



PHASE I DESK STUDY AND PRELIMINARY RISK ASSESSMENT

Jacks, Warish Hall Farm, Takeley, Essex, CM22 6NT

Project Reference:

CON01-WARI-070

Weston Homes Reference:

TBA

Site Address:

Jacks
Warish Hall Farm
Takeley
Essex
CM22 6NT

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28 January 2021

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Version 1

Customer:

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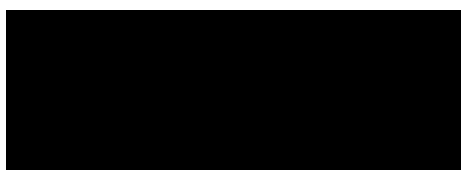
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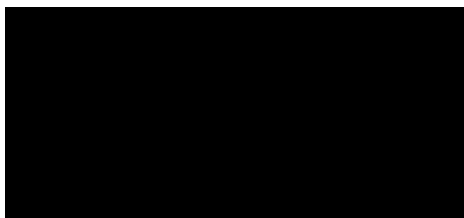
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EXECUTIVE SUMMARY

Stansted Environmental Services Limited has been commissioned by Weston Homes plc, to undertake a Phase I Preliminary Risk Assessment (PRA) of a study site located at Jacks, Warish Hall Farm, Takeley, Essex, CM22 6NT. It is the intention for the site to be redeveloped to a residential end-use. The site may be located by National Grid Reference TL 570216.

At the time of the walkover, the site was a paddock. The site was predominately level with no noticeable undulating topography. No evidence of ecological distress was observed. The surrounding land to the northeast and east was lower in elevation, marked by a dry ditch and public footpath leading from Jacks Lane to the southeast, within a wooded cutting, with arable farm land beyond. A deciduous wooded area and hedging formed the southern boundary parallel to the Jacks Lane. There was no evidence of littering or fly tipping along the path and no obvious signs of surface contamination within the ditches. Two detached dwellings with private gardens formed the southwestern boundary, marked by a post a timber rail fence. Further to the east and south were further residential properties, with no observed contaminative land uses.

The site appears to have been undeveloped from the first issue of the mapping to the present day. The site has remained as part of an agricultural setting. However, most recently the site has formed a grassed open paddock. The surrounding area has generally become developed since the 1920s notably with the development of Takeley Nurseries 100m to the southeast. Residential developments have occurred to the south in the 1960s, 1980s and late 2000s with the inclusion of the redevelopment of Takeley Nurseries.

The site is underlain by the superficial deposits of the Lowestoft Formation overlying the London Clay Formation. The Lowestoft Formation has been identified as a Secondary (undifferentiated) Aquifer while the underlying London Clay Formation has been classified as Unproductive Strata by the Environment Agency.

The closest surface water feature is a pond located some 13m to the east.

The research has identified evidence of potential geohazards associated with the underlying ground conditions, either natural or man-made, and, therefore, it is recommended that further work be carried out to confirm the presence, nature or extent of those hazards anticipated to impact on the site.

The research has identified any potential sources of contamination and therefore, no significant pollutant linkages have been found.

Therefore, no further works are required with respect to contaminated land.

1. INTRODUCTION

1.1 General

Stansted Environmental Services Limited (SES) has been commissioned by Weston Homes plc (WH), the Client, to undertake a Phase I Desk Study and Preliminary Risk Assessment (PRA) of a study site located at Jacks, Warish Hall Farm, Takeley, Essex, CM22 6NT.

The purpose of the study was to evaluate the contamination status at the site and to develop a risk assessment based on the past uses of the site and the proposed residential end use.

Assessment of the risks that may be associated with potentially contaminated land are generally undertaken on a phased or tiered basis, in accordance with current UK policy and technical guidance given in the Land Contamination: Risk Management (LCRM) procedures published by the Environment Agency (2019) and British Standard BS10175 "Investigation of Potentially Contaminated Sites – Code of Practice" (2011 + A2:2017) as well as other relevant documents. The LCRM procedures have been produced after the withdrawal of the former CLR11 report and generally follow the procedures in CLR11.

There are three stages presented in the LCRM as follows:

- Stage 1: Risk Assessment
- Stage 2: Options Appraisal
- Stage 3: Remediation

The relevant phases of risk assessment are as follows:

- Development of a Conceptual Model that identifies potential source-pathway-receptor linkages (pollutant linkages) based initially on a consideration of desk-based and site reconnaissance information on the characteristics of the site and its environmental setting;
- Risk estimation and evaluation using generic assessment criteria. This allows refinement of the Conceptual Model on the basis of factual information on the condition of the land (site investigation data) and involves comparison between observed concentrations of contaminants in environmental media against relevant and applicable generic assessment (or screening) criteria; and
- Risk estimation and evaluation using site specific assessment criteria. This involves further refinement of the Conceptual Model on the basis of more detailed, site specific information on the condition of the land, and the use of relevant and applicable exposure models and site specific assumptions to estimate risks.

The Preliminary Risk Assessment is a qualitative judgement about the potential human health and environmental risks that may be associated with a site, and represents the first of the three phases outlined above.

This PRA report is based upon a defined programme of work and terms and conditions agreed with the Client. In preparing this report, all reasonable skill and care has been taken, accounting for project objectives, agreed scope of work and prevailing site conditions. SES accepts no liability to any parties whatsoever, following the issue of this report, for any matters arising outside the agreed scope of the work. It should be noted that this report is issued in confidence to the Client and that SES has no responsibility to any third parties to whom this report may be circulated, in part or in full, and any such parties cannot rely on the contents of the report. Unless specifically assigned or transferred within the terms of the agreement, SES asserts and retains all Copyright, and other Intellectual Property Rights, in and over the report and its contents.

1.2 Planning Status

This desktop study was produced to assist in a future planning application.

1.3 Project Objectives

The objectives of this study were to:

- Establish the historical and current uses of the subject site and adjacent land, including any areas located within a 500m radius of the subject site that have been used for landfill disposal purposes;
- Determine the environmental setting of the land as characterised by:
 - i. Geology;
 - ii. Hydrogeology;
 - iii. Hydrology;
 - iv. Licensed waste management activities;
 - v. Pollution controls and authorisations;
 - vi. Historical pollution incidents;
 - vii. Radon hazards; and
 - viii. Ecosystem designations.
- Comment on the potential for contamination of the soil and water environment in contact with the subject site, arising from the use of the site or surrounding land for particular purposes or as the result of other factors; and
- Identify the potential human health and environmental risks that may be associated with the subject site, taking into account past, current and planned future uses of the land and its environmental setting.

2. SOURCES OF INFORMATION

In preparing this report, SES has relied upon the sources of information set out below:

TABLE 1: Sources of Information

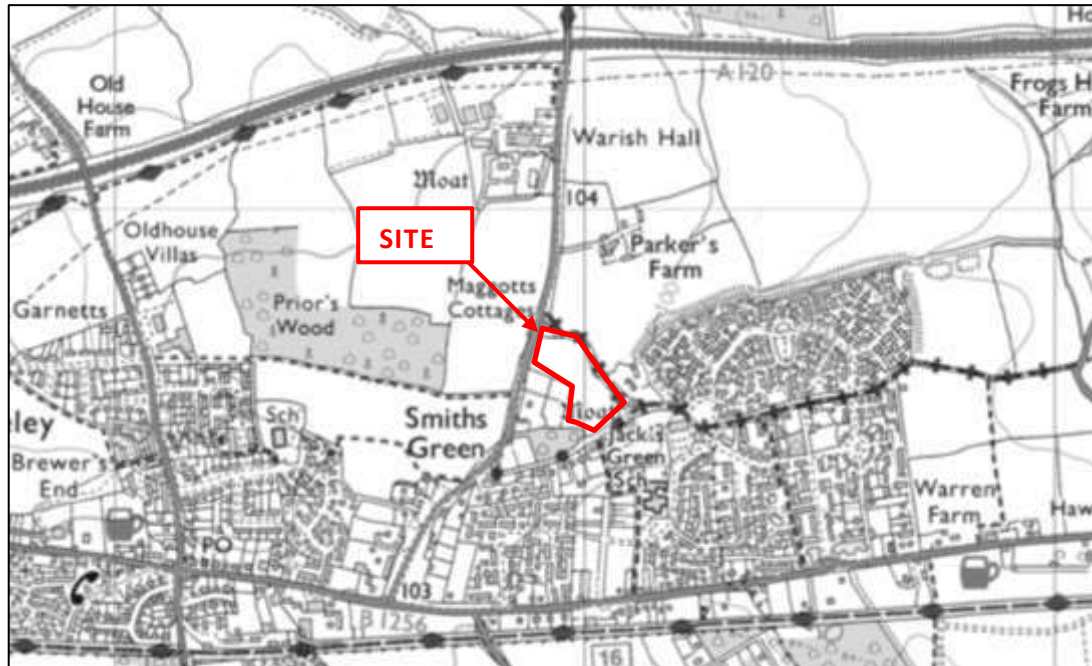
Report Ref	Document Ref	Prepared by
1	Envirocheck Report (Ref: 271774066_1_1) comprising: <ul style="list-style-type: none"> • Envirocheck Main Legend Maps • Ordnance Survey Historical Maps • Envirocheck Report • Envirocheck Flood Map • Envirocheck Groundwater Vulnerability Map • Envirocheck Sensitivity Land Uses Map 	Landmark Information Group
2	Geology of Britain Viewer	British Geological Survey
3	Aquifer designation data available via the EA website	Environment Agency
4	Site reconnaissance carried out on 22/01/2021	Hugo Evans, SES

3. SITE DESCRIPTION AND SETTING

3.1 Site Location

The site is located at Jacks, Warish Hall Farm, Takeley, Essex, CM22 6NT and is approximated by the National Grid reference: TL 570216. The site location is shown in Figure 1.

FIGURE 1: Site Location Plan



3.2 Site Description

The proposed development site is irregular in shape and covers an area of approximately 2.1 hectares. The site is bounded by open countryside, agricultural fields and private residential dwellings with gardens.

3.3 Walkover Survey

The walkover survey was undertaken on 22nd January 2021 by Hugo Evans, Trainee Geoenvironmental Consultant from SES.

At the time of the walkover, the site was a paddock. The site was predominately level with no noticeable undulating topography. No evidence of ecological distress was observed. The surrounding land to the northeast and east was lower in elevation, marked by a dry ditch and public footpath leading from Jacks Lane to the southeast, within a wooded cutting, with arable farm land beyond. A deciduous wooded area and hedging formed the southern boundary parallel to the Jacks Lane. There was no evidence of littering or fly tipping along the path and no obvious signs of surface contamination within the ditches. Two detached dwellings with private gardens formed the southwestern boundary, marked by a post a timber rail fence. Further to the east and south were further residential properties, with no observed contaminative land uses.

There was no evidence of any underground services such as water, gas or electricity onsite. Overhead cables, telecoms and water were present along Jack Lane to the south and Smiths Green to west.

Site photographs are given in Appendix B.

4. HISTORICAL MAP SURVEY

4.1 Maps

A review of relevant historical maps for the area surrounding the subject site has been undertaken and is summarised below. The historical maps are included in this report within Appendix C.

TABLE 2: Historical Maps

Map, Date & Scale	On-Site	Off-Site
Essex 1876 1:2500 1881 1:10560	The site is shown as part of a field. A track is shown running along the southern and western boundaries while open countryside forms the remaining boundaries.	A number of structures were present to the immediate northwest labelled Maggotts with Prior's Wood beyond. Jack's Green and a pond were present 13m to the east. Takeley Villa was present 20m to the southwest, with Smith's Green beyond. Warish Hall Farm Yard was present some 450m to the north.
Essex 1897 1:2500 1897 – 1898 1:10560	No apparent changes to the site.	Residential development has occurred some 200m to the south. A pond has appeared some 20m to the northwest.
Essex 1920 1:2500 1923 1:10560	No apparent changes to the site.	A plant nursery comprising three greenhouses, a wind pump and several tanks have appeared 100m to the southeast.
Essex 1950 – 1951 1:10560	No significant changes to the site or surrounding area.	
Essex 1960 1:10560	No apparent changes to the site.	Further residential development has occurred to the south the southeast. The plant nursery has been redeveloped and extended, comprising of two larger greenhouses.
Ordnance Survey 1970 1:2500 1971 1:10000	No apparent changes to the site.	Significant residential development has occurred 500m to the west and southwest surrounding Takeley. A pond and drain have appeared some 100m to the east. A further pond has appeared 110m to the southwest.
Additional SIMs 1978 – 1987 1:2500	No significant changes to the site or surrounding area, other than further residential development to the far west, southwest and south.	
Ordnance Survey 1993, 1999 1:2500 1992, 1999 1:10000	No significant changes to the site or surrounding area.	
Historic Aerial Photography 1999	The aerial photograph shows the site and surrounding area much as it is today.	
Ordnance Survey 10k Raster Mapping 2006	No apparent changes to the site.	The A120 bypass has appeared some 600m to the north running east to west.

Map, Date & Scale	On-Site	Off-Site
1:10000		
Ordnance Survey VectorMap Local 2020 1:10000	The map shows the site and surrounding area to be generally in agreement with its current setting. Takeley Nurseries appears to have been partially redeveloped to a school with playing field. Extensive residential development has occurred to the east and southeast of the site, forming Little Canfield.	

4.2 Planning History

Stansted Environmental Services has searched Uttlesford District Council (UDC) planning portal for planning and building control records. The sites record history is summarised below:

TABLE 3: Planning History

Application	Date	Description	Status	Comment
DUN/0449/65	17/01/1966	Site for industrial development	Refused	
DUN/0668/75	06/01/1975	New access road	Approved (with conditions)	
DUN/0327/82	12/05/1982	New access road	Approved (with conditions)	

4.3 Summary of Site History

The site appears to have been undeveloped from the first issue of the mapping to the present day. The site has remained as part of an agricultural setting. However, most recently the site has been laid to a grassed paddock.

The surrounding area has generally become developed since the 1920s with the development of Takeley Nurseries 100m to the southeast. Sporadic residential developments have occurred to the south in the 1960s, 1980s and late 2000s including the redevelopment of Takeley Nurseries.

5. ENVIRONMENTAL SETTING

5.1 General

Data contained within the Envirocheck report has been used to assess the environmental setting of the site. The relevant data is presented in Appendix D.

5.2 Geology

Reference to the British Geological Survey website [REDACTED] indicates that the site is underlain by the London Clay Formation which is described as clay, silt and sand.

Superficial deposits are represented by the Lowestoft Formation.

5.3 Hydrogeology

The Lowestoft Formation has been identified as a Secondary (undifferentiated) Aquifer, corresponding to granular layers, while the underlying London Clay Formation has been classified as Unproductive Strata by the Environment Agency. The site is not shown within a Groundwater Source Protection Zone (SPZ).

