

**BLEAKHOLT ANIMAL
SANCTUARY
BURY**

**PHASE 1 PRELIMINARY
RISK ASSESSMENT**



Prepared for:

Bleakholt Animal Sanctuary
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Ramsbottom
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Date: September 2017

Ref: LKC 17 1207



LK Consult Ltd

Document Verification

Site Address	Bleakholt Animal Sanctuary, Bury Old Road, Bury, BL0 0RX		
Report Title	Phase 1 Preliminary Risk Assessment		
Job Number	LKC 17 1207	Document Ref.	CL-602-LKC 17 1207-01
Date Issued	September 2017	Report Version	R1
Prepared By	Punit Patel	Signature	
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1 INTRODUCTION

1.1 Background

LK Consult Ltd (LKC) has been commissioned by Bleakholt Animal Sanctuary to carry out a Phase 1 Preliminary Risk Assessment (PRA) for Bleakholt Animal Sanctuary, Bury. The report was undertaken in support of a future planning application to renovate the site for continued commercial end use.

According to guidance set out in CLR11¹ and the National Planning Policy Framework (NPPF)² a PRA with a site reconnaissance is required as a minimum to ascertain if there is a potential contamination risk.

In accordance with current guidance, the PRA will include a site reconnaissance, site history, geology, hydrogeology, hydrology, mineral search and a landfill search. Information gathered from the desk study and site reconnaissance will be used to develop a contamination conceptual model for the site, which will support the identification and assessment of any pollutant linkages.

In addition, the information gathered will be used to identify potential geotechnical constraints associated with the renovation of the site and the proposed car parks.

Based on the findings of this report, an appropriate site investigation can be derived, if required.

1.2 Site Detail

A summary of the site details is presented in Table 1-1. Figures 1 and 2 indicate the site location and boundary. Figure 3 indicates the proposed development. Figure 4 indicates the location of additional proposed car parking areas.

Location	Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road, Ramsbottom, Bury, BL0 0RX. Centred at approximate National Grid Reference 380540E 418270N.
Area	11,300m ² .
Topography	220 metres above ordnance datum (AOD). Site gently slopes to the east.
Current Land Use	<u>Site</u> The site currently comprises of 9 buildings and kennels. Majority of the site comprises hardstood ground with small areas of grassed land. <u>Surrounding Area</u> North: Agricultural land. East: Agricultural land. South: Agricultural land. West: Agricultural land.
Proposed Development	An extension to the existing café to create a visitor information centre. The demolition of existing buildings for the use of open space. Remodel and redevelopment of the existing farm house. The development of a new roof over the existing dog training area. Relocation of liquefied petroleum gas (LPG) tanks.

Table 1-1: Summary of the site details.

¹ EA (2004). "Model Procedures for the Management of Land Contamination." R&D Publication CLR 11.

² DCL (2012). "National Planning Policy Framework." Department of Communities and Local Government. March 2012.

2 SITE HISTORY

In compiling the site history, LKC consulted historical mapping provided by the Landmark Information Group Ltd. Copies of relevant historical plans are provided in Appendix A and are summarised Table 2-1. Notable features within 100m of the site boundary have been presented (distances will be approximate). The exception to this will be features within a 250m buffer that could be infilled historically.

Site Features	Location	Map Dates Present	Comments
Bleakholt Farm	Centre	1851 – Present	- Buildings expanded S and E by 1976 mapping. - Buildings associated with Bleakholt Farm present in the centre of the site.
Track	South	1894 – 1963	- Running from N to S. - No longer present by 1976 mapping.
Bleakholt Animal Sanctuary	Centre	1976 – Present	- Numerous unreferenced buildings and structures annotated across the site.
Surrounding Area Features	Distance/ Location	Map Dates Present	Comments
Hollins Sandstone Quarry	145m N	1851 – 1993	- Annotated as disused by 1893 mapping. - Appears to be infilled on 2000 aerial photography. - No longer annotated by 1999 mapping.
Pond	178m NE	1893 – 1912	- No longer present by 1929 mapping.
Pond	219m S	1893 – 1956	- No longer present by 1963 mapping.
Pond	175m N	1910 – 1956	- No longer present by 1963 mapping.
Pond	62m NW	1929 – 1963	- No longer present by 1967 mapping.
Gravel Pit / Refuse Tip	230m N	1929 – 1963	- No longer present by 1976 mapping.
Marshland	215m N	1963 – 1987	- No longer present by 1993 mapping.
Cutting / Embankment	187m N	1963 – 1993	- No longer present by 1999 mapping.
Covered Reservoir	187m N	1999 – Present	- Previously cutting / embankment.

Table 2-1: Summary of historical features.

3 ENVIRONMENTAL SETTING

In compiling this Section, LKC consulted environmental information provided by the Envirocheck Report (Appendix B), British Geological Survey (BGS), the Coal Authority (Appendix C), Natural England and the Environment Agency. A summary is presented in Table 3-1.

Categories (data sources)		Details
Geology	Artificial ¹	- 273m N - Landslide Deposit.
	Superficial ¹	- Till – Devensian.
	Bedrock ^{1,2}	- Brooksbottoms Grit – Sandstone.
	BGS logs ³	- No available boreholes within 500m of the site.
Hydro-geology ¹	Aquifer Designation	Superficial Bedrock
		- Secondary Undifferentiated.
		- Secondary A.
	Source Protection Zone (SPZ)	- Site is not within an SPZ.
Hydrology ¹	Groundwater Abstractions	- 1 within 500m: 440m E, Licensed to B&J Ovenden, for general agriculture - General use (Medium Loss).
	Nearest Surface Water	- Brook Bottom Brook 161m N, flowing SW towards the River Irwell, 1,100m SW.
	Water Quality Data	- 586m NW, Dearden Brook – River Quality B.
	Flooding	- No risk from rivers or sea. - Limited potential for groundwater flooding to occur.
	Surface Water Abstractions	- None within 500m. Nearest 673m S, registered to Marshall Mono Ltd for other industrial/commercial public services: Process water.
	Discharge Consent	- None within 500m. Nearest 547m N, registered to Mr Varley for the discharge of final/treated effluent to Darwen Brook.
Minerals / Mining	Pollution Incidents	- None within 250m. Nearest 394m S, 24 th August 1999, Category 3 – minor incident, mixed construction/demolition waste affecting a river stretch (freshwater).
	Coal Mining Development High Risk Area (DHRA) ⁴	- Not within DHRA.
	Coal Report ⁵	- The property is not within a surface area that could be affected by past or present underground mining. - The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods. However, reserves of coal exist in the local area which could be worked at some time in the future. - There are no known coal mine entries within, or within 20m of the boundary of the property.
	Surface Extractions ¹	- 215m N, Hollin's Quarry, opencast quarrying of sandstone, operation now ceased.
Ground Stability ¹ (on-site)	Cheshire Brine Compensation District ⁵	- Not within site area.
	Collapsible Ground	- Very low hazard.
	Compressible Ground	- No hazard.
	Landslide	- Very low hazard.
	Running Sand	- Very low hazard.
	Shrinking / Swelling Clay	- Very low hazard.
	Ground Dissolution	- No hazard.

Table 3-1: Summary of environmental setting.

Data Sources: 1 - Envirocheck Report (Appendix A and B); 2 - BGS Sheet 76 1:50,000; 3 - BGS GeoIndex <http://mapapps2.bgs.ac.uk/geoindex/home.html>; 4 - The Coal Authority Web Mapping Services (WMS) and Interactive Map Viewer <http://coal.decc.gov.uk/en/coal/cms/publications/data/map/map.aspx> 5 – Coal Authority Report (Appendix C).

Categories (data sources)		Details
Landfill sites ¹	Known/Registered	1 within 250m: - 139m N – 'Hollins Quarry'. Inert waste type. Operational dates not supplied.
	Potential	7 within 250m: - Hollins Sandstone Quarry, 175m N, potentially infilled by 1999 mapping. - 4 ponds 62-219m, potentially infilled by 1929-1967 mapping. - Gravel Pit / Refuse Tip, potentially infilled by 1976 mapping. - Cutting / Embankment 187m N, potentially infilled by 1999 mapping.
Radon ¹		- Probability of <1% of homes above Action Level. No further action required.
Designated Sites ¹		- Adopted Green Belt on site.
Contemporary Trade Directory ¹		- None within 500m: Nearest 523m NW (general engineers).
Fuel Station Entries ¹		- None within 1km.
Unexploded Ordnance (UXO) Risk ⁶		- Low.

Table 3-1 (continued): Summary of environmental setting.

Data Sources: 1 - Envirocheck Report (Appendix A and B); 6 - Zetica Regional Unexploded Bomb Risk.

4 SITE RECONNAISSANCE

A site reconnaissance was carried out on 27th July 2017. Hand dug trial holes were undertaken in accessible areas to confirm the shallow ground conditions.

An annotated plan with photographs and trial hole descriptions is provided in Appendix D.

Relevant features identified on site are summarised below:

- Hardstood ground is present across with the majority of the site, with small parcels of grassed land with rare trees.
- The site is generally flat, gently sloping to the west.
- The site comprises of nine buildings, used for offices, visitors centre, shops and kennels to store various animals.
- A car park is present in the northern area of the site (rough ground).
- The dog kennels in the southern area of the site are tarmac (good condition).
- Drains were noted across the site.
- Two above ground propane tanks observed in the west of the site. No spillages or leakages observed.
- Made ground was observed, which contained rootlets, brick fragments, ash, clinker to >0.2-0.6mgl over natural gravelly sand clay >1.0mbgl.
- No access restrictions.
- No evidence of significant contamination identified.

The surrounding area comprises:

- North: Agricultural Land.
- East: Agricultural Land.
- South: Agricultural Land.
- West: Agricultural Land.

5 PRELIMINARY CONCEPTUAL MODEL

5.1 Introduction

The aim of the conceptual model is to provide a preliminary assessment of the likelihood of a pollutant linkage for each potential combination of contaminant, pathway and receptor. A conceptual model can be used to make an informed decision on the contamination risks associated with the site and whether further site investigation work is required.

The Sections below are therefore divided into potential contaminant, potential pathway and potential receptor as described in CLR11³. The final Section provides an assessment of the potential pollutant linkages that may still be present on the site if redevelopment were to occur.

5.2 Potential Contaminants

Potential contamination sources are detailed in Table 5-1.

Source	Contaminants
Onsite Buildings (still present)	- No significant contamination source.
Onsite Made Ground	- Ash and clinker (e.g. from hearths and boilers, often historically used for site raising / levelling, noted in the site walkover): Heavy metals, sulphates and PAHs ⁴ . - Other unknown inorganic / organic contaminants (dependant on fill material source). - If significant depth of organic / putrescible material: Hazardous gas (principally carbon dioxide and methane).
Onsite Car Park	- Spillages / leakages: petroleum hydrocarbons, oils (source expected to be minimal and localised)
Offsite Potentially Infilled Ground	- Hazardous gas (principally carbon dioxide and methane). - Given the age, location, likely minimal degree of infilling and intervening impermeable clays not considered to be a significant source of hazardous gas.
Surrounding Area	- No significant contamination sources within influencing distance of the site.

Table 5-1: Potential contamination sources.

5.3 Potential Receptors

Potential receptors are detailed in Table 5-2.

Receptors	
Human Health	- Future site users (including visitors and site workers). - Offsite land users. - As the proposed development is for commercial use, there will only be adults present on site over a long period of time. Therefore the most sensitive receptors (children) will not be affected.
Controlled Waters	- Brook Bottom Brook 161m north. - Secondary A Aquifer.
Buildings and structures.	
Potable water pipes.	
Flora within future landscaping.	

Table 5-2: Potential receptors.

5.4 Potential Pathways

Potential pathways are detailed in Table 5-3.

³ Defra (2004). "Model Procedures for the Management of Land Contamination." R&D Publication CLR 11.

⁴ Defra (2002). "Potential Contaminants for the Assessment of Land." R&D Publication CLR 8.

Pathways		
Soil	Human Health ⁵ (commercial land use with soft landscaping)	- Ingestion of soil. - Ingestion of soil-derived indoor dust. - Dermal contact with soil. - Dermal contact with soil-derived indoor dust. - Inhalation of soil-derived outdoor dust. - Inhalation of soil-derived indoor dust. - Inhalation of vapours outside. - Inhalation of vapours inside. - Omitted: ingestion of contaminated vegetables and ingestion of soil attached to vegetables.
		- Windblown dust / fibres to adjacent receptors.
		- Direct contact with receptors (building foundations, services).
Water		- Surface run-off over impermeable surface.
		- Infiltration into the ground, through potentially contaminated material (contamination possibly going into solution).
		- Site is predominantly hardstood; therefore, infiltration is likely to be limited.
Gas		- Migration through potentially permeable strata and preferential pathways.
		- Superficial (Till) likely to be low permeability.
		- Bedrock (sandstone) likely to be relatively permeable.
		- Preferential pathways: services.
		- Migration into buildings (e.g. via services) and accumulation of gases in confined spaces (potentially causing explosion if methane is present).

Table 5-3: Potential pathways.

5.5 Preliminary Contamination Conceptual Model

The preliminary contamination conceptual model is illustrated in Table 5-4 and has identified seven generic potential pollutant linkages.

Each linkage is described along with an assessment of the risk based upon guidance on probabilities and consequences outlined in CIRIA C552⁶.

In order to assess the potential risk for each pollutant linkage, an assessment of the magnitude of the potential consequence (severity) of the risk occurring and the magnitude of the probability (likelihood) of the risk occurring has been considered and classified. This is based on the guidance provided in CIRIA C552 and further details including a risk matrix is provided in Appendix E.

Where LKC identified a low to very low risk, limited intrusive investigation work, a watching brief (during construction work) or no investigation work will be recommended. This will be dependent on the nature of the site and the proposed development.

Where the risk falls into the moderate/low risk, LKC will undertake an assessment to establish what category the pollutant linkage will fall into (i.e. moderate or low risk will be chosen).

Where LKC identifies a moderate or higher risk, intrusive work or precautionary remedial measures will be recommended.

