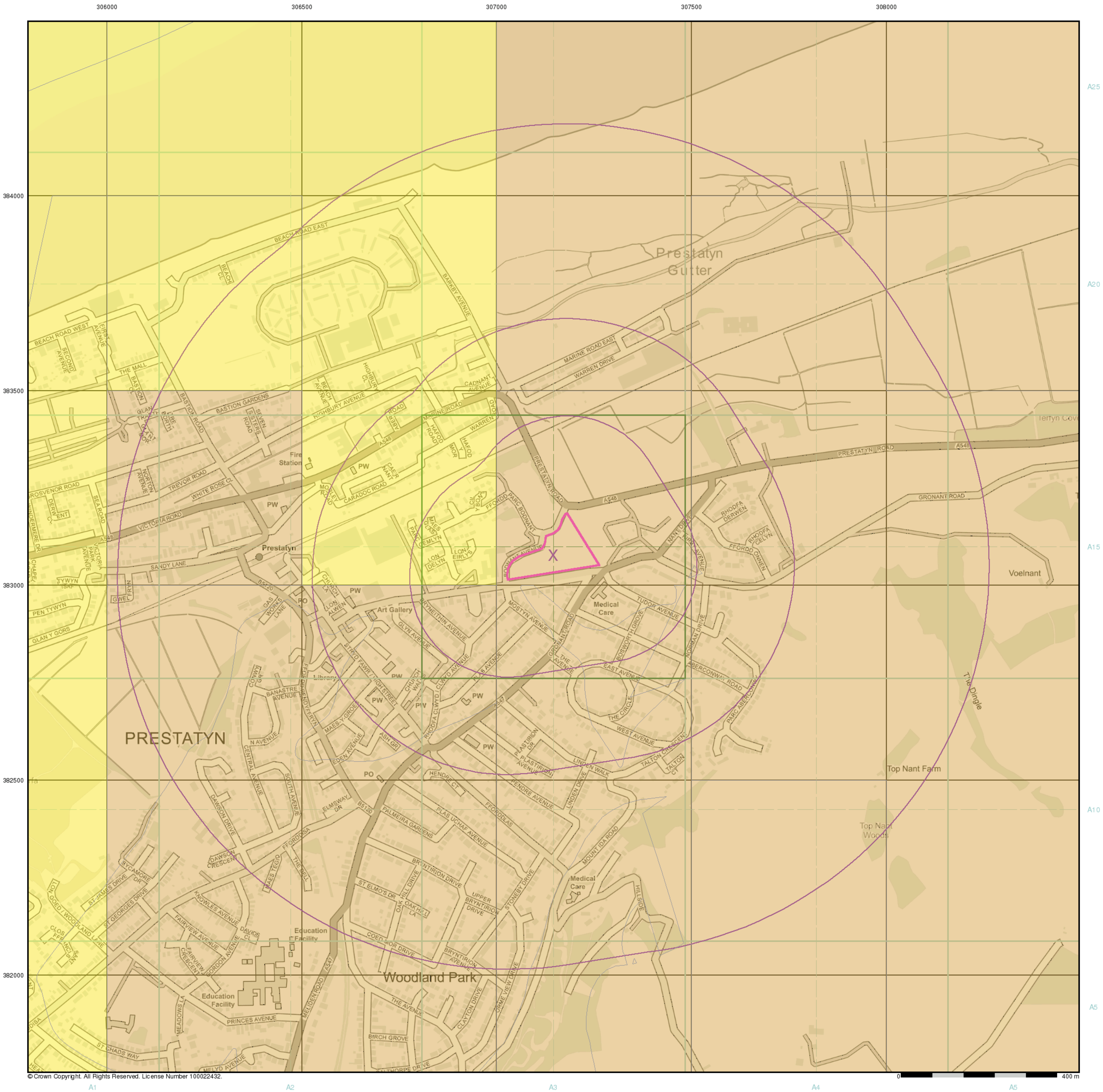

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LANDMARK INFORMATION GROUP®

General

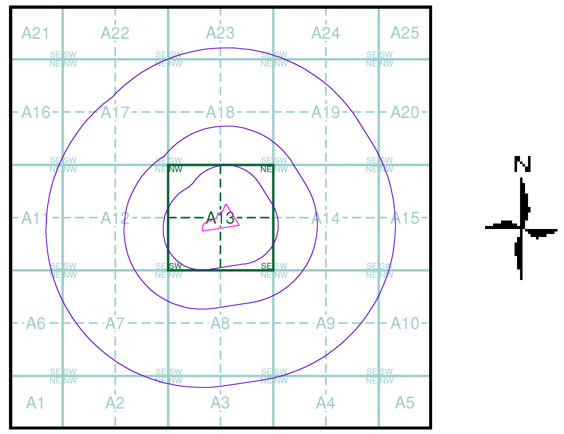
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg

- < 1.8
- 1.8 - 2.2
- 2.2 - 3.0
- > 3.0

Estimated Soil Chemistry Cadmium - Slice A



Order Details

Order Details:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

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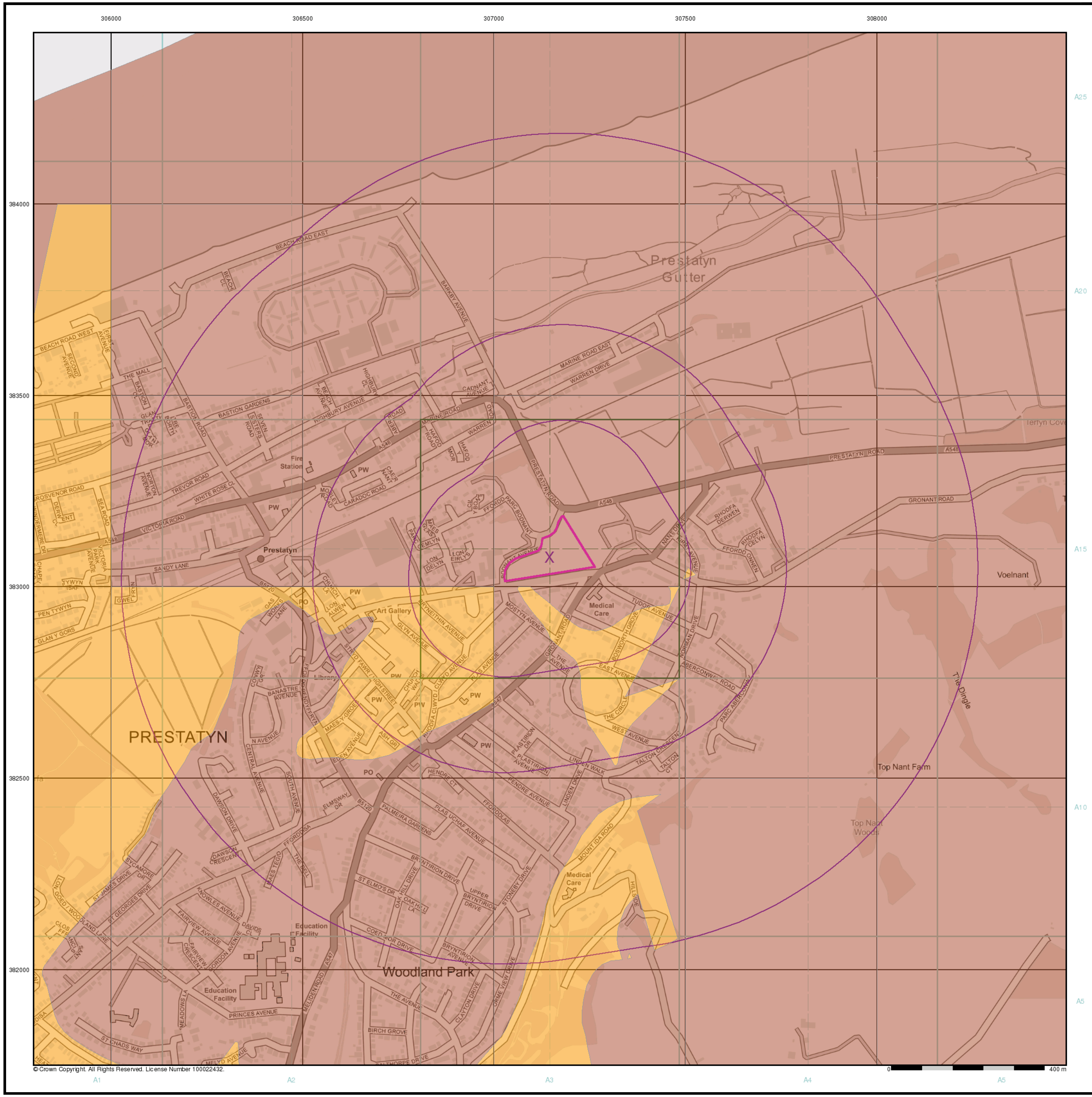
Web: www.envirocheck.co.uk



Envirocheck®

LANDMARK INFORMATION GROUP®

General

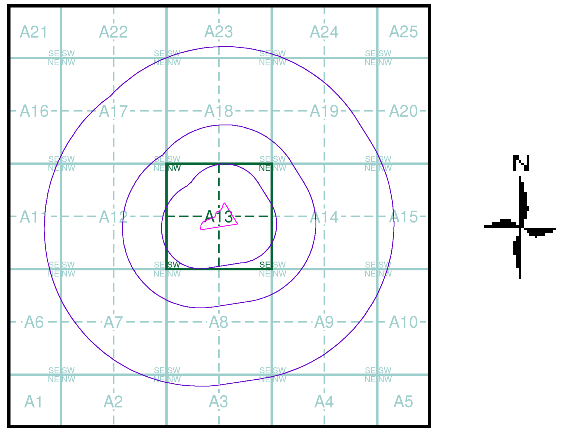
Specified Site   Specified Buffer(s)   X Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg

- < 20
- 20 - 40
- 40 - 60
- 60 - 90
- 90 - 120
- 120 - 180
- > 180

Estimated Soil Chemistry Chromium - Slice A



Order Details

Order Details: 354776573_1_1
Customer Ref: 18098
National Grid Reference: 307150, 383080
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Site at 307190, 383090

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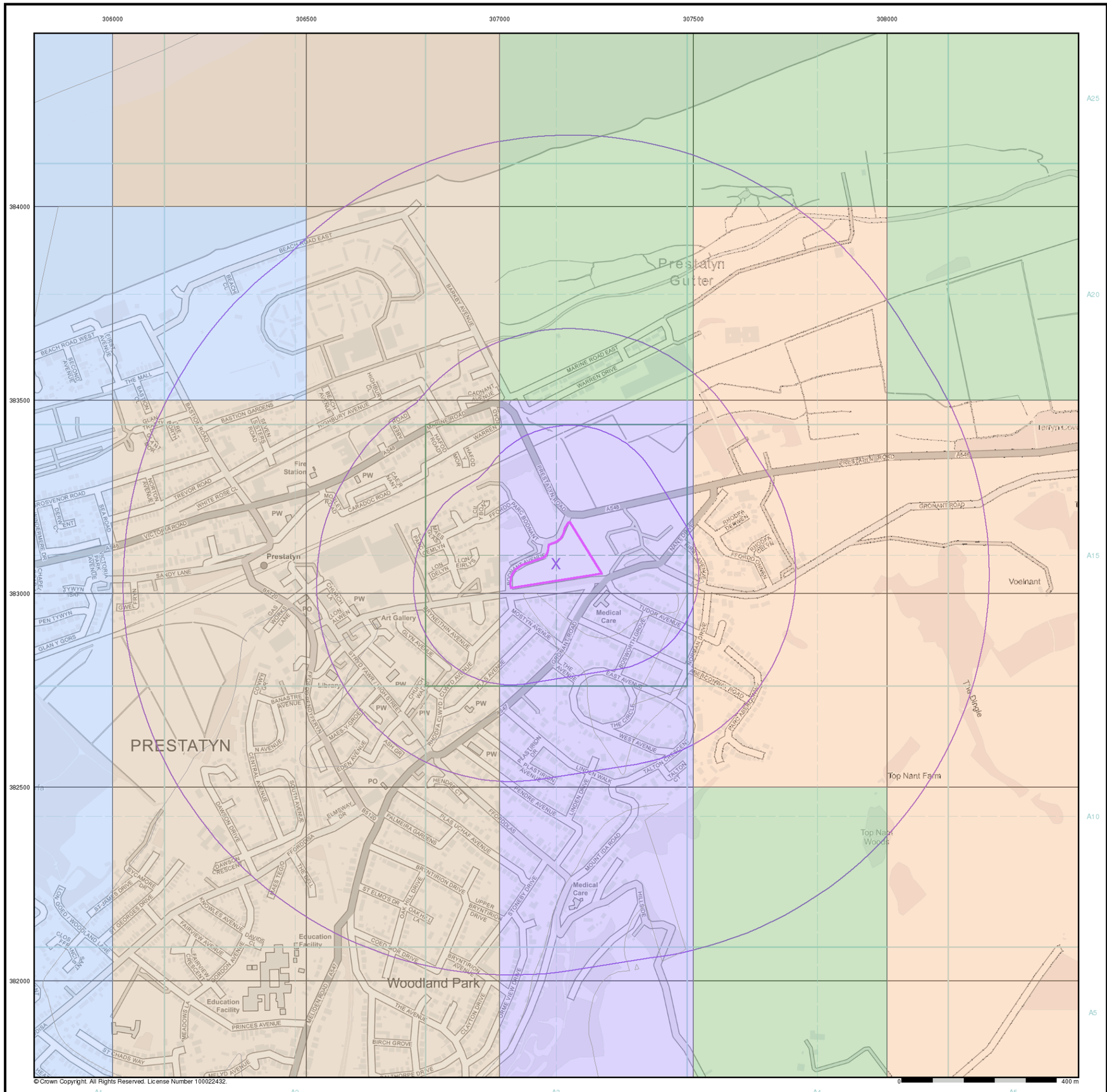

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0 400 m

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LANDMARK INFORMATION GROUP®

General

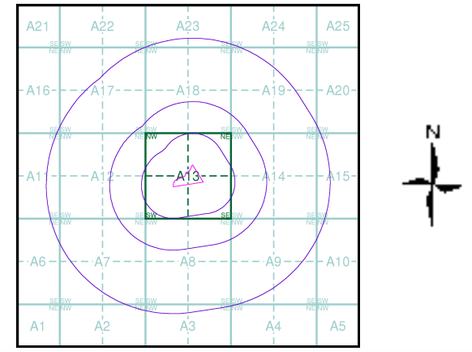
Specified Site Specified Buffer(s) X Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg

- <100 mg/kg
- 100 - 200
- 200 - 300
- 300 - 600
- 600 - 1200
- >1200

Estimated Soil Chemistry Lead - Slice A



Order Details

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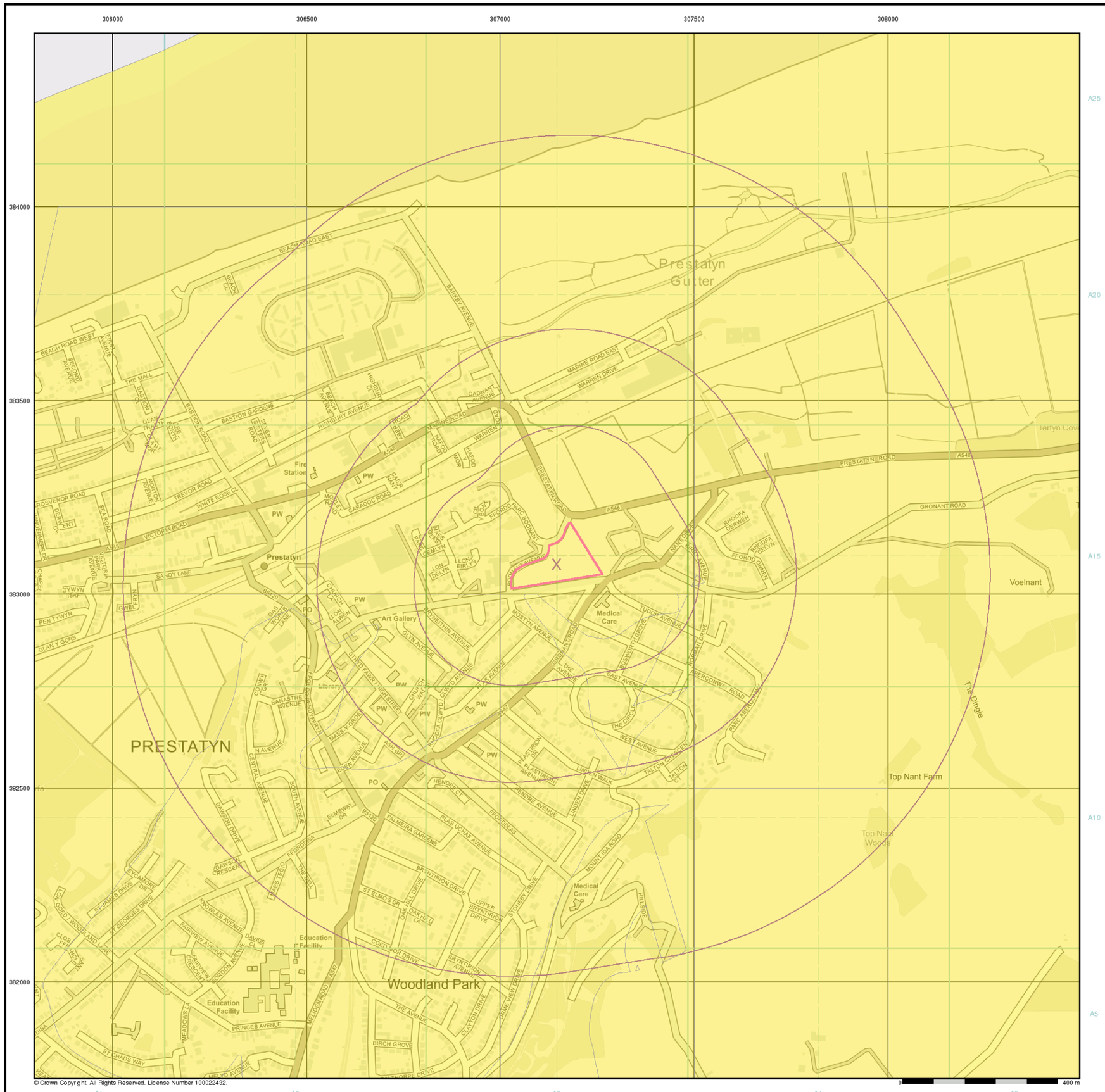


Envirocheck®

LANDMARK INFORMATION GROUP®

General

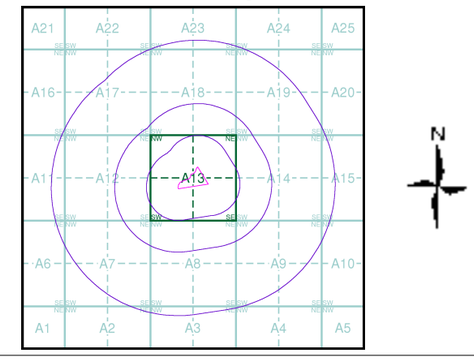
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg

- < 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 80
- 80 - 100
- > 100

Estimated Soil Chemistry Nickel - Slice A



Order Details

Order Details:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

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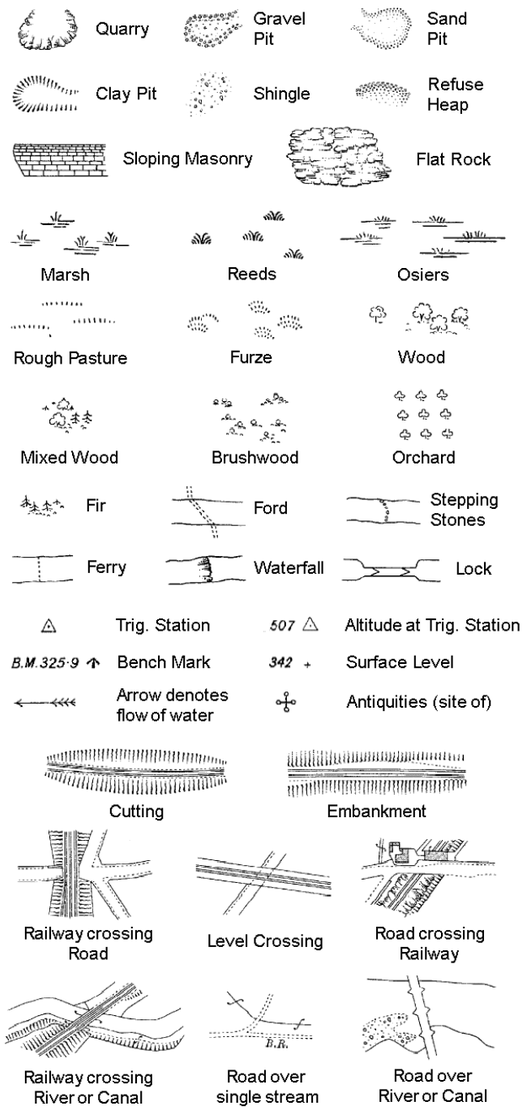
Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



County Boundary (Geographical)

County & Civil Parish Boundary

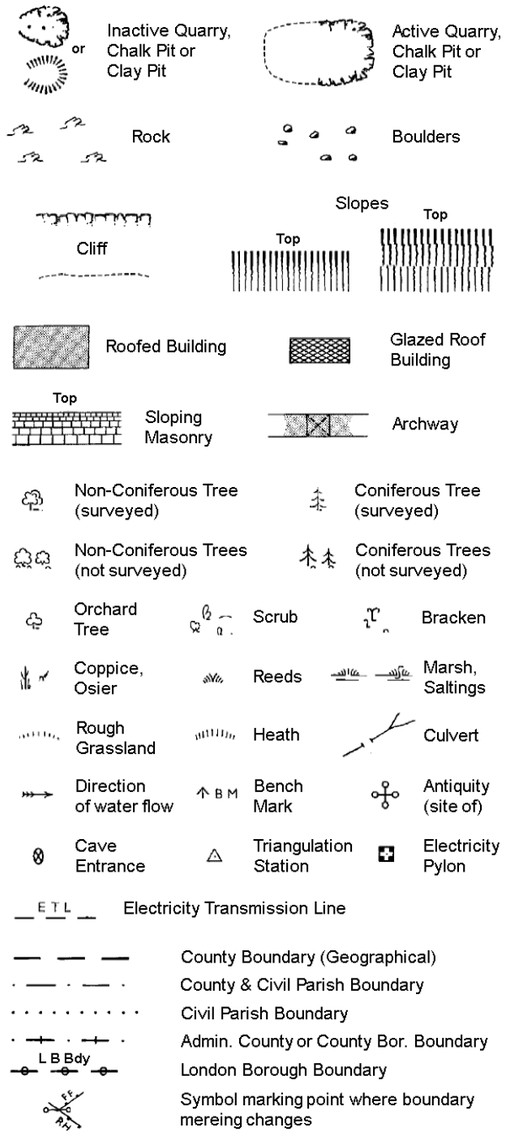
Administrative County & Civil Parish Boundary

County Borough Boundary (England) — Co. Boro. Bdy.

County Burgh Boundary (Scotland) — Co. Burgh Bdy.

B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



County Boundary (Geographical)

County & Civil Parish Boundary

Civil Parish Boundary

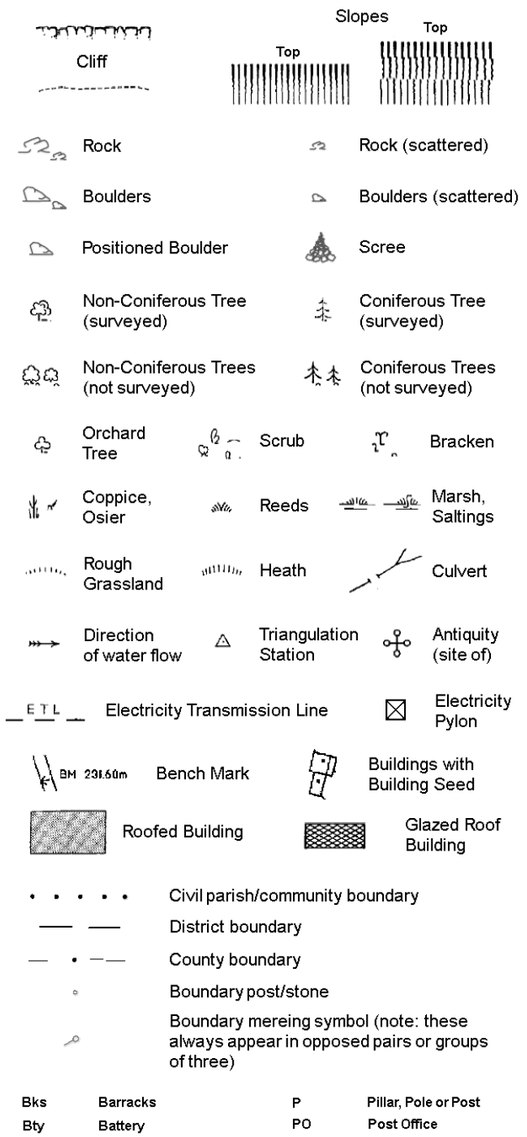
Admin. County or County Bor. Boundary

L B Bdy — London Borough Boundary

Symbol marking point where boundary mereing changes

BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

Large-Scale National Grid Data 1:2,500 and 1:1,250



Civil parish/community boundary

District boundary

County boundary

Boundary post/stone

Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

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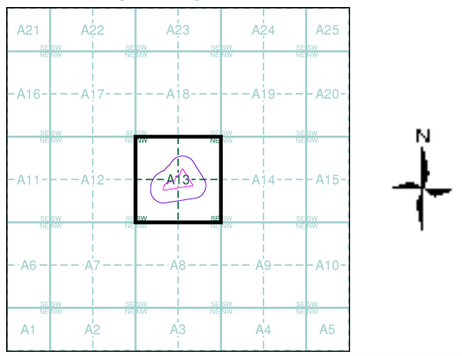
Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Flintshire	1:2,500	1872	2
Flintshire	1:2,500	1899	3
Flintshire	1:2,500	1912	4
Ordnance Survey Plan	1:1,250	1962	5
Additional SIMs	1:1,250	1962 - 1990	6
Ordnance Survey Plan	1:2,500	1963 - 1964	7
Ordnance Survey Plan	1:1,250	1968 - 1973	8
Additional SIMs	1:1,250	1988 - 1990	9
Additional SIMs	1:1,250	1990	10
Large-Scale National Grid Data	1:1,250	1993	11
Large-Scale National Grid Data	1:1,250	1994	12
Large-Scale National Grid Data	1:1,250	1994	13
Large-Scale National Grid Data	1:1,250	1995	14
Large-Scale National Grid Data	1:1,250	1995	15
Historical Aerial Photography	1:2,500	2001	16

Historical Map - Segment A13



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	100

Site Details

Site at 307190, 383090

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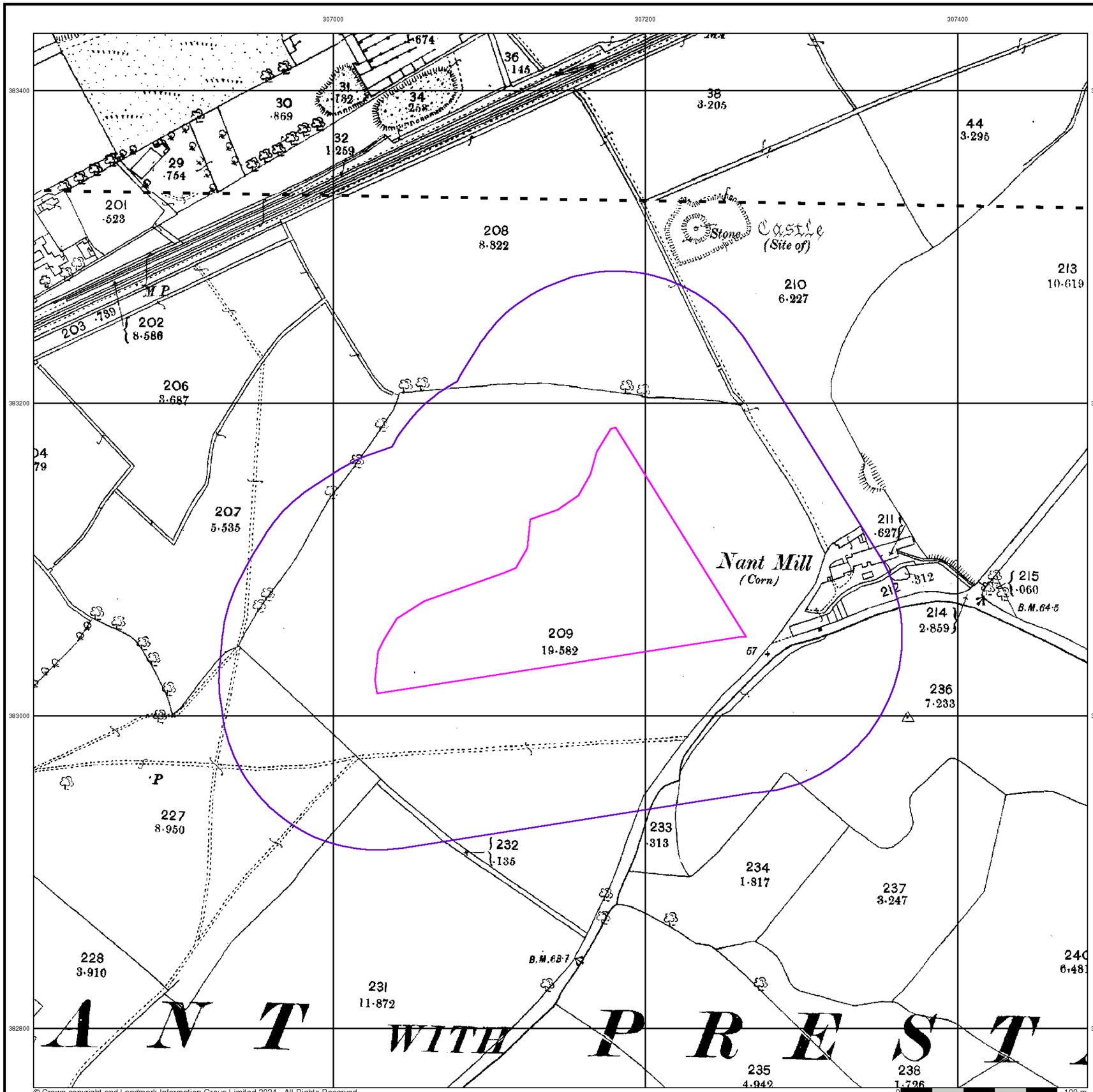