There are no licensed groundwater abstractions located within 500m of the study. There are ten active licensed discharges to land within 500m; the closest being approximately 124m to the southwest for sewage discharge into land (soakaway) for a domestic property. The remaining discharges are also for domestic properties.

5.4 Hydrology

The closest off-site surface water feature is a pond located some 13m to the east.

There are no licensed surface water abstractions within 500m of the study site. There are twenty five discharge consents to surface waters within 500m; the closest being for a domestic property situated about 47m southeast of the study site and is for sewage discharge to a tributary of the River Roding. The closest active industrial discharge is for Parkers Farm situated about 232m to the northeast for sewage discharge into a tributary of the River Roding.

The closest pollution incident relating to controlled waters is recorded some 450m to the west of the site in January 1991. This incident relates to 'unknown sewage' and was classified as a 'Category 3 – Minor Incident'.

5.5 Radon

The British Geological Survey, in conjunction with the Radiation Protection Division of the Health Protection Agency, indicates the site to lie within an area where there is a probability of <1% of present or future homes being above action the level of 200Bq/m³. As such, the site is not classified as a Radon Affected Area. Therefore, no radon protection measures are deemed necessary for the proposed development. This is confirmed by the Building Research Establishment Report BR211.

5.6 Soil Geochemistry

The British Geological Survey data indicates the following concentrations of naturally occurring metals to be representative of background levels in natural soil underlying the site. The levels are based on those present in rural soils and are not necessarily representative of levels within Made Ground which may be encountered on-site.

TABLE 4: Soil Geochemistry

Element	Concentration mg/kg
Arsenic	15 – 25
Cadmium	<1.8
Chromium	60 – 90
Lead	<100
Nickel	30 - 45

6. ASSESSMENT OF GEOTECHNICAL RISK

6.1 Geological Constraints

The following are brief findings relating to factors identified during the research from the EnviroCheck data that may have a potential impact upon the engineering of the proposed design.

TABLE 5: Geohazards

Potential Hazard	Assessed Risk	Comment
BGS Recorded Mineral Sites	Low	No mineral sites have been recorded on or within 500m of the site.
Man-Made or Natural Cavities	Very Low	The site is underlain by the Lowestoft Formation with the London Clay Formation at depth. No cavities have been recorded within 1km of the site.
Collapsible Ground	Low	Collapsible material may be present. Such material is prone to collapse when it is loaded (as by constriction of a building) and then saturated by water (as by rising groundwater). Collapse may cause considerable damage to overlying property.
Compressible Ground	Very Low	No post-glacial soils are recorded as being present on the site.
Ground Dissolution	Very Low	The site is underlain by the Lowestoft Formation with the London Clay Formation at depth.
Landslide	Very Low	The site is essentially level.
Running Sand	Low	Granular deposits are not indicated to be present at shallow depth within the site area.
Shrinking or Swelling Clay	Low to Moderate	Both the Lowestoft Formation and London Clay Formation are cohesive deposits are likely to have a low to moderate volume change potential.
Unconsolidated Made Ground	Very Low	The likelihood of any Made Ground onsite is minimal.
Bearing Pressure	Low to Moderate	Weak soils in the form of Made Ground are anticipated at shallow depth with potentially low bearing pressures.
Aggressive Conditions for Construction Materials	Low to Moderate	The London Clay Formation is known to contain high levels of sulphates and sulphides. If the proposed structures are to come into contact with this material then the associated risk is high.
Shallow or High Groundwater Table	Moderate	The site is adjacent to multiple drainage ditches and ponds. The site is not within an area subject to flooding.
Old Basements	Very Low	The likelihood of any buried structures is minimal.

6.2 Geotechnical Risk Assessment

An assessment of the main hazards associated with the site is detailed below. Unless stated otherwise, the presence of such hazards are based on information from the research or reconnaissance and have not been confirmed by an intrusive investigation.

- Soil Conditions

The presence of plastic cohesive soils represents a risk to structures. Volume changes brought about by shrinkage and swelling of the cohesive soil, exacerbated by the presence of trees, could result in structures supported on this stratum experiencing differential settlement. The associated risk is considered to be low to moderate, and may result in either deeper trench fill foundations or even piled foundations being employed.

The London Clay Formation is known to contain significant quantities of sulphates that may cause concrete attack. Should any proposed structure come into contact with that material,

then the associated risk is high. However, should any proposed structures be founded in the terrace deposits, then the risk of concrete attack is considered to be low.

The location and anticipated geology of the site suggests there to be a moderate risk from high groundwater. Should this be the case, then pumping may be required from any excavations on site.

- Topography

The EnviroCheck data provided indicates only a very low risk of landslip subsidence.

- Previous Use

Historical Mapping has not identified any previous development on the site.

6.3 Geological Constraints

The research has identified evidence of potential hazards associated with the underlying ground conditions, either natural or man-made, and, therefore, it is recommended that further work be carried out to confirm the presence, nature or extent of those hazards anticipated to impact on the site.

7. ENVIRONMENTAL SEARCHES

7.1 Potential Sources of Contamination

Details of the relevant searches are given in Appendix E.

A search was made of records held by various regulatory authorities and other statutory bodies to determine the presence or otherwise of past and current activities on or within 500m of the site which may have the potential to give rise to the presence of contamination

No records were found of activities within 500m of the study site.

7.2 Green Belt Areas

There are no designated areas of Adopted Green Belt land within 500m of the site

Green Belt Areas are generally areas that are designated as being under special consideration for development. Local Authorities may restrict the type of development, place particular planning constraints on proposed developments, or potentially restrict any development within a designated Green Belt Area.

7.3 Nitrate Vulnerable Zones

The site is located within an area designated as a nitrate vulnerable zone relating to surface waters associated with the River Roding.

The nitrates directive defines a nitrate vulnerable zone as:

- Surface freshwater which contains or could contain, if preventative action is not taken, nitrate concentrations greater than 50mg/l; or
- Groundwater which contains or could contain, if preventative action is not taken, nitrate concentrations greater than 50mg/l; or
- Natural freshwater lakes or other freshwater bodies, estuaries, coastal waters or marine waters, which are not eutrophic or may become so in the near future if protective action is not taken.

7.4 Designated Sites

A review of the MAGIC (MultiAgency Geographic Information for the Countryside) website, ref www.magic.gov.uk, was undertaken to assess whether there were any Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) or Local Nature Reserves (LNR) which may be impacted by the development.

The enquiries indicated there is an area of ancient woodland, Priors Wood, approximately 174m west of the study site.

7.5 Contemporary Trade Entries

There are no contemporary trade entries recorded on the site. There are fifteen entries recorded within 500m of the site of which most are inactive. The closest active entry relates to Amazontee Ltd – a T-shirt design and printers, located some 355m to the east.

The remainder relate to a wide range of commercial and retail activities commonplace in a semi-rural setting.

8. PRELIMINARY RISK ASSESSMENT

8.1 General

The typical technical approach to assessing potential human health and environmental risks associated with the condition of land relies on the consideration of the relationship between contaminants, pathways and receptors, as defined below.

TABLE 6: Definitions

Contaminant	A hazardous substance or agent that has the capacity to cause harm or other damage to a receptor.
Receptor	An entity (e.g. human being, water environment, flora and fauna etc.) that is vulnerable to the adverse effects of the contaminant.
Pathway	The means by or through which a contaminant comes into contact with, or otherwise affects, the receptor.

In the UK, this relationship is termed a “pollutant linkage”. The Conceptual Site Model (CSM) is a representation of the inter-relationship of all potential contaminants, pathways and receptors in a given land use scenario. The CSM is therefore a screening tool that should clearly and transparently identify relevant pollutant linkages that may warrant further assessment, as well as providing justification for those that are considered unlikely to exist. It is important to recognise that for a health or environmental risk to exist, all three elements of the relationship or linkage must be present. Thus:

- No contaminant » There can be no adverse effect on a receptor; and
- Nothing adversely affected by the contaminant » No harm or damage can arise.

It should be noted that even where both a contaminant and a receptor are identified, no harm or damage will occur if there is no pathway by or through which contact between the two can be established. It is also important to recognise that since contaminants, pathways and receptors can all change over time, the assessor must be precise about the time frame to which the risk assessment refers.

Consideration has been given to the potential for the subject site to be determined as “contaminated land” under Part 2A of the Environmental Protection Act 1990. Under Part 2A, Local Authorities have a duty to inspect sites from time to time to identify land that falls within a statutory definition of contaminated land, as assessed in the context of its current use and setting. Part 2A inspections are intended to focus primarily on land that may present unacceptable health and environmental risks but which cannot be regulated by planning controls or other enforceable mechanisms. It should be noted that it is not possible for land whose condition is assessed as being ‘fit-for-purpose’ under the planning regime to be identified as “contaminated land” under Part 2A.

The primary purpose of this report is to assess the potential for ground contamination derived at the subject site. Reference has also been made to off-site sources of contamination, such that if ground contamination is encountered during a subsequent site investigation a reasonable judgement as to its origin either on or off the site may be undertaken.

8.2 Potential Sources of Contamination

The research has not identified any potential sources of contamination which may form a pollutant linkage on or close to the site.

8.3 Potential Receptors and Exposure Pathways

The receptors normally considered in land contamination assessments are taken to include, but are not restricted to, those specified in the Statutory Guidance to Part 2A. In general, receptors may be grouped as follows:

- Humans (on-site and off-site);
- Controlled waters (surface and groundwater close to or beneath the site); and
- Buildings and materials of construction on or under the site, or in the vicinity.

8.4 Human Health

As no potential sources of contamination have been found, no significant pollution linkages have been identified.

It should be noted, however, construction workers are potentially at greater risk as they are more likely to be exposed to any contaminated soils via the identified exposure pathways. However, it is considered that such risks could be effectively ameliorated by the use of appropriate personal protective equipment (PPE) and health and hygiene practices.

8.5 Controlled Waters

The site is underlain by the Lowestoft Formation and the London Clay Formation, both of which are of low permeability. The risk therefore of the underlying soils being significantly impacted with soluble and mobile contaminants that could migrate significant distances from the study site and impact sensitive receptors, is deemed very low.

When considering the nature of the identified conceptual source of contamination, coupled with the relatively low sensitivity to the study site, the risks posed to controlled waters are not judged to be significant.

8.6 Buildings and Services

The built environment is taken to include permanent and semi-permanent structures, such as houses, offices, commercial and industrial buildings etc. and associated services such as water supply pipes, drains, power and telecommunications cables. Buildings and service runs may also contain enclosed spaces where explosive, flammable or toxic gases and vapours may accumulate, presenting risks to both occupants and the buildings.

If significantly contaminated shallow soils are present beneath the study site aggressive chemical attack on building foundations and buried services is considered plausible. The composition of the Made Ground is not known at this stage and there could be the potential for ground gases to be developed.

8.7 Initial Conceptual Site Model

An initial Conceptual Site Model (CSM) has been developed on the basis of the desk study. The CSM is used to identify potential sources, pathways and receptors (i.e. potential pollutant linkages) on site and is summarised in the table below.

TABLE 7: Outline Initial Conceptual Site Model

Potential Source	Contaminants of Concern	Via	Potential Pathways	Linkage Potentially Active?	Receptors
On site – current and historical Agricultural activities	Metals Herbicides/ Pesticides	Soil	Direct contact/ingestion	X	Construction workers Future site users
			Inhalation of volatiles	X	
			Airborne migration of soil or dust	X	N/A
			Leaching of mobile contaminants	X	N/A
		Groundwater	Direct contact/ingestion	X	Construction workers
			Inhalation of volatiles	X X	Site users Off-site users
			Vertical and lateral migration in permeable strata	X	N/A
Off-site – current N/A Off-site – historical: Plant nursery activities	Metals Hydrocarbons Herbicides/ Pesticides	Groundwater	Direct contact/ingestion	X	N/A
			Inhalation of volatiles	X	N/A
		Service conduits	Direct contact/ingestion	X	N/A
			Inhalation of volatiles	X	N/A
On and off-site Made Ground / natural strata or bio-degradation of contamination	Carbon dioxide and methane	Ground Gas	Inhalation of ground gas	X X	N/A
			Explosive risks	X X	N/A

The risk assessment is based upon the available information relating to the site. Should ground conditions inconsistent with those outlined in this report be encountered, SES should be contacted to enable further assessment. The findings of the CSM should be confirmed upon finalisation of the proposed redevelopment plans.

8.8 Conclusions of Environmental Risk Assessment

The research has not identified evidence of potential sources of contamination on or which may impact on the site, and with no plausible pathways to the likely receptors, and therefore potential pollution linkages have not been suggested.

8.9 Consultation

During development, consultation may be required for a number of reasons with a number of regulatory authorities. The following provides an indication as to the most likely authorities with which consultation may be required:

- **Local Authority:** There may be a planning condition regarding contamination and consultation will be required with a designated Contaminated Land Officer within the Environmental Health Department. The Local Authority is generally concerned with human health risks.

- **Environment Agency:** Where a site is within a groundwater source protection zone or has been designated as a special site the Environment Agency is likely to be involved to ensure that controlled waters are protected.

Based on the results of any consultation, there may be specific investigation and/or remediation requirements imposed by one or more of the Authorities.

9. RECOMMENDATIONS

Although no significant pollutant linkages have been identified, an intrusive investigation should be undertaken to address the geohazard issues raised and to aid in foundation design.

The following scope of works is suggested in order to collect the require data:

- The sinking of boreholes for the recovery of samples for geotechnical; and
- The installation and monitoring of gas and groundwater monitoring standpipes.

10. CONCLUSIONS

This Phase I Desk Study and Preliminary Risk Assessment has considered a variety of sources of information regarding the past land uses of the site known as Jacks, Warish Hall Farm, Takeley, Essex, CM22 6NT.

The report has been prepared to assess contamination in relation to the proposed re-development of the site into a residential end-use.

The site appears to have been undeveloped from the first issue of the mapping to the present day, as part of an agricultural setting.

The surrounding area has generally become developed since the 1920s notably with the development of Takeley Nurseries 100m some to the southeast. Sporadic residential developments have occurred to the south in the 1960s, 1980s and late 2000s including the redevelopment of Takeley Nurseries.

The risk to human health from soil contamination is considered very low at present and no significant pollution linkages have been identified. However, a number of geohazards are likely to be present and it is recommended that a geotechnical investigation be undertaken.

This Phase I study therefore concludes that the risk from potential contamination at the site is very low, and as such no further site investigation works are required with respect to contamination.

