# PHASE 1 SITE INVESTIGATION & PRELIMINARY RISK ASSESSMENT

Lidl Great Britain Ltd Childwall Road, Wavertree

Client: Lidl Great Britain Ltd

## Remada

www.remada.co.uk

714.01.01 December 2019





#### Executive Summary

Remada Ltd was commissioned by Lidl Great Britain Ltd ('the client') to to undertake a Phase 1 Preliminary Risk Assessment for a proposed store on the site of an existing Coop retail store at Childwall Road, Wavertree, Liverpool L15 6TE. The objectives of this assessment were to present a preliminary conceptual site model to identify plausible pollutant linkages as a preliminary risk assessment and to provide recommendations for subsequent investigation work.

#### Site Setting

The site is topographically flat and currently occupies an irregular plot to the south of B5178 Childwall Road and east of Church Road North. The majority of the site is occupied by a four-storey building of brick construction, of which the ground floor appears to be in use as a Coop retail store. The remainder of the site area forms the store car park.

The site boundary to the north and west is marked by low (<1.0 metre) brick walls and raised soft landscaping beds. The eastern and southern boundaries appear to be formed by brick walls separating the site from adjacent residential properties.

#### Site History

The earliest available mapping of 1851 records the site to be undeveloped. Between 1909 and 1927, the site was developed as a Sports Ground with a pavilion building constructed in the north-eastern area of the site. By 1953, the Abbey Cinema complex had been constructed on-site and the building was subsequently during the 1980s to accommodate the current Coop retail store. A snooker club is believed to occupy one floor of the current building.

#### Geology / Hydrogeology

Published geological maps record that the site is directly underlain by Chester Formation, a Principal Aquifer.

#### Recommendations

#### Environmental

The desk study has identified a number of on-site and off-site potential sources of contamination that would require further investigation. The following is recommended:

- Investigation of the lateral and vertical extent of made ground/fill beneath the site;
- Collection of soil and groundwater samples from the areas identified above for contaminants of concern; and
- Ground gas monitoring.

#### Geotechnical

It is recommended that a ground investigation is undertaken to enable preliminary foundation design.

Zetica have concluded that a detailed desk study should be commission to assess, and potentially zone, the Unexploded Ordnance (UXO) hazard level on the study site.





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ſ	lssue No /	Date	Prepared By		Technical Revie	9W	Authorised	
	01	15.12.2019	P Dickinson	P.D.L.	G Jones	There	G Jones	There





#### 1. INTRODUCTION

Remada Ltd was commissioned by Lidl Great Britain Ltd ('the client') to undertake a Phase 1 Preliminary Risk Assessment for a proposed store on the site of an existing Coop retail store at Childwall Road, Wavertree, Liverpool L15 6TE at the location indicated in **Figure 1**.

#### 1.1. Objectives

The objectives of this assessment are as follows:

- to develop a preliminary conceptual model of the site to identify plausible pollutant linkages; and
- to provide recommendations for subsequent investigation work.

#### 1.2. Scope of Work

The scope of work comprised a:

- review of local geological, hydrogeological, ground stability, and environmental data and historical mapping pertaining to the site and surrounding area; and
- identification of potential sources, pathways, and receptors, and development of a preliminary conceptual site model.

The scope of work did not include a site reconnaissance visit.

#### 1.3. Previous Reports

It is not known if historic reports are available for review.

#### 1.4. Limitations

The comments given in this report and the opinions expressed are based on the information reviewed and observations during site work. However, there may be conditions pertaining to the site that have not been disclosed by this assessment and therefore could not be taken into account.





#### 2. DESK STUDY

#### 2.1. Description of Site

Site DescriptionThe site is topographically flat and currently occupies an irregular plot to the south<br/>of B5178 Childwall Road and east of Church Road North as indicated on Figure 2.<br/>The majority of the site is occupied by a four-storey building of brick construction,<br/>of which the ground floor appears to be in use as a Coop retail store. The remainder<br/>of the site area forms the store car park.

The site boundary to the north and west is marked by low (<1.0 metre) brick walls and raised soft landscaping beds. The eastern and southern boundaries appear to be formed by brick walls separating the site from adjacent residential properties.

Area of Site	5000 m <sup>2</sup> .
Site Elevation	The topographic elevation of the site is approximately 57m aOD (metres above ordnance datum).
National Grid Co- ordinates	339270, (E), 389370 (N)

#### 2.2. Site Setting

The site is situated in a mixed commercial and residential area.

North:	A roundabout and B5178 Childwall Road are located immediately to the north of the site, with residential dwellings and Picton Playground beyond.
East:	Residential housing on Lance Lane with rear gardens that extend to the brick wall that forms the site boundary.
South:	Residential housing on Church Road North and Wavertree Green with rear gardens that extend to the brick wall that forms the southern site boundary.
West:	Small retail premises are located to the west of Church Road North with residential dwellings beyond.

#### 2.3. Site History

Available historic mapping for the study site has been obtained and reviewed, and is presented in **Appendix A**. A summary of the historical land use of the site and surrounding area follows.

Map Date	Description of on-site activities
1851	The site is undeveloped and occupied by a large field that extends off-site towards
	the east and south. No structures are shown to be present.
1894	Similar to above.
1908	Similar to above.
1909	Similar to above.
1927	The site has been developed as a Sports Ground, with a pavilion having been constructed in the north-eastern area of the site.
1928	Similar to above.





1953	The Abbey Cinema has been constructed in the central area of the site, with a car park located in the southern area.
1954	Similar to above.
1965	Similar to above
1967	Similar to above.
1978	Similar to above.
1987	Similar to above.
1989	The historic cinema building was extended towards to southern boundary of the site; the building occupying the current Coop retail store footprint. There is no significant further change indicated on later mapping.
Map Date	Description of off-site activities
1893	Church Road is present adjacent to the western boundary of the site, whilst Childwall Road forms the northern boundary. The area to the south-west, west and north-west of the site is predominantly residential, whilst to the south, north and east it is predominantly undeveloped. A tramway has been constructed and terminates in Church Road adjacent to the study site, whilst a Brewery is recorded 100m to the south-west. The present-day Picton Clock Tower is labelled approximately 50m to the north-west.
1908	The tramway has been extended southwards along Church Road and the brewery is no longer shown (likely demolished). The open land to the south and east of the study site is labelled as Wavertree Green.
1927	A spur road has been constructed between Church Road and Childwall Road, forming the site's current curved north-western boundary. The nearest section of Wavertree Green to the south and east has been converted in a sports ground, complete with tennis grounds circa 80m to the south.
1954	The sports ground which extended off-site to the south and east has been redeveloped and occupied by residential housing surrounding the Wavertree Green cul-de-sac. An electrical sub-station has been installed adjacent to Picton Clock to the north-west. The route of the tramway has been modified and now runs northwards along Church Road (North), the spur road noted in 1927 and then along Lake Road and Mill Lane to the north.
1965	The tramway to the west and north-west of the site has been removed; the tramway system in Liverpool having been closed by the City Council in September 1957. A commercial garage has been constructed from 50m north-west and a transport depot labelled from 80m west.
1967	Similar to above.
1984	Similar to above.
1993	The transport depot to the west is no longer labelled. There are no significant further changes recorded on the later mapping.





Remada's research into the former Abbey Cinema building on-site has uncovered the following anecdotal evidence from the Cinema Treasures website (source: <u>http://cinematreasures.org/theaters/44856</u>) and is summarised below:

- The Abbey Cinema opened in March 1939, with seating being provided for 1126 in the stalls and 744 in the circle.
- The Cinema closed for two months at the start of 1964 for conversion into a Cinerama theatre. The work included the installation of a giant curved screen and the reduction in seating capacity to 1260.
- The cinema continued until its final performance in August 1979, after which the contents of the cinema was sold by public auction.
- After closure, the stall area was subsequently converted into a supermarket, whilst the circle remained unused. In 1984, the circle area was converted into a Bingo Club.
- By 2007, the bingo club had closed and had been converted into a snooker club.

#### 2.4. Proposed Site Use

It is understood that the proposed site use will be a Lidl retail store with associated car park and soft landscaping.

#### 2.5. Environmental Setting

#### 2.5.1. Made Ground and Superficial Geology

Information from the environmental report and the British Geological Survey (BGS) 1:50,000 scale map Sheet 97 (Runcorn) indicates that no made ground deposits have been recorded in this area. It is not expected to be encountered according to the mapping; however, taking consideration of the site's historic use and satellite imagery it is likely that made ground will be encountered underlying the site.

No superficial deposits are indicated to be present underlying the site (ref Envirocheck Appendix B).

#### 2.5.2. Bedrock Geology

The bedrock directly underlying the site is formed of Chester Formation sandstone of the Sherwood Sandstone Group and designated as a Principal Aquifer (ref Envirocheck **Appendix B**). The BGS describe the Chester Formation as typically comprising 'conglomerates and reddish brown, cross-bedded pebbly sandstones with subordinate beds of red-brown mudstone. The conglomerates have a reddish-brown sandy matrix and consist mainly of pebbles of brown or purple quartzite'.

#### 2.5.3. Historic BGS Borehole Records

There are no pertinent historic BGS borehole records within a relevant distance of the site.

#### 2.5.4. Groundwater Abstractions

There are no groundwater abstraction points within 1km of the search area. The nearest groundwater abstraction licence is located 1163m to the south-east and pertains to a United Utilities Water Plc borehole for potable water supply (ref Envirocheck **Appendix B**).

#### 2.5.5. Source Protection Zones

The site is not located within a Groundwater Source Protection Zone (ref Envirocheck Appendix B).

#### 2.5.6. Surface Water Features and Abstractions

The are no surface waters within 750m of the site (ref Envirocheck **Appendix B**).



### 2.5.7. Flooding Vulnerability

The site is located in an area with limited potential for groundwater flooding to occur at the surface and there are no recorded surface water flood zones within the search area (ref Envirocheck **Appendix B**).

#### 2.5.8. Ground Stability

The Envirocheck Report (**Appendix B**) provides the following information regarding ground stability and mining.

Shrinking / Swelling of Clay The site is within an area of no hazard from shrinking or swelling of clays.

Rock Solubility	There is a no hazard rating from rock solubility at the site.
Compressible Ground	There is a no hazard rating from compressible ground.
Collapsible Deposits	There is a very low hazard rating from collapsible rocks.
Running Sand	There is a very low hazard rating for running sands.

#### 2.5.9. Radon

The site is located in Lower Probability Radon Area as less than 1% of properties are above the Action Level but no radon protective measures are necessary (ref Envirocheck **Appendix B**).

#### 2.5.10. Environmentally Sensitive Site Designations

The nearest environmentally sensitive zone is an Environment Agency designated Nitrate Vulnerable Zone located from 40m to the east (ref Envirocheck **Appendix B**).

#### 2.6. Industrial Lane Use

There are fifteen (15 No) contemporary trade directory entries locations within entry within 250m of the site. Entries include garage services, computer manufacturers, petrol filling station and dairies (ref Envirocheck **Appendix B**).

#### 2.7. Environmental Permits, Incidents & Registers

There are three (3 No.) permitted processes within 250m of the site, with the nearest being located 54m west. All three processes pertain to petrol filling stations, where the authorization has either been revoked or varied.

There are no recorded pollution incidents to control waters within 1km of the site (ref Envirocheck **Appendix B**).

#### 2.8. Landfill & Waste Sites

There is one licensed waste management facility located within the search area; located 784m to the west for 'end of life vehicles' and for which the licence was revoked in 2007 (ref Envirocheck **Appendix B**).

#### 2.9. Mining

The site is not located within an area which may be affected by coal mining activity and does not lie within the Cheshire Brine Compensation District (ref Envirocheck **Appendix B**).

#### 2.10. Unexploded Ordnance (UXO) Risk

A non-specialist UXO screening exercise has been carried out for the site by considering (a) any evidence of UK defence activities on or near the site evident from the gathered desk study information and (b) the unexploded aerial delivered ordnance (UXO) regional risk maps produced by Zetica.



There is no indication of former military use from the desk study. However, the Zetica risk map indicates the site to be in an area where the UXO risk is high. A copy of the map is presented in **Appendix C**.

A Pre-Preliminary Desk Study Assessment (PDSA) has been commissioned for the site and this is also presented in **Appendix C**, with a summary being provided below:

- No evidence of pre-WWI military activity on (or affecting) the site has been identified;
- No evidence of WWI military activity on (or affecting) the site has been identified;
- No evidence of interwar military activity on (or affecting) the site has been identified;
- No evidence of WWII military activity on (or affecting) the site has been identified;
- During WWII the Site was located in the County Borough (CB) of Liverpool, which officially recorded 2499 No. High Explosive (HE) bombs with a regional bombing density of 91.5 bombs per 405 hectares (ha).
- Between August 1940 and January 1942, the Luftwaffe carried out approximately 80 No. raids on Merseyside. The heaviest bombing occurred during the 'May Blitz' in 1941 when 870 tonnes of HE bombs and over 112,000 No. Incendiary Bombs (IBs) fell across the region.
- Readily available records have been found to indicate that several HE bombs fell in close proximity to the Site.

Zetica have concluded that a detailed desk study should be commission to assess, and potentially zone, the Unexploded Ordnance (UXO) hazard level on the study site.





#### 3. PRELIMINARY RISK ASSESSMENT

#### 3.1. Introduction

A Preliminary Risk Assessment (PRA) has been completed for the site. This PRA identifies the potential sources, pathways, and receptors for the site, in order to assess the potential risks posed by identified potential sources to human health and / or controlled waters receptors. When required, the viability of the Source-Pathway-Receptor pollutant linkage must be evaluated further to determine whether an actual risk is present.

#### 3.2. Potential Sources

#### On-site Historical

- Sports Ground & Pavilion;
- Cinema complex.

#### On-site Current

• Operational Coop store and car parking.

#### Off-site Historical

- Residential housing;
- Tramway;
- Brewery;
- Electrical Sub Station;
- Commercial Garage / Petrol Filling Station;
- Transport Depot.

#### Off-site Current

• General Made Ground associated with redevelopment

#### 3.3. Potential Contaminants of Concern (PCOCs)

- Metals
- Asbestos (associated with demolition and redevelopment of the existing site).
- Total petroleum hydrocarbons (TPH)
- Polycyclic aromatic hydrocarbons (PAH).
- Ground gases (carbon dioxide and methane)
- Polychlorinated Biphenyls (PCBs associated with historic substation)

#### 3.4. Potential Receptors

#### Human Health

- On-site Lidl store staff.
- Construction workers.
- On-site general public and visiting staff (such as contractors, including those conducting excavation works).
- Neighbouring residents

#### Controlled Waters

• Principal Aquifer in bedrock.





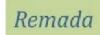
#### 3.5. Preliminary Conceptual Model

The Preliminary Conceptual Site Model of the site has been prepared and illustrates the potentially active pollutant linkages. A pollutant linkage is present only when a source, pathway and receptor exist together.

- A **source** is a substance that has potential to cause harm or adversely affect human health, water resources or the wider environment.
- A **pathway** is the route or means by which a source of contamination can migrate resulting in exposure to a receptor.
- A **receptor** is something that could be adversely affected by a contaminant such as human health, an ecological system, animals or crops, buildings or controlled waters.

The Preliminary Conceptual Site Model is presented in Table 1.





