



Phase 1 Preliminary Risk Assessment NSCC Project, Twycross Zoo

Prepared for Twycross Zoo

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Document Control Sheet

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Executive Summary

Client	Twycross Zoo
Location	Twycross Zoo, Norton Grange, Burton Road, Atherstone CV9 3PX
Description	The site currently forms part of Twycross Zoo, including the 'Lemur Woods' in the north. A rural field is present in the south. The two sections are separated by a tree-line, running approximately southwest-northeast. The site slopes from north to south. Twycross Zoo extends to the north and east of the site. Agricultural fields are present to the south and to the west beyond Orton Hill. A farm is located approximately 90m to the southwest of the site.
Development	It is proposed to develop an area in the southwestern section of Twycross Zoo. This will include a new orangutan enclosure in the north of the development area comprising a two-storey steel frame structure, set into a sloping landscape with the potential for some earth retention structures. A cluster of single-storey buildings will be located in the south of the development area including educational spaces, laboratories and short stay accommodation.
Site History	The site comprised rural fields from at least 1885 until 1968. Mapping from 1989 indicated that Twycross Zoo had encroached into the eastern section of the site. The site was indicated to be present in its current layout on mapping from 2022 onward. Surrounding land use was predominantly rural in nature until at least 1968. Orton House farm was located approximately 90m to the southwest of the site and a rectory approximately 150m to the northeast on mapping from at least 1885. Spinney Farm was present from approximately 150m to the west on mapping from 1955. Mapping from 1968 indicated that Twycross Zoo had been constructed and encroached to a distance of approximately 100m to the northeast and east of the site. Mapping from 1989 onwards indicate that the zoo had expanded and encroached into the eastern section of the site. Mapping from 2022 indicated that the zoo had expanded further and encroached onto the site from the north.
Geology	British Geological Survey mapping indicates that the site is underlain by Glaciofluvial Deposits and the Thrussington Member overlying mudstone of the Gunthorpe Member.
Radon	The radon guidance on protective measures for new dwellings indicates that the site is in a 'low' probability radon area where less than 1% of homes are estimated to be at or above the Action Level. Radon gas protection measures are therefore not required in the construction of new dwellings or extensions.
Mining & Ground Stability	The site is not located within an area affected by coal mining. The environmental database report indicates that the site represents a low risk with regard to ground stability issues relating to ground dissolution, shrinking and swelling clays, compressible ground, collapsible ground and landslides.
Flood Risk	According to the Flood Map for Planning, available on the gov.uk website, the site is located within Flood Zone 1, whereby there is less than a 0.1% (1 in 1000) chance of flooding from rivers or the sea occurring each year.

**Environmental
Setting**

The Glaciofluvial Deposits, indicated to be present beneath the site is classified by the Environment Agency (EA) as a Secondary A Aquifer. The Thrussington Member is classified as an Undifferentiated Secondary Aquifer. The underlying Gunthorpe Member is classified as a Secondary B Aquifer. According to EA data, the site is not located within a groundwater Source Protection Zone (SPZ). There are no records of licensed groundwater abstractions located within 500m of the site.

Two unnamed ponds are present to the north, on the wider Twycross Zoo site. A number of land drains are also indicated to be present on agricultural land in the vicinity of the site.

UXO

Zetica Bomb Risk mapping indicates that the site represents a low risk with respect to unexploded ordnance from the Second World War. On this basis, no further risk mitigation measures are considered to be required for intrusive works.

**Further Works /
Considerations**

Given the limited development history of the site and absence of potentially contaminative land uses in its vicinity, the potential for elevated concentrations of contaminants of concern to be present in soils beneath the site is not considered to be significant. However, given the requirement for a geotechnical site investigation to enable the design of foundations and retaining walls for the proposed development, it would be prudent to analyse a limited number of soil samples to confirm their contamination status.

Significant sources of ground gas are not anticipated beneath the site. If encountered during intrusive works, wells may be installed in boreholes to allow monitoring and assessment of the potential risk posed by ground gas.

On the basis of the above, the following should be considered for the proposed development:

- Carry out an intrusive site investigation to confirm ground conditions beneath the site.
- A limited number of soil samples should be recovered from selected exploratory holes and tested for potential contaminants of concern. This should include pH, metals, asbestos screening, speciated polycyclic aromatic hydrocarbons (PAH) and speciated total petroleum hydrocarbons (TPH).
- Monitoring wells should be installed in boreholes to allow measurement of groundwater level (if present) and to assess the potential risk posed by ground gas.
- Geotechnical testing should be carried out to provide information to enable preliminary foundation design.

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1.0 Introduction

1.1 Background

Clancy Consulting Limited has been instructed by Twycross Zoo to carry out a Phase 1 Preliminary Risk Assessment for a development site located in the southwest of Twycross Zoo, Norton Grange, Burton Road, Atherstone CV9 3PX. The site currently forms part of Twycross Zoo, including the 'Lemur Woods' in the north. A rural field is present in the south. The two sections are separated by a tree-line, running approximately southwest-northeast.

It is proposed to develop the area with a new orangutan enclosure in the north, comprising a two-storey steel frame structure, set into a sloping landscape with the potential for some earth retention structures. A cluster of single-storey buildings will be located in the south of the development area including educational spaces, laboratories and short stay accommodation.

1.2 Objectives

The objectives of this investigation are summarised below:

- Provide a review of the site's land use history by reference to ordnance survey maps of the area.
- Assess the environmental setting, geology, hydrology, hydrogeology, mining and subsidence history of the site and surrounding area.
- Consider the potential risk to end users of the site from unexploded ordnance (UXO).
- Consider the potential risk to end users of the site from hazardous ground gas.
- Consider potential geotechnical constraints for the proposed development.
- Develop a preliminary risk assessment and a detailed 'conceptual site model' with regard to potential contamination sources, pathways and receptors.
- Provide recommendations regarding the requirement for further investigations, if required, to satisfy the Local Planning Authority.

1.3 Limitations of the Study

Clancy Consulting Limited cannot be held responsible for any omissions, misrepresentation, errors or inaccuracies with the supplied third-party report information. The report is written in the context of an agreed scope of work and budget and should not be used in a different context. New information or improved practices and changes in legislation may require a reinterpretation of the report in whole or in part.

Clancy Consulting Limited reserves the right to amend either conclusions or recommendations in light of any further information that may become available. The report is provided for the sole use of Twycross Zoo for the objectives discussed previously only and is confidential to them.

The report may not be relied upon by any other party without prior written consent of Clancy Consulting Limited. Those using this information in subsequent assessments or evaluations do so at their own risk.

2.0 Desk Study

2.1 General

Background information was sought from the following sources:

- Ordnance Survey historical maps (selected copies included in Appendix II).
- Zetica Bomb Risk mapping (Appendix III).
- British Geological Survey (BGS) sheets (Appendix IV).
- Environment Agency site sensitivity & flood risk maps (Appendix V).
- Environmental datasheets (Appendix VI).

2.2 Site Setting and Description

The site is located approximately 2.25km to the northwest of the village of Twycross in Warwickshire at Ordnance Survey (OS) coordinates 431550, 306090. The site currently forms part of Twycross Zoo, including the 'Lemur Woods' in the north. A rural field is present in the south. The two sections are separated by a tree-line, running approximately southwest-northeast. The site slopes from north to south.

Twycross Zoo extends to the north and east of the site. Agricultural fields are present to the south and to the west beyond Orton Hill. A farm is located approximately 90m to the southwest of the site.

A site location plan is included in Appendix I.

2.3 Site History

In order to investigate the development history and previous land uses at the site and surrounding area, historical OS maps were examined. Copies of the maps are presented in Appendix II.

Table 1 below is not intended to provide a comprehensive review of all the changes which have occurred at the site and instead provides a summary of the most salient points relating to the development history of the site. The most significant historical land uses are highlighted in bold text for ease of reference.

Table 1 – Site History

Date(s)	Site	Surrounding Land
1884 to 1924	The site comprised rural fields .	Surrounding land use was predominantly rural in nature. Orton House Farm was located approximately 90m to the southwest of the site and a rectory approximately 150m to the northeast.
1955 to 1966	No significant changes.	Spinney Farm was present from approximately 150m to the west of the site.
1968	No significant changes.	Twycross Zoo had been constructed and encroached to a distance of approximately 100m to the northeast and east of the site.
1989 to 2006	Twycross Zoo had encroached into the eastern section of the site.	The zoo had expanded and encroached into the eastern section of the site.
2022 to present	Twycross Zoo had encroached into the northern section of the site.	The zoo had expanded further and encroached onto the site from the north.

2.4 UXO Risk Assessment

Zetica Bomb Risk mapping indicates that the site represents a low risk with respect to unexploded ordnance from the Second World War. On this basis, no further risk mitigation measures are considered to be required for intrusive works.

Zetica Bomb Risk mapping is included in Appendix III.

2.5 Geology

British Geological Survey mapping indicates that the site is underlain by Glaciofluvial Deposits and the Thrussington Member overlying mudstone of the Gunthorpe Member.

Given the development history of the site, a significant thickness of Made Ground is not anticipated to be present beneath the site. No site investigation information has been reviewed in order to confirm this.

Copies of the geological plans are provided in Appendix IV.

2.6 Mining and Ground Stability

The site is not located within an area affected by coal mining.

The environmental database report indicates that the site represents a low risk with regard to ground stability issues relating to ground dissolution, shrinking and swelling clays, compressible ground, collapsible ground and landslides.

BGS records indicate that there are no recorded sites within 500m of the site.

2.7 Hydrogeology

The Glaciofluvial Deposits, indicated to be present beneath the site is classified by the Environment Agency (EA) as a Secondary A Aquifer. These are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

The Thrussington Member is classified as an Undifferentiated Secondary Aquifer. These are soil layers with varying permeability in different areas.

The underlying Gunthorpe Member is classified as a Secondary B Aquifer. These are mainly lower permeability layers that may store and yield limited amounts of groundwater in fissures and openings or eroded layers.

According to EA data, the site is not located within a groundwater Source Protection Zone (SPZ). There are no records of licensed groundwater abstractions located within 500m of the site.

Groundwater quality beneath the site has not been classified under an EA Local River Basin Management Plan.

2.8 Hydrology

Two unnamed ponds are present to the north, on the wider Twycross Zoo site. A number of land drains are also indicated to be present on agricultural land in the vicinity of the site.

There are no records of licensed surface water abstractions located within 500m of the site.

There are records of a number of Discharge Consents associated with the wider Twycross Zoo, relating to the discharge of treated sewage effluent and process water.

There is a record of a Category 3 (minor) incident relating to a traffic accident in 1999, located approximately 390m to the east the site. This involved the release of oils into drainage. There are no records of significant or major pollution incidents to controlled waters recorded within 500m of the site.

2.9 Flood Risk

According to the Flood Map for Planning, available on the gov.uk website, the site is located within Flood Zone 1, whereby there is less than a 0.1% (1 in 1000) chance of flooding from rivers or the sea occurring each year.

Copies of the site sensitivity and flood risk maps are included in Appendix V.

2.10 Radon Risk Potential

The radon guidance on protective measures for new dwellings indicates that the site is in a 'low' probability radon area where less than 1% of homes are estimated to be at or above the Action Level.

Radon gas protection measures are therefore not necessary in the construction of new dwellings or extensions.

2.11 Landfill Sites

There are no recorded landfill or waste management sites located within 500m of the site.

2.12 Industrial Land Uses

There are no Integrated Pollution Prevention and Control, or Local Authority Pollution Prevention and Control permits recorded within 500m of the site.

There is one recorded Contemporary Trade Directory entry listed as active within 500m of the site boundary. These relates to Spinney Farm, located approximately 150m to the west of the site, associated with waste disposal.

Full details of the waste management and industrial land uses are detailed in the environmental database presented in Appendix VI.

2.13 Sensitive Land Uses

Natural England data indicates that there are no ecologically sensitive sites indicated within 500m of the site that constitute environmental receptors as defined within Table 1 of the DEFRA Environmental Protection Act 1990: Part 2A - Contaminated Land Statutory Guidance (2012).

2.14 Potential Geotechnical Constraints

The table below summarises the potential geotechnical hazards associated with the development. The table provides an assessment of whether the site is likely to be affected by the hazard and the possible consequences and engineering considerations.

Table 2 – Geotechnical Risk Register

Hazard Description	Is hazard likely to be present / affect the site?	Comments/possible engineering requirements where hazard present
Sudden lateral/vertical changes in ground conditions	L/M	Given the limited development history of the site, a significant thickness of Made Ground is not anticipated beneath the site. The main variation is likely to be associated with the composition and strength characteristics of the Glacial Deposits and Thrussington Member.
Highly compressible/low bearing capacity soils, (including peat and soft clay)	M	The Glacial Deposits and Thrussington Member, present at shallow depth beneath the site, are likely to be of varying compressibility. Soft spots are anticipated in some areas.
Ground dissolution features/natural cavities	L	Strata indicated recorded beneath the site during a previous phase of investigation are not susceptible to these hazards.
Shrinking and swelling clays	M	The Thrussington Member is cohesive in nature and is likely to be susceptible to volume change hazards. This should be confirmed at the site investigation stage.
Slope stability/Retaining wall issues	H	The development will include a new orangutan enclosure in the north, comprising a two-storey steel frame structure, set into a sloping landscape with retaining walls up to 8m in height forming its northern side. This retaining wall should be subject to appropriate geotechnical design based on site-specific site investigation information.

Hazard Description	Is hazard likely to be present / affect the site?	Comments/possible engineering requirements where hazard present
High groundwater table (including waterlogged ground)	M	Shallow groundwater may be present in the Glacial Deposits Secondary A Aquifer. If encountered, groundwater exclusion and control measures may be required during excavations.
Filled and Made Ground (including embankments)	L	Given the limited development history of the site, a significant thickness of Made Ground is not anticipated beneath the site.
Obstructions (including foundations, services, basements, tunnels and adjacent sub-structures)	L/M	The site has been developed in the past. However, it is considered likely that standard construction plant will be sufficient to remove buried obstructions.
Underground mining	L	The site is not located within an area affected by coal mining.
Concrete classification	M	Made Ground and underlying natural soils beneath the site may contain elevated concentrations of sulphate potential harmful to buried structures.
Seismic Activity	L	The Eurocode 8 seismic hazard zoning maps for the UK (Musson and Sargeant, 2007) indicate that horizontal Peak Ground Acceleration (PGA) values with 10% probability of being exceeded in 50 years (475 year return period) are between 0.00g and 0.02g, which is considered very low.
NOTES: H – High Risk M – Medium Risk L – Low risk		

3.0 Preliminary Conceptual Site Model

3.1 General

The “suitable for use” approach is adopted for the assessment of contaminated land and remedial measures are only undertaken where unacceptable risk to human health or the environment can be proven when taking into account the proposed use of the site and environmental setting.

A risk assessment process should be carried out to determine potential hazards to human health and the environment and be based on the “source” “pathway” “receptor” principal. For a potential risk to be present there must be a viable pollutant linkage whereby a contamination source may impact upon a receptor. The absence of one or more of these key components (source, pathway or receptor) prohibits a viable pollution linkage being formed.

3.2 Guidance

In accordance with the ‘Land Contamination Risk Management’ (LCRM) guidance on the gov.uk website (updated October 2020) and BSI 10175 “Code of Practice for Investigation of Potentially Contaminated Land” (2011), a Preliminary Conceptual Site Model was developed to identify potential contamination sources, migration pathways and receptors within the study area.

3.3 Potential Contaminant Sources

The site and surrounding area have not had a significant potentially contaminative development history. Current land use is not considered to represent a potentially significant source of contaminants of concern. Farms in the vicinity of the zoo are considered far enough away not to be considered potentially significant off-site sources of contaminants of concern.

If present, Made Ground may represent a potential source of contaminant of concern and ground gas. However, significant thicknesses of Made Ground are not anticipated.

3.4 Potential Pathways

Following the proposed development, the potential risks to future site users via the dermal contact and ingestion pathways in areas of the site comprising building cover and hardstanding will be mitigated. These pathways may remain active in areas of soft landscaping.

There is potential for the on or off-site migration of contaminants of concern within granular layers of the Made Ground (if present) and underlying natural strata.

There is potential for ground gas and volatile contaminants of concern in soil or groundwater (if present) to impact future site users via the pathway of inhalation within enclosed areas of the proposed development.

There is potential for the downward migration of contaminants of concern towards the Glacial Deposits Secondary A Aquifer and Thrussington Member Undifferentiated Secondary Aquifer, indicated to be present beneath the site.

3.5 Potential Receptors

Potential human health receptors include future site users.

The Glacial Deposits Secondary A Aquifer and Thrussington Member Undifferentiated Secondary Aquifer are considered to be potential environmental receptors of concern.

Two unnamed ponds are present on the wider Zoo site to the north of the site. However, given the slope of the site (southwards), these are not considered to be at significant risk from potential contaminants of concern beneath the site (if present).

3.6 Preliminary Risk Assessment

A preliminary risk assessment can be carried out using guidance outlined in Section 6.3 of CIRIA Document C552 "Contaminated Land Risk Assessment – A Guide to Good Practice" (2001). For a risk to be present there must be a viable pollutant linkage whereby a contamination source can impact on a receptor via a pathway. To carry out the risk assessment an estimate must be made of the potential severity of the risk and the likelihood of the risk occurring. The following Tables set out the criteria for this principal.

Table 3 - Severity of Risk

Severity	Description
Severe	Acute risk to human health likely to result in 'significant harm' i.e. very high concentrations of contamination or ground gases. Catastrophic damage to building i.e. by explosion from high gassing sites or VOC concentrations. Major pollution of controlled waters i.e. surface watercourses and Principal aquifers, source protection zones. Short term damage to ecosystems.
Medium	Long term risk to human health likely to result in 'significant harm' i.e. elevated concentrations of contaminants or ground gases. Pollution of sensitive controlled watercourses i.e. Principal or Secondary Aquifers. Significant effects on sensitive ecosystems or species.
Mild	Pollution of non-sensitive waters i.e. smaller surface watercourses or unproductive strata. Significant damage to crops, buildings, structures or services i.e. by explosion from sites with medium gassing potential, elevated concentrations of contaminants.
Minor	Non-permanent human health effects i.e. requirement for protective equipment during site works to mitigate health effects. Damage to non-sensitive ecosystems or species. Minor damage to buildings, structures or services.

Table 4 - Probability of Risk Occurring

Probability	Description
High Likelihood	Pollutant linkage may be present that appears very likely in the short term and risk is almost certain to occur in long term or evidence of harm to receptor exists.
Likely	Pollutant linkage may be present and is likely that the risk will occur over the long term.
Low Likelihood	Pollutant linkage may be present and there is a possibility of the risk occurring although no certainty that it will do so.
Unlikely	Pollutant linkage may be present but the circumstances under which harm would occur even in the long term are improbable.

Table 5 - Comparison of Risk & Probability

Probability	Severity			
	Severe	Medium	Mild	Minor
High Likelihood	Very High	High	Moderate	Moderate/Low
Likely	High	Moderate	Moderate/Low	Low
Low Likelihood	Moderate	Moderate/Low	Low	Very Low
Unlikely	Moderate/Low	Low	Very Low	Very Low

A summary of potential pollutant linkages and perceived risks for this site are outlined in the Table below:

Table 6 - Pollutant Linkages & Perceived Risk

Sources of Contamination	Pathways	Receptors	Severity	Probability	Risk	Justification	Further Action Required
On site: Potential Made Ground	Inhalation, ingestion and dermal contact of soil	Future site users	Medium Long term risk to human health	Unlikely	Low	Given its limited development history the potential for elevated concentrations of contaminants of concern to be present beneath the site is not considered to be significant.	Given the limited development history of the site and absence of potentially contaminative land uses in its vicinity, the potential for elevated concentrations of contaminants of concern to be presence in soils beneath the site is not considered to be significant. However, given the requirement for a geotechnical site investigation to enable the design of foundations and retaining walls for the proposed development, it would be prudent to analyse a limited number of soil samples to confirm their contamination status.
		Construction workers during development	Minor Non-permanent human health effects i.e. requirement for protective equipment during site works to mitigate health effects	Low Likelihood	Very Low	If construction workers come into contact with potential contaminated soils during the construction phase, such contact would be short term, limiting potential exposure. Construction workers are expected to undertake good working practices including regular hand washing and other hygiene techniques which would reduce the likelihood of long-term exposure to any contamination.	
	Acidic ground conditions affecting future site buildings	Building infrastructure	Minor Minor damage to buildings	Low Likelihood	Very Low	Made Ground and natural soils beneath the site may contain elevated concentrations of sulphates and low pH. Chemical testing for water soluble sulphate and pH should be undertaken to inform concrete classification.	
	Vertical and lateral migration	Neighbouring residential properties	Medium Long term risk to human health	Unlikely	Low	Given its limited development history the potential for elevated concentrations of contaminants of concern to be present beneath the site is not considered to be significant.	
		Controlled waters	Minor Pollution of non-sensitive controlled water receptors	Unlikely	Very Low	The Glaciofluvial Deposits, indicated to be present beneath the site is classified by the EA as a Secondary A Aquifer. The Thrussington Member is classified as an Undifferentiated Secondary Aquifer. The underlying Gunthorpe Member is classified as a Secondary B Aquifer. According to EA data, the site is not located within a groundwater SPZ. There are no records of licensed groundwater abstractions located within 500m of the site. Therefore, these aquifers are not considered to represent significant groundwater resource receptors. Furthermore, the potential for elevated concentrations of contaminants of concern to be present beneath the site is not considered to be significant.	
						Two unnamed ponds are present on the wider Zoo site to the north of the site. However, given the slope of the site (southwards), these are not considered to be at significant risk from potential contaminants of concern beneath the site (if present).	
Off site: Farms, wider zoo	Lateral migration onto site with subsequent dermal contact of soils	Future site users	Medium Long term risk to human health	Unlikely	Low	Current and historical surrounding land use are not considered to represent potentially significant off-site sources of contaminants of concern.	
Potential hazardous ground gas and vapours from Made Ground (if present)	Migration of ground gas	Future site users	Severe Acute risk to human health (asphyxiation)	Unlikely	Moderate/Low	If present, Made Ground may represent a potential source of contaminant of concern and ground gas. However, significant thicknesses of Made Ground are not anticipated.	Significant sources of ground gas are not anticipated beneath the site. If encountered during intrusive works, wells may be installed in boreholes to allow monitoring and assessment of the potential risk posed by ground gas.
		Building Infrastructure	Severe Significant damage to buildings (explosion)	Unlikely	Moderate/Low		

4.0 Conclusions and Recommendations

Clancy Consulting Limited was instructed by Twycross Zoo to carry out a Phase 1 Preliminary Risk Assessment for a development site located in the southwest of Twycross Zoo, Norton Grange, Burton Road, Atherstone CV9 3PX. The site currently forms part of Twycross Zoo, including the 'Lemur Woods' in the north. A rural field is present in the south. The two sections are separated by a tree-line, running approximately southwest-northeast.

It is proposed to develop the area with a new orangutan enclosure in the north, comprising a two-storey steel frame structure, set into a sloping landscape with the potential for some earth retention structures. A cluster of single-storey buildings will be located in the south of the development area including educational spaces, laboratories and short stay accommodation for researchers.

The site comprised rural fields from at least 1885 until 1968. Mapping from 1989 indicated that Twycross Zoo had encroached into the eastern section of the site. The site was indicated to be present in its current layout on mapping from 2022 onward.

Surrounding land use was predominantly rural in nature until at least 1968. Orton House farm was located approximately 90m to the southwest of the site and a rectory approximately 150m to the northeast on mapping from at least 1885. Spinney Farm was present from approximately 150m to the west on mapping from 1924. Mapping from 1968 indicated that Twycross Zoo had been constructed and encroached to a distance of approximately 100m to the northeast and east of the site. Mapping from 1990 onwards indicate that the zoo had expanded and encroached into the eastern section of the site. Mapping from 2022 indicated that the zoo had expanded further and encroached onto the site from the north.

British Geological Survey mapping indicates that the site is underlain by Glaciofluvial Deposits and the Thrussington Member overlying mudstone of the Gunthorpe Member.

The radon guidance on protective measures for new dwellings indicates that the site is in a 'low' probability radon area where less than 1% of homes are estimated to be at or above the Action Level. Radon gas protection measures are therefore not required in the construction of new dwellings or extensions.

The site is not located within an area affected by coal mining.

The environmental database report indicates that the site represents a low risk with regard to ground stability issues relating to ground dissolution, shrinking and swelling clays, compressible ground, collapsible ground and landslides.

According to the Flood Map for Planning, available on the gov.uk website, the site is located within Flood Zone 1, whereby there is less than a 0.1% (1 in 1000) chance of flooding from rivers or the sea occurring each year.

The Glaciofluvial Deposits, indicated to be present beneath the site is classified by the Environment Agency (EA) as a Secondary A Aquifer. The Thrussington Member is classified as an Undifferentiated Secondary Aquifer. The underlying Gunthorpe Member is classified as a Secondary B Aquifer. According to EA data, the site is not located within a groundwater SPZ. There are no records of licensed groundwater abstractions located within 500m of the site.

Two unnamed ponds are present to the north, on the wider Twycross Zoo site. A number of land drains are also indicated to be present on agricultural land in the vicinity of the site.

Zetica Bomb Risk mapping indicates that the site represents a low risk with respect to unexploded ordnance from the Second World War. On this basis, no further risk mitigation measures are considered to be required for intrusive works.

Given the limited development history of the site and absence of potentially contaminative land uses in its vicinity, the potential for elevated concentrations of contaminants of concern to be present in soils beneath the site is not considered to be significant. However, given the requirement for a geotechnical site investigation

to enable the design of foundations and retaining walls for the proposed development, it would be prudent to analyse a limited number of soil samples to confirm their contamination status.

Significant sources of ground gas are not anticipated beneath the site. If encountered during intrusive works, wells may be installed in boreholes to allow monitoring and assessment of the potential risk posed by ground gas.