It should be noted that there may be risk from short term exposure from contaminated soil to site workers. The Preliminary Contamination Conceptual Model deals with long term

⁵ EA (2008). "Updated Technical Background to the CLEA Model." Science Report – SC050021/SR3.

⁶ CIRIA (2001). "Contaminated land risk assessment: A guide to good practice". C552.

exposure to key receptors. Acute risks can be easily mitigated by good environmental management of the site during site works. Standard health and safety precautions (as per HSE guidance⁷) should be adopted by all workers involved with site enabling and construction works. Therefore, this receptor is not considered in the contamination conceptual model.

⁷ HSE (1991). "Protection of Workers and the General Public During Development of Contaminated Land" London HMSO.

Pollutant Linkage	Pathway	Receptor	Contaminant (source)	Probability	Consequence	Risk	Assessment and Recommendations
PL1	-Dermal contact. -Inhalation of soil, fibres and dust. -Ingestion of soils -Windblown dust.	-Future site users. -Offsite receptors.	-ACM (made ground).	Low Likelihood	Severe	Moderate	-Low likelihood due to age of buildings and potential pathway to receptors in soft landscaping. -Recommendation: Intrusive investigation with soil sampling required.
			-Heavy metals -PAHs (made ground).	Likely	Medium	Moderate	-Likely due to ashy made ground identified on site and potential pathway to receptors in landscaping. -Recommendation: Intrusive investigation required with soil sampling required.
			-Heavy end hydrocarbons (made ground, onsite car park).	Unlikely	Medium	Low	-Unlikely probability of hydrocarbons within made ground as minimal spills / leakages expected from the onsite carpark. -Recommendation: Intrusive investigation required with soil sampling if evidence of hydrocarbons identified in the ground.
PL2	-Inhalation of vapours. -Migration through permeable strata and preferential pathways.	-Future site users. -Offsite receptors.	-Volatile Contaminants such as hydrocarbons, solvents (made ground, onsite car park).	Unlikely	Medium	Low	-Unlikely probability of volatile contaminants source is only from an onsite carpark and made ground therefore minimal leakages / spillages of volatile contamination considered unlikely. -Recommendation: No testing required unless evidence of volatile contaminants identified in the ground.
PL3	-Inhalation of gas. -Migration through permeable strata and preferential pathways. -Explosion in confined spaces.	-Future site users. -Buildings. -Offsite land users.	-Methane, carbon dioxide. (potentially infilled features 250m of the site, made ground).	Unlikely	Severe	Moderate / Low	-Unlikely probability due to likely minor amount of infilling and intervening impermeable clay, which is likely to mitigate gas migration. -Recommendation: Gas monitoring or precautionary measures required if significant depth of made ground or putrescible material encountered on site.
PL4	-Surface Run-off. -Migration through permeable strata and preferential pathways -Perched waters migration.	-Groundwater (Secondary A Aquifer). -Surface water (Brook Bottom Brook).	-Mobile contaminants such as metals, PAHs, hydrocarbons (made ground, onsite car park).	Unlikely	Medium	Low	-Unlikely probability of hydrocarbons as minimal spills/leakages expected from the onsite carpark. Metals and PAHs associated with ash and clinker relatively immobile. -Recommendation: No testing required unless evidence of significant potentially mobile contamination is identified in the soil.
PL5	-Sulphate attack on concrete.	-Building structure.	-Sulphate (ash identified in made ground).	Likely	Mild	Moderate / Low	-Likely probability as ash was identified in made ground, which may be in contact with concrete used in future buildings. -Moderate risk assumed at this stage. -Recommendation: Intrusive investigation required as part of PL1.
PL6	-Ingestion of tainted water supply.	-Future site users. -Water pipes.	-Organic Contaminants such as hydrocarbons (made ground, onsite carpark).	Low Likelihood	Medium	Moderate / Low	-Low probability as significant contamination not anticipated at pipeline depth (0.75-1.35m). -Risk is considered moderate at this stage due to unknown depth of made ground. -Recommendation: Sampling required if made ground present at pipeline installation depths.
PL7	-Direct Contact (plant uptake).	-Flora.	-Phytotoxic Contaminants (made ground).	Low Likelihood	Minor	Very Low	-Low likelihood as contamination considered possible, which may be taken up by flora in soft landscaping. -Recommendation: Investigation work as part of PL1.

Table 5-4: Preliminary Contamination Conceptual Model.

6 PRELIMINARY GEOTECHNICAL RISK ASSESSMENT

Geology is mapped as till underlain by Brooksbottom Grit (Sandstone). A limited trial hole survey identified made ground to >0.2 – 0.6mbgl over slightly gravelly sandy clay. Given the history of the site, limited made ground is anticipated.

The Envirocheck Report identified a very low hazard for collapsible ground, landslides, shrinking / swelling clay and running sand; and no hazard for compressible ground and ground dissolution.

The following need to be considered and investigated before any construction work commences:

- Deep made ground and / or relic in-ground structures (from former buildings, track) may be present on site which could affect groundworks (e.g. grubbing out of structures) and type of foundations required (e.g. deepening of foundations / pilling).
- The strength and variability of superficial deposits need to be confirmed. Glacial Till (clay) is anticipated which is likely to be at least medium strength however softer ground / organic ground / granular pockets may reduce this strength. An allowable bearing pressure of the soils should be confirmed to allow the design of suitable foundations.
- The depth of groundwater and variability of the water table should be confirmed as shallow / fluctuating groundwater can affect the strength of the soil, particularly in granular ground.
- Plasticity of clay deposits should be confirmed, particularly where trees are present or proposed, to identify the shrinkability risk.
- The CBR value of the ground for footpath and car parks should be calculated. There is a potential for low / poor CBR values from underlying clay, therefore site roads may require the import of suitable granular material or modification of existing clay soils.
- Sulphate content of the made ground and natural ground should be confirmed to assess the concrete requirements.

7 SUMMARY CONCLUSIONS AND RECOMMENDATIONS

7.1 Summary Conclusions

The site was historically used as solely Bleakholt Farm with numerous unreferenced buildings present from 1851 to 1963 mapping. Bleakholt Animal Sanctuary has been a part of Bleakholt Farm since 1976 mapping to present day. A path was present from 1894 mapping to 1976 mapping.

The site currently comprises 9 buildings and hardstood ground. There are small parcels of grassed land across the site. The car park in the northern area of the site is comprised of rough ground. Made ground containing ash and clinker was observed during the site reconnaissance.

The proposed development is for the extension of the existing café to create a visitor information centre. The demolition of existing front and back kennels to create the available area as a central open space. The remodel and redevelopment of the existing farm house building. To develop a new roof over the existing dog training area south of the site.

Potential contamination sources affecting the site were identified as heavy metals, PAHs, sulphate, asbestos, hydrocarbons and gas (carbon dioxide and methane).

These contaminants may pose a risk to site users (via ingestion/dermal contact/inhalation pathways and explosion), controlled waters (via migration through permeable strata / preferential pathways), buildings and structures (direct contact and explosion), water pipes (direct contact) and flora (root uptake).

A contamination conceptual model has been produced by LKC. This has identified the following risks summarised in Table 7-1.

Pollutant Linkage		Risk	Recommendations
1	Contaminants posing a risk to future site users via dermal contact, ingestion and inhalation (of soil, dust, fibres and vegetables).	Moderate (ACM)	Investigation work required with soil sampling.
		Moderate (PAHs, metals)	
		Low (hydrocarbons)	
2	Volatile contaminants posing a risk to future site users via the inhalation of vapours.	Low	Investigation work and sampling not required unless evidence of hydrocarbons / volatile contamination.
3	Gas posing a risk to buildings and future site users via the migration of gas into building causing explosion and asphyxiation.	Low	Gas monitoring or precautionary measures required if significant depth of made ground or putrescible material identified on site.
4	Mobile contamination posing a risk to controlled waters via the migration through permeable strata.	Low	Investigation work not required unless evidence of significant mobile contamination identified.
5	Sulphate posing a risk to building via direct contact (sulphate attack).	Moderate	Investigation work required.
6	Organic contaminants posing a risk to water pipes.	Moderate	Sampling required if made ground is present at pipeline installation depths.
7	Phytotoxic metals posing a risk to flora via root uptake.	Very Low	Investigation work recommended.

Table 7-1: Summary risk table.

The preliminary geotechnical assessment has also identified the following potential risk which will need to be investigated:

- Unknown strength of soils for foundation design.
- Possible deep made ground with in-ground structures.
- Strength and variability of superficial deposits need to be confirmed.
- The depth and variability of the water table should be confirmed.
- Plasticity of clay deposits.
- CBR value of the ground for footpath and road design should be confirmed.
- Sulphate content of the made and natural ground.

Further work is recommended, which is detailed in the following Section.

7.2 Recommendations

7.2.1 General

In accordance with NPPF, LKC consider that sufficient information on the potential contaminative status of the site is available in this Preliminary Risk Assessment report to allow the validation of any future planning application by the Local Planning Authority and for conditional planning approval to be granted. Such conditional approval will likely include standard prescriptive conditions requiring a site investigation, risk assessment and, if appropriate, a remedial strategy are completed to the satisfaction of the Local Planning Authority prior to the commencement of any development.

A Phase 2 intrusive survey should be carried out across the site to investigate the identified potential pollutant linkages further. LKC would recommend this can be undertaken pre-planning or once conditional planning approval is granted. The scope of this Phase 2 survey should be prior agreed with the Local Authority and should include the following.

7.2.2 Phase 2 investigation

In order to address the potential pollutant linkages a site investigation is recommended. The site investigation should be carried in accordance with relevant guidance documents (including BS10175⁸ and BS5930⁹).

The investigation should include trial pits and / or boreholes at a sampling density of 1 sample per 25-50m square centres for an exploratory investigation and 1 sample per 10-25m square centres for a main investigation. In addition targeted sampling locations should be undertaken in areas of concern.

Soil samples should be collected from the trial pits / boreholes and tested for contaminants of concern based on the preliminary conceptual model and field observations (PID tests and visual / olfactory evidence).

If a source of gas is identified during intrusive investigation work gas monitoring is recommended to address pollutant linkage 3. Boreholes drilled on site should be installed with monitoring wells. Monitoring should be undertaken in accordance with CIRIA C665¹⁰. As a minimum gas monitoring would likely be over a three month period with at least six gas monitoring visits under worst case temporal conditions.

⁸ British Standard (2011). "Investigation of Potentially Contaminated Sites – Code of Practice." BS10175:2011.

⁹ British Standard (2015). "Code of Practice for Ground Investigations." BS5930:2015.

¹⁰ CIRIA (2007). "Assessing Risks Posed by Hazardous Ground Gases to Buildings." CIRIA C665.

If significant soil contamination is identified, groundwater sampling will be carried out to address pollutant linkage 4. Groundwater samples should be collected from boreholes (monitoring wells). If no groundwater is present, soils can be subjected to leachability tests. Samples should be tested for contaminants of concern based on the preliminary risk assessment, field observations and results of the soil analysis.

Boreholes and / or trial pits may also be utilised to provide appropriate geotechnical information on sub-surface conditions.

This investigation, in conjunction with appropriate geotechnical testing, will identify and characterise any contaminants encountered. Information from this investigation can then be used to provide a more detailed assessment of the identified pollutant linkages, provide appropriate foundation solutions and, if necessary, identify appropriate remedial measures to ensure that the site is made suitable for its proposed end use.

7.2.3 Watching Brief

Notwithstanding the above, a watching brief should be maintained by the site manager during the clearance of the study area and development works, for any likely contaminated made ground, such as ash and clinker; any unusual ground conditions and any visual and / or olfactory evidence of contamination.

If such evidence of made ground and / or visual and olfactory evidence of contaminants are identified, then sampling will likely be required to characterise the material and recommendations for appropriate remediation undertaken, if required. Samples should be collected in sufficient quantity and analysed for a suitable suite of determinands to demonstrably characterise the study area. Should any significant thickness of made ground be encountered during works within the study area, LKC would recommend that this information is reported to the Local Authority and to LKC for further assessment.

A copy of this report should be sent as part of the planning application.

7.2.4 Relocation of LPG Tanks

The proposed development also includes for the relocation of the existing liquefied petroleum gas (LPG) tanks (see Figure 3).

LKC recommend that the relocation and operation of the tanks should be undertaken with recourse to guidance issued by the HSE¹¹ (Appendix F).

In particular the HSE note that:

"There should not be any drains or gullies near to the tank unless a water trap is provided to prevent gas entering the drains. This is because LPG is heavier than air and if a leak were to develop from the tank or its controls or pipework or when it is being filled then the vapour could accumulate in an untrapped drain or gully. Ignition of these vapours could then lead to fire/explosion..."

In case of leaks there should be plenty of room around the tanks to ensure good air flow so that pockets of heavier-than-air LPG vapours cannot build up around them."

If such guidance is applied then the risk of any LPG releases entering drains and watercourses should be minimised.

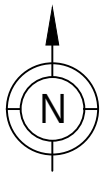
¹¹ <http://www.hse.gov.uk/gas/lpg/safeuse.pdf>

FIGURES



Figure 1: Site Location Plan, Bleakholt Animal Sanctuary, Bury

Drawn: July 2017 Scale: 1:25,000 @ A4 (see scale bar)



KEY

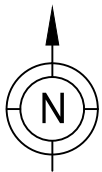


Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing includes information provided to LK Consult Ltd by others, LK Consult Ltd gives no warranty, representation or assurance as to the accuracy of such information.