Potential Source Areas	Potential Contaminant of Concern	Pathways	Potential Receptor	Exposure Route (Human unless otherwise stated)	Potential Identified Linkage (unmitigated)	Findings of Ground investigation	Risk (Un- mitigated)	Proposed Remediation (Mitigation) Measures	Residual Risk Estimation
<u>On-site Sources</u> Historic Sports		Disturbance due to		Direct Soil Ingestion	• Yes	To be assessed (TBA)	Potential risk	(To be assessed (TBA)	(To be assessed (TBA)
Ground & Pavilion		construction plant causing direct		Indoor Dust ingestion	• Yes	As above	Potential risk	TBA	ТВА
Historic Cinema complex	Asbestos /	contact, dusts, vapours.	Occupants of the	<ul> <li>Skin Contact with Soils</li> </ul>	• Yes	As above	Potential risk	ТВА	ТВА
Existing retail store and car parking	Metals As, Be, Cd, Cu, Cr (VI),	Direct Contact with	development / building	<ul> <li>Skin Contact with Dust</li> </ul>	• Yes	As above	Potential risk	ТВА	ТВА
Off-site Sources	Cr (III) Hg, Ni, Se, Va, Zn,	occupants of the proposed	fabric	Inhalation of     Outdoor Dust	• Yes	As above	Potential risk	ТВА	ТВА
Residential	Boron, TPH /PAH.	development		Ingestion of home     grown produce	• Yes	As above	Potential risk	ТВА	ТВА
housing -		Inhalation of fibres / vapours / gases	Adjacent	Inhalation of     Outdoor Vapours	• Yes	As above	Potential risk	ТВА	ТВА
Tramway		by occupants of proposed	residents during construction	Inhalation of Indoor Vapours	• Yes	As above	Potential risk	ТВА	ТВА
Brewery Electrical Sub-		development	construction	Inhalation of ground     gas	• Yes	As above	Potential risk	ТВА	ТВА
Station		Permeation of		<ul> <li>Inhalation of radon gas</li> </ul>	• No	N/A	Negligible	Negligible	Negligible
Garage / Petrol Filling Station		water supply pipework		<ul> <li>Ingestion via permeated water supply pipework</li> </ul>	• Yes	As above	Potential risk	ТВА	TBA
Transport Depot				Direct contact with Secondary (B) Aquifer in Superficial Deposits	Yes	As above	Potential risk	ТВА	ТВА
		Leachate	Principal Aquifer	<ul> <li>In-direct contact with Principal Aquifer in bedrock</li> </ul>	• Yes	As above	Potential risk	ТВА	ТВА

#### Table 1: Preliminary Conceptual Site Model

Direct contact with subsurface soil and/or groundwater during redevelopment works are not assessed as part of the CSM. It is considered that risks to workers will be managed as part of any the redevelopment works at the site through the application of health and safety procedures, where required.





#### 4. CONCLUSIONS & RECOMMENDATIONS

#### 4.1. Conclusions

The earliest available mapping of 1851 records the site to be undeveloped. Between 1909 and 1927, the site was developed as a Sports Ground with a pavilion building constructed in the north-eastern area of the site. By 1953, the Abbey Cinema complex had been constructed on-site and the building was subsequently during the 1980s to accommodate the current retail store. A snooker club is believed to occupy one floor of the current building.

Published geological maps record that the site is directly underlain by Chester Formation, a Principal Aquifer.

#### 4.2. Recommendations

#### Environmental

The desk study has identified a number of on-site and off-site potential sources of contamination that would require further investigation. The following is recommended:

- Investigation of the historic made ground anticipated to be present underlying the site;
- Collection of soil and groundwater samples for contaminants of concern; and
- Ground gas monitoring.

#### **Geotechnical**

It is recommended that a ground investigation is undertaken to enable preliminary foundation design in accordance with Lidl Guideline 04.2018.

Zetica have concluded that a detailed desk study should be commission to assess, and potentially zone, the Unexploded Ordnance (UXO) hazard level on the study site.





#### **REFERENCES & GUIDANCE**

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BS 10175:2011+A1:2013, Investigation of potentially contaminated sites: Code of practice.

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The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015





#### STUDY LIMITATIONS

**IMPORTANT**. This section should be read before reliance is placed on any of the information, opinions, advice, recommendations or conclusions contained in this report.

1. This report has been prepared by Remada, Ltd with all reasonable skill, care and diligence within the terms of the Appointment and with the resources and manpower agreed with (the 'Client'). Remada does not accept responsibility for any matters outside the agreed scope.

2. This report has been prepared for the sole benefit of the Client unless agreed otherwise in writing.

3. Unless stated otherwise, no consultations with authorities or funders or other interested third parties have been carried out. Remada is unable to give categorical assurance that the findings will be accepted by these third parties as such bodies may have published, more stringent objectives. Further work may be required by these parties.

4. All work carried out in preparing this report has used, and is based on, Remada' professional knowledge and understanding of current relevant legislation. Changes in legislation or regulatory guidance may cause the opinion or advice contained in this report to become inappropriate or incorrect. In giving opinions and advice pending changes in legislation, of which Remada is aware, have been considered. Following delivery of the report Remada has no obligation to advise the Client or any other party of such changes or their repercussions.

5. This report is only valid when used in its entirety. Any information or advice included in the report should not be relied upon until considered in the context of the whole report.

6. Whilst this report and the opinions made are to the best of Remada' belief, Remada cannot guarantee the accuracy or completeness of any information provided by third parties.

7. This report has been prepared based on the information reasonably available during the project programme. All information relevant to the scope may not have received.

8. This report refers, within the limitations stated, to the condition of the site at the time of the inspections. No warranty is given as to the possibility of changes in the condition of the site since the time of the investigation.

9. The content of this report represents the professional opinion of experienced environmental consultants. Remada does not provide specialist legal or other professional advice. The advice of other professionals may be required.

10. Where intrusive investigation techniques have been employed they have been designed to provide a reasonable level of assurance on the conditions. Given the discrete nature of sampling, no investigation technique is capable of identifying all conditions present in all areas. In some cases the investigation is further limited by site operations, underground obstructions and above ground structures. Unless otherwise stated, areas beyond the boundary of the site have not been investigated.

11. If below ground intrusive investigations have been conducted as part of the scope, service tracing for safe location of exploratory holes has been carried out. The location of underground services shown on any drawing in this report has been determined by visual observations and electromagnetic techniques. No guarantee can be given that all services have been identified. Additional services, structures or other below ground obstructions, not indicated on the drawing, may be present on site.

12. Unless otherwise stated the report provides no comment on the nature of building materials, operational integrity of the facility or on any regulatory compliance issues.

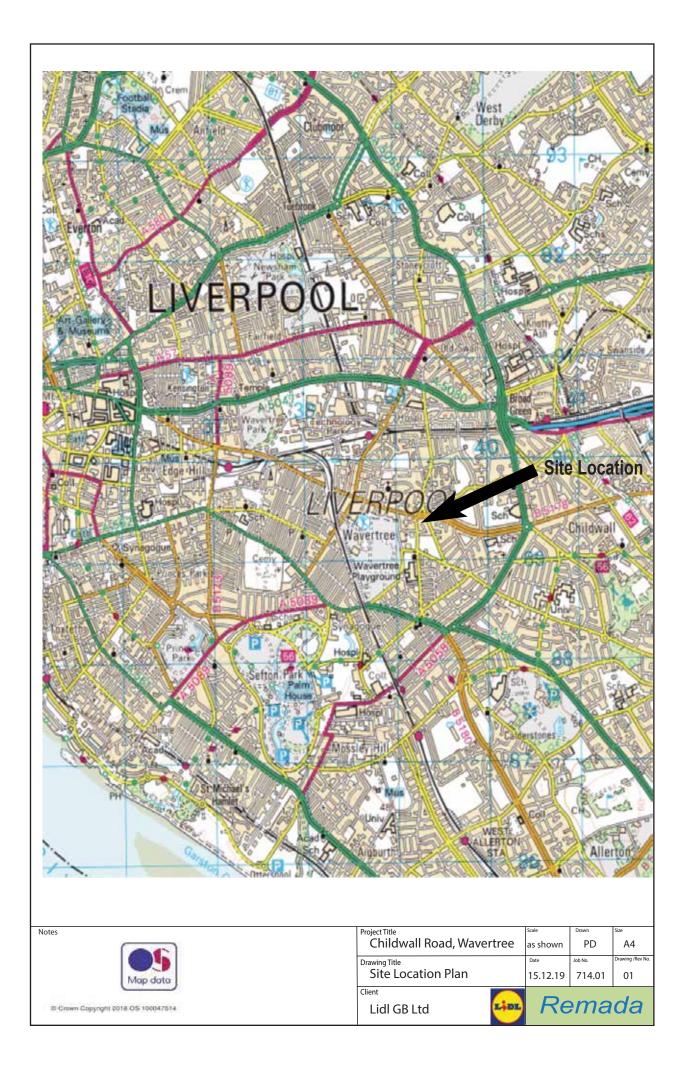
13. Unless otherwise stated, samples from the site (soil, groundwater, building fabric or other samples) have NOT been analysed or assessed for waste classification purposes.





# **FIGURES**

Figure 1 Site Location Plan Figure 2 Existing Site Layout



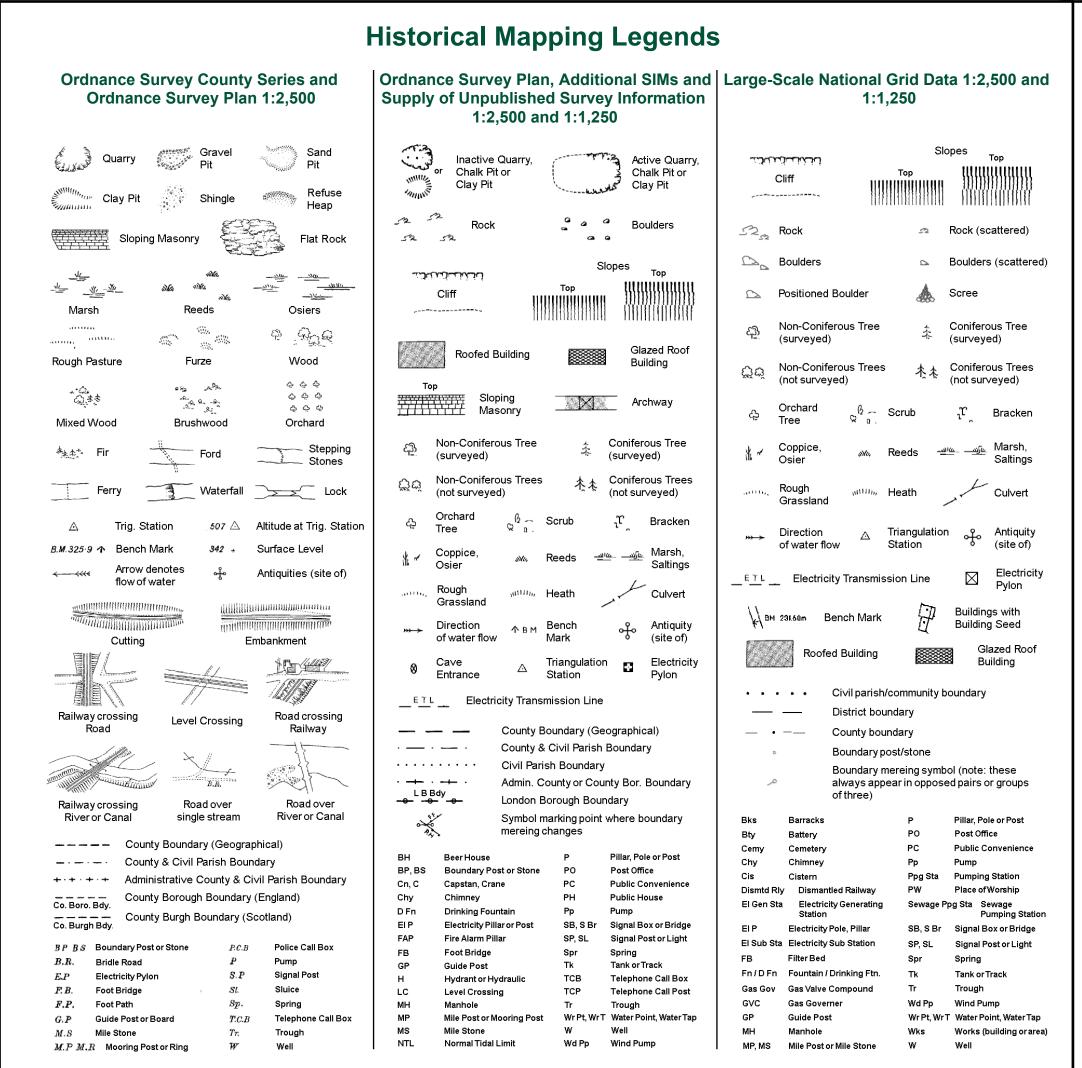






# **APPENDIX A**

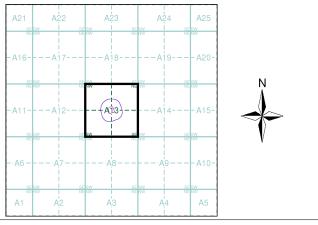
## 1:2500 & 1:10000 Scale Historical Mapping



## Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1893	2
Lancashire And Furness	1:2,500	1908	3
Lancashire And Furness	1:2,500	1927	4
Lancashire And Furness	1:2,500	1937	5
Ordnance Survey Plan	1:1,250	1953	6
Ordnance Survey Plan	1:2,500	1954	7
Ordnance Survey Plan	1:1,250	1964 - 1972	8
Additional SIMs	1:1,250	1964 - 1987	9
Ordnance Survey Plan	1:2,500	1967	10
Ordnance Survey Plan	1:1,250	1977	11
Additional SIMs	1:1,250	1981 - 1992	12
Additional SIMs	1:1,250	1986	13
Large-Scale National Grid Data	1:1,250	1993	14
Large-Scale National Grid Data	1:1,250	1994	15
Large-Scale National Grid Data	1:1,250	1996	16
Large-Scale National Grid Data	1:1,250	1996	17

#### Historical Map - Segment A13



#### **Order Details**

Order Number:	227726891_1_1
Customer Ref:	714.01
National Grid Reference:	339270, 389370
Slice:	Α
Site Area (Ha):	0.5
Search Buffer (m):	100

#### Site Details

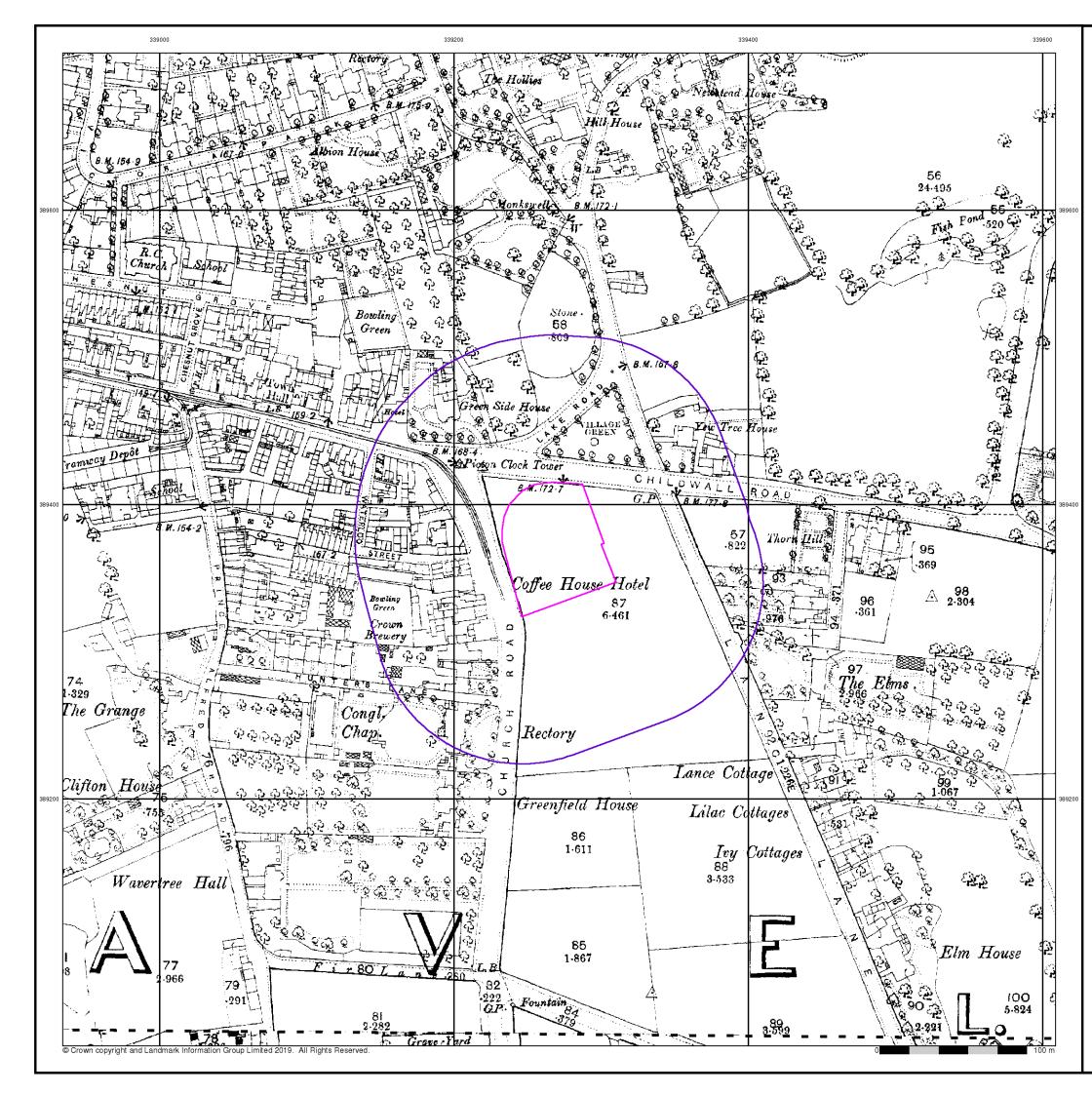
Site at 339000, 389000



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Tel

Fax:



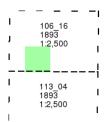
## Lancashire And Furness

## Published 1893

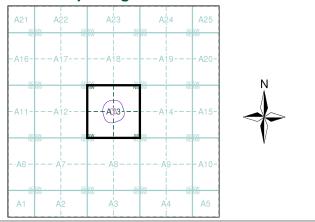
## Source map scale - 1:2,500

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:	227726891_1_1
Customer Ref:	714.01
National Grid Reference:	339270, 389370
Slice:	A
Site Area (Ha):	0.5
Search Buffer (m):	100

#### Site Details

Site at 339000, 389000

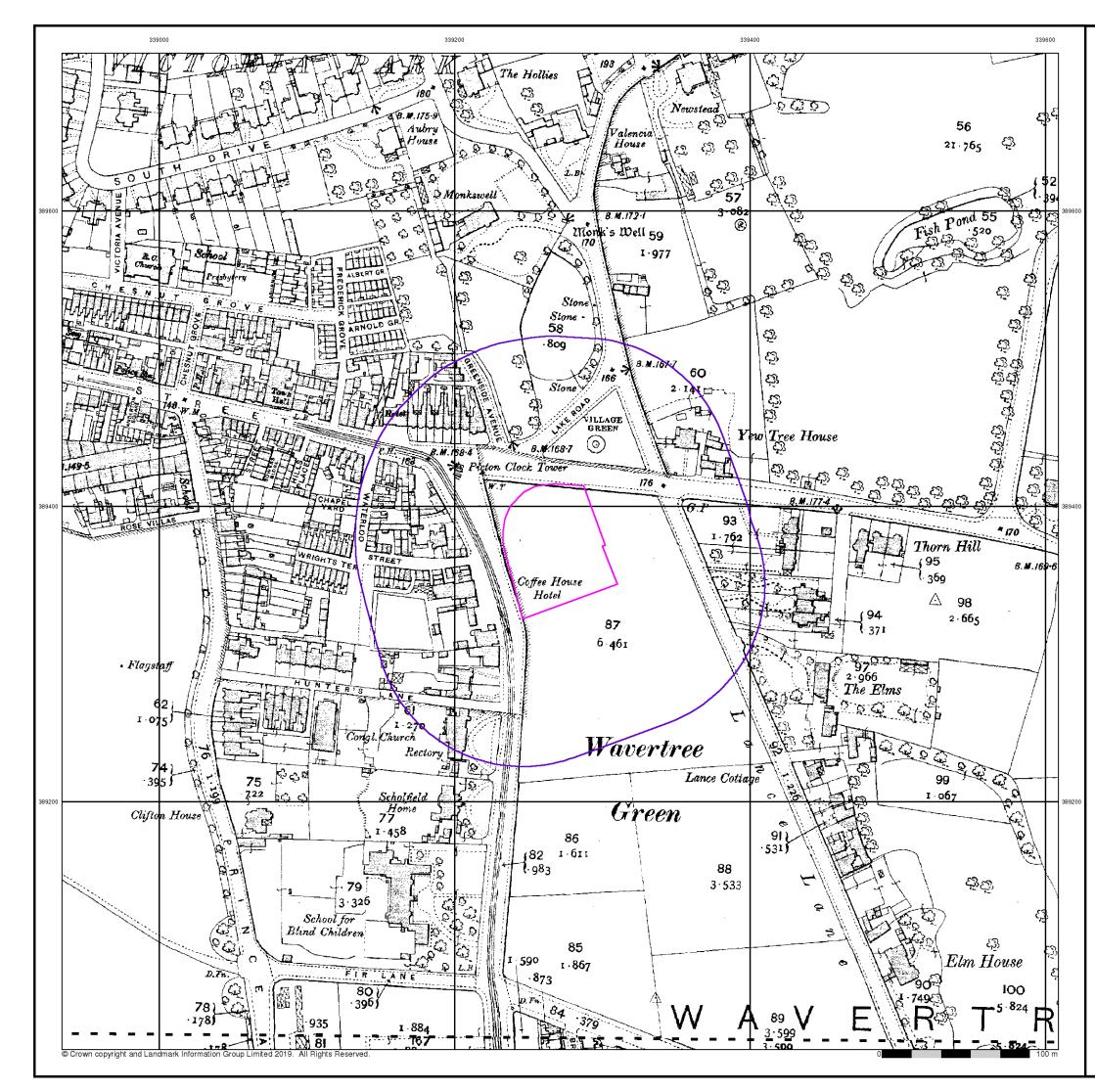


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Tel:

Fax:



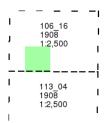
## Lancashire And Furness

## Published 1908

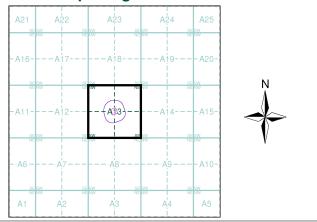
## Source map scale - 1:2,500

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:	227726891_1_1
Customer Ref:	714.01
National Grid Reference:	339270, 389370
Slice:	A
Site Area (Ha):	0.5
Search Buffer (m):	100

#### Site Details

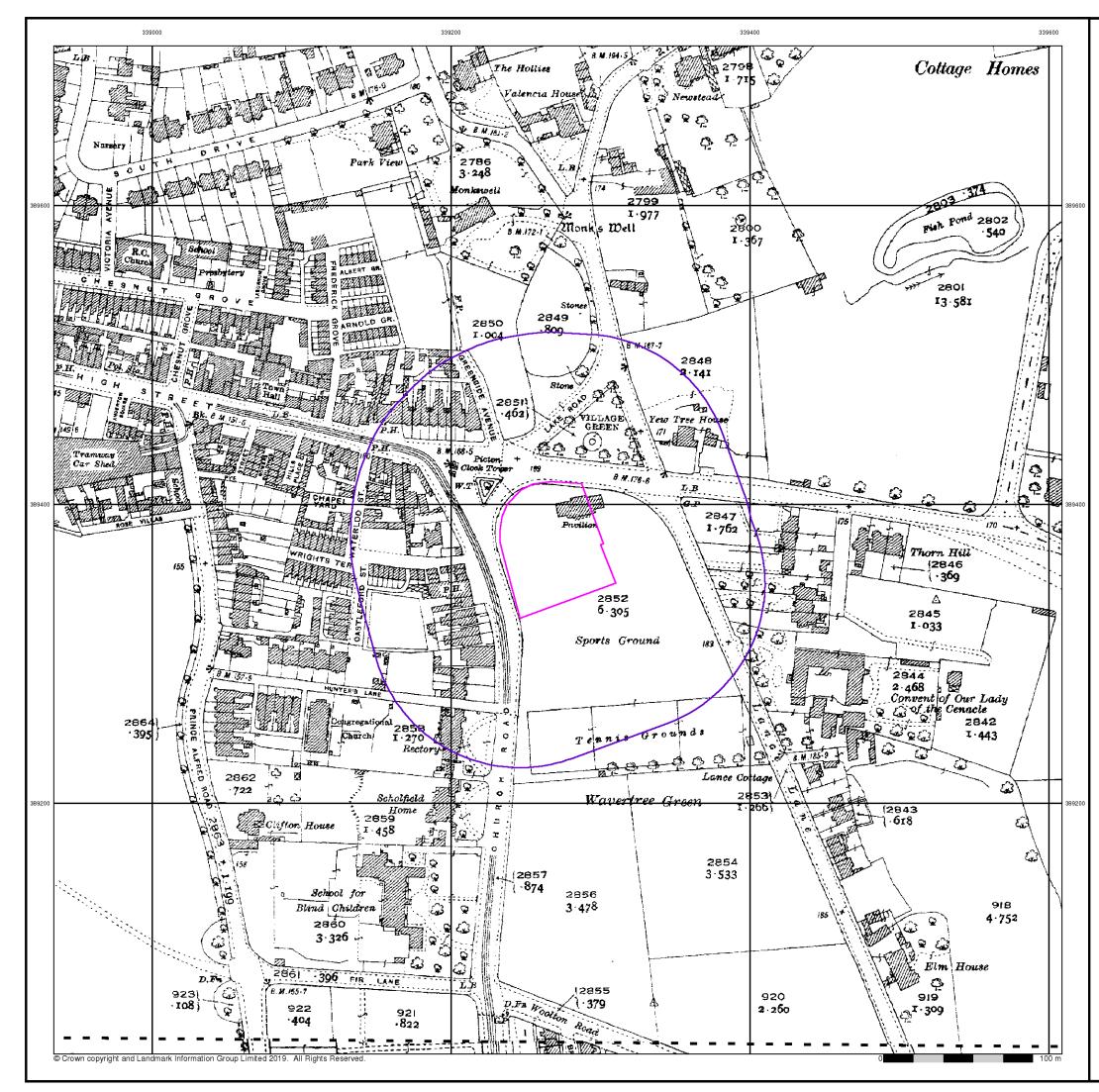
Site at 339000, 389000



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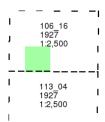
## Lancashire And Furness

## Published 1927

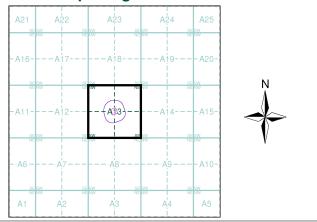
## Source map scale - 1:2,500

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:	227726891_1_1
Customer Ref:	714.01
National Grid Reference:	339270, 389370
Slice:	Α
Site Area (Ha):	0.5
Search Buffer (m):	100

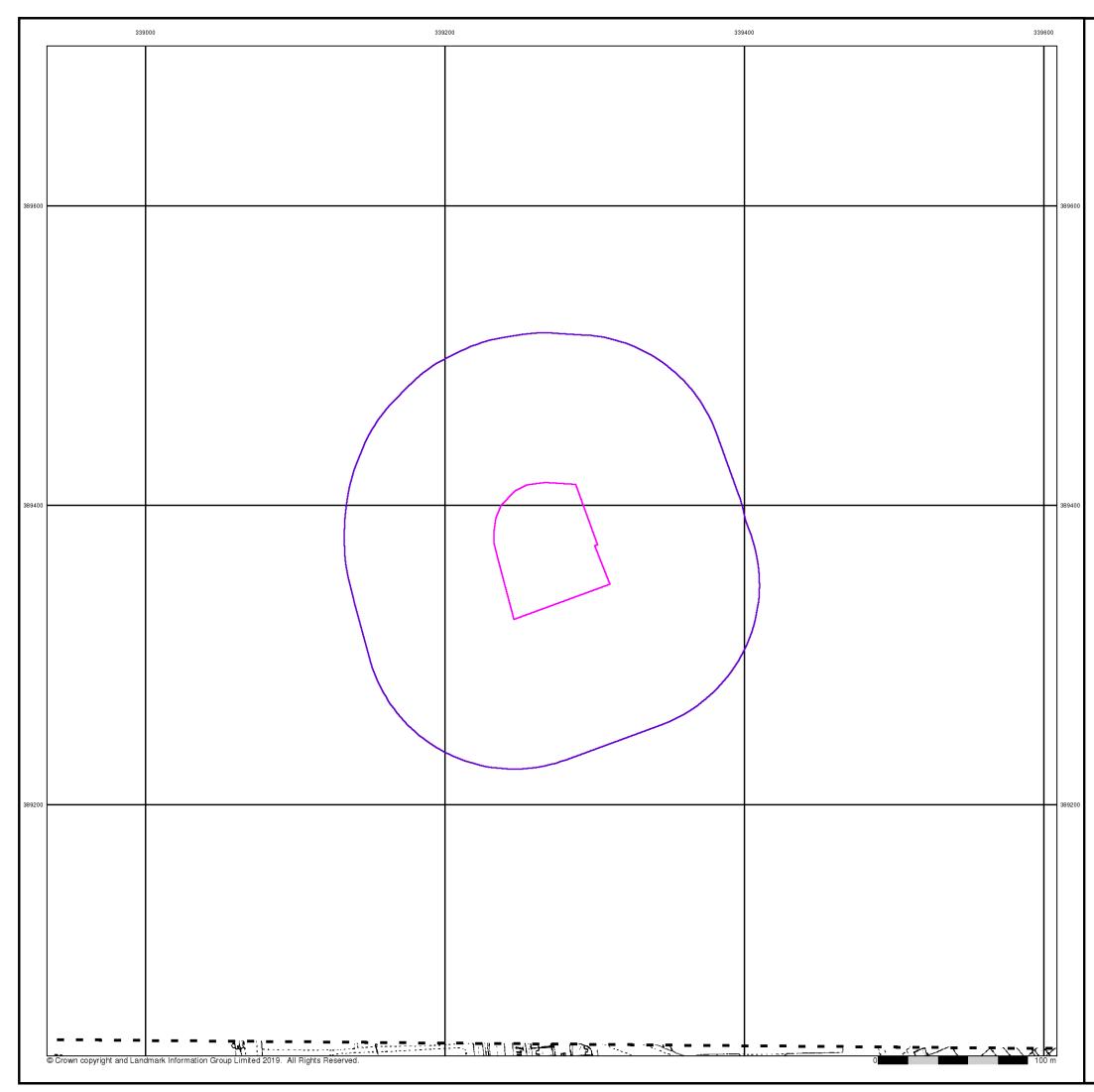
#### Site Details

Site at 339000, 389000



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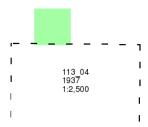
## Lancashire And Furness