APPENDICES

- A. PLANS & FIGURES**
- B. SITE PHOTOGRAPHS**
- C. ENVIROCHECK DATA – HISTORICAL MAPS**
- D. ENVIROCHECK DATA – ENVIRONMENTAL SETTING**
- E. ENVIROCHECK DATA – ENVIRONMENTAL DATA**

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A. PLANS & FIGURES

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Parcel	Hectare	Dwellings Per Hectare	Dwellings
7 Acres	1.4	30	42
Bull Field West	2.2	30	66
Bull Field East	2.6	25	65
Jacks	1.1	20	22
Maggotts	4.2	25	105
Bignays	6.7	35	234
Wood Ground	3.7	35	130

Key:-
















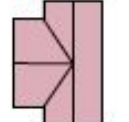
	Acoustic Buffer to 55DP from A120
	Protected Woodland
	15 meter Ecology Buffer to Woodland
	Ancient Historic Monument
	Buffer Zone to Ancient Monument, to be reviewed
	Area Allocated for Community Infrastructure
	15 Meter Urban Offset in line with EDG
	20 Meter Offset in line with existing Rural setting
	Title Boundary Line
	Potential Access Points
	Developable Parcel Areas

Originator	GB	WARISH HALL FARM – JACKS CON01-WARI-070
Checked & Approved	WGG	
		MASTERPLAN





House Types - 1:1000

- | | | |
|--|--|---|
| 
Single
Garage | 
Double
Garage | |
| 
HT 1A
2B4P
1.5 Storey
82sqm | 
HT 2C
2B4P
1 Storey
70sqm | |
| 
FOG
2B4P
2 Storey
70sqm | 
HT 2B
2B4P
2 Storey
75sqm | |
| 
HT 3A
3B6P
2.5 Storey
106sqm | 
HT 3B
3B5P
2 Storey
93sqm | 
HT 3C
3B5P
2 Storey
93sqm |
| 
HT 4A
4B7P
2.5 Storey
136sqm | 
HT 4B
4B7P
2 Storey
117 sqm | 
HT 4C
4B8P
2 Storey
130sqm |
| 
HT 4D*
4B8P
2 Storey
166 sqm | 
HT 5A*
5B10P
2.5 Storey
218 sqm | |
| 
HT P B1
5B9P
2 Storey
182 sqm | 
HT P C1
5B9P
2 Storey
188 sqm | |

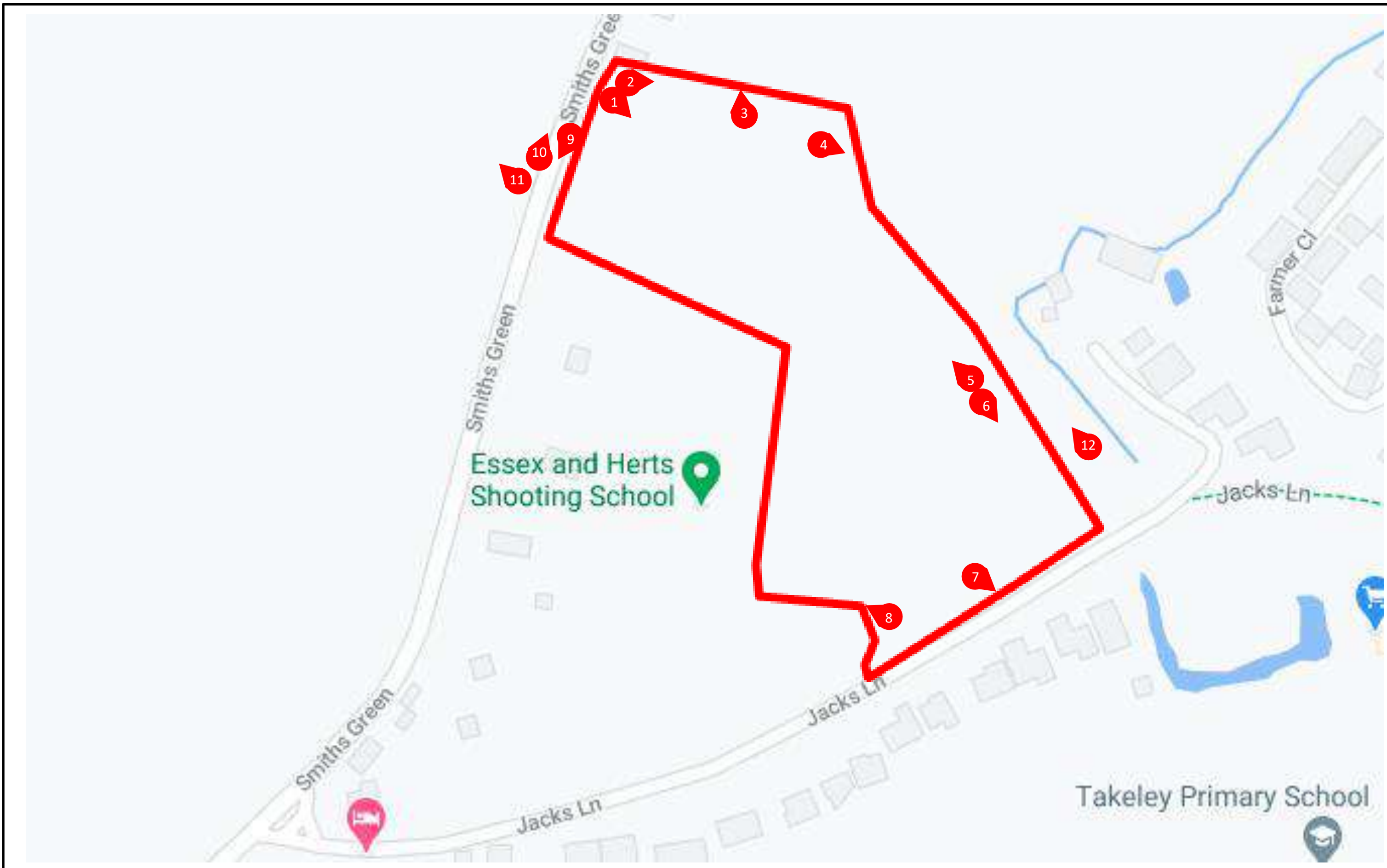


Originator	GB	WARISH HALL FARM – JACKS CON01-WARI-070
Checked & Approved	WGG	
		PROPOSED DEVELOPMENT PLAN



B. SITE PHOTOGRAPHS

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LEGEND  Location/Direction of Photograph		Originator GB	JACKS, WARISH HALL FARM, TAKELEY, ESSEX CON1-WARI-070	
		Checked & Approved WGG		



Plate 1



Plate 2

Originator

WGG

**JACKS, WARISH HALL FARM, TAKELEY, ESSEX
CON1-WARI-070**

Checked
&
Approved

GB

SITE PHOTOGRAPHS



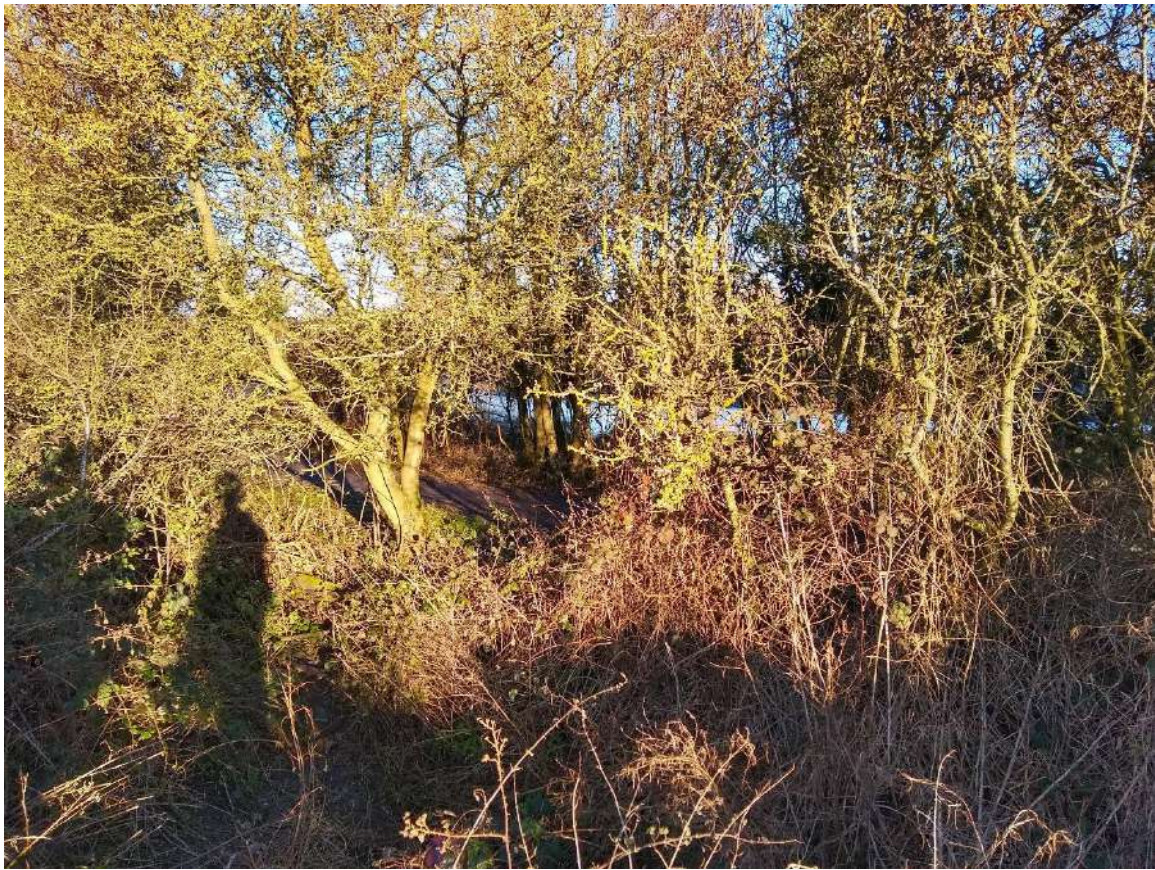


Plate 3



Plate 4

**JACKS, WARISH HALL FARM, TAKELEY, ESSEX
CON1-WARI-070**

SITE PHOTOGRAPHS

Originator

WGG

Checked
&
Approved

GB





Plate 5



Plate 6

**JACKS, WARISH HALL FARM, TAKELEY, ESSEX
CON1-WARI-070**

SITE PHOTOGRAPHS

Originator

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Approved

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Plate 7



Plate 8

**JACKS, WARISH HALL FARM, TAKELEY, ESSEX
CON1-WARI-070**

SITE PHOTOGRAPHS

Originator

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Approved

GB





Plate 9



Plate 10

**JACKS, WARISH HALL FARM, TAKELEY, ESSEX
CON1-WARI-070**

SITE PHOTOGRAPHS

Originator

WGG

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&
Approved

GB



22/01/2021



Plate 11

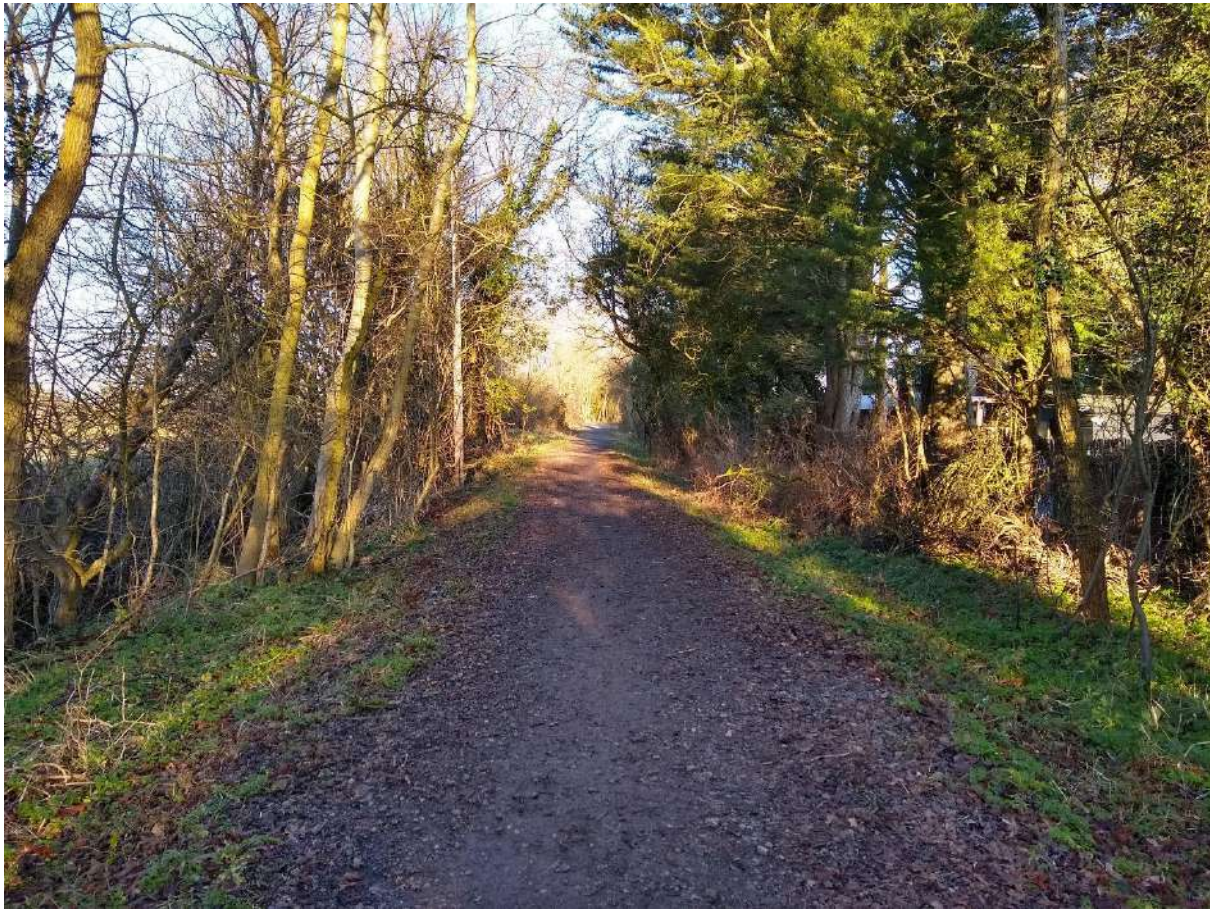


Plate 12

**JACKS, WARISH HALL FARM, TAKELEY, ESSEX
CON1-WARI-070**

SITE PHOTOGRAPHS

Originator

WGG

Checked
&
Approved

GB



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C. ENVIROCHECK DATA – HISTORICAL MAPS

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Historical Mapping Legends

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

Quarry **Gravel Pit** **Sand Pit**
Clay Pit **Shingle** **Refuse Heap**
Sloping Masonry **Flat Rock**
Marsh **Reeds** **Osiers**
Rough Pasture **Furze** **Wood**
Mixed Wood **Brushwood** **Orchard**
Fir **Ford** **Stepping Stones**
Ferry **Waterfall** **Lock**
Trig. Station **Altitude at Trig. Station**
B.M. 325.9 **Bench Mark** **Surface Level**
Arrow denotes flow of water **Antiquities (site of)**
Cutting **Embankment**
Railway crossing Road **Level Crossing** **Road crossing Railway**
Railway crossing River or Canal **Road over single stream** **Road over River or Canal**
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.
BP BS 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 **Sl** 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