Client: Bleakholt Animal Sanctuary			
Site: Bleakholt Animal Sanctuary, Bury			
Title: Site Boundary Plan			
Job No.: LKC 17 1207	Scale (See Scale Bar): 1:1250 @ A4	Figure: 2	Revision:
Drawn By: AC	Checked By: PP	Drawn: Jul 2017	

Extract from: Bradshaw Gass & Hope LLP
Drawing Ref: Location Plan, No.1865.08.SK01 (May 2017)



**Current LPG
Tank Location**

**Proposed LPG
Tank Location**

phase 3
refurbishment and remodeling of the existing farm house building to accommodate offices, training rooms, classrooms etc. with new entrance structure providing greater clarity of entry point into the 'poochies'.
The relocation of strong infested dog posing with new 100% of standard kennels and new low level planting in the middle to reduce kennel stress.
Existing tanks to be relocated to the back of the kennels.

phase 1
rebuilding and extension of the existing cafe to create a visit information centre inclusive of a shop (for facility to support the Bleakholt Animal Sanctuary).
Create of an enhanced visitor journey following arrival at the Sanctuary.

phase 2
demolishing of the existing front and back kennels and create the available area as a central open space or just site for an attraction (e.g. children's play area or alternative activity space).
Existing path from the car parking to Sanctuary altered to form more direct sight lines to the new attraction area.

phase 4
Provide new roof over existing dog training area.
Remove one of the dog runs and provide new path for dog walker access.

KEY



Site Boundary

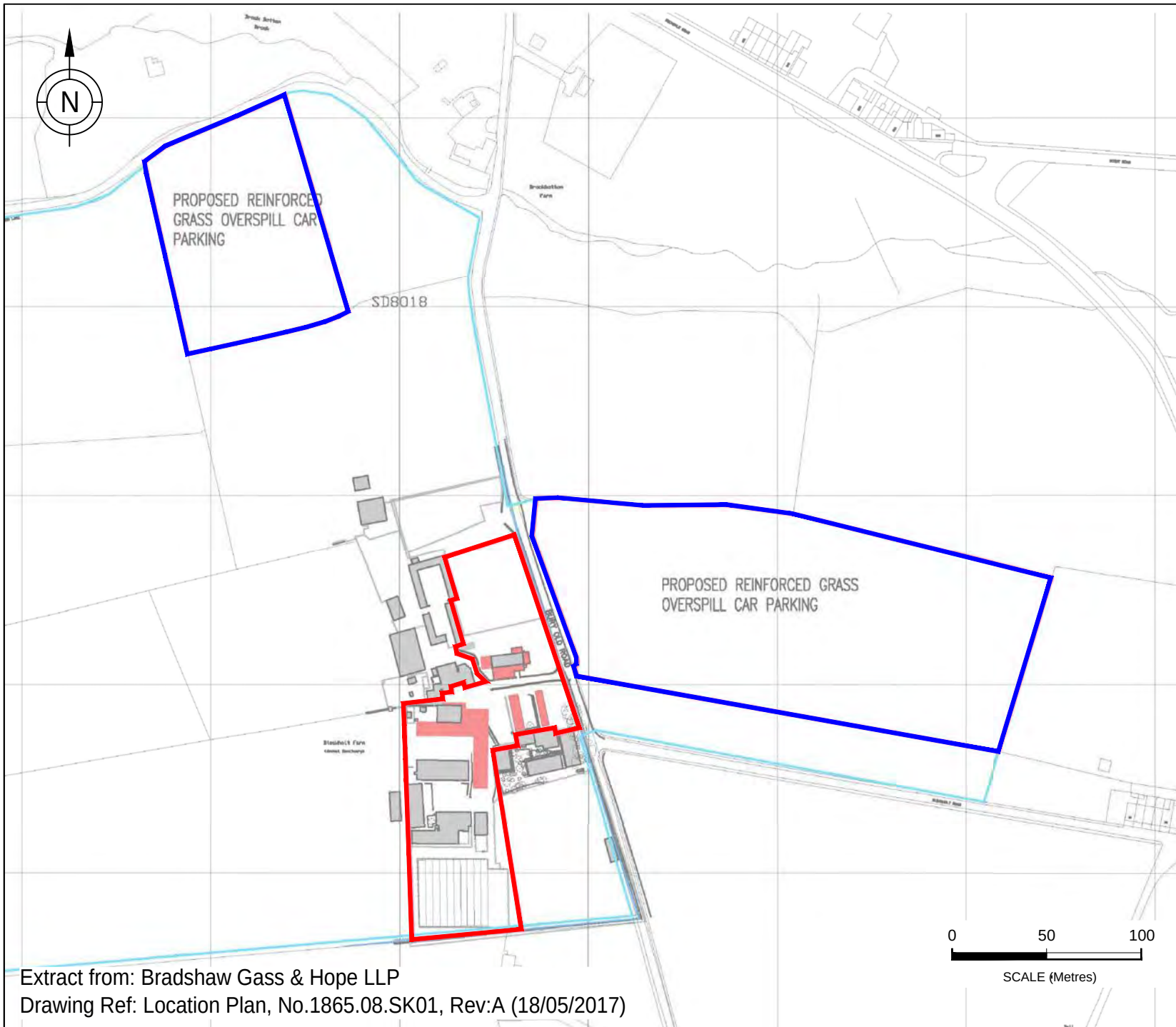
Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing includes information provided to LK Consult Ltd by others, LK Consult Ltd gives no warranty, representation or assurance as to the accuracy of such information.



Client: Bleakholt Animal Sanctuary			
Site: Bleakholt Animal Sanctuary, Bury			
Title: Proposed Site Use			
Job No.: LKC 17 1207	Scale (See Scale Bar): 1:1250 @ A4	Figure: 3	Revision: 1
Drawn By: AC	Checked By: PP	Drawn: Sep 2017	

Extract from: Bradshaw Gass & Hope LLP
Drawing Ref: Master Plan As Proposed Option 1, No.1865.08.301, Rev:B (17/05/2017)

SCALE (Metres)



KEY

-  Site Boundary
-  Proposed Car Park

Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing includes information provided to LK Consult Ltd by others, LK Consult Ltd gives no warranty, representation or assurance as to the accuracy of such information.



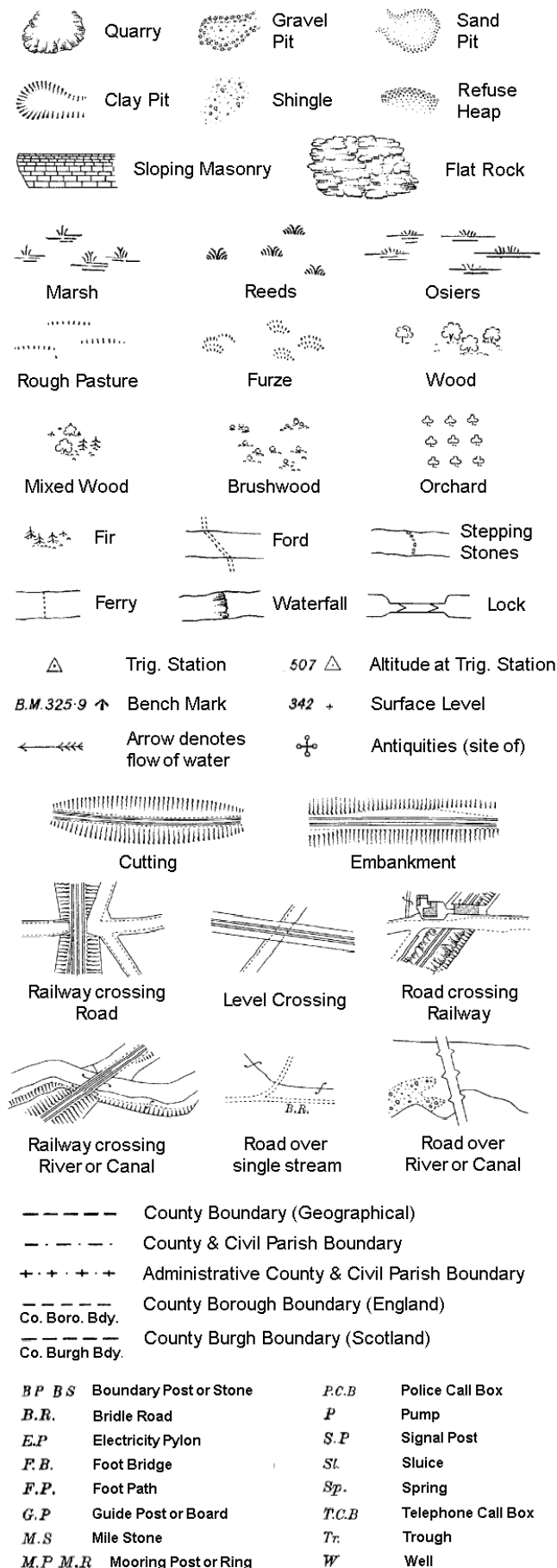
Client: Bleakholt Animal Sanctuary			
Site: Bleakholt Animal Sanctuary, Bury			
Title: Site Boundary Plan & Proposed Car Parking			
Job No.: LKC 17 1207	Scale (See Scale Bar): See Scale Bar	Figure: 4	Revision:
Drawn By: AC	Checked By: PP	Drawn: Jul 2017	

APPENDIX A

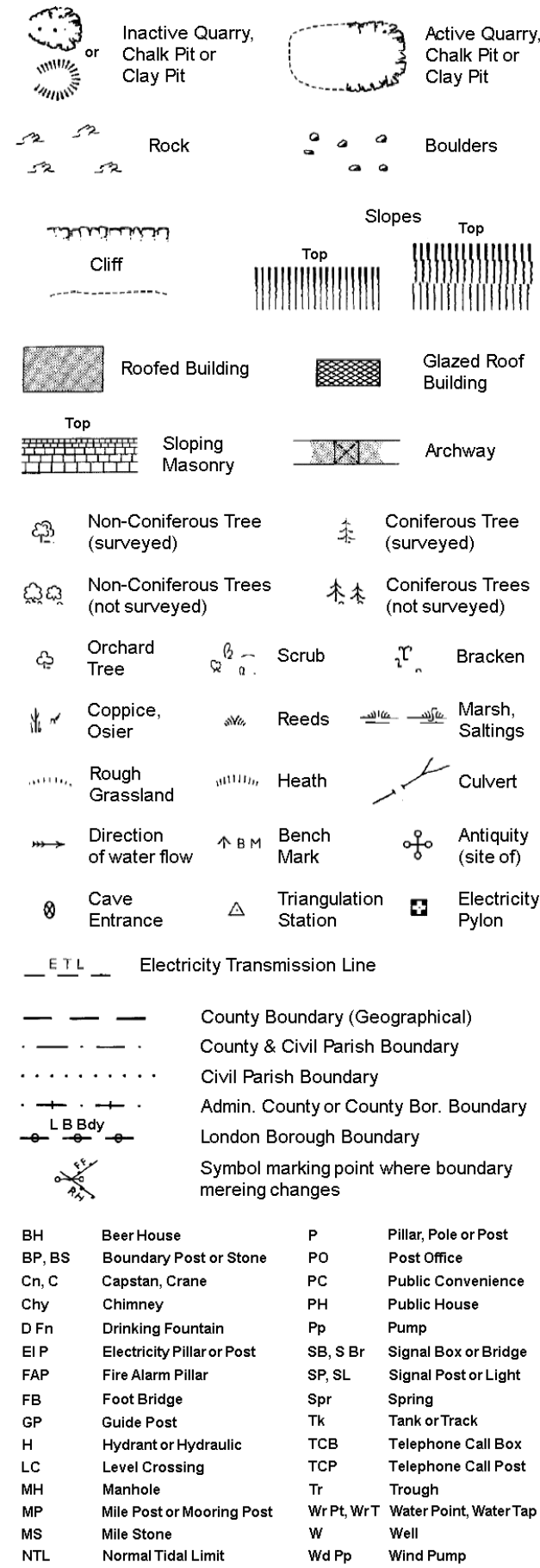
HISTORICAL MAPS

Historical Mapping Legends

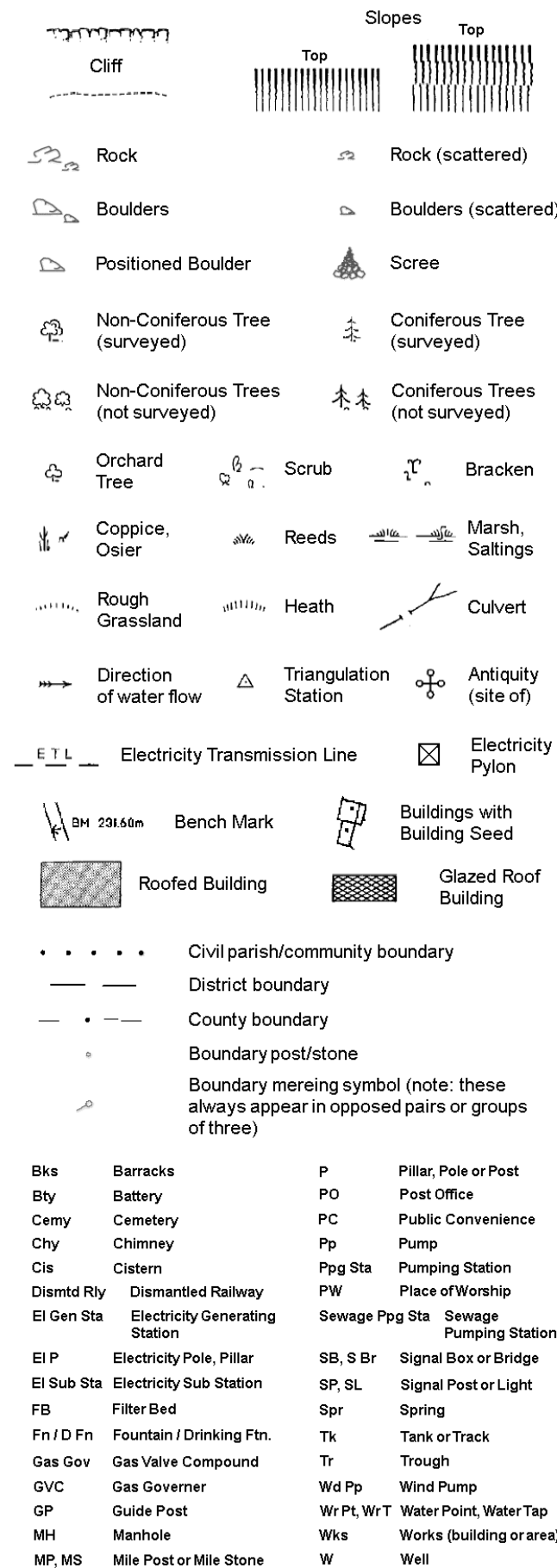
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