## Published 1937

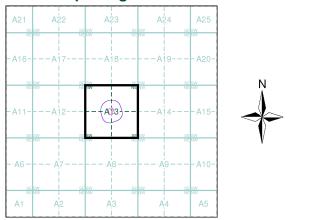
## Source map scale - 1:2,500

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**

227726891_1_1
714.01
339270, 389370
Α
0.5
100

## Site Details

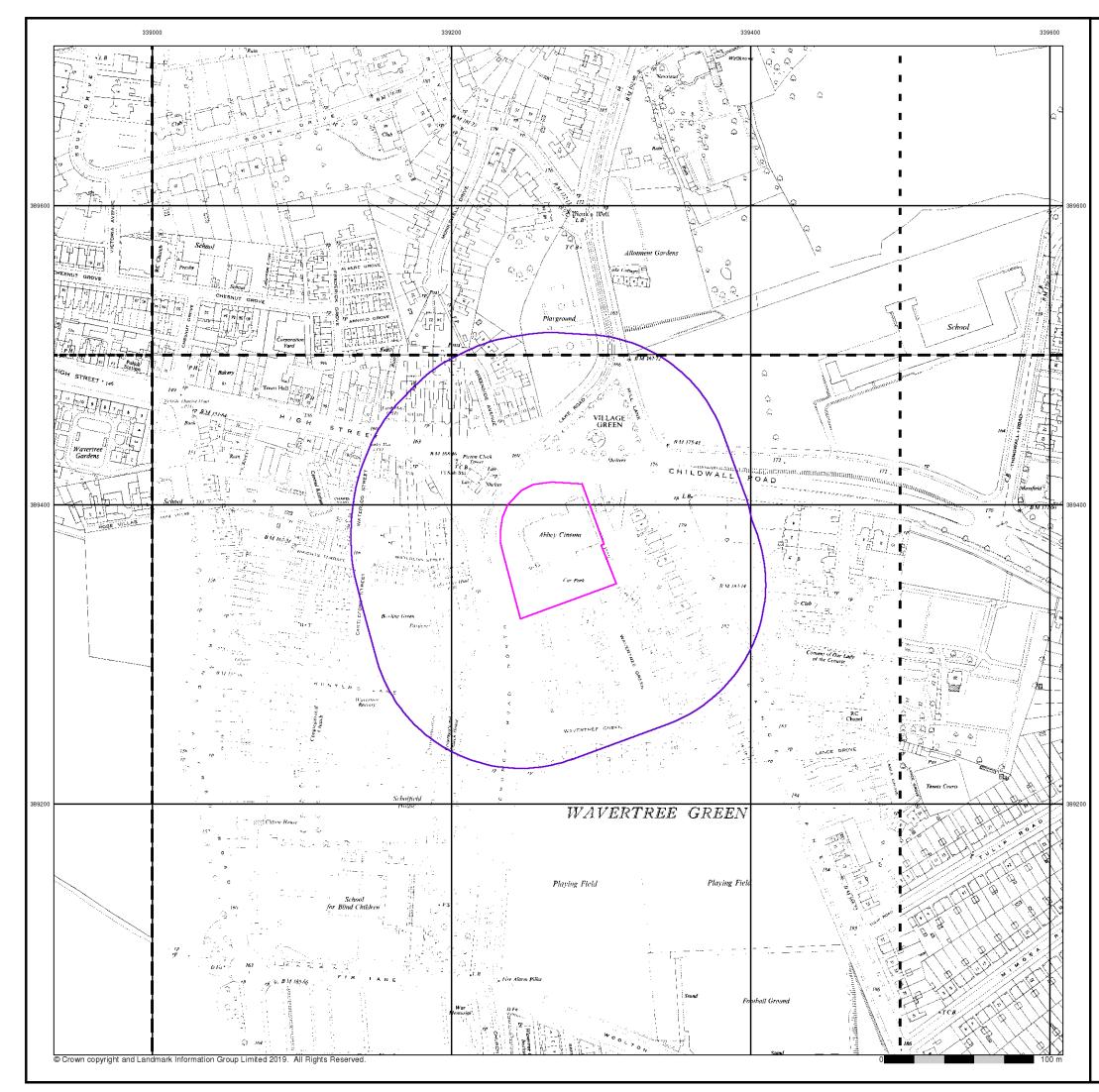
Site at 339000, 389000



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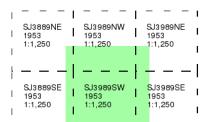
## **Ordnance Survey Plan**

## Published 1953

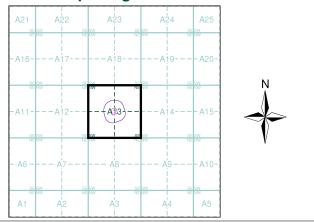
## Source map scale - 1:1,250

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)



#### 1 \_ \_ <mark>1 \_ \_ \_ 1 \_</mark> **Historical Map - Segment A13**



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#### **Order Details**

Order Number:	227726891_1_1
Customer Ref:	714.01
National Grid Reference:	339270, 389370
Slice:	A
Site Area (Ha):	0.5
Search Buffer (m):	100

### Site Details

Site at 339000, 389000

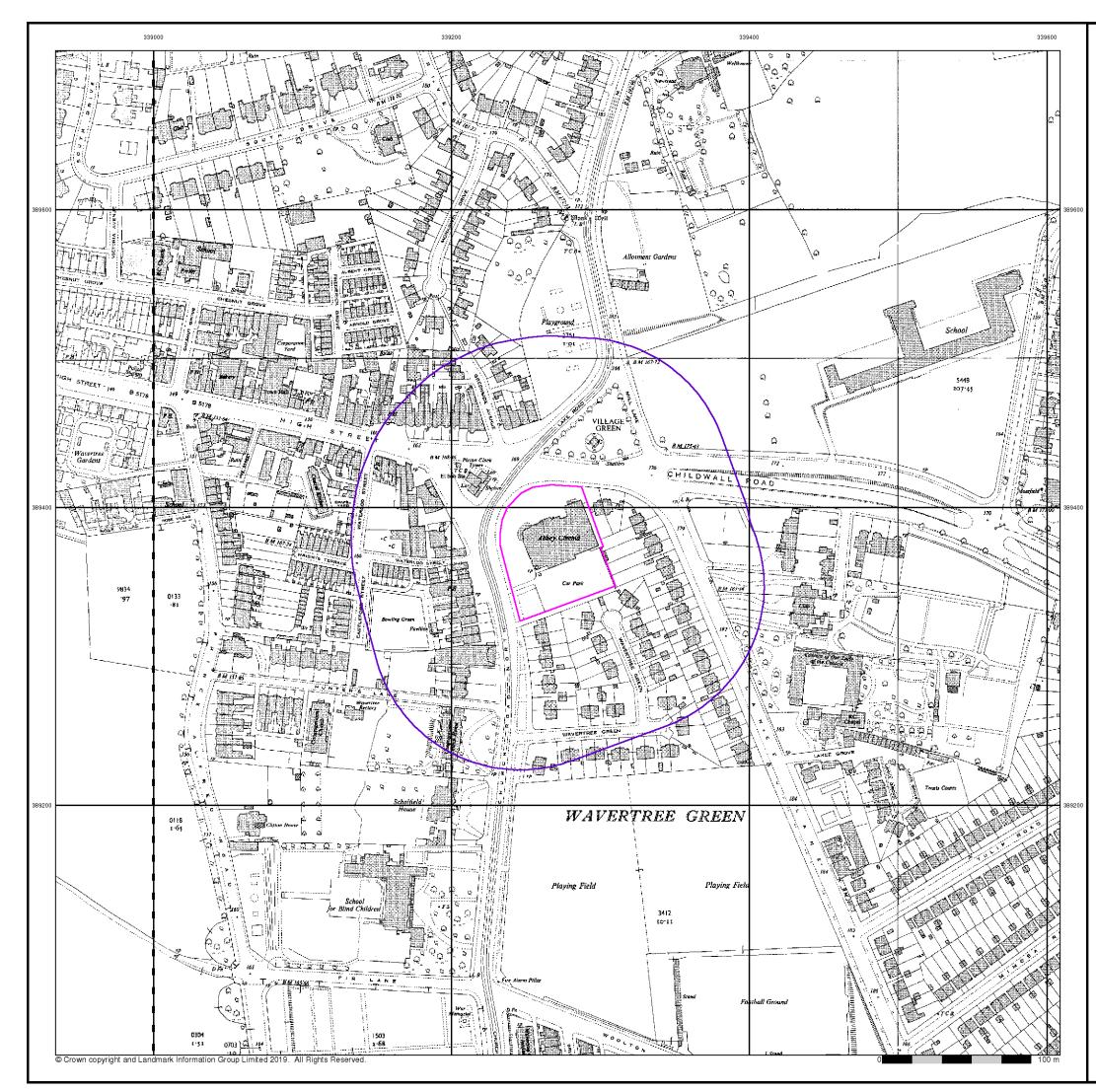


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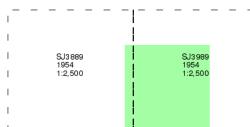
## Ordnance Survey Plan

## Published 1954

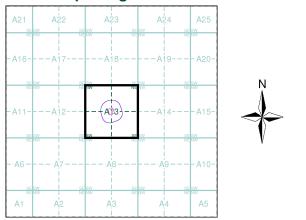
## Source map scale - 1:2,500

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**

227726891_1_1
714.01
339270, 389370
Α
0.5
100

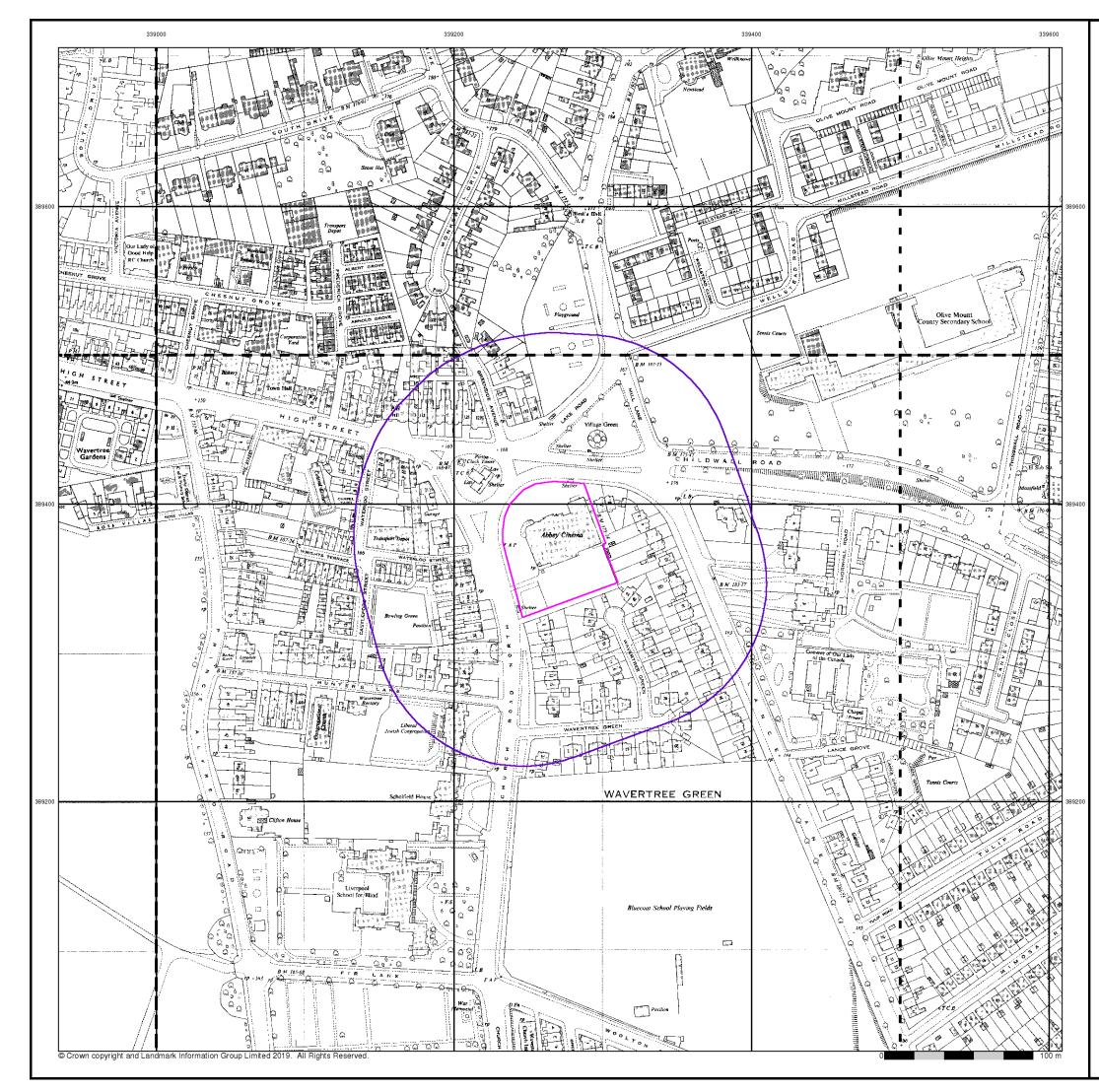
## Site Details

Site at 339000, 389000



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Tel: Fax:

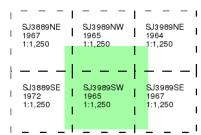


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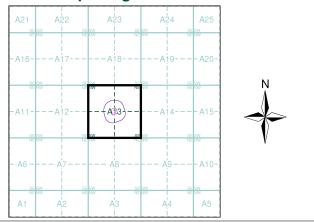
## **Ordnance Survey Plan** Published 1964 - 1972 Source map scale - 1:1,250

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**

I \_ \_

Order Number:	227726891_1_1
Customer Ref:	714.01
National Grid Reference:	339270, 389370
Slice:	Α
Site Area (Ha):	0.5
Search Buffer (m):	100

#### Site Details

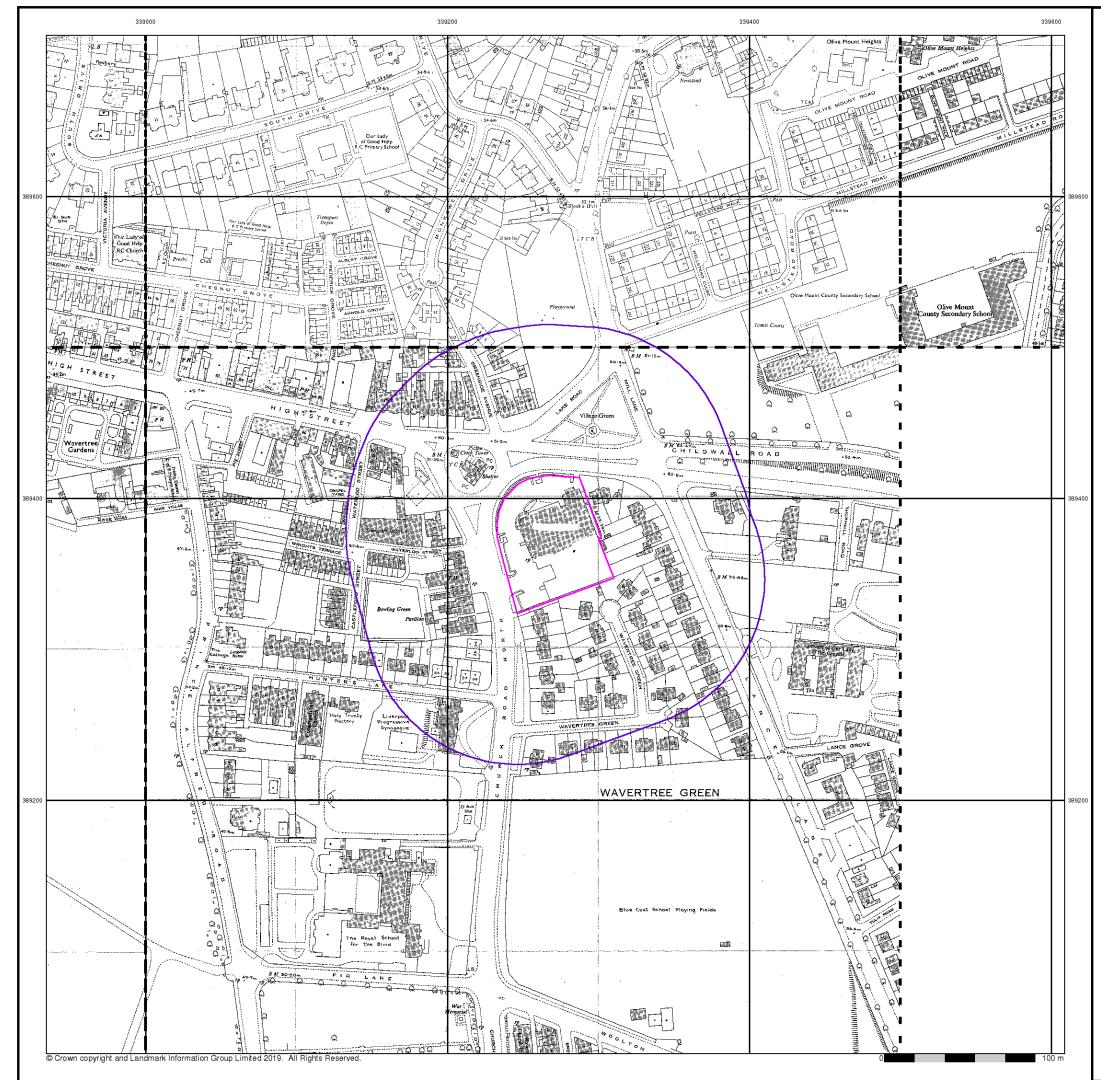
Site at 339000, 389000



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## Additional SIMs

## Published 1964 - 1987

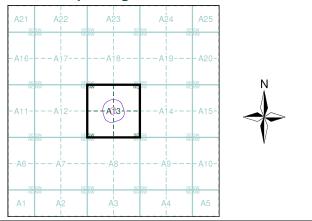
## Source map scale - 1:1,250

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)

