

**PATRICK
PARSONS**

CREATING PLACES  FOR FUTURE GENERATIONS TO THRIVE

Phase I Site Appraisal

11751 – St Chad's Drive, Kirkby
Liverpool

for

McCarthy Stone
SCK-PPC-00-XX-RP-G-0001

June 2023

Phase I Site Appraisal
11751 – St Chad's Drive, Kirkby
for
McCarthy Stone

Revision	Date of issue	Comments	Prepared By	Checked By
0	27/06/2023	1 st issue	RFH	NAM

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Contents

1.0	Introduction.....	1
2.0	Site Setting.....	2
3.0	Phase I Conceptual Model.....	6
4.0	Preliminary Recommendations	10
5.0	Conclusions.....	11

Appendix A	Figures
Appendix B	Historical Maps
Appendix C	Environmental Data Reports

1.0 Introduction

1.1 Commission

Patrick Parsons (PP) has been appointed by McCarthy Stone (client) to produce a Phase I Site Appraisal, for their site known as 'St Chad's Drive, Kirkby' near Liverpool herein referred to as the site.

1.2 Proposed Development

It is understood that the site is to be developed to provide a four-storey retirement living complex comprising 53no. one and two-bedroom apartments, parking spaces and areas of soft landscaping. A proposed development plan is included in Appendix A.

1.3 Limitations

This report has been prepared for the client and their appointed agents only and should not be relied upon by any third party without the written permission of Patrick Parsons. If any unauthorised third party comes into possession of this report, they rely on it at their own risk and the authors do not owe them any Duty of Care or Skill. It is based on and limited to an assessment of the information and ground conditions identified here.

1.4 Aim of Phase I Site Appraisal

The client's specific requirements were to provide a Phase I Site Appraisal for the site supplemented with an environmental data report. The principal objectives are as follows:

- Obtain information about the likely soil and groundwater conditions within the area of the site;
- Determine the possible ground related geotechnical and contamination hazards within the site boundaries that may affect any future proposed development;
- Provide advice on further works required for the cost-effective reduction of risks to the development and procedures likely to satisfy regulators.

1.5 Information Sources

This Phase I Site Appraisal is based on published geological and environmental information supplemented by historical mapping (Appendix B) and an environmental data report (Appendix C).

2.0 Site Setting

2.1 Site Description

The site is developed parcel of land accessed off St Chad's Drive in the centre of the town of Kirkby, located approximately 10km north-east of the centre of Liverpool. The site is centred at OS grid reference 341441, 398766 and the nearest postcode is L32 8RE.

The site is a roughly square shaped parcel of land comprising a car park covering approximately three quarters of the site with the remaining area covered by grass. The site area is 0.41ha and the topography is level and contiguous with the surrounding land.

The site is bound to the north by Trentham Medical Centre, to the south by Kirkby Police Station, to the west by St Chad's Drive with access to the car park, and to the east by the A5208 dual carriageway named County Road. The wider area comprises primarily residential housing to the north, east and south with a large complex of commercial and retail buildings to the west. A site location plan is presented Appendix A.