On the basis of the above, the following should be considered for the proposed development:

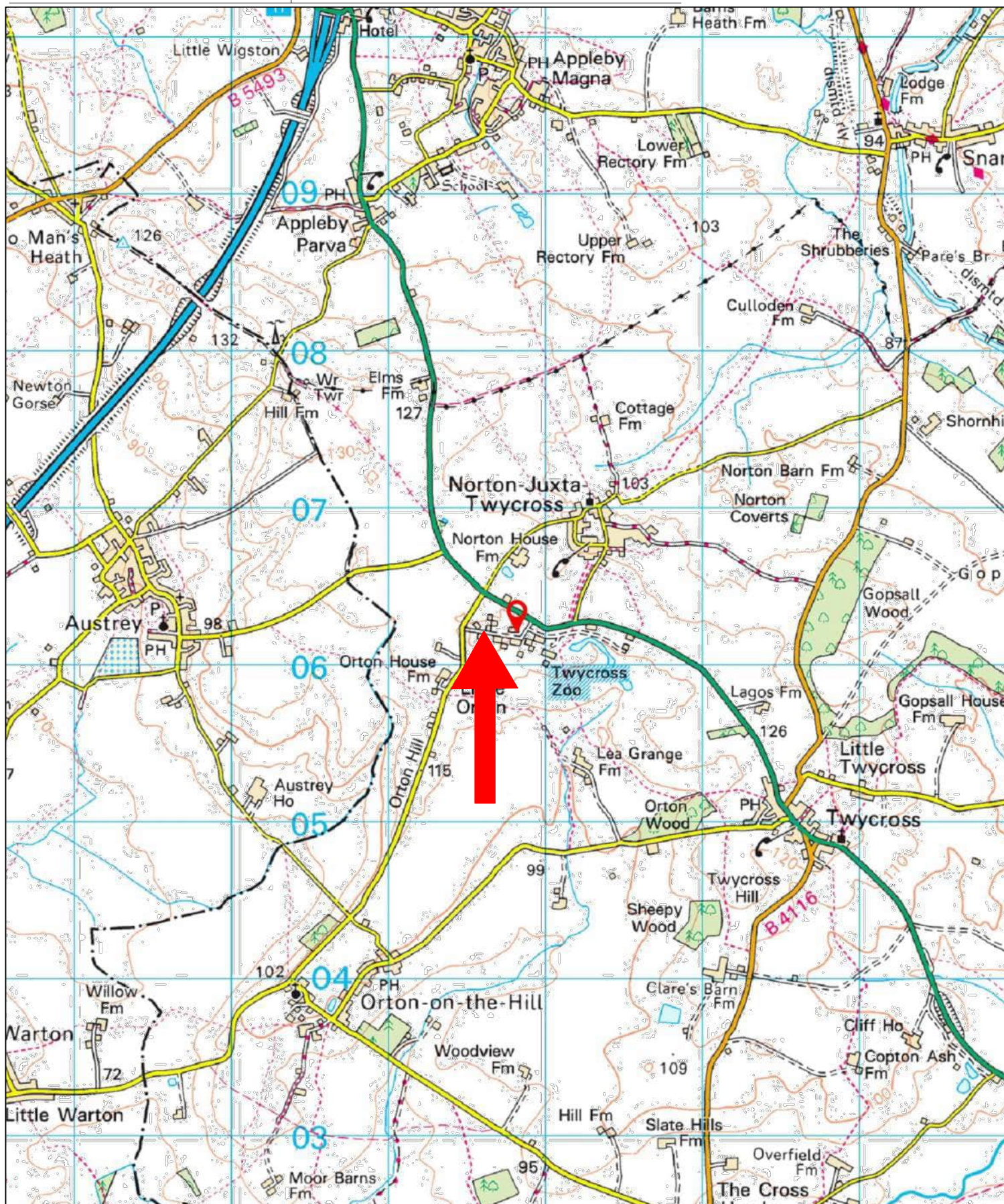
- Carry out an intrusive site investigation to confirm ground conditions beneath the site.
- A limited number of soil samples should be recovered from selected exploratory holes and tested for potential contaminants of concern. This should include pH, metals, asbestos screening, speciated PAH and speciated TPH.
- Monitoring wells should be installed in boreholes to allow measurement of groundwater level (if present) and to assess the potential risk posed by ground gas.
- Geotechnical testing should be carried out to provide information to enable preliminary foundation design.

APPENDIX I
DRAWINGS

Client	Twycross Zoo
Project	New Orangutan Enclosure
Title	Site Location Plan
Office	Birmingham
Discipline	Geo



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XX	XX.XX.XX	XXX	XXX	XX	XXX	Drawn	PJH	Date	08/12/2022	COPYRIGHT: THE COPYRIGHT OF THIS DRAWING IS VESTED IN CLANCY CONSULTING. IT SHALL NOT BE USED WITHOUT PERMISSION BY ANYONE FOR ANY PURPOSE. DO NOT SCALE THIS DRAWING ELECTRONICALLY OR MANUALLY. WORK TO FIGURED DIMENSIONS ONLY. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE. DO NOT TURN ON LAYERS THAT HAVE BEEN TURNED OFF. DO NOT THAW LAYERS THAT HAVE BEEN FROZEN.	Job number	Drawing number	Revision
Rev	Date	Description	By	Check	App.	Checked	RP	Scale @ A4	NTS		10/2197	001	-
						Approved	RP	Status	Live				



 **SITE RED LINE BOUNDARY**
Scale 1:1250

Notes
Check all dimensions on site. Do not scale from this drawing
Report any discrepancies and omissions to HLM Architects
This Drawing is Copyright ©

P04	ISSUE FOR PLANNING	27/09/2023	NK
P03	SHEET NAME UPDATED	23/08/23	KW
P02	AMENDED RED LINE BOUNDARY	30/11/2022	NK
P01	ISSUE FOR INFORMATION	18/10/2022	NK

Rev	Description	Date	By
Revisions			Suitability

Project **S2 FOR INFORMATION**

11-1567-01 Twycross Zoo

Client

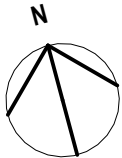
**Twycross Zoo- East
Midland Zoological Society
LTD**

Title

Site Context Plan

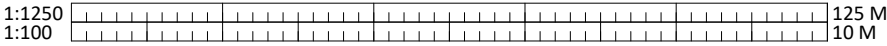
Drawing No.	Revision
TWZ-HLM-00-00-DR-L-00002	P04

Scale	Drawn
1:1250 @ A3	NK
Date	Checked
29/09/2023	MC



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glasgow@hlmarchitects.com

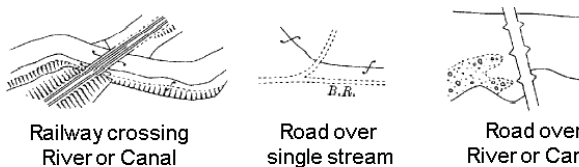
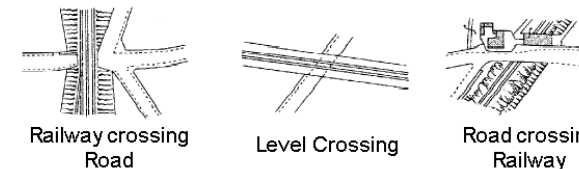


APPENDIX II
HISTORICAL MAPS

Ordinance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information

	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

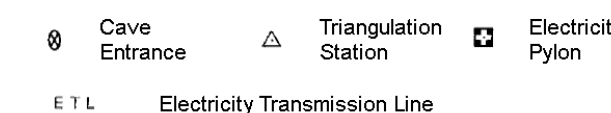
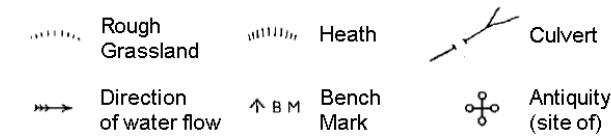
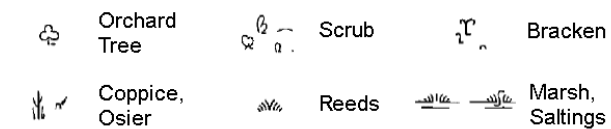
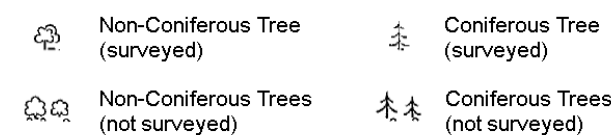
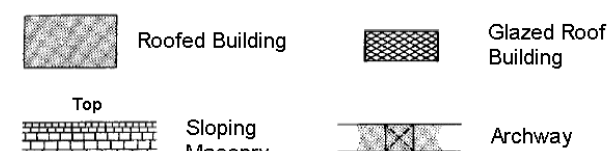
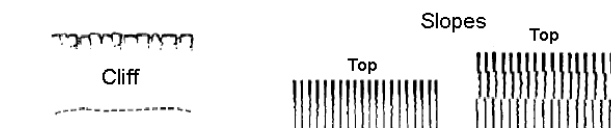
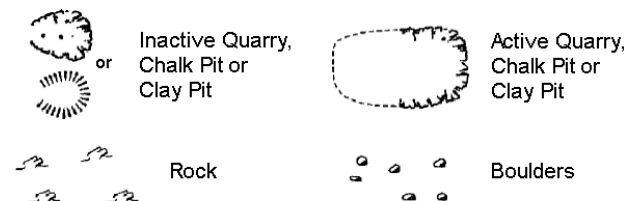
	Trig. Station	507 	Altitude at Trig. Station
<i>B.M.</i> 325.9 	Bench Mark	342 +	Surface Level
	Arrow denotes flow direction		Antiquities (site of)



-----	County Boundary (Geographical)
- . - . - .	County & Civil Parish Boundary
+ . + . + .	Administrative County & Civil Parish Boundary
Co. Boro. Bdy.	County Borough Boundary (England)
Co. Burgh Bdy.	County Burgh Boundary (Scotland)

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

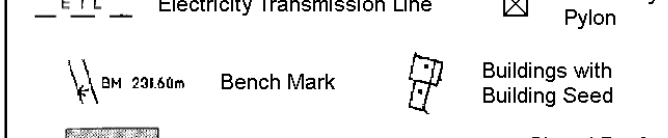
Ordinance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information



	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	Wd	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

Slopes		Top	
	Cliff		Rock (scattered)
	Boulders		Scree
	Positioned Boulder		Non-Coniferous Tree (surveyed)
	Non-Coniferous Trees (not surveyed)		Coniferous Tree (surveyed)
	Coniferous Trees (not surveyed)		Orchard Tree
	Scrub		Bracken
	Coppice, Osier		Reeds
	Marsh, Saltings		Rough
	Heath		Culvert



• • • • •	Civil parish/community boundary
— —	District boundary
— • —	County boundary
o	Boundary post/stone
	Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas 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

 LANDMARK INFORMATION GROUP®

Mapping Type	Scale	Date	Pg
Leicestershire	1:2,500	1886	2
Leicestershire	1:2,500	1903	3
Leicestershire	1:2,500	1924	4
Ordnance Survey Plan	1:2,500	1958	5
Additional SIMs	1:2,500	1958 - 1989	6
Ordnance Survey Plan	1:2,500	1968	7
Large-Scale National Grid Data	1:2,500	1994	8
Historical Aerial Photography	1:2,500	1999	9

A 5x5 grid of cells labeled A1 to A25. The cells are arranged in rows and columns. The columns are labeled A1, A2, A3, A4, A5 from left to right. The rows are labeled A1, A6, A11, A16, A21 from bottom to top. Cell A13 is highlighted with a thick black border and a purple outline.

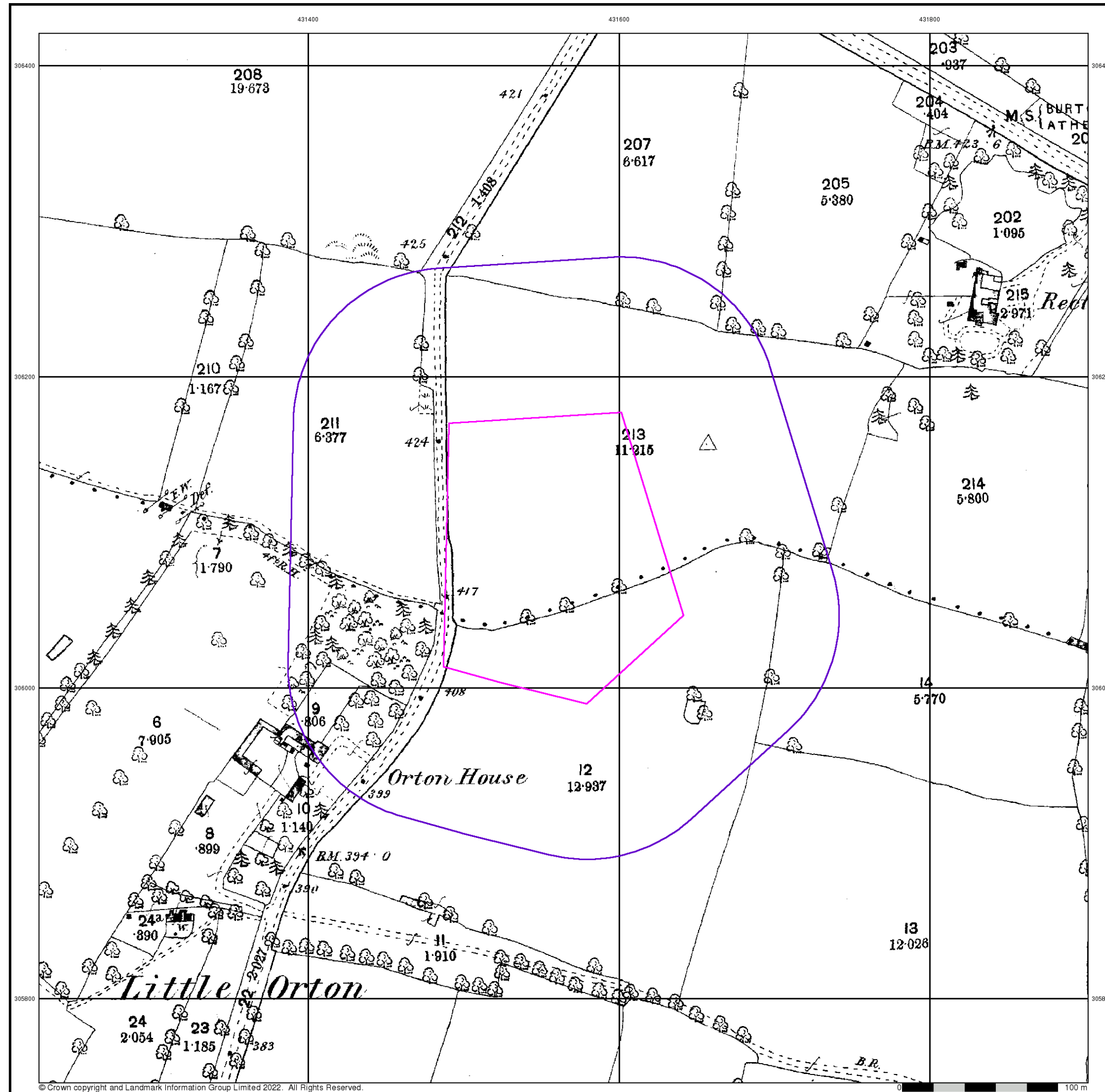


Order Number:	304813181_1_1
Customer Ref:	10/2197
National Grid Reference:	431550, 306090
Slice:	A
Site Area (Ha):	2.28
Search Buffer (m):	100

Twycross Zoo, Burton Road, Twycross, Atherstone, CV9 3PX

Landmark
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
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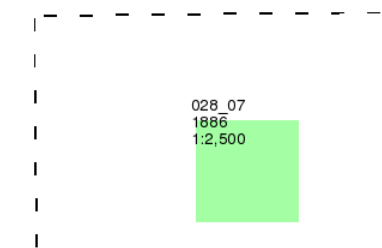
Leicestershire

Published 1886

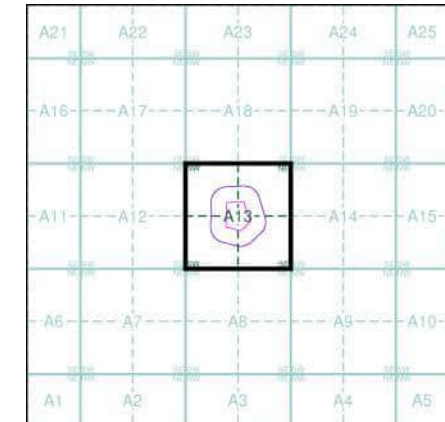
Source map scale - 1:2,500

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

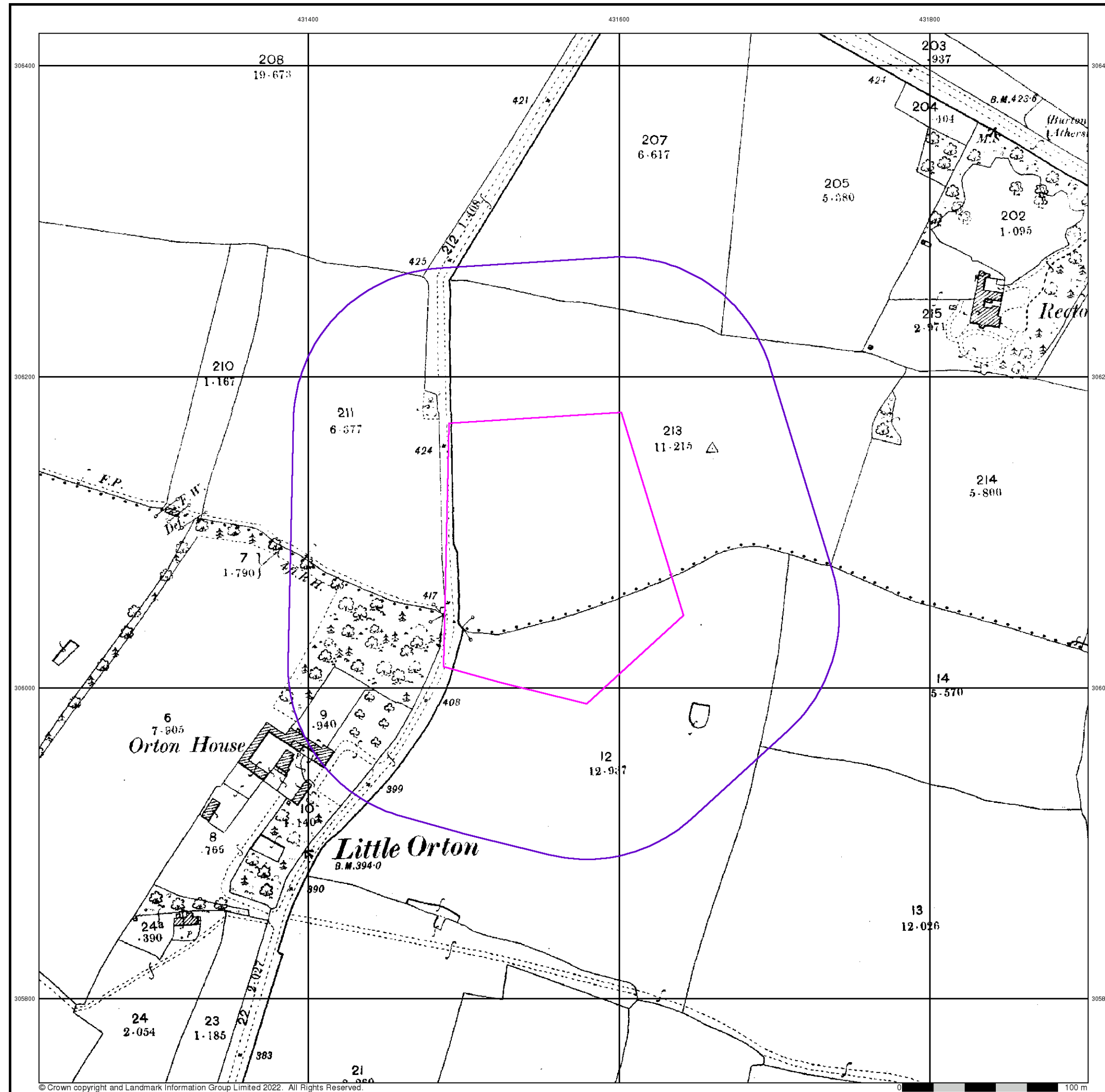


Order Details

Order Number: 304813181_1_1
Customer Ref: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
Search Buffer (m): 100

Site Details

Twycross Zoo, Burton Road, Twycross, ATHERSTONE, CV9 3PX



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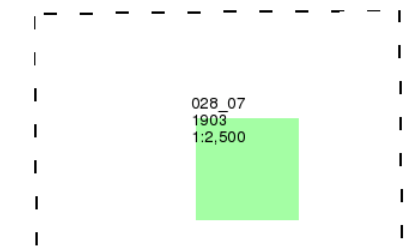
Leicestershire

Published 1903

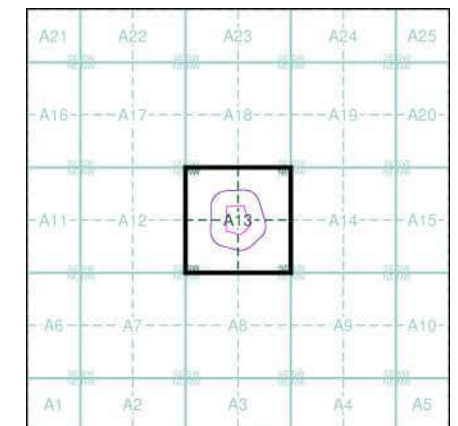
Source map scale - 1:2,500

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

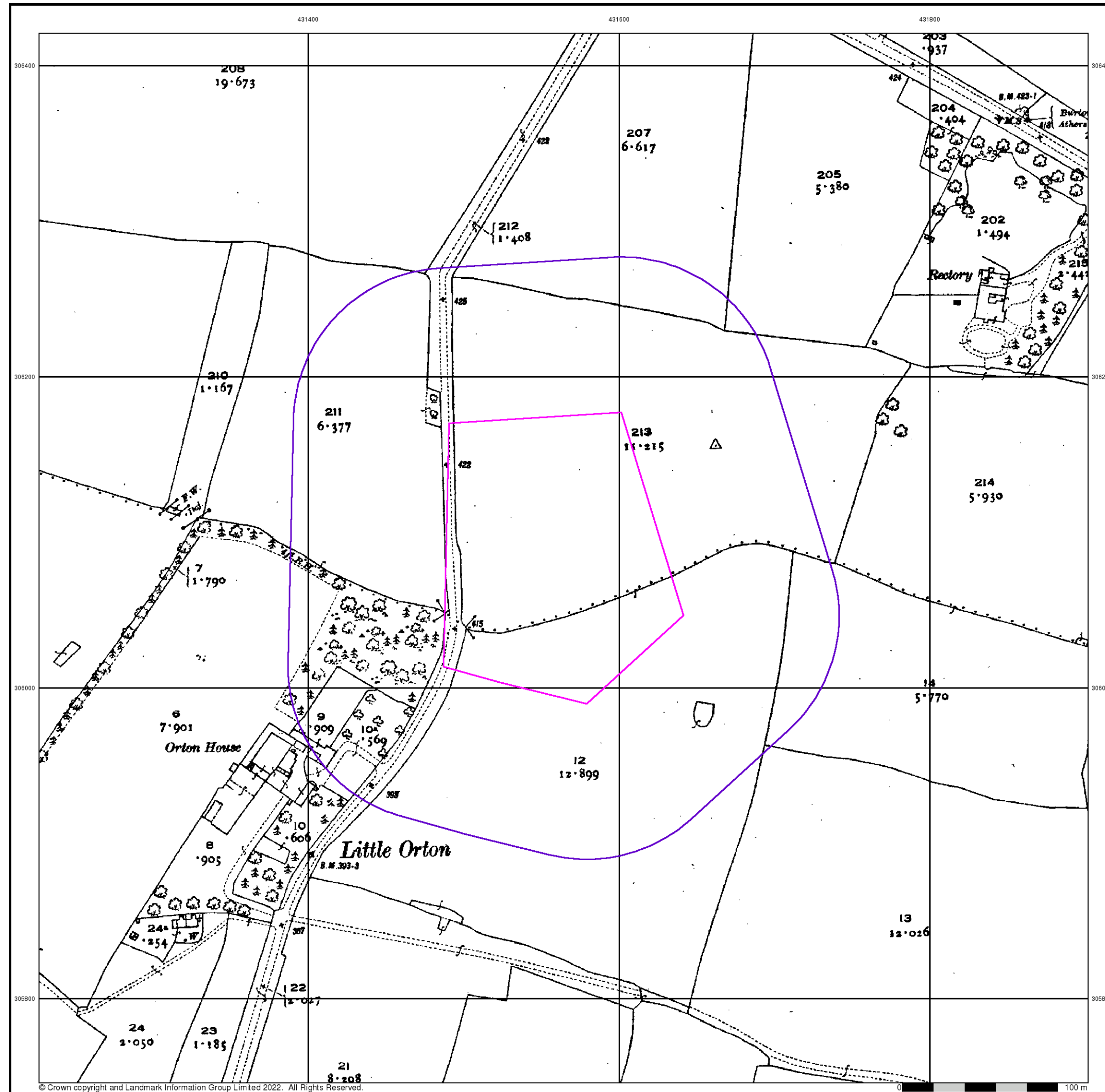


Order Details

Order Number: 304813181_1_1
Customer Ref: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
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Site Details