SJ3889NE	SJ3989NW	SJ398	BINE I
1984 1:1,250	1978 1:1,250	1964 1:1,25	io I
I	1	1	I
SJ3889SE	I <sub>SJ3989SW</sub>	1	
1987 1:1,250	1984 1:1,250	1	
I.	1	1	

## Historical Map - Segment A13



## **Order Details**

Order Number:	227726891_1_1
Customer Ref:	714.01
National Grid Reference:	339270, 389370
Slice:	A
Site Area (Ha):	0.5
Search Buffer (m):	100

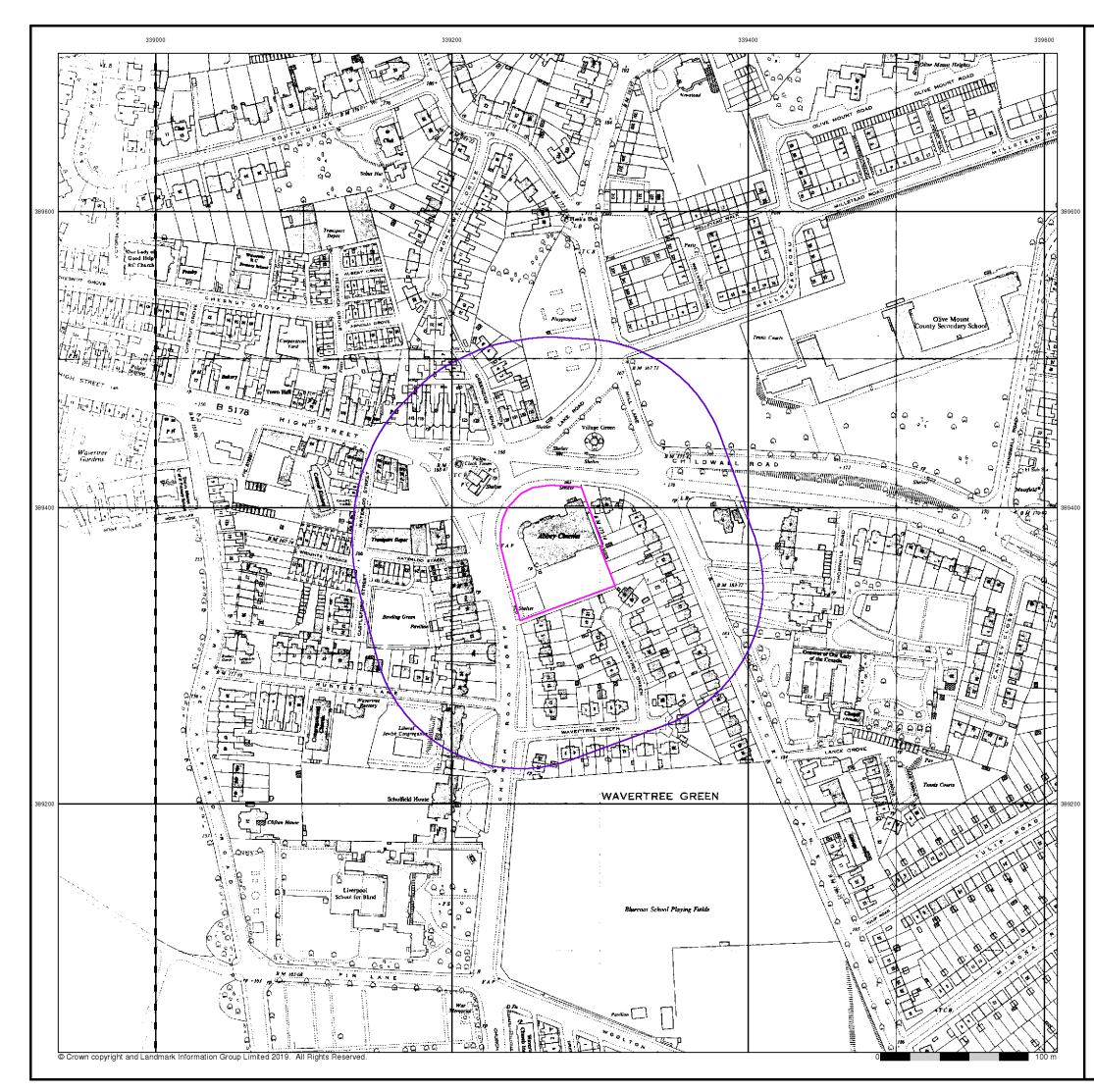
## Site Details

Site at 339000, 389000



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## **Ordnance Survey Plan**

## Published 1967

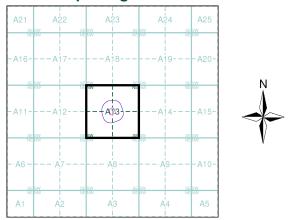
## Source map scale - 1:2,500

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**

227726891_1_1
714.01
339270, 389370
Α
0.5
100

## Site Details

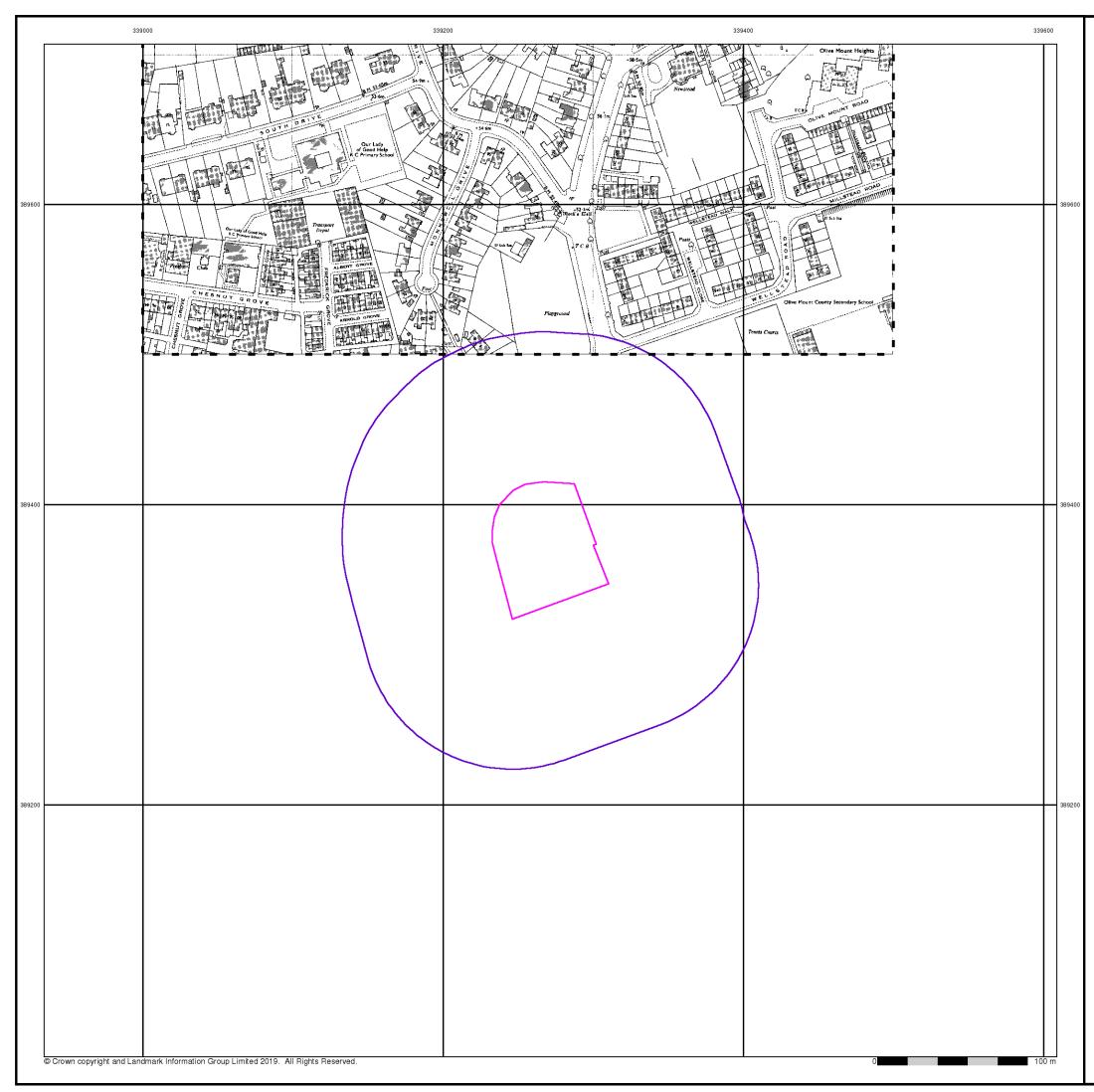
Site at 339000, 389000



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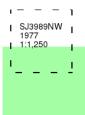
## **Ordnance Survey Plan**

## Published 1977

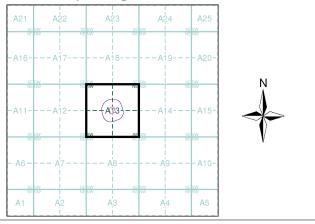
## Source map scale - 1:1,250

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:	227726891_1_1
Customer Ref:	714.01
National Grid Reference:	339270, 389370
Slice:	A
Site Area (Ha):	0.5
Search Buffer (m):	100

### Site Details

Site at 339000, 389000

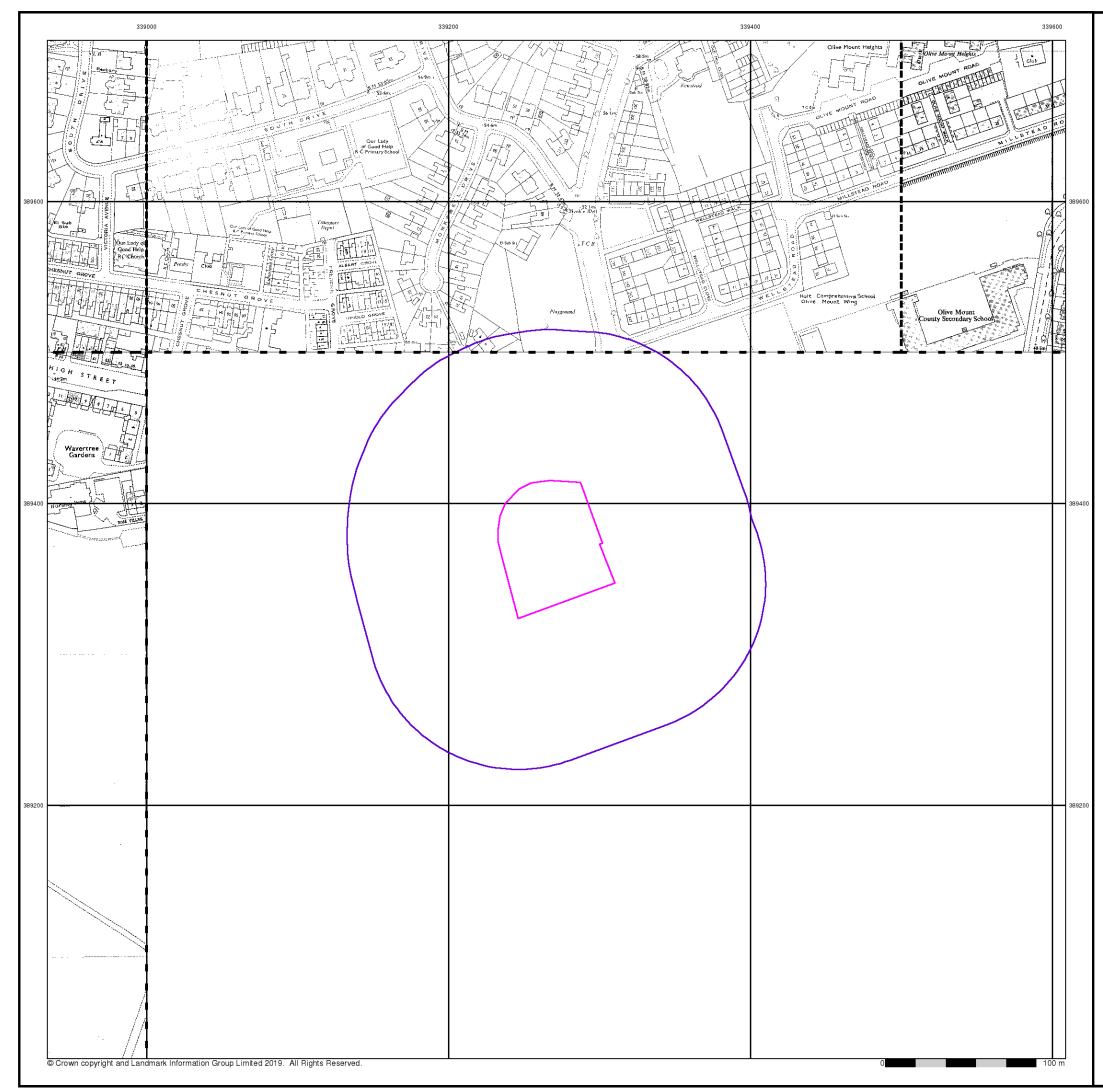


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## Additional SIMs

## Published 1981 - 1992

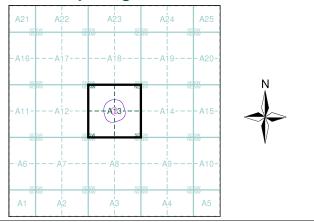
## Source map scale - 1:1,250

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)

SJ3889NE	SJ3989NW	SJ3989NE
1989 1:1,250	1984 1:1,250	1981 1:1,250
I	1	1
SJ3889SE	1	
1992 1:1,250	1	
I	1	

## Historical Map - Segment A13



## **Order Details**

Order Number:	227726891_1_1
Customer Ref:	714.01
National Grid Reference:	339270, 389370
Slice:	A
Site Area (Ha):	0.5
Search Buffer (m):	100