2.2 Site History

Year	Site	Surrounding Area
1867	The site is an undeveloped agricultural land with a field boundary present across the north of the site.	The site is situated in a rural area including farms within 250m. Two ponds are located approximately 80m west of the site. Kirkby School is located approximately 200m north of the site on a crossroads. A large area of woodland is 300m north-east of the site with a former red sandstone quarry within it.
1893	No significant changes are recorded.	The larger of the two ponds is no longer recorded. A pond is recorded in the former quarry 300m north-east.
1908	No significant changes are recorded.	No significant changes are recorded.
1927	No significant changes are recorded.	The smaller of the two ponds 80m west is no longer recorded and assumed to have been infilled.
1955-1956	No significant changes are recorded.	500m north-east of the site adjacent to the red sandstone quarry a large complex of buildings is recorded as 'Industrial Hostel'.
1961-1962	St Chad's Drive is recorded in its current location adjacent to the west of the site and County Road is mapped immediately adjacent to the north-east of the site. A building recorded as a 'Clinic' is located in the centre of the site with areas of hardstanding around it.	The surrounding area is now developed with a network of roads matching the current layout with a Police Station immediately south and Fire Station 75m south of the site. Kirkby Labour Club is mapped north of the site. A complex of market buildings is recorded 100m west of the site and the rest of the surrounding area is now residential housing. The quarry to the north-east is no longer recorded.
1962	No significant changes are recorded.	No significant changes are recorded.
1966	No significant changes are recorded.	No significant changes are recorded.
1973-1977	A Magistrates Court is mapped in the north-east of the site adjoined to the offsite Police Station.	An electrical substation is mapped 75m south and an ambulance station is recorded 80m south-east of the site. There are two large commercial buildings (shopping centre) 100m west of the site.
1984-1989	No significant changes are recorded.	No significant changes are recorded.
1993	No significant changes are recorded.	No significant changes are recorded.
1994	No significant changes are recorded.	No significant changes are recorded.
1995	No significant changes are recorded.	No significant changes are recorded.

2001	No significant changes are recorded.	No significant changes are recorded.
2003	No significant changes are recorded.	No significant changes are recorded.
2010	The Magistrate's Court is no longer recorded.	The labour club to the north is no longer recorded.
2023	The clinic is no longer recorded.	The Trentham Medical Centre is recorded with a different building footprint to the north of the site.

The historical maps reviewed are represented in Appendix B.

2.3 Geology

The site is not recorded to be underlain by Made Ground. However, given the history of development at the site there is likely to be Made Ground present across the site. The nearest recorded Made Ground deposit is 26m south-west associated with the large commercial and retail development.

The site is recorded to be underlain by superficial deposits of the Shirdley Hill Sand Formation. The British Geological Survey (BGS) describes this as moderately to well-sorted, fine-grained sand with peat layers in the lower part. Sand grains are dominated by rounded to sub-rounded quartz grains. The sediments are interpreted as coastal blown sands.

The bedrock geology beneath the site is recorded to comprise Sandstone of the Chester Formation. The BGS describes the formation as comprising conglomerates and reddish brown, cross-bedded, pebbly sandstones with subordinate beds of red-brown mudstone. The conglomerates have a reddish-brown sandy matrix and consist mainly of pebbles of brown or purple quartzite, with quartz conglomerate and vein quartz. In these areas the formation generally fines upwards, from dominantly conglomerates at the base, to interbedded conglomerates and sandstones, with sandstone and pebbly sandstone predominant in the upper part, and rare mudstones. The nearest recorded fault within bedrock is approximately 1km to the west of the site.

There are 2no. recorded BGS borehole located within 250m of the site; BGS references SJ49NW27 and SJ49NW30, located 117m and 170m south-west of the site, respectively. Three borehole records are available associated with SJ49NW27. Borehole 1 recorded ground conditions comprising recorded topsoil to 0.46m below ground level at time of boring (bgl), overlying light brown and light grey sand to 0.61m bgl, soft to firm brown green sandy marl to 1.06m bgl, dark grey sand and soft brown clay to 1.52m bgl, light grey sand to 2.44m bgl, brown sandy clay to 2.74m bgl and very hard cemented clayey sand to 3.51m bgl. Borehole 2 recorded topsoil to 0.61m bgl, brown sandy soil and boulders to 0.76m bgl, light grey sandy clay to 1.68m bgl, light grey sandy silt and brown coarse sand to 1.83m bgl, firm sandy marl to 2.97m bgl and very hard red cemented clayey sand to 5.94m bgl. Borehole 3 recorded black topsoil to 0.91m bgl and brown topsoil to 1.52m bgl, firm sandy clay and sand to 2.44m bgl, firm sandy marl to 2.90m bgl and very hard red cemented clayey sand to 6.40m bgl.