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



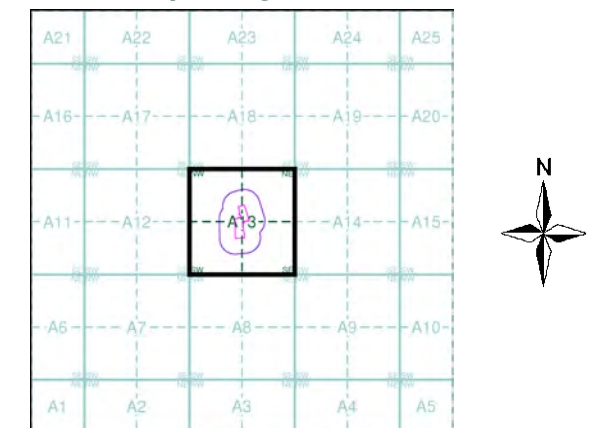
Large-Scale National Grid Data 1:2,500 and 1:1,250



LK CONSULT LIMITED Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1893	2
Lancashire And Furness	1:2,500	1910	3
Lancashire And Furness	1:2,500	1929	4
Ordnance Survey Plan	1:2,500	1963	5
Additional SIMs	1:2,500	1963	6
Ordnance Survey Plan	1:2,500	1976	7
Ordnance Survey Plan	1:2,500	1983	8
Large-Scale National Grid Data	1:2,500	1992	9
Large-Scale National Grid Data	1:2,500	1993	10
Historical Aerial Photography	1:2,500	2001	11

Historical Map - Segment A13



Order Details

Order Number: 133289641_1_1
Customer Ref: LKC 17 1207
National Grid Reference: 380540, 418270
Slice: A
Site Area (Ha): 1.13
Search Buffer (m): 100

Site Details

Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road, Ramsbottom, BURY, BL0 0RX



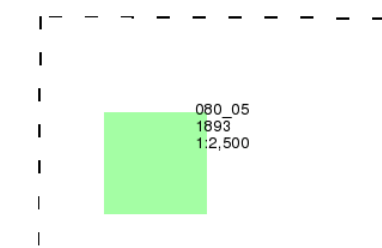
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Published 1893

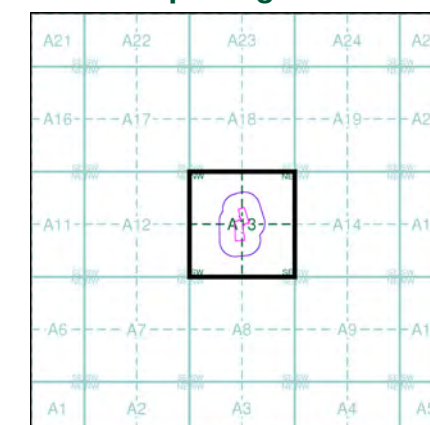
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13

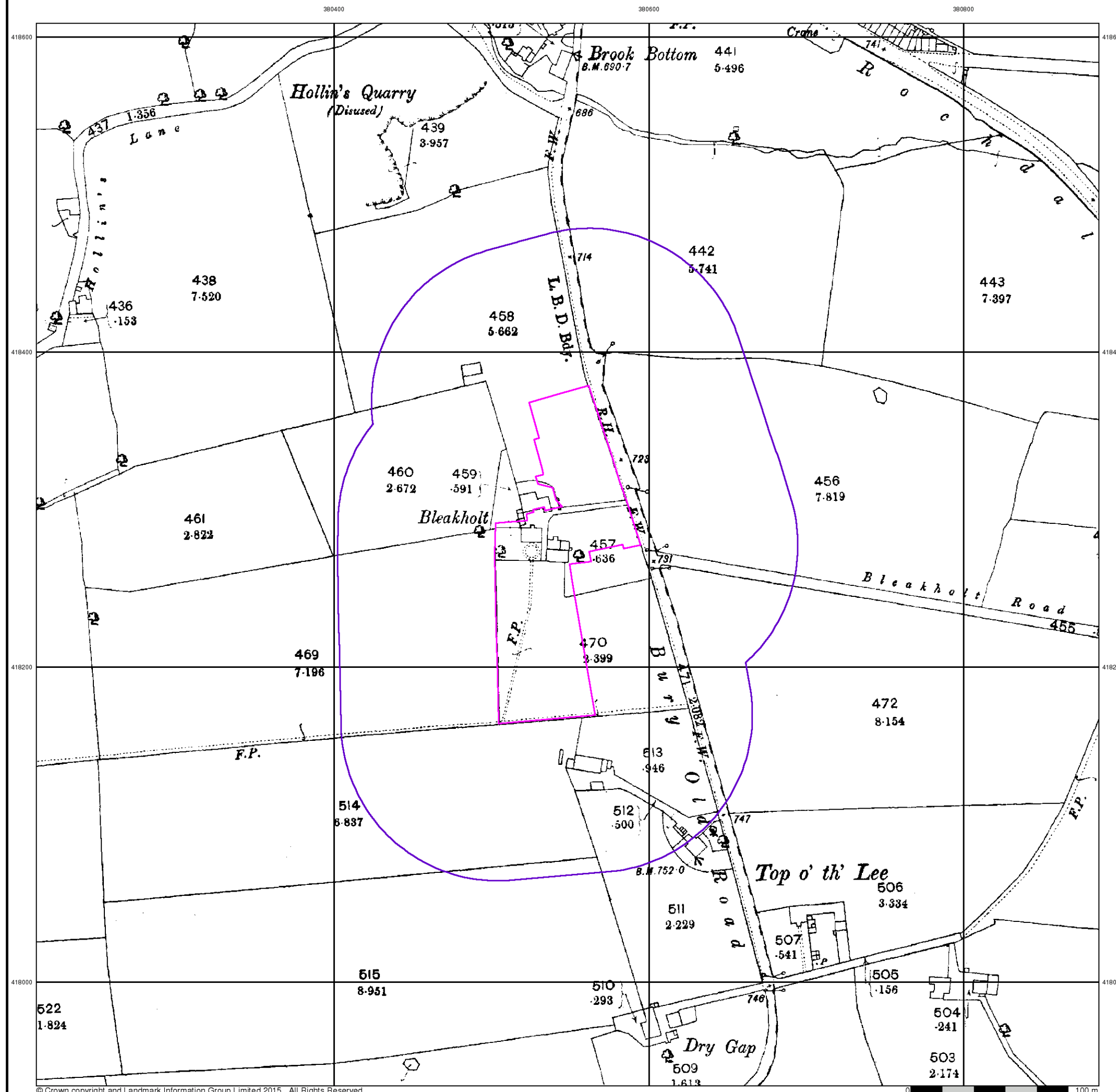


Order Details

Order Number: 133289641_1_1
Customer Ref: LKC 17 1207
National Grid Reference: 380540, 418270
Slice: A
Site Area (Ha): 1.13
Search Buffer (m): 100

Site Details

Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road, Ramsbottom, BURY, BL0 0RX

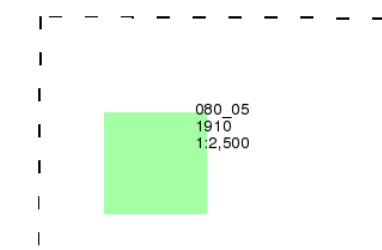


Published 1910

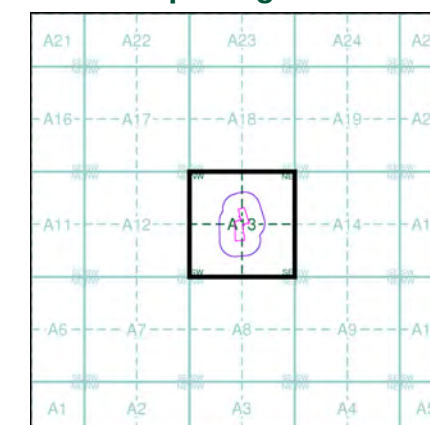
Source map scale - 1:2,500

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

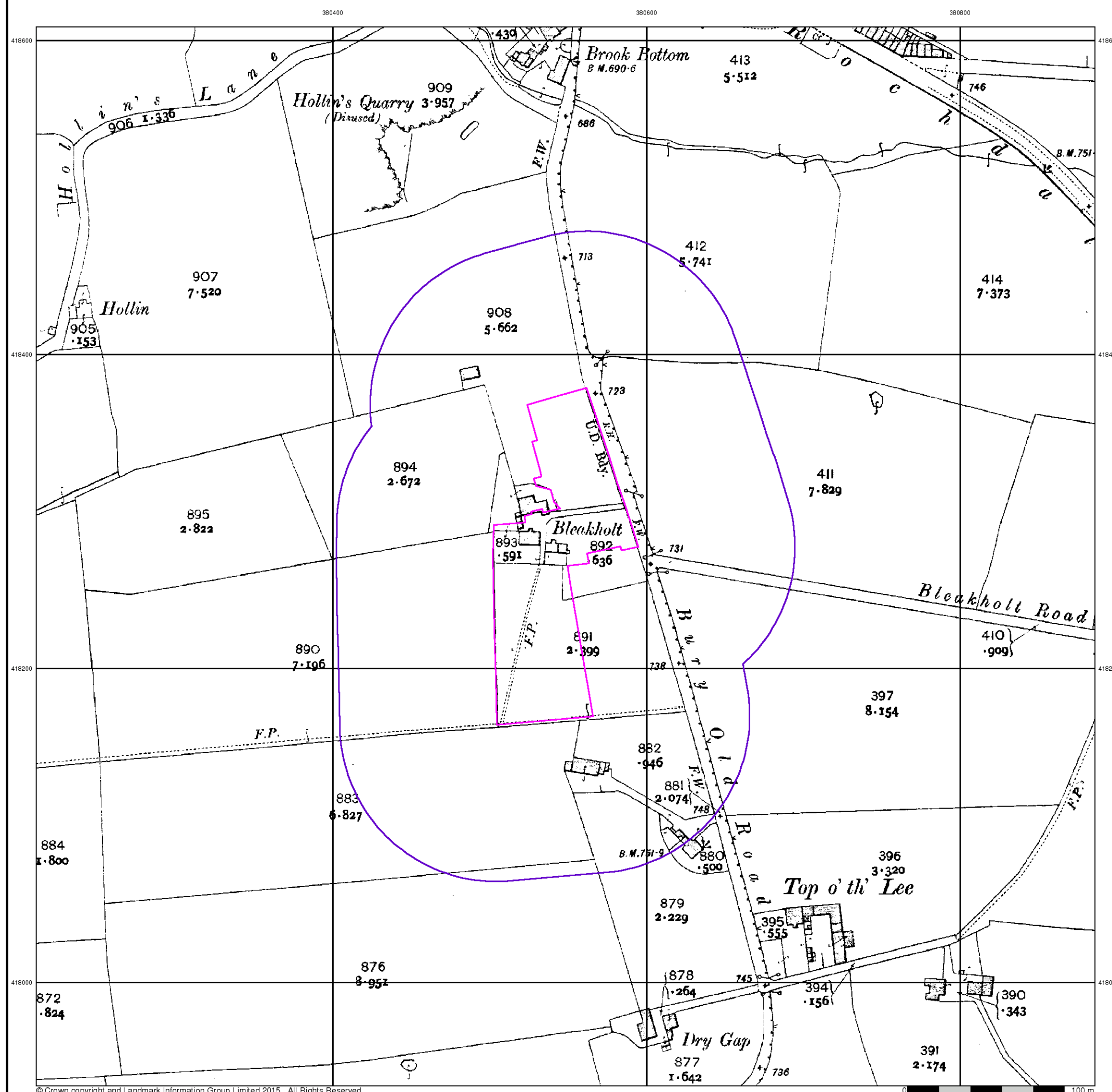


Order Details

Order Number: 133289641_1_1
Customer Ref: LKC 17 1207
National Grid Reference: 380540, 418270
Slice: A
Site Area (Ha): 1.13
Search Buffer (m): 100

Site Details

Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road, Ramsbottom, BURY, BL0 0RX