Inactive Quarry, Chalk Pit or Clay Pit **Active Quarry, Chalk Pit or Clay Pit**
Rock **Boulders**
Cliff **Slopes** **Top**
Roofed Building **Glazed Roof Building**
Sloping Masonry **Archway**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Bench Mark** **Antiquity (site of)**
Cave Entrance **Triangulation Station** **Electricity Pylon**
Electricity Transmission Line
County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
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
EI 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

Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
B.M. 231.60m Bench Mark **Buildings with Building Seed**
Roofed Building **Glazed Roof Building**
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
EI Gen Sta Electricity Generating Station **Sewage Ppg Sta** Sewage Pumping Station
EI P Electricity Pole, Pillar **SB, S Br** Signal Box or Bridge
EI 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 Governor **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

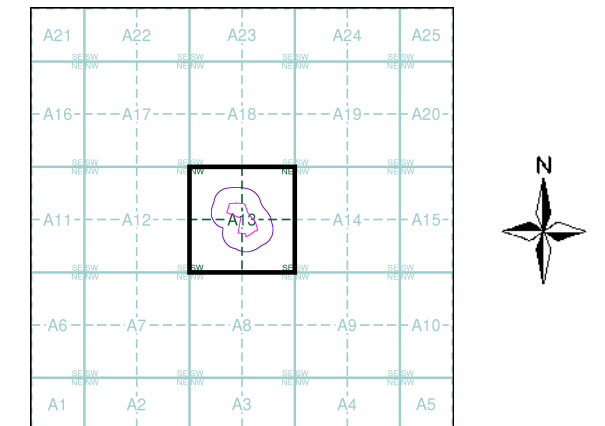
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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Essex	1:2,500	1876	2
Essex	1:2,500	1897	3
Essex	1:2,500	1920	4
Ordnance Survey Plan	1:2,500	1970	5
Additional SIMs	1:2,500	1978 - 1987	6
Additional SIMs	1:2,500	1982	7
Additional SIMs	1:2,500	1988	8
Additional SIMs	1:2,500	1991	9
Large-Scale National Grid Data	1:2,500	1993	10
Large-Scale National Grid Data	1:2,500	1996	11
Historical Aerial Photography	1:2,500	1999	12

Historical Map - Segment A13



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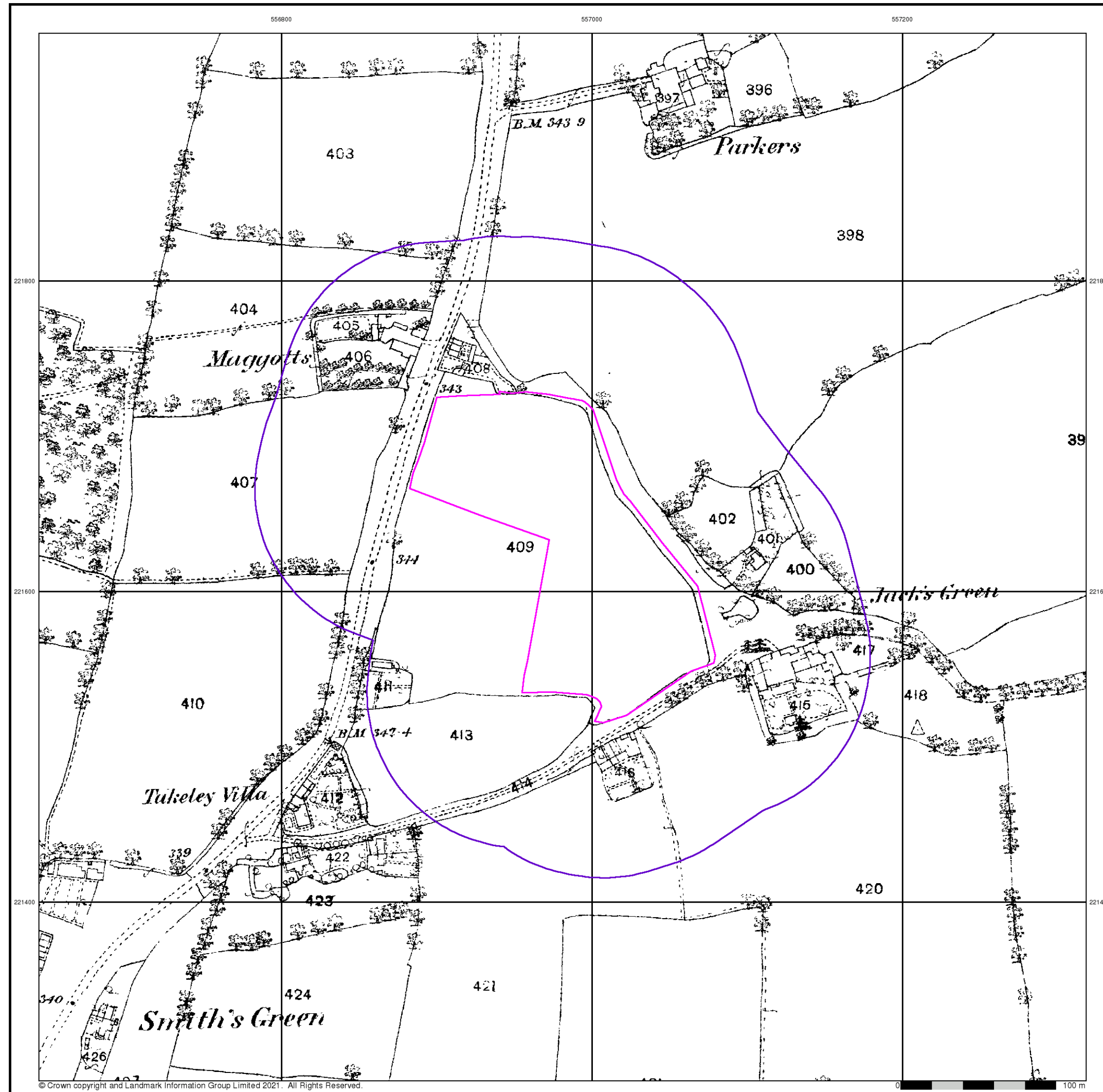
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 National Grid Reference: 556980, 221630
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 Search Buffer (m): 100

Site Details

Jacks, Takeley, BISHOP'S STORTFORD, CM22 6NT

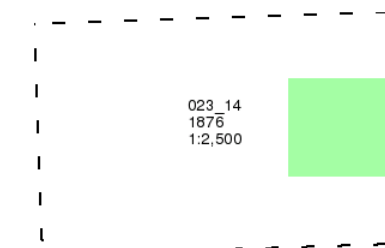
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 Web: www.envirocheck.co.uk

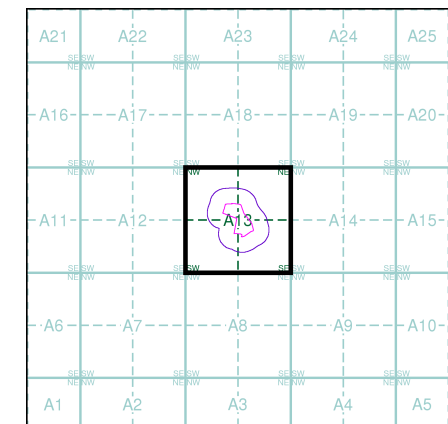


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. 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

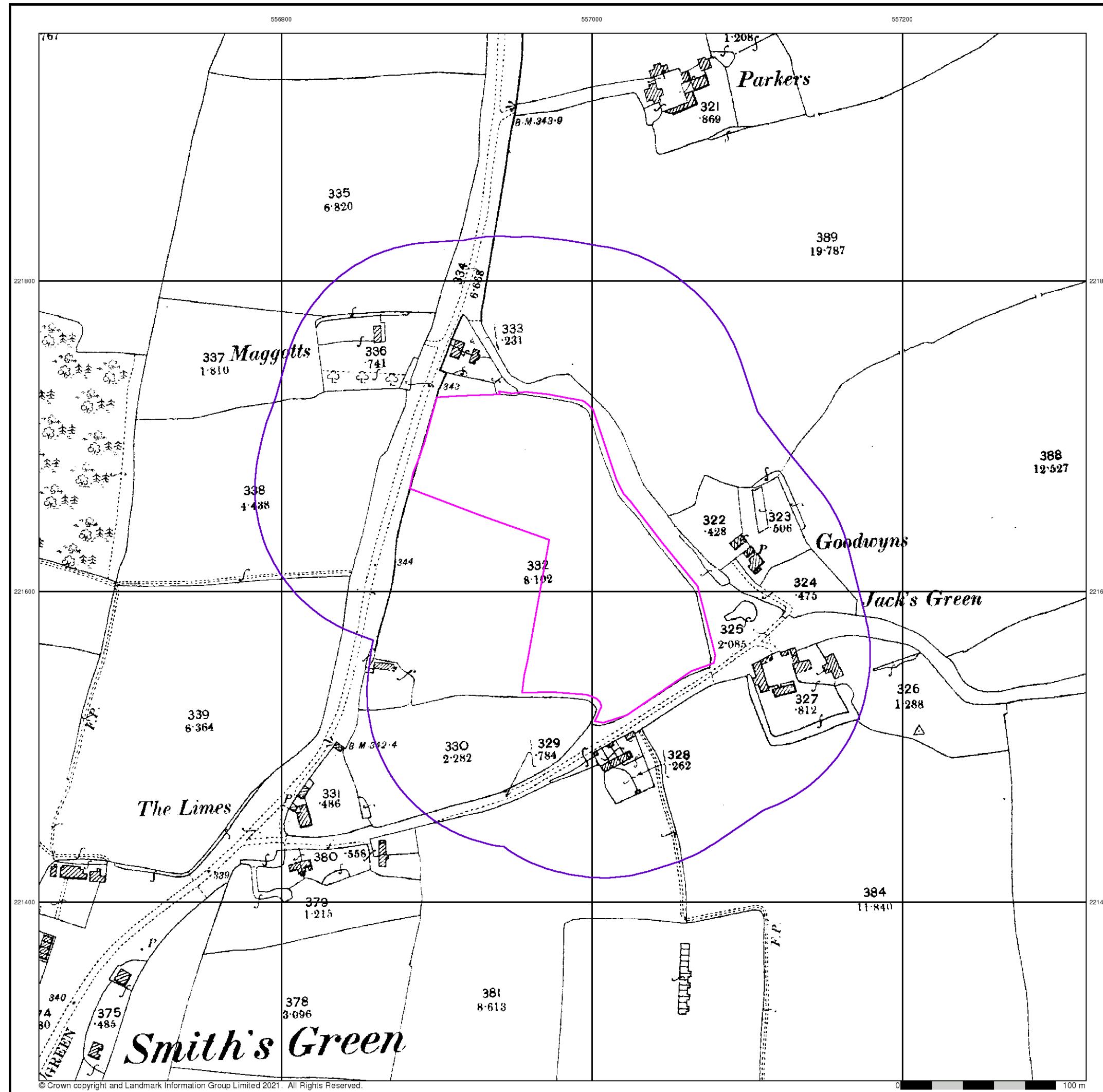


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Site Details

Jacks, Takeley, BISHOP'S STORTFORD, CM22 6NT



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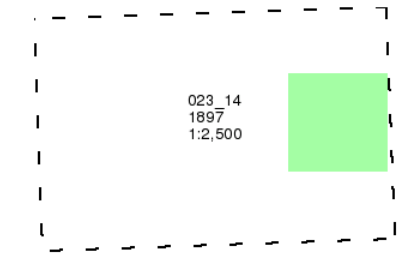
Essex

Published 1897

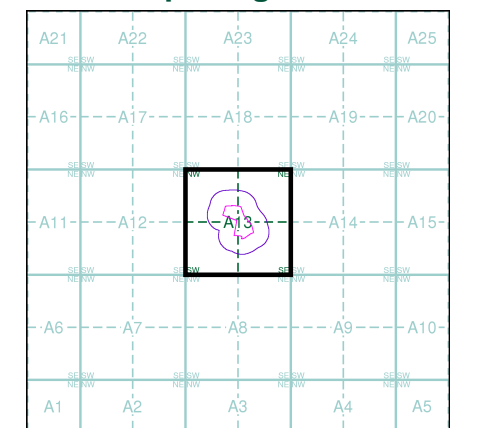
Source map scale - 1:2,500

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Map Name(s) and Date(s)



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Site Details

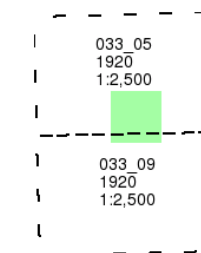
Jacks, Takeley, BISHOP'S STORTFORD, CM22 6NT

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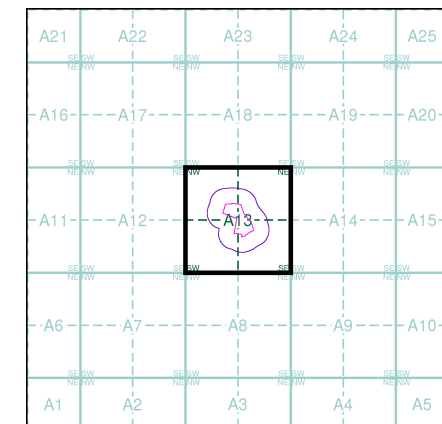
Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