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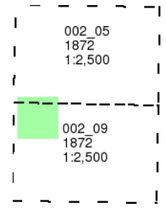
Flintshire

Published 1872

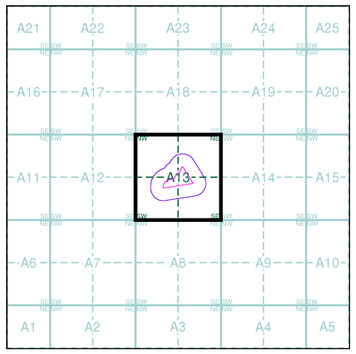
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

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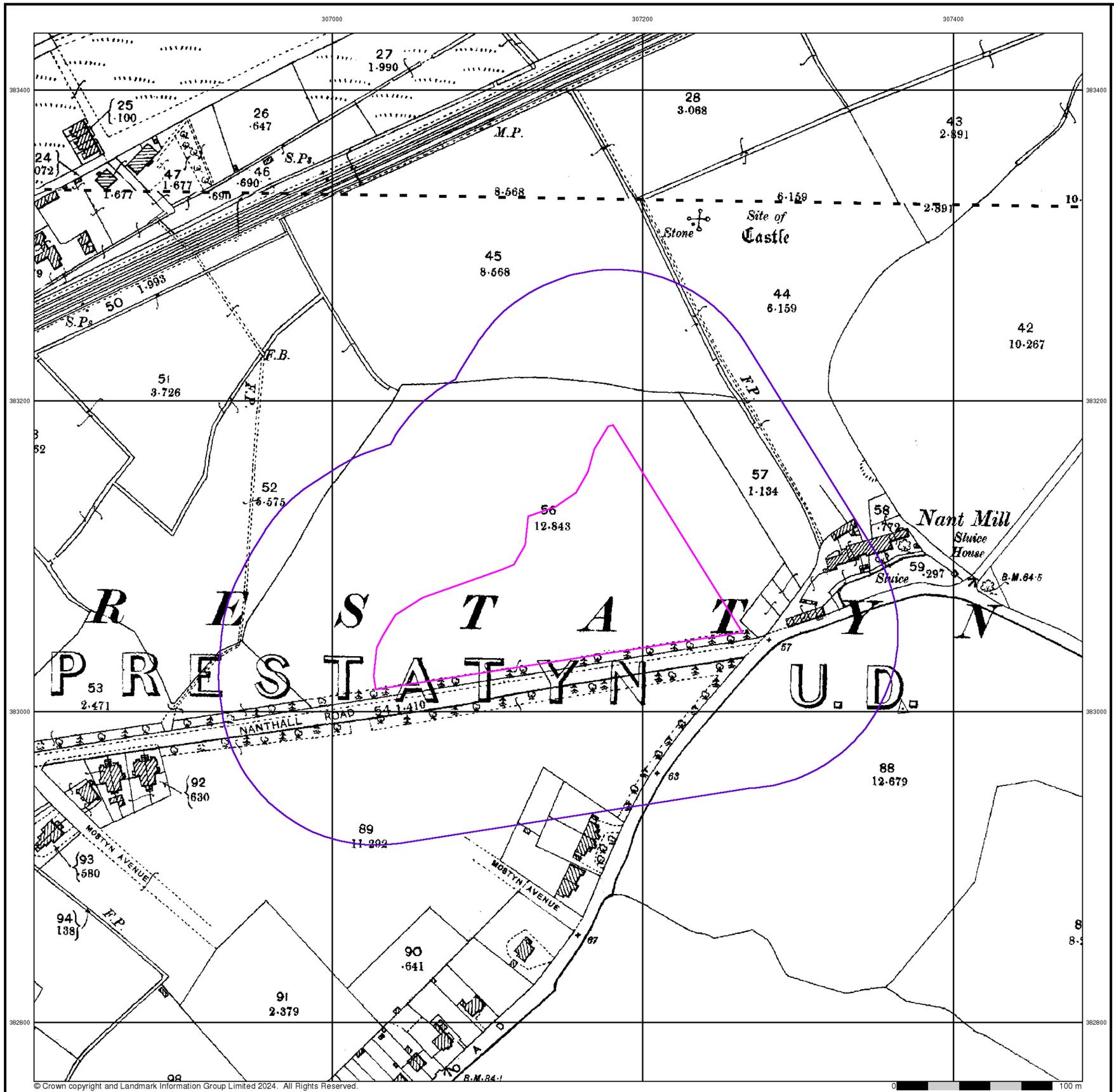

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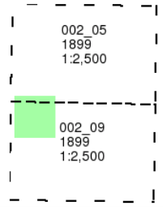
Flintshire

Published 1899

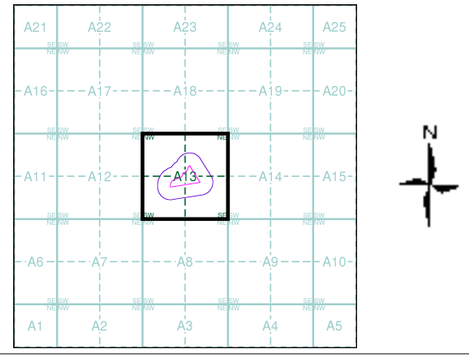
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	100

Site Details

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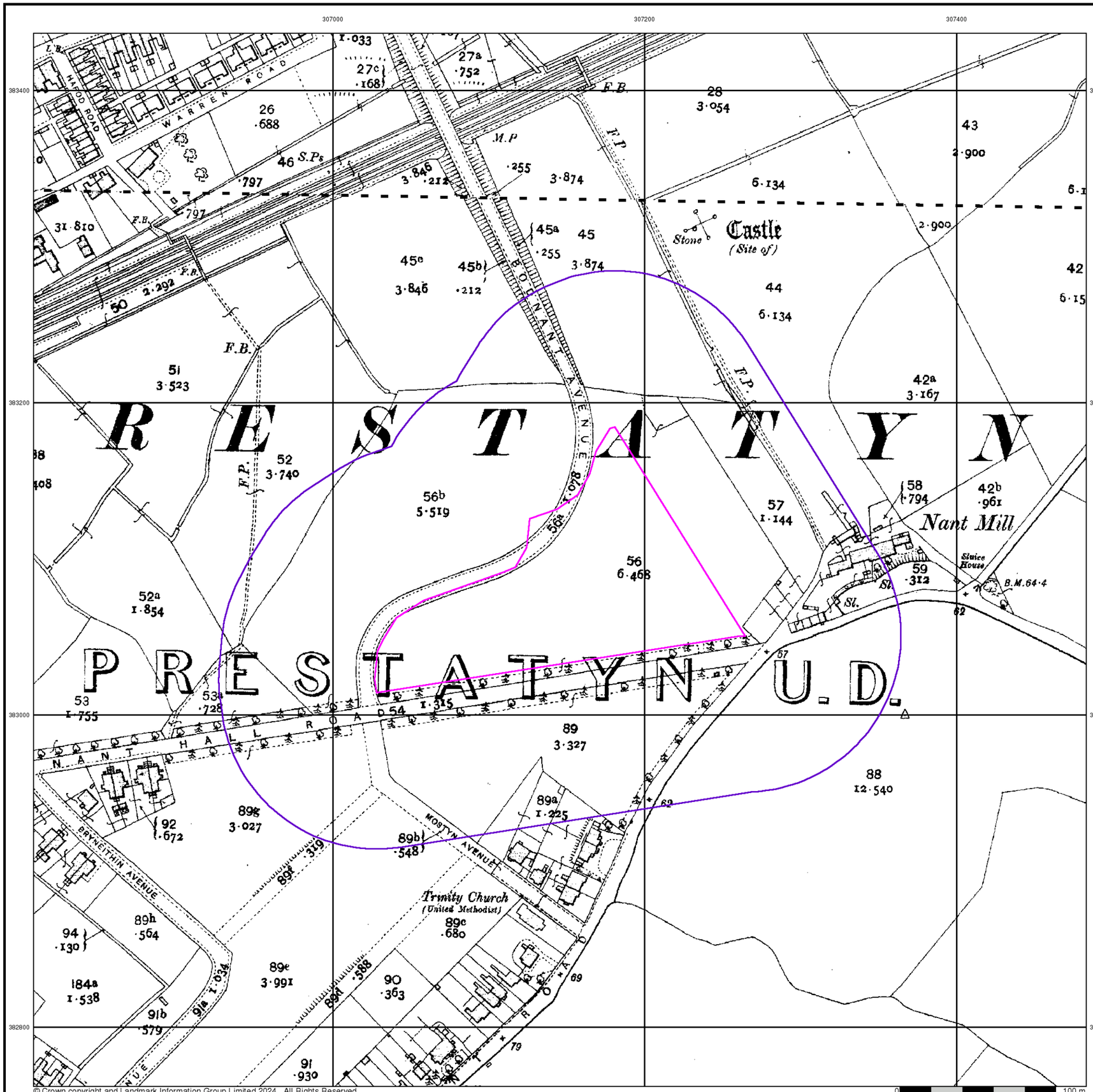

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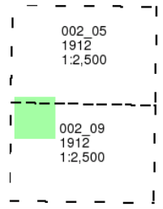
Flintshire

Published 1912

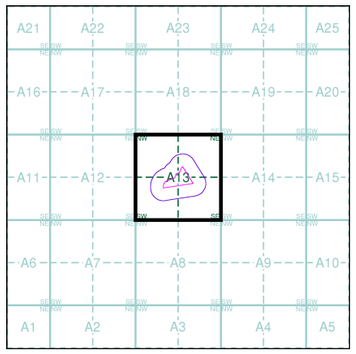
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	354776573_1_1
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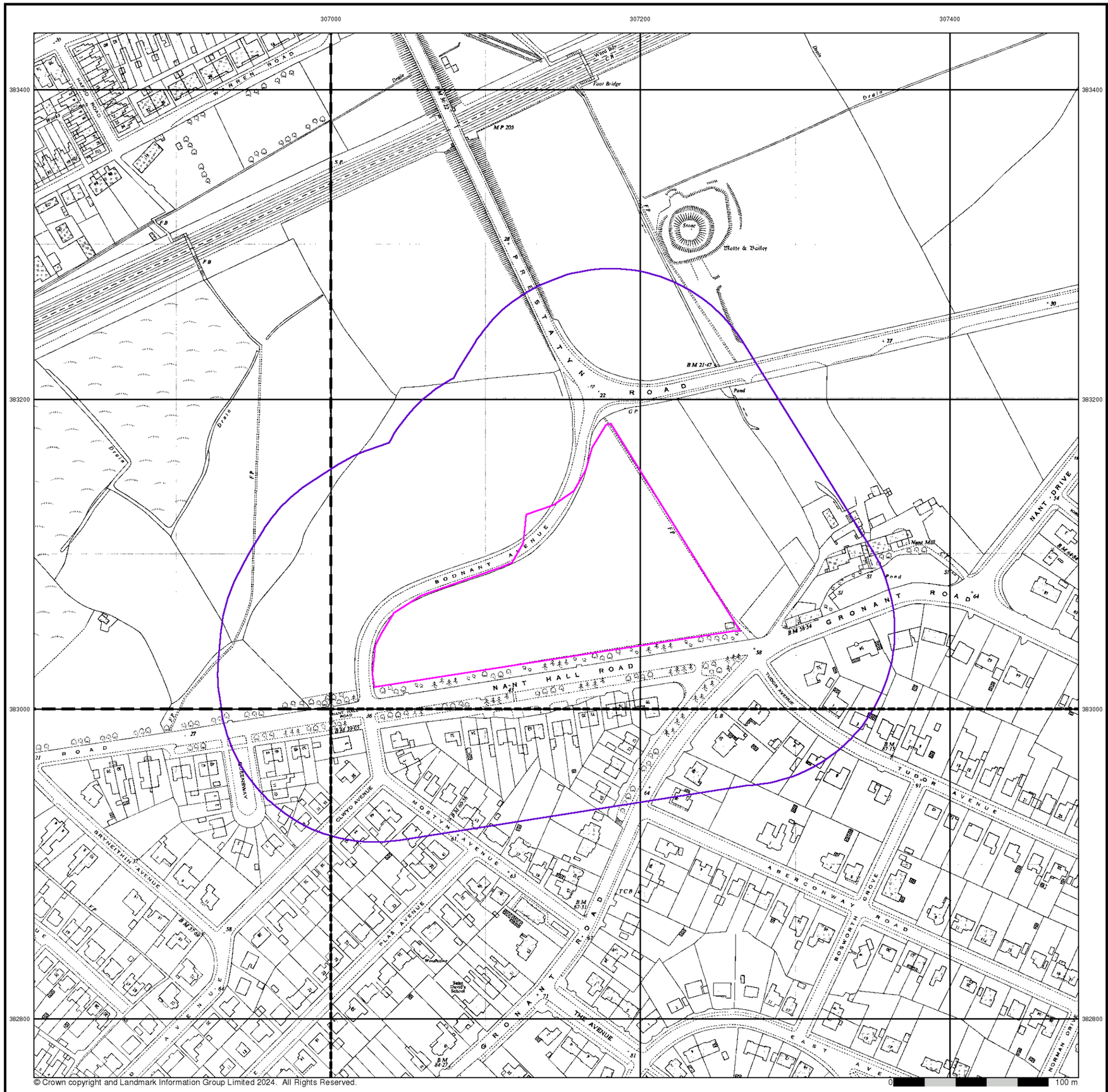

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Ordnance Survey Plan

Published 1962

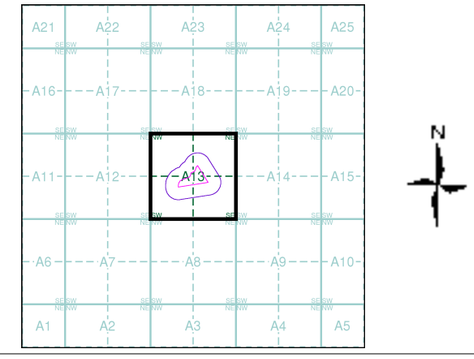
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SJ0683SE 1962 1:1,250	SJ0783SW 1962 1:1,250
SJ0682NE 1962 1:1,250	SJ0782NW 1962 1:1,250

Historical Map - Segment A13



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	100

Site Details

Site at 307190, 383090

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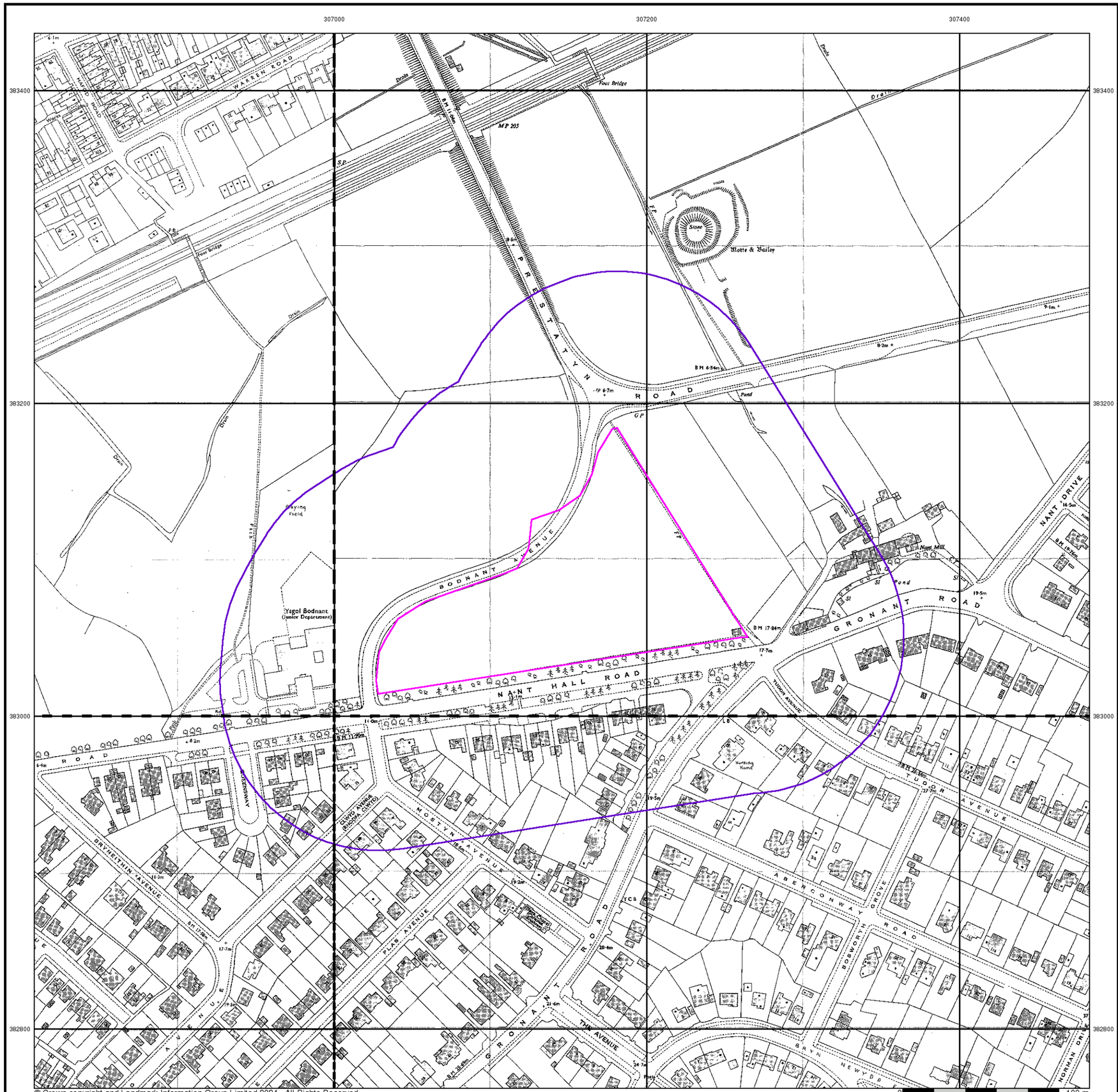

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Additional SIMs

Published 1962 - 1990

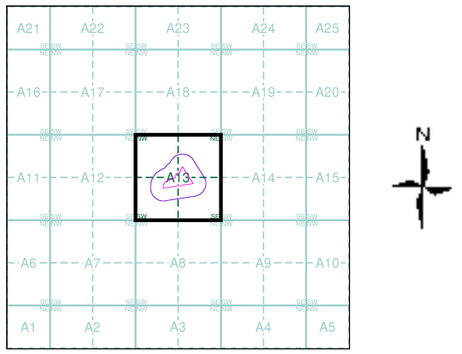
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SJ0683SE 1990 1:1,250	SJ0783SW 1962 1:1,250
SJ0682NE 1968 1:1,250	SJ0782NW 1990 1:1,250

Historical Map - Segment A13



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	100

Site Details

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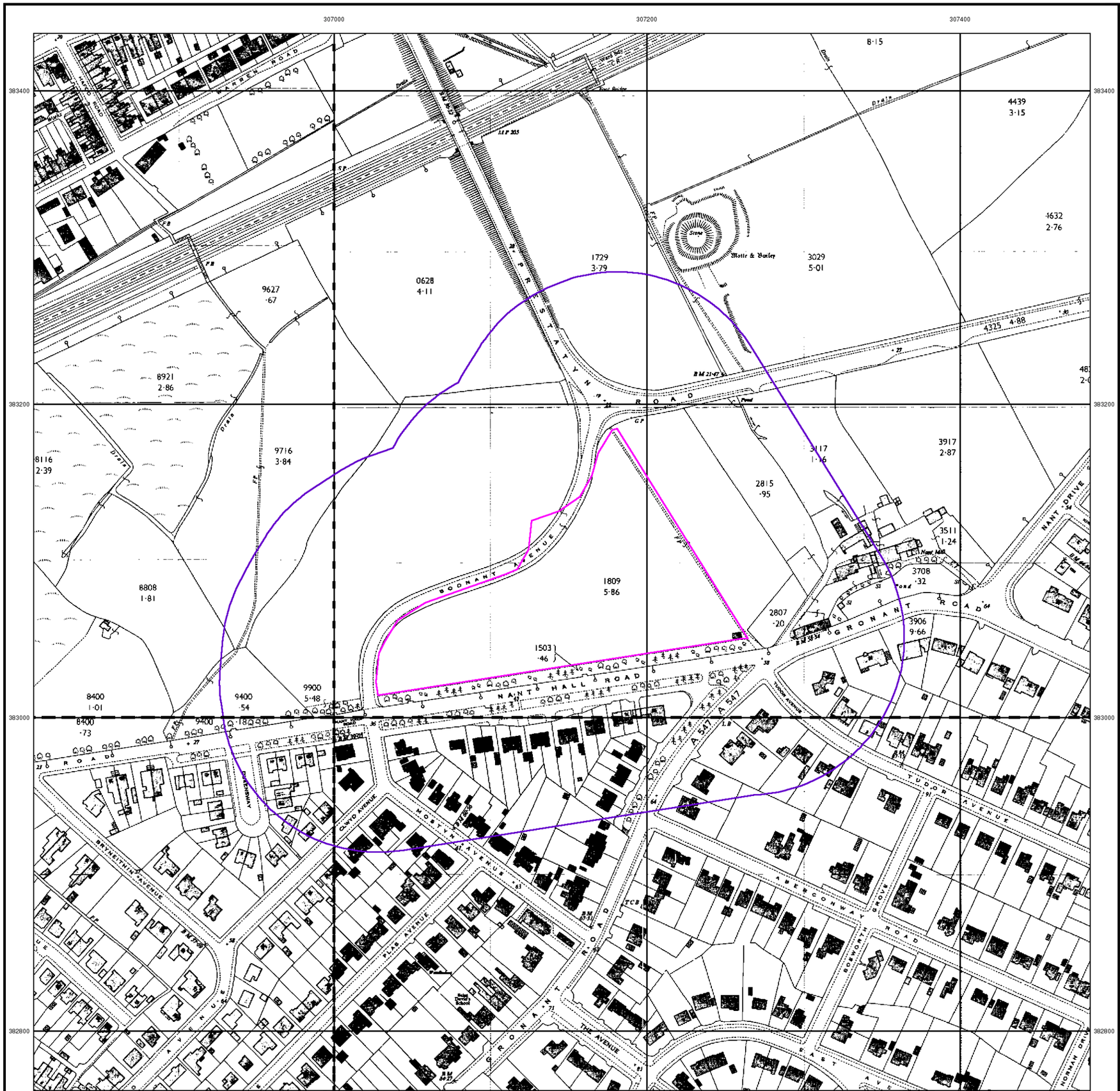

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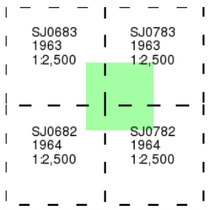
Ordnance Survey Plan

Published 1963 - 1964

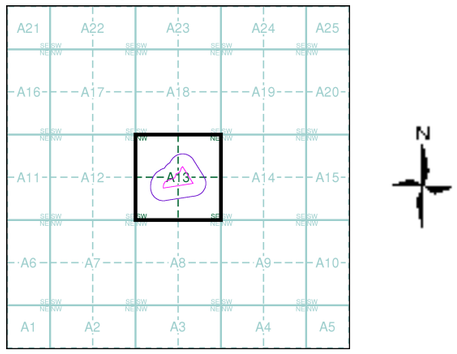
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	100

Site Details

Site at 307190, 383090

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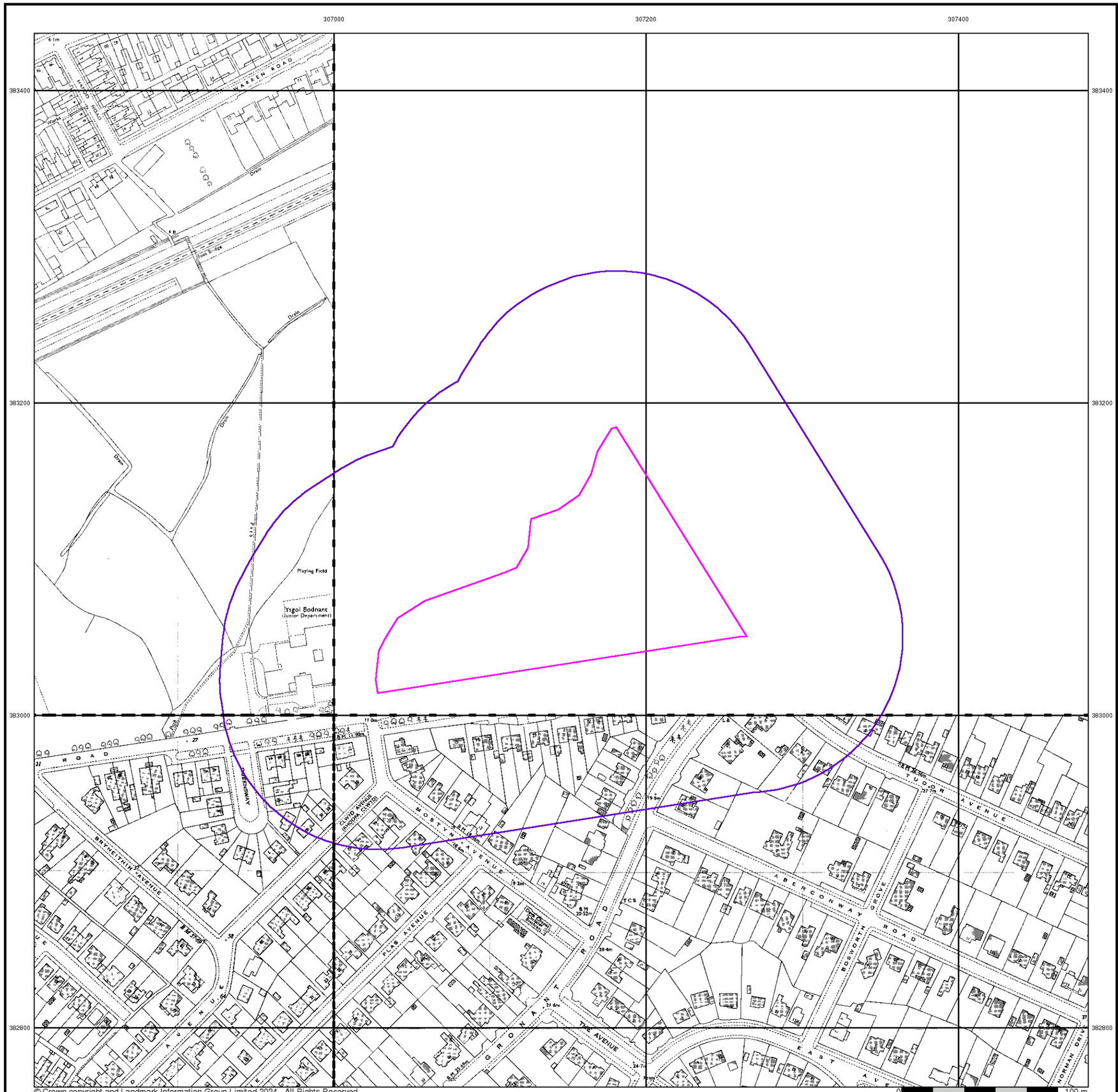

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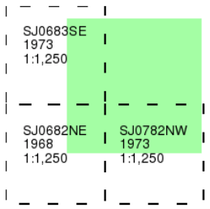
Ordnance Survey Plan

Published 1968 - 1973

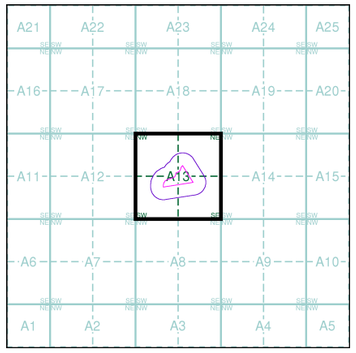
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	100