Twycross Zoo, Burton Road, Twycross, ATHERSTONE, CV9 3PX



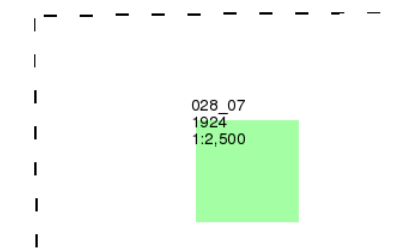
Leicestershire

Published 1924

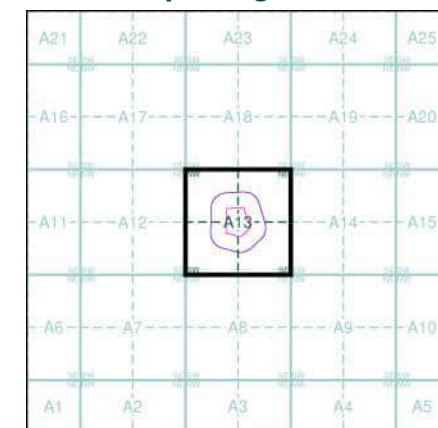
Source map scale - 1:2,500

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

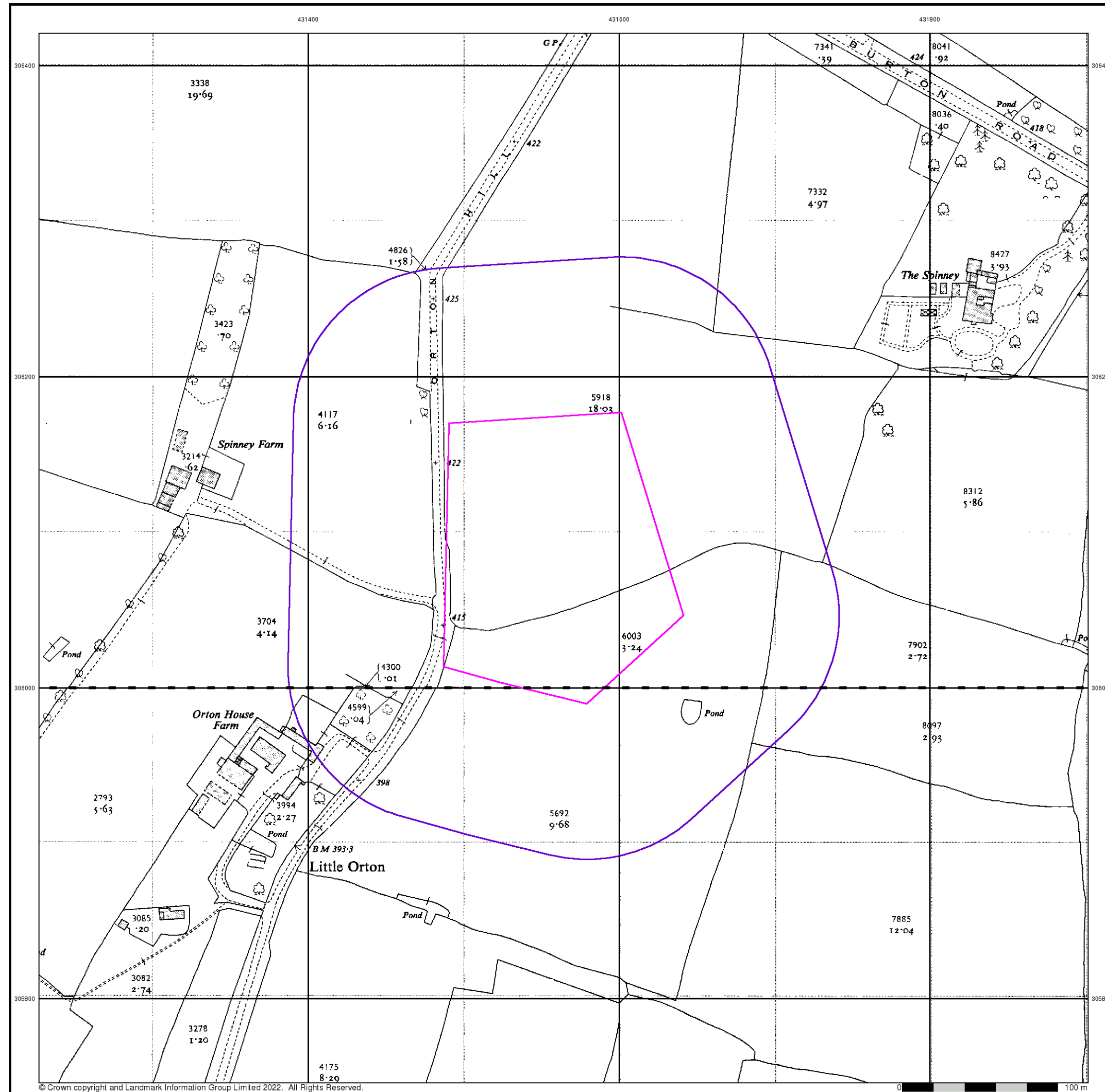


Order Details

Order Number: 304813181_1_1
Customer Ref: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
Search Buffer (m): 100

Site Details

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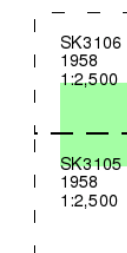
Ordnance Survey Plan

Published 1958

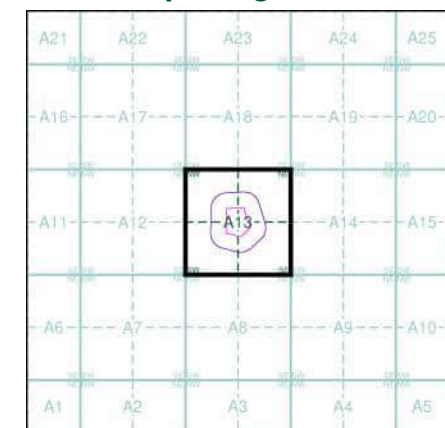
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13

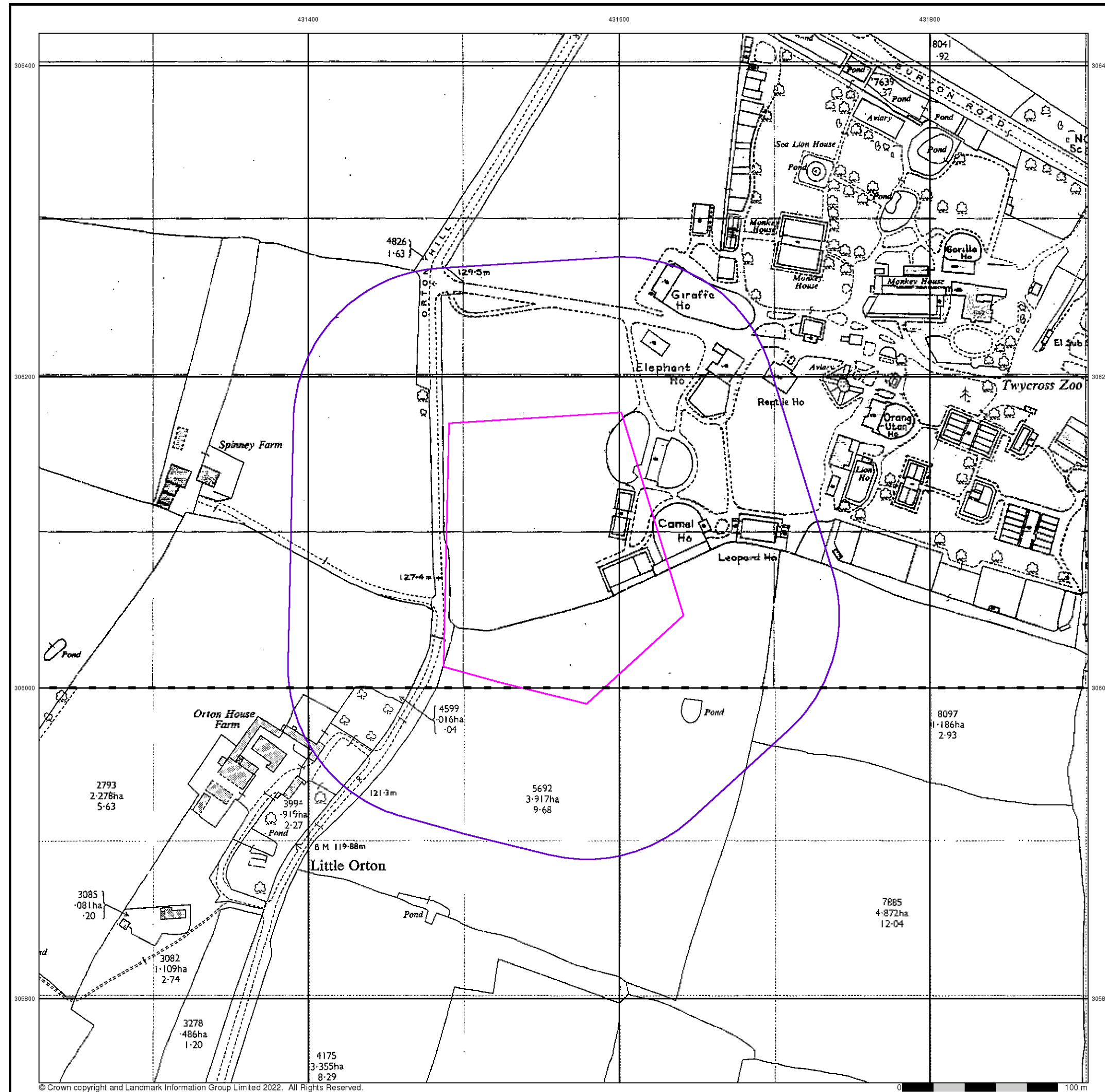


Order Details

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Customer Ref: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
Search Buffer (m): 100

Site Details

Twycross Zoo, Burton Road, Twycross, ATHERSTONE, CV9 3PX



Additional SIMs

Published 1958 - 1989

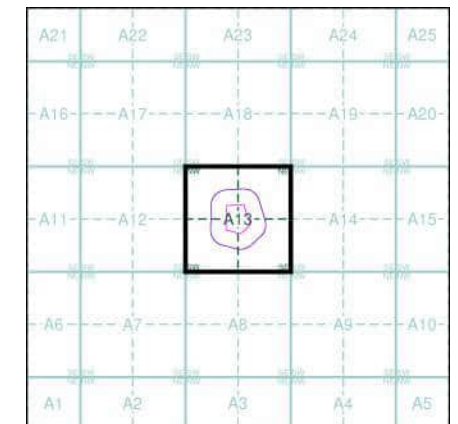
Source map scale - 1:2,500

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)

SK3106
1989
1:2,500
SK3105
1958
1:2,500

Historical Map - Segment A13

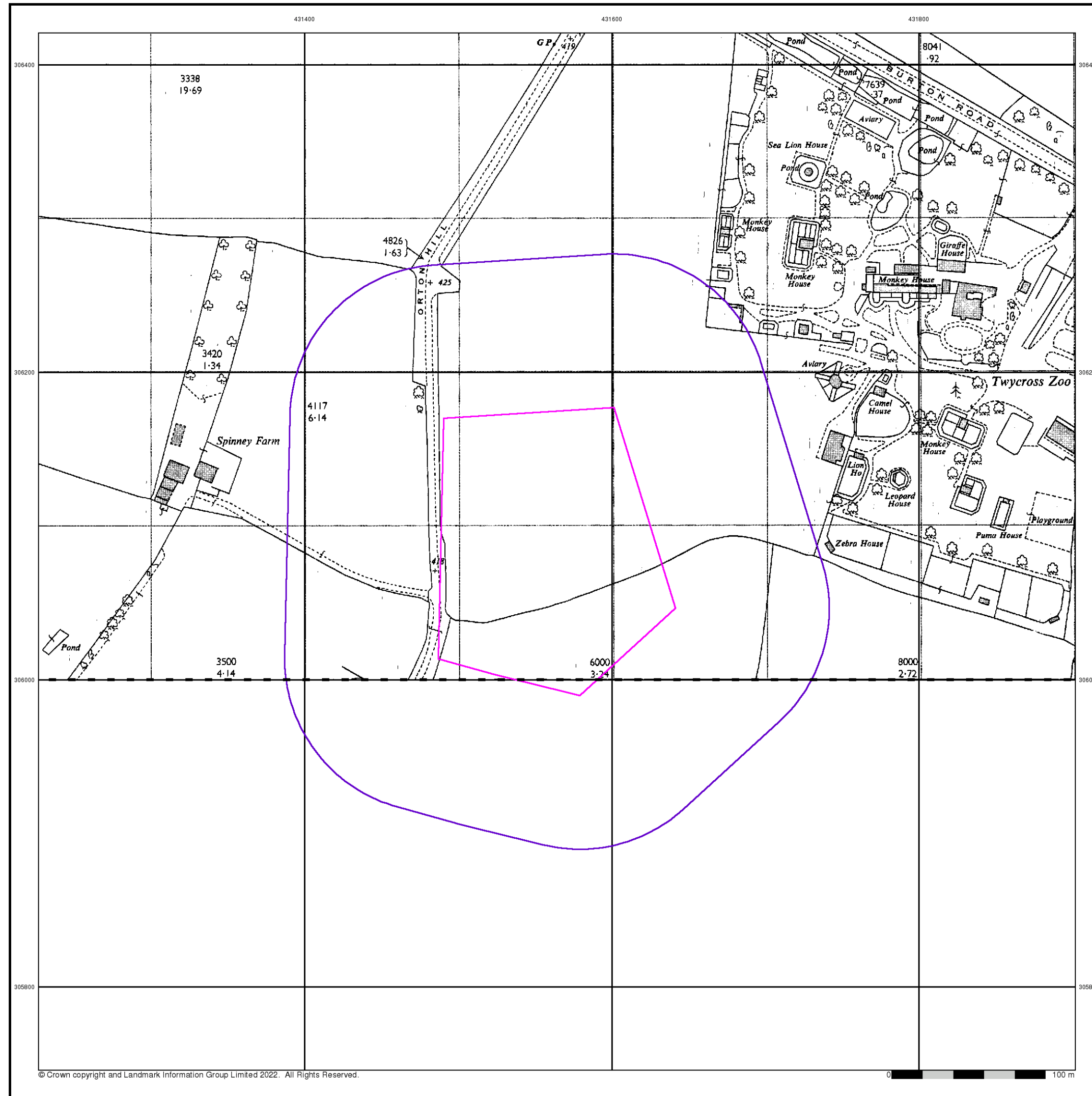


Order Details

Order Number: 304813181_1_1
Customer Ref: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
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Site Details

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0 100 m

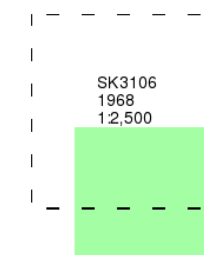
Ordnance Survey Plan

Published 1968

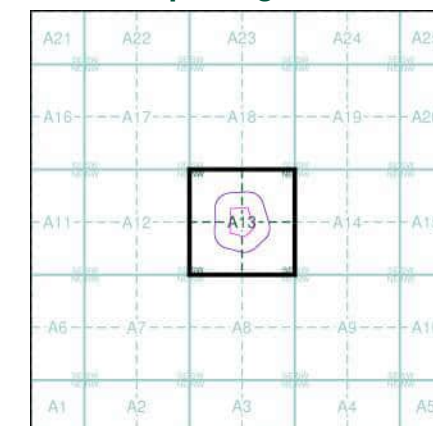
Source map scale - 1:2,500

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: 304813181_1_1
Customer Ref: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
Search Buffer (m): 100

Site Details

Twycross Zoo, Burton Road, Twycross, Atherstone, CV9 3PX

Large-Scale National Grid Data

Published 1994

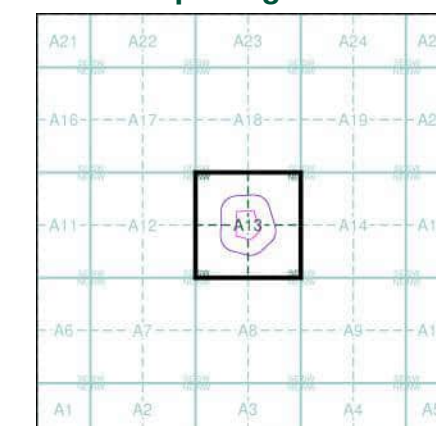
Source map scale - 1:2,500

'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)

SK3106	1994	1:2,500
SK3105	1994	1:2,500

Historical Map - Segment A13

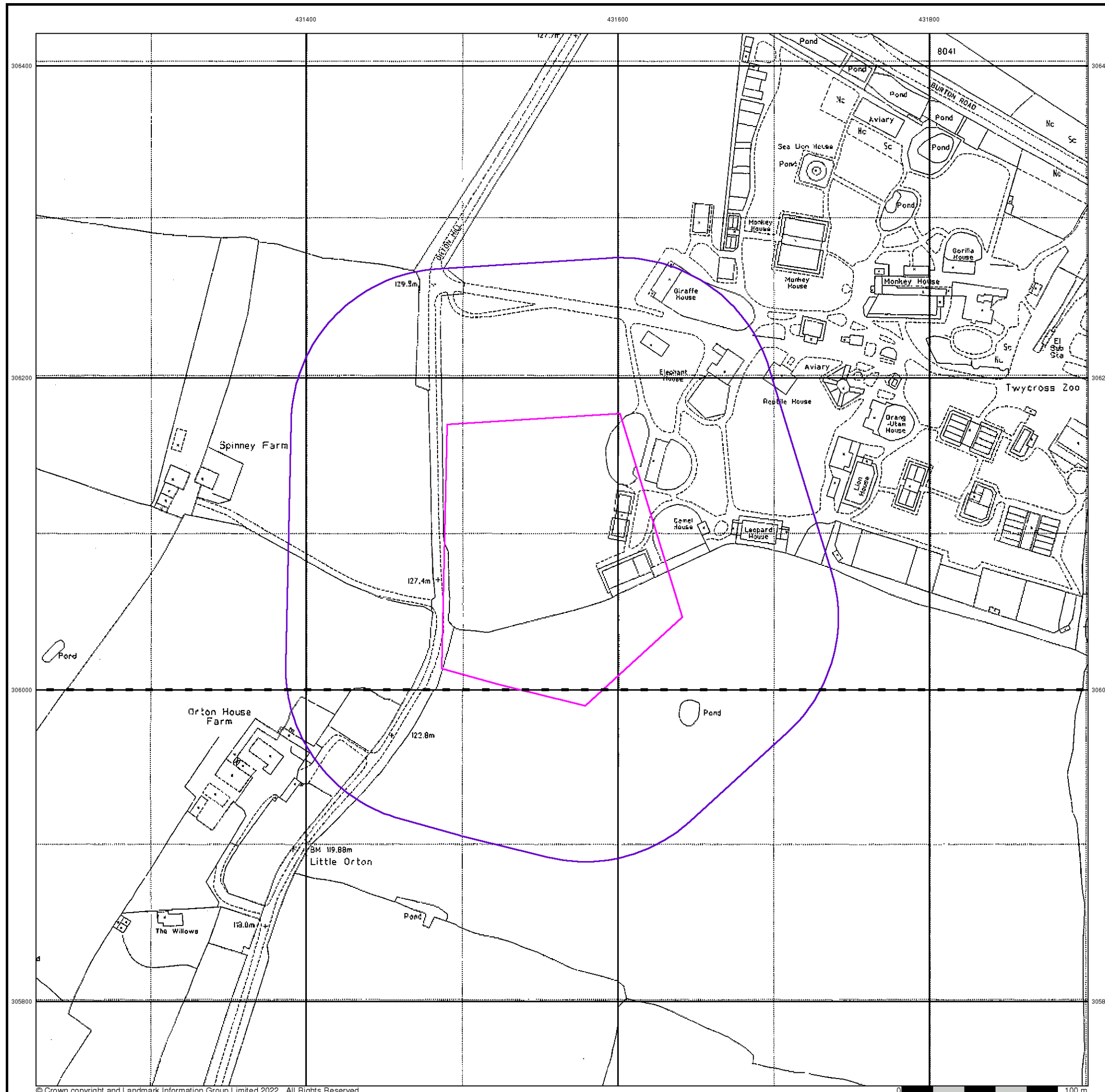


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 Search Buffer (m): 100

Site Details

Twycross Zoo, Burton Road, Twycross, ATHERSTONE, CV9 3PX





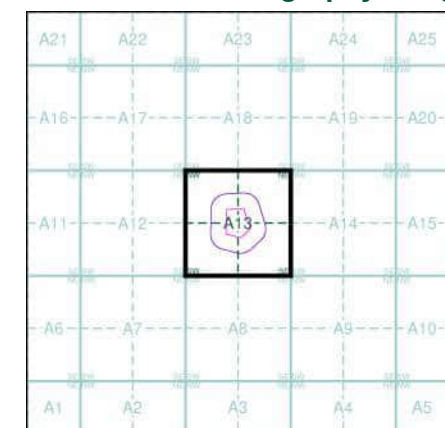
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Historical Aerial Photography

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

Historical Aerial Photography - Segment A13



Order Details

Order Number: 304813181_1_1
Customer Ref: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
Search Buffer (m): 100

Site Details

Twycross Zoo, Burton Road, Twycross, ATHERSTONE, CV9 3PX

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
	Bracken		Heath
	Marsh		Reeds
	Building		Glasshouse
	Sloping Masonry		Pylon
	Cutting		Embankment
	Road Under		Road Over
	Level Crossing		Foot Bridge
	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
	Civil Parish		
	BP, BS Boundary Post or Stone		Police Station
	Church		Post Office
	Club House		Public Convenience
	Fire Engine Station		Public House
	Foot Bridge		Signal Box
	Fountain		Spring
	Guide Post		Telephone Call Box
	Mile Post		Telephone Call Post
	Mile Stone		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
	Mean high water (springs)		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

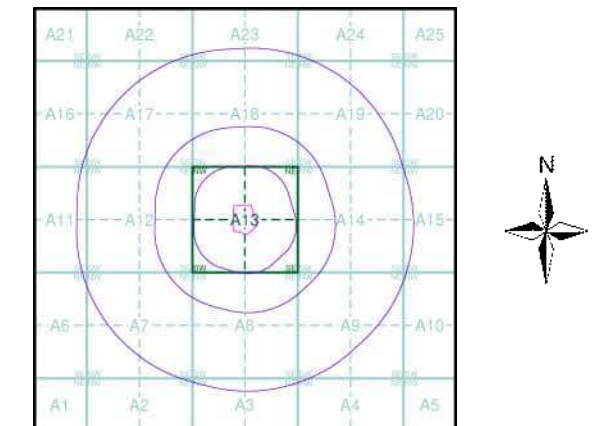
Envirocheck®

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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Leicestershire	1:10,560	1885	2
Leicestershire	1:10,560	1903	3
Leicestershire	1:10,560	1924	4
Ordnance Survey Plan	1:10,000	1955	5
Ordnance Survey Plan	1:10,000	1966	6
Ordnance Survey Plan	1:10,000	1983	7
Ordnance Survey Plan	1:10,000	1990	8
10K Raster Mapping	1:10,000	1999	9
10K Raster Mapping	1:10,000	2006	10
VectorMap Local	1:10,000	2022	11

Historical Map - Slice A



Order Details

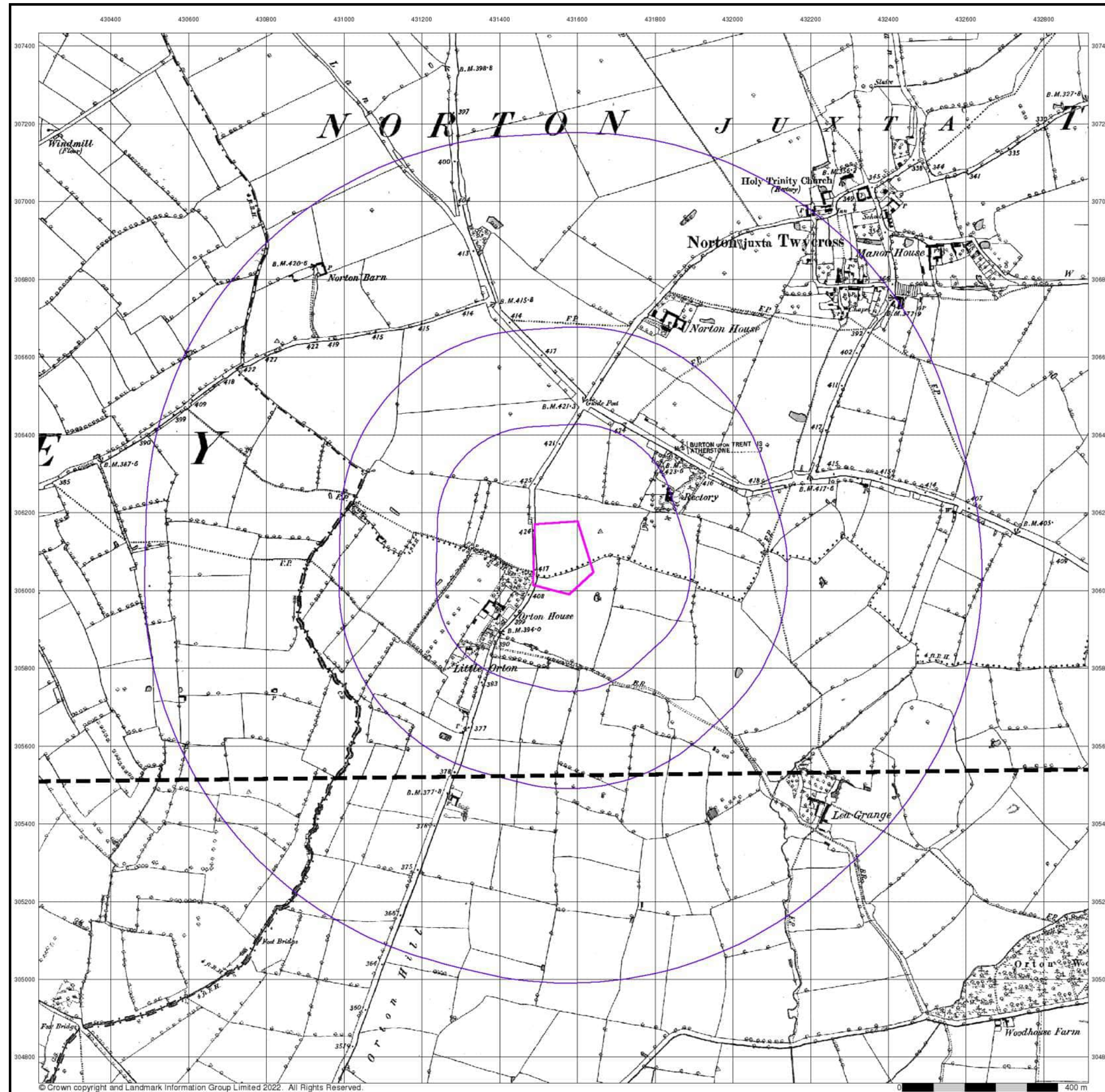
Order Number: 304813181_1_1
Customer Ref: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
Search Buffer (m): 1000