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

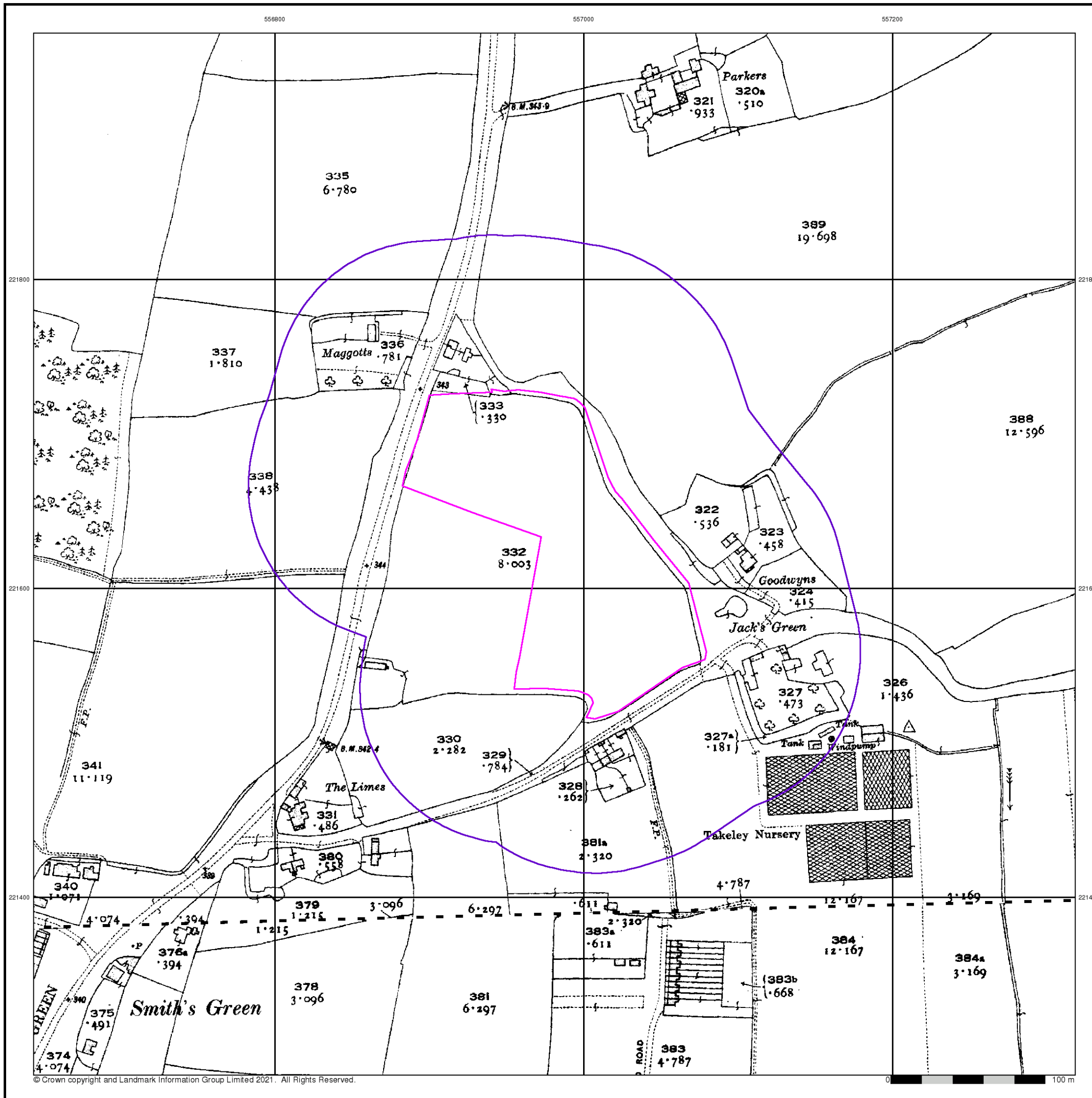


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Site Details

Jacks, Takeley, BISHOP'S STORTFORD, CM22 6NT

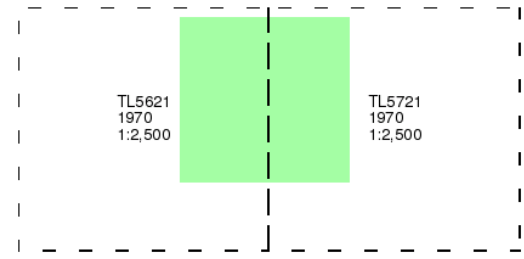




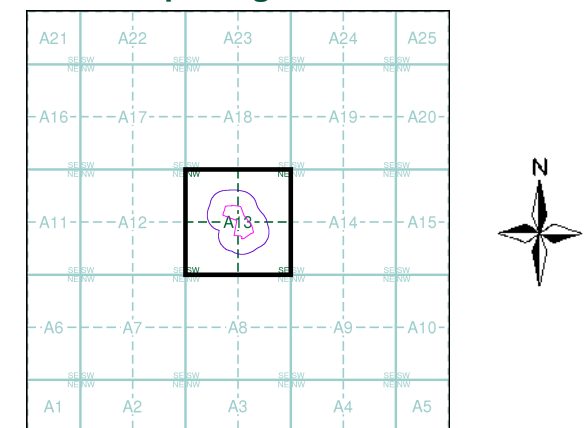
Ordnance Survey Plan Published 1970 Source map scale - 1:2,500

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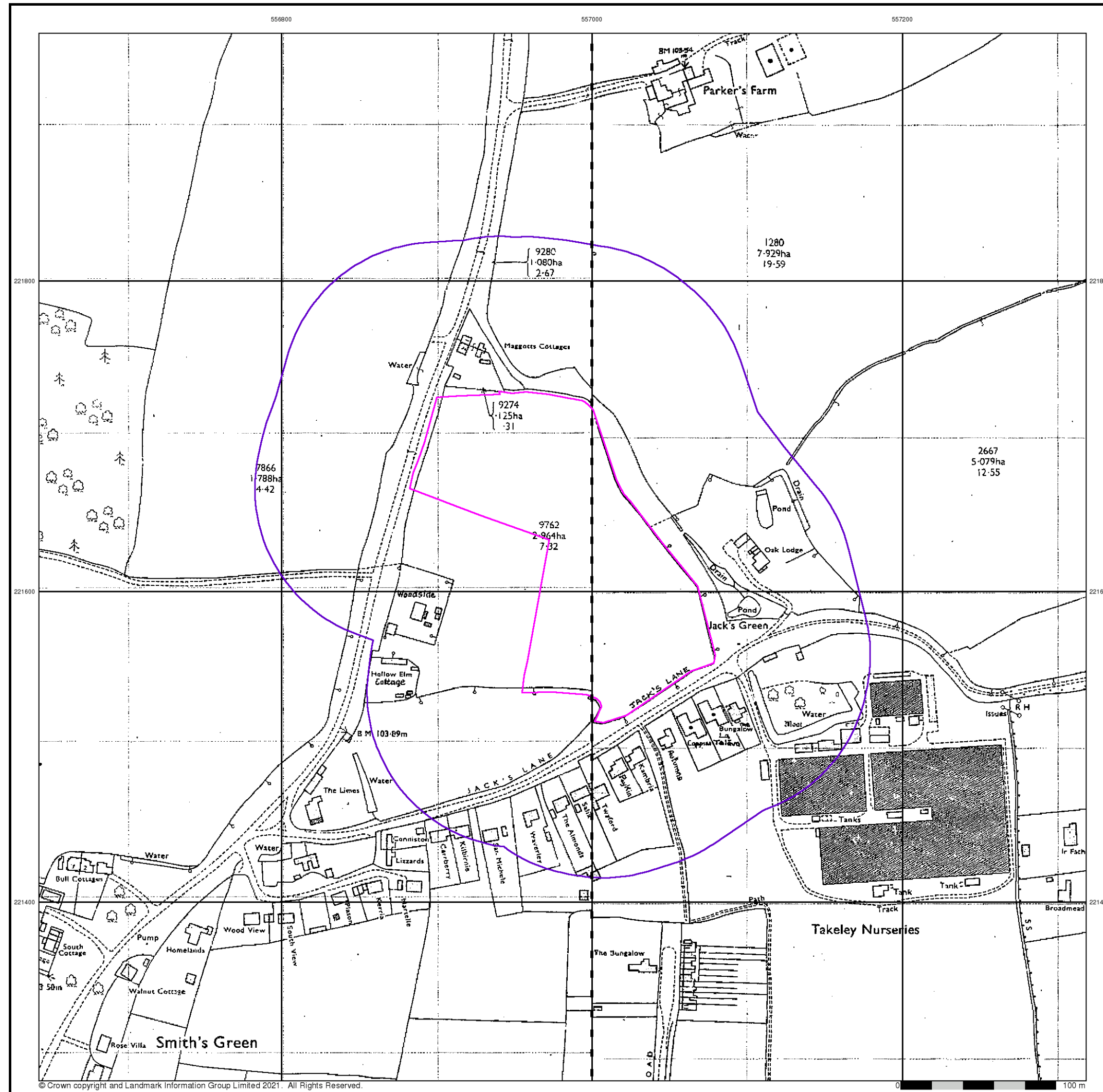


Historical Map - Segment A13



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Site Details
 Jacks, Takeley, BISHOP'S STORTFORD, CM22 6NT



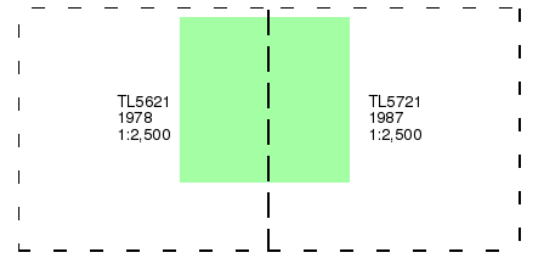
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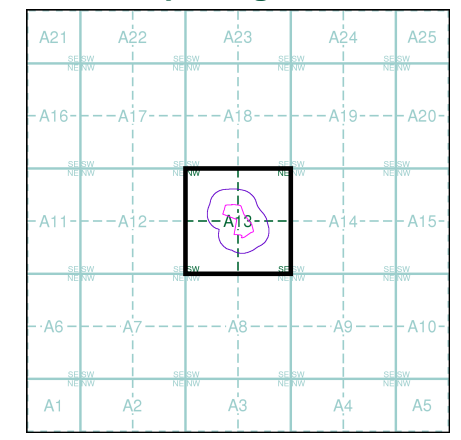
Additional SIMs
Published 1978 - 1987
Source map scale - 1:2,500

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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 Slice: A
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 Search Buffer (m): 100

Site Details

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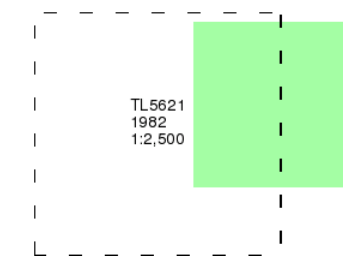
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Published 1982

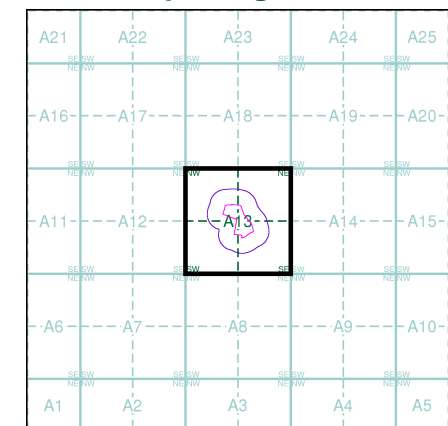
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The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information 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

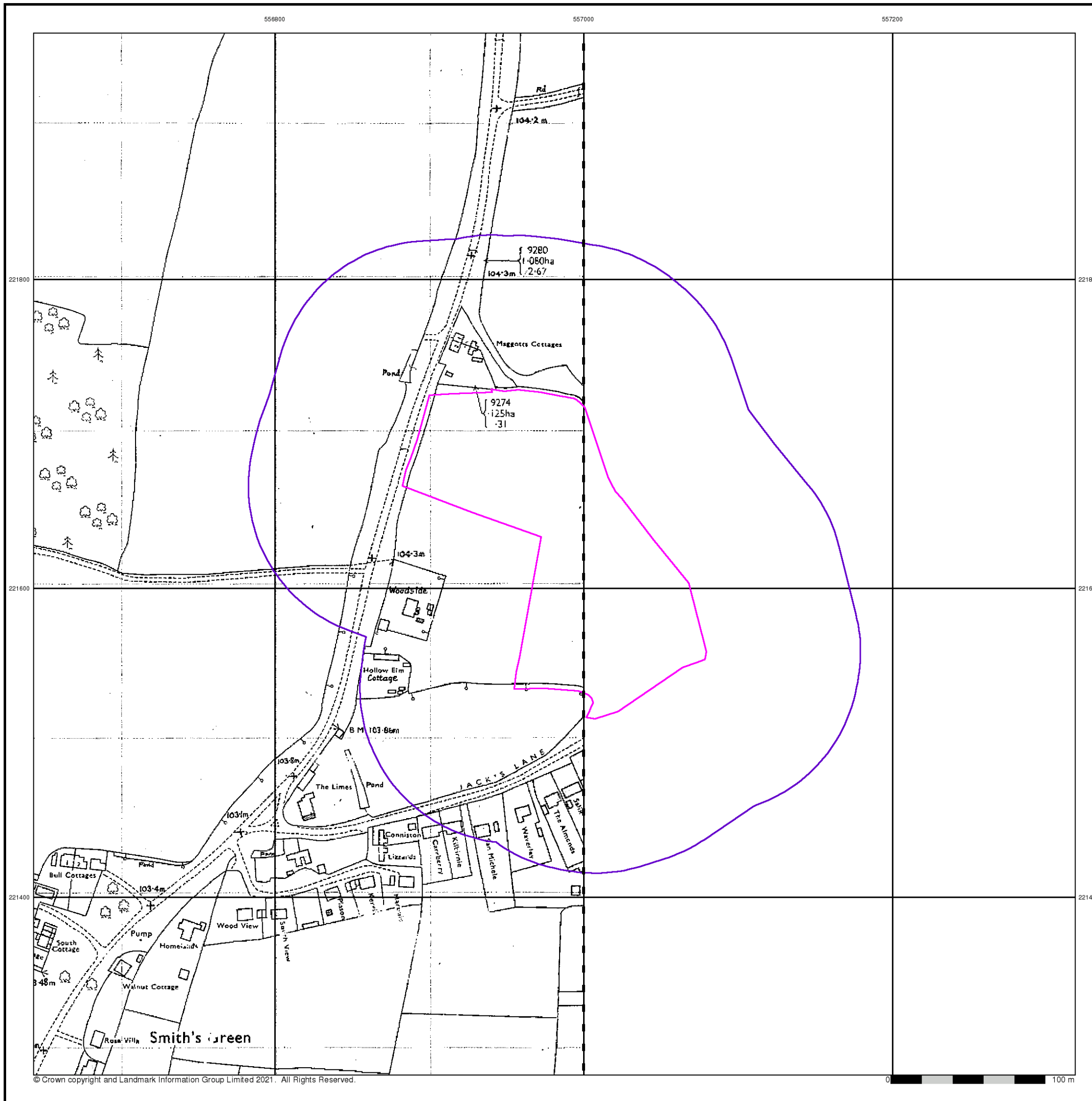


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Site Details

Jacks, Takeley, BISHOP'S STORTFORD, CM22 6NT



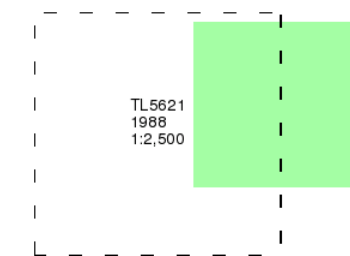
Additional SIMs

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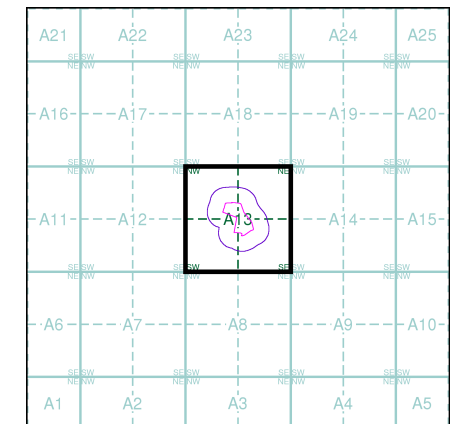
Source map scale - 1:2,500