Site Details

Site at 307190, 383090

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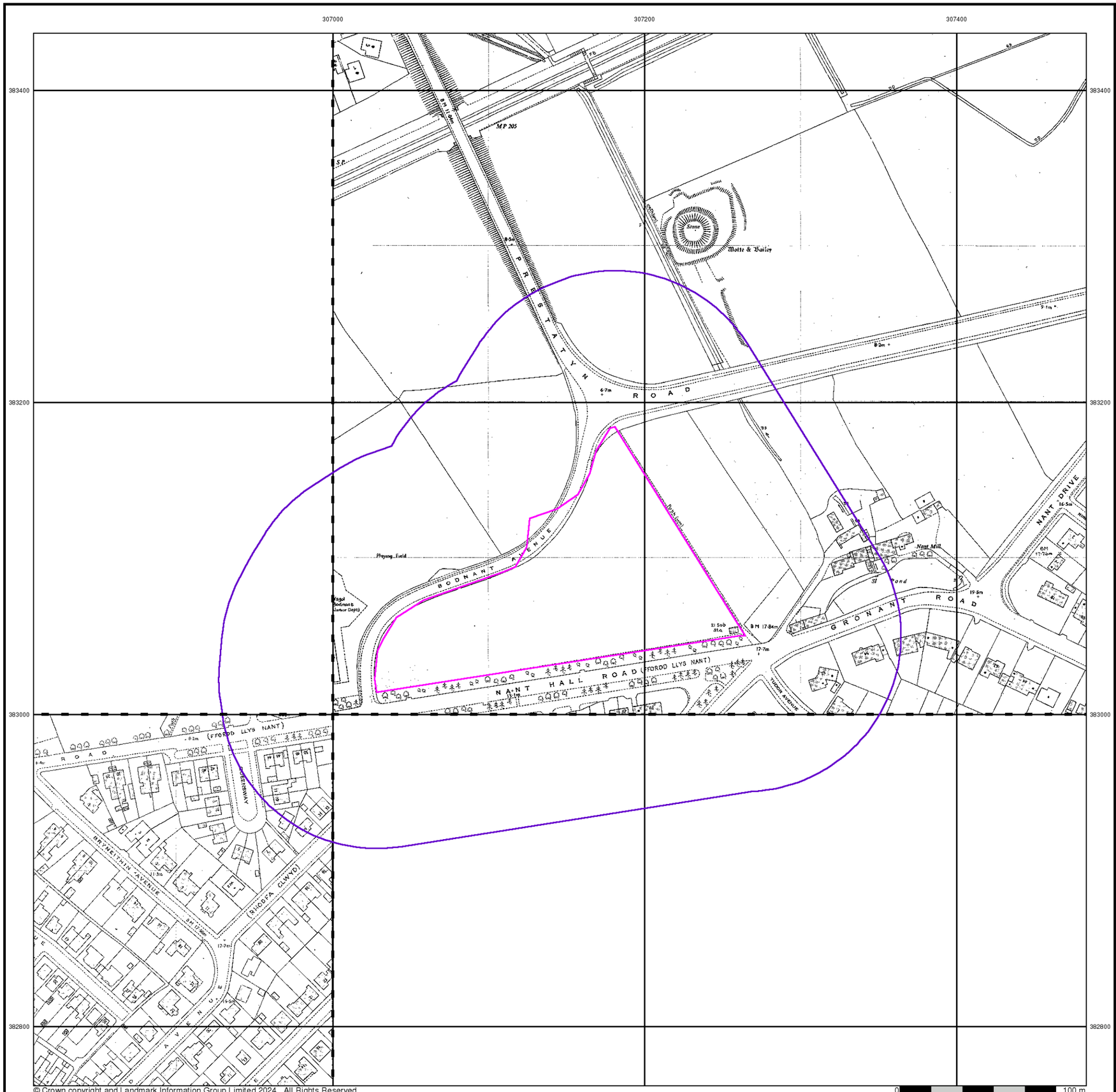

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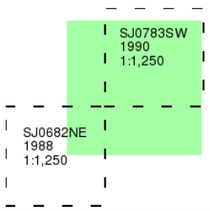
Additional SIMs

Published 1988 - 1990

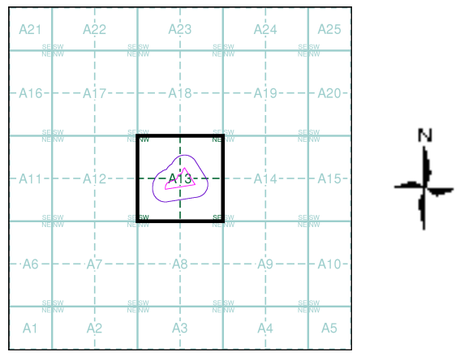
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

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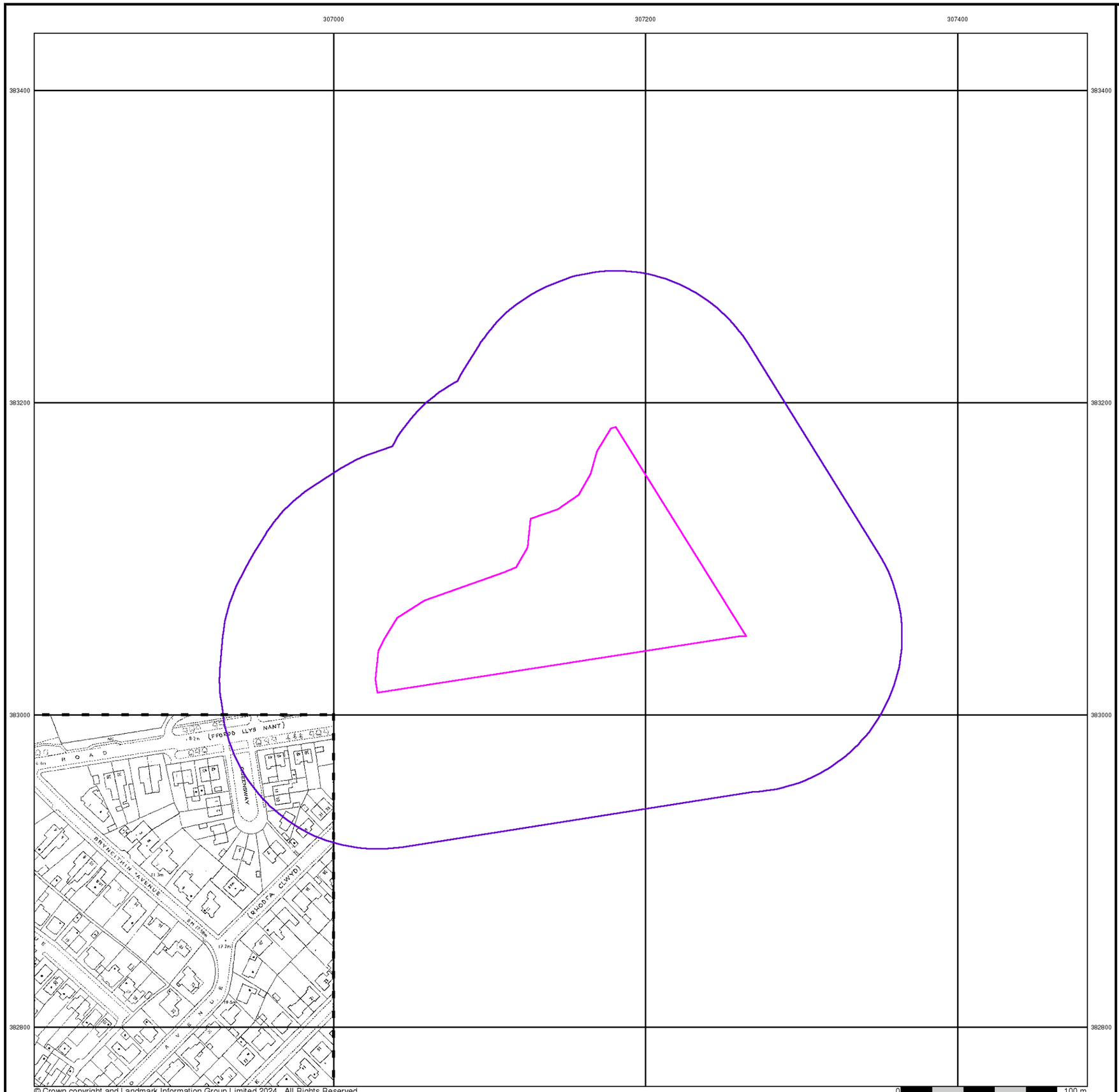


Envirocheck®

LANDMARK INFORMATION GROUP®

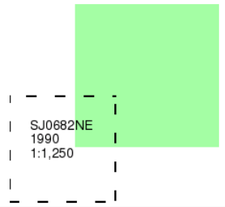
Additional SIMs

Published 1990

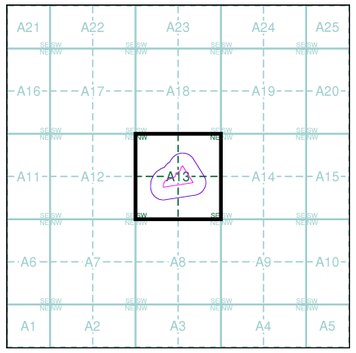
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



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Site Area (Ha):	1.79
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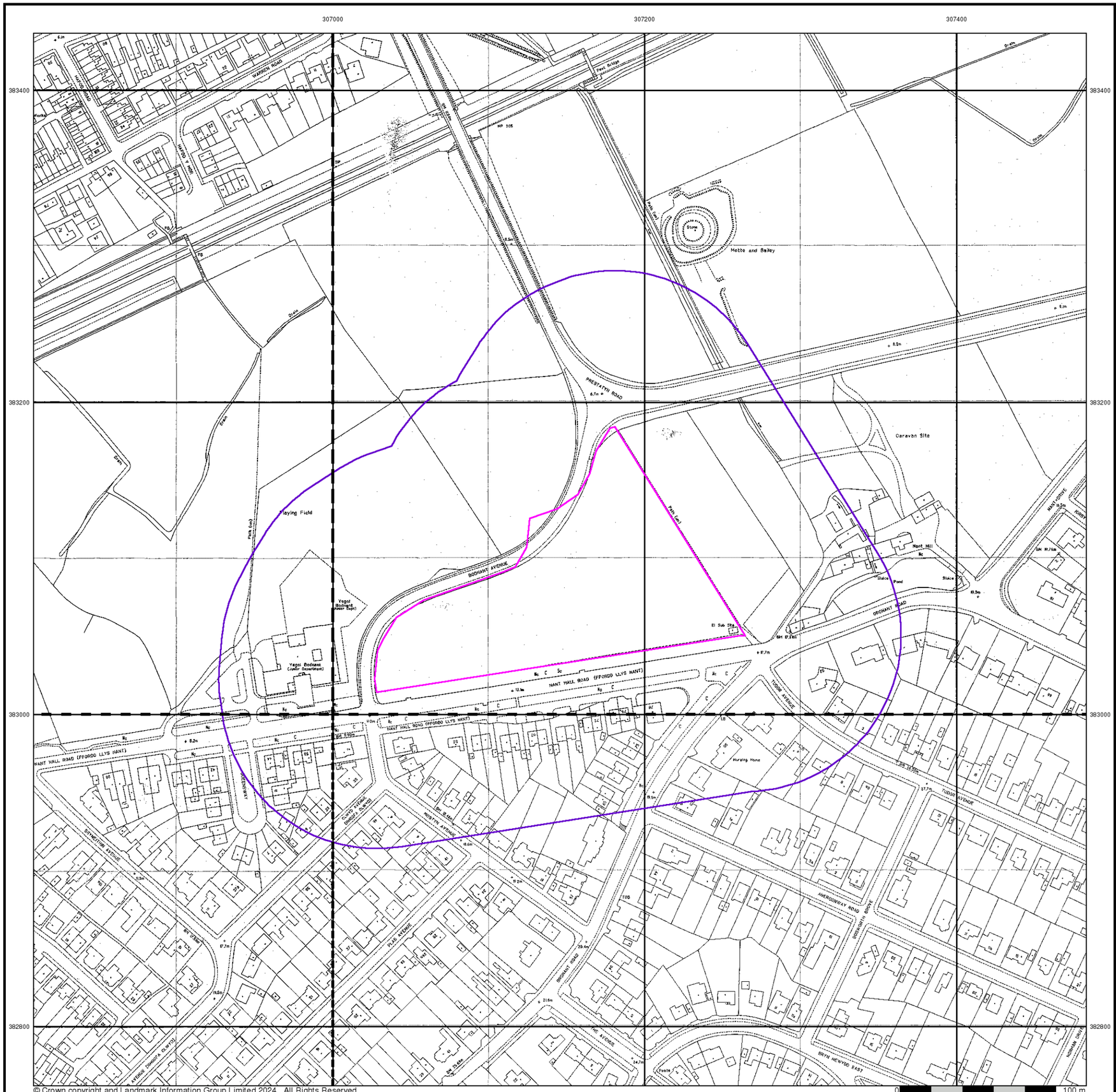


Envirocheck®

LANDMARK INFORMATION GROUP®

Large-Scale National Grid Data

Published 1993

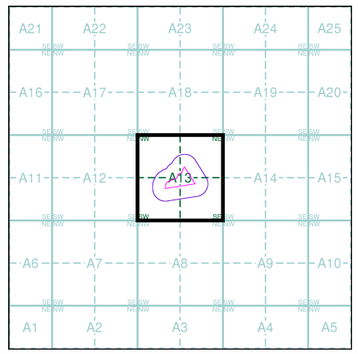
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SJ0683SE 1993 1:1,250	SJ0783SW 1993 1:1,250
SJ0682NE 1993 1:1,250	SJ0782NW 1993 1:1,250

Historical Map - Segment A13



Order Details

Order Number:	354776573_1_1
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Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	100

Site Details

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Fax: 0844 844 9951
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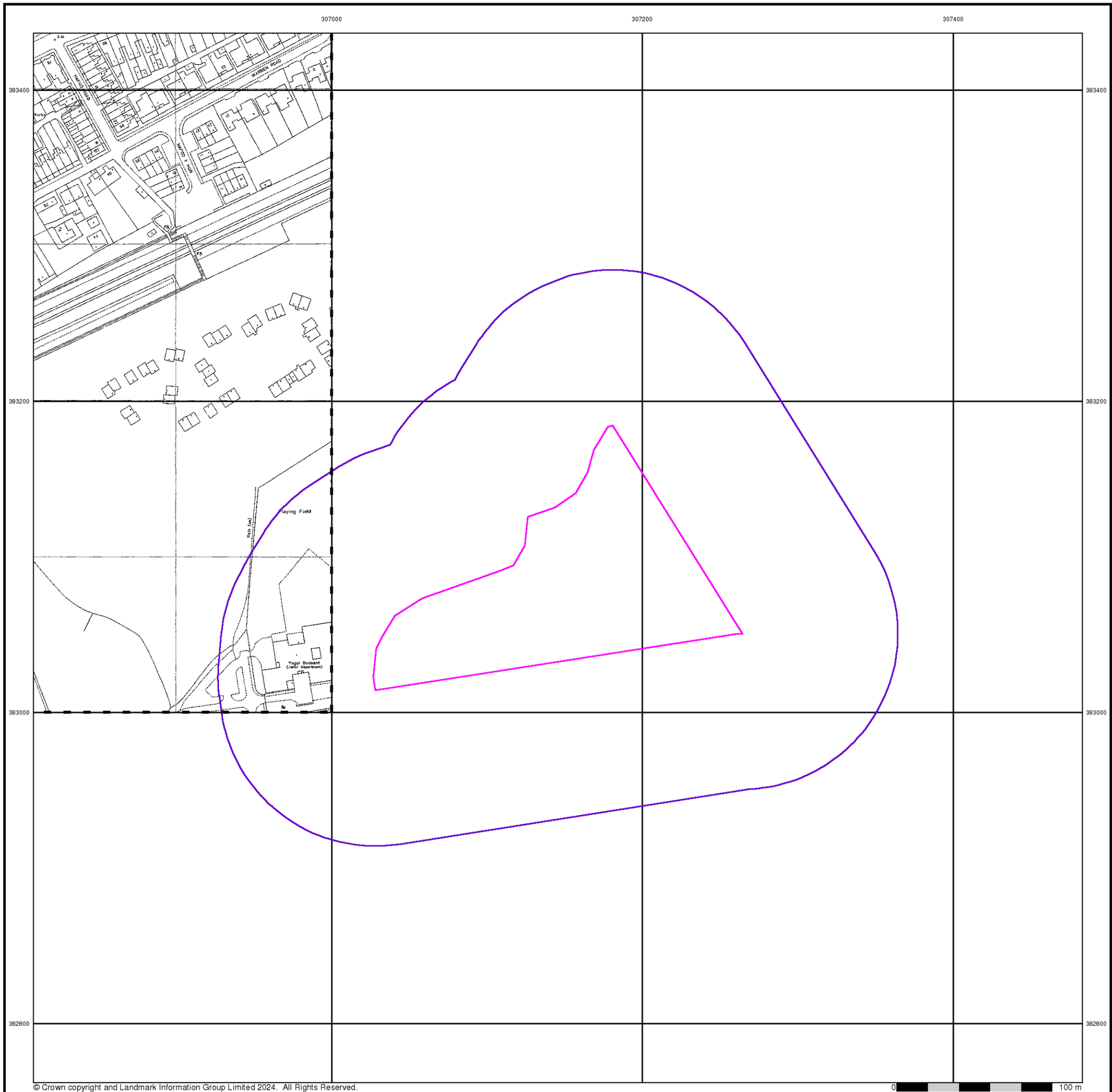

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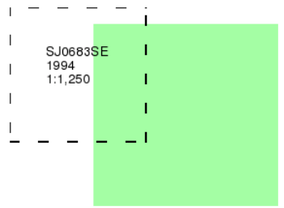
Large-Scale National Grid Data

Published 1994

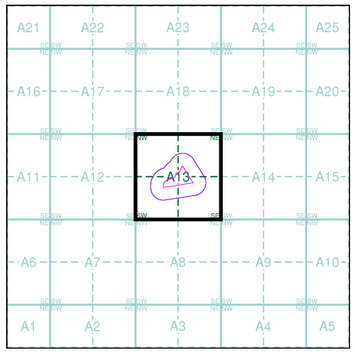
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	100

Site Details

Site at 307190, 383090

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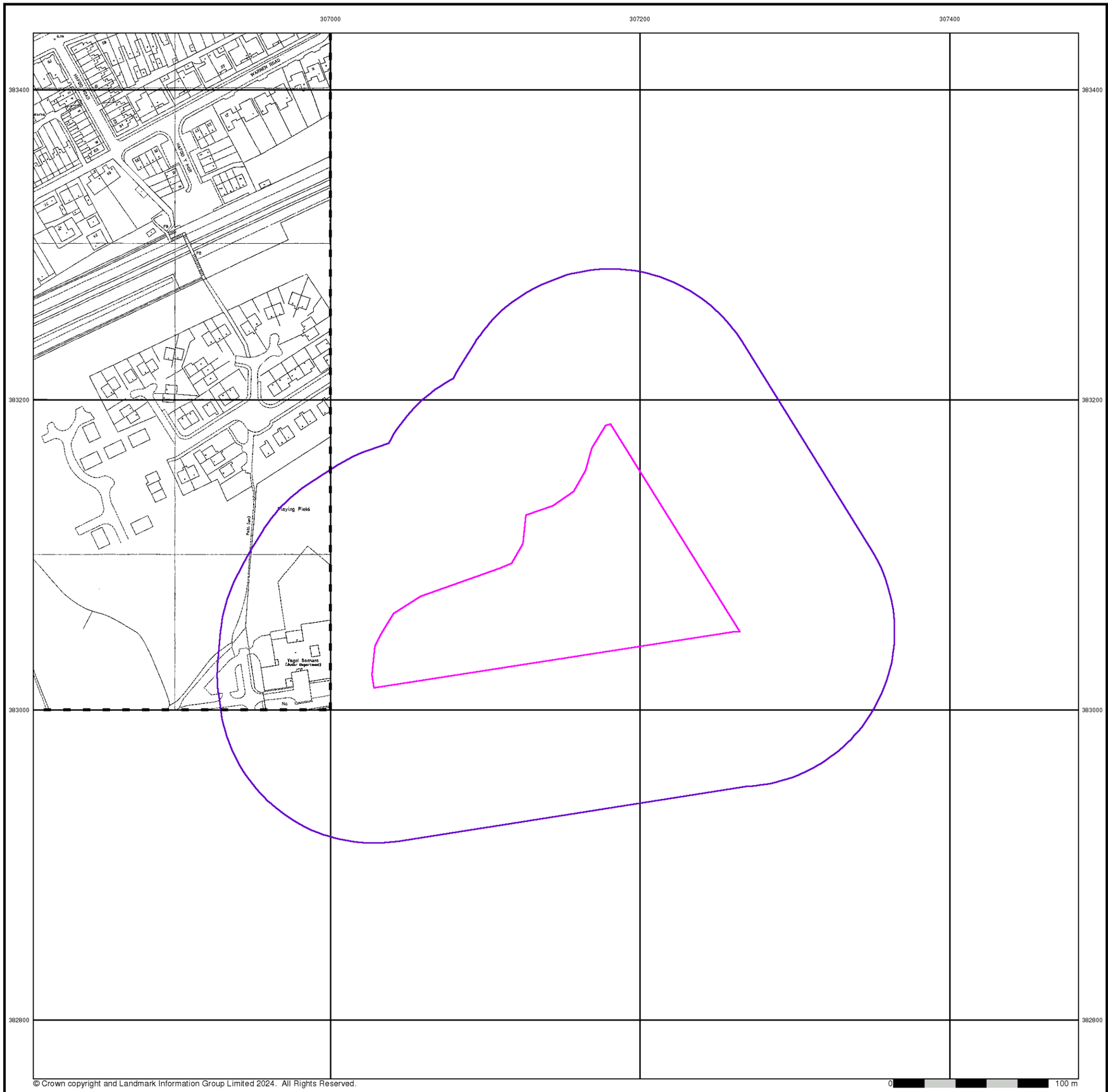

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LANDMARK INFORMATION GROUP®

Large-Scale National Grid Data

Published 1994

Source map scale - 1:1,250

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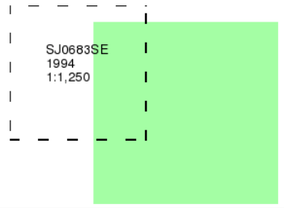

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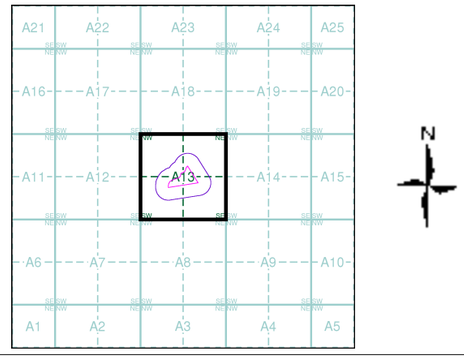

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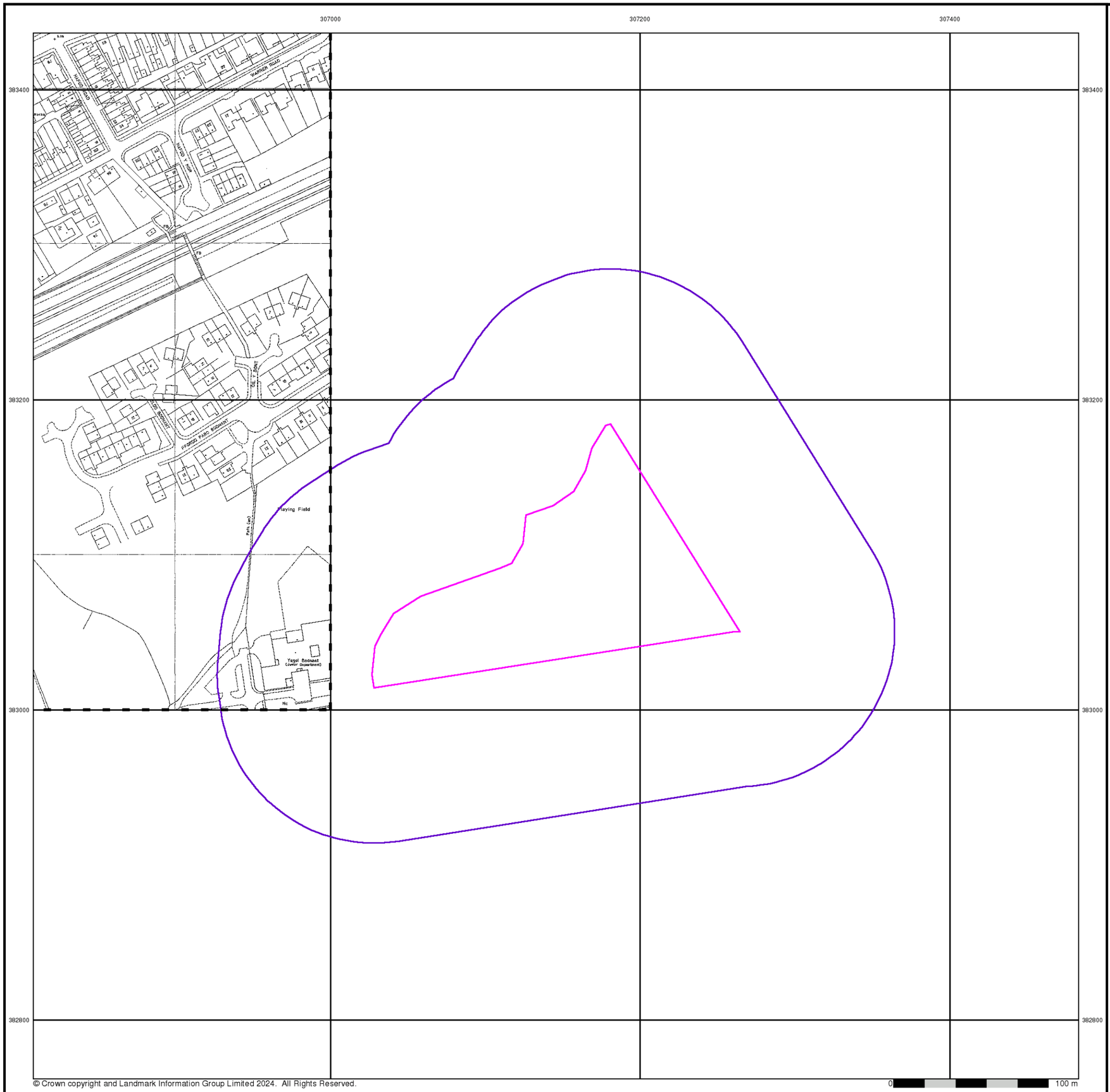

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Large-Scale National Grid Data

Published 1995

Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

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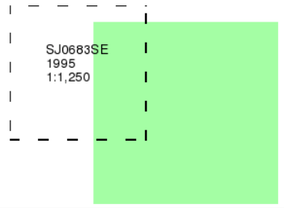

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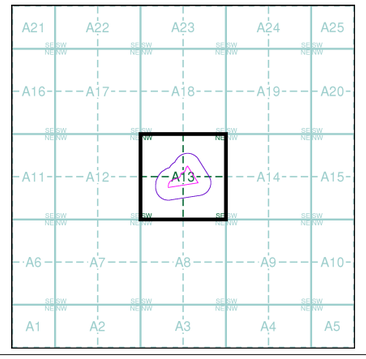

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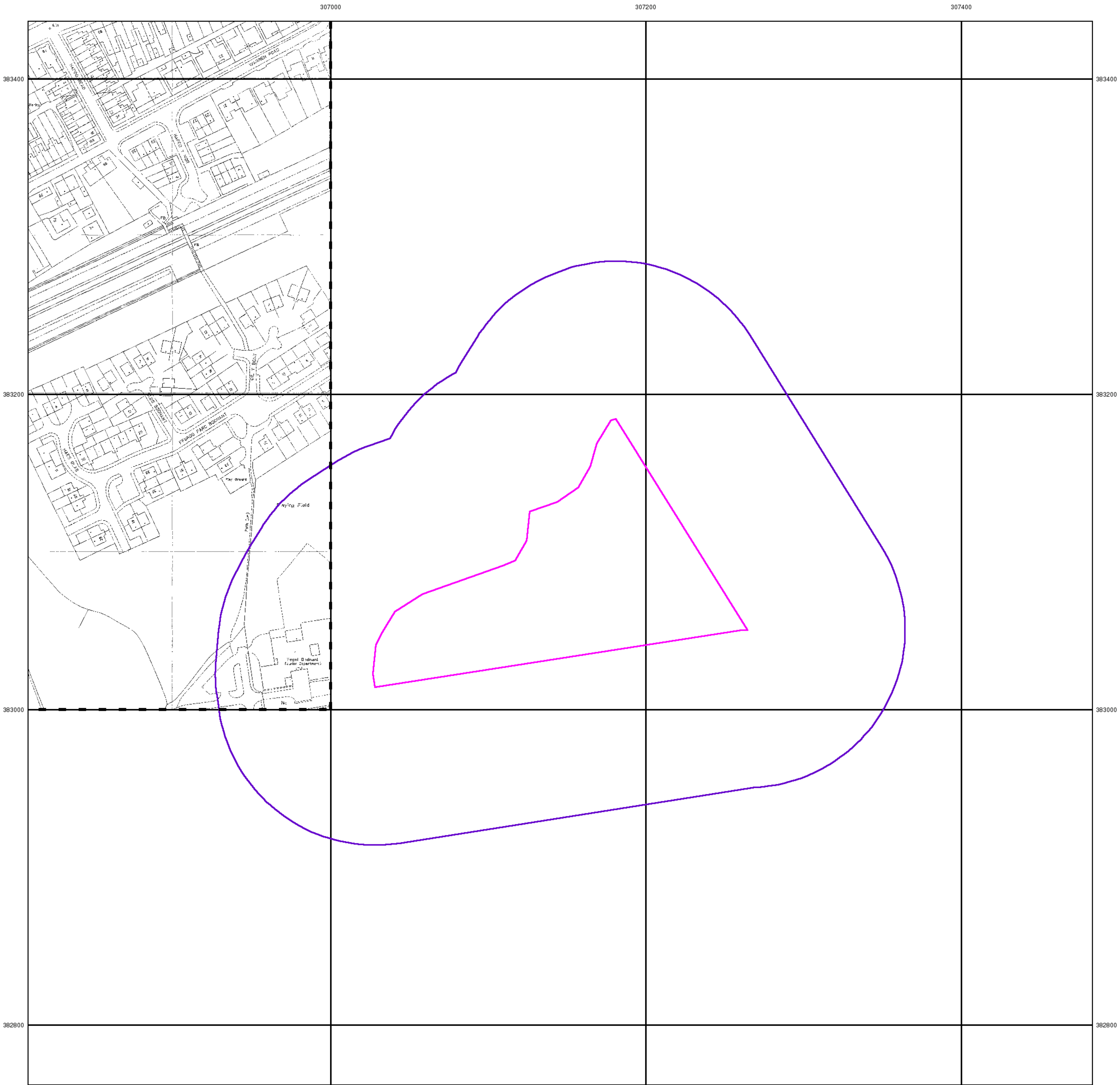