SJ49NW30 recorded concrete and steel matting to 0.20m bgl, fill material to 1.3m bgl, grey sand with gravel and cobbles to 2.0m bgl, brown and red brown very sand clay/clayey sand to 2.3m bgl and very soft to soft weathered red brown slightly silty sandstone with occasional pebbles to 4.0m bgl.

2.4 Mining and Quarrying

There are 2 no. (ceased) records of BritPits within 500m of the site, located 397m north-east associated with sandstone quarrying at Old Rough Delf and for sand and gravel extraction at Webster's Pits located 449m south-west. There are 2no. records of surface ground workings within 250m relating to unspecified pits located 245m south. There are 3no. records of underground workings within 1000m of the site, located 319 to 330m northeast of the site at Delf between 1890 and 1928.

2.5 Radon

The site is recorded to be in an area where less than 1% of properties are above the action level, and as such radon protection measures will not be required for any future development of the site.

2.6 Hydrogeology and Hydrology

The bedrock geology beneath the site is recorded to be a Principal Aquifer and the superficial deposits are a Secondary A aquifer. The site is within a Source Protection Zone III – Total Catchment.

There are 26no. records of groundwater abstractions within 2000m of the site. The nearest record is located 893m north and is a historical record for a United Utilities potable water pumping station. There are 5 no. active records within 2000m of the site with the nearest at 970m east of the site for spray irrigation at Liverpool Football Club & Athletic Grounds.

There are 2no. surface water abstraction records within 2000m of the site, both of which are historical. The nearest record is located 1157 m north-west.

There is 1no. active record of potable abstractions within 2000m of the site located 1914 m east at Kirkby Industrial Estate used for drinking, cooking, washing, and commercial processes.

There is 1no. record of surface water features within 1000 m of the site, Simmonswood Brook located 629m west which has an overall rating of moderate, an ecological rating of moderate and a fail for the chemical rating. The WFD groundwater body recorded on-site is the Lower Mersey Basin and North Merseyside Permo-Triassic Sandstone Aquifers, water body ID GB41201G101700, which has an overall rating of poor, a chemical rating of poor and a quantitative rating of poor when last assessed in 2019.

The site is not recorded to be within an area at risk of flooding from surface water and has a moderate risk of flooding from groundwater.

2.7 Environmental Data

There are 13no. records of historical industrial land uses within 500m of the site. The closest record is located on-site and is a Police Station, however, historic mapping shows the police station to be located immediately offsite. The next nearest is a Fire Station 60m south-east of the site. Other historical records within 250m of the site comprise unspecified pits, delf (quarry), unspecified quarries and a sand pit.

There are 3no. records of historical tanks within 500m of the site. The tanks are 234m north, 237m north, and 458m southeast and are all unspecified.

There are 27no. historical energy features within 500m of the site. The nearest record is 56m south of the site and is recorded as an electricity substation. All other records are for electricity substations and are too far from the site to pose a contaminative risk.

There are 4no. records of historical garages all 306m west of the site.

There are no records of any active, recent, or historic landfills within 500m of the site (BGS/EA/LA records).

There are no records of historical waste sites within 500m. There are 8no. records of waste exemptions within 500m of the site all related to the sorting and denaturing of controlled drugs for disposal with the nearest at 140m south-west.

There are 20no. records of recent or current industrial land use within 250m of the site. The nearest record is located 42m north relating to an electricity substation. The other pertinent records include an electricity substation 61m south, Kirkby Community Fire Station 71m south, Kirkby Ambulance Station 72m south-east and Morrisons petrol station 98m north.

There are 2no. records of a current or recent petrol stations within 500m of the site. The nearest is located 129m north of the site, is currently active and operated by Morrisons.

There are 3no. licensed pollutant releases (part A(2)/B) within 500m of the site. The nearest is located 87m south for dry cleaning. There is also a record of a licensed pollutant release from the Morrisons Petrol Station (127m north) during the unloading of petrol into storage.

The environmental data report obtained for the site is presented in Appendix C. The report does not highlight any additional significant features other than those discussed in other sections of this report.