Site Details

Twycross Zoo, Burton Road, Twycross, ATHERSTONE, CV9 3PX

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Leicestershire

Published 1885

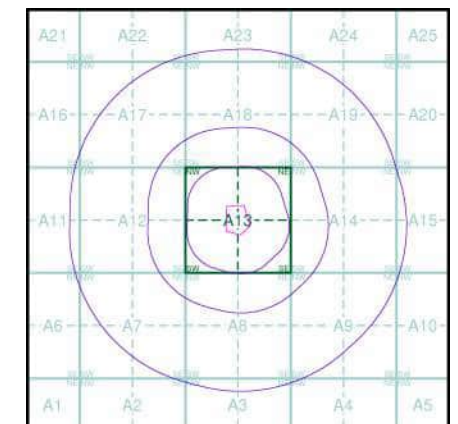
Source map scale - 1:10,560

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)

028NE
1885
1:10,560
028SE
1885
1:10,560

Historical Map - Slice A



Order Details

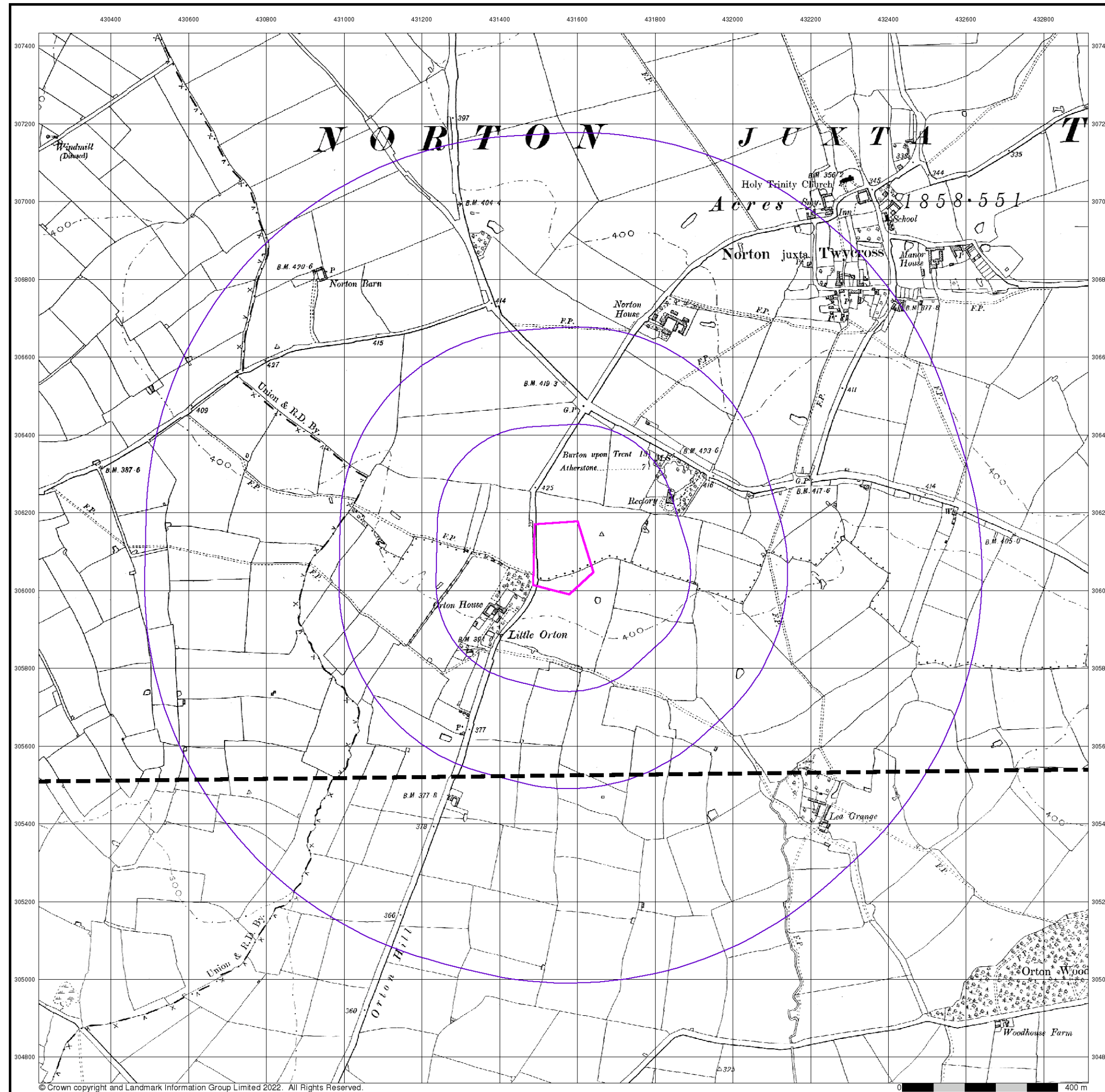
Order Number: 304813181_1_1
Customer Ref: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
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Leicestershire

Published 1903

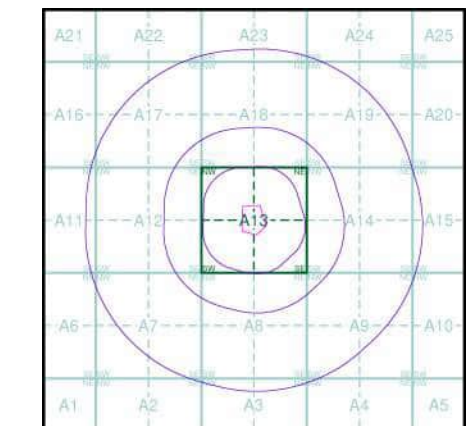
Source map scale - 1:10,560

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)

028NE
1903
1:10,560
028SE
1903
1:10,560

Historical Map - Slice A

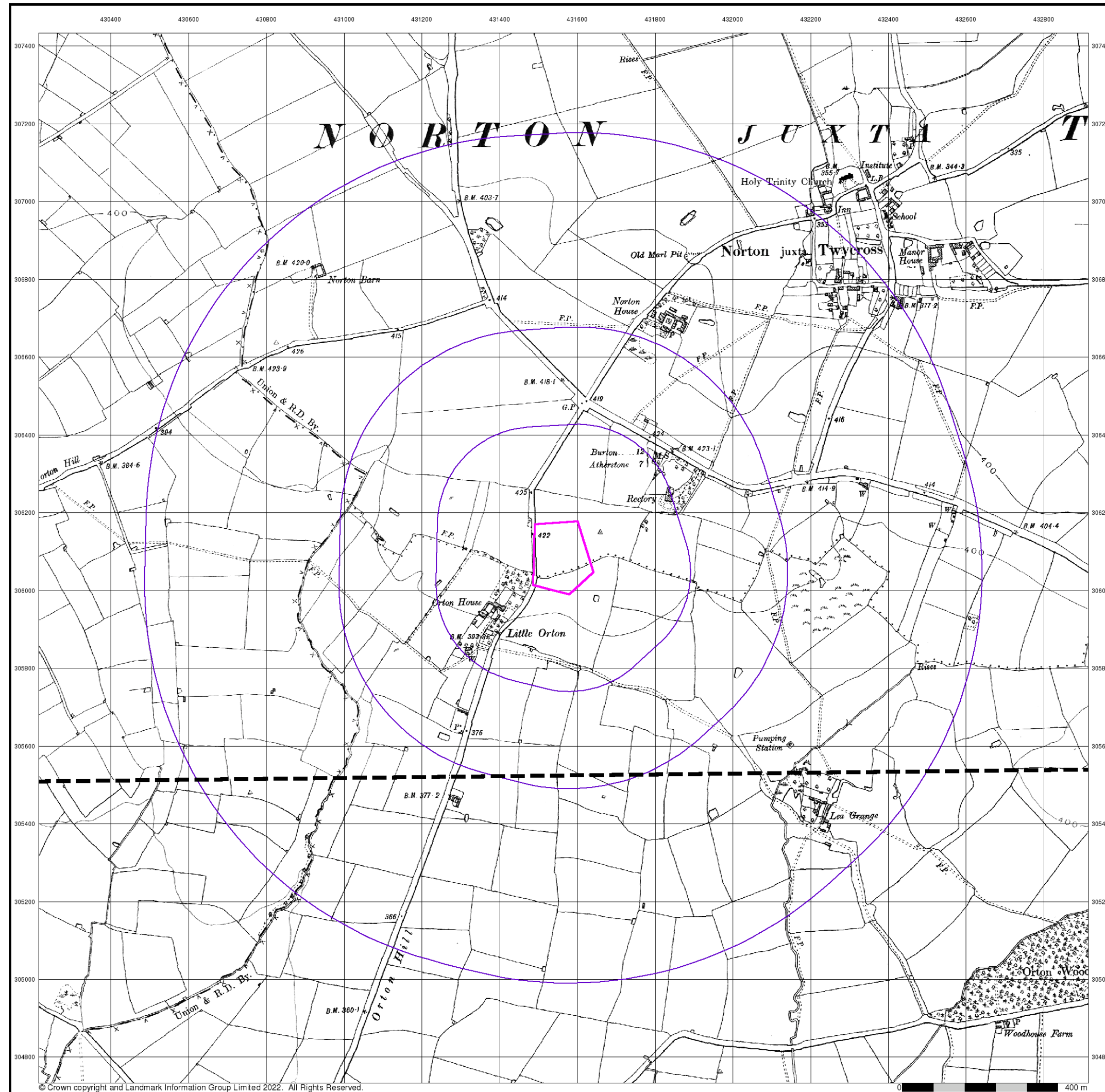


Order Details

Order Number: 304813181_1_1
Customer Ref: 10/2197
National Grid Reference: 431550, 306090
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Site Area (Ha): 2.28
Search Buffer (m): 1000

Site Details

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Leicestershire

Published 1924

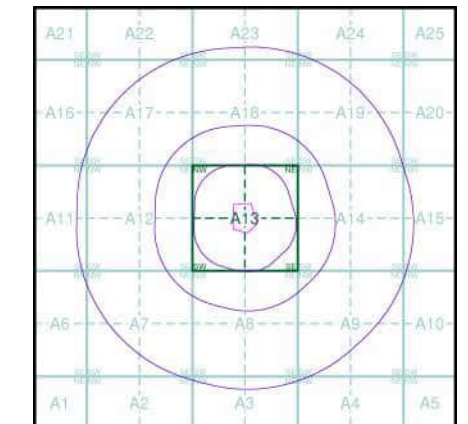
Source map scale - 1:10,560

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)

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1924
1:10,560
028SE
1924
1:10,560

Historical Map - Slice A

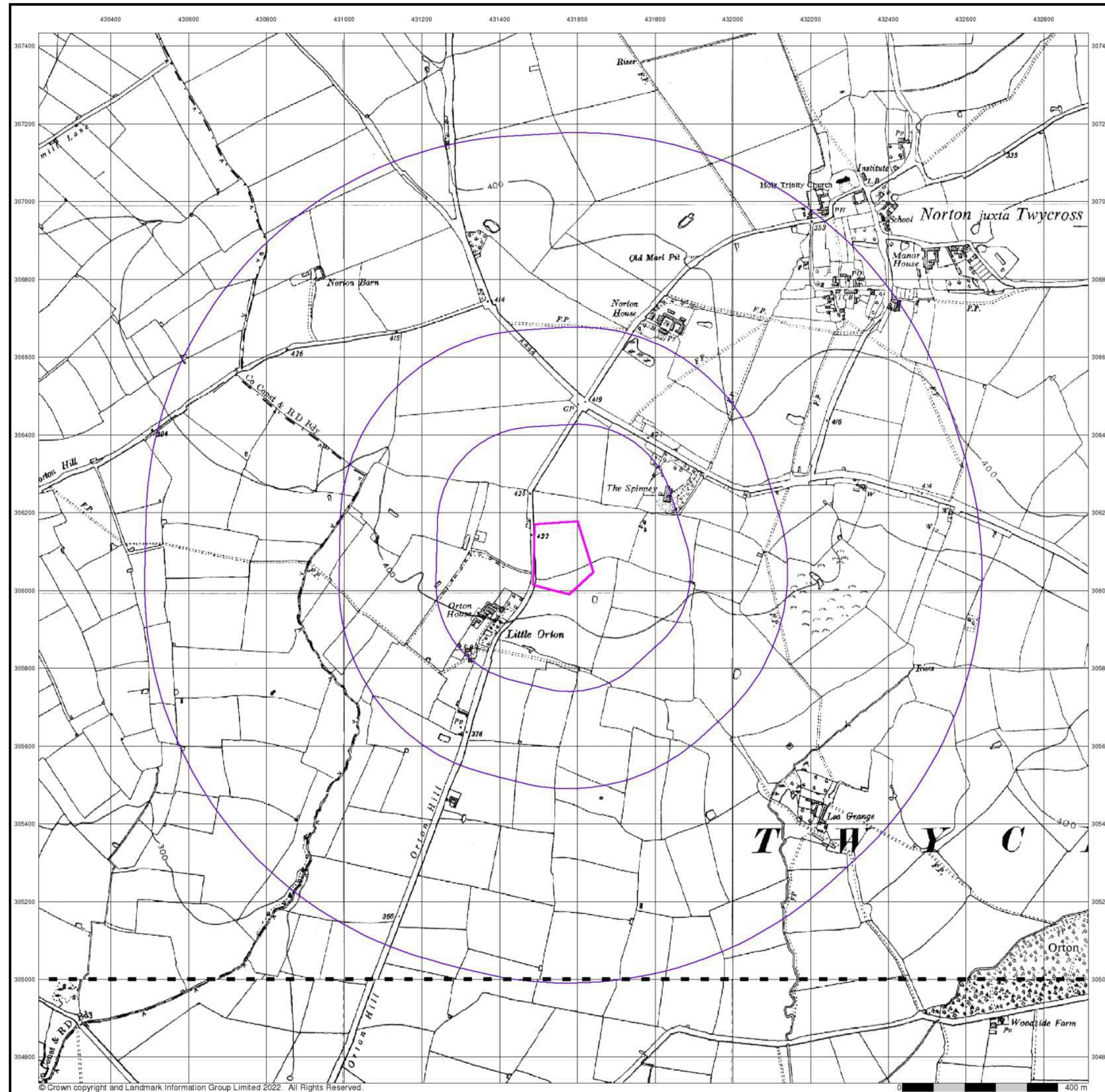


Order Details

Order Number: 304813181_1_1
Customer Ref: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
Search Buffer (m): 1000

Site Details

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Ordnance Survey Plan

Published 1955

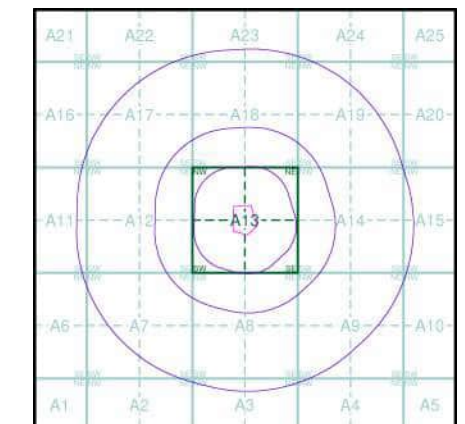
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Map Name(s) and Date(s)

SK30NW	1955
1:10,560	
SK30SW	1955
1:10,560	

Historical Map - Slice A

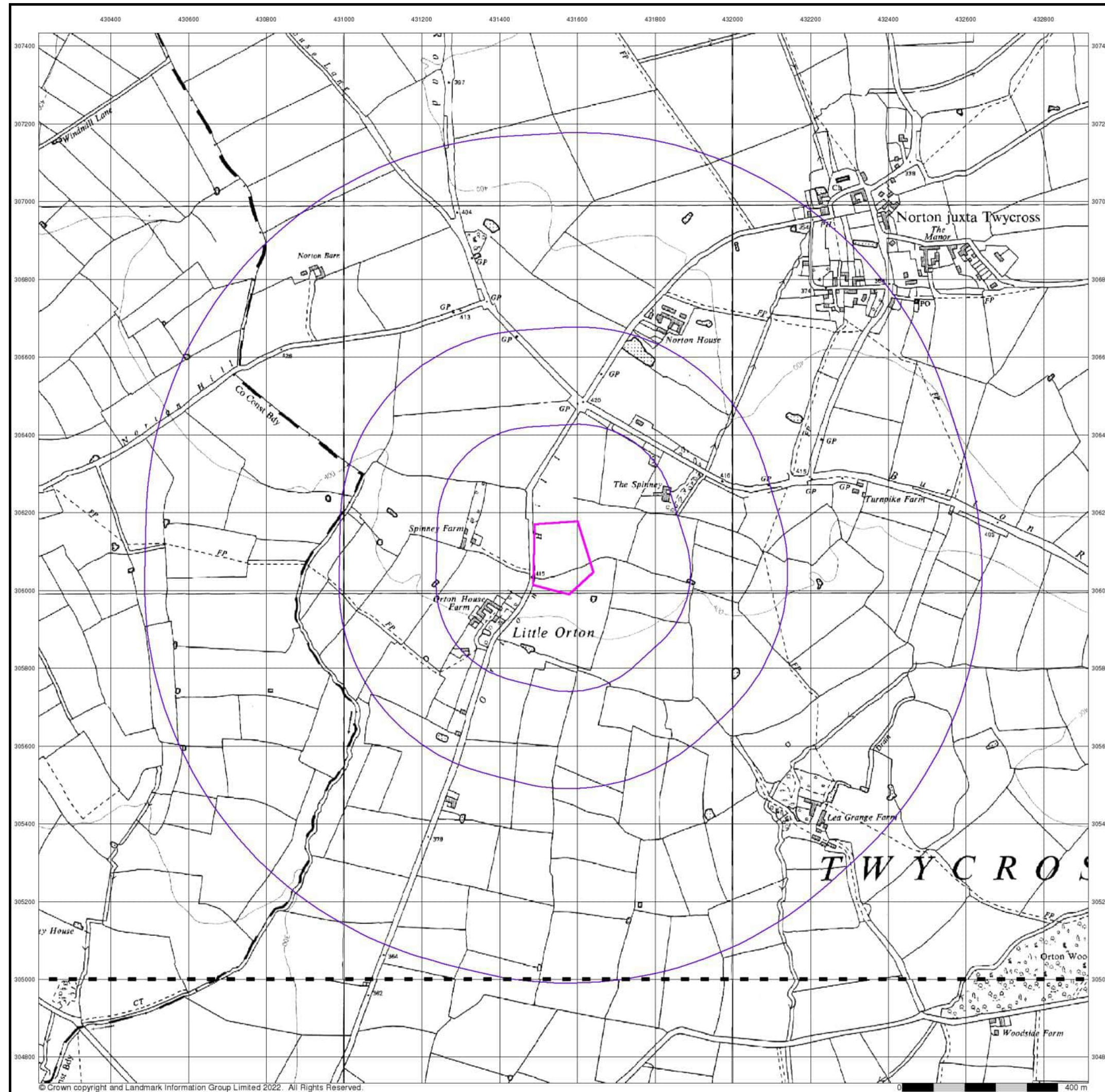


Order Details

Order Number: 304813181_1_1
Customer Ref: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
Search Buffer (m): 1000

Site Details

Twycross Zoo, Burton Road, Twycross, ATHERSTONE, CV9 3PX



Ordnance Survey Plan

Published 1966

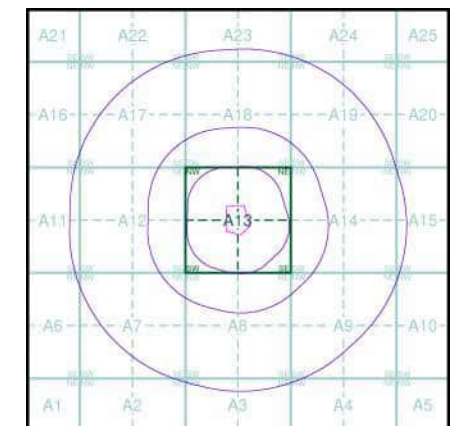
Source map scale - 1:10,000

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

Map Name(s) and Date(s)

SK30NW	1966
1:10,560	
SK30SW	1966
1:10,560	

Historical Map - Slice A

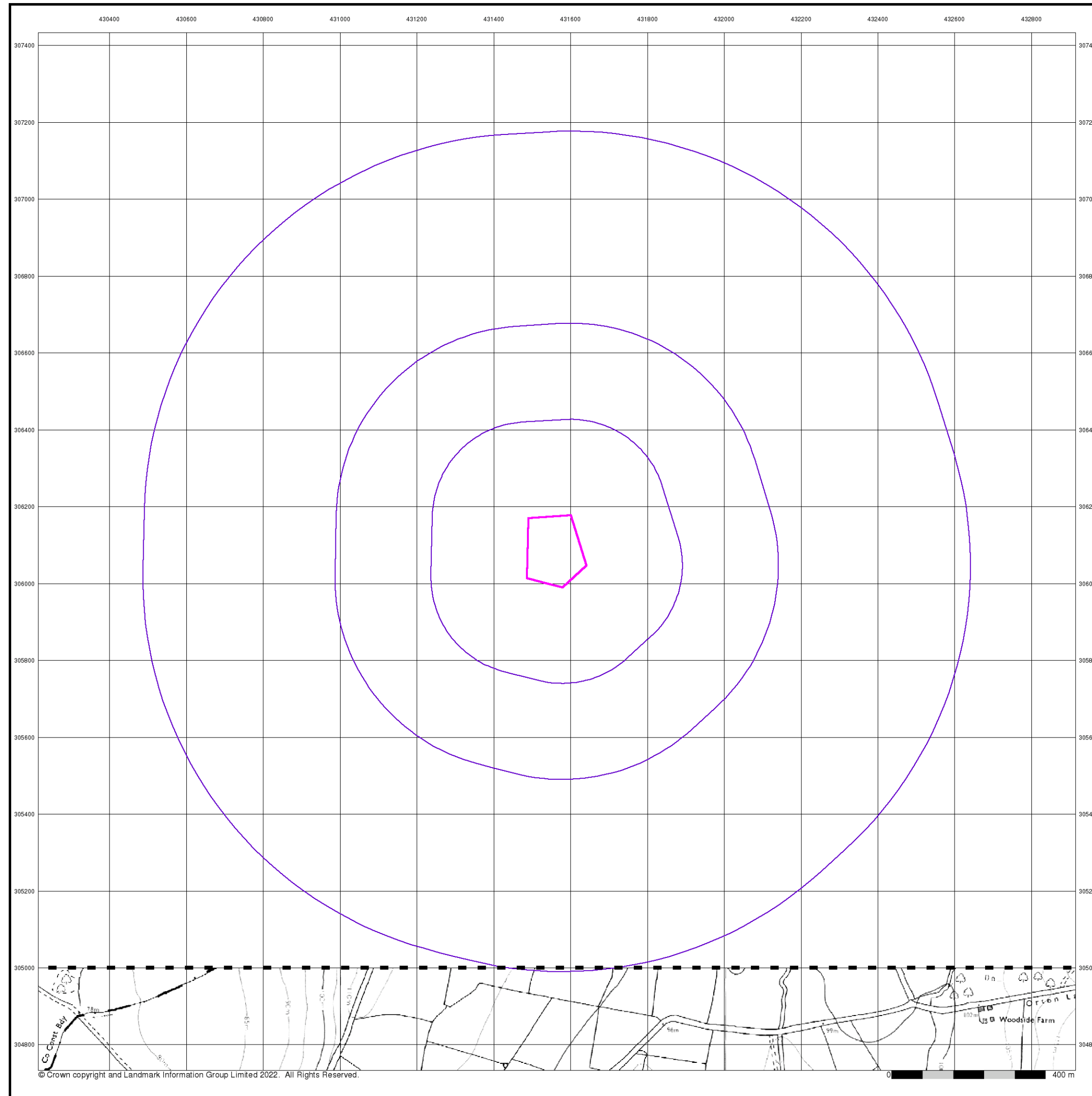


Order Details

Order Number: 304813181_1_1
Customer Ref: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
Search Buffer (m): 1000

Site Details

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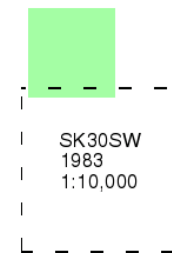
Ordnance Survey Plan

Published 1983

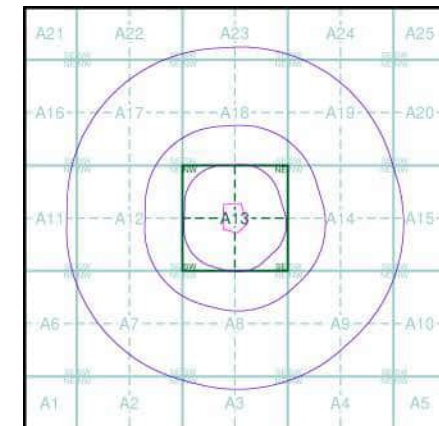
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:

304813181_1_1

Customer Ref:

10/2197

National Grid Reference:

431550, 306090

Slice:

A

Site Area (Ha):