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Large-Scale National Grid Data

Published 1995

Source map scale - 1:1,250

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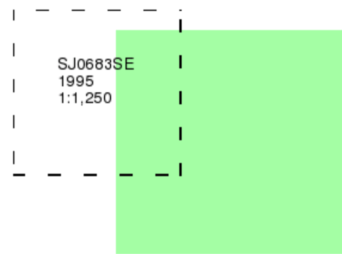
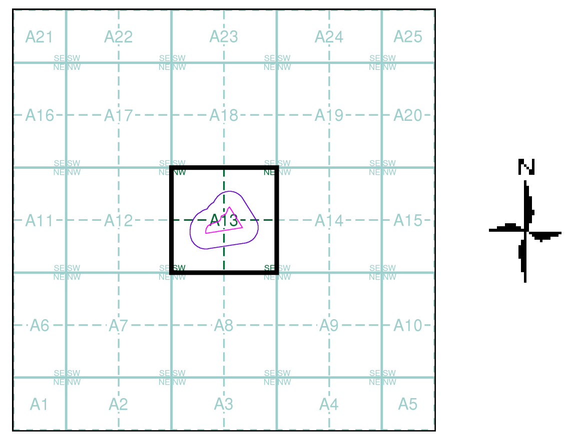


Historical Map - Segment A13



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Search Buffer (m): 100

Site Details

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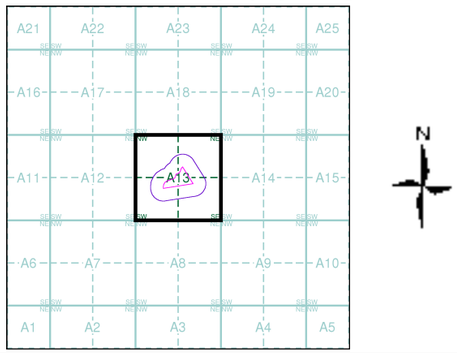
Historical Aerial Photography

Published 2001

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



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Site Details

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Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Gravel Pit
Sand Pit
Other Pits
Quarry
Shingle
Orchard
Osiers
Reeds
Marsh
Mixed Wood
Deciduous
Brushwood
Fir
Furze
Rough Pasture
Arrow denotes flow of water
Trigonometrical Station
Site of Antiquities
Bench Mark
Pump, Guide Post, Signal Post
Well, Spring, Boundary Post
·285 Surface Level
Sketched Contour
Instrumental Contour
Main Roads
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
Sunken Road
Raised Road
Road over Railway
Railway over River
Railway over Road
Level Crossing
Road over River or Canal
Road over Stream
Road over Stream
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)
R.D. Bdy. Rural District Boundary
Civil Parish Boundary

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry
Gravel Pit
Sand Pit
Disused Pit or Quarry
Refuse or Slag Heap
Lake, Loch or Pond
Dunes
Boulders
Coniferous Trees
Non-Coniferous Trees
Orchard
Scrub
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Electricity Transmission Line
Pole
Sloping Masonry
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
Standard Gauge Single Track
Siding, Tramway or Mineral Line
Narrow Gauge
Geographical County
Administrative County, County Borough or County of City
Municipal Borough, Urban or Rural District, Burgh or District Council
Borough, Burgh or County Constituency
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community boundary
District, Unitary, Metropolitan, London Borough boundary
Constituency boundary
Area of wooded vegetation
Non-coniferous trees
Non-coniferous trees (scattered)
Coniferous trees
Coniferous trees (scattered)
Positioned tree
Orchard
Coppice or Osiers
Rough Grassland
Heath
Scrub
Marsh, Salt Marsh or Reeds
Water feature
Flow arrows
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m Bench mark (where shown)
Triangulation station
Point feature (e.g. Guide Post or Mile Stone)
Pylon, flare stack or lighting tower
Site of (antiquity)
Glasshouse
General Building
Important Building

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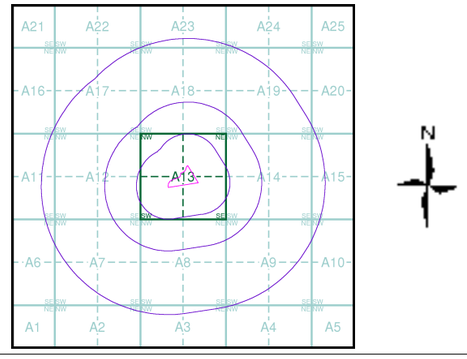
Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Flintshire	1:10,560	1878	2
Flintshire	1:10,560	1900	3
Flintshire	1:10,560	1914 - 1915	4
Flintshire	1:10,560	1915	5
Flintshire	1:10,560	1938	6
Flintshire	1:10,560	1953	7
Ordnance Survey Plan	1:10,000	1964	8
Ordnance Survey Plan	1:10,000	1969	9
Ordnance Survey Plan	1:10,000	1979	10
10K Raster Mapping	1:10,000	2000	11
10K Raster Mapping	1:10,000	2006	12
VectorMap Local	1:10,000	2024	13

Historical Map - Slice A



Order Details

Order Number:	354776573_1_1
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Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

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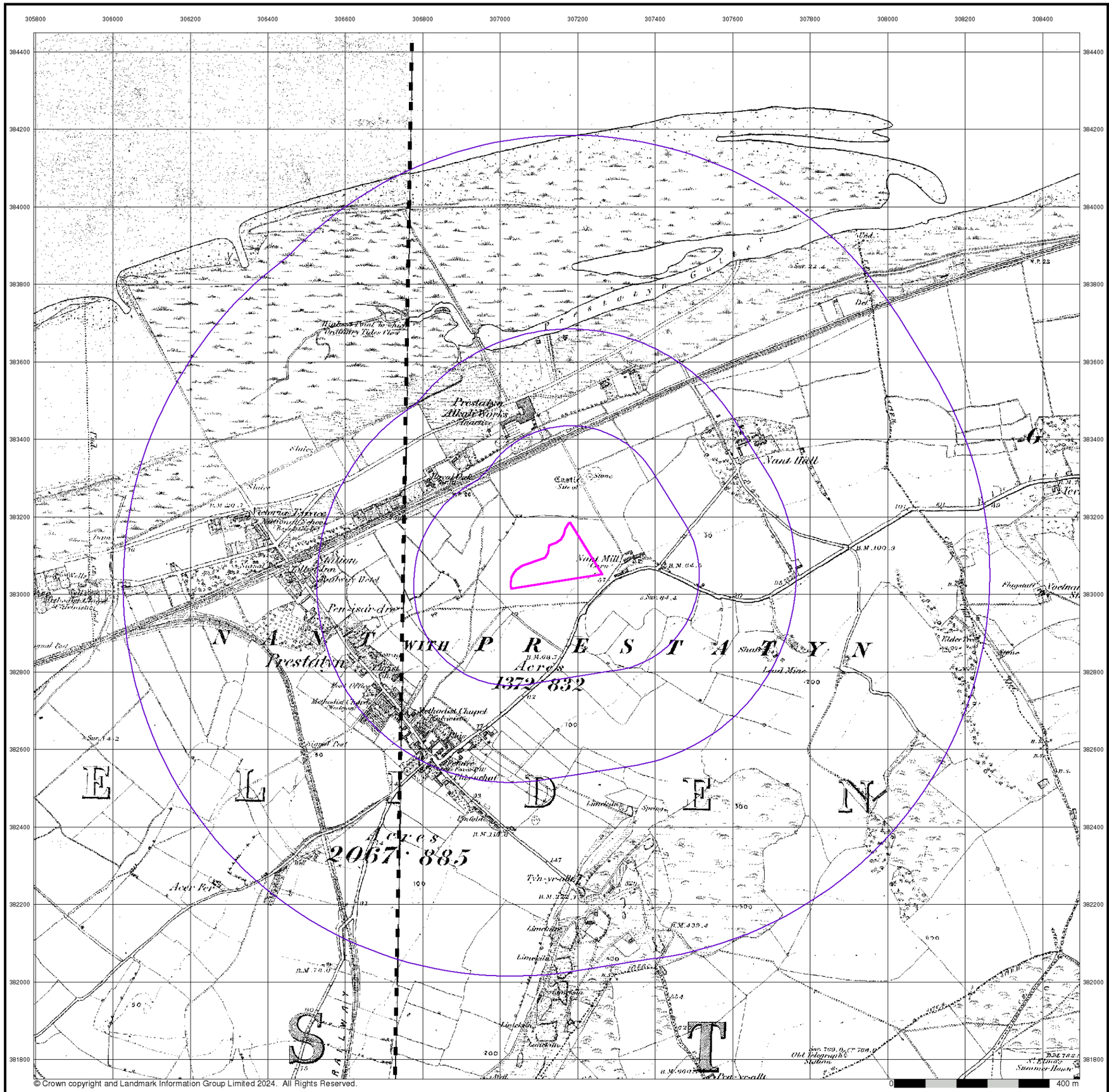

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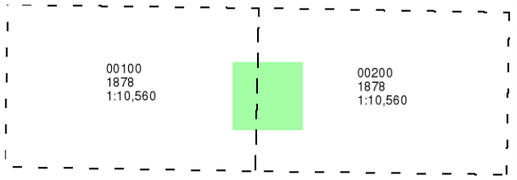
Flintshire

Published 1878

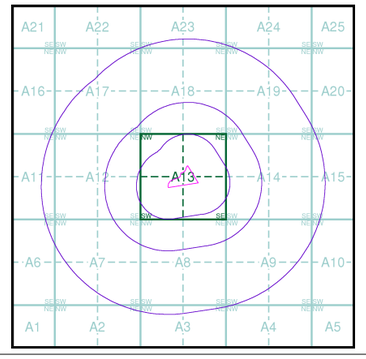
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



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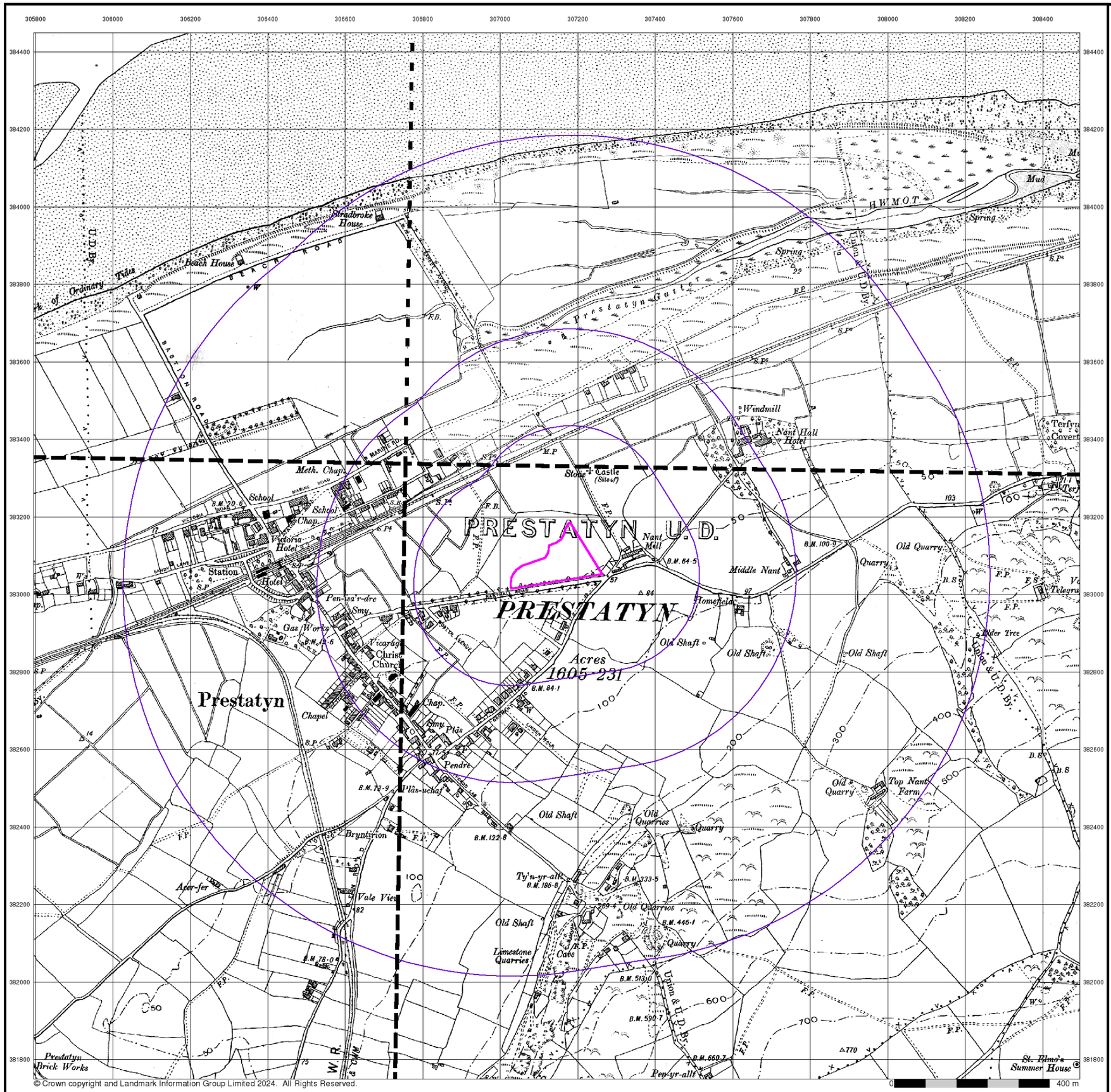

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Flintshire

Published 1900

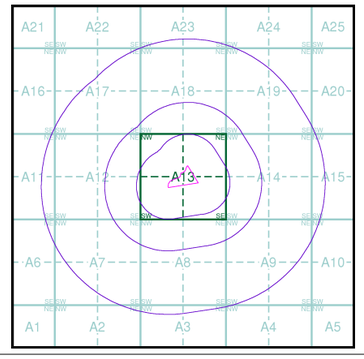
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

001NE 1900 1:10,560	002NW 1900 1:10,560
001SE 1900 1:10,560	002SW 1900 1:10,560

Historical Map - Slice A



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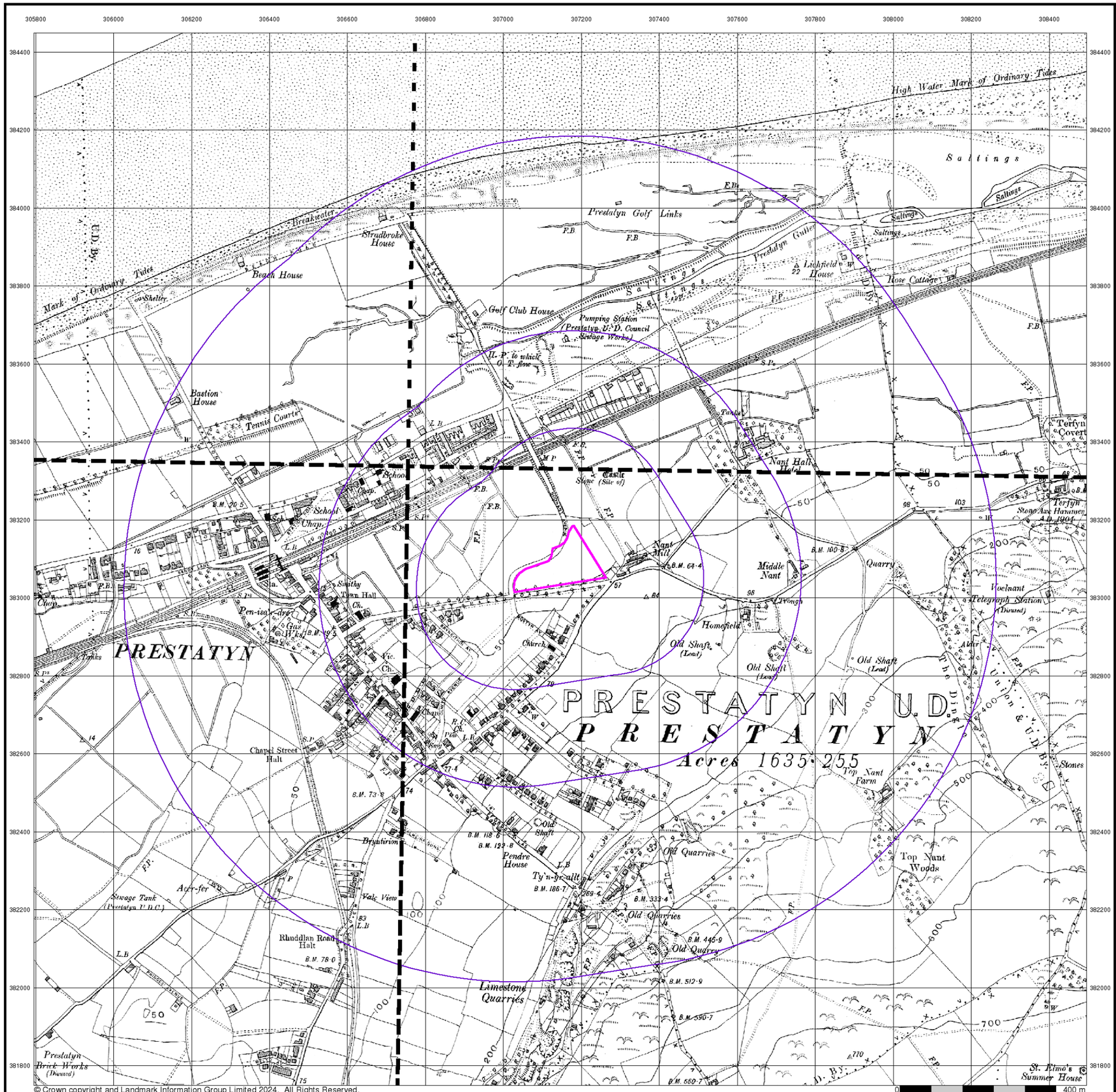

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Flintshire

Published 1914 - 1915

Source map scale - 1:10,560

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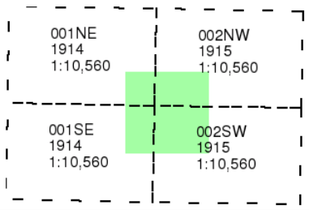
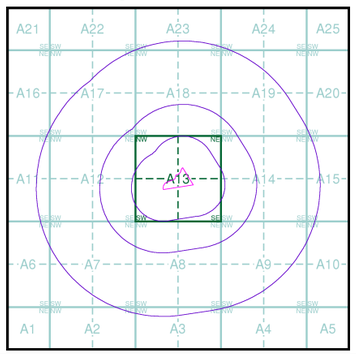


Historical Map - Slice A



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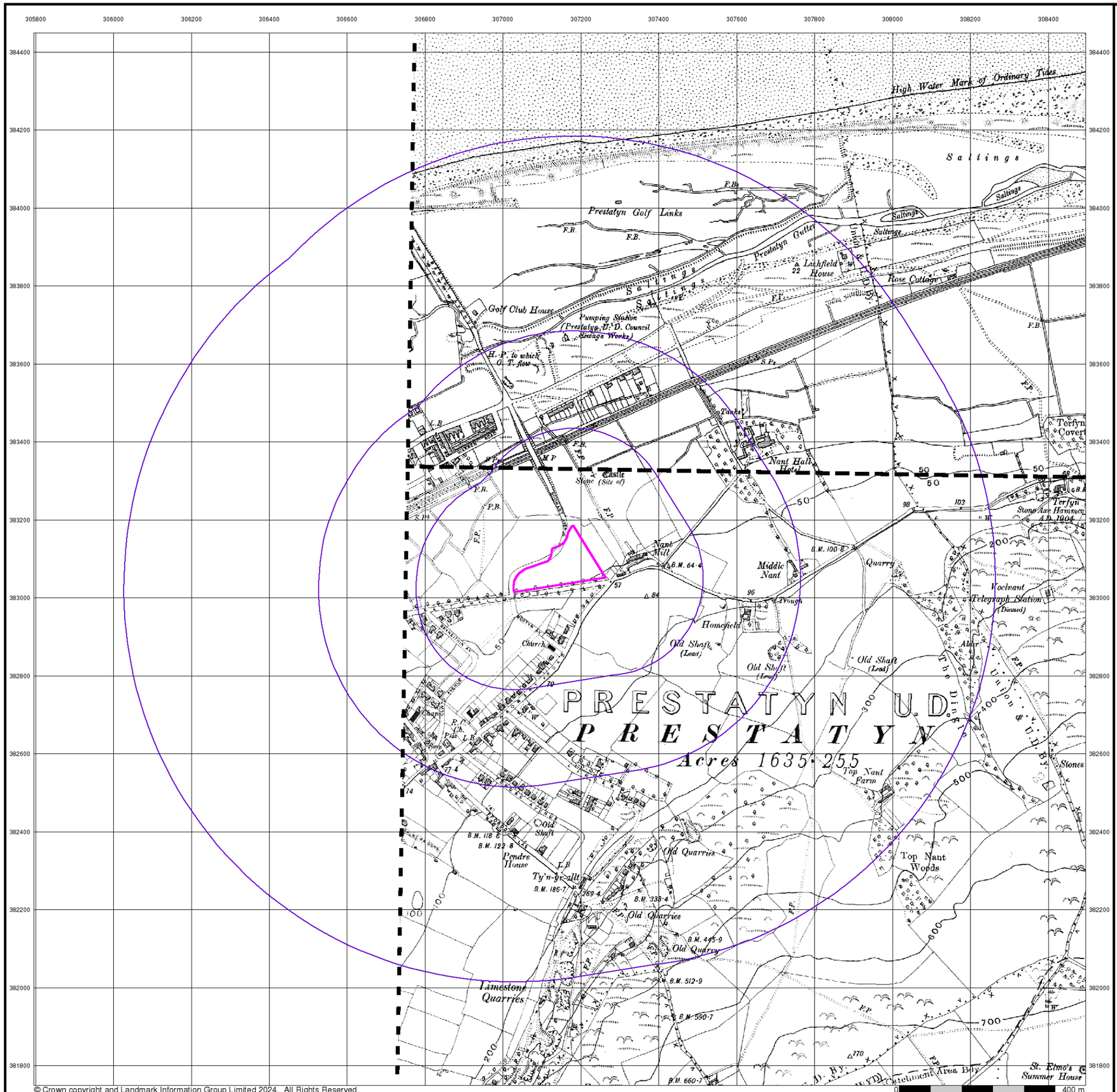

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Flintshire

Published 1915

Source map scale - 1:10,560

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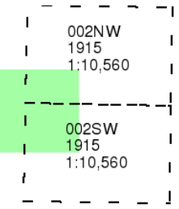
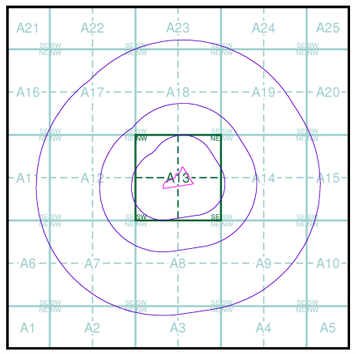


Historical Map - Slice A



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Flintshire

Published 1938

Source map scale - 1:10,560

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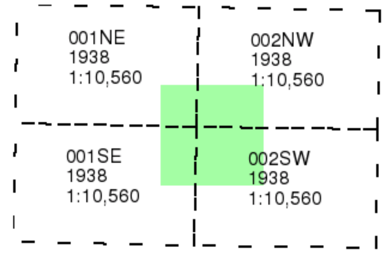
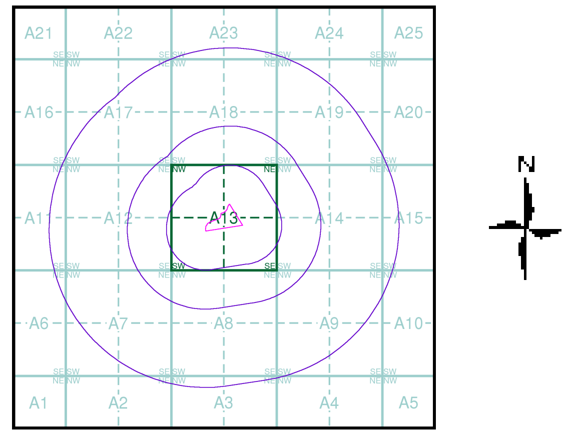


Historical Map - Slice A



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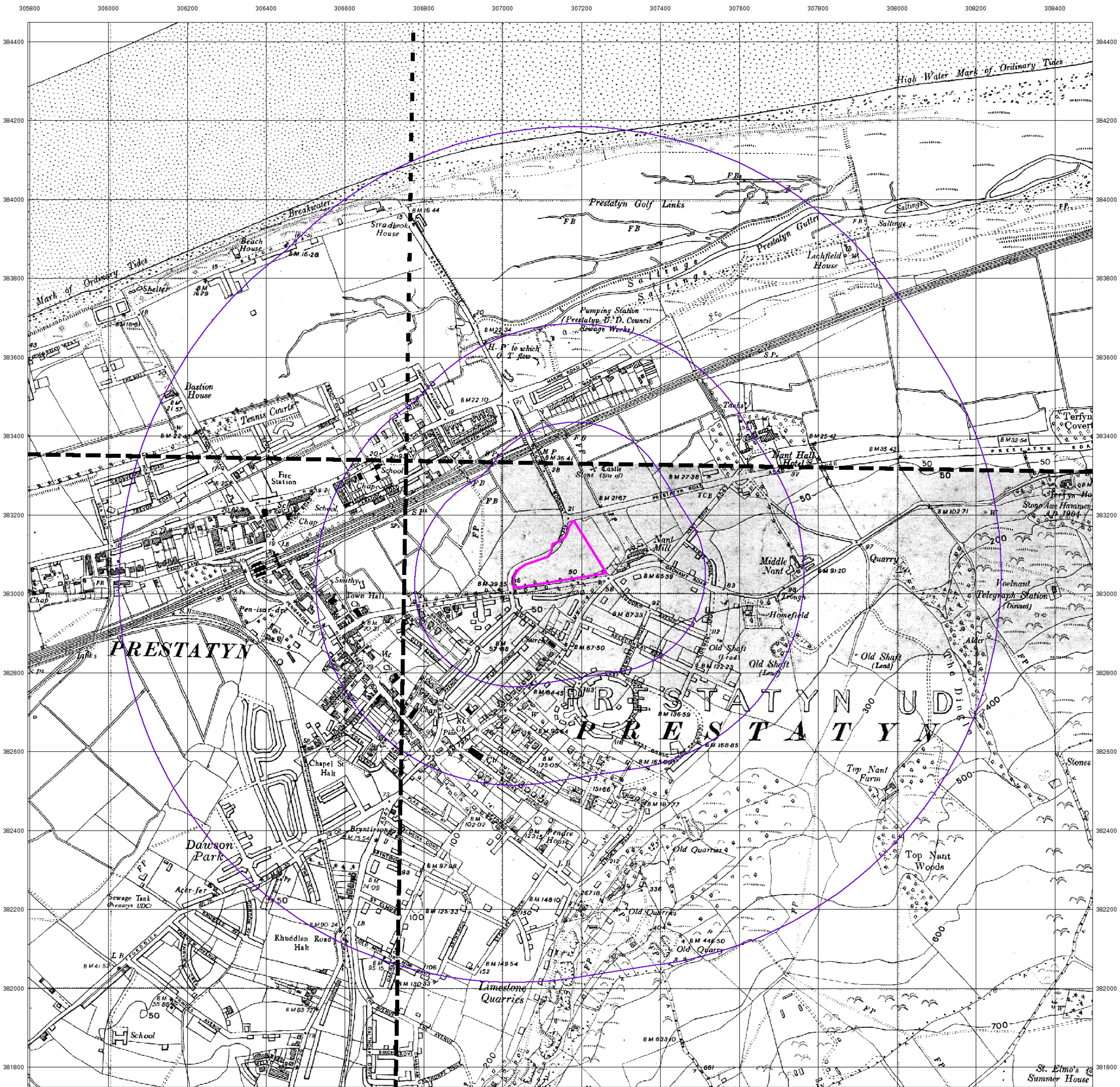

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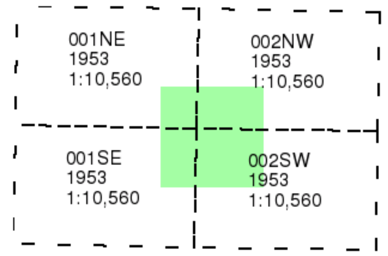
Flintshire