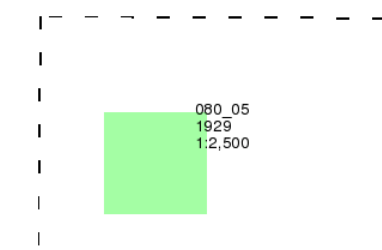


Published 1929

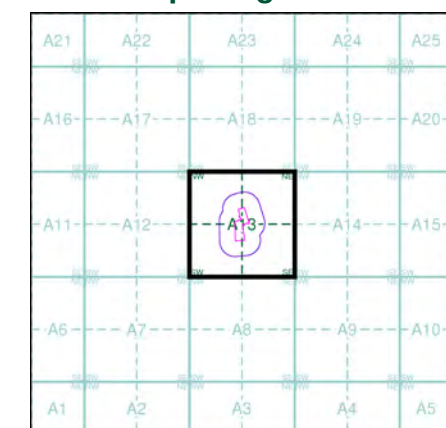
Source map scale - 1:2,500

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

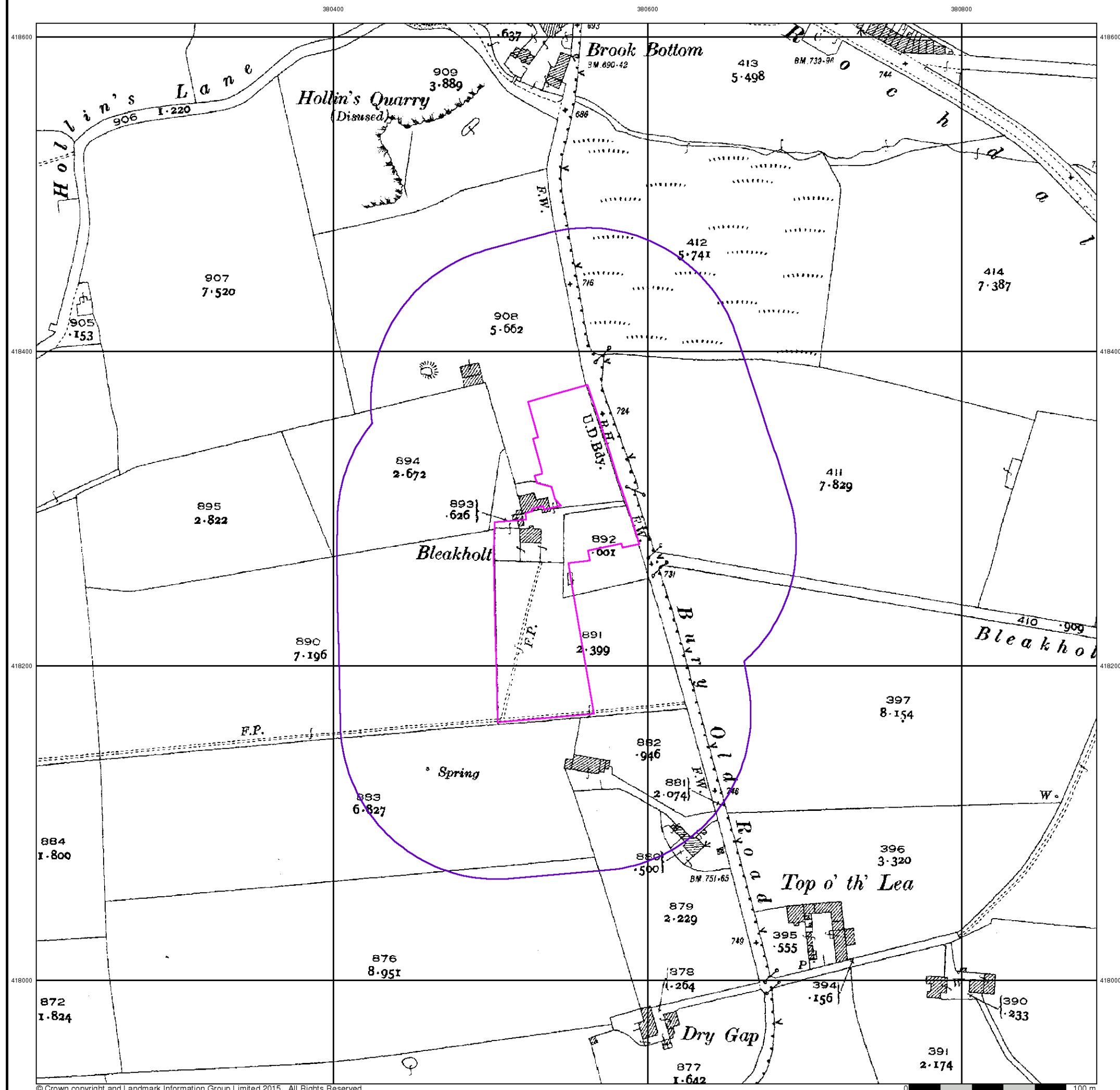


Order Details

Order Number: 133289641_1_1
Customer Ref: LKC 17 1207
National Grid Reference: 380540, 418270
Slice: A
Site Area (Ha): 1.13
Search Buffer (m): 100

Site Details

Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road, Ramsbottom, BURY, BL0 0RX



Published 1963

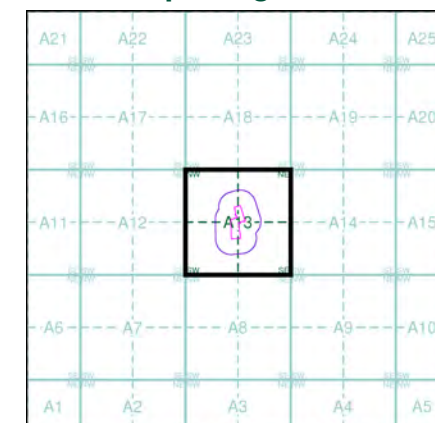
Source map scale - 1:2,500

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)

SD8018
1963
1:2,500
SD8017
1963
1:2,500

Historical Map - Segment A13

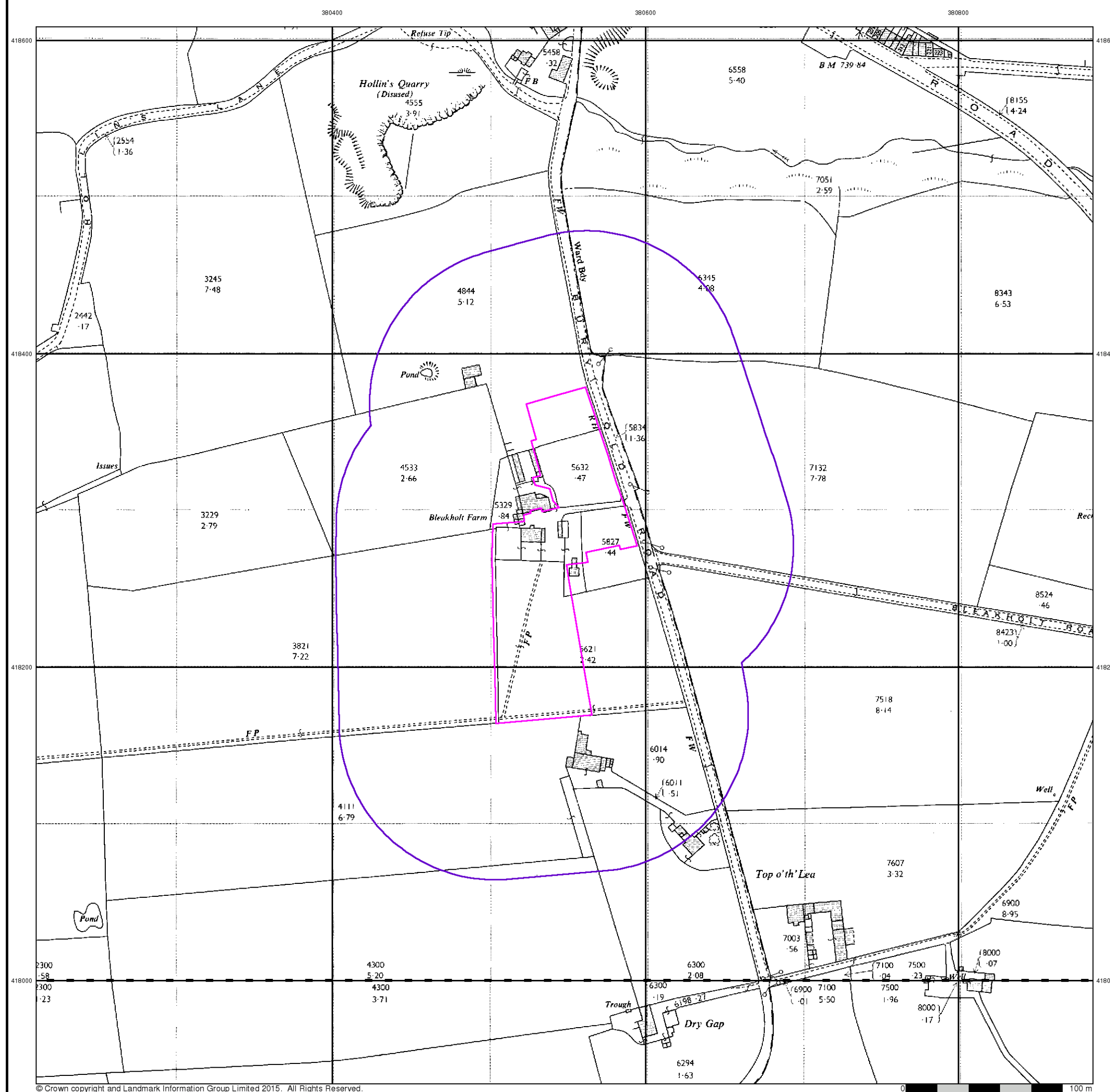


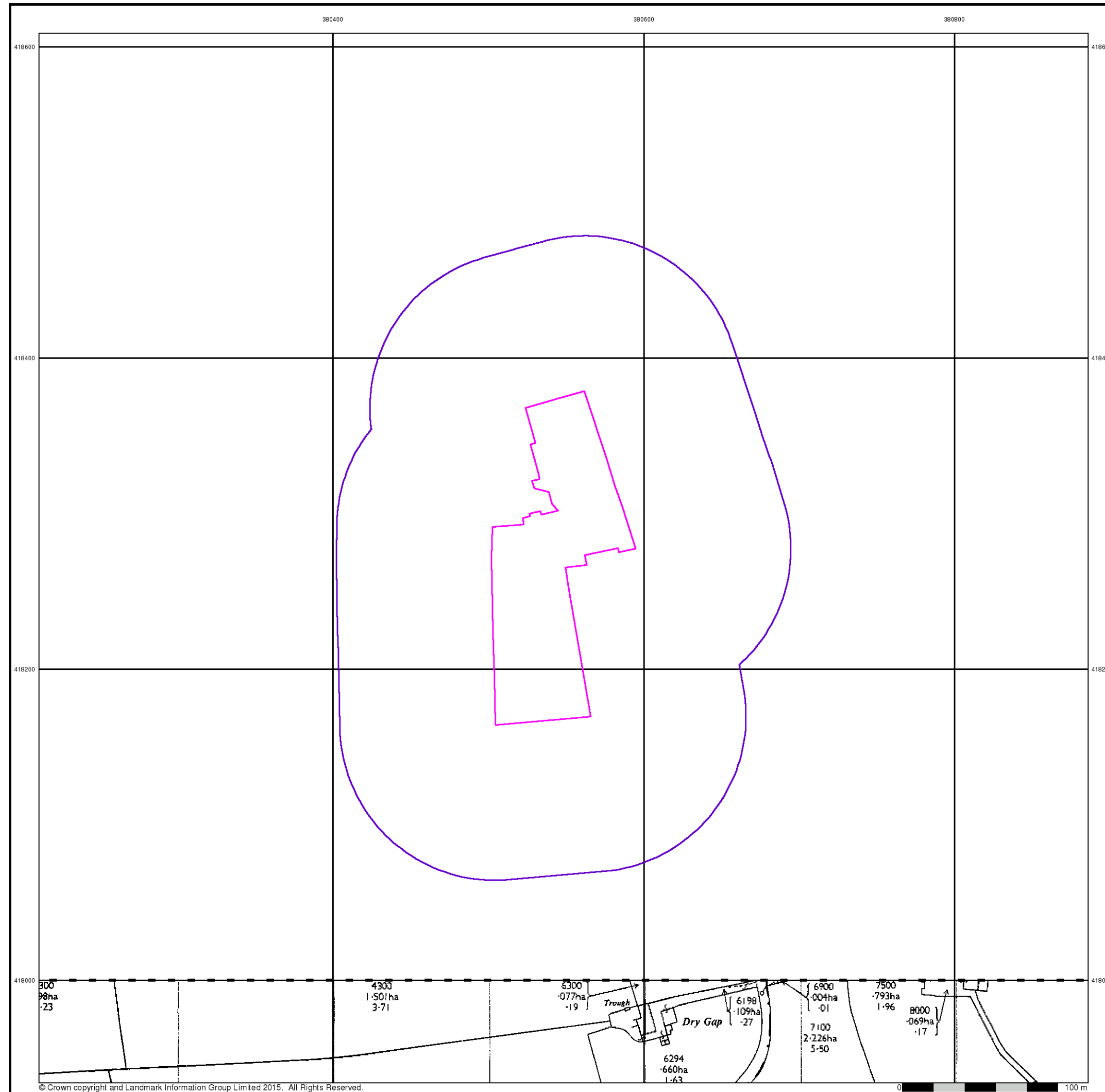
Order Details

Order Number: 133289641_1_1
Customer Ref: LKC 17 1207
National Grid Reference: 380540, 418270
Slice: A
Site Area (Ha): 1.13
Search Buffer (m): 100

Site Details

Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road, Ramsbottom, BURY, BL0 0RX





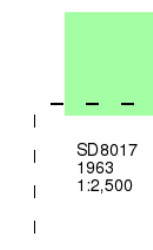
Additional SIMs

Published 1963

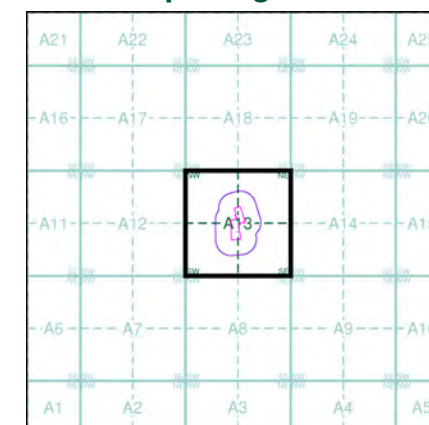
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

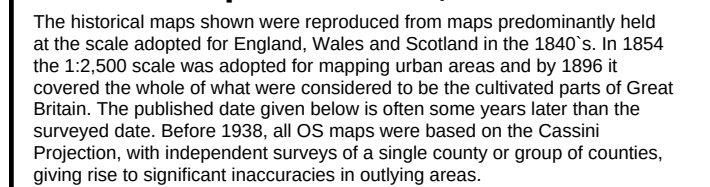
Order Number: 133289641_1_1
Customer Ref: LKC 17 1207
National Grid Reference: 380540, 418270
Slice: A
Site Area (Ha): 1.13
Search Buffer (m): 100

Site Details

Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road,
Ramsbottom, BURY, BL0 0RX



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



The figure shows a 5x5 grid of cells. The columns are labeled A1, A2, A3, A4, A5 at the bottom. The rows are labeled A1, A6, A11, A16, A21 at the left, A2, A7, A12, A17, A22 at the top, A3, A8, A13, A18, A23 at the left, A4, A9, A14, A19, A24 at the top, and A5, A10, A15, A20, A25 at the left. Cell A13 is highlighted with a black border and a purple outline. A pink arrow points to cell A13 from the left.

Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road,
Ramsbottom, BURY, BL0 0RX

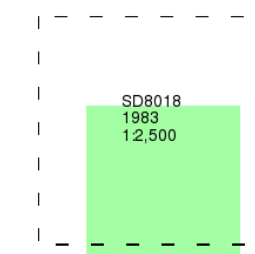
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Published 1983

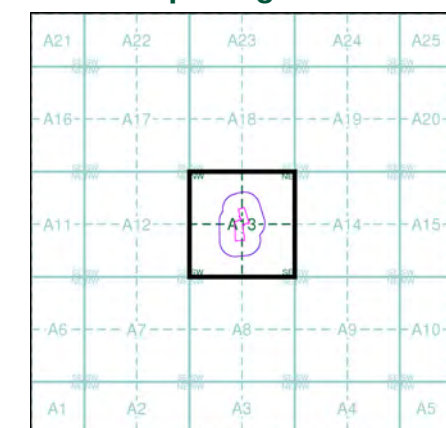
Source map scale - 1:2,500

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

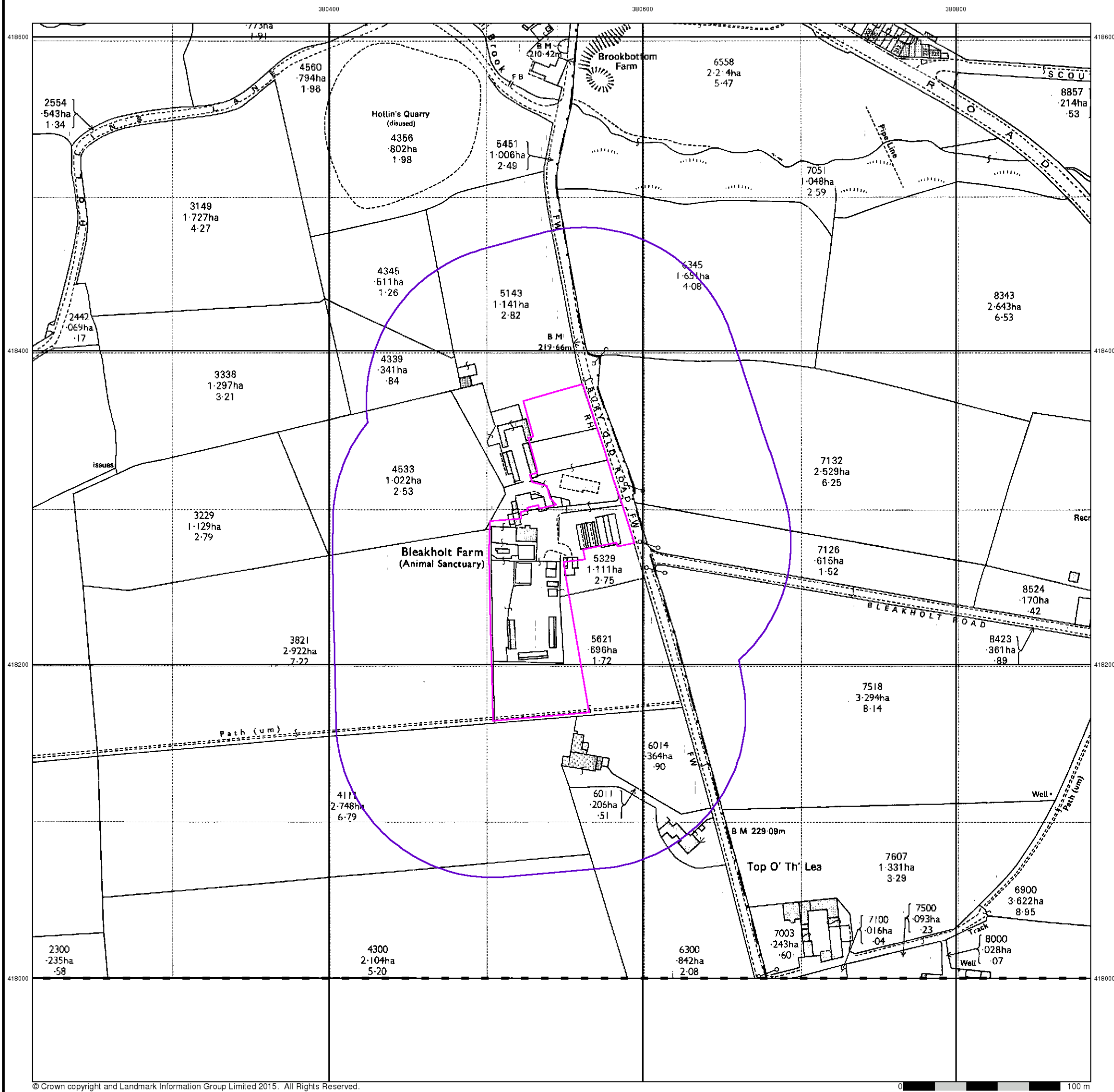


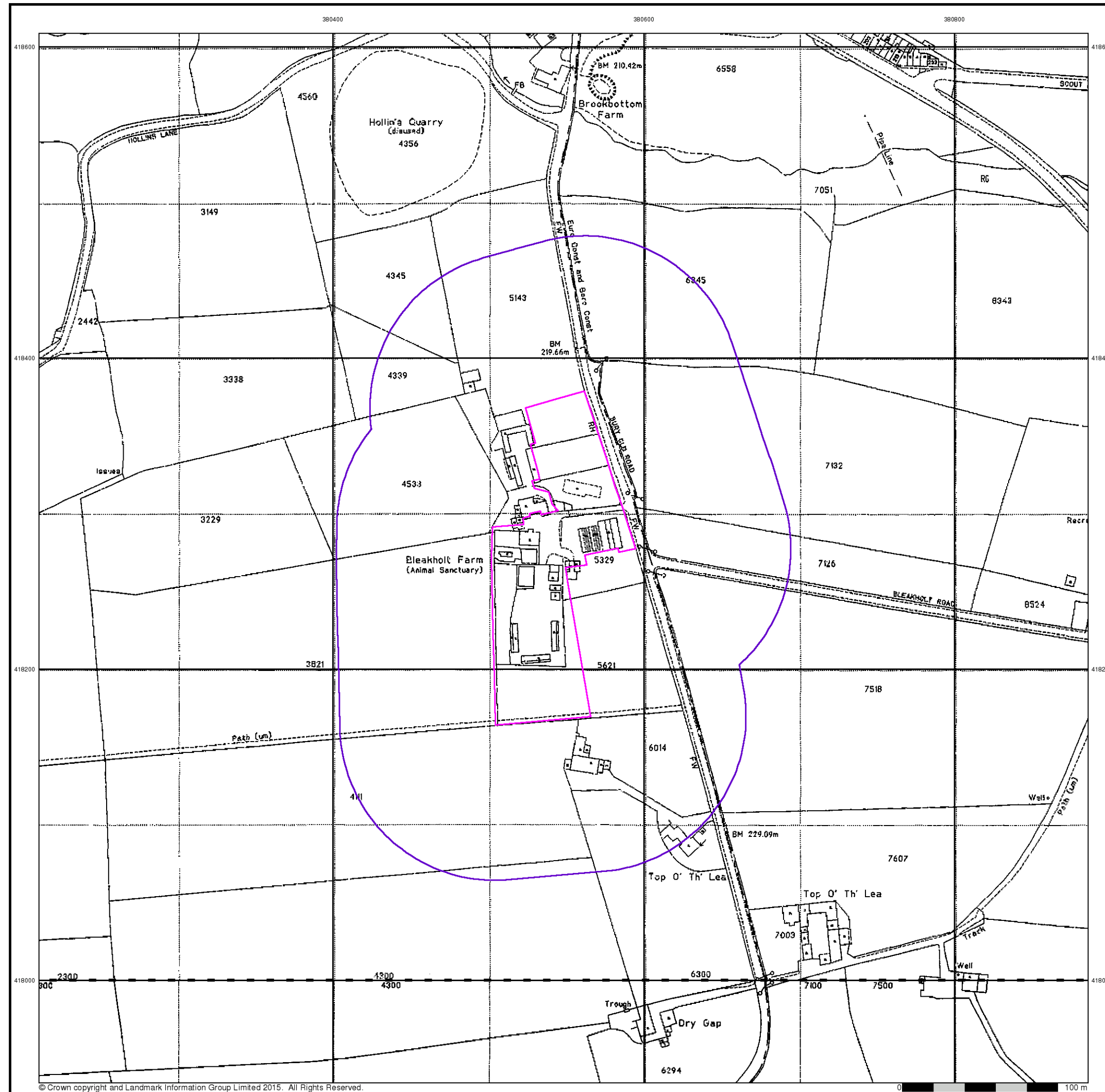
Order Details

Order Number: 133289641_1_1
Customer Ref: LKC 17 1207
National Grid Reference: 380540, 418270
Slice: A
Site Area (Ha): 1.13
Search Buffer (m): 100

Site Details

Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road, Ramsbottom, BURY, BL0 0RX





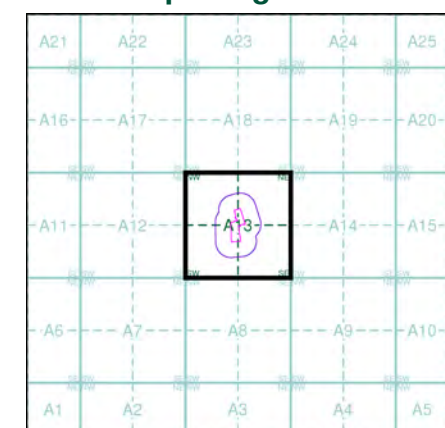
LK
CONSULT LIMITED
Large-Scale National Grid Data
Published 1992
Source map scale - 1:2,500

'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)

SD8018	1992	1:2,500
SD8017	1992	1:2,500

Historical Map - Segment A13

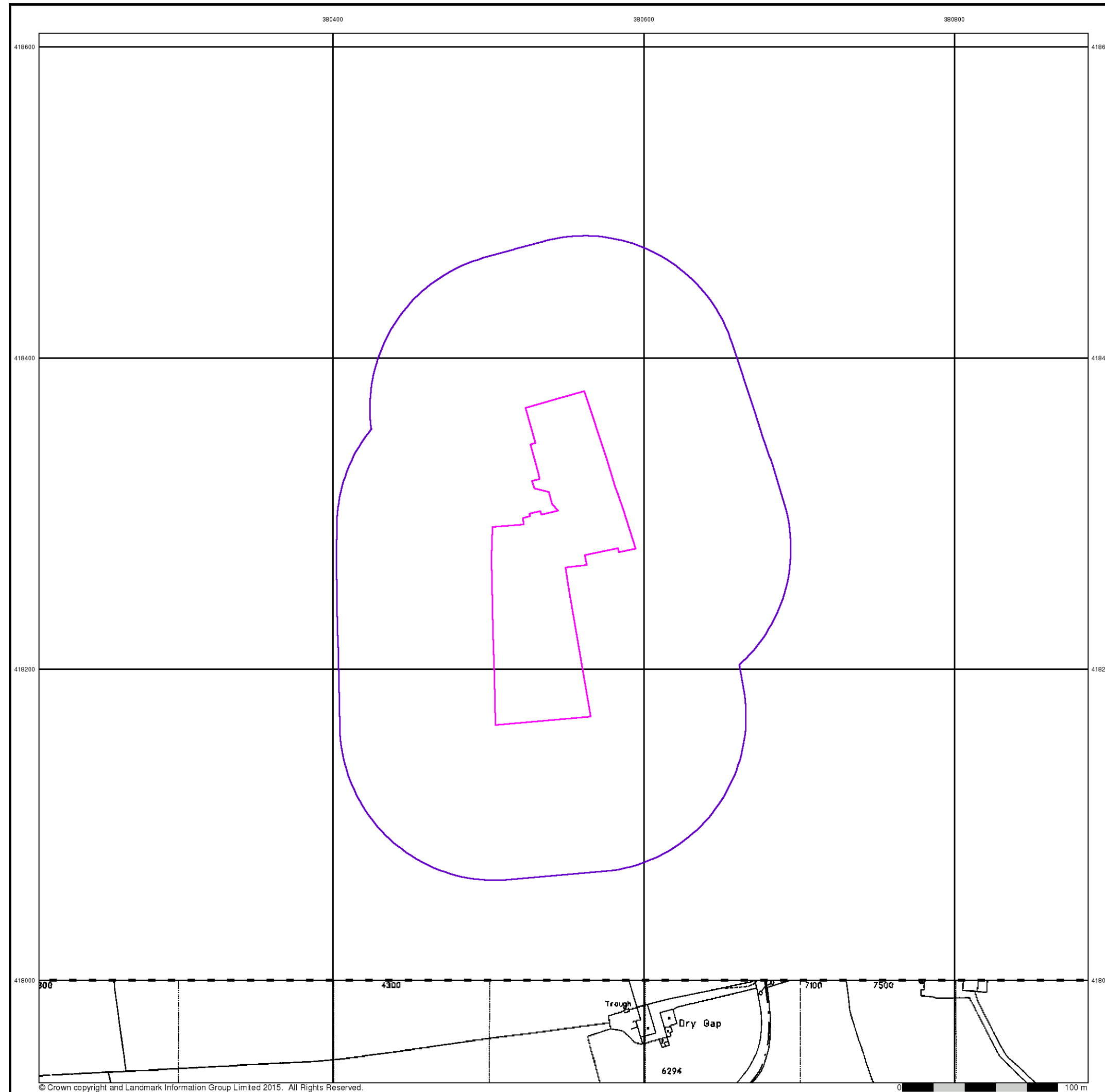


Order Details

Order Number: 133289641_1_1
Customer Ref: LKC 17 1207
National Grid Reference: 380540, 418270
Slice: A
Site Area (Ha): 1.13
Search Buffer (m): 100