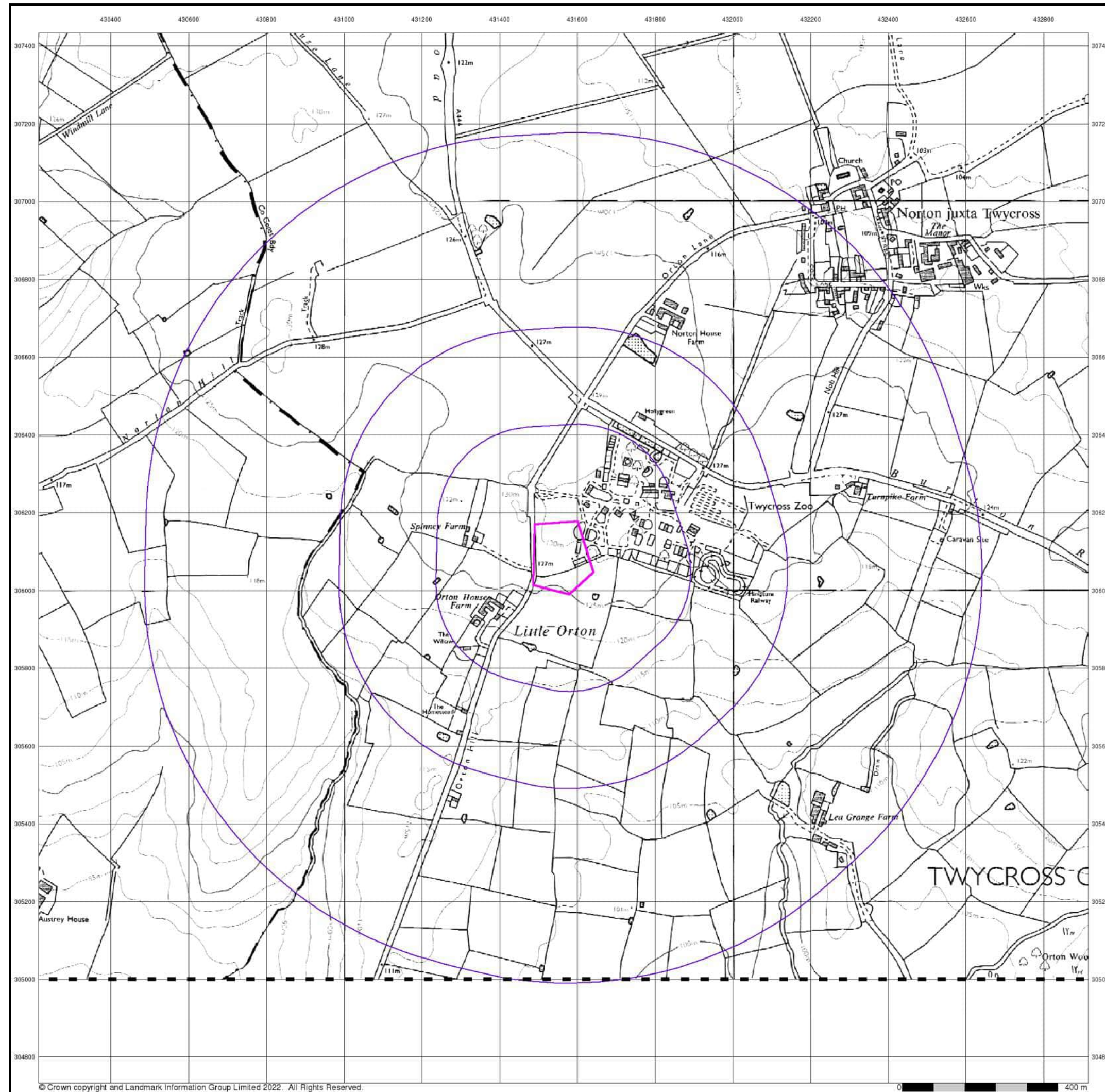
2.28

Search Buffer (m):

1000

Site Details

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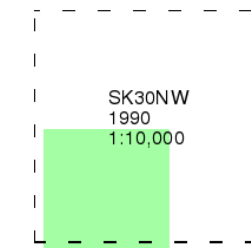
Ordnance Survey Plan

Published 1990

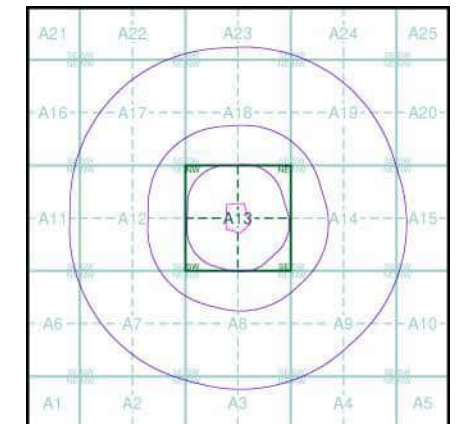
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A

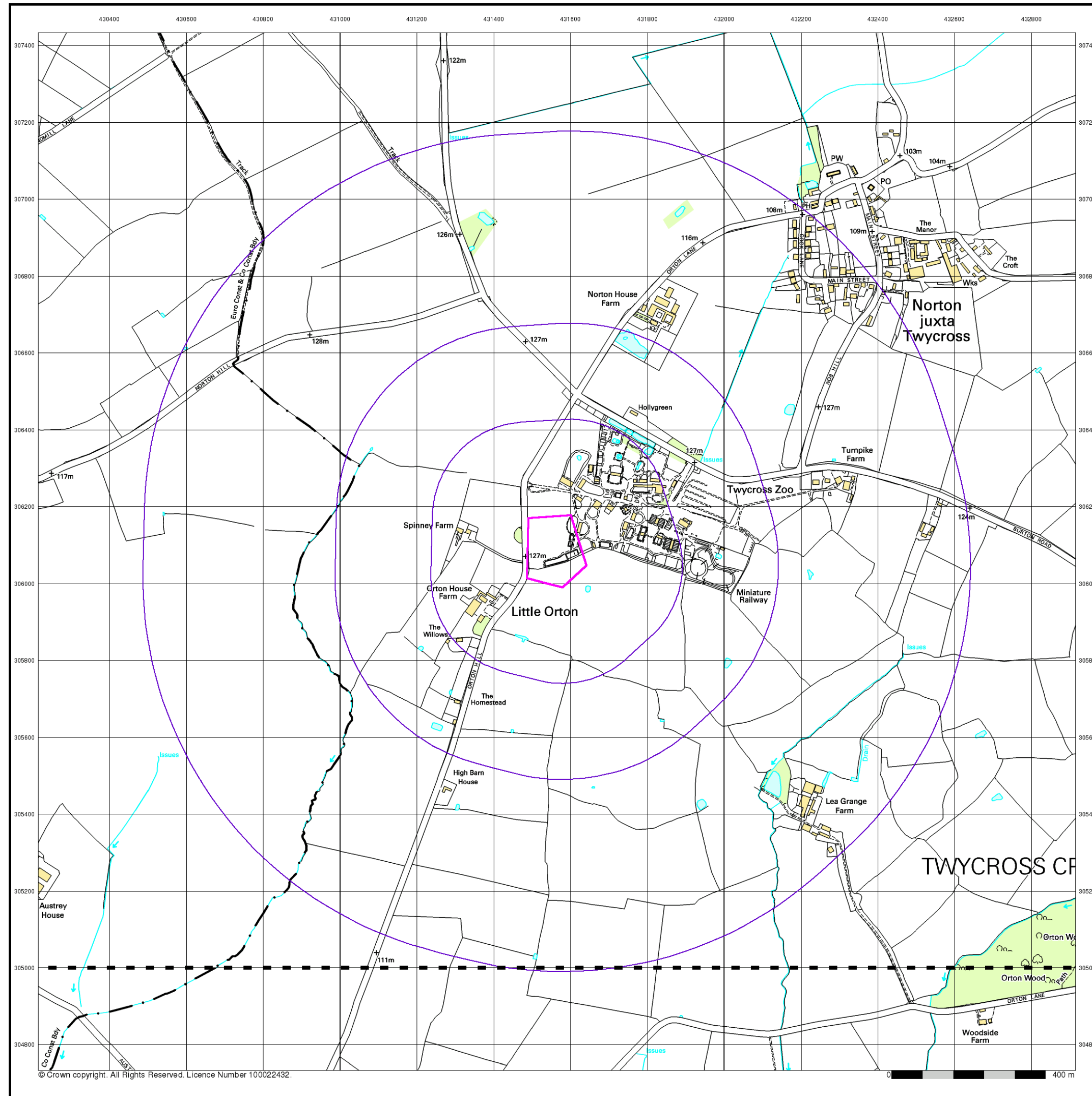


Order Details

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Customer Ref: 10/2197
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Slice: A
Site Area (Ha): 2.28
Search Buffer (m): 1000

Site Details

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10k Raster Mapping

Published 1999

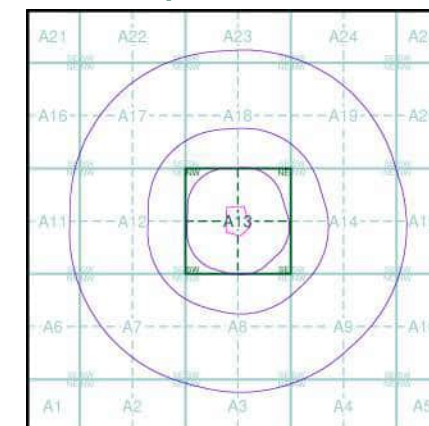
Source map scale - 1:10,000

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

Map Name(s) and Date(s)

SK30NW	1999
1:10,000	
SK30SW	1999
1:10,000	

Historical Map - Slice A

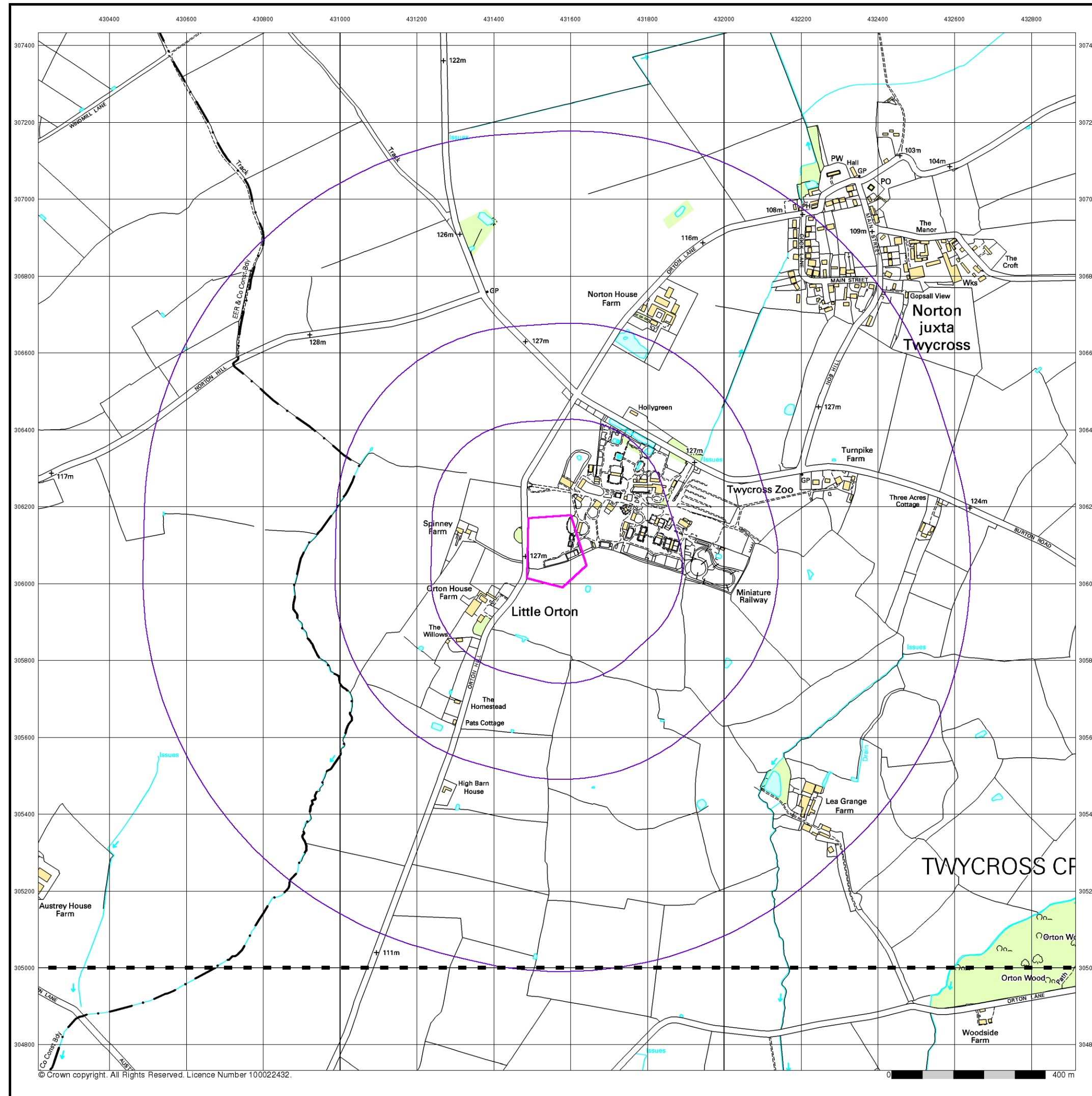


Order Details

Order Number: 304813181_1_1
Customer Ref: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
Search Buffer (m): 1000

Site Details

Twycross Zoo, Burton Road, Twycross, Atherstone, CV9 3PX



10k Raster Mapping

Published 2006

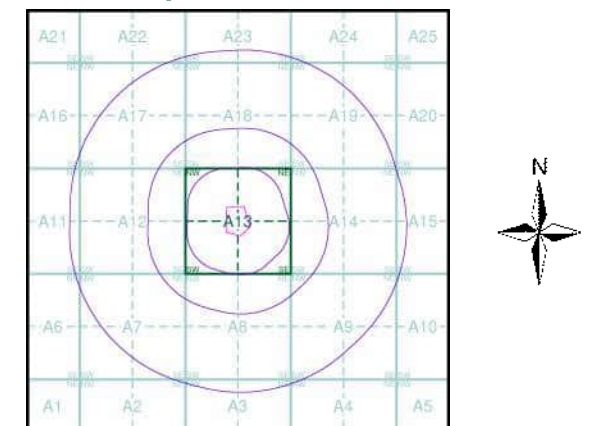
Source map scale - 1:10,000

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

Map Name(s) and Date(s)

SK30NW	2006
1:10,000	
SK30SW	2006
1:10,000	

Historical Map - Slice A



Order Details

Order Number: 304813181_1_1
 Customer Ref: 10/2197
 National Grid Reference: 431550, 306090
 Slice: A
 Site Area (Ha): 2.28
 Search Buffer (m): 1000

Site Details

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VectorMap Local

Published 2022

Source map scale - 1:10,000

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

Map Name(s) and Date(s)

SK30NW

2022

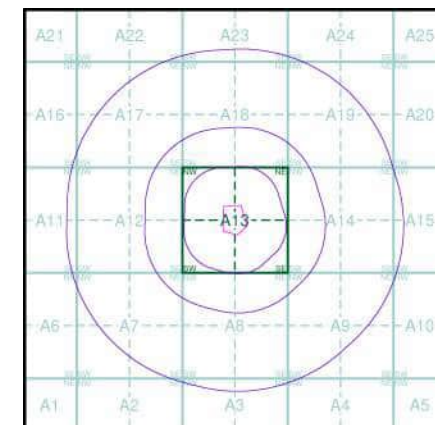
Variable

SK30SW

2022

Variable

Historical Map - Slice A



Order Details

Order Number:	304813181_1_1
Customer Ref:	10/2197
National Grid Reference:	431550, 306090
Slice:	A
Site Area (Ha):	2.28
Search Buffer (m):	1000

Site Details

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APPENDIX III
ZETICA BOMB RISK MAPPING

UNEXPLODED BOMB RISK MAP



SITE LOCATION

Location: Twycross Zoo, Leicestershire
Map Centre: 431500,306500



LEGEND

- High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- Low:** Areas indicated as having 15 bombs per 1000acre or less.

- military
- industry
- UXO find
- transport
- dock
- Luftwaffe targets
- utilities
- Bombing decoy
- other

How to use your Unexploded Bomb (UXB) risk map?

The map indicates the potential for Unexploded Bombs (UXB) to be present as a result of World War Two (WWII) bombing.

You can incorporate the map into your preliminary risk assessment* for potential Unexploded Ordnance (UXO) for a site. Using this map, you can make an informed decision as to whether more in-depth detailed risk assessment* is necessary.

What do I do if my site is in a moderate or high risk area?

Generally, we recommend that a detailed UXO desk study and risk assessment is undertaken for sites in a moderate or high UXB risk area.

Similarly, if your site is near to a designated Luftwaffe target or bombing decoy then additional detailed research is recommended.

More often than not, this further detailed research will conclude that the potential for a significant UXO hazard to be present on your site is actually low.

Never plan site work or undertake a risk assessment using these maps alone. More detail is required, particularly where there may be a source of UXO from other military operations which are not reflected on these maps.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirms that there is a low potential for UXO to be present on your site then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

A low risk really means that there is no greater probability of encountering UXO than anywhere else in the UK.

If you are unsure whether other sources of UXO may be present, you can ask for one of our **pre-desk study assessments (PDSA)**

If I have any questions, who do I contact?

tel: +44 (0) 1993 886682

email: uxo@zetica.com

web: www.zeticauxo.com

The information in this UXB risk map is derived from a number of sources and should be used in conjunction with the accompanying notes on our website: (<https://zeticauxo.com/downloads-and-resources/risk-maps/>)

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgment. The copyright remains with Zetica Ltd.

It is important to note that this map is not a UXO risk assessment and should not be reported as such when reproduced.

*Preliminary and detailed UXO risk assessments are advocated as good practice by industry guidance such as CIRIA C681 'Unexploded Ordnance (UXO), a guide for the construction industry'.

APPENDIX IV
GEOLOGICAL MAPS

Geology 1:50,000 Maps Legends

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	THT	THRUSSINGTON MEMBER	Diamicton	Not Supplied - Anglian
	BOSW	Bosworth Clay Member	Clay and Silt	Not Supplied - Anglian
	GFDMP	Glaciofluvial Deposits, Mid Pleistocene	Sand and Gravel	Not Supplied - Cromerian
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary
	TUFA	Tufa	Tufa, Calcareous	Not Supplied - Quaternary
	LDE	Lacustrine Deposits	Clay, Silt and Sand	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	GUN	Gunthorpe Member	Mudstone	Not Supplied - Anisian
	GUN	Gunthorpe Member	Siltstone, Dolomitic	Not Supplied - Anisian
	RDCF	Radcliffe Member	Mudstone	Not Supplied - Anisian
	TPSF	Tarporley Siltstone Formation	Siltstone, Mudstone and Sandstone	Not Supplied - Olenekian
	TPSF	Tarporley Siltstone Formation	Siltstone, Mudstone and Sandstone	Not Supplied - Olenekian
	TPSF	Tarporley Siltstone Formation	Sandstone	Not Supplied - Olenekian
		Faults		

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Geology 1:50,000 Maps

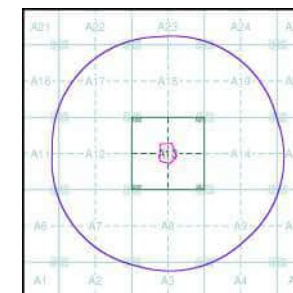
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	1
Map Sheet No:	155
Map Name:	Coalville
Map Date:	2010
Bedrock Geology:	Available
Superficial Geology:	Available
Artificial Geology:	Available
Faults:	Not Supplied
Landslip:	Available
Rock Segments:	Not Supplied

Geology 1:50,000 Maps - Slice A

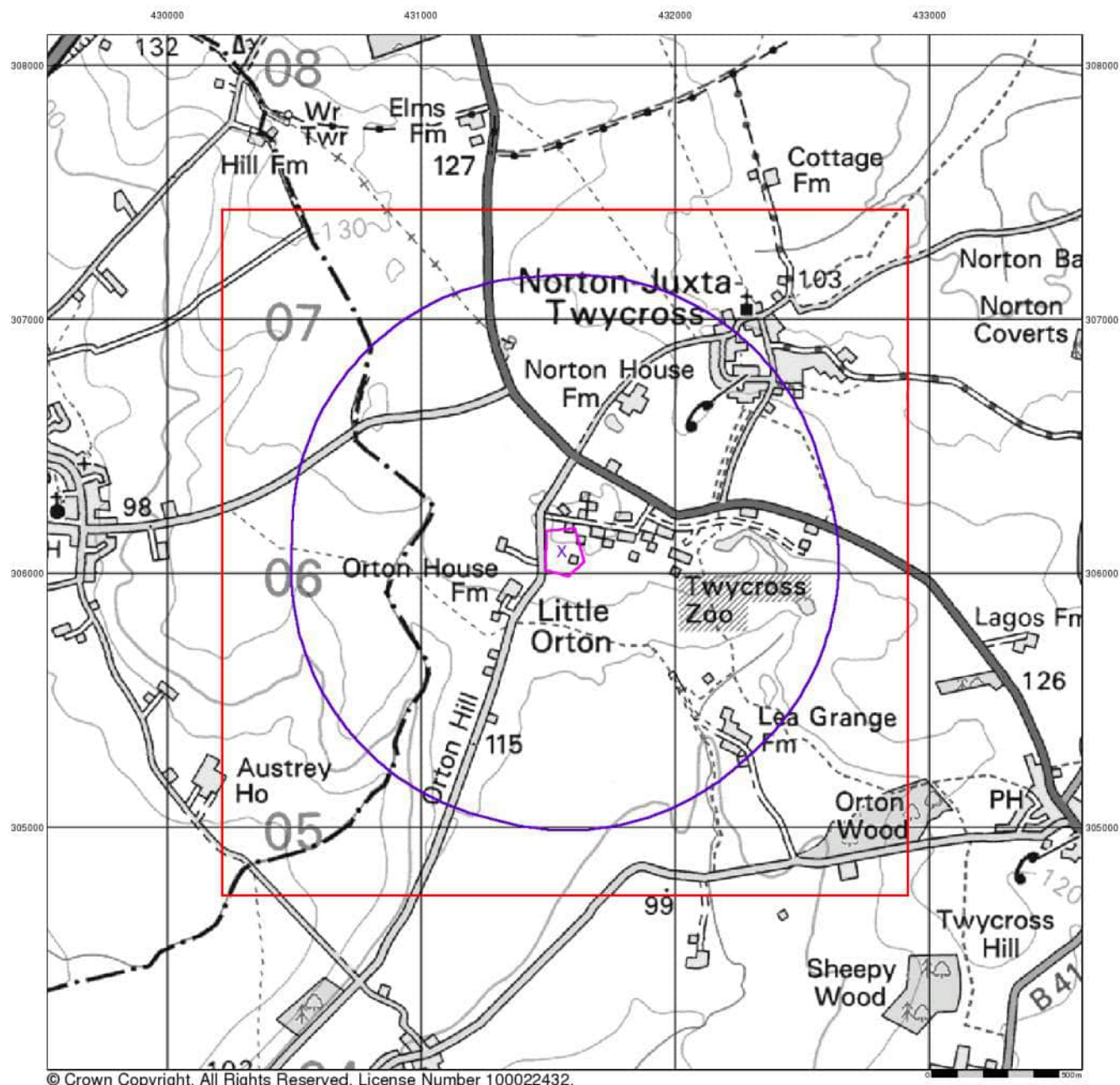


Order Details:

Order Number:	304813181_1_1
Customer Reference:	10/2197
National Grid Reference:	431550, 306090
Slice:	A
Site Area (Ha):	2.28
Search Buffer (m):	1000

Site Details:

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Artificial Ground and Landslip

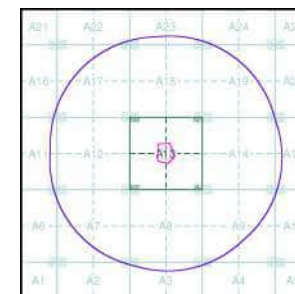
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



Order Details:

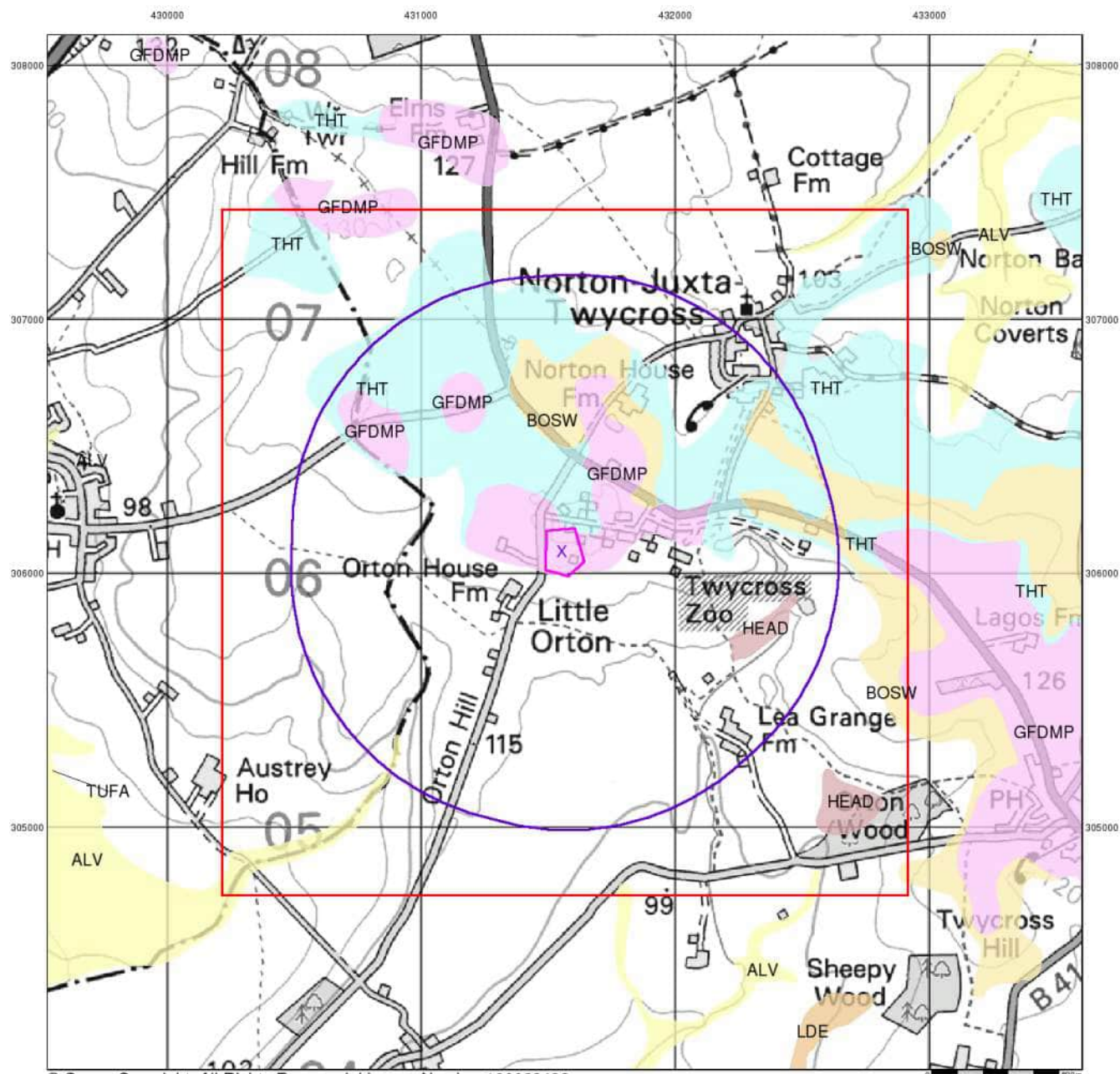
Order Number: 304813181_1_1
 Customer Reference: 10/2197
 National Grid Reference: 431550, 306090
 Slice: A
 Site Area (Ha): 2.28
 Search Buffer (m): 1000

Site Details:

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



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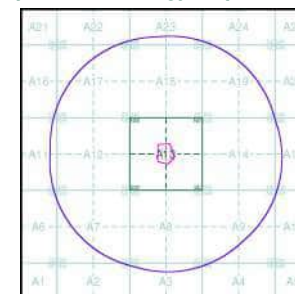
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



Order Details:

Order Number: 304813181_1_1
 Customer Reference: 10/2197
 National Grid Reference: 431550, 306090
 Slice: A
 Site Area (Ha): 2.28
 Search Buffer (m): 1000

Site Details:

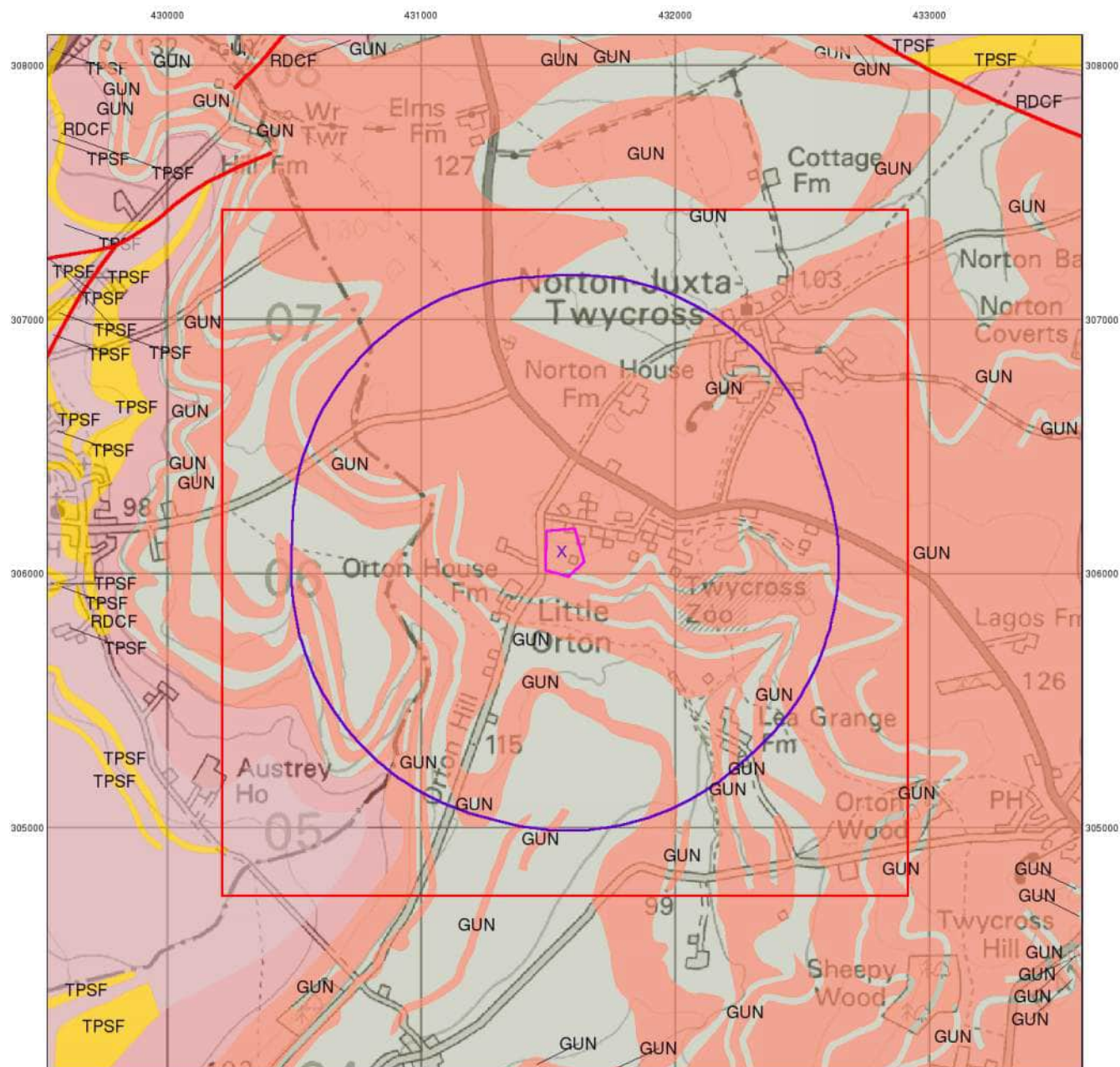
Twycross Zoo, Burton Road, Twycross, ATHERSTONE, CV9 3PX

Landmark
 INFORMATION GROUP

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

v15.0 07-Dec-2022

Page 3 of 5



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Bedrock and Faults

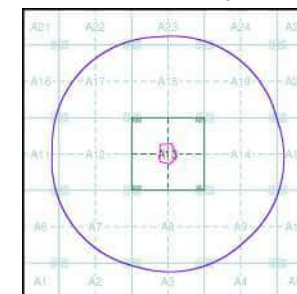
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A



Order Details:

Order Number: 304813181_1_1
Customer Reference: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
Search Buffer (m): 1000

Site Details:

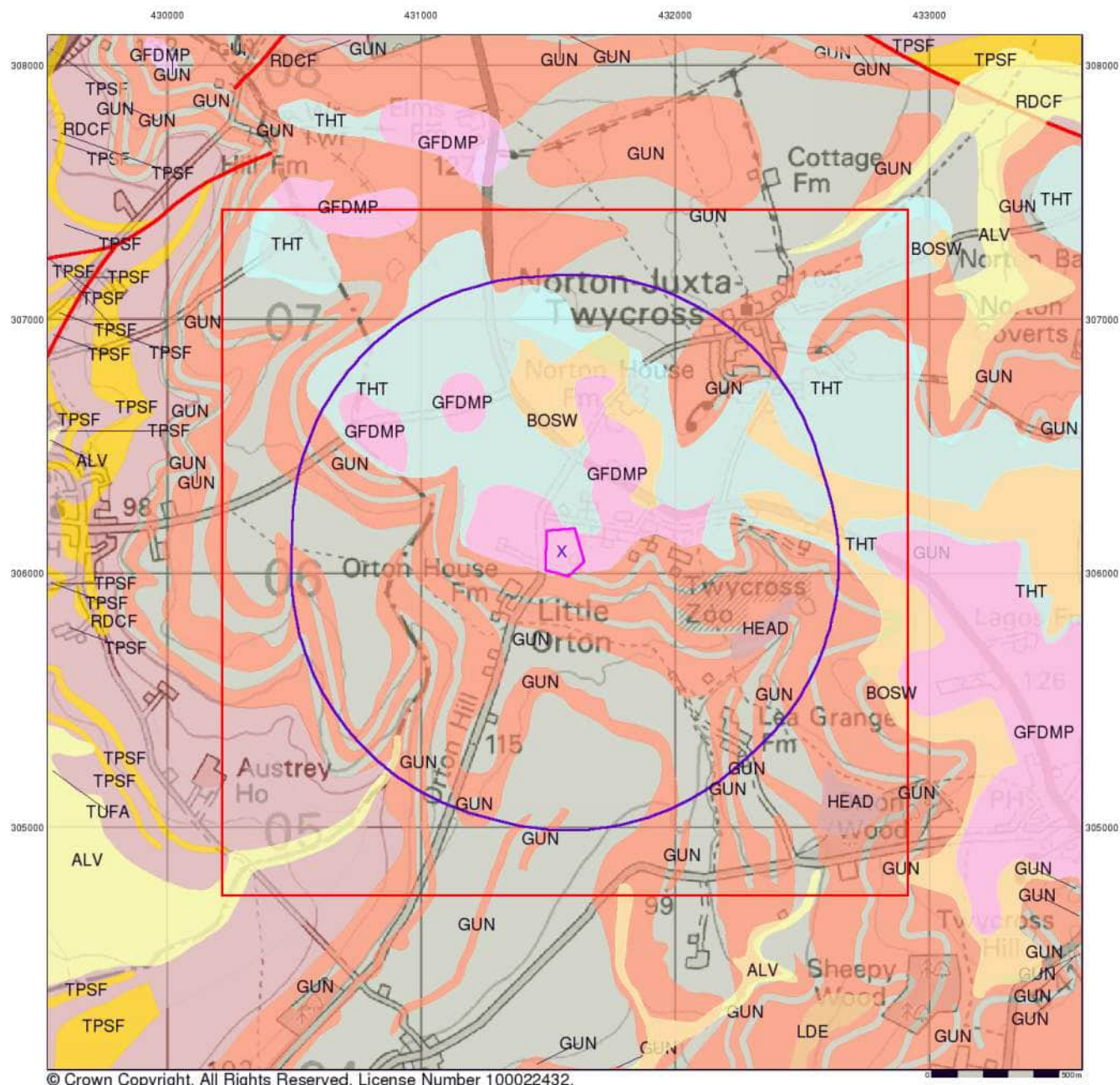
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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

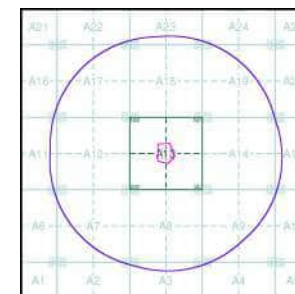
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Telephone: 0115 936 3143
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A



Order Details:

Order Number: 304813181_1_1
Customer Reference: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
Search Buffer (m): 1000

Site Details:

Twycross Zoo, Burton Road, Twycross, ATHERSTONE, CV9 3PX

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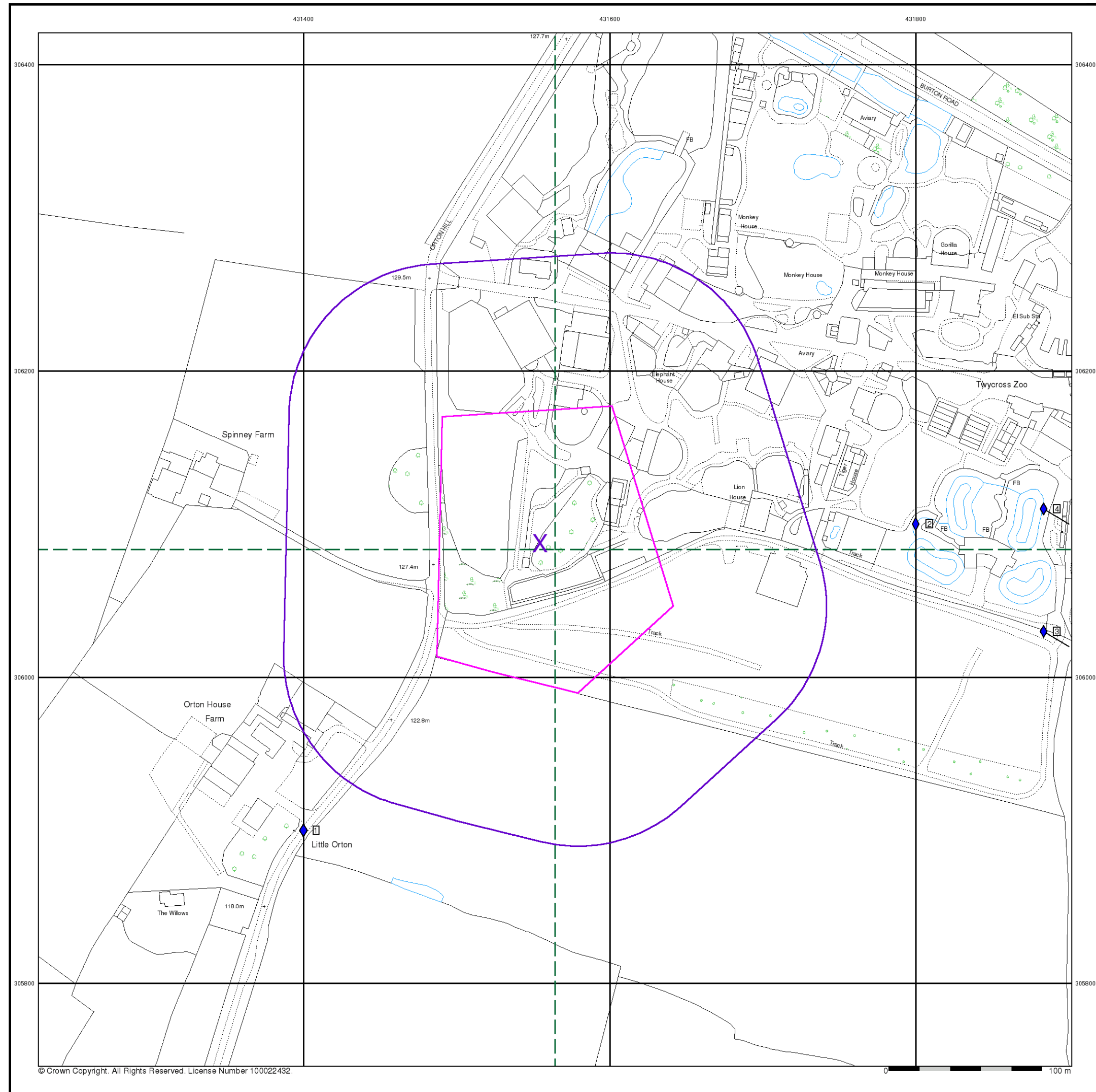
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

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APPENDIX V

EA GROUNDWATER VULNERABILITY & FLOOD RISK MAPS



Envirocheck®

LANDMARK INFORMATION GROUP®

General

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

Agency and Hydrological

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

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement
- BGS Recorded Mineral Site

Waste

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

Site Sensitivity Map - Segment A13

Order Details

Order Number:	304813181_1_1
Customer Ref:	10/2197
National Grid Reference:	431550, 306090
Slice:	A
Site Area (Ha):	2.28
Plot Buffer (m):	100

Site Details

Twycross Zoo, Burton Road, Twycross, ATHERSTONE, CV9 3PX

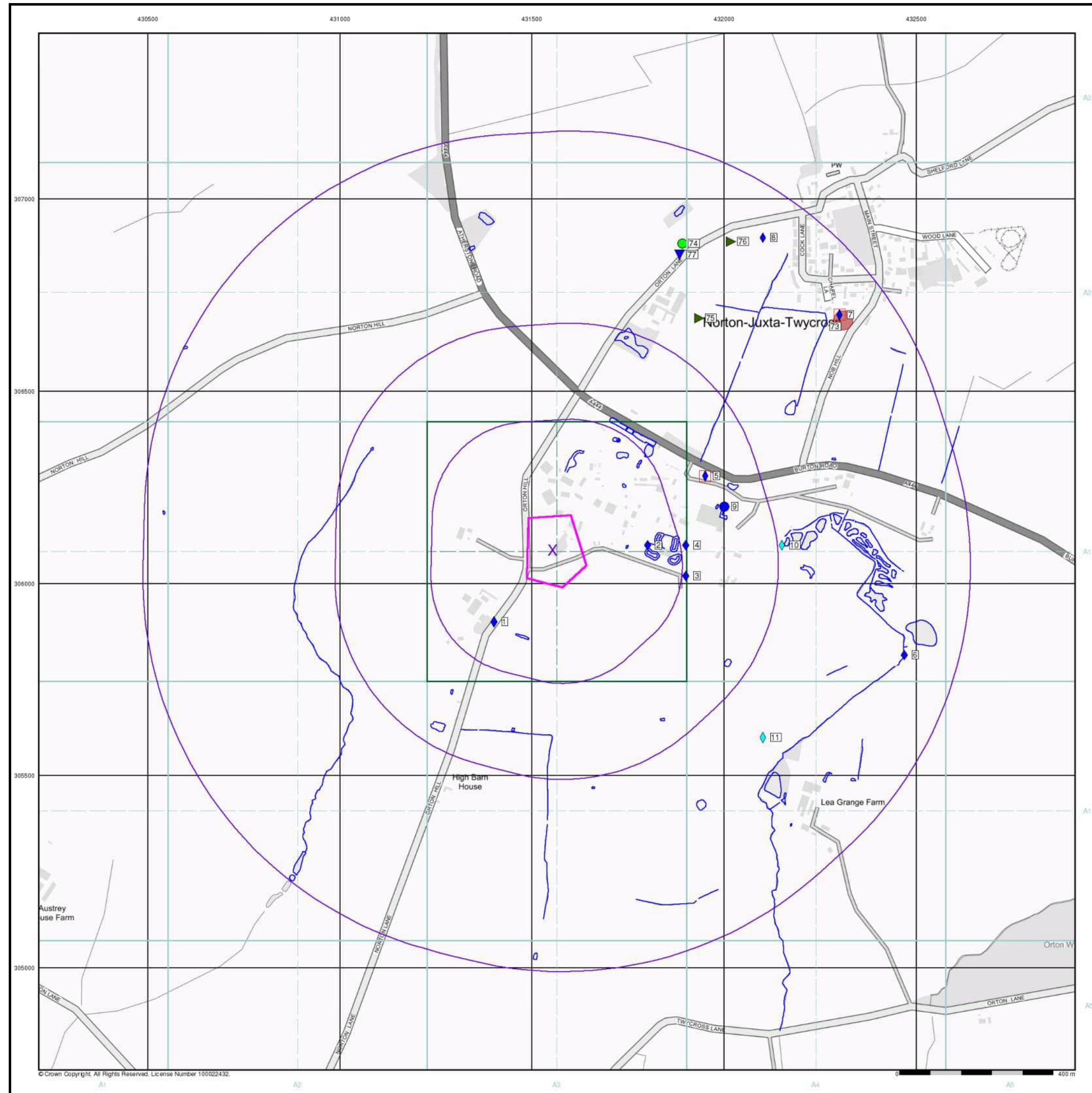
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General

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

Agency and Hydrological

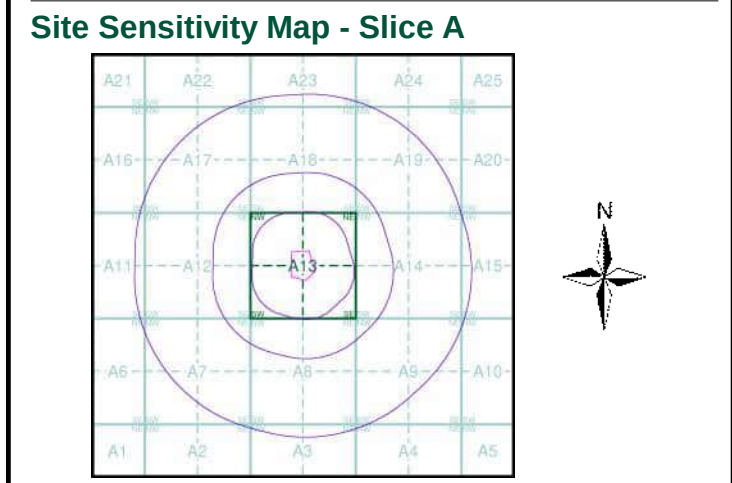
- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority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

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement
- BGS Recorded Mineral Site

Waste

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

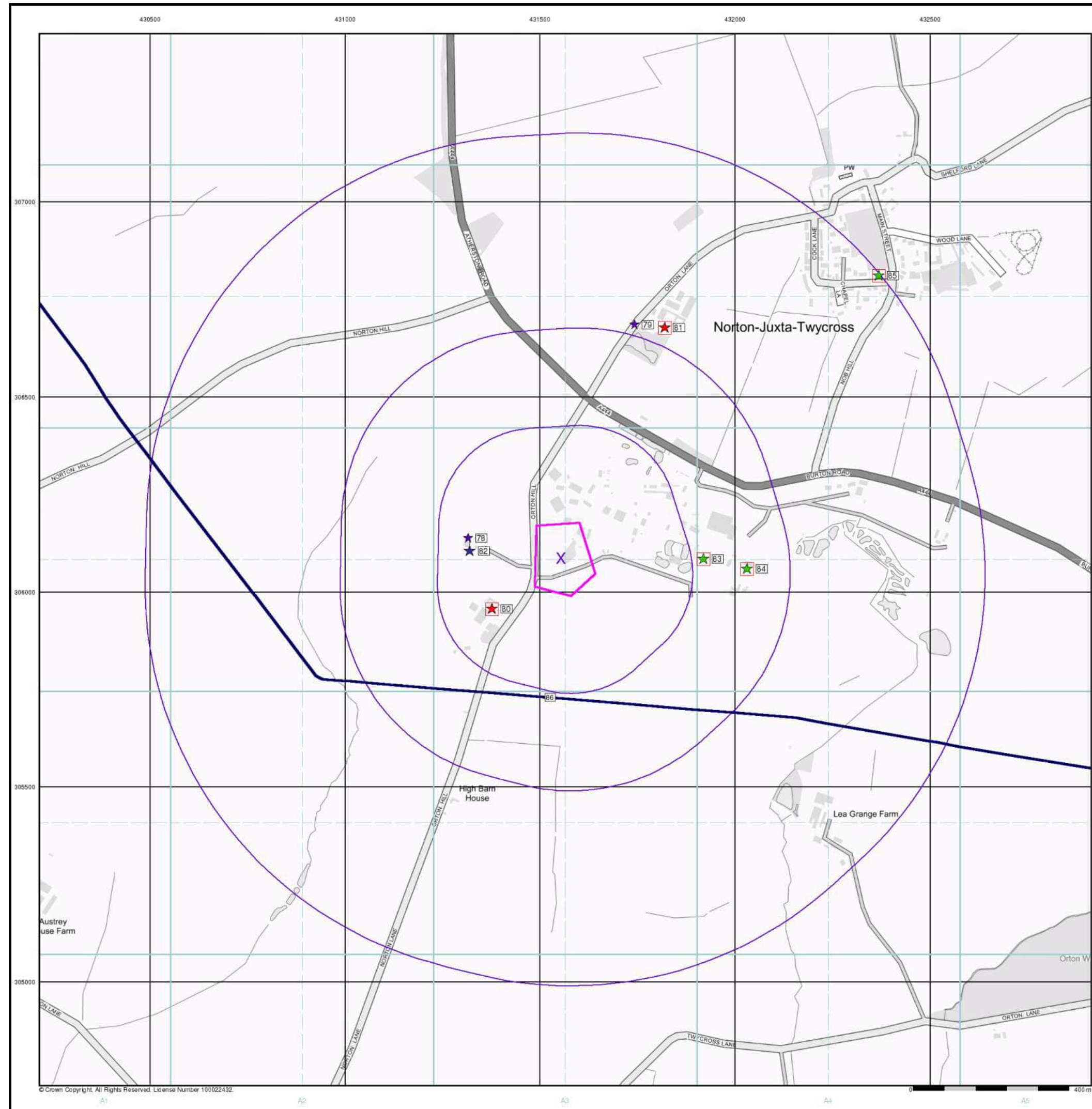


Order Details

Order Number:	304813181_1_1
Customer Ref:	10/2197
National Grid Reference:	431550, 306090
Slice:	A
Site Area (Ha):	2.28
Search Buffer (m):	1000

Site Details

Twycross Zoo, Burton Road, Twycross, ATHERSTONE, CV9 3PX

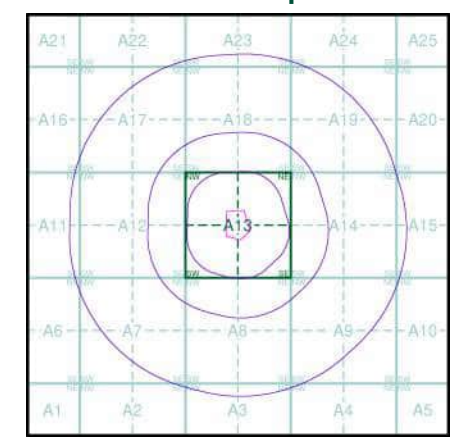


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Industrial Land Use Map

- ### General
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Slice
 - Map ID
- ### Industrial Land Use
- Contemporary Trade Directory Entry
 - Fuel Station Entry
 - Gas Pipeline
 - Points of Interest - Commercial Services
 - Points of Interest - Education and Health
 - Points of Interest - Manufacturing and Production
 - Points of Interest - Public Infrastructure
 - Points of Interest - Recreational and Environmental
 - Underground Electrical Cables