Published 1953

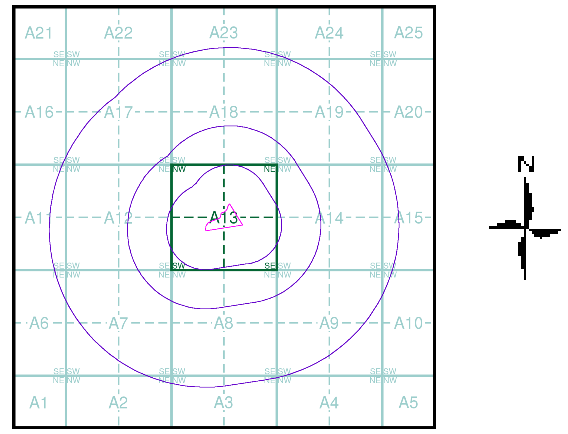
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 354776573_1_1
Customer Ref: 18098
National Grid Reference: 307150, 383080
Slice: A
Site Area (Ha): 1.79
Search Buffer (m): 1000

Site Details

Site at 307190, 383090

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Ordnance Survey Plan

Published 1964

Source map scale - 1:10,000

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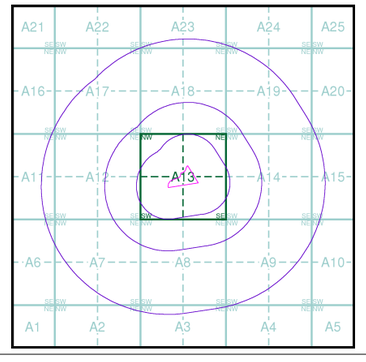
Map Name(s) and Date(s)

SJ08SE
1964
1:10,560

Historical Map - Slice A



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
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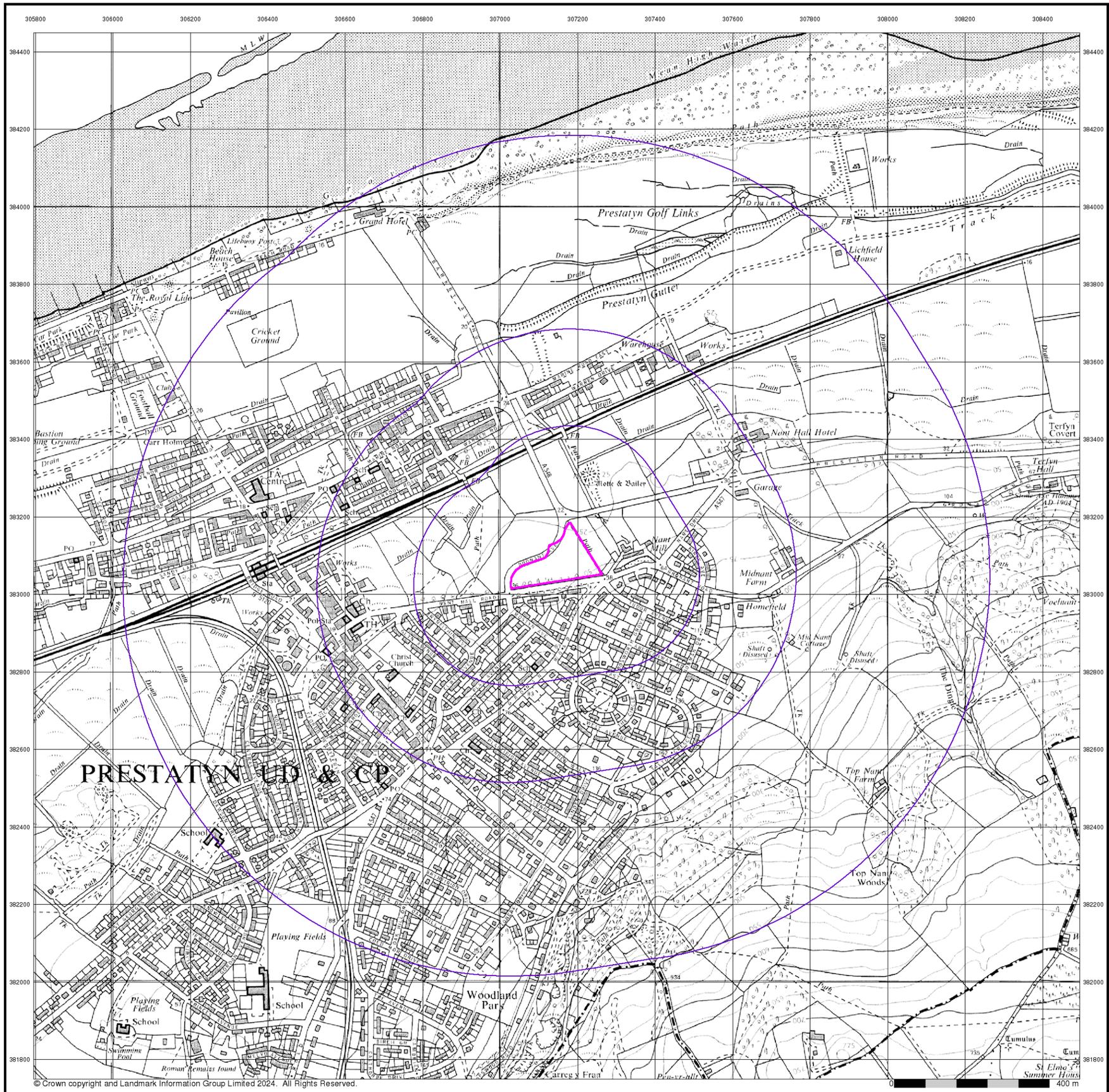

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Ordnance Survey Plan

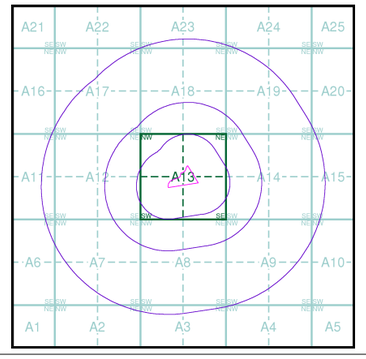
Published 1969

Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

Historical Map - Slice A



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

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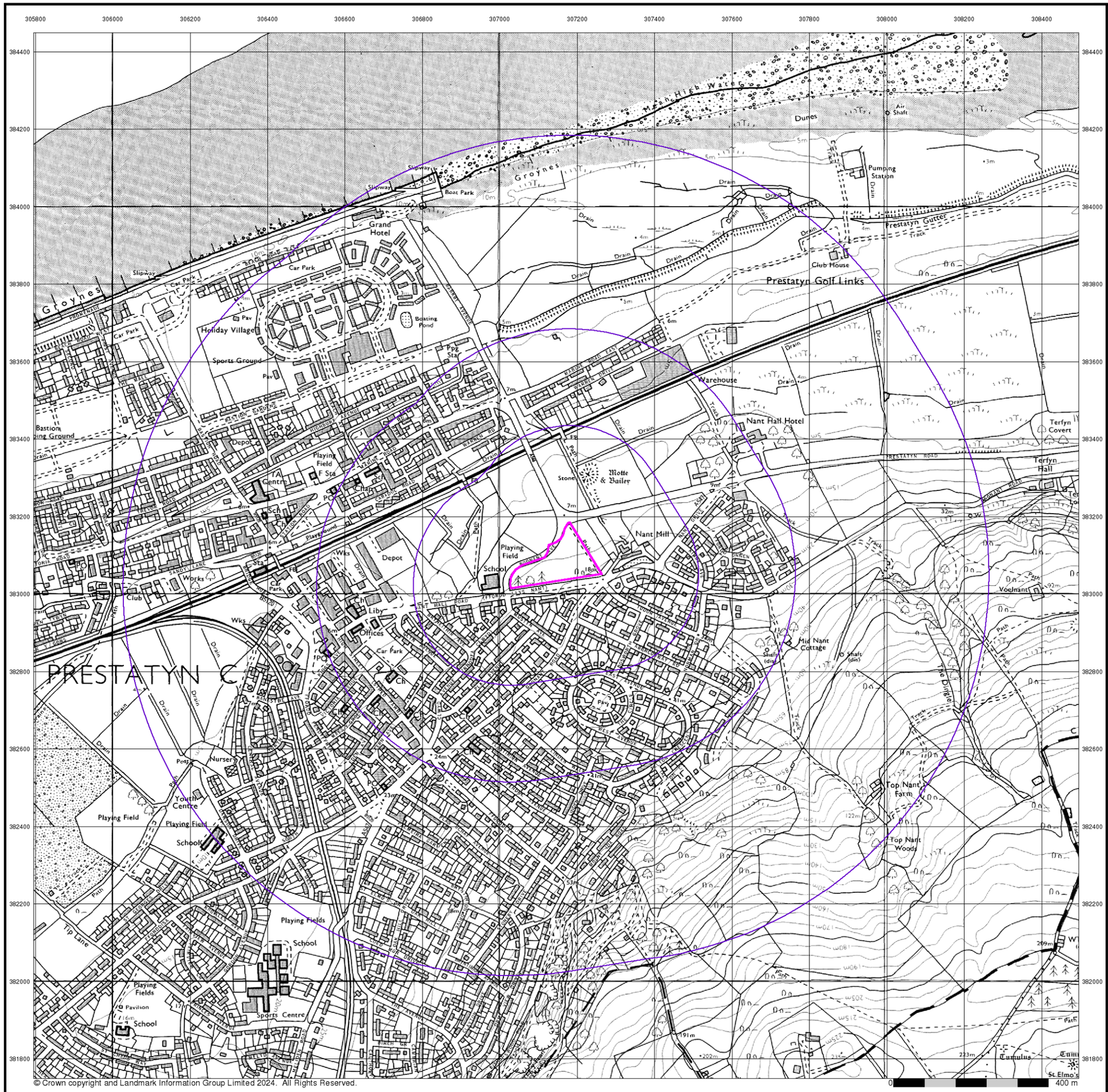

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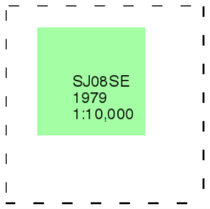
Ordnance Survey Plan

Published 1979

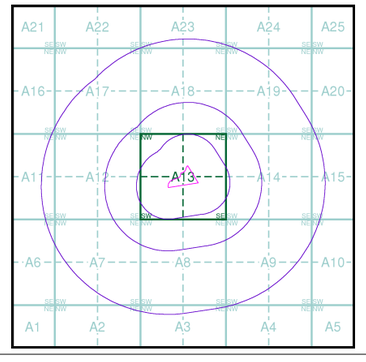
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

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10k Raster Mapping

Published 2000

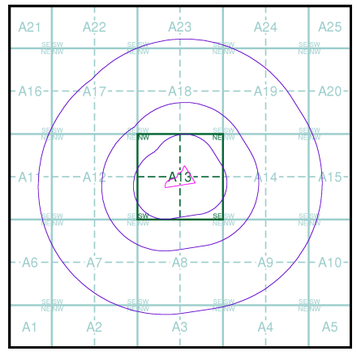
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SJ08SE
2000
1:10,000

Historical Map - Slice A



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

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10k Raster Mapping

Published 2006

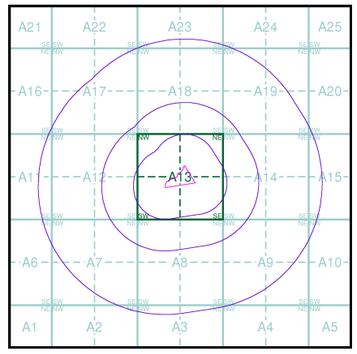
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SJ08SE
2006
1:10,000

Historical Map - Slice A



Order Details

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Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

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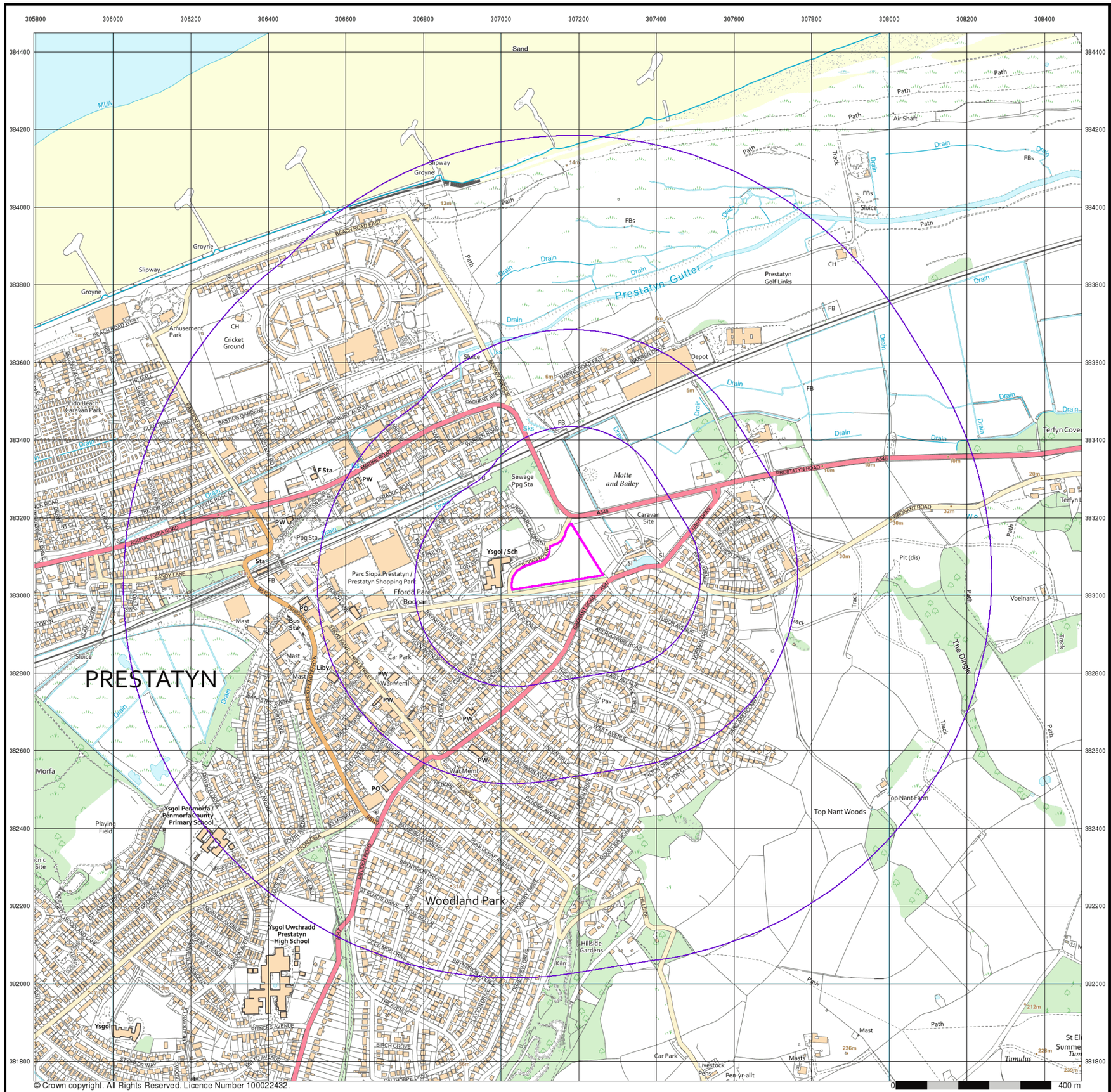

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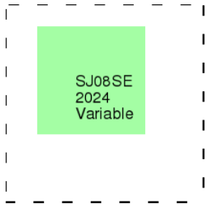
VectorMap Local

Published 2024

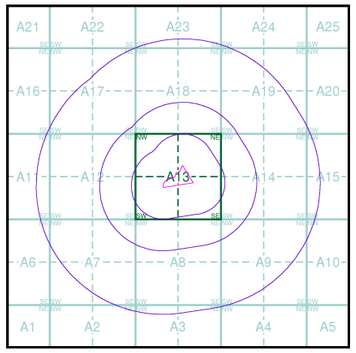
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities),1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	354776573_1_1
Customer Ref:	18098
National Grid Reference:	307150, 383080
Slice:	A
Site Area (Ha):	1.79
Search Buffer (m):	1000

Site Details

Site at 307190, 383090

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APPENDIX 3

Exploratory Holes Logs and Photographs

Caulmert engineering environmental planning	Project: Bodnant Avenue	Location: Bodnant Avenue, Prestatyn	Hole ID: TP1
Client: ADRA		Job No. 5986 / Date: 17.09.2024	Sheet 1 of 1
Excavated by: 3T Tracked Mini Excavator	Operator: PT Drainage Ltd		

Samples	Field Records	Description of Strata	Depth	Legend
ES1 0.15m		TOPSOIL: dark brown slightly sandy clayey topsoil with grass roots.	0.20	
		Brown very sandy gravelly CLAY. Gravel is fine to coarse subrounded to subangular limestone, mudstone and sandstone. (GLACIAL TILL)	0.50 1.00 1.50 2.00 2.40	
		Terminated at 2.4m (Excavator maximum dig depth)	2.50 3.00 3.50 4.00 4.50 5.00	

Groundwater: not observed

Remarks: Sidewalls stable

ES	jar samples for chemical testing
D1	small disturbed sample - classification testing
D1 BRE	small disturbed sample - BRE testing

All depths in metres below ground level

Caulmert engineering environmental planning	Project: Bodnant Avenue	Location: Bodnant Avenue, Prestatyn	Hole ID: TP2
Client: ADRA		Job No. 5986 / Date: 17.09.2024	Sheet 1 of 1
Excavated by: 3T Tracked Mini Excavator		Operator: PT Drainage Ltd	

Samples	Field Records	Description of Strata	Depth	Legend
ES1 0.10m		TOPSOIL: dark brown slightly sandy clayey topsoil with grass roots.	0.20	
D1 BRE 0.80m D2 1.10m		Brown very clayey gravelly SAND with lenses of firm brown clay. Gravel is fine to coarse subrounded to subangular limestone, mudstone and sandstone. (GLACIAL TILL)	0.50 1.00 1.50 2.00 2.40	
		Terminated at 2.4m (Excavator maximum dig depth)	2.50 3.00 3.50 4.00 4.50 5.00	

Groundwater: not observed

Remarks: Sidewalls stable

All depths in metres below ground level

ES	jar samples for chemical testing
D1	small disturbed sample - classification testing
D1 BRE	small disturbed sample - BRE testing

Caulmert engineering environmental planning	Project: Bodnant Avenue	Location: Bodnant Avenue, Prestatyn	Hole ID: TP3
Client: ADRA		Job No. 5986 / Date: 17.09.2024	Sheet 1 of 1
Excavated by: 3T Tracked Mini Excavator	Operator: PT Drainage Ltd		

Samples	Field Records	Description of Strata	Depth	Legend
		TOPSOIL: dark brown slightly sandy clayey topsoil with grass roots.	0.25	
ES1 0.30m		Firm brown very sandy gravelly CLAY. Gravel is fine to coarse subrounded to subangular limestone, mudstone and sandstone. (GLACIAL TILL).	0.50 1.00 1.40	
		Light brown slightly clayey slightly gravelly SAND. Difficult excavation - dense to very dense. (wet) (GLACIAL TILL).	1.50 2.00 2.40	
		Terminated at 2.4m (Excavator maximum dig depth)	2.50 3.00 3.50 4.00 4.50 5.00	

Groundwater: not observed

Remarks: Sidewalls stable

ES	jar samples for chemical testing
D1	small disturbed sample - classification testing
D1 BRE	small disturbed sample - BRE testing

All depths in metres below ground level

Caulmert engineering environmental planning	Project: Bodnant Avenue	Location: Bodnant Avenue, Prestatyn	Hole ID: TP4
Client: ADRA		Job No. 5986 / Date: 17.09.2024	Sheet 1 of 1
Excavated by: 3T Tracked Mini Excavator		Operator: PT Drainage Ltd	

Samples	Field Records	Description of Strata	Depth	Legend
ES1 0.10m		TOPSOIL: dark brown slightly sandy clayey topsoil with grass roots.	0.30	
D1 1.40m		Reddish brown very clayey gravelly SAND. Gravel is fine to coarse subrounded to subangular limestone, mudstone and sandstone. (GLACIAL TILL)	0.50 1.00 1.50 1.80	
		Light brown clayey slightly gravelly SAND. Difficult excavation - dense to very dense. (GLACIAL TILL)	2.00 2.40	
		Terminated at 2.4m (Excavator maximum dig depth)	2.50 3.00 3.50 4.00 4.50 5.00	

Groundwater: not observed

Remarks: Sidewalls stable

ES	jar samples for chemical testing
D1	small disturbed sample - classification testing
D1 BRE	small disturbed sample - BRE testing

All depths in metres below ground level

Caulmert engineering environmental planning	Project: Bodnant Avenue	Location: Bodnant Avenue, Prestatyn	Hole ID: TP5
Client: ADRA		Job No. 5986 / Date: 17.09.2024	Sheet 1 of 1
Excavated by: 3T Tracked Mini Excavator		Operator: PT Drainage Ltd	

Samples	Field Records	Description of Strata	Depth	Legend
ES1 0.10m		TOPSOIL: dark brown slightly sandy clayey topsoil with grass roots.	0.20	
ES2 0.30m D1 BRE 0.60m		Brown sandy slightly gravelly CLAY. Gravel is fine to coarse subrounded limestone, mudstone and sandstone. (GLACIOFLUVIAL DEPOSITS)	0.50 0.80	
D2 1.10m		Light brown very clayey gravelly SAND. Gravel is fine to coarse subrounded limestone, mudstone and sandstone. (GLACIOFLUVIAL DEPOSITS)	1.00 1.50 1.60	
		Brown sandy GRAVEL. Gravel is fine to coarse subrounded limestone, mudstone and sandstone. (GLACIOFLUVIAL DEPOSITS)	2.00 2.40	
		Terminated at 2.4m (Excavator maximum dig depth)	2.50 3.00 3.50 4.00 4.50 5.00	

Groundwater: not observed

Remarks: Sidewalls stable

ES	jar samples for chemical testing
D1	small disturbed sample - classification testing
D1 BRE	small disturbed sample - BRE testing

All depths in metres below ground level

Caulmert engineering environmental planning	Project: Bodnant Avenue	Location: Bodnant Avenue, Prestatyn	Hole ID: TP6
Client: ADRA		Job No. 5986 / Date: 17.09.2024	Sheet 1 of 1
Excavated by: 3T Tracked Mini Excavator	Operator: PT Drainage Ltd		

Samples	Field Records	Description of Strata	Depth	Legend
ES1 0.10m		TOPSOIL: dark brown slightly sandy clayey topsoil with grass roots.	0.30	
D1 BRE 0.70m		Whitish brown slightly gravelly SAND. Difficult excavation - dense to very dense. (GLACIOFLUVIAL DEPOSITS)	0.50 0.70	
		Reddish brown slightly gravelly CLAY. (GLACIOFLUVIAL DEPOSITS)	1.00	
D2 1.10m		Brown slightly clayey very sandy GRAVEL. Gravel is fine to coarse subrounded to subangular limestone, mudstone and sandstone. (GLACIOFLUVIAL DEPOSITS)	1.50 1.80	
		Reddish brown very gravelly becoming gravelly CLAY. Gravel is fine to coarse subrounded to subangular limestone, mudstone and sandstone. (GLACIOFLUVIAL DEPOSITS)	2.00 2.40	
		Terminated at 2.4m (Excavator maximum dig depth)	2.50 3.00 3.50 4.00 4.50 5.00	

Groundwater: not observed

Remarks: Sidewalls stable

ES	jar samples for chemical testing
D1	small disturbed sample - classification testing
D1 BRE	small disturbed sample - BRE testing

All depths in metres below ground level

Caulmert engineering environmental planning	Project: Bodnant Avenue	Location: Bodnant Avenue, Prestatyn	Hole ID: TP7
Client: ADRA		Job No. 5986 / Date: 17.09.2024	Sheet 1 of 1
Excavated by: 3T Tracked Mini Excavator		Operator: PT Drainage Ltd	

Samples	Field Records	Description of Strata	Depth	Legend
ES1 0.10m		TOPSOIL: dark brown slightly sandy clayey topsoil with grass roots.	0.30	
ES2 0.40m		Dark brown slightly gravelly CLAY.	0.50	
D1 BRE 0.80m		Whitish brown slightly clayey slightly gravelly SAND. *Difficult excavation - dense.* (GLACIOFLUVIAL DEPOSITS)	1.00 1.10	
		Light brown slightly gravelly SAND. *Difficult excavation - dense.* (GLACIOFLUVIAL DEPOSITS)	1.40	
		Stiff reddish brown gravelly CLAY. Gravel is fine to coarse subrounded to subangular limestone, mudstone and sandstone. (GLACIOFLUVIAL DEPOSITS)	1.50 1.80	
		Brown slightly clayey sandy GRAVEL. Gravel is fine to coarse subrounded to subangular limestone, mudstone and sandstone. *Difficult excavation - dense.* (GLACIOFLUVIAL DEPOSITS)	2.00 2.40	
		Terminated at 2.4m (Excavator maximum dig depth)	2.50 3.00 3.50 4.00 4.50 5.00	

Groundwater: not observed

Remarks: Sidewalls stable

ES	jar samples for chemical testing
D1	small disturbed sample - classification testing
D1 BRE	small disturbed sample - BRE testing

All depths in metres below ground level

Caulmert engineering environmental planning	Project: Bodnant Avenue	Location: Bodnant Avenue, Prestatyn	Hole ID: TP8
Client: ADRA		Job No. 5986 / Date: 17.09.2024	Sheet 1 of 1
Excavated by: 3T Tracked Mini Excavator		Operator: PT Drainage Ltd	

Samples	Field Records	Description of Strata	Depth	Legend
ES1 0.10m		TOPSOIL: dark brown slightly sandy clayey topsoil with grass roots.	0.20	
		Dark brown slightly sandy slightly gravelly CLAY.	0.50	
D1 BRE 0.70m D2 0.90m		Brown clayey very sandy GRAVEL. Gravel is fine to coarse subrounded to subangular limestone, mudstone and sandstone. *Difficult excavation - dense.* (GLACIOFLUVIAL DEPOSITS)	1.00 1.50 2.00 2.40	
		Terminated at 2.4m (Excavator maximum dig depth)	2.50 3.00 3.50 4.00 4.50 5.00	

Groundwater: not observed

Remarks: Sidewalls stable

All depths in metres below ground level

ES	jar samples for chemical testing
D1	small disturbed sample - classification testing
D1 BRE	small disturbed sample - BRE testing

Caulmert engineering environmental planning	Project: Bodnant Avenue	Location: Bodnant Avenue, Prestatyn	Hole ID: SA1
Client: ADRA		Job No. 5986 / Date: 18.09.2024	Sheet 1 of 1
Excavated by: 3T Tracked Mini Excavator	Operator: PT Drainage Ltd		

Field Records	Description of Strata	Depth	Legend
Permeability test Second run 0.57m First run 0.73m	TOPSOIL: dark brown slightly clayey sand with grass roots.	0.20	
	Dark brown very sandy slightly gravelly CLAY. (GLACIOFLUVIAL DEPOSITS)	0.40	
	Light brown gravelly SAND. (GLACIOFLUVIAL DEPOSITS)	0.50 1.00 1.20	
	Terminated at 1.2m to carry out permeability test	1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00	

Groundwater: not observed

Remarks: Sidewalls stable

All depths in metres below ground level

Caulmert engineering environmental planning	Project: Bodnant Avenue	Location: Bodnant Avenue, Prestatyn	Hole ID: SA2
Client: ADRA		Job No. 5986 / Date: 18.09.2024	Sheet 1 of 1
Excavated by: 3T Tracked Mini Excavator	Operator: PT Drainage Ltd		

Field Records	Description of Strata	Depth	Legend
Permeability test	TOPSOIL: dark brown slightly clayey sand with grass roots.	0.20	
	Dark brown sandy slightly gravelly CLAY. (GLACIOFLUVIAL DEPOSITS)	0.30	
Second run 0.88m First run 1.00m	Light brown sandy GRAVEL. (GLACIOFLUVIAL DEPOSITS)	0.50 1.00 1.50	
	Terminated at 1.5m to carry out permeability test	2.00 2.50 3.00 3.50 4.00 4.50 5.00	