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

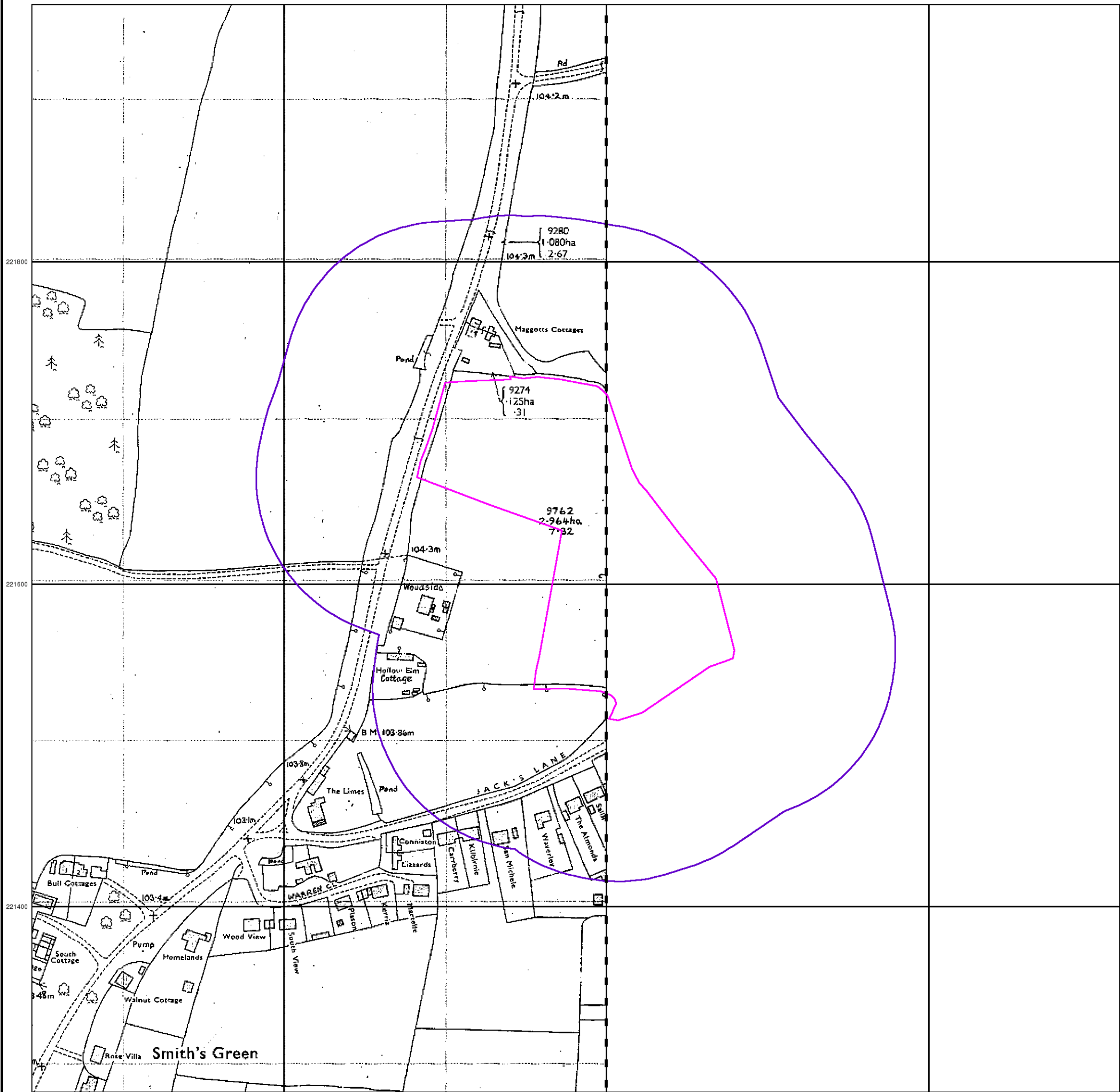


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 Search Buffer (m): 100

Site Details

Jacks, Takeley, BISHOP'S STORTFORD, CM22 6NT



556800

557000

557200

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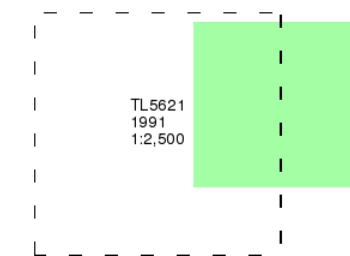
Additional SIMs

Published 1991

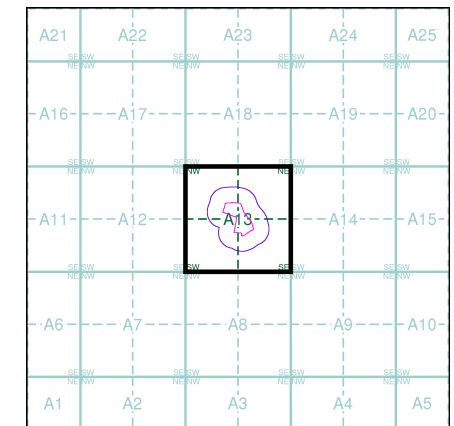
Source map scale - 1:2,500

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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 Slice: A
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Site Details

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556800

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557200

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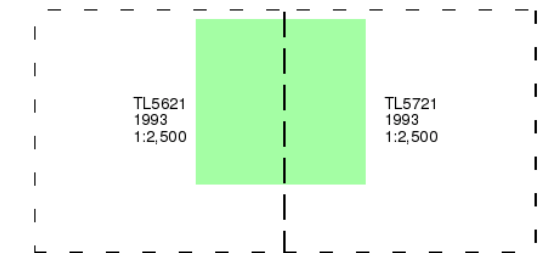
Large-Scale National Grid Data

Published 1993

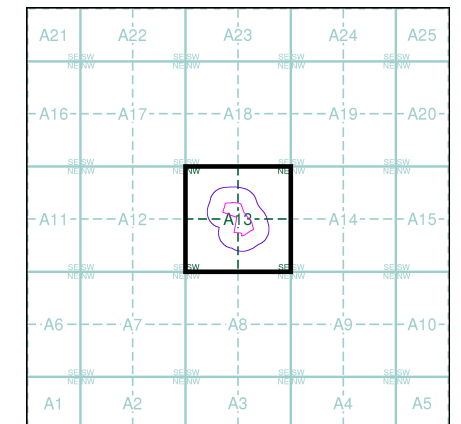
Source map scale - 1:2,500

'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: 271774066_1_1
 Customer Ref: CON01-WARI-070 (Jacks)
 National Grid Reference: 556980, 221630
 Slice: A
 Site Area (Ha): 2.1
 Search Buffer (m): 100

Site Details

Jacks, Takeley, BISHOP'S STORTFORD, CM22 6NT

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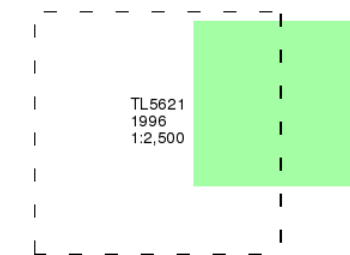
Large-Scale National Grid Data

Published 1996

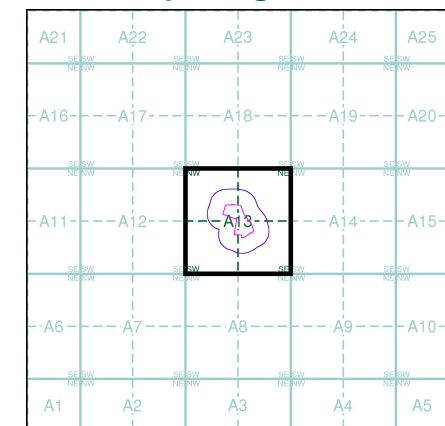
Source map scale - 1:2,500

'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

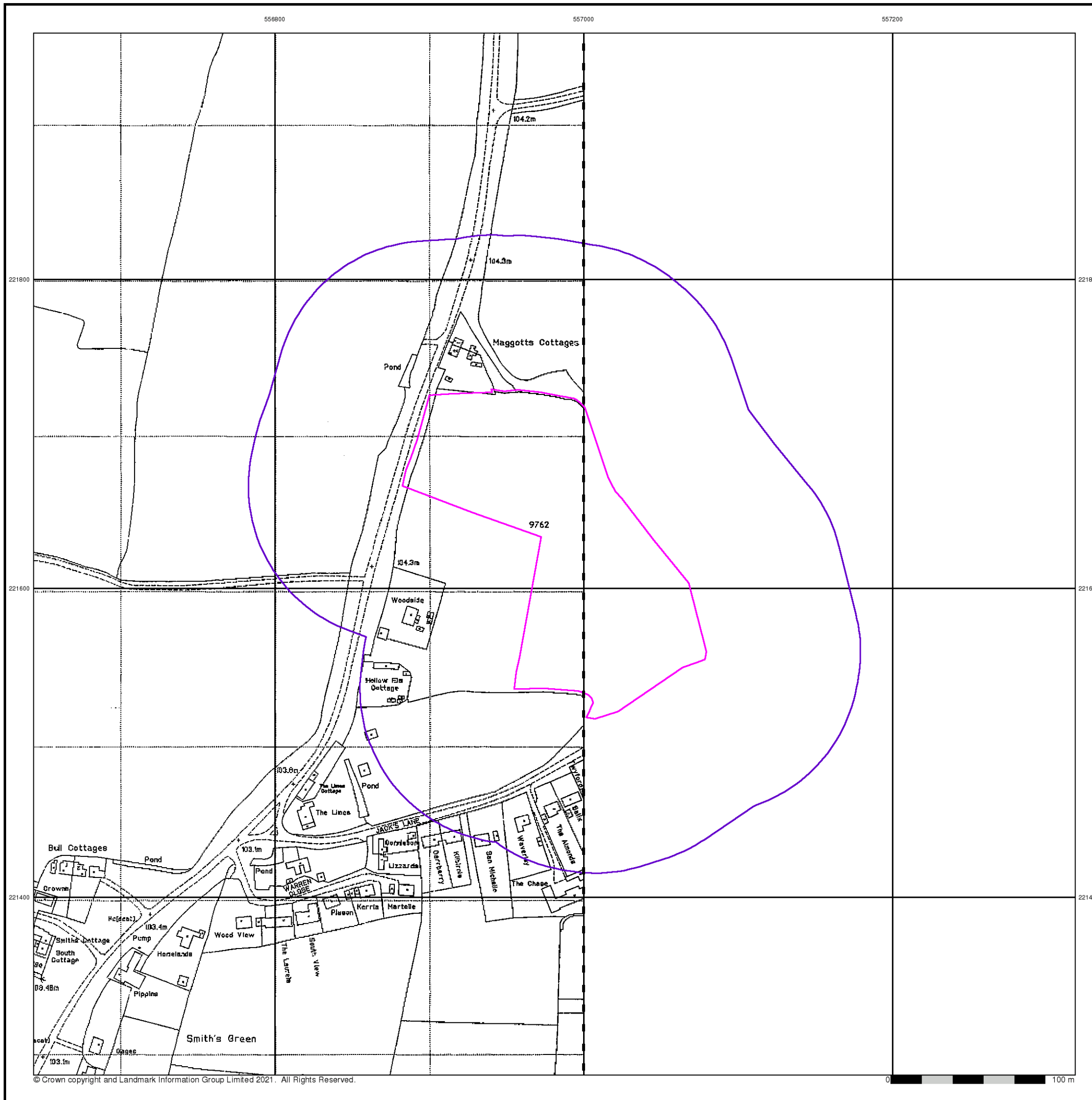


Order Details

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 Customer Ref: CON01-WARI-070 (Jacks)
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Site Details

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Historical Aerial Photography

Published 1999

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

221800

221800

221600

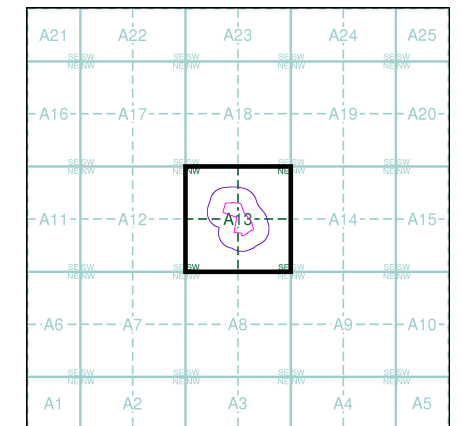
221600

221400

221400



Historical Aerial Photography - Segment A13



Order Details

Order Number: 271774066_1_1
 Customer Ref: CON01-WARI-070 (Jacks)
 National Grid Reference: 556980, 221630
 Slice: A
 Site Area (Ha): 2.1
 Search Buffer (m): 100

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		Minor Roads		
	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				
	County Borough Boundary (England)				
	County Burgh Boundary (Scotland)				
	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		Heath
	Rough Grassland		Marsh
	Reeds		Saltings
	Building		Glasshouse
	Sloping Masonry		Pylon
	Electricity Transmission Line		Pole
	Cutting		Embankment
	Standard Gauge Multiple Track		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)
	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

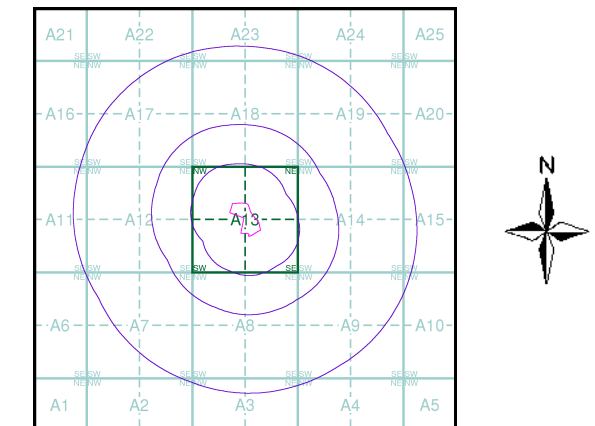
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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Essex	1:10,560	1881	2
Hertfordshire	1:10,560	1883	3
Essex	1:10,560	1897 - 1898	4
Hertfordshire	1:10,560	1899	5
Essex	1:10,560	1923	6
Essex	1:10,560	1950 - 1951	7
Ordnance Survey Plan	1:10,000	1960	8
Ordnance Survey Plan	1:10,000	1971	9
Ordnance Survey Plan	1:10,000	1992	10
10K Raster Mapping	1:10,000	1999	11
10K Raster Mapping	1:10,000	2006	12
VectorMap Local	1:10,000	2020	13