3.0 Phase I Conceptual Model

3.1 Initial Conceptual Model and Preliminary Risk Assessment

The preceding desk study data has been assessed and a conceptual model produced in accordance with Land Contamination Risk Management (LCRM) guidance document. LCRM provides a technical framework for identifying and remediating contamination through the application of a risk management process.

The process requires the development of an initial conceptual site model (CSM) and preliminary risk assessment are based on information derived from the desk study to provide a qualitative assessment of risk posed to human health and environmental receptors from potential on and off-site sources of contamination as defined within Part IIA of the Environmental Protection Act (1990).

The CSM provides the relationship between the following three criteria:

- The presence of substances that may cause harm (source);
- The presence of a plausible pollutant linkage between the source and receptor (pathway);
- The presence of a receptor which may be harmed (receptor).

If all three criteria are present, or considered likely to be present at a site, they are identified as Potential Contaminant Linkages (PCLs) and they should be considered within the risk assessment process. For an 'unacceptable risk' to exist, it must be established that contamination has the potential to cause harm to susceptible targets, which requires scientific and technical knowledge.

EA R&D66 (2008) includes a risk classification system based on classification of consequence and probability. The table below shows a risk matrix, in which the likelihood or probability of each pollutant linkage being realised is ranked against the severity of the consequences. The result is the risk classification, based upon which risk management actions can be implemented. The individual sources, pathways and receptors identified are assessed against this risk matrix; potential pollutant linkages and associated risks are recorded.

		Severity of Consequence			
		Severe	Medium	Mild	Minor
Probability of pollutant linkage	High Likelihood	Very High risk	High risk	Moderate risk	Moderate/ Low risk
	Likely	High risk	Moderate risk	Moderate / Low risk	Low risk
	Low Likelihood	Moderate risk	Moderate / Low risk	Low risk	Very Low risk
	Unlikely	Moderate / Low risk	Low risk	Very Low risk	Very Low risk

The definitions of the risk terminology are taken from CIRIA report C552 and are summarised as follows:

- **Very High risk:** there is a high probability that severe harm could arise to a designated receptor from an identified source, or there is evidence that severe harm to a designated receptor is currently occurring. This level of risk is likely to result in a substantial liability and urgent investigation (if not already undertaken) and remediation are likely to be required.
- **High risk:** harm is likely to arise to a designated receptor from an identified source. This level of risk is likely to result in a substantial liability, urgent investigation (if not already undertaken), short term remediation may be necessary are likely to be required in the long term.
- **Moderate risk:** it is possible that harm could arise to a designated receptor from an identified source. However, it is relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required and some remediation may be required in the long term.
- **Low risk:** it is possible that harm could arise to a designated receptor from an identified source, but it is likely that this harm, if realised, would at worst normally be mild. Further investigation should be considered, but is not necessarily required, to confirm the absence of contamination.
- **Very Low risk:** there is a low possibility that harm could arise to the receptor. In the event of such harm being realised it is not likely to be severe. Further investigation should be considered, but is not necessarily required, to confirm the absence of contamination.

A pollutant linkage must be established before tests for probability and consequence are applied. If there is no pollutant linkage, then there is no potential risk and there is no need to apply tests for probability and consequence. The risk assessment needs to include a logical and transparent system to define categories of severity of consequence and probability of occurrence. The initial conceptual model and preliminary risk assessment are discussed below.

3.2 Potential On-site Sources of Contamination

- Made Ground associated with the demolition of the historic clinic and magistrates court buildings on-site.

3.3 Potential Offsite Sources of Contamination

- Potential underground fuel storage tanks at the neighbouring police station, fire station and ambulance station.
- Large area of artificial ground recorded 29m west of the site
- Active petrol station 129m north of the site.

3.4 Contaminants of Concern

General contaminants of concern associated with Made Ground are likely to include heavy metals, polycyclic aromatic hydrocarbons (PAHs) and asbestos. Contaminants of concern associated with the potential underground fuel storage tanks and active petrol station include total petroleum hydrocarbons (TPH).