Industrial Land Use Map - Slice A

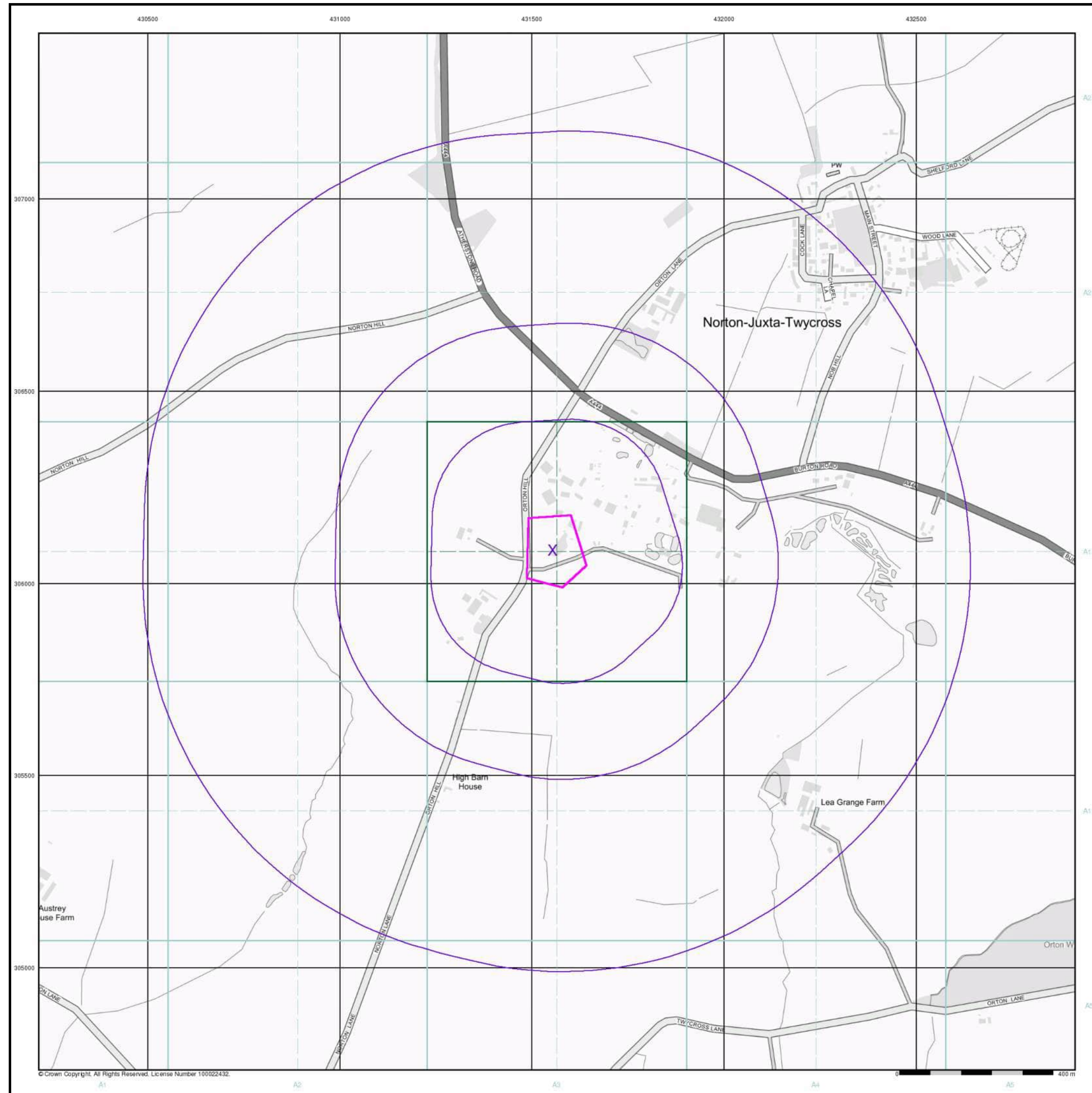


Order Details

Order Number:	304813181_1_1
Customer Ref:	10/2197
National Grid Reference:	431550, 306090
Slice:	A
Site Area (Ha):	2.28
Search Buffer (m):	1000

Site Details

Twycross Zoo, Burton Road, Twycross, ATHERSTONE, CV9 3PX



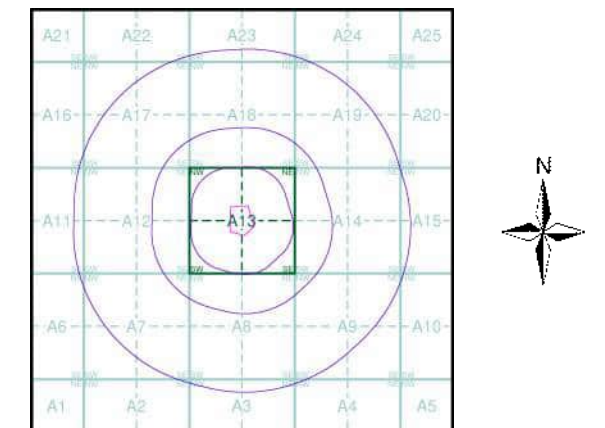
General

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

Agency and Hydrological (Flood)

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

Flood Map - Slice A

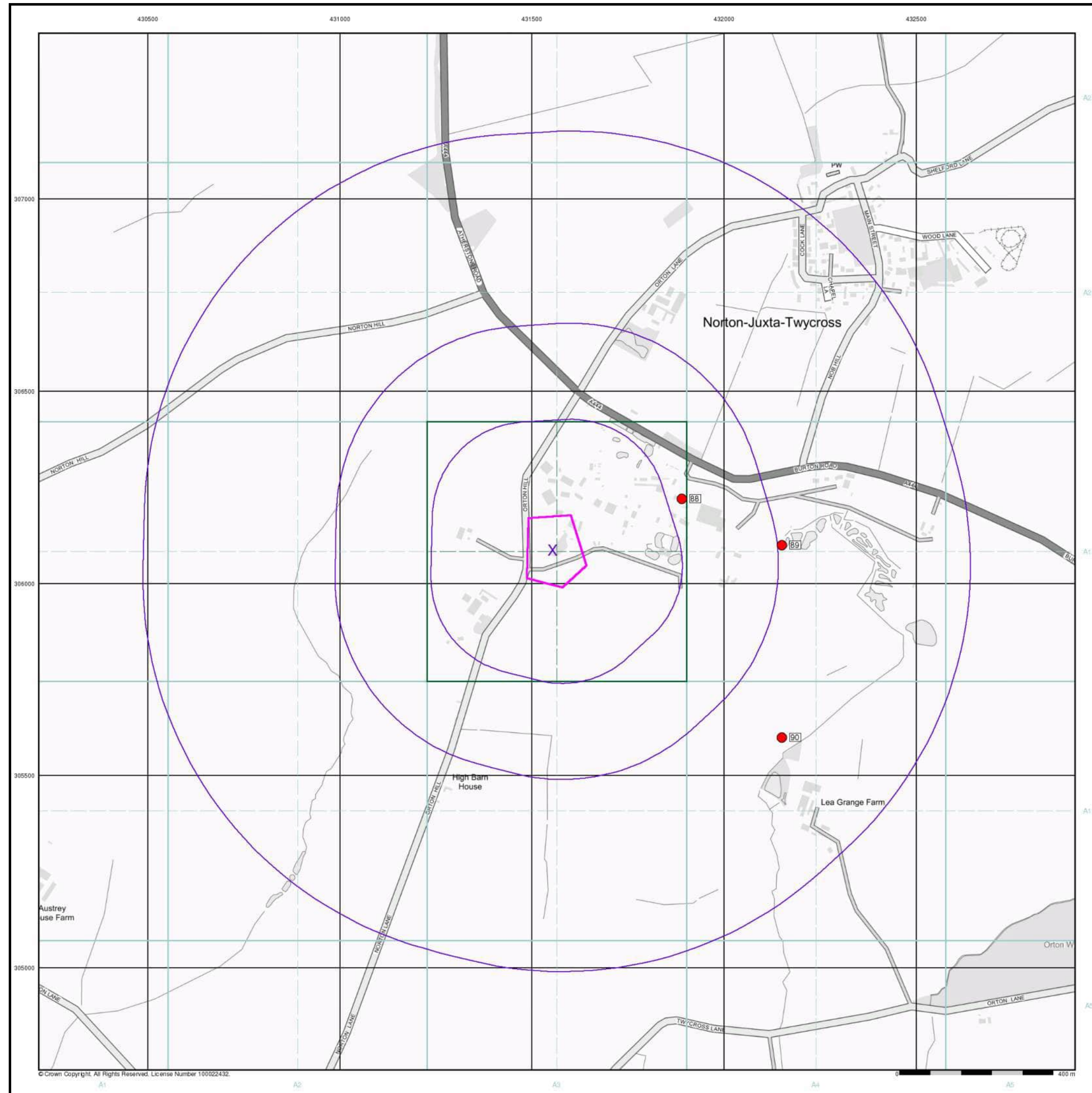


Order Details

Order Number: 304813181_1_1
Customer Ref: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
Search Buffer (m): 1000

Site Details

Twycross Zoo, Burton Road, Twycross, ATHERSTONE, CV9 3PX



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General

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

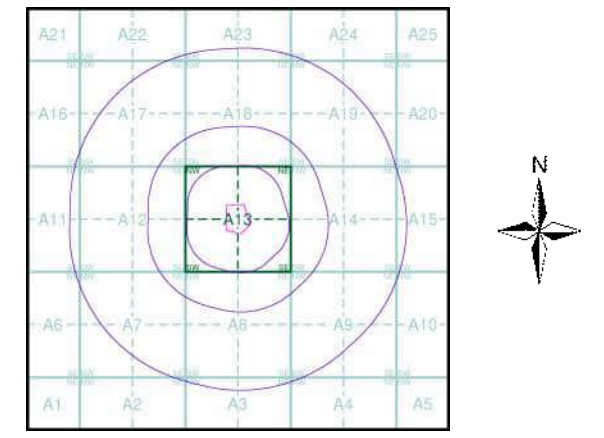
Agency and Hydrological (Boreholes)

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

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

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

Borehole Map - Slice A

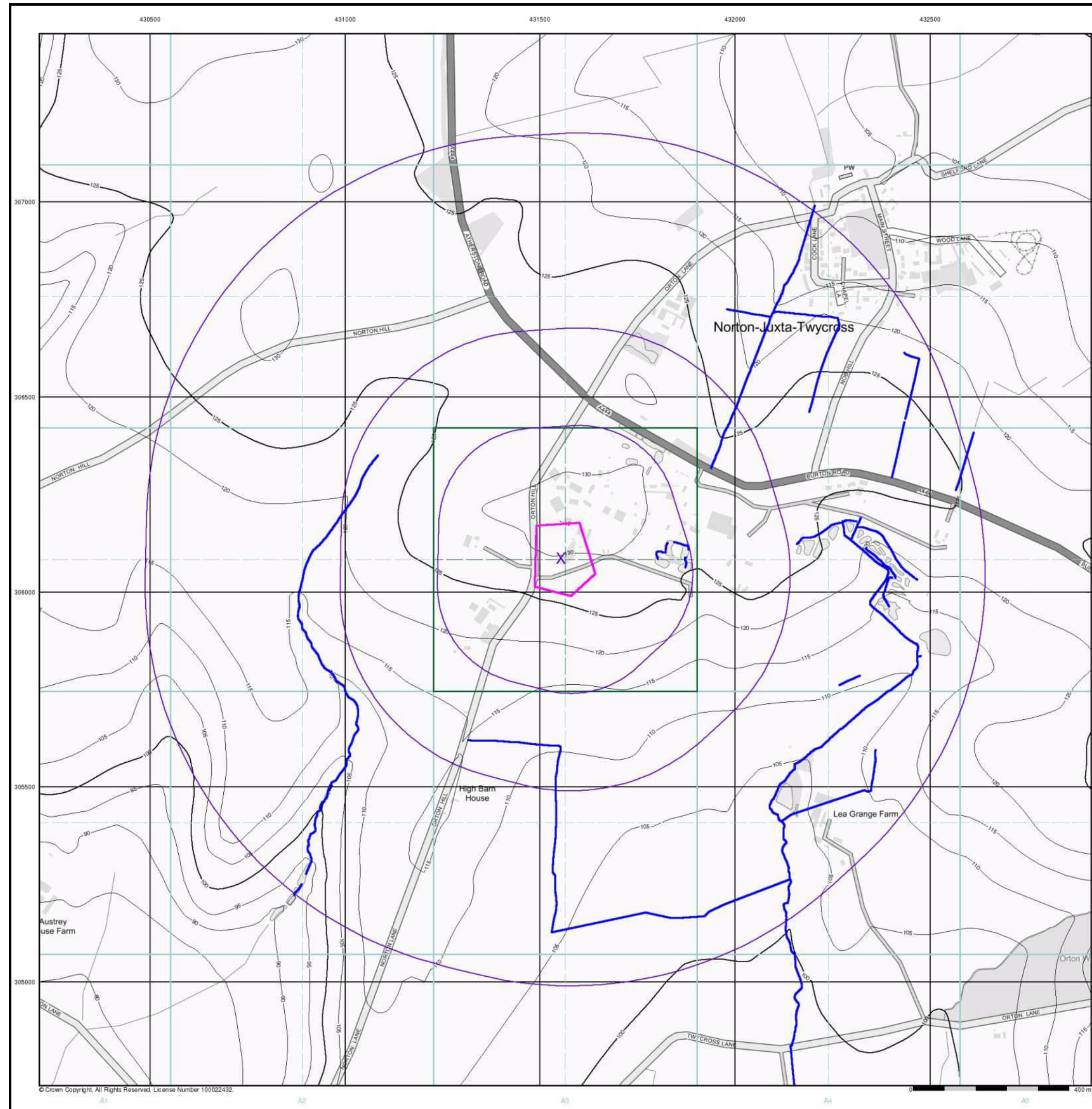


Order Details

Order Number: 304813181_1_1
Customer Ref: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
Search Buffer (m): 1000

Site Details

Twycross Zoo, Burton Road, Twycross, Atherstone, CV9 3PX



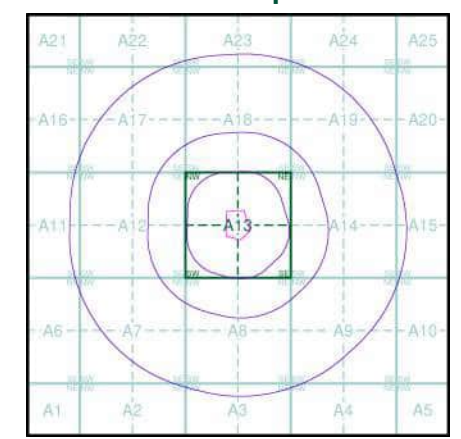
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- General**
- Specified Site
 - Specified Buffer(s)
 - X Bearing Reference Point

- OS Water Network Data**
- | | |
|--------------|-------------------------|
| Canal | Drain |
| Reservoir | Other |
| Foreshore | Lake |
| Marsh | Transfer |
| Tidal River | Lock Or Flight Of Locks |
| Inland River | Sea |

- Contours (height in meters)**
- Standard Contour 105 100 95
- Master Contour
- Spot Height 167.3
- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



Order Details

Order Number: 304813181_1_1

Customer Ref: 10/2197

National Grid Reference: 431550, 306090

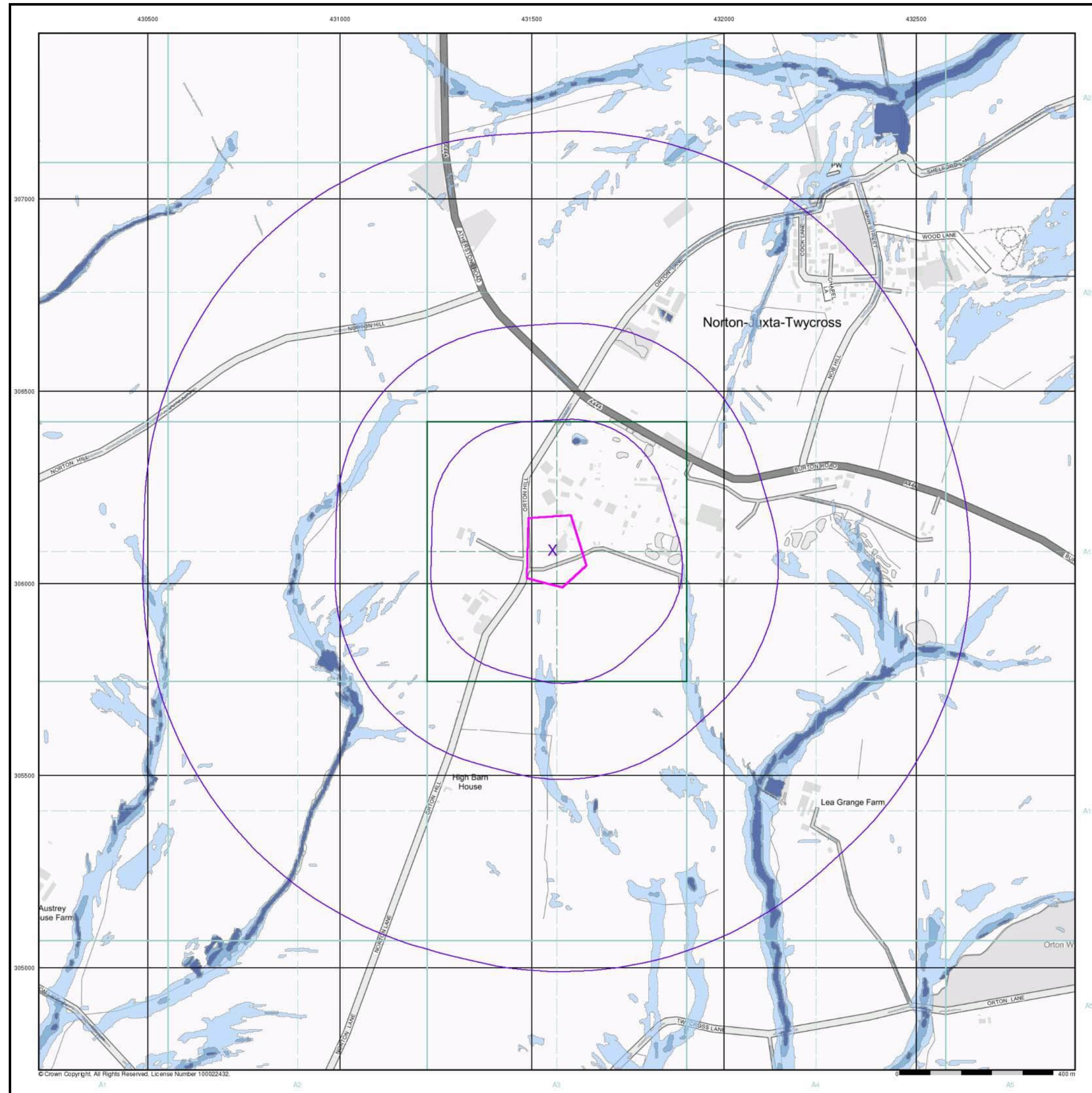
Slice: A

Site Area (Ha): 2.28

Search Buffer (m): 1000

Site Details

Twycross Zoo, Burton Road, Twycross, ATHERSTONE, CV9 3PX



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General

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

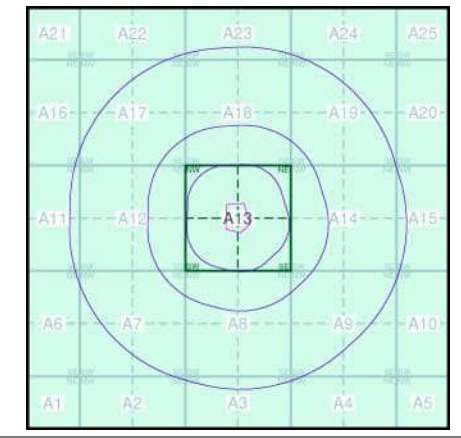
Risk of Flooding from Surface Water

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

Suitability

- See the suitability map below
- National to county
 - County to town
 - Town to street
 - Street to parcels of land
 - Property

EA/NRW Suitability Map - Slice A



Order Details

Order Number: 304813181_1_1
Customer Ref: 10/2197
National Grid Reference: 431550, 306090
Slice: A
Site Area (Ha): 2.28
Search Buffer (m): 1000

Site Details

Twycross Zoo, Burton Road, Twycross, ATHERSTONE, CV9 3PX

APPENDIX VI
ENVIRONMENTAL DATASHEETS

Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

304813181_1_1

Customer Reference:

10/2197

National Grid Reference:

431550, 306090

Slice:

A

Site Area (Ha):

2.28

Search Buffer (m):

1000

Site Details:

Twycross Zoo, Burton Road

Twycross

ATHERSTONE

CV9 3PX

Client Details:

Mr N Riding

Clancy Consulting Ltd

Dunham Court

2 Dunham Road

Altrincham

Cheshire

WA14 4NX

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	15
Hazardous Substances	-
Geological	16
Industrial Land Use	19
Sensitive Land Use	21
Data Currency	22
Data Suppliers	29
Useful Contacts	30

Introduction

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

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Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		2	6	5
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls					
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 4		Yes		
Pollution Incidents to Controlled Waters	pg 4			1	
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 5				2 (*3)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 6	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 7	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 7	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 7		7	4	50

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 15				1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage		2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 15				1
Potentially Infilled Land (Water)	pg 15				2
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 16	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 16	Yes		Yes	Yes
BGS Recorded Mineral Sites	pg 17				1
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 17	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 17	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 17	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 17	Yes		n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 19		1		1
Fuel Station Entries					
Points of Interest - Commercial Services					
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 19		2		2
Points of Interest - Public Infrastructure	pg 19		1		
Points of Interest - Recreational and Environmental	pg 19			4	2
Gas Pipelines	pg 20			1	
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 21	1			
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	0	1	431600 306150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (S)	0	1	431550 306050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (E)	0	1	431555 306087
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	173	1	431555 306350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	263	1	431300 306350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	289	1	431200 306100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	303	1	431850 306350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12NE (NW)	342	1	431200 306350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (NE)	390	1	431950 306350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (NE)	402	1	431750 306550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A19SW (NE)	476	1	431950 306500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A19SW (NE)	484	1	432000 306450
1	Discharge Consents Operator: Crown Estate Commissioners Property Type: Not Given Location: Orton House Farm, ORTON ON THE HILL Authority: Environment Agency, Midlands Region Catchment Area: Not Given Reference: 3/28/21/2774/1 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 28th January 1975 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge Environment: Groundwater Receiving Water: Not Supplied Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	144	2	431400 305900
2	Discharge Consents Operator: Zoo Park (Twycross) Ltd Property Type: Not Given Location: The Cafe Toile Block At, Twycross Zoo Authority: Environment Agency, Midlands Region Catchment Area: Not Given Reference: 3/28/21/0419/1 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 5th October 1966 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge Environment: Groundwater Receiving Water: Not Supplied Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13NE (E)	168	2	431800 306100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	Discharge Consents Operator: East Midland Zoological Society Limited Property Type: CULTURAL/ZOO/COMMUNITY CENTRE/MUSEUM/LIBRARY/ARCHIVE Location: Twycross Zoo Visitor Welcome Centre Norton Grange Burton Road, Norton-Juxta-Twycross, Atherstone, Warwickshire, Cv9 3px Authority: Environment Agency, Midlands Region Catchment Area: Lower Anker Catchment Reference: T/21/10240/S Permit Version: 1 Effective Date: 18th December 1985 Issued Date: 18th December 1985 Revocation Date: 3rd October 2000 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Of Orton Brook Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A13SE (E)	260	2	431900 306020
4	Discharge Consents Operator: Zoo Park (Twycross) Ltd Property Type: Not Given Location: The New Toilet Block At, Twycross Zoo Authority: Environment Agency, Midlands Region Catchment Area: Not Given Reference: 3/28/21/0420/1 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 5th October 1966 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge: Groundwater Environment: Receiving Water: Not Supplied Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13NE (E)	265	2	431900 306100
5	Discharge Consents Operator: East Midland Zoological Society Limited Property Type: CULTURAL/ZOO/COMMUNITY CENTRE/MUSEUM/LIBRARY/ARCHIVE Location: Twycross Zoo Visitor Welcome Centre Norton Grange Burton Road, Norton-Juxta-Twycross, Atherstone, Warwickshire, Cv9 3px Authority: Environment Agency, Midlands Region Catchment Area: Lower Anker Catchment Reference: Npswd006731 Permit Version: 1 Effective Date: 20th February 2009 Issued Date: 20th February 2009 Revocation Date: 20th May 2009 Discharge Type: Sewage And Trade Combined - Unspecified Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Of Norton Brook Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A14NW (NE)	364	2	431950 306280
5	Discharge Consents Operator: East Midland Zoological Society Limited Property Type: CULTURAL/ZOO/COMMUNITY CENTRE/MUSEUM/LIBRARY/ARCHIVE Location: Twycross Zoo Visitor Welcome Centre Norton Grange Burton Road, Norton-Juxta-Twycross, Atherstone, Warwickshire, Cv9 3px Authority: Environment Agency, Midlands Region Catchment Area: Lower Anker Catchment Reference: T/23/22665/T Permit Version: 1 Effective Date: 28th October 1993 Issued Date: 28th October 1993 Revocation Date: 3rd February 2009 Discharge Type: Sewage And Trade Combined - Unspecified Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Of Norton Brook Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	364	2	431950 306280