Site Details

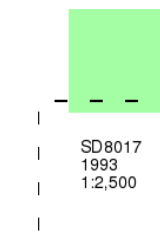
Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road, Ramsbottom, BURY, BL0 0RX



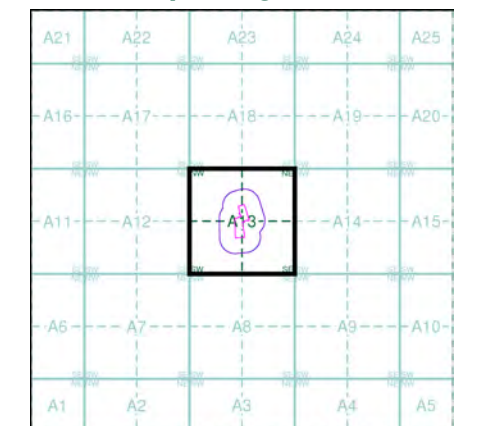
LK
CONSULT LIMITED
Large-Scale National Grid Data
Published 1993
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 133289641_1_1
Customer Ref: LKC 17 1207
National Grid Reference: 380540, 418270
Slice: A
Site Area (Ha): 1.13
Search Buffer (m): 100

Site Details

Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road,
Ramsbottom, BURY, BL0 0RX

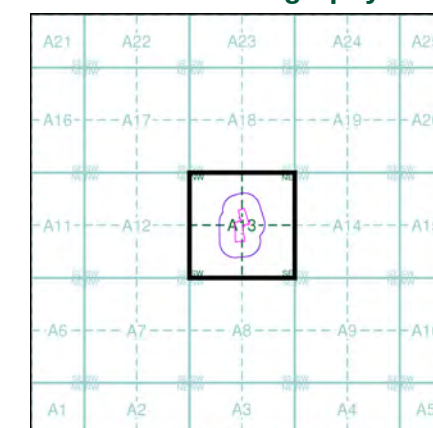


Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Published 2001

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

Historical Aerial Photography - Segment A13



Order Details

Order Number: 133289641_1_1
Customer Ref: LKC 17 1207
National Grid Reference: 380540, 418270
Slice: A
Site Area (Ha): 1.13
Search Buffer (m): 100

Site Details

Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road,
Ramsbottom, BURY, BL0 0RX

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

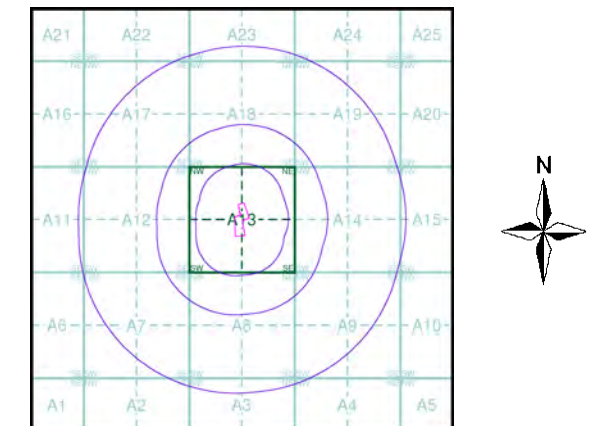
1:10,000 Raster Mapping

	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

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1850 - 1851	3
Lancashire And Furness	1:10,560	1894 - 1895	4
Lancashire And Furness	1:10,560	1912	5
Lancashire And Furness	1:10,560	1930	6
Lancashire And Furness	1:10,560	1938 - 1939	7
Ordnance Survey Plan	1:10,000	1955 - 1956	8
Ordnance Survey Plan	1:10,000	1967 - 1968	9
Manchester	1:25,000	1975	10
Ordnance Survey Plan	1:10,000	1982 - 1987	11
Ordnance Survey Plan	1:10,000	1993	12
10K Raster Mapping	1:10,000	1999	13
10K Raster Mapping	1:10,000	2006	14
VectorMap Local	1:10,000	2017	15

Historical Map - Slice A



Order Details

Order Number: 133289641_1_1
Customer Ref: LKC 17 1207
National Grid Reference: 380540, 418270
Slice: A
Site Area (Ha): 1.13
Search Buffer (m): 1000

Site Details

Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road, Ramsbottom, BURY, BL0 0RX

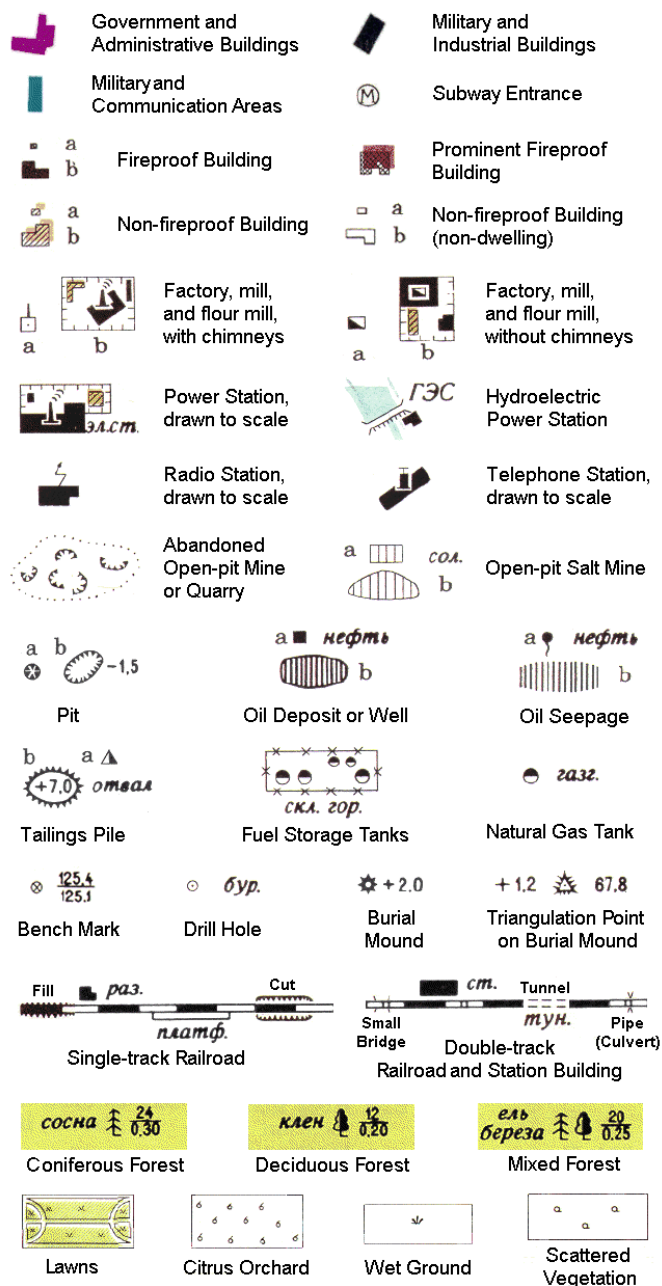
Landmark
INFORMATION GROUP

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

Russian Military Mapping Legends

1:5,000 and 1:10,000 mapping

a. Not drawn to scale b. Drawn to scale



243.8 Values for prominent elevations

186.0 Numbers for spot elevations, depth soundings, contour lines, etc.

0.2 Velocity of the current, width of river bed, depth of river

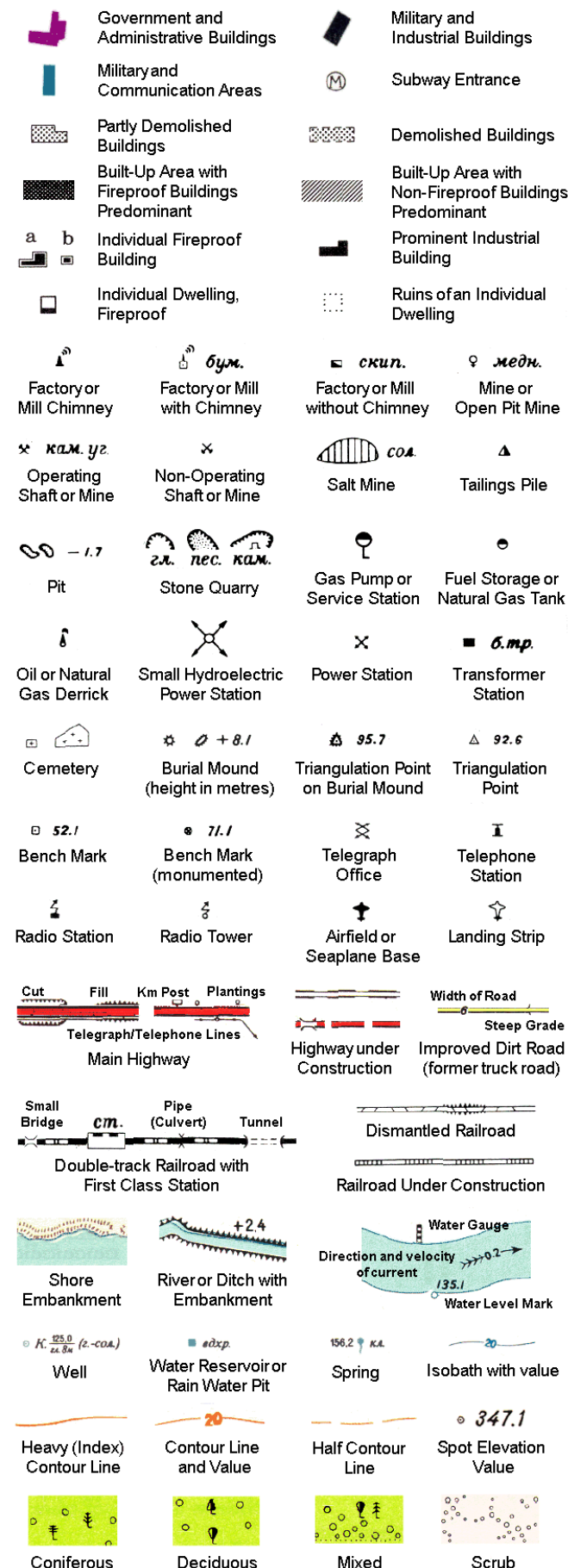
180/12 Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees

Russian Alphabet (For reference and phonetic interpretation of map text)

А а (A)	З з (Z)	П п (P)	Ч ч (CH)
Б б (B)	И и (I)	Р р (R)	Ш ш (SH)
В в (V)	Й й (Y)	С с (S)	Щ щ (SHCH)
Г г (G)	К к (K)	Т т (T)	Ъ (-)
Д д (D)	Л л (L)	У у (U)	Ы (Y)
Е е (E)	М м (M)	Ф ф (F)	Ь (')
Ё ё (YO)	Н н (N)	Х х (KH)	Э э (E)
Ж ж (ZH)	О о (O)	Ц ц (TS)	Ю ю (YU or IU)
			Я я (YA or IA)

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

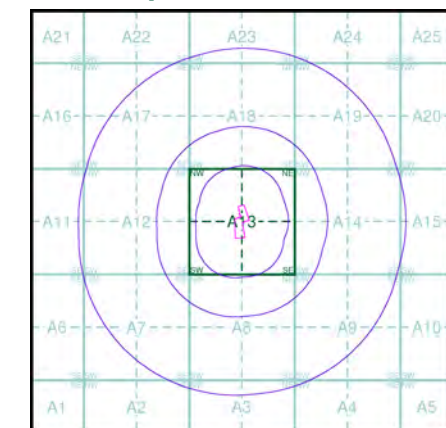


Key to Numbers on Mapping



Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1850 - 1851	3
Lancashire And Furness	1:10,560	1894 - 1895	4
Lancashire And Furness	1:10,560	1912	5
Lancashire And Furness	1:10,560	1930	6
Lancashire And Furness	1:10,560	1938 - 1939	7
Ordnance Survey Plan	1:10,000	1955 - 1956	8
Ordnance Survey Plan	1:10,000	1967 - 1968	9
Manchester	1:25,000	1975	10
Ordnance Survey Plan	1:10,000	1982 - 1987	11
Ordnance Survey Plan	1:10,000	1993	12
10K Raster Mapping	1:10,000	1999	13
10K Raster Mapping	1:10,000	2006	14
VectorMap Local	1:10,000	2017	15