Historical Map - Slice A



Order Details

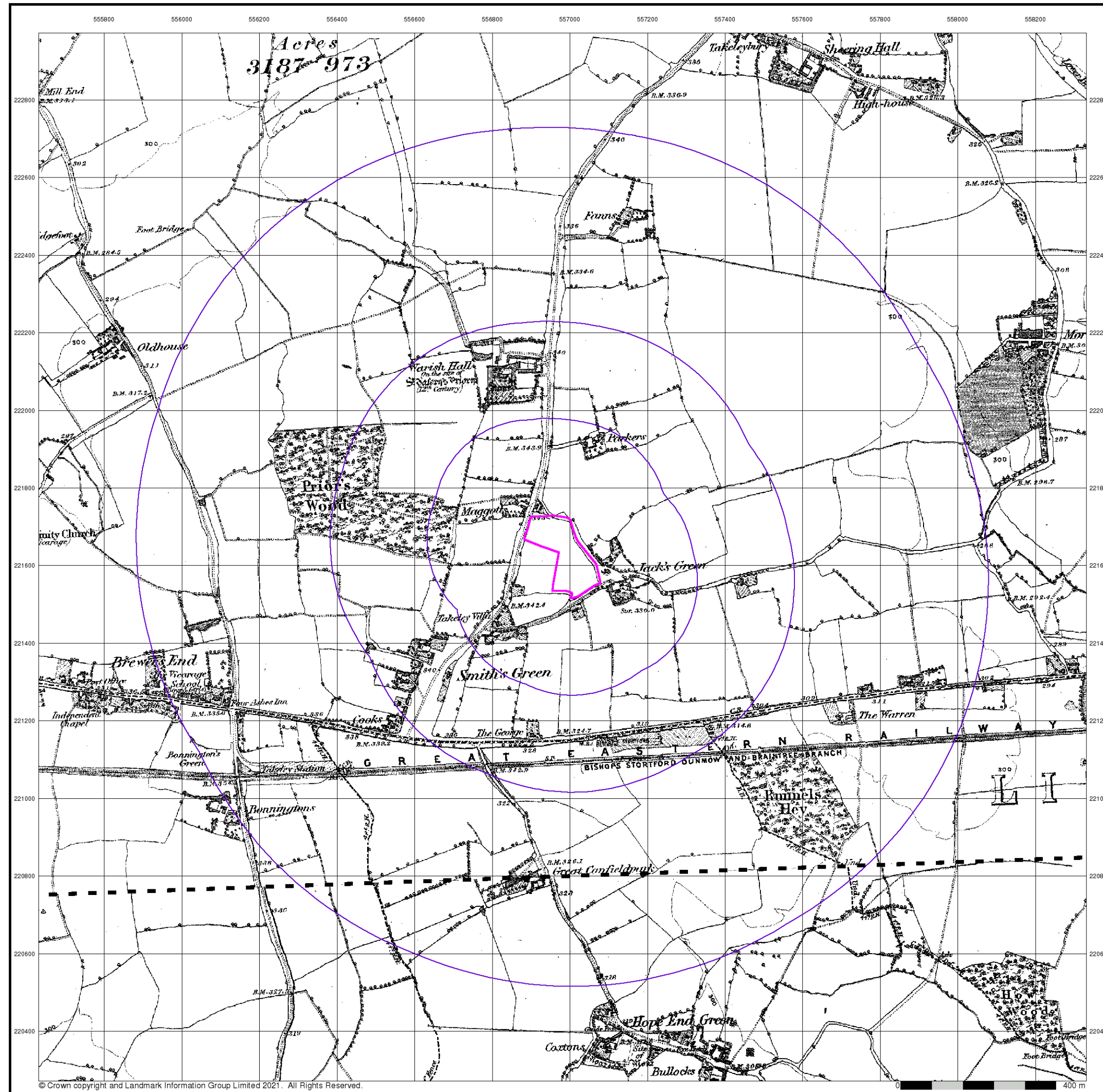
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 Customer Ref: CON01-WARI-070 (Jacks)
 National Grid Reference: 556980, 221630
 Slice: A
 Site Area (Ha): 2.1
 Search Buffer (m): 1000

Site Details

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Essex

Published 1881

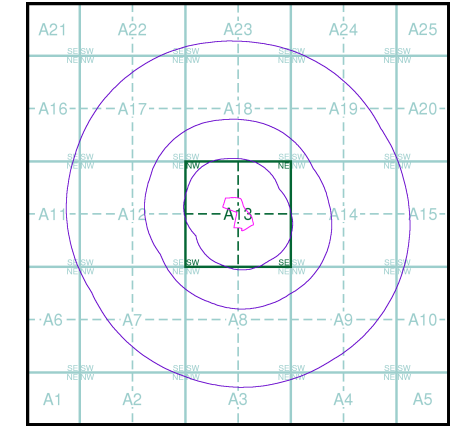
Source map scale - 1:10,560

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)

02300	1881	1:10,560
03200	1881	1:10,560

Historical Map - Slice A



Order Details

Order Number: 271774066_1_1
 Customer Ref: CON01-WARI-070 (Jacks)
 National Grid Reference: 556980, 221630
 Slice: A
 Site Area (Ha): 2.1
 Search Buffer (m): 1000

Site Details

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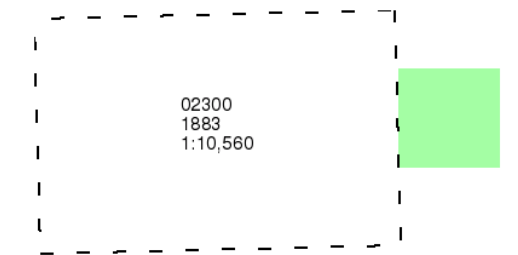
Hertfordshire

Published 1883

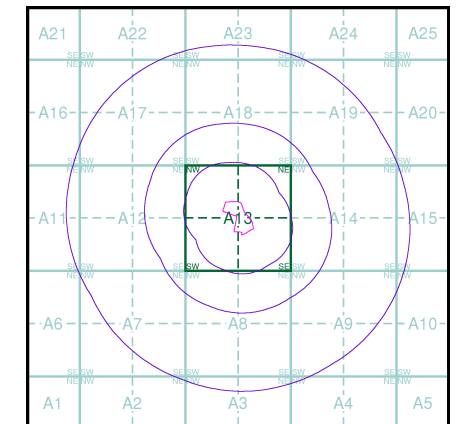
Source map scale - 1:10,560

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

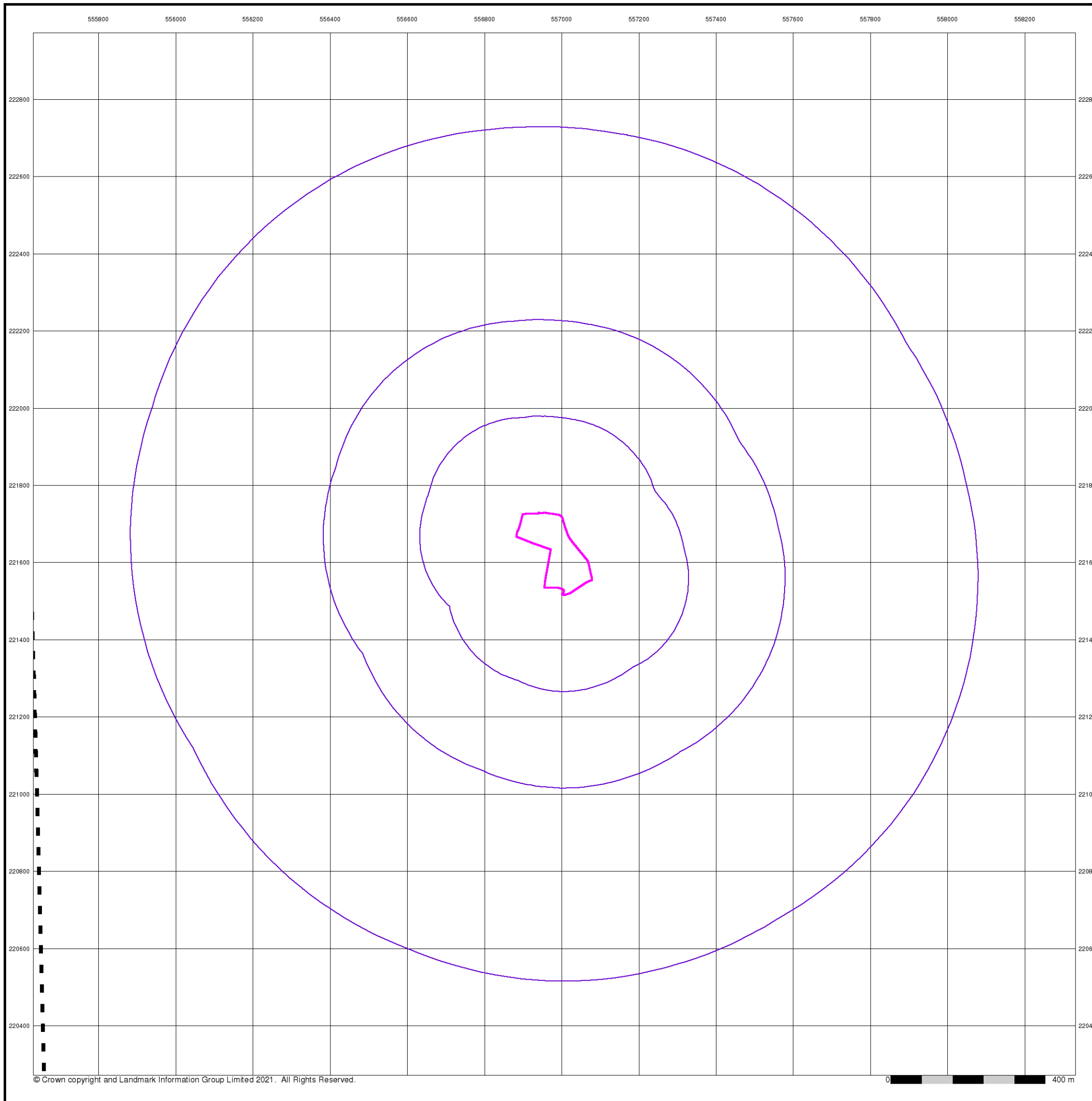


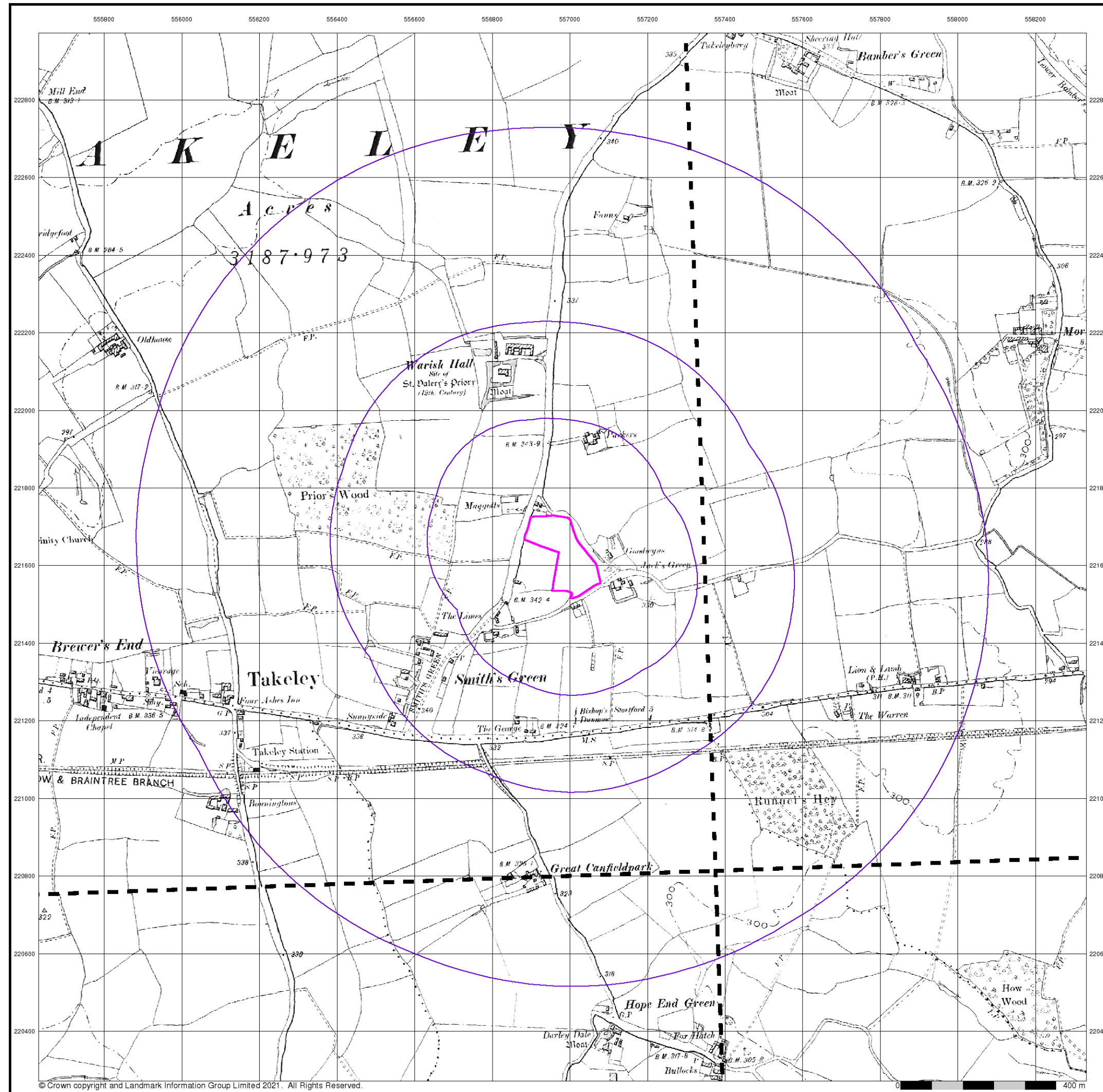
Order Details

Order Number: 271774066_1_1
Customer Ref: CON01-WARI-070 (Jacks)
National Grid Reference: 556980, 221630
Slice: A
Site Area (Ha): 2.1
Search Buffer (m): 1000

Site Details

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Essex

Published 1897 - 1898

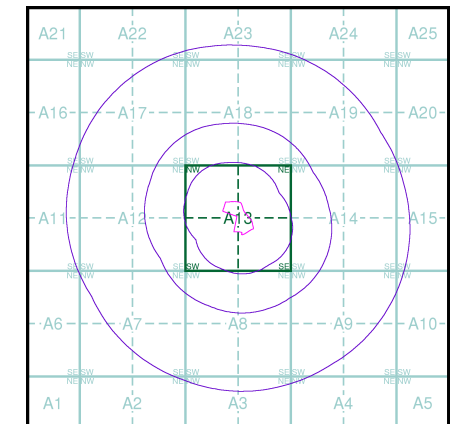
Source map scale - 1:10,560

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)