Groundwater: not observed

Remarks: Sidewalls stable

All depths in metres below ground level

1. Trial Pits

TP1

Location

Arisings

Sidewalls

Location

Arisings

Sidewalls

Location

Arisings

Sidewalls

Location

TP4

Arisings

Sidewalls

Location

TP5

Arisings

Sidewalls

Location

TP6

Arisings

Sidewalls

Location

TP7

Arisings

Sidewalls

Arisings

Sidewalls

2. Soakaway Testing

Location

SA1

Sidewalls

Arisings

Sidewalls

Arisings

APPENDIX 4

Permeability Tests Results

BRE365 SOIL INFILTRATION RATE TEST SA1

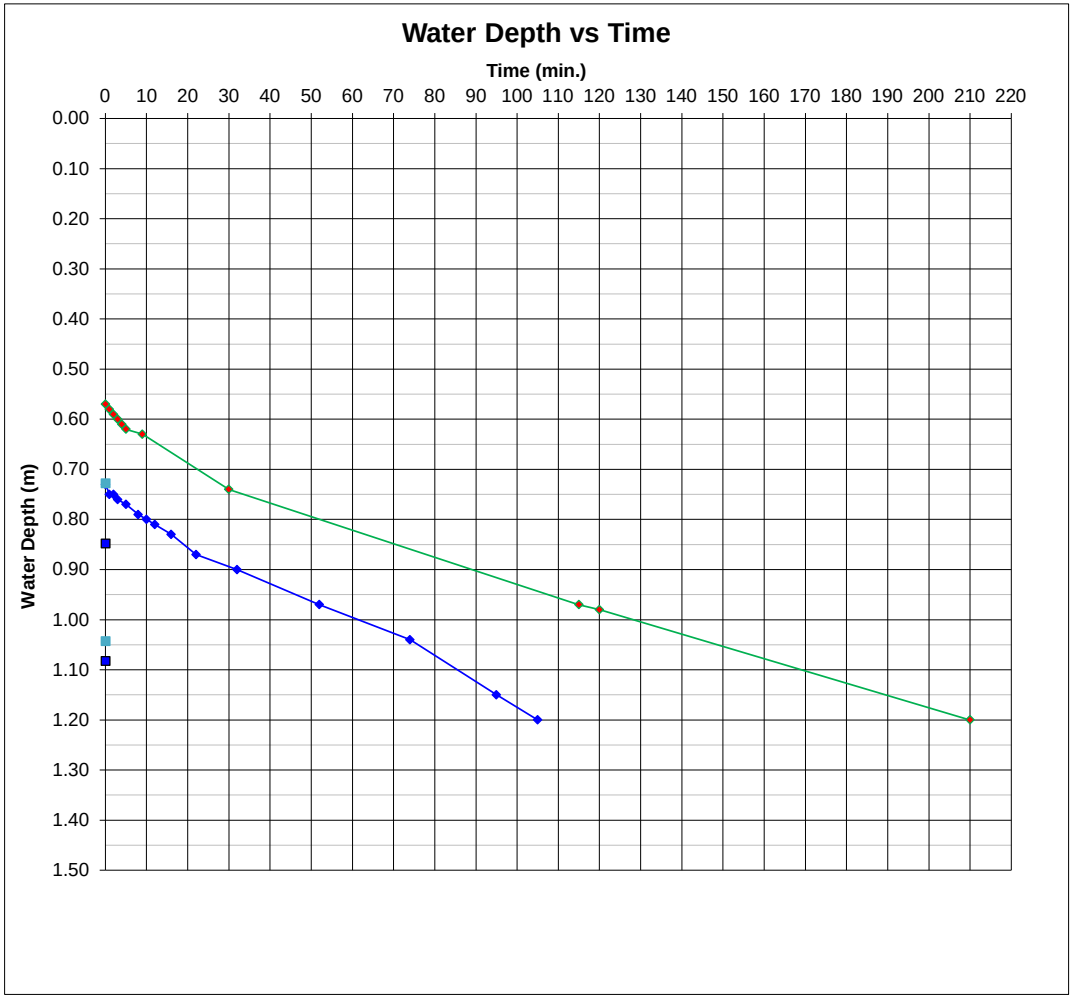
5986 Bodnant Avenue, Prestatyn

Trial Pit Information	
Length (m)	1.10
Width (m)	0.40
Depth (m)	1.20
Groundwater	none
Weather Conditions	dry and sunny
Date	18.09.2024

Remarks

Cycle 1		Cycle 2		Cycle 3	
Time (min)	Depth (m)	Time (min)	Depth (m)	Time (min)	Depth (m)
0	0.73	0	0.57		
1	0.75	1	0.58		
2	0.75	2	0.59		
3	0.76	3	0.60		
5	0.77	4	0.61		
8	0.79	5	0.62		
10	0.80	9	0.63		
12	0.81	30	0.74		
16	0.83	115	0.97		
22	0.87	120	0.98		
32	0.90	210	1.20		
52	0.97				
74	1.04				
95	1.15				
105	1.20				

Final Excavation Depth (m)	Cycle 1	Cycle 2	Cycle 3
At end of testing cycle	1.20	1.20	
Water Depths (m)			
Water depth at start of test	0.73	0.57	
Water depth at end of test	1.20	1.20	
Effective depth (measured)	0.47	0.63	
% Effective storage depth	1.00	1.00	
Effective Storage Depths (m)			
Effective storage depth (100%)	0.47	0.63	
Effective storage depth (75%)	0.35	0.47	
Effective storage depth (50%)	0.24	0.32	
Effective storage depth (25%)	0.12	0.16	
Outflow Time (min)			
Time for measured outflow	105	210	
Time for 100% outflow	105	210	
Time for 75-25% outflow	60	70	
Volume of Outflow (m^3)			
Over measured effective depth	0.21	0.28	
Over 100% effective depth	0.21	0.28	
From 75% - 25% effective depth	0.10	0.14	
Surface Area (m^2)			
For 100% effective storage	1.85	2.33	
For 50% effective storage	1.15	1.39	
Over measured depth	1.85	2.33	
Soil Infiltration Rate (m/s)	**Cycle 1**	**Cycle 2**	**Cycle 3**
Over 100% effective depth	1.8E-05	9.4E-06	
Over measured depth	1.8E-05	9.4E-06	
Over 75% - 25% effective depth	**2.5E-05**	**2.4E-05**	



Design Soil Infiltration Rate: 2.4×10^{-5} m/s

BRE365 SOIL INFILTRATION RATE TEST SA2

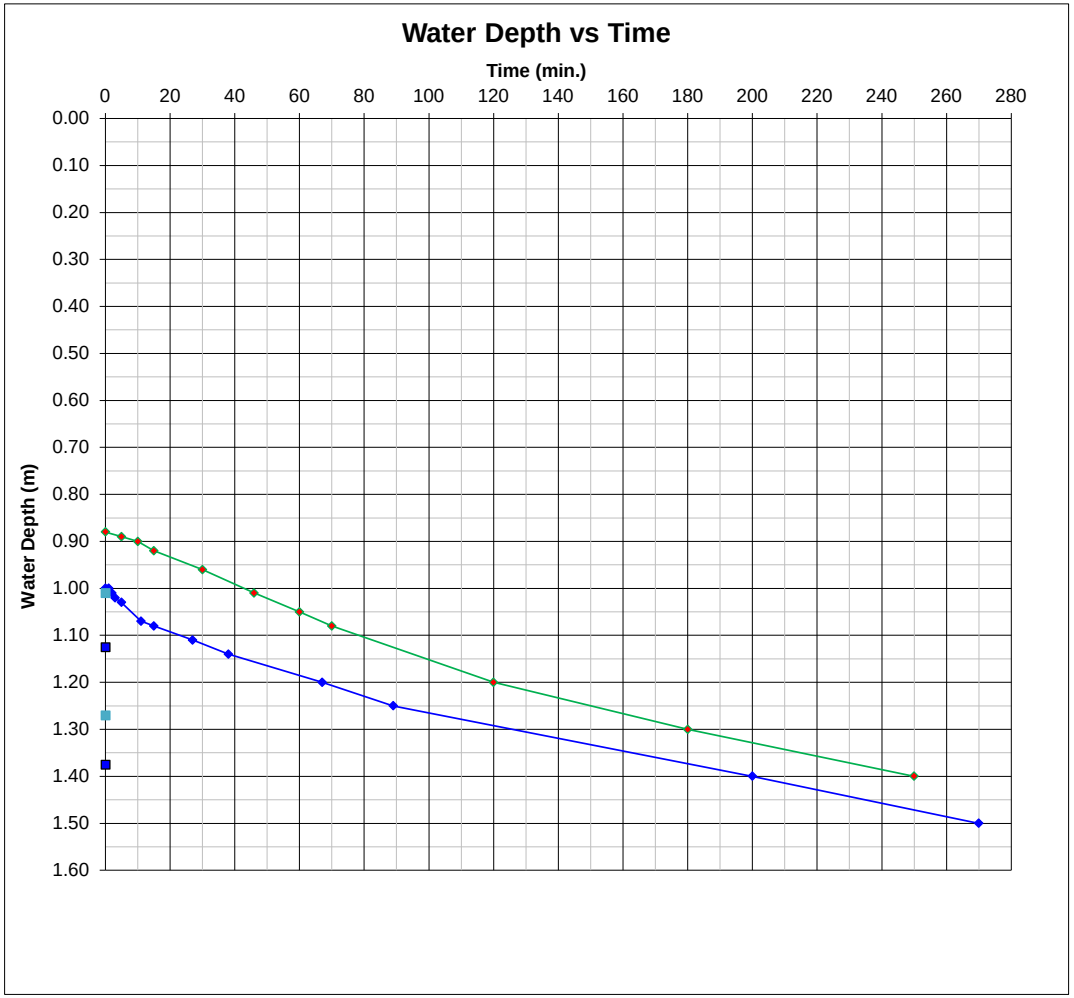
5986 Bodnant Avenue, Prestatyn

Trial Pit Information	
Length (m)	1.00
Width (m)	0.40
Depth (m)	1.50
Groundwater	none
Weather Conditions	dry and sunny
Date	18.09.2024

Remarks

Cycle 1		Cycle 2		Cycle 3	
Time (min)	Depth (m)	Time (min)	Depth (m)	Time (min)	Depth (m)
0	1.00	0	0.88		
1	1.00	5	0.89		
2	1.01	10	0.90		
3	1.02	15	0.92		
5	1.03	30	0.96		
11	1.07	46	1.01		
15	1.08	60	1.05		
27	1.11	70	1.08		
38	1.14	120	1.20		
67	1.20	180	1.30		
89	1.25	250	1.40		
200	1.40				
270	1.50				

Final Excavation Depth (m)	Cycle 1	Cycle 2	Cycle 3
At end of testing cycle	1.50	1.40	
Water Depths (m)			
Water depth at start of test	1.00	0.88	
Water depth at end of test	1.50	1.40	
Effective depth (measured)	0.50	0.52	
% Effective storage depth	1.00	1.00	
Effective Storage Depths (m)			
Effective storage depth (100%)	0.50	0.52	
Effective storage depth (75%)	0.38	0.39	
Effective storage depth (50%)	0.25	0.26	
Effective storage depth (25%)	0.13	0.13	
Outflow Time (min)			
Time for measured outflow	270	250	
Time for 100% outflow	270	250	
Time for 75-25% outflow	150	115	
Volume of Outflow (m^3)			
Over measured effective depth	0.20	0.21	
Over 100% effective depth	0.20	0.21	
From 75% - 25% effective depth	0.10	0.10	
Surface Area (m^2)			
For 100% effective storage	1.80	1.86	
For 50% effective storage	1.10	1.13	
Over measured depth	1.80	1.86	
Soil Infiltration Rate (m/s)	**Cycle 1**	**Cycle 2**	**Cycle 3**
Over 100% effective depth	6.9E-06	7.5E-06	
Over measured depth	6.9E-06	7.5E-06	
Over 75% - 25% effective depth	**1.0E-05**	**1.3E-05**	



Design Soil Infiltration Rate: $1x10^{-5}$ m/s

APPENDIX 5

Dynamic Cone Penetrometer Tests Report

Caulmert
Units 21 & 22
St Aspaph
Denbighshire
LL17 0LJ

Date: 11th October 2024

Report No: DCP FTR 16-01512 - 16-01529

DYNAMIC CONE PENETROMETER TEST REPORT

INTRODUCTION:

Requirements: To determination of Penetration Value / CBR Value and Subgrade Surface Modulus of Unbound Soils using a Dynamic Cone Penetrometer (DCP) in accordance with method statement ref; MS-G-ST-38 based on CS 229 Data for Pavement Assessment.

Procedure: The depth is recorded after each blow until approximately 1.0m is reached or penetration ceases. The results are presented in graphical form showing depth versus Blows with DCP. The CBR (California Bearing Ratio) and Subgrade Surface Modulus is calculated using Equation 8/1 and Equation 8/2 in accordance with SHW Clause 882. It is possible to calculate CBR for each layer of material defined as a change in slope on the graph, indicated by different strength layers and/or material type. For reporting purposes, the CBR's have been calculated at any change in slope; however, trial pit inspections were not carried out to confirm if the change is due to the presence of different layers.

Soil strength expressed as penetration depth mm/blow per layer is converted to CBR using the following Calculation: -

Equation 8/1 - $\text{Log}_{10}(\text{CBR}) = 2.48\text{-}1.057 * \text{Log}_{10}(\text{mm/blow})$

CBR Value is converted to Surface Modulus € using the following calculation: -

Equation 8/2 - $E = 17.6(\text{CBR})^{0.64}$ MPa

Site Address: **Ffordd Parc Bodnant, Prestatyn**

Test details:-

Date of test:	**10/10/2024**
Test location:	**Ffordd Parc Bodnant, Prestatyn**
Technicians' name(s):	**DAT/JSW**

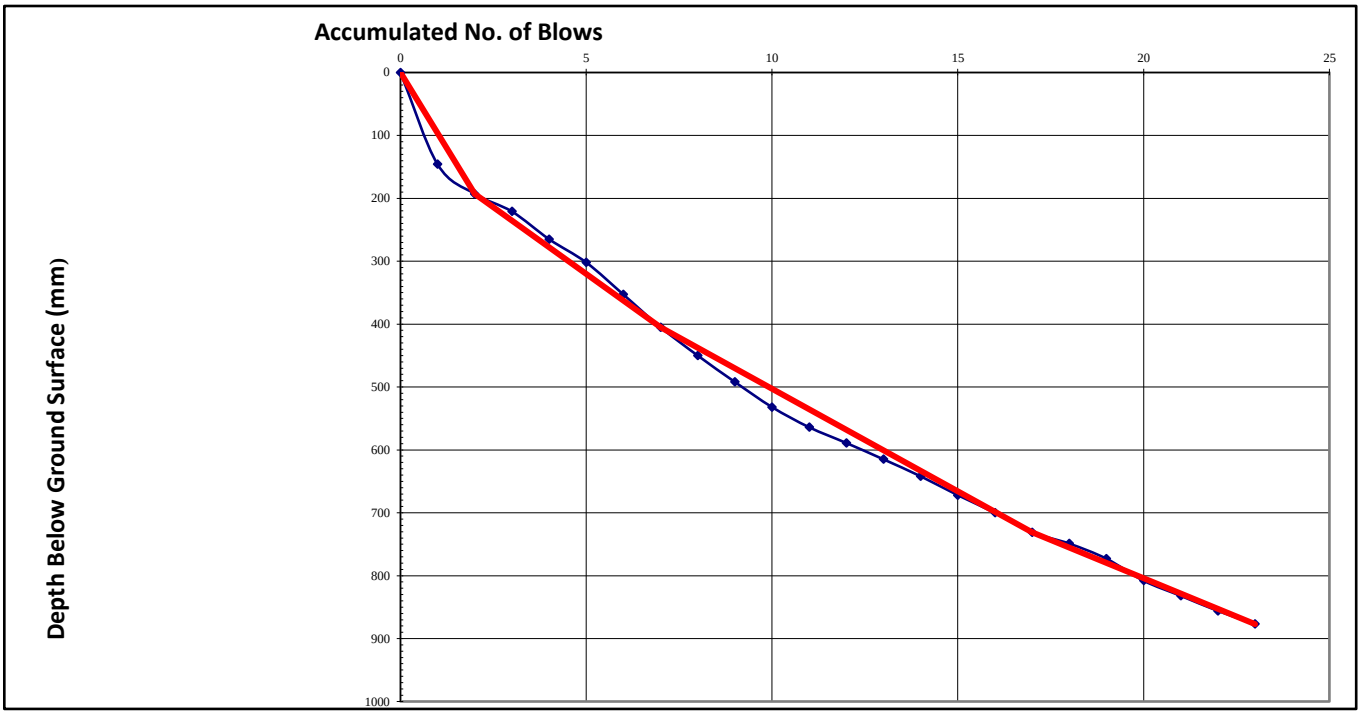
Prepared by:
Mr Hari T Williams
Site Testing Administrator

Approved by:
Mr Irfon L Owen
Site Testing Team Manager

Test location Plan

Test Results
Test 1

Site:	Ffordd Parc Bodnant, Prestatyn		**Test Location:**	1	
Material Description:		Existing sub-soil	**GPS co-ordinates**	N/A	
DCP Reference:	7258B	**Date Tested:**	10/10/2024	**Tested By:**	DAT/JSW



Layer	1	2	3	4	5	6	7
Start depth of layer (mm)	0	193	405	731			
Finish depth of layer (mm)	193	405	731	877			
Layer depth (mm)	193	212	326	146	0	0	0
Blow per layer (No)	2	5	10	6	0	0	0
DCP (mm/blow)	96.5	42.4	32.6	24.3			
CBR (%)	**2.4**	**5.8**	**7.6**	**10.3**			
Surface Modulus (Mpa)	**30.9**	**53.9**	**64.4**	**78.5**			

Comments:

CS 229 requires calculation of CBR for each layer of material defined as a change in slope on the graph, indicating different strength layers and/or material type. For reporting purposes the CBR's have been calculated at any change in slope; however trial pit inspections were not carried out to confirm if the change is due to the presence of different layers.

Test Results
Test 2

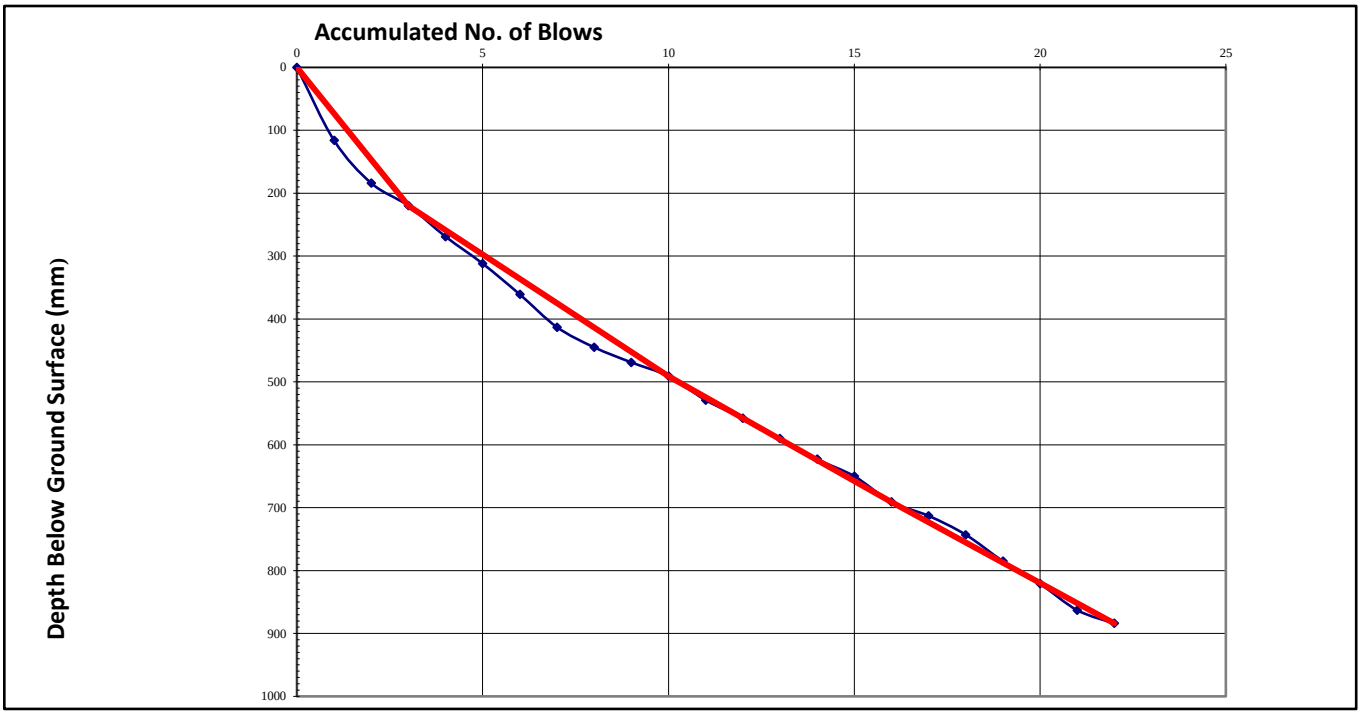
Site:	Ffordd Parc Bodnant, Prestatyn		**Test Location:**	2	
Material Description:		Existing sub-soil	**GPS co-ordinates:**	N/A	
DCP Reference:	7258B	**Date Tested:**	10/10/2024	**Tested By:**	DAT/JSW

Layer	1	2	3	4	5	6	7
Start depth of layer (mm)	0	359	682				
Finish depth of layer (mm)	359	682	869				
Layer depth (mm)	359	323	187	0	0	0	0
Blow per layer (No)	6	10	6	0	0	0	0
DCP (mm/blow)	59.8	32.3	31.2				
CBR (%)	**4.0**	**7.7**	**8.0**				
Surface Modulus (Mpa)	**42.7**	**64.8**	**66.4**				

Comments:
CS 229 requires calculation of CBR for each layer of material defined as a change in slope on the graph, indicating different strength layers and/or material type. For reporting purposes the CBR's have been calculated at any change in slope; however trial pit inspections were not carried out to confirm if the change is due to the presence of different layers.

Test Results
Test 3

Site:	Ffordd Parc Bodnant, Prestatyn		**Test Location:**	3	
Material Description:		Existing sub-soil	**GPS co-ordinates:**	N/A	
DCP Reference:	7258B	**Date Tested:**	10/10/2024	**Tested By:**	DAT/JSW

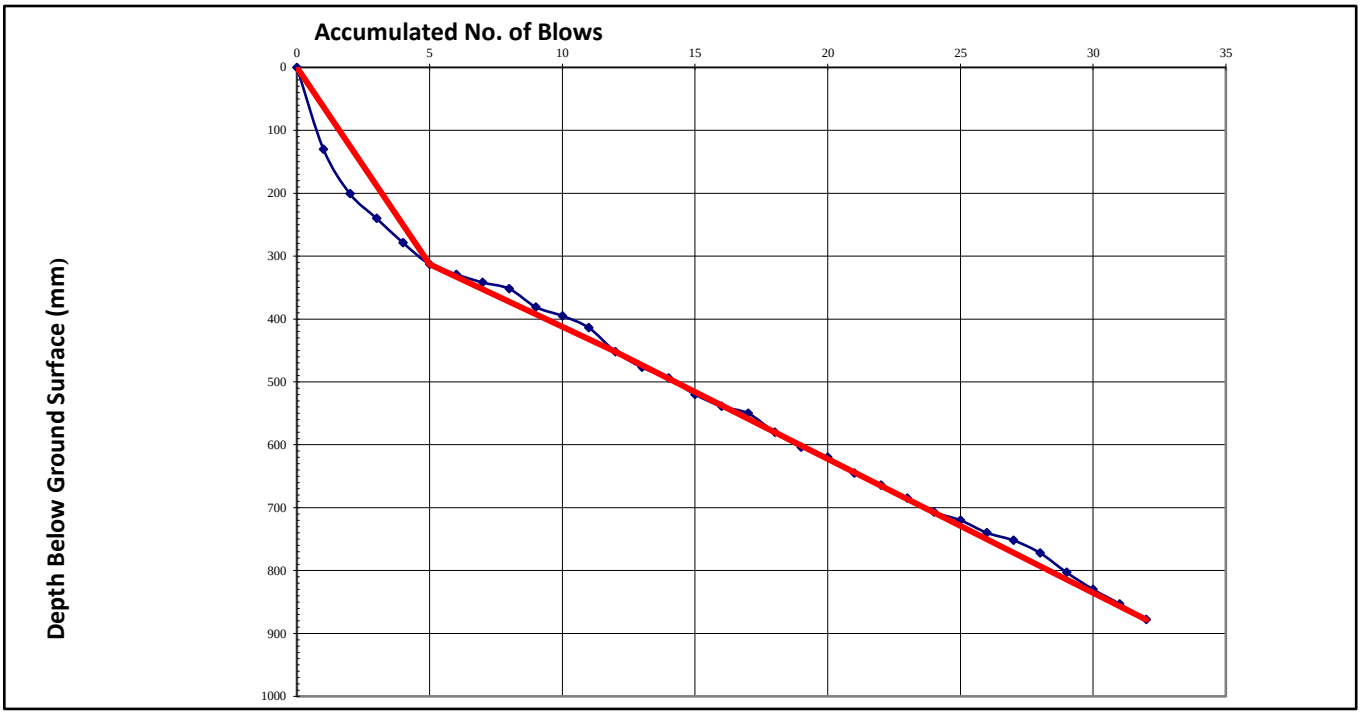


Layer	1	2	3	4	5	6	7
Start depth of layer (mm)	0	220	491	691			
Finish depth of layer (mm)	220	491	691	884			
Layer depth (mm)	220	271	200	193	0	0	0
Blow per layer (No)	3	7	6	6	0	0	0
DCP (mm/blow)	73.3	38.7	33.3	32.2			
CBR (%)	**3.2**	**6.3**	**7.4**	**7.7**			
Surface Modulus (Mpa)	**37.2**	**57.4**	**63.5**	**65.0**			

Comments:
CS 229 requires calculation of CBR for each layer of material defined as a change in slope on the graph, indicating different strength layers and/or material type. For reporting purposes the CBR's have been calculated at any change in slope; however trial pit inspections were not carried out to confirm if the change is due to the presence of different layers.

Test Results
Test 4

Site:	Ffordd Parc Bodnant, Prestatyn		**Test Location:**	4	
Material Description:		Existing sub-soil	**GPS co-ordinates:**	N/A	
DCP Reference:	7258B	**Date Tested:**	10/10/2024	**Tested By:**	DAT/JSW



Layer	1	2	3	4	5	6	7
Start depth of layer (mm)	0	313	452	580			
Finish depth of layer (mm)	313	452	580	878			
Layer depth (mm)	313	139	128	298	0	0	0
Blow per layer (No)	5	7	6	14	0	0	0
DCP (mm/blow)	62.6	19.9	21.3	21.3			
CBR (%)	**3.8**	**12.8**	**11.9**	**11.9**			
Surface Modulus (Mpa)	**41.4**	**90.1**	**85.8**	**86.0**			

Comments:
CS 229 requires calculation of CBR for each layer of material defined as a change in slope on the graph, indicating different strength layers and/or material type. For reporting purposes the CBR's have been calculated at any change in slope; however trial pit inspections were not carried out to confirm if the change is due to the presence of different layers.

Test Results
Test 5

Site:	Ffordd Parc Bodnant, Prestatyn		**Test Location:**	5	
Material Description:		Existing sub-soil	**GPS co-ordinates:**	N/A	
DCP Reference:	7258B	**Date Tested:**	10/10/2024	**Tested By:**	DAT/JSW

Layer	1	2	3	4	5	6	7
Start depth of layer (mm)	0	165	412	767			
Finish depth of layer (mm)	165	412	767	868			
Layer depth (mm)	165	247	355	101	0	0	0
Blow per layer (No)	2	7	9	4	0	0	0
DCP (mm/blow)	82.5	35.3	39.4	25.3			
CBR (%)	**2.8**	**7.0**	**6.2**	**9.9**			
Surface Modulus (Mpa)	**34.4**	**61.1**	**56.6**	**76.6**			

Comments:
CS 229 requires calculation of CBR for each layer of material defined as a change in slope on the graph, indicating different strength layers and/or material type. For reporting purposes the CBR's have been calculated at any change in slope; however trial pit inspections were not carried out to confirm if the change is due to the presence of different layers.

Test Results
Test 6

Site:	Ffordd Parc Bodnant, Prestatyn		**Test Location:**	6	
Material Description:		Existing sub-soil	**GPS co-ordinates:**	N/A	
DCP Reference:	7258B	**Date Tested:**	10/10/2024	**Tested By:**	DAT/JSW

Layer	1	2	3	4	5	6	7
Start depth of layer (mm)	0	203	385	530			
Finish depth of layer (mm)	203	385	530	869			
Layer depth (mm)	203	182	145	339	0	0	0
Blow per layer (No)	3	5	4	10	0	0	0
DCP (mm/blow)	67.7	36.4	36.3	33.9			
CBR (%)	**3.5**	**6.8**	**6.8**	**7.3**			
Surface Modulus (Mpa)	**39.3**	**59.8**	**60.0**	**62.7**			

Comments:
CS 229 requires calculation of CBR for each layer of material defined as a change in slope on the graph, indicating different strength layers and/or material type. For reporting purposes the CBR's have been calculated at any change in slope; however trial pit inspections were not carried out to confirm if the change is due to the presence of different layers.