## Site Details

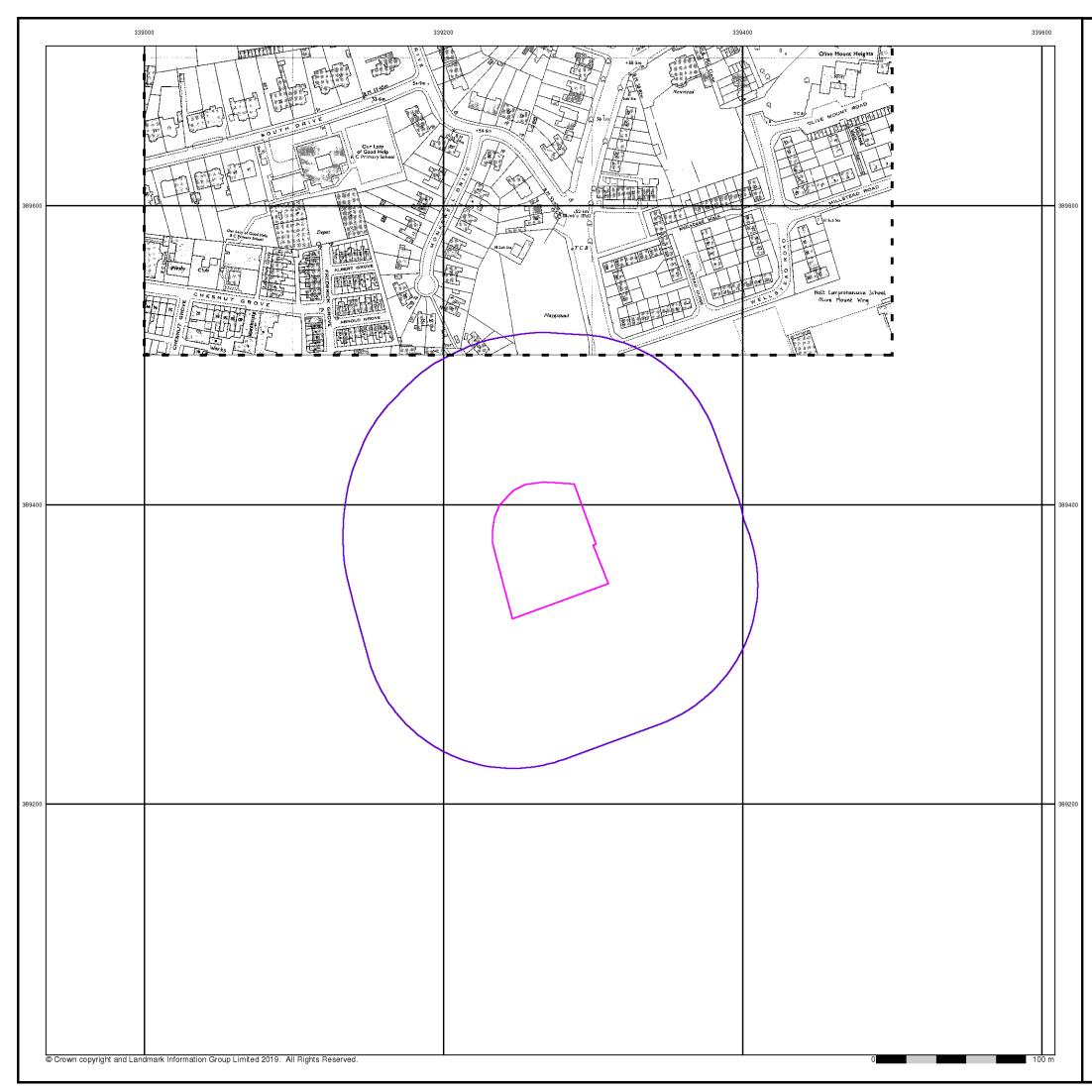
Site at 339000, 389000



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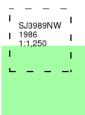
## **Additional SIMs**

## Published 1986

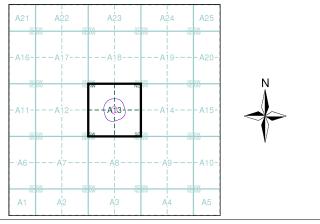
## Source map scale - 1:1,250

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**

Order Number:	227726891_1_1
Customer Ref:	714.01
National Grid Reference:	339270, 389370
Slice:	Α
Site Area (Ha):	0.5
Search Buffer (m):	100

### Site Details

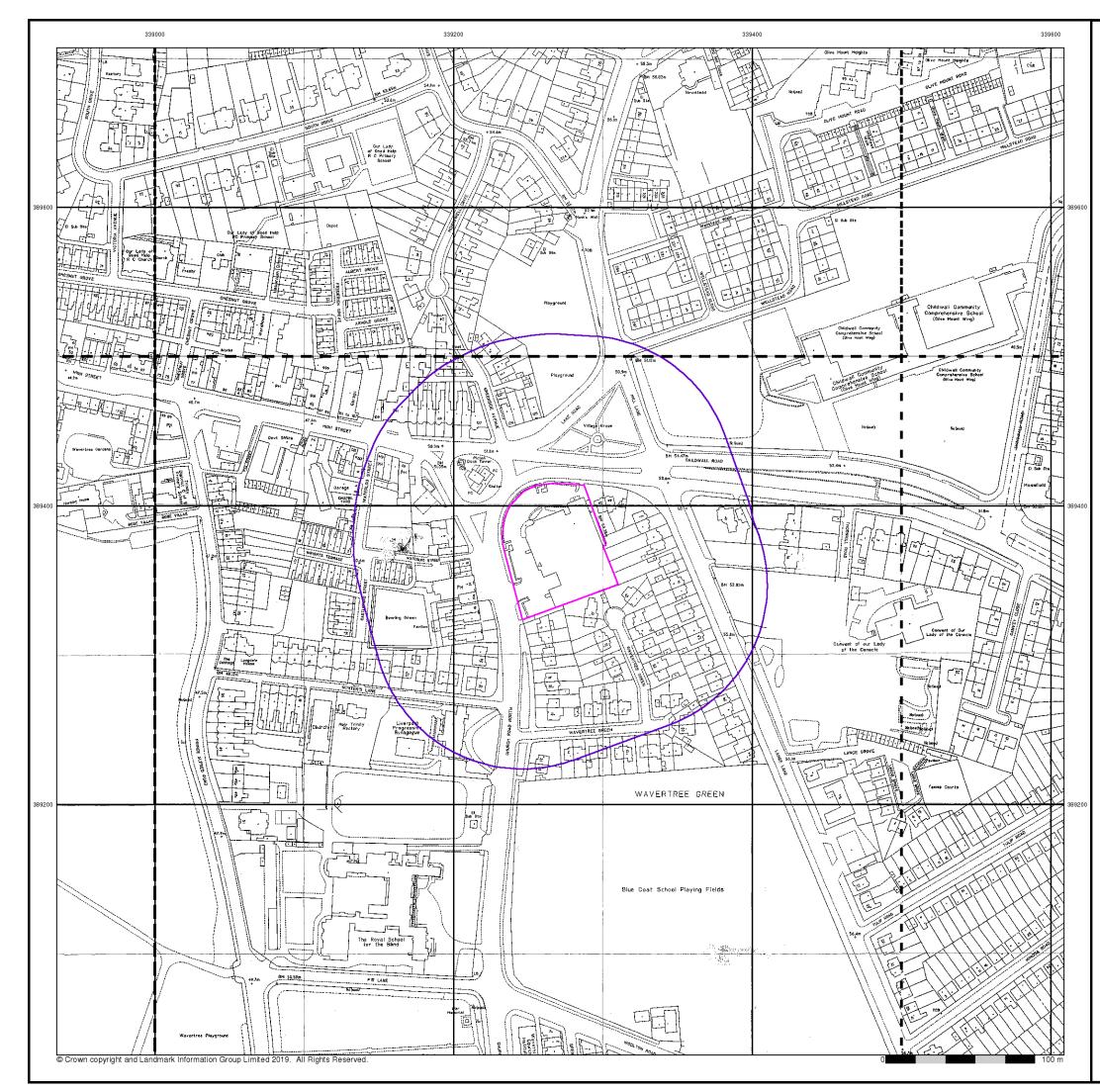
Site at 339000, 389000



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## Large-Scale National Grid Data Published 1993

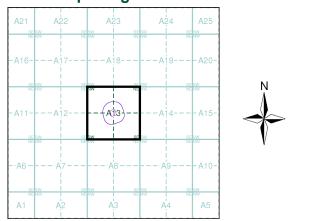
## Source map scale - 1:1,250

'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)

SJ3889NE	SJ3989NW	SJ3989NE
1993 1:1,250	1993 1:1,250	1993 1:1,250
	1	1
·		
SJ3889SE	I SJ3989SW	I SJ3989SE I
1993 1:1,250	1993 1 1:1,250	1993 1:1,250
1	1	1 1

#### **Historical Map - Segment A13**



#### **Order Details**

Order Number:	227726891_1_1
Customer Ref:	714.01
National Grid Reference:	339270, 389370
Slice:	Α
Site Area (Ha):	0.5
Search Buffer (m):	100

Site Details

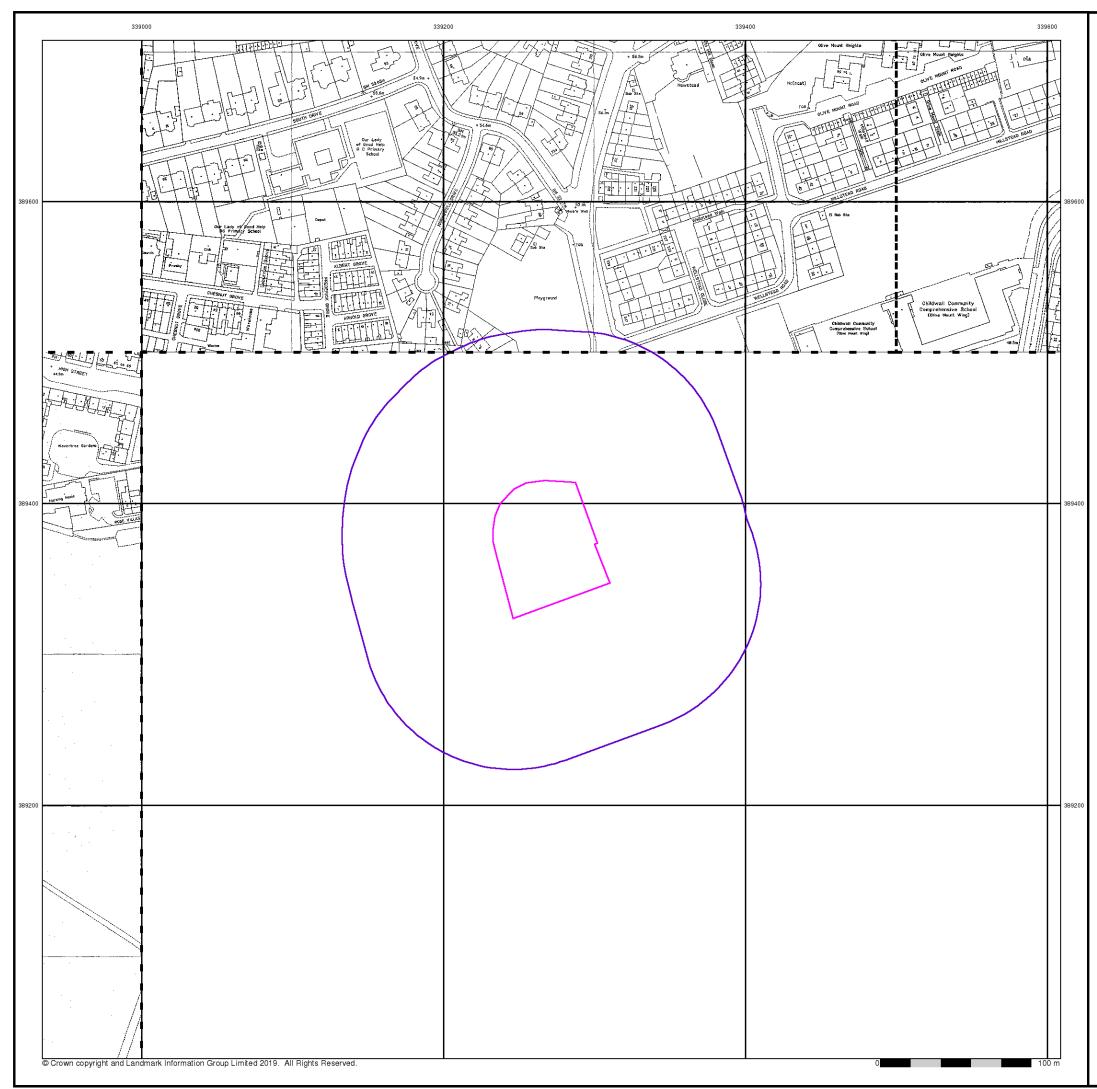
Site at 339000, 389000



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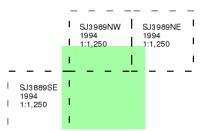
# **Envirocheck**<sup>®</sup> LANDMARK INFORMATION GROUP<sup>®</sup>

## Large-Scale National Grid Data Published 1994

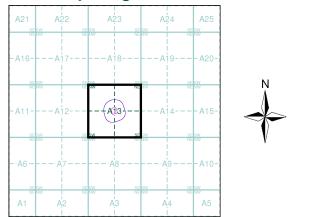
## Source map scale - 1:1,250

'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:	227726891_1_1
Customer Ref:	714.01
National Grid Reference:	339270, 389370
Slice:	Α
Site Area (Ha):	0.5
Search Buffer (m):	100

## Site Details

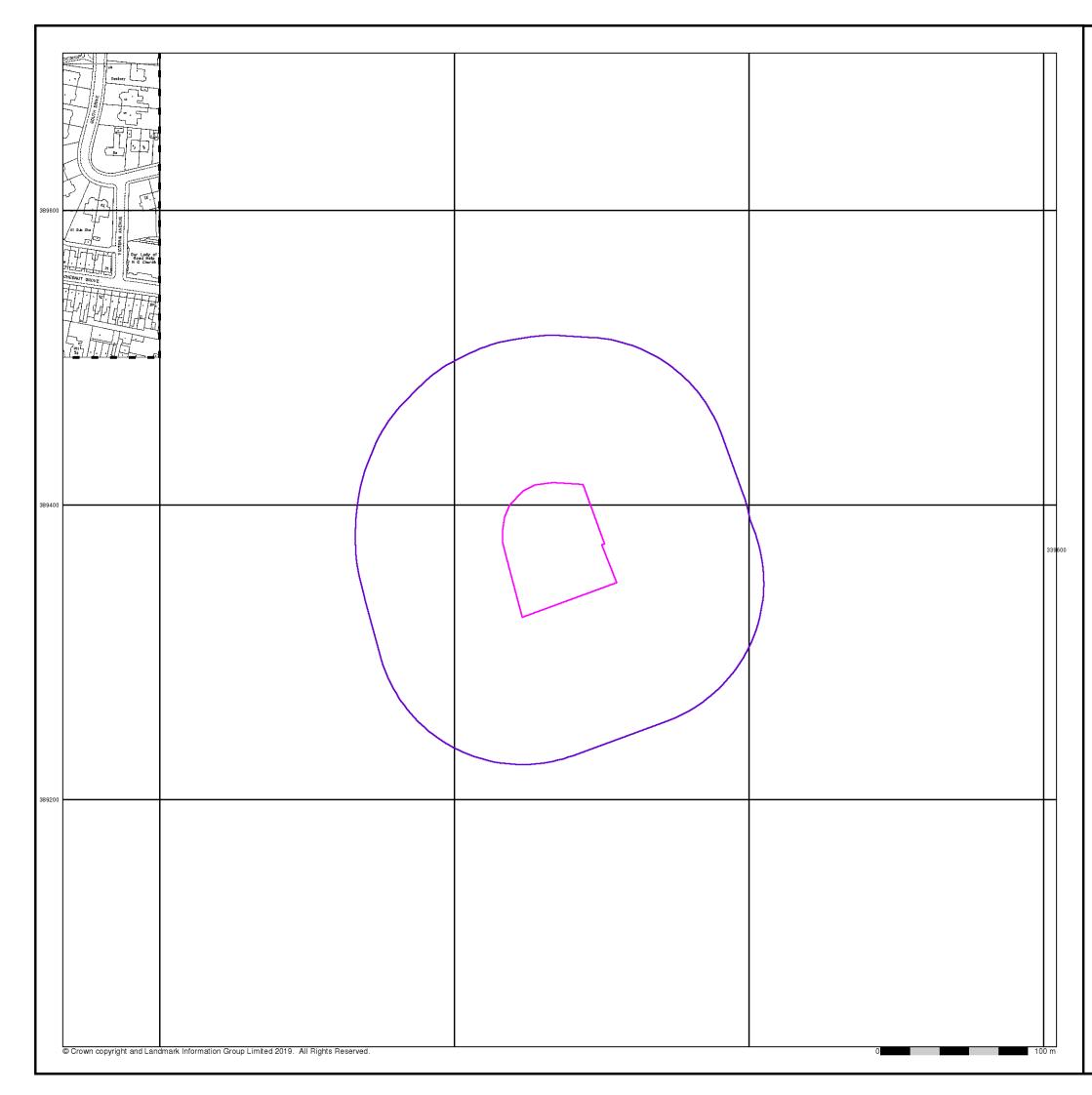
Site at 339000, 389000



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## Large-Scale National Grid Data Published 1996