3.5 Pathways

The potential pathways for migration of contamination sources to potential receptors relevant to this site are as follows:

Human Health

- Dermal contact, inhalation and/or ingestion of dust derived from contaminated soils;
- Inhalation of volatile soil vapours and ground gas through migration of hazardous soil-gases via permeable strata or ducts/drains into future buildings.

Controlled Waters

- Discharge of contamination within surface water run-off;
- Leaching of contamination with subsequent vertical and/or lateral migration of mobile contaminants into controlled water receptors;
- Migration of contamination via preferential pathways e.g. service runs.

Buried Services/Property

- Direct contact of contaminants with existing or future buried services;
- Migration of hazardous soil-gases via permeable strata or ducts/drains into enclosed spaces.

3.6 Receptors

The following site-specific receptors are considered relevant:

Human Health

- Site users – end-users of the proposed residential development;
- Construction workers – personnel involved in the redevelopment works;
- Offsite residential properties – end users.

Controlled Waters

- Underlying superficial (Secondary A) and bedrock (Principal) aquifers.
- Source Protection Zone III – Total Catchment beneath the site.

Buried Services / Property

- Building fabric and foundations/piles.

3.7 Conceptual Site Model

A preliminary qualitative assessment of the identified PCLs and associated risk ratings has been completed and a summary is provided in the Table on the next page.



Source	Pathway	Receptor	Consequence	Probability	Risk Assessment and Justification
On-site sources – Made Ground: general contaminants to include heavy metals, PAHs, pesticides and asbestos. Potential medical waste from historic clinic. Offsite sources – Active petrol station 129m north potential source of Total Petroleum Hydrocarbons (TPH). Large area of artificial ground recorded west of the site: Potential source of ground gasses.	Dermal contact, inhalation and ingestion of contaminants in soil and soil derived dust	Future site user/worker	Medium	Likely	Moderate Risk – There is potential for Made Ground on-site, however, past site uses are not indicative of significant contamination. The proposed development of the site includes areas of soft landscaping, there will be a pathway between any potential contamination and end users.
		Site construction worker	Medium	Low Likelihood	Moderate / Low Risk - Construction workers have a shorter exposure period and risks shall be adequately mitigated by law, specifically the Construction Design Management (CDM) Regulations, 2015.
	Inhalation of volatile soil vapours and ground gas	Future site user/worker	Medium	Low Likelihood	Moderate / Low Risk – There is potential for thicknesses of Made Ground on-site following demolition of historic buildings that could be a source of ground gases. Neighbouring sites with potential underground fuel storage tanks could be a source of hydrocarbon vapours and other gases such as CO ₂ .
		Site construction worker			
	Inhalation of asbestos free fibres	Site user/worker	Severe	Likely	High Risk – Given the age of the previously demolished buildings, it is considered likely that they included asbestos containing materials within their fabric. Given that proposed development of the site includes areas of soft landscaping there will be a pathway between any potential contamination and end users.
		Site construction worker		Low Likelihood	Moderate Risk - Construction workers have a shorter exposure period and risks shall be adequately mitigated by law, specifically the Construction Design Management (CDM) Regulations, 2015.
	Leaching of contaminants from soil and vertical migration into groundwater	Groundwater within superficial deposits	Mild	Low likelihood	Low Risk: Moderate mobility contamination could impact the shallow groundwater within the underlying superficial deposits via percolation and lateral migration pathways. Risk assessed as Low given that the impact, if realised, would likely be mild given no likely significant sources of contamination and given that superficial deposits are unlikely to be utilised as a resource.
		Groundwater within bedrock	Medium	Unlikely	Low Risk – Any shallow contamination likely to be intercepted by shallow groundwater within the superficial deposits beneath the site.
	Potential offsite sources such as underground fuel storage tanks	Groundwater within superficial deposits	Medium	Low Likelihood	Moderate / Low Risk – Neighbouring sites such as the police station and fire station could potentially have underground fuel storage tanks and are in close enough proximity to present a risk to the site from leaks causing impact to shallow groundwater beneath the site.
	Permeation through water pipes of shallow contamination.	Future site user/worker	Medium	Unlikely	Low Risk: No significant sources of contamination likely to be able to permeate into potable water supply pipes anticipated.