Test Results
Test 7

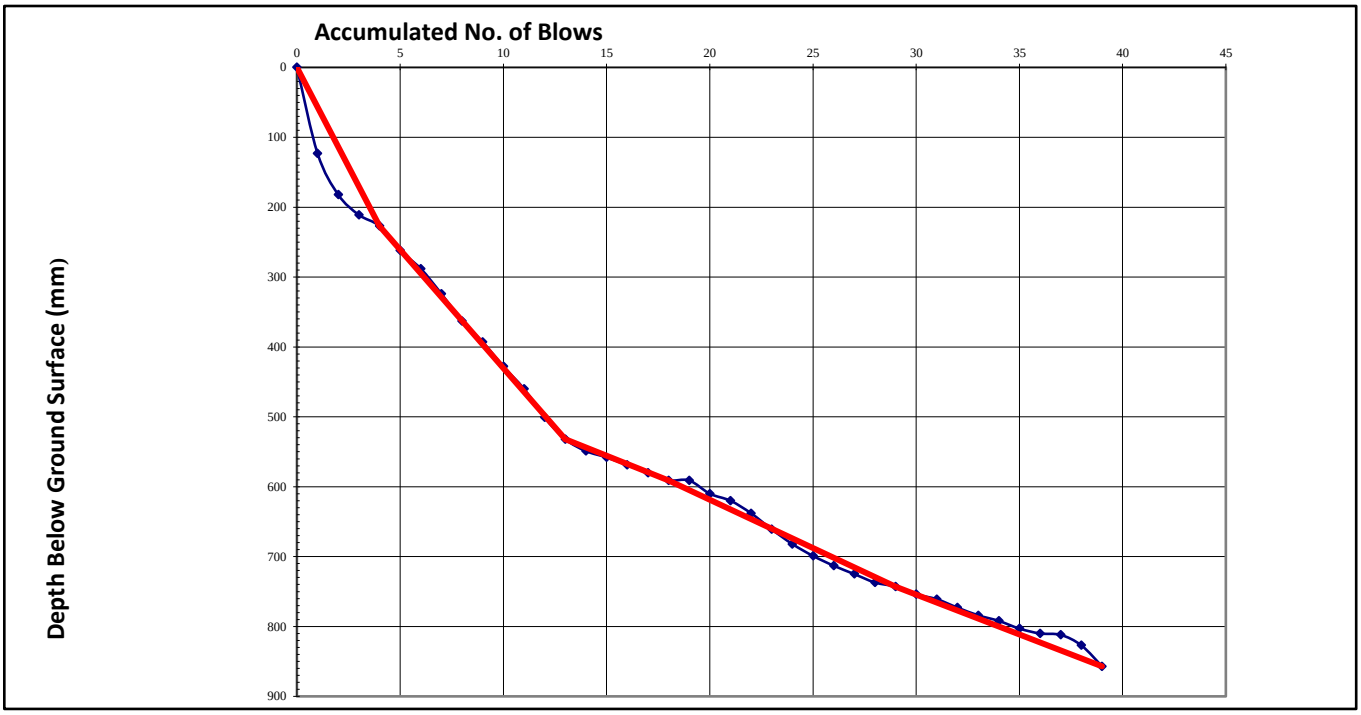
Site:	Ffordd Parc Bodnant, Prestatyn		**Test Location:**	7	
Material Description:		Existing sub-soil	**GPS co-ordinates:**	N/A	
DCP Reference:	7258B	**Date Tested:**	10/10/2024	**Tested By:**	DAT/JSW

Layer	1	2	3	4	5	6	7
Start depth of layer (mm)	0	217	715				
Finish depth of layer (mm)	217	715	816				
Layer depth (mm)	217	498	101	0	0	0	0
Blow per layer (No)	4	15	5	0	0	0	0
DCP (mm/blow)	54.3	33.2	20.2				
CBR (%)	**4.4**	**7.5**	**12.6**				
Surface Modulus (Mpa)	**45.6**	**63.6**	**89.1**				

Comments:
CS 229 requires calculation of CBR for each layer of material defined as a change in slope on the graph, indicating different strength layers and/or material type. For reporting purposes the CBR's have been calculated at any change in slope; however trial pit inspections were not carried out to confirm if the change is due to the presence of different layers.

Test Results
Test 8

Site:	Ffordd Parc Bodnant, Prestatyn		**Test Location:**	8	
Material Description:		Existing sub-soil	**GPS co-ordinates:**	N/A	
DCP Reference:	7258B	**Date Tested:**	10/10/2024	**Tested By:**	DAT/JSW



Layer	1	2	3	4	5	6	7
Start depth of layer (mm)	0	227	532	591	743		
Finish depth of layer (mm)	227	532	591	743	857		
Layer depth (mm)	227	305	59	152	114	0	0
Blow per layer (No)	4	9	5	11	10	0	0
DCP (mm/blow)	56.8	33.9	11.8	13.8	11.4		
CBR (%)	**4.2**	**7.3**	**22.2**	**18.8**	**23.1**		
Surface Modulus (Mpa)	**44.3**	**62.8**	**128.1**	**115.1**	**131.1**		

Comments:
CS 229 requires calculation of CBR for each layer of material defined as a change in slope on the graph, indicating different strength layers and/or material type. For reporting purposes the CBR's have been calculated at any change in slope; however trial pit inspections were not carried out to confirm if the change is due to the presence of different layers.

Test Results
Test 9

Site:	Ffordd Parc Bodnant, Prestatyn		**Test Location:**	9	
Material Description:		Existing sub-soil	**GPS co-ordinates:**	N/A	
DCP Reference:	7258B	**Date Tested:**	10/10/2024	**Tested By:**	DAT/JSW

Layer	1	2	3	4	5	6	7
Start depth of layer (mm)	0	359	728				
Finish depth of layer (mm)	359	728	877				
Layer depth (mm)	359	369	149	0	0	0	0
Blow per layer (No)	6	10	8	0	0	0	0
DCP (mm/blow)	59.8	36.9	18.6				
CBR (%)	**4.0**	**6.7**	**13.7**				
Surface Modulus (Mpa)	**42.7**	**59.2**	**94.1**				

Comments:
CS 229 requires calculation of CBR for each layer of material defined as a change in slope on the graph, indicating different strength layers and/or material type. For reporting purposes the CBR's have been calculated at any change in slope; however trial pit inspections were not carried out to confirm if the change is due to the presence of different layers.

Test Results
Test 10

Site:	Ffordd Parc Bodnant, Prestatyn		**Test Location:**	10	
Material Description:		Existing sub-soil	**GPS co-ordinates:**	N/A	
DCP Reference:	7258B	**Date Tested:**	10/10/2024	**Tested By:**	DAT/JSW

Layer	1	2	3	4	5	6	7
Start depth of layer (mm)	0	394	660				
Finish depth of layer (mm)	394	660	859				
Layer depth (mm)	394	266	199	0	0	0	0
Blow per layer (No)	8	8	8	0	0	0	0
DCP (mm/blow)	49.3	33.3	24.9				
CBR (%)	**4.9**	**7.4**	**10.1**				
Surface Modulus (Mpa)	**48.7**	**63.6**	**77.4**				

Comments:
CS 229 requires calculation of CBR for each layer of material defined as a change in slope on the graph, indicating different strength layers and/or material type. For reporting purposes the CBR's have been calculated at any change in slope; however trial pit inspections were not carried out to confirm if the change is due to the presence of different layers.

Test Results
Test 11

Site:	Ffordd Parc Bodnant, Prestatyn		**Test Location:**	11	
Material Description:		Existing sub-soil	**GPS co-ordinates:**	N/A	
DCP Reference:	7258B	**Date Tested:**	10/10/2024	**Tested By:**	DAT/JSW

Layer	1	2	3	4	5	6	7
Start depth of layer (mm)	0	204	414	633			
Finish depth of layer (mm)	204	414	633	880			
Layer depth (mm)	204	210	219	247	0	0	0
Blow per layer (No)	3	7	8	14	0	0	0
DCP (mm/blow)	68.0	30.0	27.4	17.6			
CBR (%)	**3.5**	**8.3**	**9.1**	**14.5**			
Surface Modulus (Mpa)	**39.2**	**68.2**	**72.5**	**97.6**			

Comments:
CS 229 requires calculation of CBR for each layer of material defined as a change in slope on the graph, indicating different strength layers and/or material type. For reporting purposes the CBR's have been calculated at any change in slope; however trial pit inspections were not carried out to confirm if the change is due to the presence of different layers.

Test Results
Test 12

Site:	Ffordd Parc Bodnant, Prestatyn		**Test Location:**	12	
Material Description:		Existing sub-soil	**GPS co-ordinates:**	N/A	
DCP Reference:	7258B	**Date Tested:**	10/10/2024	**Tested By:**	DAT/JSW

Layer	1	2	3	4	5	6	7
Start depth of layer (mm)	0	235	449	748			
Finish depth of layer (mm)	235	449	748	881			
Layer depth (mm)	235	214	299	133	0	0	0
Blow per layer (No)	3	6	9	2	0	0	0
DCP (mm/blow)	78.3	35.7	33.2	66.5			
CBR (%)	**3.0**	**6.9**	**7.4**	**3.6**			
Surface Modulus (Mpa)	**35.6**	**60.6**	**63.6**	**39.8**			

Comments:
CS 229 requires calculation of CBR for each layer of material defined as a change in slope on the graph, indicating different strength layers and/or material type. For reporting purposes the CBR's have been calculated at any change in slope; however trial pit inspections were not carried out to confirm if the change is due to the presence of different layers.

Test Results
Test 13

Site:	Ffordd Parc Bodnant, Prestatyn		**Test Location:**	13	
Material Description:	Existing sub-soil		**GPS co-ordinates:**	N/A	
DCP Reference:	7258B	**Date Tested:**	10/10/2024	**Tested By:**	DAT/JSW

Layer	1	2	3	4	5	6	7
Start depth of layer (mm)	0	102	401	809			
Finish depth of layer (mm)	102	401	809	880			
Layer depth (mm)	102	299	408	71	0	0	0
Blow per layer (No)	2	9	13	3	0	0	0
DCP (mm/blow)	51.0	33.2	31.4	23.7			
CBR (%)	**4.7**	**7.4**	**7.9**	**10.7**			
Surface Modulus (Mpa)	**47.6**	**63.6**	**66.1**	**80.0**			

Comments:
CS 229 requires calculation of CBR for each layer of material defined as a change in slope on the graph, indicating different strength layers and/or material type. For reporting purposes the CBR's have been calculated at any change in slope; however trial pit inspections were not carried out to confirm if the change is due to the presence of different layers.

Test Results
Test 14

Site:	Ffordd Parc Bodnant, Prestatyn		**Test Location:**	14	
Material Description:		Existing sub-soil	**GPS co-ordinates:**	N/A	
DCP Reference:	7258B	**Date Tested:**	10/10/2024	**Tested By:**	DAT/JSW

Layer	1	2	3	4	5	6	7
Start depth of layer (mm)	0	232	402	564	733		
Finish depth of layer (mm)	232	402	564	733	844		
Layer depth (mm)	232	170	162	169	111	0	0
Blow per layer (No)	4	5	9	14	4	0	0
DCP (mm/blow)	58.0	34.0	18.0	12.1	27.8		
CBR (%)	**4.1**	**7.3**	**14.2**	**21.7**	**9.0**		
Surface Modulus (Mpa)	**43.6**	**62.6**	**96.3**	**126.2**	**71.8**		

Comments:
CS 229 requires calculation of CBR for each layer of material defined as a change in slope on the graph, indicating different strength layers and/or material type. For reporting purposes the CBR's have been calculated at any change in slope; however trial pit inspections were not carried out to confirm if the change is due to the presence of different layers.

APPENDIX 6

Chemical Laboratory Testing Results

envirolab
Hattersley Science & Technology Park
Stockport Road, Hattersley, SK14 3QU

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 24/09065
Issue Number: 1 **Date:** 25 September, 2024

Client: Caulmert Limited (Bangor)
Intec
Parc Menai
Bangor
LL574FG

Project Manager: Cezary Salwa
Project Name: Bodnant Avenue
Project Ref: 5986
Order No: 18145
Date Samples Received: 18/09/24
Date Instructions Received: 19/09/24
Date Analysis Completed: 25/09/24

Approved by:

Richard Wong
Client Manager

Envirolab Job Number: 24/09065

Client Project Name: Bodnant Avenue

Client Project Ref: 5986

Lab Sample ID	24/09065/1	24/09065/2	24/09065/3	24/09065/4	24/09065/5	24/09065/6	24/09065/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	2			
Client Sample ID	TP1	TP2	TP2	TP3	TP4	TP5	TP5			
Depth to Top	0.15	0.10	0.80	0.30	0.10	0.10	0.30			
Depth To Bottom										
Date Sampled	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24			
Sample Type	SOIL - ES	SOIL - ES	SOIL - D	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	4AE	4AE	4AE	4AE	4AE	4AE	4AE			
% Stones >10mm$_A$	<0.1	7.3	<0.1	<0.1	15.9	<0.1	<0.1	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.29	9.09	-	8.48	8.13	8.40	8.50	pH	0.01	A-T-031s
pH BRE$_D$$^{M\#}$	-	-	8.30	-	-	-	-	pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	-	-	<10	-	-	-	-	mg/l	10	A-T-026s
Organic Matter$_D$$^{M\#}$	3.1	2.7	-	1.3	5.3	7.7	3.6	% w/w	0.1	A-T-032s
Arsenic$_D$$^{M\#}$	5	5	-	8	7	7	9	mg/kg	1	A-T-024s
Cadmium$_D$$^{M\#}$	1.6	1.4	-	1.3	1.8	2.2	2.4	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	29	23	-	18	31	40	46	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	21	19	-	24	18	23	23	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	-	<1	<1	<1	<1	mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	124	113	-	110	175	194	180	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17	-	<0.17	<0.17	<0.17	<0.17	mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	20	19	-	21	18	23	25	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	342	263	-	217	358	429	437	mg/kg	5	A-T-024s

Envirolab Job Number: 24/09065

Client Project Name: Bodnant Avenue

Client Project Ref: 5986

Lab Sample ID	24/09065/1	24/09065/2	24/09065/3	24/09065/4	24/09065/5	24/09065/6	24/09065/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	2			
Client Sample ID	TP1	TP2	TP2	TP3	TP4	TP5	TP5			
Depth to Top	0.15	0.10	0.80	0.30	0.10	0.10	0.30			
Depth To Bottom										
Date Sampled	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24			
Sample Type	SOIL - ES	SOIL - ES	SOIL - D	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	4AE	4AE	4AE	4AE	4AE	4AE	4AE			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	NAD	-	NAD	NAD	NAD	NAD			A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	-	N/A	N/A	N/A	N/A			A-T-045

Envirolab Job Number: 24/09065

Client Project Name: Bodnant Avenue

Client Project Ref: 5986

Lab Sample ID	24/09065/1	24/09065/2	24/09065/3	24/09065/4	24/09065/5	24/09065/6	24/09065/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	2			
Client Sample ID	TP1	TP2	TP2	TP3	TP4	TP5	TP5			
Depth to Top	0.15	0.10	0.80	0.30	0.10	0.10	0.30			
Depth To Bottom										
Date Sampled	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24			
Sample Type	SOIL - ES	SOIL - ES	SOIL - D	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	4AE	4AE	4AE	4AE	4AE	4AE	4AE			
PAH-16MS										
Acenaphthene$_A^{M\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.14	<0.02	-	<0.02	0.07	0.04	<0.02	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.41	<0.04	-	<0.04	0.39	0.17	<0.04	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.33	<0.04	-	<0.04	0.42	0.16	<0.04	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.46	<0.05	-	<0.05	0.61	0.26	<0.05	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.14	<0.05	-	<0.05	0.23	0.09	<0.05	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.25	<0.07	-	<0.07	0.27	0.10	<0.07	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.48	<0.06	-	<0.06	0.51	0.21	<0.06	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	<0.04	-	<0.04	0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	0.74	<0.08	-	<0.08	0.84	0.39	<0.08	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.17	<0.03	-	<0.03	0.25	0.09	<0.03	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	<0.03	-	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.17	<0.03	-	<0.03	0.26	0.14	<0.03	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	0.54	<0.07	-	<0.07	0.70	0.32	<0.07	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	3.83	<0.08	-	<0.08	4.59	1.97	<0.08	mg/kg	0.01	A-T-019s

Envirolab Job Number: 24/09065

Client Project Name: Bodnant Avenue

Client Project Ref: 5986

Lab Sample ID	24/09065/1	24/09065/2	24/09065/3	24/09065/4	24/09065/5	24/09065/6	24/09065/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	2			
Client Sample ID	TP1	TP2	TP2	TP3	TP4	TP5	TP5			
Depth to Top	0.15	0.10	0.80	0.30	0.10	0.10	0.30			
Depth To Bottom										
Date Sampled	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24			
Sample Type	SOIL - ES	SOIL - ES	SOIL - D	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	4AE	4AE	4AE	4AE	4AE	4AE	4AE			
TPH CWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	-	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	-	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	-	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<1	-	<1	1	1	<1	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	5	2	-	<1	6	7	2	mg/kg	1	A-T-055s
Total Aliphatics$_A$	5	2	-	<1	7	9	2	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1	-	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	-	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	<1	-	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	2	<1	-	<1	8	7	<1	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	6	<1	-	<1	30	20	1	mg/kg	1	A-T-055s
Total Aromatics$_A$	8	<1	-	<1	38	27	1	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35)$_A$	13	2	-	<1	46	36	4	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 24/09065

Client Project Name: Bodnant Avenue

Client Project Ref: 5986

Lab Sample ID	24/09065/8	24/09065/9	24/09065/10	24/09065/11	24/09065/12	24/09065/13	24/09065/14	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	2	1	1			
Client Sample ID	TP5	TP6	TP6	TP7	TP7	TP7	TP8			
Depth to Top	0.60	0.10	0.70	0.10	0.40	0.80	0.10			
Depth To Bottom										
Date Sampled	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24			
Sample Type	SOIL - D	SOIL - ES	SOIL - D	SOIL - ES	SOIL - ES	SOIL - D	SOIL - ES			
Sample Matrix Code	4AE	4AE	4AE	4AE	4AE	4AE	4AE			
% Stones >10mm$_A$	<0.1	<0.1	<0.1	<0.1	10.6	2.6	9.0	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	-	8.45	-	8.31	8.59	-	8.28	pH	0.01	A-T-031s
pH BRE$_D$$^{M\#}$	8.53	-	8.58	-	-	8.70	-	pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	<10	-	<10	-	-	<10	-	mg/l	10	A-T-026s
Organic Matter$_D$$^{M\#}$	-	3.6	-	10.5	2.0	-	4.1	% w/w	0.1	A-T-032s
Arsenic$_D$$^{M\#}$	-	6	-	5	8	-	5	mg/kg	1	A-T-024s
Cadmium$_D$$^{M\#}$	-	2.1	-	2.3	2.6	-	1.5	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	-	29	-	40	61	-	32	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	-	19	-	22	33	-	18	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	-	<1	-	<1	<1	-	<1	mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	-	168	-	196	181	-	118	mg/kg	1	A-T-024s
Mercury$_D$	-	<0.17	-	<0.17	<0.17	-	<0.17	mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	-	19	-	21	31	-	18	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	-	409	-	471	536	-	304	mg/kg	5	A-T-024s

Envirolab Job Number: 24/09065

Client Project Name: Bodnant Avenue

Client Project Ref: 5986

Lab Sample ID	24/09065/8	24/09065/9	24/09065/10	24/09065/11	24/09065/12	24/09065/13	24/09065/14	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	2	1	1			
Client Sample ID	TP5	TP6	TP6	TP7	TP7	TP7	TP8			
Depth to Top	0.60	0.10	0.70	0.10	0.40	0.80	0.10			
Depth To Bottom										
Date Sampled	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24			
Sample Type	SOIL - D	SOIL - ES	SOIL - D	SOIL - ES	SOIL - ES	SOIL - D	SOIL - ES			
Sample Matrix Code	4AE	4AE	4AE	4AE	4AE	4AE	4AE			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	-	NAD	-	NAD	NAD	-	NAD			A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	-	N/A	-	N/A	N/A	-	N/A			A-T-045

Envirolab Job Number: 24/09065

Client Project Name: Bodnant Avenue

Client Project Ref: 5986

Lab Sample ID	24/09065/8	24/09065/9	24/09065/10	24/09065/11	24/09065/12	24/09065/13	24/09065/14	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	2	1	1			
Client Sample ID	TP5	TP6	TP6	TP7	TP7	TP7	TP8			
Depth to Top	0.60	0.10	0.70	0.10	0.40	0.80	0.10			
Depth To Bottom										
Date Sampled	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24			
Sample Type	SOIL - D	SOIL - ES	SOIL - D	SOIL - ES	SOIL - ES	SOIL - D	SOIL - ES			
Sample Matrix Code	4AE	4AE	4AE	4AE	4AE	4AE	4AE			
PAH-16MS										
Acenaphthene$_A^{M\#}$	-	<0.01	-	<0.01	<0.01	-	<0.01	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	-	<0.01	-	<0.01	<0.01	-	<0.01	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	-	0.04	-	<0.02	<0.02	-	<0.02	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	-	0.28	-	0.17	<0.04	-	0.12	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	-	0.30	-	0.25	<0.04	-	0.18	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	-	0.46	-	0.33	<0.05	-	0.24	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	-	0.19	-	0.13	<0.05	-	0.10	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	-	0.18	-	0.16	<0.07	-	0.10	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	-	0.34	-	0.24	<0.06	-	0.18	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	-	<0.04	-	<0.04	<0.04	-	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	-	0.53	-	0.35	<0.08	-	0.26	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	-	<0.01	-	<0.01	<0.01	-	<0.01	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	-	0.21	-	0.15	<0.03	-	0.10	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	-	<0.03	-	<0.03	<0.03	-	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	-	0.12	-	0.08	<0.03	-	0.07	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	-	0.47	-	0.29	<0.07	-	0.23	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	-	3.12	-	2.15	<0.08	-	1.58	mg/kg	0.01	A-T-019s

Envirolab Job Number: 24/09065

Client Project Name: Bodnant Avenue

Client Project Ref: 5986

Lab Sample ID	24/09065/8	24/09065/9	24/09065/10	24/09065/11	24/09065/12	24/09065/13	24/09065/14	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	2	1	1			
Client Sample ID	TP5	TP6	TP6	TP7	TP7	TP7	TP8			
Depth to Top	0.60	0.10	0.70	0.10	0.40	0.80	0.10			
Depth To Bottom										
Date Sampled	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24	17-Sep-24			
Sample Type	SOIL - D	SOIL - ES	SOIL - D	SOIL - ES	SOIL - ES	SOIL - D	SOIL - ES			
Sample Matrix Code	4AE	4AE	4AE	4AE	4AE	4AE	4AE			
TPH CWG with Clean Up										
Ali >C5-C6$_A$	-	<0.01	-	<0.01	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	-	<0.01	-	<0.01	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	-	<1	-	<1	<1	-	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	-	<1	-	<1	<1	-	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	-	<1	-	<1	<1	-	<1	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	-	<1	-	3	<1	-	<1	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	-	6	-	9	4	-	7	mg/kg	1	A-T-055s
Total Aliphatics$_A$	-	6	-	12	4	-	7	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	-	<0.01	-	<0.01	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	-	<0.01	-	<0.01	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	-	<1	-	<1	<1	-	<1	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	-	<1	-	<1	<1	-	<1	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	-	<1	-	<1	<1	-	<1	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	-	5	-	7	1	-	8	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	-	18	-	15	4	-	21	mg/kg	1	A-T-055s
Total Aromatics$_A$	-	23	-	21	5	-	28	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35)$_A$	-	29	-	33	9	-	35	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	-	<0.01	-	<0.01	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	-	<0.01	-	<0.01	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	-	<0.01	-	<0.01	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	-	<0.01	-	<0.01	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	-	<0.01	-	<0.01	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	-	<0.01	-	<0.01	<0.01	-	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 24/09065

Client Project Name: Bodnant Avenue

Client Project Ref: 5986

Lab Sample ID	**24/09065/15**							**Units**	**Limit of Detection**	**Method ref**
Client Sample No	**1**									
Client Sample ID	**TP8**									
Depth to Top	**0.70**									
Depth To Bottom										
Date Sampled	**17-Sep-24**									
Sample Type	**SOIL - D**									
Sample Matrix Code	**4AE**									
% Stones >10mm$_A$	**9.7**							**% w/w**	**0.1**	**A-T-044**
pH BRE$_D$$^{M\#}$	**8.59**							**pH**	**0.01**	**A-T-031s**
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	**<10**							**mg/l**	**10**	**A-T-026s**

Report Notes

General

•This report shall not be reproduced, except in full, without written approval from Envirolab.
•The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client and can affect the validity of results.
•The results reported herein relate only to the material supplied to the laboratory.
•The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
•Analytical results reflect the quality of the sample at the time of analysis only.
•Opinions and Interpretations expressed are outside our scope of accreditation.
•A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
•If a sample is outside of the calibration range or affected by interferences then it may need diluting. This will result in the limit of detection (LOD) being raised.
•Subcontracted Analysis: Please see the appended report for any deviations, current LODs and accreditation status of the test.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "D" on Asbestos	Analysis performed on a dried aliquot of sample provided.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
Trace	Asbestos found not suitable for Gravimetric Quantification – not enough to accurately weigh.
N/A	Not applicable

Asbestos

Identification: Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
"Trace Asbestos Identified" will be reported if there is not enough present to verify the type.
Quantification: Generally a 2 stage process including visual identification, hand picking and weighing, and fibre counting. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres). "TRACE" will be reported as a quantification result.
PLEASE INFORM THE LABORATORY IF YOU WOULD LIKE THE STAGE 3 SEDIMENTATION PROCESS CARRIED OUT. Note this will be subcontracted.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25^0C / 11550µS/cm @ 20^0C fall outside the calibration range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Caulmert Limited (Bangor), Intec, Parc Menai, Bangor, LL574FG

Project No: 24/09065

Date Received: 19/09/2024 (am)

Project: Bodnant Avenue

Cool Box Temperatures (°C): 16.4 & 16.6

Clients Project No: 5986

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	24/09065/1	24/09065/2	24/09065/3	24/09065/4	24/09065/5	24/09065/6	24/09065/7	24/09065/8	24/09065/9	24/09065/10	24/09065/11	24/09065/12
Client Sample No	1	1	1	1	1	1	2	1	1	1	1	2
Client Sample ID/Depth	TP1 0.15m	TP2 0.10m	TP2 0.80m	TP3 0.30m	TP4 0.10m	TP5 0.10m	TP5 0.30m	TP5 0.60m	TP6 0.10m	TP6 0.70m	TP7 0.10m	TP7 0.40m
Date Sampled	17/09/24	17/09/24	17/09/24	17/09/24	17/09/24	17/09/24	17/09/24	17/09/24	17/09/24	17/09/24	17/09/24	17/09/24
A-T-019s	23/09/2024	23/09/2024		23/09/2024	23/09/2024	23/09/2024	23/09/2024		23/09/2024		23/09/2024	23/09/2024
A-T-022s	23/09/2024	23/09/2024		23/09/2024	23/09/2024	23/09/2024	23/09/2024		23/09/2024		23/09/2024	23/09/2024
A-T-024s	25/09/2024	25/09/2024		25/09/2024	25/09/2024	25/09/2024	25/09/2024		25/09/2024		25/09/2024	25/09/2024
A-T-026s			25/09/2024					25/09/2024		25/09/2024		
A-T-031s	25/09/2024	25/09/2024	25/09/2024	25/09/2024	25/09/2024	25/09/2024	25/09/2024	25/09/2024	25/09/2024	25/09/2024	25/09/2024	25/09/2024
A-T-032s	25/09/2024	25/09/2024		25/09/2024	25/09/2024	25/09/2024	25/09/2024		25/09/2024		25/09/2024	25/09/2024
A-T-040s	25/09/2024	25/09/2024		25/09/2024	25/09/2024	25/09/2024	25/09/2024		25/09/2024		25/09/2024	25/09/2024
A-T-044	24/09/2024	24/09/2024	24/09/2024	24/09/2024	24/09/2024	24/09/2024	24/09/2024	24/09/2024	24/09/2024	24/09/2024	24/09/2024	24/09/2024
A-T-045	24/09/2024	24/09/2024		24/09/2024	24/09/2024	24/09/2024	24/09/2024		24/09/2024		24/09/2024	24/09/2024
A-T-055s	23/09/2024	23/09/2024		23/09/2024	23/09/2024	23/09/2024	23/09/2024		23/09/2024		23/09/2024	23/09/2024
Calc-As Recd	23/09/2024	23/09/2024		23/09/2024	23/09/2024	23/09/2024	23/09/2024		23/09/2024		23/09/2024	23/09/2024

Lab Sample ID	24/09065/13	24/09065/14	24/09065/15
Client Sample No	1	1	1
Client Sample ID/Depth	TP7 0.80m	TP8 0.10m	TP8 0.70m
Date Sampled	17/09/24	17/09/24	17/09/24
A-T-019s		23/09/2024	
A-T-022s		23/09/2024	
A-T-024s		25/09/2024	
A-T-026s	25/09/2024		25/09/2024
A-T-031s	25/09/2024	25/09/2024	25/09/2024
A-T-032s		25/09/2024	
A-T-040s		25/09/2024	
A-T-044	24/09/2024	24/09/2024	24/09/2024
A-T-045		24/09/2024	
A-T-055s		23/09/2024	
Calc-As Recd		23/09/2024	

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

APPENDIX 7

Geotechnical Laboratory Testing Results

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022, cl 5.3, 6

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

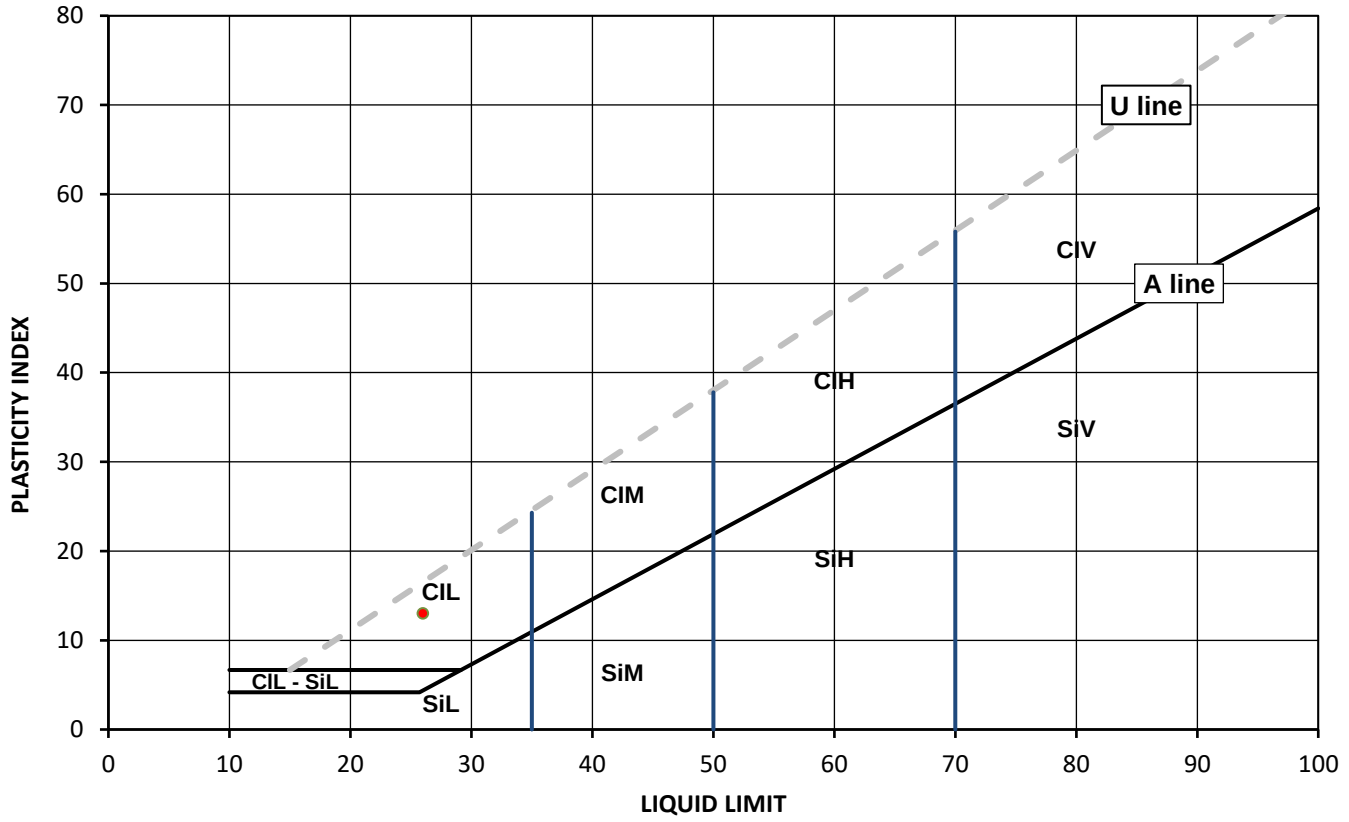
Client:	Caulmert Ltd	Client Reference:	5986
Client Address:	Glyndwr Innovations Ltd, St Asaph Business Park, St Asaph, LL17 0JD	Job Number:	24-043968-1
		Date Sampled:	17/09/2024
		Date Received:	25/09/2024
Contact:	Cezary Salwa	Date Tested:	07/10/2024
Site Address:	Bodnant Avenue	Sampled By:	Client - C.S.