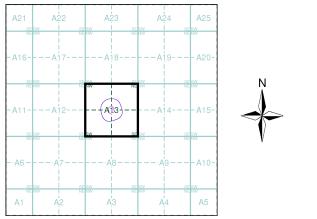
## Source map scale - 1:1,250

'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:	227726891_1_1
Customer Ref:	714.01
National Grid Reference:	339270, 389370
Slice:	Α
Site Area (Ha):	0.5
Search Buffer (m):	100

## Site Details

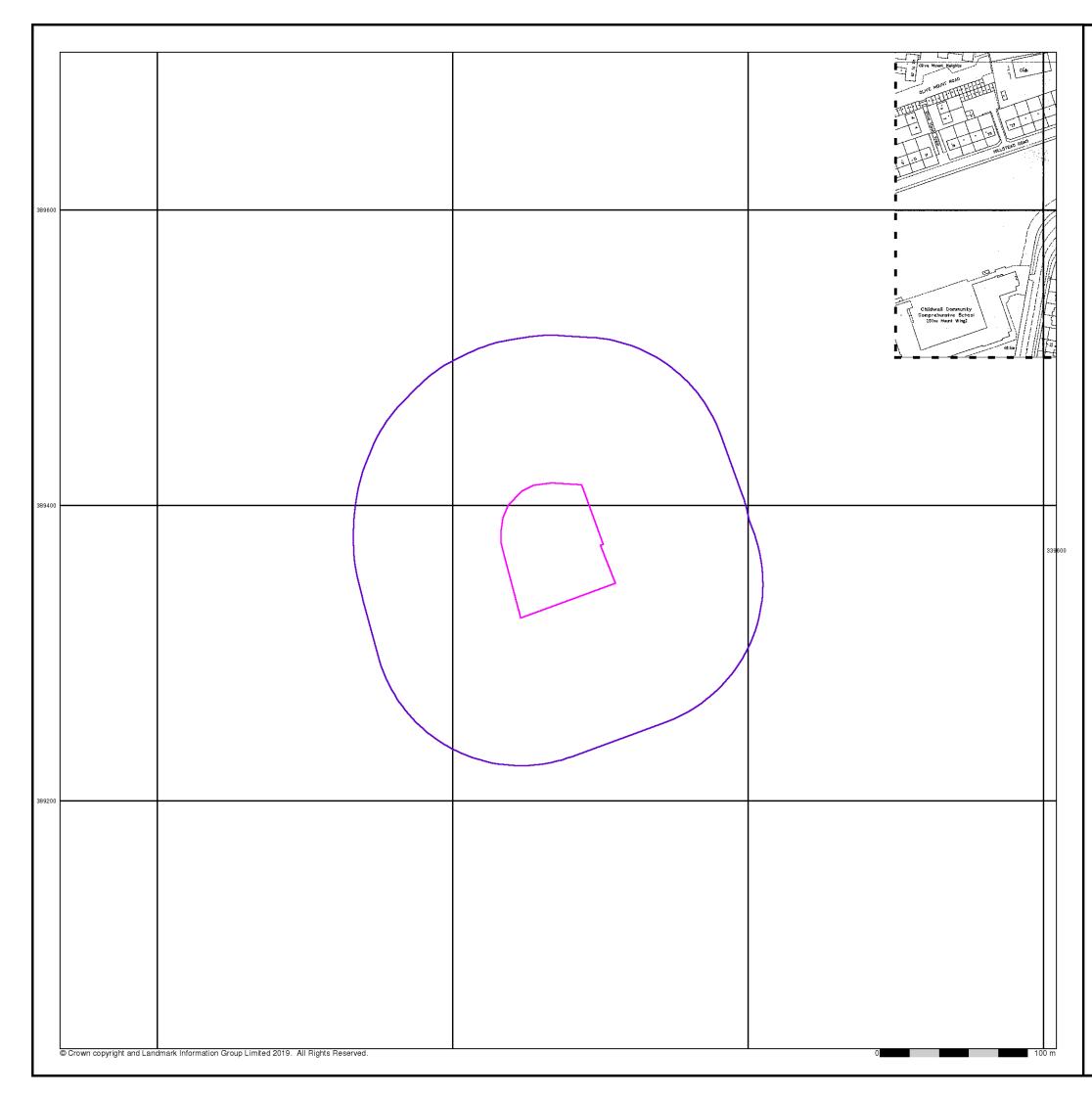
Site at 339000, 389000



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## Large-Scale National Grid Data Published 1996

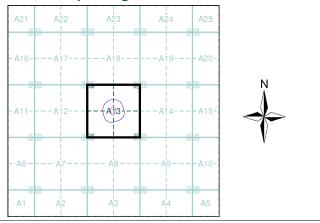
## Source map scale - 1:1,250

'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:	227726891_1_1
Customer Ref:	714.01
National Grid Reference:	339270, 389370
Slice:	Α
Site Area (Ha):	0.5
Search Buffer (m):	100

## Site Details

Site at 339000, 389000



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## **Historical Mapping Legends**

Ordnance Survey County Series 1:10,560	Ordnance Survey Plan 1:10,000	1:10,000 Raster Mapping
Gravel Sand Other Pit Pit Pits	کر کر کے کہ	Gravel Pit Gravel Pit or slag heap
Quarry Shingle Orchard	Sand Pit	Rock Careford Rock (scattered)
Asian Asia	Refuse or Lake, Loch	ີ້ໍ້ຈັກ Boulders ິ Boulders (scattered)
A DECT OF A DECT	Dunes	Shingle Mud Mud
Mixed Wood Deciduous Brushwood	ネネ Coniferous ふみの Non-Coniferous Trees	Sand Sand Sand Pit
	ሩ ሩ Orchard በი_ Scrub \ነր Coppice	Top of cliff
		General detail Underground detail
Fir Furze Rough Pasture	nf I Bracken Willing Heath Grassland	— — — Overhead detail — Narrow gaug
Arrow denotes Arrow flow of water Station	<u> معنا</u> د Marsh ۲۲۸۸, Reeds <u>معنا</u> د Saltings	Multi-track Single track railway railway
🕂 Site of Antiquities 🔹 🛧 Bench Mark	Direction of Flow of Water Building	County boundary (England only)
Pump, Guide Post, Well, Spring, Signal Post Boundary Post • <b>285</b> Surface Level	Glasshouse	District, Unitary, Metropolitan, Constituenc London Borough boundary boundary
Sketched Instrumental Contour	Pylon ——□——— Electricity Transmission Pole Line	Area of wooded ★★ Area of wooded vegetation Area of wooded ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
Main Roads Fenced Minor Roads Fenced		
Un-Fenced Un-Fenced	Cutting Embankment Standard Gauge	★     Coniferous     Positioned       ★     trees (scattered)     ♀
Sunken Road Raised Road	Road '''□''' Road Level Foot Single Track Under Over Crossing Bridge	今 今 Orchard ピ Coppice 今 今 Orchard のr Osiers
Railway River	Siding, Tramway or Mineral Line	متلك Rough متلك Heath Grassland منالك
Railway over Road Level Crossing	Geographical County	م الله الله الله الله الله الله الله الل
Road over Road over River or Canal Stream	Administrative County, County Borough or County of City Municipal Borough, Urban or Rural District,	Water feature Flow arrows
Road over Stream	Burgh or District Council Borough, Burgh or County Constituency Shown only when not coincident with other boundaries	MHW(S) Mean high MLW(S) Mean low water (springs) Mean low water (springs)
————— County Boundary (Geographical)	Civil Parish Shown alternately when coincidence of boundaries occurs	Telephone line (where shown)
- · - · - · County & Civil Parish Boundary + · + · + · + Administrative County & Civil Parish Boundary	BP, BS Boundary Post or Stone Pol Sta Police Station	(with poles) ← Bench mark Triangulatio BM 123.45 m (where shown) △ station
Co. Boro. Bdy.	Ch Church PO Post Office CH Club House PC Public Convenience F E Sta Fire Engine Station PH Public House	Point feature Pylon, flare
Co. Boro. Bdy. County Burgh Boundary (Scotland)	FB Foot Bridge SB Signal Box Fn Fountain Spr Spring	or Mile Stone)
co: Burgh Bay.	GP Guide Post TCB Telephone Call Box	·↓· Site of (antiquity) Glasshouse
x	MP Mile Post TCP Telephone Call Post MS Mile Stone W Well	General Building

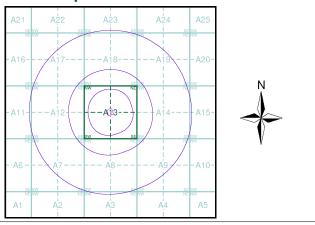
#### arrows low (springs) icity nission line oles) gulation

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## Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1850 - 1851	2
Cheshire	1:10,560	1881	3
Lancashire And Furness	1:10,560	1894	4
Lancashire And Furness	1:10,560	1909	5
Lancashire And Furness	1:10,560	1928	6
Lancashire And Furness	1:10,560	1928	7
Lancashire And Furness	1:10,560	1938	8
Ordnance Survey Plan	1:10,000	1956 - 1957	9
Ordnance Survey Plan	1:10,000	1965 - 1968	10
Ordnance Survey Plan	1:10,000	1974 - 1978	11
Ordnance Survey Plan	1:10,000	1982 - 1987	12
Ordnance Survey Plan	1:10,000	1989	13
Ordnance Survey Plan	1:10,000	1990	14
10K Raster Mapping	1:10,000	1999	15
Street View	Variable		16

## Historical Map - Slice A



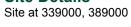
#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 339270, 389370 Slice: Site Area (Ha): Search Buffer (m):

227726891\_1\_1 714.01 А 0.5 1000

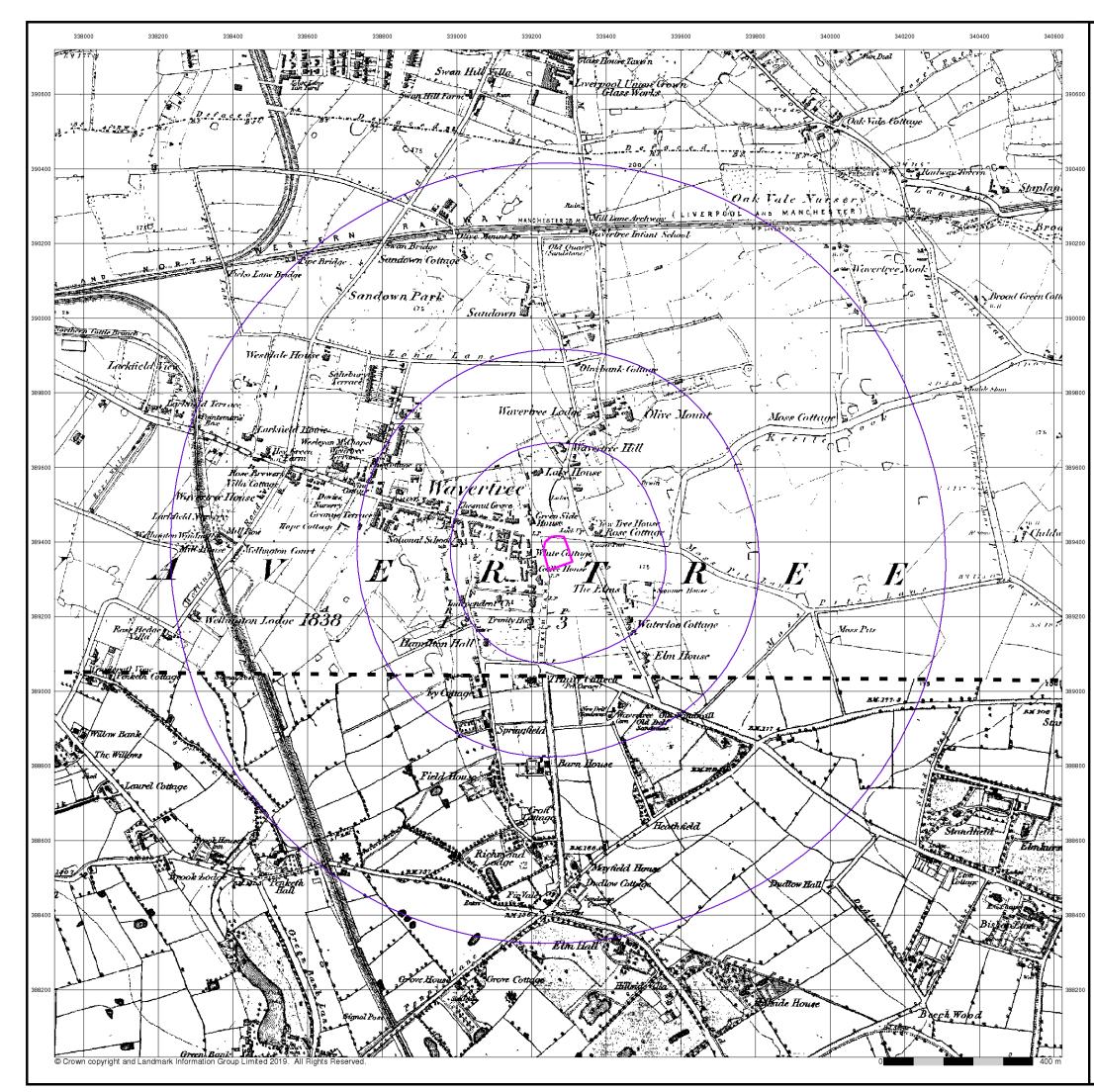
Tel: Fax: Web:





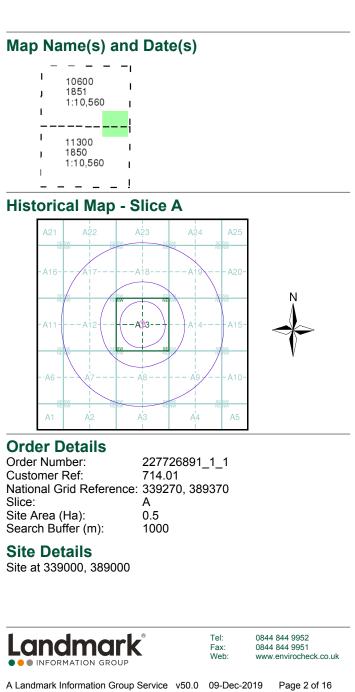


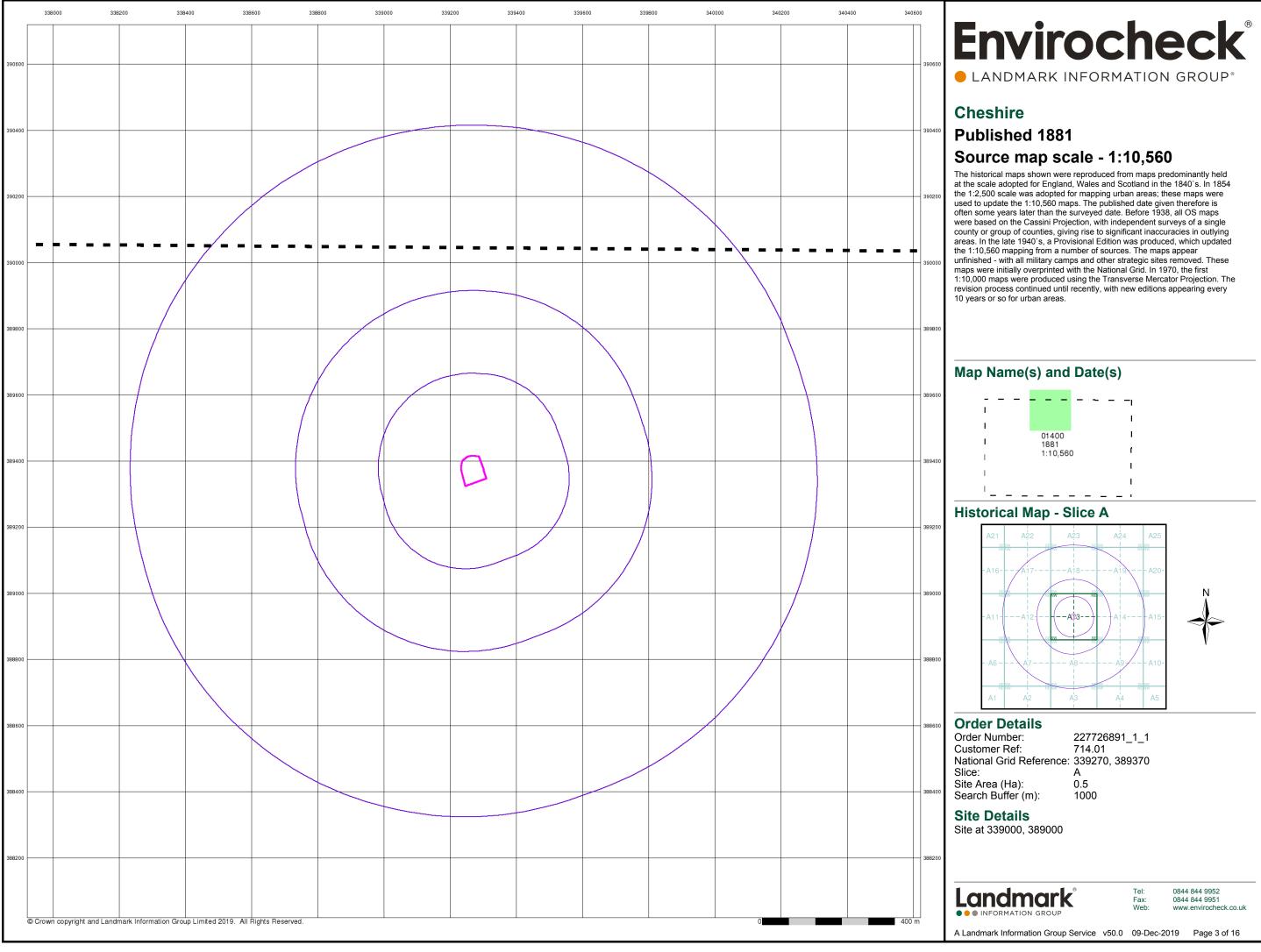
A Landmark Information Group Service v50.0 09-Dec-2019 Page 1 of 16

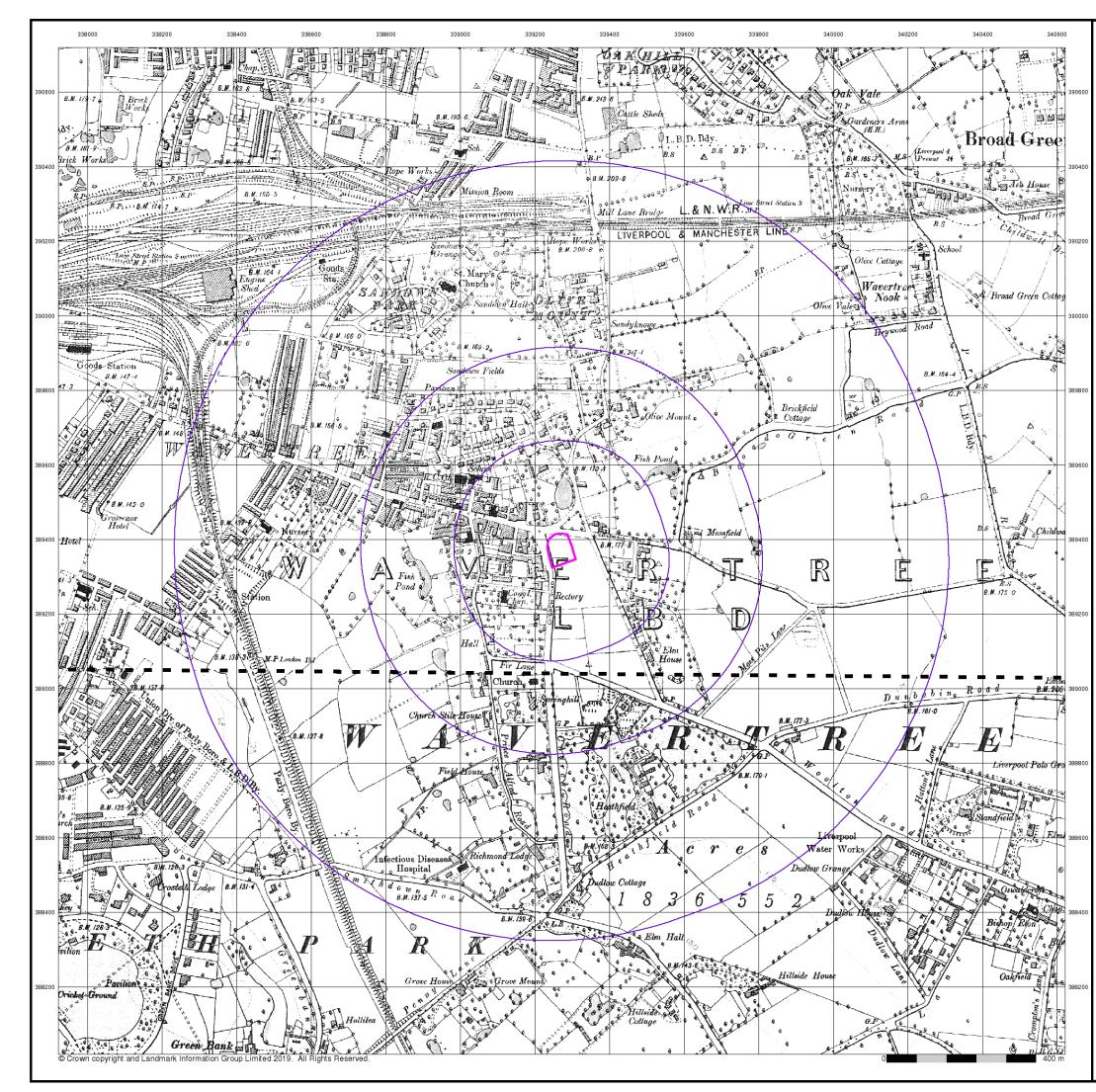


## Lancashire And Furness Published 1850 - 1851 Source map scale - 1:10,560

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.







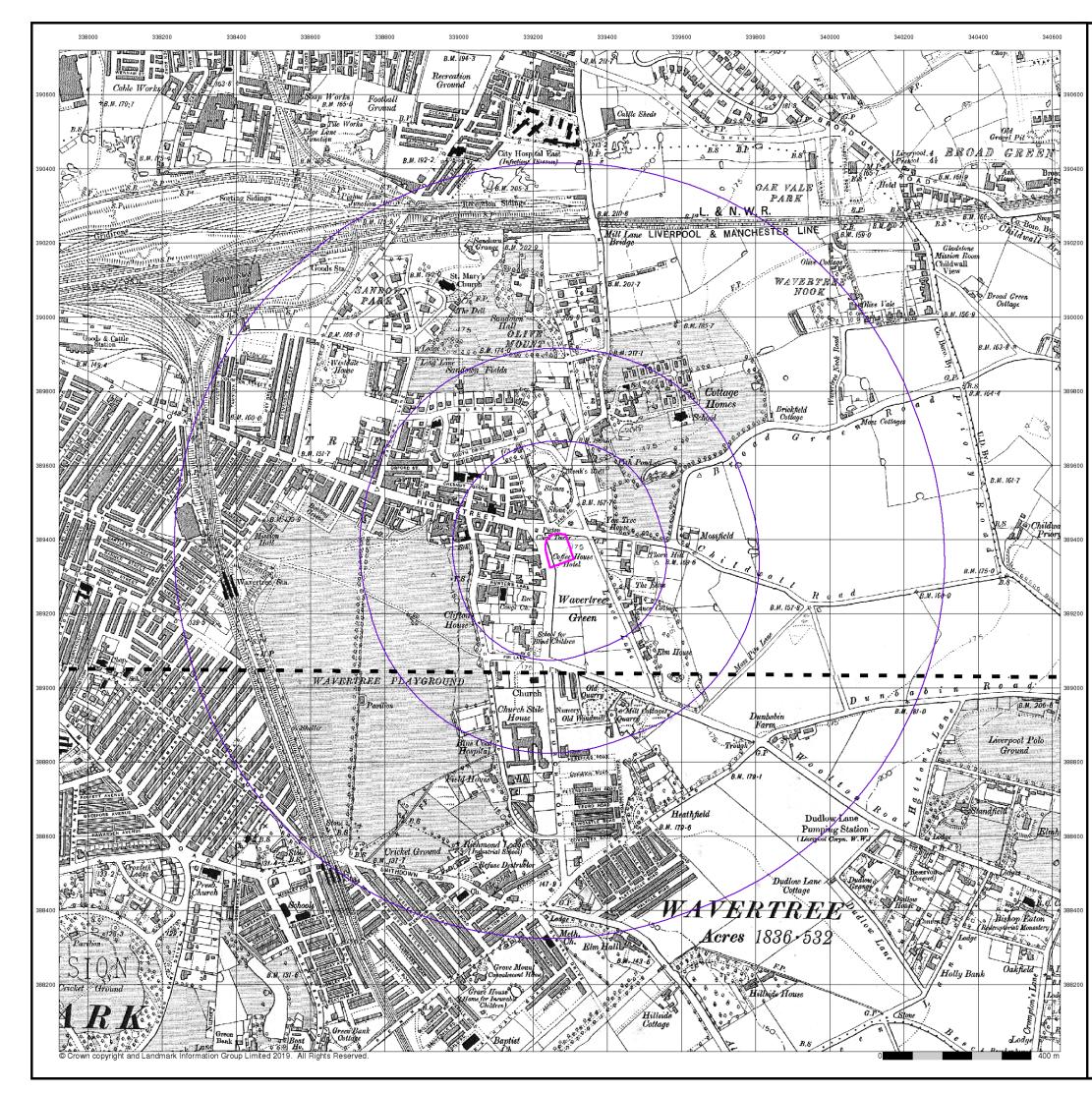
## Lancashire And Furness

Published 1894

## 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.



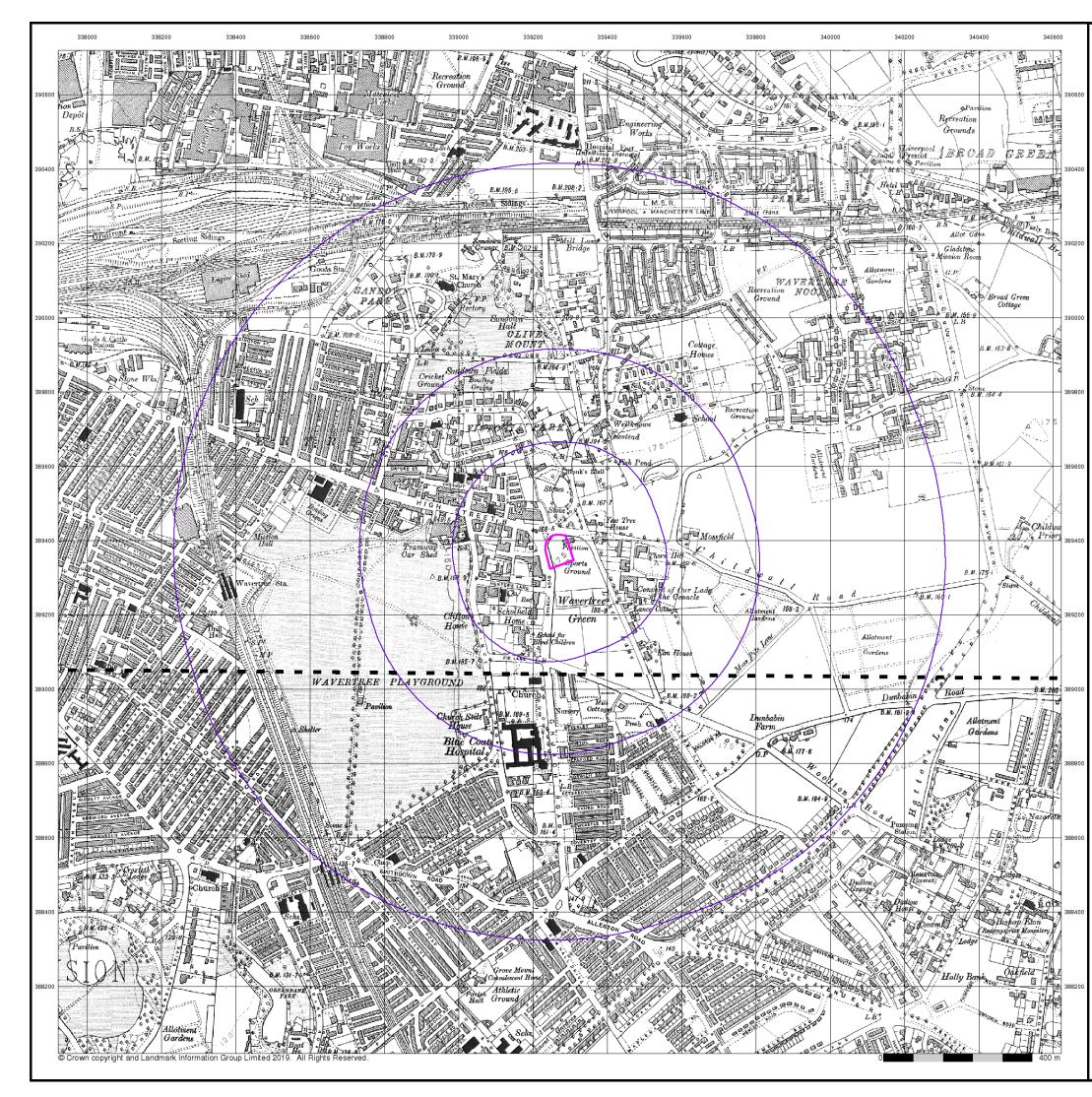


## Lancashire And Furness Published 1909

## 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.





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## Lancashire And Furness Published 1928

## 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.