023SW 1898 1:10,560	023SE 1898 1:10,560
032NW 1897 1:10,560	032NE 1897 1:10,560

Historical Map - Slice A



Order Details

Order Number: 271774066_1_1
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 Slice: A
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Hertfordshire

Published 1899

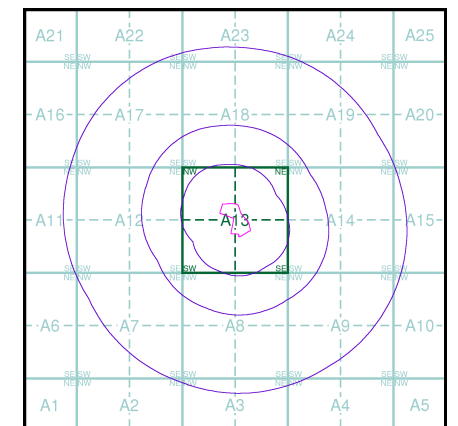
Source map scale - 1:10,560

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)

023NE 1899 1:10,560	
023SE 1899 1:10,560	

Historical Map - Slice A

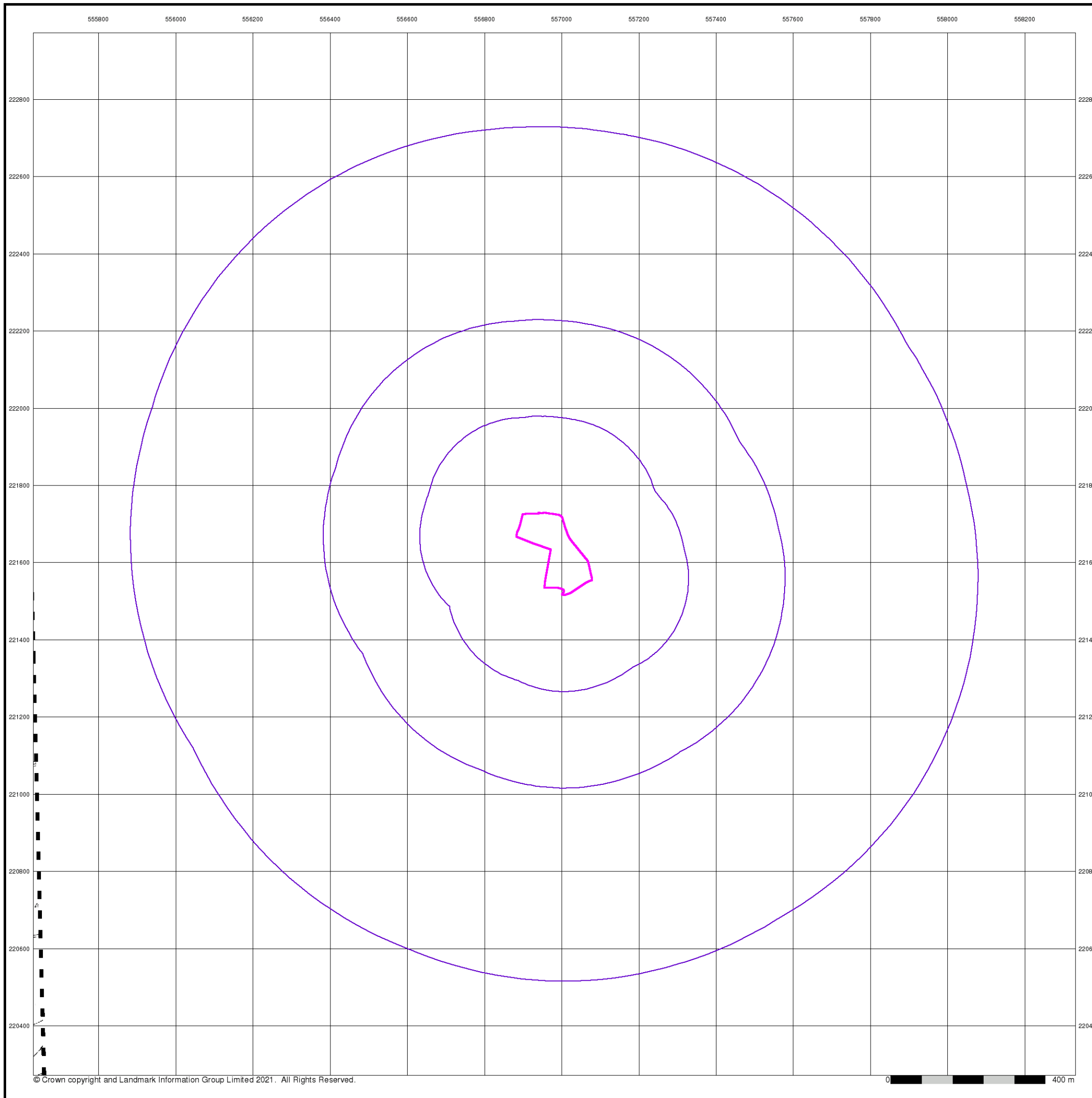


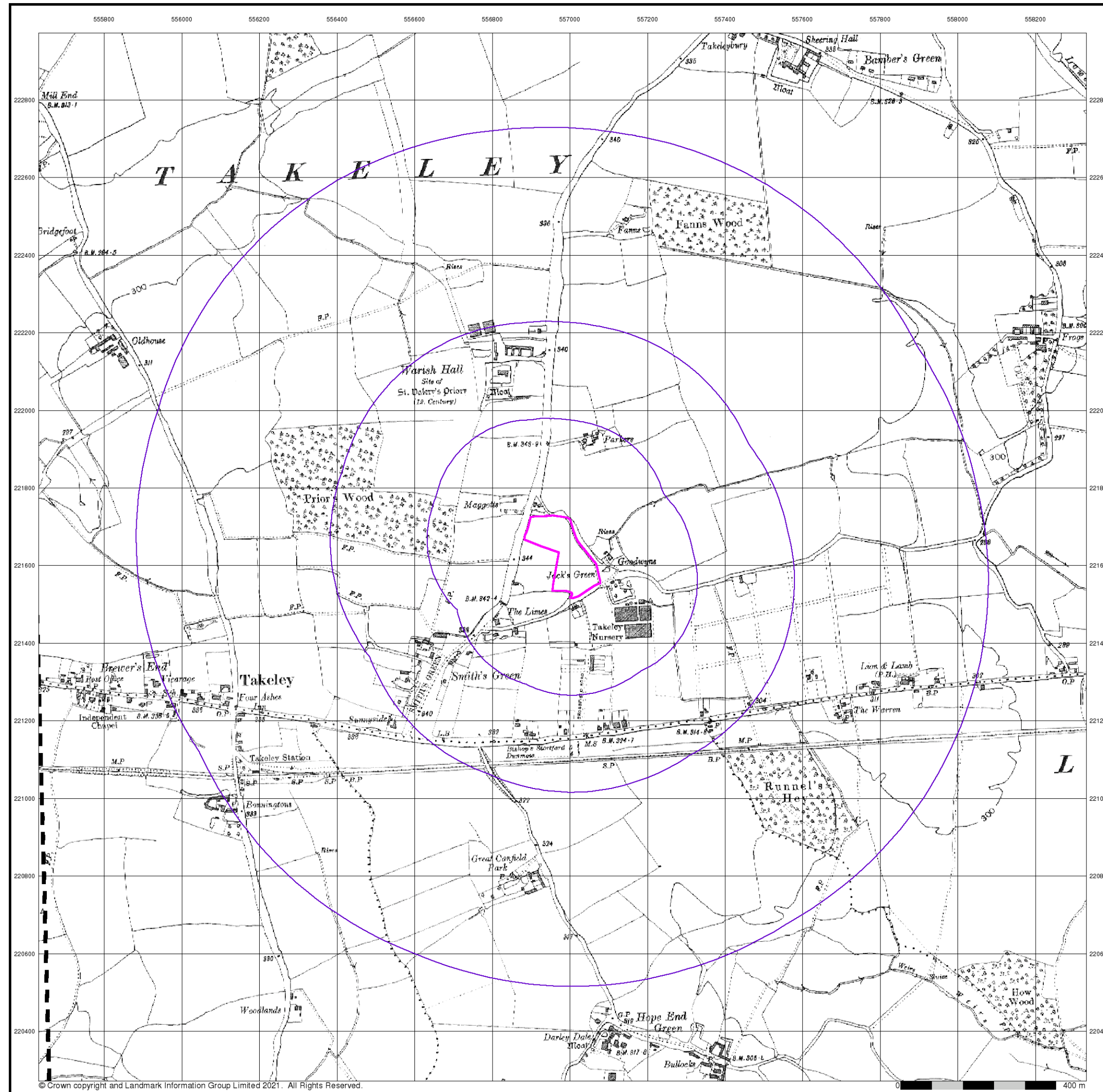
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Site Details

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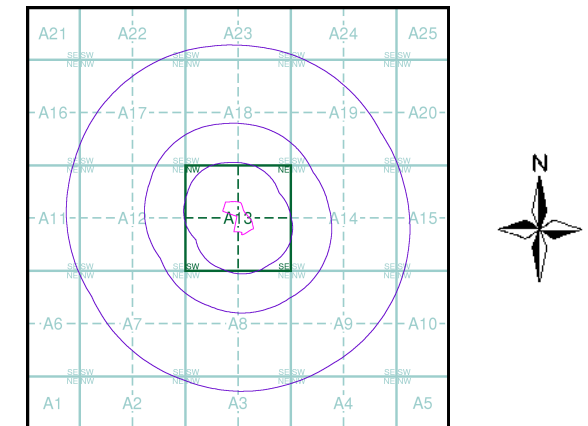


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some 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)

032NE 1923 1:10,560		03300 1923 1:10,560
032SE 1923 1:10,560		

Historical Map - Slice A

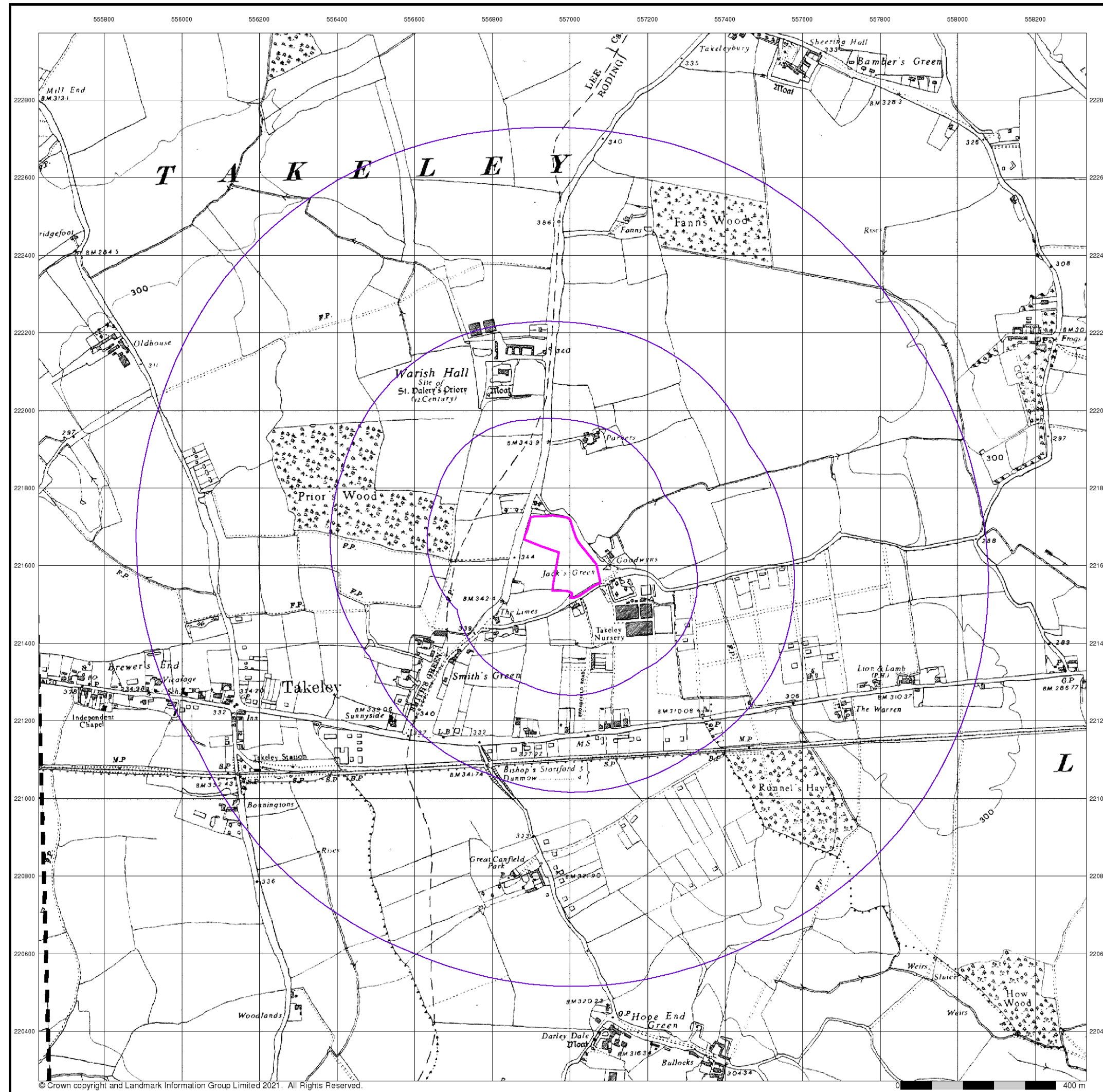


Order Details

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 Search Buffer (m): 1000

Site Details

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Essex

Published 1950 - 1951

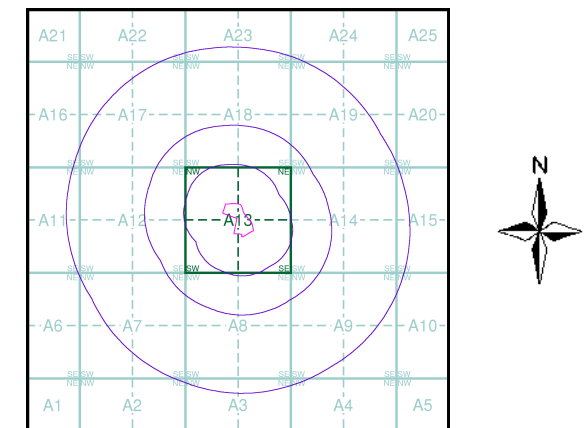
Source map scale - 1:10,560

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)

032NE 1950 1:10,560		03300 1951 1:10,560
032SE 1951 1:10,560		

Historical Map - Slice A



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