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	326910	Depth Top [m]:	1.10
Hole No.:	TP2	Depth Base [m]:	Not Given
Sample Reference:	2	Sample Type:	B
Sample Description:	Brown slightly gravelly sandy CLAY		
Sample Preparation:	Tested after washing to remove >0.425 mm;		
Cone Type:	80g/30deg		

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
11.7	26	1.015	13	13	-0.08	1.08	76



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1:2014+A1:2022, BS 1377-2:2022; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

Signed:
Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

 Date Reported: 15/10/2024 **GF 360.13**

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022, cl 5.3, 6

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

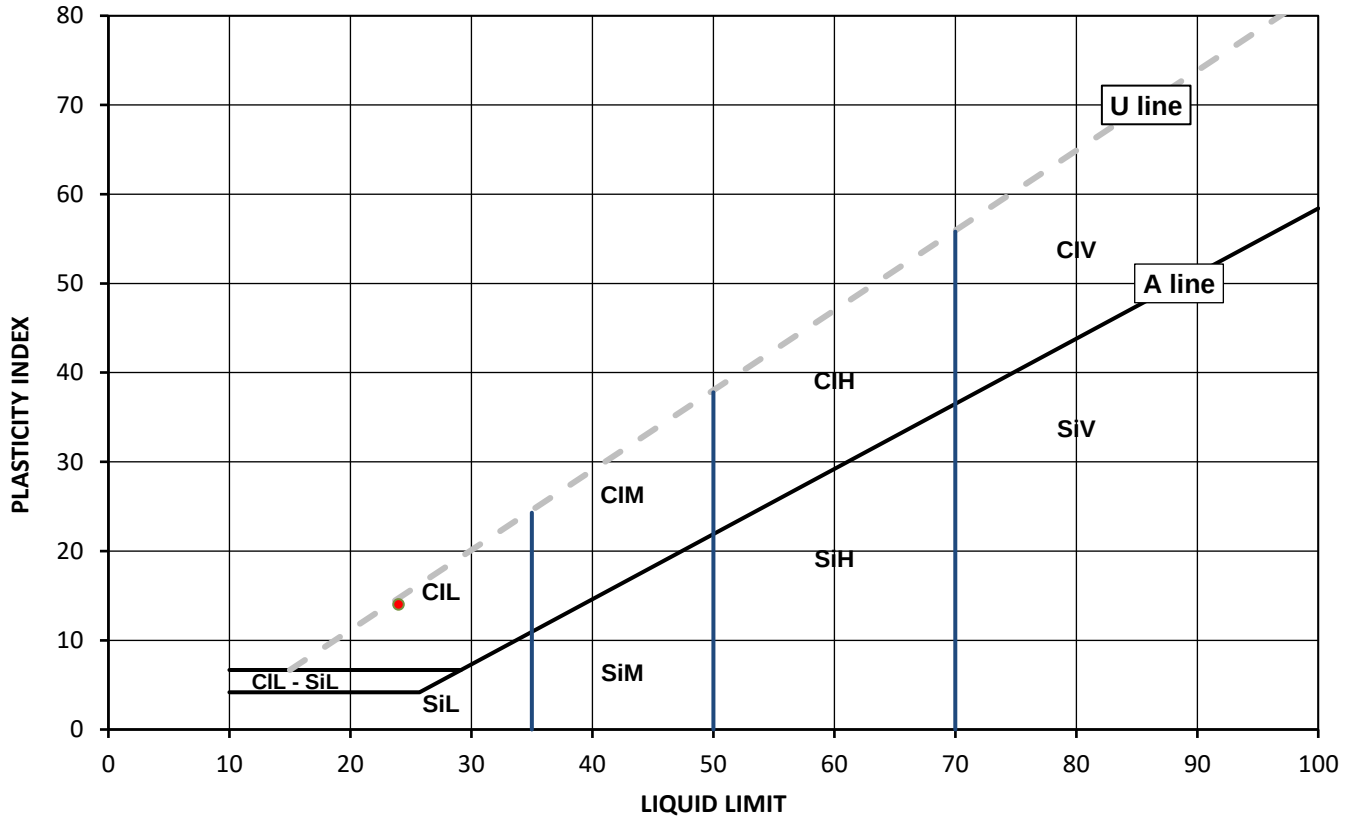
Client:	Caulmert Ltd	Client Reference:	5986
Client Address:	Glyndwr Innovations Ltd, St Asaph Business Park, St Asaph, LL17 0JD	Job Number:	24-043968-1
		Date Sampled:	17/09/2024
		Date Received:	25/09/2024
Contact:	Cezary Salwa	Date Tested:	07/10/2024
Site Address:	Bodnant Avenue	Sampled By:	Client - C.S.

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	326911	Depth Top [m]:	1.40
Hole No.:	TP4	Depth Base [m]:	Not Given
Sample Reference:	1	Sample Type:	B
Sample Description:	Brown slightly gravelly very clayey SAND		
Sample Preparation:	Tested after washing to remove >0.425 mm;		
Cone Type:	80g/30deg		

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
9.8	24	1.030	10	14	0.00	1.00	73



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN 17892-1:2014+A1:2022, BS 1377-2:2022; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

Signed:
Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

 Date Reported: 15/10/2024 **GF 360.13**

SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Tested in Accordance with:

BS EN ISO 17892-12:2018+A2:2022, cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022, cl 5.3, 6. Correlation Factor by Clayton C.R.I and Jukes A.W (1978). W by BS EN ISO 17892-1:2014+A1:2022.

Client: Caulmert Ltd

Client Address: Glyndwr Innovations Ltd, St Asaph Business Park,
St Asaph, LL17 0JD

Contact: Cezary Salwa

Site Address: Bodnant Avenue

Client Reference: 5986
Job Number: 24-043968-1
Date Sampled: 17/09/2024
Date Received: 25/09/2024
Date Tested: 07/10/2024
Sampled By: Client - C.S.

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	W	Liquid & Plastic Limit							Density		
		Reference	Depth Top m	Depth Base m	Type			%	% Passing 425um %	WL* %	Correlation Factor	Wp %	Ip %	Cone type	Sample Preparation	bulk Mg/m3	dry Mg/m3	PD Mg/m3
326910	TP2	2	1.10	Not Given	B	Brown slightly gravelly sandy CLAY	Atterberg 1 Point	11.7	76	26	1.015	13	13	80g/30 deg	WR			
326911	TP4	1	1.40	Not Given	B	Brown slightly gravelly very clayey SAND	Atterberg 1 Point	9.8	73	24	1.030	10	14	80g/30 deg	WR			

Note: # Non accredited; NP - Non plastic; N - Tested in natural condition, R - Tested after >0.425mm removed by hand, WR - Tested after washing to remove >425mm; * - One point liquid limit corrected as per the report Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Comments:

Signed:

Katarzyna Koziel
Geotechnical Reporting Team Leader

for and on behalf of i2 Analytical Ltd

Date Reported: 15/10/2024 **GF 361.15**

SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS EN ISO 17892-1:2014+A1:2022, BS 1377-2: 2022, clause 4.1

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Caulmert Ltd

Client Address: Glyndwr Innovations Ltd, St Asaph Business Park, St Asaph, LL17 0JD

Contact: Cezary Salwa

Site Address: Bodnant Avenue

Client Reference: 5986
Job Number: 24-043968-1
Date Sampled: 17/09/2024
Date Received: 25/09/2024
Date Tested: 07/10/2024
Sampled By: Client - C.S.

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC											
		Reference	Depth Top m	Depth Base m	Type			%											
326910	TP2	2	1.10	Not Given	B	Brown slightly gravelly sandy CLAY		11.7											
326911	TP4	1	1.40	Not Given	B	Brown slightly gravelly very clayey SAND		9.8											

Comments:

Signed:

Katarzyna Koziel
Geotechnical Reporting Team Leader

for and on behalf of i2 Analytical Ltd

Date Reported: 15/10/2024

GF 126.18

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

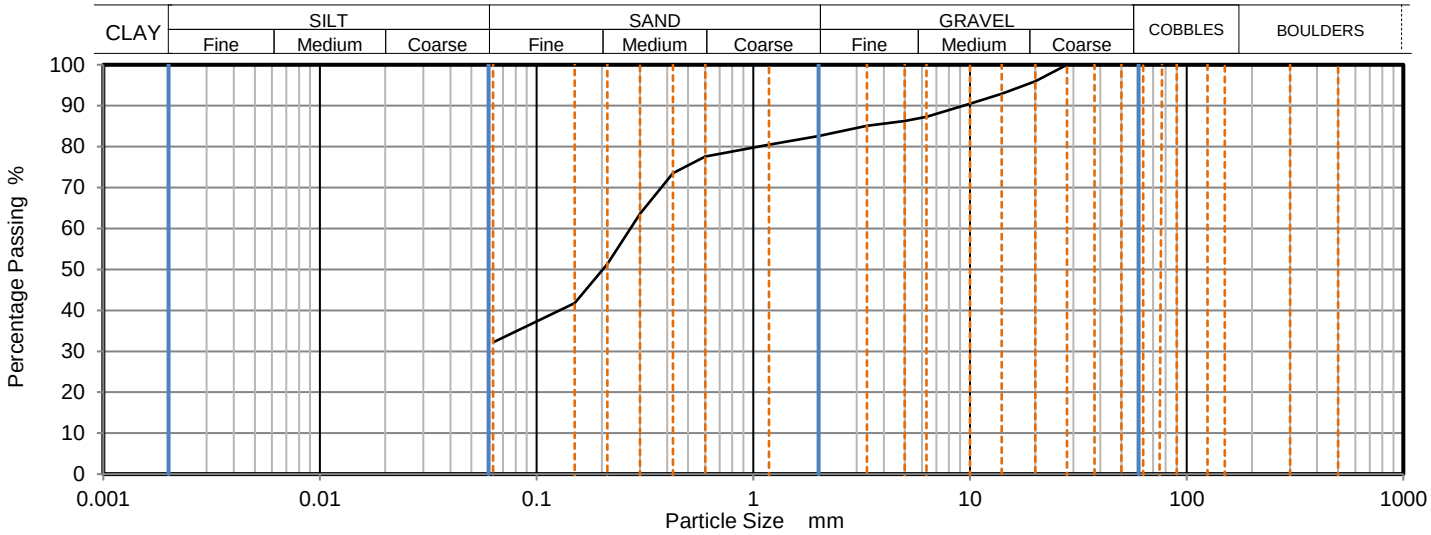
4041

Client:	Caulmert Ltd	Client Reference:	5986
Client Address:	Glyndwr Innovations Ltd, St Asaph Business Park, St Asaph, LL17 0JD	Job Number:	24-043968-1
		Date Sampled:	17/09/2024
		Date Received:	25/09/2024
Contact:	Cezary Salwa	Date Tested:	07/10/2024
Site Address:	Bodnant Avenue	Sampled By:	Client - C.S.

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	326910	Depth Top [m]:	1.10
Hole No.:	TP2	Depth Base [m]:	Not Given
Sample Reference:	2	Sample Type:	B
Sample Description:	Brown slightly gravelly sandy CLAY		
Sample Preparation:	Sample was quartered, oven dried at 107.5 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	96		
14	93		
10	91		
6.3	87		
5	86		
3.35	85		
2	83		
1.18	81		
0.6	78		
0.425	74		
0.3	64		
0.212	51		
0.15	42		
0.063	32		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	17.00
Sand	51.00
Fines <0.063 mm	32.00

Grading Analysis		
D100	mm	28
D60	mm	0.271
D30	mm	
D10	mm	
Uniformity Coefficient		4.3
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

Signed:

Katarzyna Koziel
Geotechnical Reporting Team Leader

for and on behalf of i2 Analytical Ltd

Date Reported: 15/10/2024

GF 366.11

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

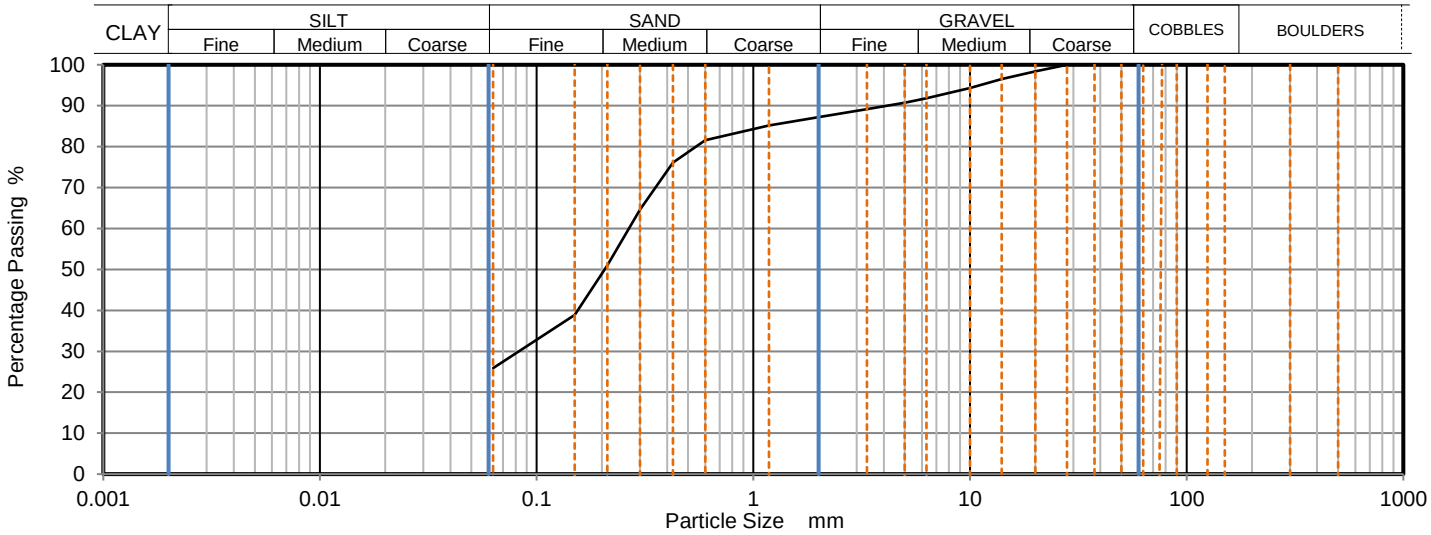
4041

Client:	Caulmert Ltd	Client Reference:	5986
Client Address:	Glyndwr Innovations Ltd, St Asaph Business Park, St Asaph, LL17 0JD	Job Number:	24-043968-1
		Date Sampled:	17/09/2024
		Date Received:	25/09/2024
Contact:	Cezary Salwa	Date Tested:	07/10/2024
Site Address:	Bodnant Avenue	Sampled By:	Client - C.S.

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	326911	Depth Top [m]:	1.40
Hole No.:	TP4	Depth Base [m]:	Not Given
Sample Reference:	1	Sample Type:	B
Sample Description:	Brown slightly gravelly very clayey SAND		
Sample Preparation:	Sample was quartered, oven dried at 107.5 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	98		
14	97		
10	94		
6.3	92		
5	91		
3.35	89		
2	87		
1.18	85		
0.6	82		
0.425	76		
0.3	65		
0.212	51		
0.15	39		
0.063	26		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	13.00
Sand	61.00
Fines <0.063 mm	26.00

Grading Analysis		
D100	mm	28
D60	mm	0.267
D30	mm	0.0829
D10	mm	
Uniformity Coefficient		4.2
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

Signed:

Katarzyna Koziel
Geotechnical Reporting Team Leader

for and on behalf of i2 Analytical Ltd

Date Reported: 15/10/2024

GF 366.11

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

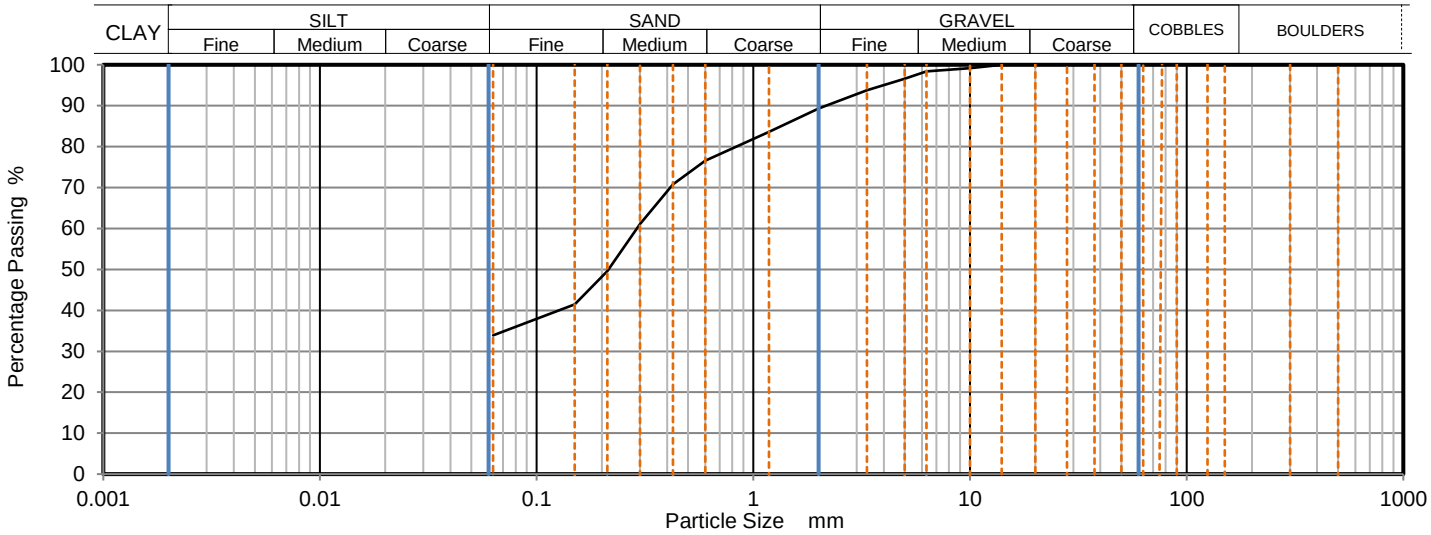
4041

Client:	Caulmert Ltd	Client Reference:	5986
Client Address:	Glyndwr Innovations Ltd, St Asaph Business Park, St Asaph, LL17 0JD	Job Number:	24-043968-1
		Date Sampled:	17/09/2024
		Date Received:	25/09/2024
Contact:	Cezary Salwa	Date Tested:	07/10/2024
Site Address:	Bodnant Avenue	Sampled By:	Client - C.S.

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	326912	Depth Top [m]:	1.10
Hole No.:	TP5	Depth Base [m]:	Not Given
Sample Reference:	2	Sample Type:	B
Sample Description:	Brown slightly gravelly sandy CLAY		
Sample Preparation:	Sample was quartered, oven dried at 107.5 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	98		
5	97		
3.35	94		
2	89		
1.18	84		
0.6	77		
0.425	71		
0.3	61		
0.212	50		
0.15	42		
0.063	34		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	11.00
Sand	55.00
Fines <0.063 mm	34.00

Grading Analysis		
D100	mm	20
D60	mm	0.29
D30	mm	
D10	mm	
Uniformity Coefficient		4.6
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

Signed:

Katarzyna Koziel
Geotechnical Reporting Team Leader

for and on behalf of i2 Analytical Ltd

Date Reported: 15/10/2024

GF 366.11

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

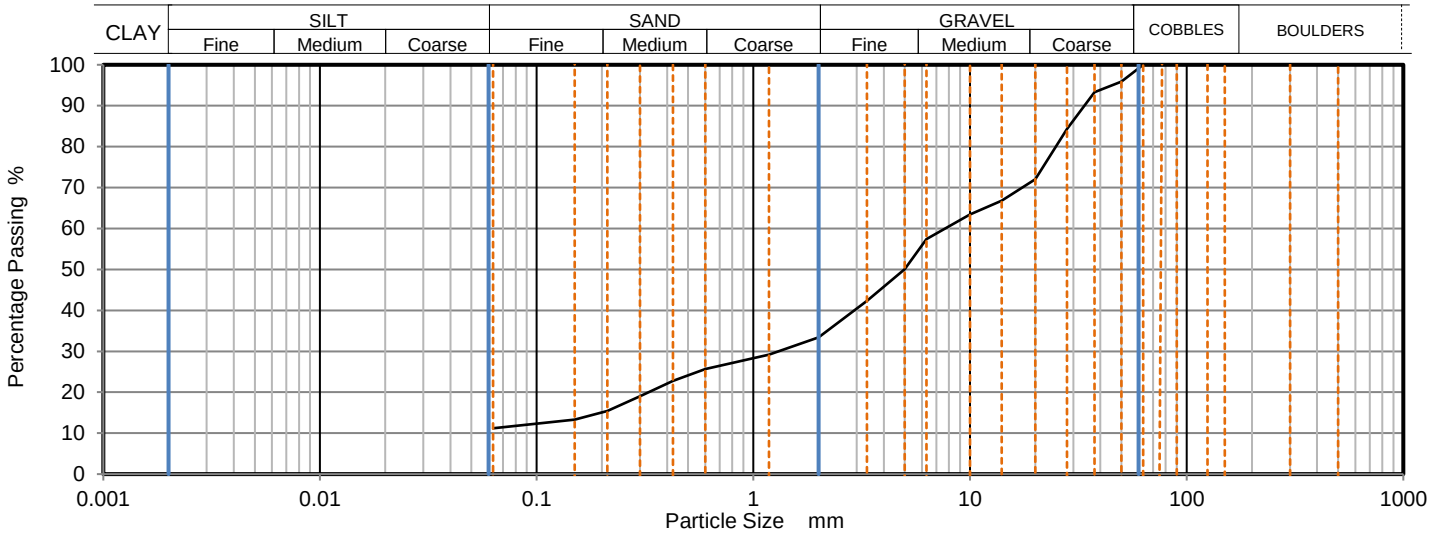
4041

Client:	Caulmert Ltd	Client Reference:	5986
Client Address:	Glyndwr Innovations Ltd, St Asaph Business Park, St Asaph, LL17 0JD	Job Number:	24-043968-1
		Date Sampled:	17/09/2024
		Date Received:	25/09/2024
Contact:	Cezary Salwa	Date Tested:	07/10/2024
Site Address:	Bodnant Avenue	Sampled By:	Client - C.S.

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	326913	Depth Top [m]:	1.10
Hole No.:	TP6	Depth Base [m]:	Not Given
Sample Reference:	2	Sample Type:	B
Sample Description:	Brown very sandy clayey GRAVEL		
Sample Preparation:	Sample was whole tested, oven dried at 107.3 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	96		
37.5	93		
28	84		
20	72		
14	67		
10	63		
6.3	57		
5	50		
3.35	42		
2	33		
1.18	29		
0.6	26		
0.425	23		
0.3	19		
0.212	15		
0.15	13		
0.063	11		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	67.00
Sand	22.00
Fines <0.063 mm	11.00

Grading Analysis		
D100	mm	63
D60	mm	7.7
D30	mm	1.3
D10	mm	
Uniformity Coefficient		120
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

Signed:

Katarzyna Koziel
Geotechnical Reporting Team Leader

for and on behalf of i2 Analytical Ltd

Date Reported: 15/10/2024

GF 366.11

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

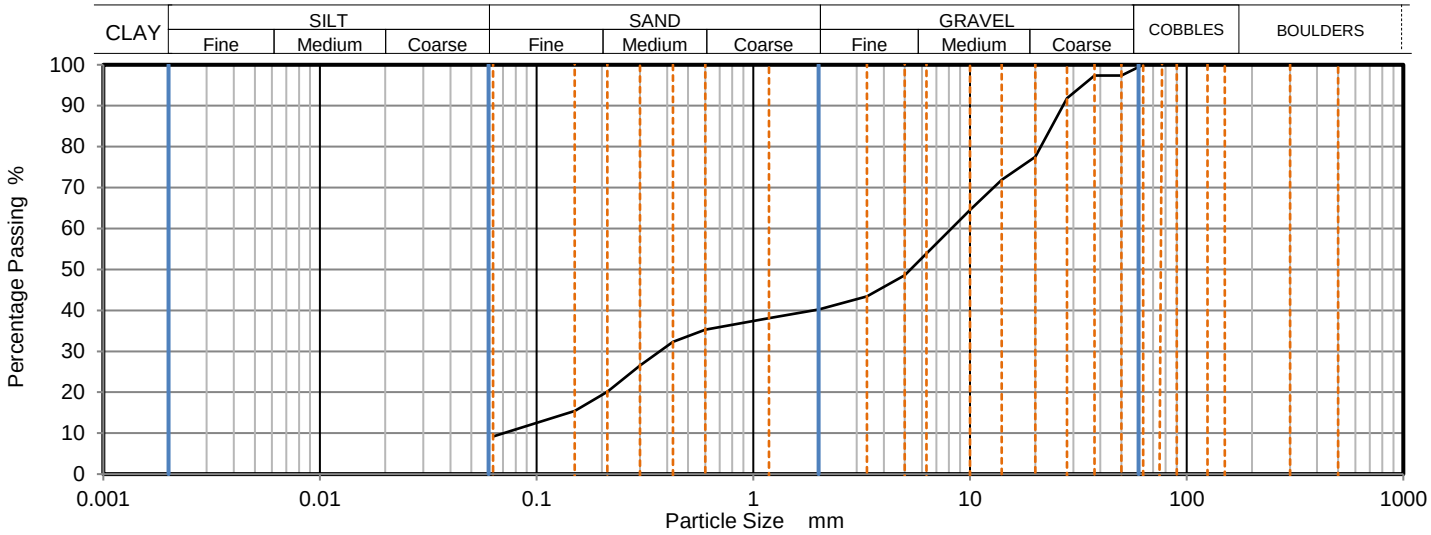
4041

Client:	Caulmert Ltd	Client Reference:	5986
Client Address:	Glyndwr Innovations Ltd, St Asaph Business Park, St Asaph, LL17 0JD	Job Number:	24-043968-1
		Date Sampled:	17/09/2024
		Date Received:	25/09/2024
Contact:	Cezary Salwa	Date Tested:	07/10/2024
Site Address:	Bodnant Avenue	Sampled By:	Client - C.S.

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	326914	Depth Top [m]:	0.90
Hole No.:	TP8	Depth Base [m]:	Not Given
Sample Reference:	2	Sample Type:	B
Sample Description:	Brown very sandy clayey GRAVEL		
Sample Preparation:	Sample was quartered, oven dried at 107.3 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	97		
37.5	97		
28	92		
20	78		
14	72		
10	65		
6.3	54		
5	49		
3.35	43		
2	40		
1.18	38		
0.6	35		
0.425	32		
0.3	27		
0.212	20		
0.15	15		
0.063	9		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	60.00
Sand	31.00
Fines <0.063 mm	9.00

Grading Analysis		
D100	mm	63
D60	mm	8.23
D30	mm	0.37
D10	mm	0.0701
Uniformity Coefficient		120
Curvature Coefficient		0.24

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

Signed: Katarzyna Koziel
Geotechnical Reporting Team Leader

for and on behalf of i2 Analytical Ltd

Date Reported: 15/10/2024

GF 366.11

Caulmert
engineering environmental planning

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