Russian Map - Slice A



Order Details

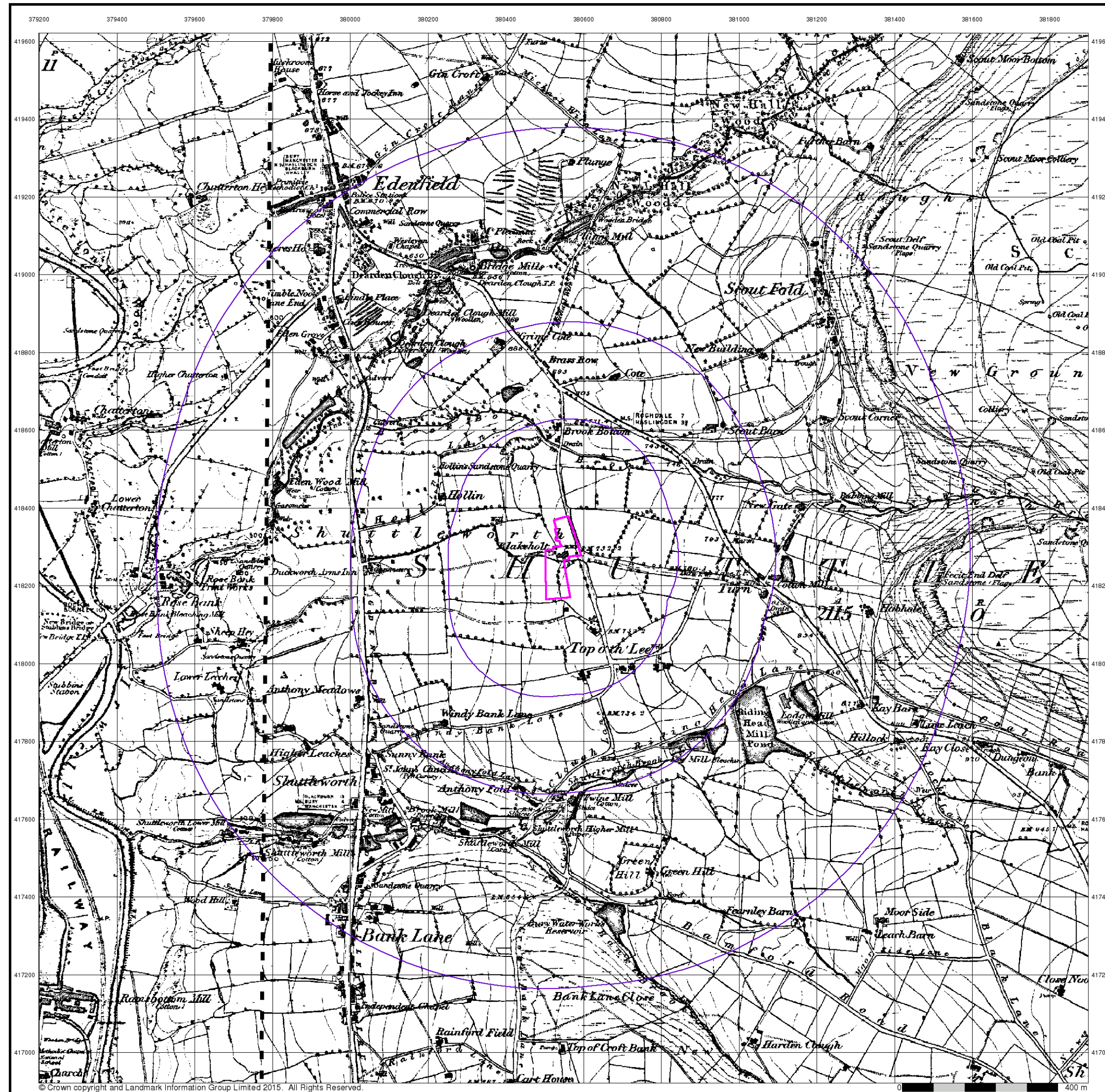
Order Number: 133289641_1_1
 Customer Ref: LKC 17 1207
 National Grid Reference: 380540, 418270
 Slice: A
 Site Area (Ha): 1.13
 Search Buffer (m): 1000

Site Details

Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road, Ramsbottom, BURY, BL0 0RX



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



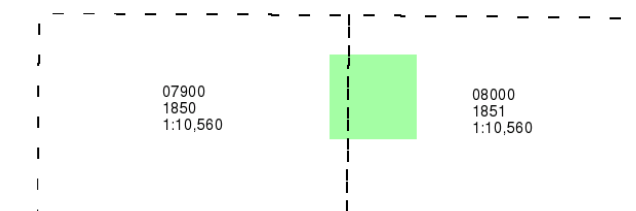
LK CONSULT LIMITED Lancashire And Furness

Published 1850 - 1851

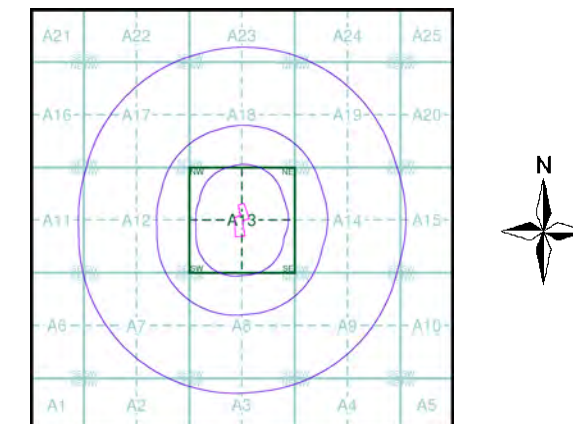
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

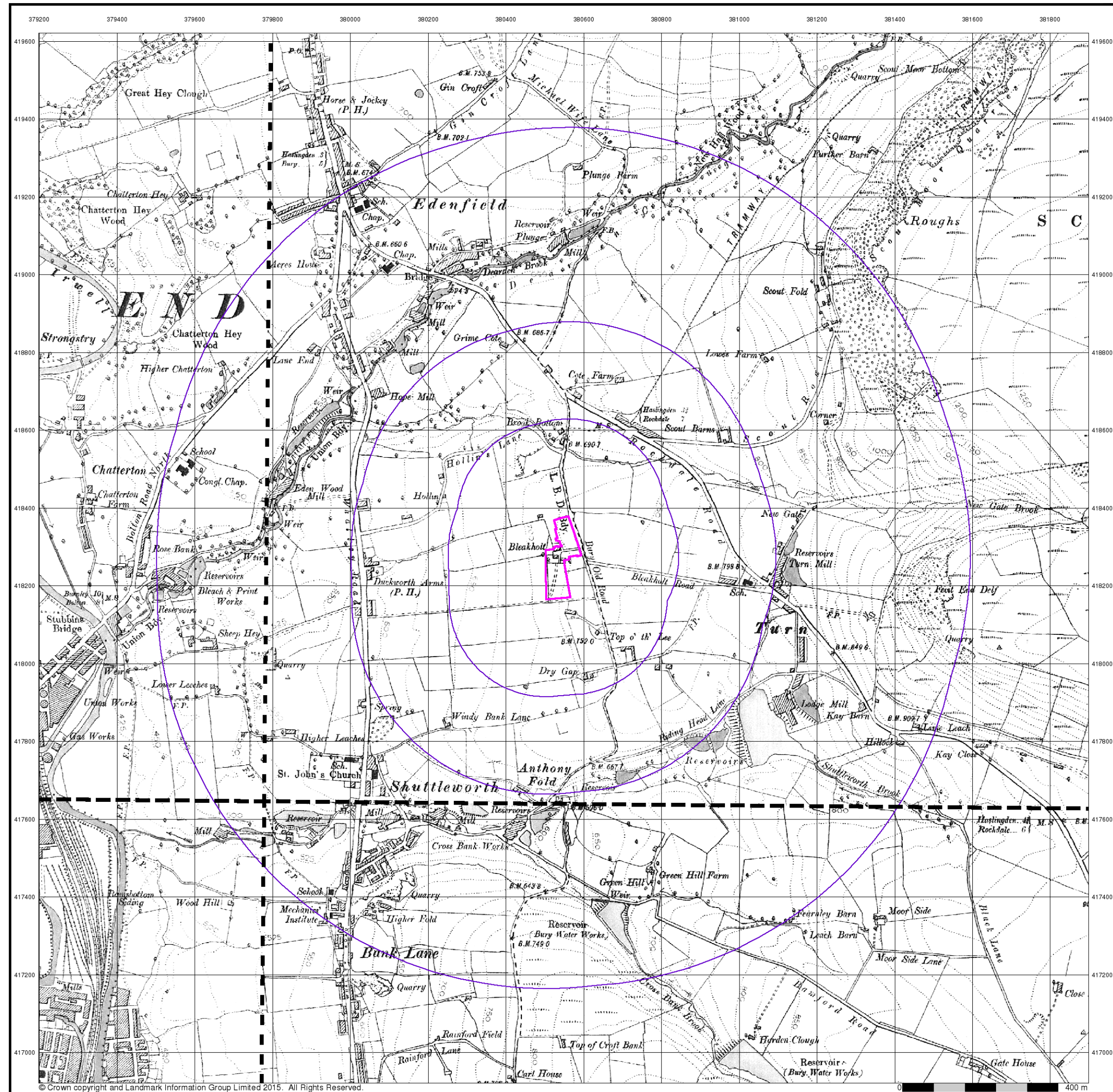
Order Number: 133289641_1_1
Customer Ref: LKC 17 1207
National Grid Reference: 380540, 418270
Slice: A
Site Area (Ha): 1.13
Search Buffer (m): 1000

Site Details

Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road,
Ramsbottom, BURY, BL0 0RX

Landmark
INFORMATION GROUP

Tel: 0844 844 9952
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LK CONSULT LIMITED Lancashire And Furness

Published 1894 - 1895

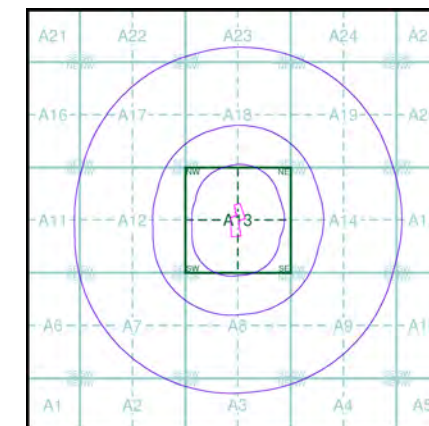
Source map scale - 1:10,560

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)

079NE 1894 1:10,560	080NW 1895 1:10,560
079SE 1894 1:10,560	080SW 1894 1:10,560

Historical Map - Slice A



Order Details

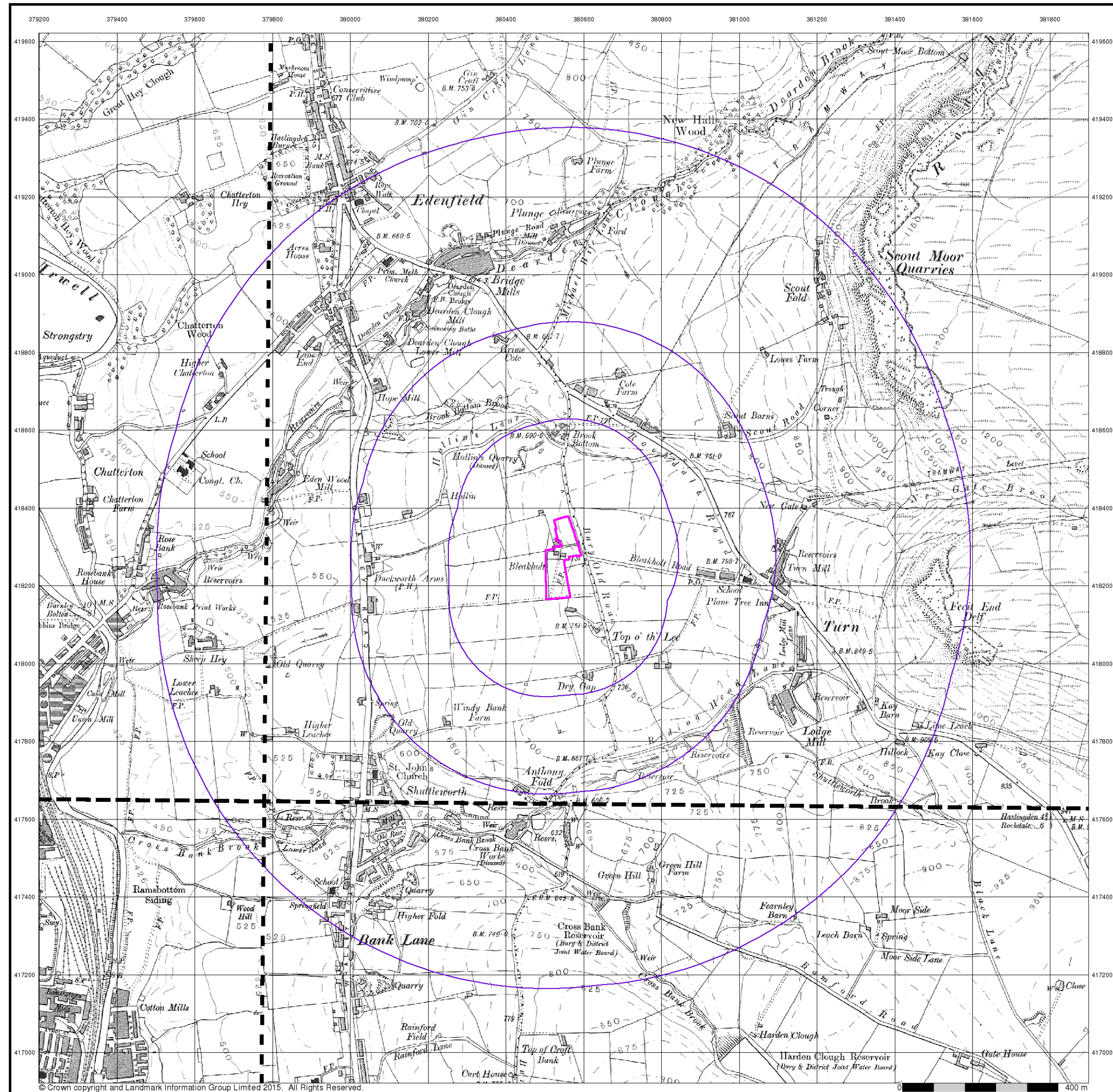
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Customer Ref: LKC 17 1207
National Grid Reference: 380540, 418270
Slice: A
Site Area (Ha): 1.13
Search Buffer (m): 1000

Site Details

Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road, Ramsbottom, BURY, BL0 0RX

Landmark
INFORMATION GROUP

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Published 1912

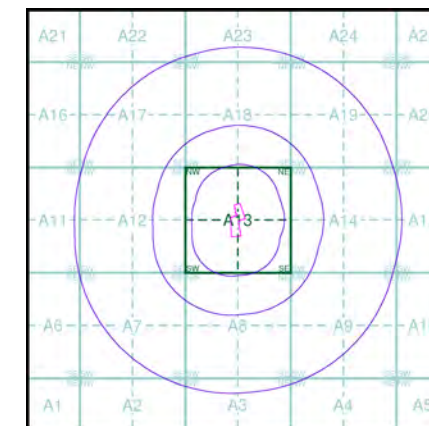
Source map scale - 1:10,560

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)

079NE 1912 1:10,560	080NW 1912 1:10,560
079SE 1912 1:10,560	080SW 1912 1:10,560

Historical Map - Slice A



Order Details

Order Number: 133289641_1_1
Customer Ref: LKC 17 1207
National Grid Reference: 380540, 418270
Slice: A
Site Area (Ha): 1.13
Search Buffer (m): 1000

Site Details

Bleakholt Animal Sanctuary, Bleakholt Farm, Bury Old Road,
Ramsbottom, BURY, BL0 0RX