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	Discharge Consents Operator: Twycross Zoo East Midland Zoological Society Ltd Property Type: CULTURAL/ZOO/COMMUNITY CENTRE/MUSEUM/LIBRARY/ARCHIVE Location: Twycross Zoo Visitor Welcome Centre Norton Grange Burton Road, Norton-Juxta-Twycross, Atherstone, Warwickshire, Cv9 3px Authority: Environment Agency, Midlands Region Catchment Area: River Mease Catchment Reference: Npswqd009224 Permit Version: 2 Effective Date: 2nd April 2012 Issued Date: 2nd April 2012 Revocation Date: Not Supplied Discharge Type: Trade Discharge - Process Water Discharge: Underground Water Environment: Receiving Water: Groundwater Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A14NW (NE)	379	2	431969 306271
5	Discharge Consents Operator: Twycross Zoo East Midland Zoological Society Ltd Property Type: CULTURAL/ZOO/COMMUNITY CENTRE/MUSEUM/LIBRARY/ARCHIVE Location: Twycross Zoo Visitor Welcome Centre Norton Grange Burton Road, Norton-Juxta-Twycross, Atherstone, Warwickshire, Cv9 3px Authority: Environment Agency, Midlands Region Catchment Area: River Mease Catchment Reference: Npswqd009224 Permit Version: 1 Effective Date: 12th January 2010 Issued Date: 12th January 2010 Revocation Date: 1st April 2012 Discharge Type: Trade Discharge - Process Water Discharge: Underground Water Environment: Receiving Water: Groundwater Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A14NW (NE)	379	2	431969 306271
6	Discharge Consents Operator: East Midland Zoological Society Limited Property Type: CULTURAL/ZOO/COMMUNITY CENTRE/MUSEUM/LIBRARY/ARCHIVE Location: Twycross Zoo Visitor Welcome Centre Norton Grange Burton Road, Norton-Juxta-Twycross, Atherstone, Warwickshire, Cv9 3px Authority: Environment Agency, Midlands Region Catchment Area: Lower Anker Catchment Reference: Npswqd004506 Permit Version: 1 Effective Date: 29th December 2008 Issued Date: 29th December 2008 Revocation Date: Not Supplied Discharge Type: Sewage And Trade Combined - Unspecified Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Of River Anker Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A14SE (E)	860	2	432469 305814
7	Discharge Consents Operator: Mr J Benn Property Type: Not Given Location: Site Adjacentacent To Fern Cottage, Noton Juxta, Twycross, ATHERSTONE Authority: Environment Agency, Midlands Region Catchment Area: Not Given Reference: WQ/72/49/1 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 23rd May 1975 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge: Groundwater Environment: Receiving Water: Not Supplied Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A19SE (NE)	870	2	432300 306695

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	Discharge Consents Operator: Mr V Benn Property Type: Not Given Location: Fern Cottage, Norton-Juxta, TWYCROSS Authority: Environment Agency, Midlands Region Catchment Area: Not Given Reference: WQ/72/28/1 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 23rd May 1975 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge: Groundwater Environment: Receiving Water: Not Supplied Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A19SE (NE)	873	2	432300 306700
7	Discharge Consents Operator: M D Wilkins Property Type: Not Given Location: The White House, NORTON-JUXTA-TWYCROSS, Leicestershire Authority: Environment Agency, Midlands Region Catchment Area: Not Given Reference: WQ/72/1233/1 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 15th June 1977 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge: Groundwater Environment: Receiving Water: Not Supplied Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A19SE (NE)	874	2	432305 306695
8	Discharge Consents Operator: H C Wakefield And Sons Property Type: Not Given Location: Proposed Dwellings, NORTON-JUXTA-TWYCROSS, Leicestershire Authority: Environment Agency, Midlands Region Catchment Area: Not Given Reference: 3/28/21/0417/1 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 22nd September 1966 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge: Groundwater Environment: Receiving Water: Not Supplied Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A19NW (NE)	879	2	432100 306900
	Nearest Surface Water Feature	A13NE (E)	112	-	431744 306092
9	Pollution Incidents to Controlled Waters Property Type: Road (Road Traffic Accident) Location: A444 Authority: Environment Agency, Midlands Region Pollutant: Oils - Diesel (Including Agricultural) Note: Unknown; R.t.a Diesel Spilt Going To Drains Incident Date: 2nd June 1999 Incident Reference: 2705847 Catchment Area: Trent Catchment : River Mease Receiving Water: Watercourse Cause of Incident: Collision Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	388	2	432000 306200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	Water Abstractions Operator: Twycross Zoo - East Midlands Zoological Society Ltd Licence Number: Md/028/0021/001 Permit Version: 1 Location: Twycross Zoo Borehole Authority: Environment Agency, Midlands Region Abstraction: Production of Energy: Mechanical Non Electrical: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Twycross Zoo Visitor Welcome Centre Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 5th January 2010 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NW (E)	512	2	432150 306100
11	Water Abstractions Operator: Mr A F Haywood Licence Number: 03/28/21/0013 Permit Version: 100 Location: Lea Grange, Well Authority: Environment Agency, Midlands Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Lea Grange, Twycross, Atherstone Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 18th January 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	641	2	432100 305600
	Water Abstractions Operator: The Kirtland Family Trust Licence Number: 03/28/21/0048 Permit Version: 101 Location: Charity House, Austrey - Borehole Authority: Environment Agency, Midlands Region Abstraction: Private Non-Industrial Amenity: Lake And Pond Throughflow Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Charity House, Austrey, Nr Atherstone Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 2nd June 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16SW (NW)	1429	2	430160 306690
	Water Abstractions Operator: The Kirtland Family Trust Licence Number: 03/28/21/0048 Permit Version: 100 Location: Charity House, Austrey - Borehole Authority: Environment Agency, Midlands Region Abstraction: Private Non-Industrial Amenity: Lake And Pond Throughflow Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Charity House, Austrey, Nr Atherstone Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 27th March 1998 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A16SW (NW)	1429	2	430160 306690

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Mr W H Corbett Licence Number: 03/28/21/0010 Permit Version: 100 Location: Austrey House, B'Hole Authority: Environment Agency, Midlands Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Austrey House, Austrey, Nr Atherstone, Warks Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 17th January 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A6SW (SW)	1661	2	430100 305100
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: <300 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: 3-10m Superficial Recharge: No Data	A13SE (S)	0	3	431571 306003
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: <300 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: High	A13SW (S)	0	3	431555 306000
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: <300 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: High	A13SW (S)	0	3	431555 306000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: <300 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: 3-10m Superficial Recharge: No Data	A13NE (NE)	0	3	431596 306175
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: <300 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: 3-10m Superficial Recharge: No Data	A13NW (E)	0	3	431555 306087
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - B	A13NW (E)	0	3	431555 306087
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A13NE (NE)	0	3	431596 306175
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13NW (E)	0	3	431555 306087
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
12	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 5.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A13NE (E)	165	4	431800 306090
13	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 35.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A13NE (E)	165	4	431798 306097

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 43.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A13NE (E)	188	4	431821 306101
15	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 26.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A13NE (E)	218	4	431844 306127
16	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 12.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A13SE (E)	233	4	431873 306063
17	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A13SE (E)	234	4	431872 306083
18	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 47.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A13NE (E)	234	4	431869 306120
19	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 280.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14NW (NE)	366	4	431939 306317
20	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 458.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A8NW (S)	386	4	431516 305607
21	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1220.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A12NE (NW)	445	4	431082 306346
22	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 4.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A12NE (NW)	445	4	431084 306350

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 134.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14NW (E)	523	4	432159 306123
24	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A19SW (NE)	596	4	432042 306577
25	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 126.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A19SW (NE)	605	4	432046 306587
26	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A8SW (S)	607	4	431540 305384
27	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 249.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A8SW (S)	619	4	431540 305373
28	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 52.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14NE (E)	647	4	432276 306177
29	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14NE (E)	649	4	432276 306177
30	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14NE (E)	649	4	432276 306181
31	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 35.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14NE (E)	649	4	432276 306179

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
32	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 425.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A19SW (NE)	654	4	432190 306461
33	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 416.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14NE (E)	661	4	432296 306133
34	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 23.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14NE (E)	661	4	432296 306133
35	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 114.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A19SW (NE)	666	4	431980 306725
36	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14NE (E)	675	4	432308 306154
37	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14NE (E)	677	4	432309 306158
38	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 207.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A14NE (E)	682	4	432312 306166
39	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 26.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14NE (E)	682	4	432312 306166
40	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 57.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14SE (SE)	689	4	432268 305760

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
41	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 51.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14NE (E)	697	4	432335 306112
42	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 553.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A9NW (SE)	708	4	432153 305558
43	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A19SW (NE)	721	4	432092 306705
44	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 168.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A19SW (NE)	729	4	432096 306713
45	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 36.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14SE (E)	734	4	432374 306079
46	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 56.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14SE (E)	741	4	432380 305993
47	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 33.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14SE (E)	742	4	432381 305987
48	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 33.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14SE (E)	759	4	432400 306055
49	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 163.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A9NW (SE)	791	4	432118 305412

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
50	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 31.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A9NW (SE)	791	4	432118 305412
51	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 196.4 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A9NW (SE)	796	4	432145 305429
52	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 144.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14NE (E)	801	4	432402 306294
53	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14SE (E)	823	4	432464 306034
54	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 245.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A8SE (S)	835	4	431747 305172
55	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 225.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A8SE (S)	835	4	431771 305177
56	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14SE (E)	845	4	432444 305784
57	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 105.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A9NE (SE)	850	4	432360 305595
58	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 52.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14SE (E)	852	4	432452 305787

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
59	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14SE (E)	853	4	432467 305835
60	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 128.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A19SE (E)	878	4	432437 306444
61	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 166.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A9SW (SE)	885	4	431984 305203
62	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 11.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A9NE (SE)	886	4	432331 305491
63	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 132.1 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A19NW (NE)	889	4	432166 306864
64	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A9NE (SE)	896	4	432342 305488
65	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 63.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A7SE (SW)	918	4	430910 305301
66	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 884.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A9SW (SE)	919	4	432140 305263
67	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 41.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A19SE (NE)	940	4	432434 306613

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
68	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A19SE (NE)	950	4	432466 306569
69	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 154.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A14NE (E)	951	4	432567 306261
70	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A7SW (SW)	979	4	430885 305242
71	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 14.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A7SW (SW)	984	4	430882 305239
72	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.4 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A7SW (SW)	998	4	430871 305229

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
73	Historical Landfill Sites Licence Holder: Not Supplied Location: Nob Hill, Norton Juxta Twycross, Leicestershire Name: Nob Hill Landfill Site Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHL23251 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Not Supplied Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 2400/1215 BGS Ref: Not Supplied Other Ref: GDO 193	A19SE (NE)	847	2	432290 306669
	Local Authority Landfill Coverage Name: Leicestershire County Council - Has supplied landfill data		0	6	431555 306087
	Local Authority Landfill Coverage Name: Hinckley And Bosworth Borough Council - Has no landfill data to supply		0	5	431555 306087
	Local Authority Landfill Coverage Name: North Warwickshire Borough Council - Has supplied landfill data		460	7	431052 306309
	Local Authority Landfill Coverage Name: Warwickshire County Council - Had landfill data but passed it to the relevant environment agency		460	8	431052 306309
74	Potentially Infilled Land (Non-Water) Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A18NE (NE)	744	10	431890 306863
75	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1955	A19SW (NE)	611	10	431931 306691
76	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1955	A19NW (NE)	824	10	432013 306890

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Triassic Rocks (Undifferentiated)	A13NW (E)	0	1	431555 306087
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (NE)	0	1	431598 306173
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (S)	0	1	431548 306004
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (E)	0	1	431555 306087
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14NW (NE)	345	1	431934 306268
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A17SE (NW)	471	1	431222 306556
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SE (W)	488	1	431000 306000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A17SE (NW)	605	1	430941 306423
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: <15 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 40 - 60 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A9NW (SE)	663	1	432214 305713
77	BGS Recorded Mineral Sites Site Name: Norton House Marl Pit Location: Norton Juxta Twycross, Ashby-De-La-Zouch, Leicestershire Source: British Geological Survey, National Geoscience Information Service Reference: 136331 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Triassic Geology: Mercia Mudstone Group Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A18NE (NE)	739	1	431883 306860
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (E)	0	1	431555 306087
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (E)	0	1	431555 306087
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (E)	0	1	431555 306087
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (E)	0	1	431555 306087
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	431571 306003
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (E)	0	1	431555 306087
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (E)	0	1	431555 306087
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	431577 306020

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	0	1	431554 306061
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	431596 306175
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	86	1	431529 305914
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	102	1	431661 305927
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	230	1	431469 305780
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NW (E)	0	1	431555 306087
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NW (E)	0	1	431555 306087

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
78	Contemporary Trade Directory Entries Name: A R Tennant Ltd Location: Spinney Farm, Norton Lane, Little Orton, Orton-on-the-Hill, Atherstone, Warwickshire, CV9 3NR Classification: Waste Disposal Services Status: Active Positional Accuracy: Automatically positioned to the address	A13NW (W)	176	-	431315 306138
79	Contemporary Trade Directory Entries Name: Tennant A R & L P Location: Orton La, Norton Juxta Twycross, Atherstone, Warwickshire, CV9 3PU Classification: Animal By-Products Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A18SE (N)	529	-	431742 306686
80	Points of Interest - Manufacturing and Production Name: W J Parkes Location: Orton House Farm Norton Lane, Little Orton, Orton-on-the-Hill, Atherstone, CV9 3NR Category: Farming Class Code: Livestock Farming Positional Accuracy: Positioned to address or location	A13SW (SW)	125	9	431377 305956
80	Points of Interest - Manufacturing and Production Name: W J Parkes Location: Orton House Farm Norton Lane, Little Orton, Orton-on-the-Hill, Atherstone, CV9 3NR Category: Farming Class Code: Arable Farming Positional Accuracy: Positioned to address or location	A13SW (SW)	126	9	431376 305956
81	Points of Interest - Manufacturing and Production Name: P J & W M Vero Ltd Location: Norton House Farm 19, Orton Lane, Norton Juxta Twycross, Atherstone, CV9 3PU Category: Farming Class Code: Arable Farming Positional Accuracy: Positioned to address or location	A18SE (NE)	547	9	431819 306678
81	Points of Interest - Manufacturing and Production Name: P J & W M Vero Ltd Location: Norton House Farm 19, Orton Lane, Norton Juxta Twycross, Atherstone, CV9 3PU Category: Farming Class Code: Arable Farming Positional Accuracy: Positioned to address or location	A18SE (NE)	547	9	431819 306678
82	Points of Interest - Public Infrastructure Name: A R Tennant Ltd Location: Spinney Farm, Norton Lane, Little Orton, Orton-on-the-Hill, CV9 3NR Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A13NW (W)	171	9	431319 306138
83	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14NW (E)	280	9	431918 306085
83	Points of Interest - Recreational and Environmental Name: Playground Location: Nr Burton Road, CV9 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14NW (E)	281	9	431919 306087
84	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14SW (E)	390	9	432031 306059
84	Points of Interest - Recreational and Environmental Name: Playground Location: Nr Burton Road, CV9 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14SW (E)	391	9	432032 306064

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
85	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A19NE (NE)	995	9	432368 306811
85	Points of Interest - Recreational and Environmental Name: Playground Location: Main Street, CV9 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A19NE (NE)	997	9	432368 306814
86	Gas Pipelines Name: BLABY TO ALREWAS Nat Grid: Owned By National Grid Diameter (mm): 900 Building Proximity: Not Supplied Distance (m): Status: Active Pipe Length (m): 50823.6 Pipe Number: Not Supplied	A8NW (S)	264	10	431526 305730

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
87	Nitrate Vulnerable Zones Name: River Trent (Source To Confluence With Derwent) Nvz Description: Surface Water Source: Environment Agency, Head Office	A13NW (E)	0	3	431555 306087

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Environment Agency - Head Office Lichfield District Council - Pollution Control North West Leicestershire District Council - Environmental Protection Department Hinckley And Bosworth Borough Council - Environmental Health Department North Warwickshire Borough Council - Environmental Health Department Tamworth Borough Council - Environmental Health Department	June 2020 October 2017 September 2014 September 2017 September 2017 September 2017	Annually Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Discharge Consents Environment Agency - Midlands Region	October 2022	Quarterly
Enforcement and Prohibition Notices Environment Agency - Midlands Region	March 2013	
Integrated Pollution Controls Environment Agency - Midlands Region	January 2009	
Integrated Pollution Prevention And Control Environment Agency - Midlands Region	July 2022	Quarterly
Local Authority Integrated Pollution Prevention And Control North West Leicestershire District Council - Environmental Health Department Hinckley And Bosworth Borough Council - Environmental Health Department Lichfield District Council - Environmental Health Department North Warwickshire Borough Council - Environmental Health Department Tamworth Borough Council - Environmental Health Department	July 2014 June 2014 March 2014 September 2014 September 2014	Variable Variable Variable Variable Variable
Local Authority Pollution Prevention and Controls North West Leicestershire District Council - Environmental Health Department Hinckley And Bosworth Borough Council - Environmental Health Department Lichfield District Council - Environmental Health Department North Warwickshire Borough Council - Environmental Health Department Tamworth Borough Council - Environmental Health Department	July 2014 June 2014 March 2014 September 2014 September 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements North West Leicestershire District Council - Environmental Health Department Hinckley And Bosworth Borough Council - Environmental Health Department Lichfield District Council - Environmental Health Department North Warwickshire Borough Council - Environmental Health Department Tamworth Borough Council - Environmental Health Department	July 2014 June 2014 March 2014 September 2014 September 2014	Variable Variable Variable Variable Variable
Nearest Surface Water Feature Ordnance Survey	September 2022	
Pollution Incidents to Controlled Waters Environment Agency - Midlands Region	December 1999	
Prosecutions Relating to Authorised Processes Environment Agency - Midlands Region	July 2015	
Prosecutions Relating to Controlled Waters Environment Agency - Midlands Region	March 2013	
Registered Radioactive Substances Environment Agency - Midlands Region	June 2016	As notified
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points Environment Agency - Head Office	April 2012	
River Quality Chemistry Sampling Points Environment Agency - Head Office	April 2012	

Agency & Hydrological	Version	Update Cycle
Substantiated Pollution Incident Register		
Environment Agency - Midlands Region - Central Area	July 2022	Quarterly
Environment Agency - Midlands Region - East Area	July 2022	Quarterly
Environment Agency - Midlands Region - Lower Trent Area	July 2022	Quarterly
Environment Agency - Midlands Region - Upper Trent Area	July 2022	Quarterly
Water Abstractions		
Environment Agency - Midlands Region	October 2022	Quarterly
Water Industry Act Referrals		
Environment Agency - Midlands Region	October 2017	
Groundwater Vulnerability Map		
Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations		
Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations		
Environment Agency - Head Office	January 2018	Annually
Source Protection Zones		
Environment Agency - Head Office	September 2022	Bi-Annually
Extreme Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	August 2022	Quarterly
Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	August 2022	Quarterly
Areas Benefiting from Flood Defences		
Environment Agency - Head Office	August 2022	Quarterly
Flood Water Storage Areas		
Environment Agency - Head Office	August 2022	Quarterly
Flood Defences		
Environment Agency - Head Office	August 2022	Quarterly
OS Water Network Lines		
Ordnance Survey	October 2022	Quarterly
Surface Water 1 in 30 year Flood Extent		
Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 100 year Flood Extent		
Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 1000 year Flood Extent		
Environment Agency - Head Office	May 2018	Annually
Surface Water Suitability		
Environment Agency - Head Office	February 2016	Annually
BGS Groundwater Flooding Susceptibility		
British Geological Survey - National Geoscience Information Service	May 2013	As notified

Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	November 2002	As notified
Historical Landfill Sites Environment Agency - Head Office	November 2022	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - Midlands Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - Midlands Region - Central Area Environment Agency - Midlands Region - East Area Environment Agency - Midlands Region - Lower Trent Area Environment Agency - Midlands Region - Upper Trent Area	October 2022 October 2022 October 2022 October 2022	Quarterly Quarterly Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - Midlands Region - Central Area Environment Agency - Midlands Region - East Area Environment Agency - Midlands Region - Lower Trent Area Environment Agency - Midlands Region - Upper Trent Area	July 2022 July 2022 July 2022 July 2022	Quarterly Quarterly Quarterly Quarterly
Local Authority Landfill Coverage Hinckley And Bosworth Borough Council - Environmental Health Department Leicestershire County Council Lichfield District Council North Warwickshire Borough Council - Environmental Health Department North West Leicestershire District Council - Environmental Health Department Staffordshire County Council - Waste Management Tamworth Borough Council - Environmental Health Department Warwickshire County Council	February 2003 February 2003 February 2003 February 2003 February 2003 February 2003 February 2003 February 2003	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Hinckley And Bosworth Borough Council - Environmental Health Department Leicestershire County Council Lichfield District Council North Warwickshire Borough Council - Environmental Health Department North West Leicestershire District Council - Environmental Health Department Staffordshire County Council - Waste Management Tamworth Borough Council - Environmental Health Department Warwickshire County Council	October 2018 October 2018 October 2018 October 2018 October 2018 October 2018 October 2018 October 2018	
Potentially Infilled Land (Non-Water) Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water) Landmark Information Group Limited	December 1999	
Registered Landfill Sites Environment Agency - Midlands Region - Central Area Environment Agency - Midlands Region - East Area Environment Agency - Midlands Region - Lower Trent Area Environment Agency - Midlands Region - Upper Trent Area	March 2006 March 2006 March 2006 March 2006	Not Applicable Not Applicable Not Applicable Not Applicable
Registered Waste Transfer Sites Environment Agency - Midlands Region - Central Area Environment Agency - Midlands Region - East Area Environment Agency - Midlands Region - Lower Trent Area Environment Agency - Midlands Region - Upper Trent Area	April 2018 April 2018 April 2018 April 2018	
Registered Waste Treatment or Disposal Sites Environment Agency - Midlands Region - Central Area Environment Agency - Midlands Region - East Area Environment Agency - Midlands Region - Lower Trent Area Environment Agency - Midlands Region - Upper Trent Area	June 2015 June 2015 June 2015 June 2015	

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	January 2022	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements Hinckley And Bosworth Borough Council Leicestershire County Council Lichfield District Council - Planning Department North West Leicestershire District Council Staffordshire County Council Tamworth Borough Council North Warwickshire Borough Council - Planning Administration Warwickshire County Council	February 2016 February 2016 February 2016 February 2016 February 2016 February 2016 January 2016 July 2007	Variable Variable Variable Variable Variable Variable Variable Annual Rolling Update
Planning Hazardous Substance Consents Hinckley And Bosworth Borough Council Leicestershire County Council Lichfield District Council - Planning Department North West Leicestershire District Council Staffordshire County Council Tamworth Borough Council North Warwickshire Borough Council - Planning Administration Warwickshire County Council	February 2016 February 2016 February 2016 February 2016 February 2016 February 2016 January 2016 July 2007	Variable Variable Variable Variable Variable Variable Variable Annual Rolling Update

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	As notified
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	As notified
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2022	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	September 2022	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	September 2022	Annually

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	October 2022	Quarterly
Fuel Station Entries Catalist Ltd - Experian	August 2022	Quarterly
Gas Pipelines National Grid	October 2021	Bi-Annually
Points of Interest - Commercial Services PointX	December 2022	Quarterly
Points of Interest - Education and Health PointX	December 2022	Quarterly
Points of Interest - Manufacturing and Production PointX	December 2022	Quarterly
Points of Interest - Public Infrastructure PointX	December 2022	Quarterly
Points of Interest - Recreational and Environmental PointX	December 2022	Quarterly
Underground Electrical Cables National Grid	May 2021	Bi-Annually

Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural England	February 2021	Bi-Annually
Areas of Adopted Green Belt Hinckley And Bosworth Borough Council Lichfield District Council North Warwickshire Borough Council - Planning Administration North West Leicestershire District Council Tamworth Borough Council	July 2022 July 2022 July 2022 July 2022 July 2022	Quarterly Quarterly Quarterly Quarterly Quarterly
Areas of Unadopted Green Belt Hinckley And Bosworth Borough Council Lichfield District Council North Warwickshire Borough Council - Planning Administration North West Leicestershire District Council Tamworth Borough Council	July 2022 July 2022 July 2022 July 2022 July 2022	Quarterly Quarterly Quarterly Quarterly Quarterly
Areas of Outstanding Natural Beauty Natural England	August 2022	Bi-Annually
Environmentally Sensitive Areas Natural England	January 2017	
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Natural England	February 2021	Bi-Annually
Marine Nature Reserves Natural England	July 2019	Bi-Annually
National Nature Reserves Natural England	January 2021	Bi-Annually
National Parks Natural England	February 2018	Bi-Annually
Nitrate Sensitive Areas Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA) Environment Agency - Head Office	April 2016 June 2017	Bi-Annually
Ramsar Sites Natural England	August 2020	Bi-Annually
Sites of Special Scientific Interest Natural England	February 2021	Bi-Annually
Special Areas of Conservation Natural England	July 2020	Bi-Annually
Special Protection Areas Natural England	February 2021	Bi-Annually

A selection of organisations who provide data within this report

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

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
4	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
5	Hinckley And Bosworth Borough Council - Environmental Health Department First Floor, Florence House, St Marys Road, Hinckley, Leicestershire, LE10 1EQ	Telephone: 01455 238141 Fax: 01455 890228 Website: www.hinckley-bosworth.gov.uk
6	Leicestershire County Council County Hall, Glenfield, Leicestershire, LE3 8RH	Website: www.leics.gov.uk
7	North Warwickshire Borough Council - Environmental Health Department P O Box 6, Old Bank House, 129 Long Street, Atherstone, North Warwickshire, CV9 1BG	Telephone: 01827 715341 Fax: 01827 719399 Website: www.northwarks.gov.uk
8	Warwickshire County Council PO Box 43, Shire Hall, Warwick, Warwickshire, CV34 4SX	Telephone: 01926 410410 Website: www.warwickshire.gov.uk
9	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
10	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9966 Fax: 0844 844 9951 Email: helpdesk@landmark.co.uk Website: www.landmark.co.uk
11	Natural England County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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