4.0 Preliminary Recommendations

4.1 Contamination and Remediation

As detailed within the CSM, potential pollutant linkages have been identified at the site. Given that proposed development of the site includes areas of soft landscaping there will be a pathway between any potential contamination and end users with respect to dermal contact, inhalation and ingestion of contaminants in soil and soil derived dust. A high risk has been assigned to the CSM regarding asbestos given the age of the historic buildings on-site that have previously been demolished on-site whilst a moderate risk has been assigned to other likely site sourced contamination.

Nearby potential sources of contamination include potential underground fuel storage tanks which have the potential to impact shallow groundwater beneath the site and generate hydrocarbon vapours and other ground gases. The proximity of these potential sources raises the likelihood of impact and the risk is moderate/low.

Low risks have also been identified with respect to controlled waters as the impact to the superficial aquifer from site sourced contamination, if realised, would likely be mild, whilst shallow groundwater is likely to prevent vertical migration into the deeper Principal Aquifer.

A ground investigation will be required to confirm this assessment, the scope of which is outlined in Section 5.

It should be noted that the following comments are based on the findings of this desk study and should be confirmed by intrusive investigation and chemical analysis. At this stage, it should be assumed:

- Proposed areas of soft landscaping may require a minimum 300mm thick clean capping layer (considered likely);
- Gas protection measures may be required if elevated levels of soil-gas are encountered during the monitoring programme or significant deposits of Made Ground are encountered on-site during the ground investigation;
- Source removal maybe required if grossly contaminated soils are encountered (considered unlikely).

4.2 Geotechnical Considerations

It should be noted that the following comments and recommendations are based on the findings of this desk study. Generally, it is considered:

- The ground conditions are likely to comprise Made Ground deposits overlying granular superficial soils passing into weathered residual soils of the Chester Formation grading into sandstone bedrock;
- Traditional foundations may be suitable for the development, provided significant thicknesses of Made Ground or low strength/low bearing capacity soils are not present; however, an alternative foundation solution may be required if low strength/low bearing capacity soils are encountered at shallow depth;
- Given the likely granular nature of the on-site superficial soils, soakaway drainage may be feasible for this site, depending on the depth of Made Ground and subject to in-situ testing and groundwater levels.

5.0 Conclusions

Further works will be necessary to establish a ground model and confirm the underlying ground conditions to confirm the recommendations detailed in Section 4 and should generally comprise:

- A window sampling borehole investigation to establish the sub-surface conditions, collect samples for analysis and permit the installation of ground gas monitoring wells;
- If significant depths of Made Ground deposits or low strength/low bearing capacity soils are encountered on-site then cable percussive boreholes may be required to assist in the design of piles;
- Chemical analysis of soils followed by risk assessment so that the risk to human health and controlled waters can be determined;
- Geotechnical and geochemical soils testing of the founding strata to assess strength and suitable grade(s) of buried concrete.

This document should be submitted to the Planning Department of the Local Authority for comment and approval.



PATRICK PARSONS

Appendix A

Figures

ALL DIMENSIONS TO BE CHECKED ON SITE. WORK TO FIGURED DIMENSIONS ONLY.
REPORT DISCREPANCIES TO THE ARCHITECT AT ONCE BEFORE PROCEEDING



McCARTHY STONE
Life, well lived

GEA: 932sqm
GIA(Total): 3465sqm
Articulation(Primary):108%
Articulation(Secondary):102%
Gross/Net: 3465sqm/2564sqm = 74%

Average 1 bed unit:42.5sqm
Average 2 bed unit:61.2sqm

Lounge 96.5sqm
External Refuse:28 sqm
External Mobility Scooters:16sqm
Water tank:25sqm

 MCS Site Boundary - 0.89 acre

 Existing Trees
 Trees to be removed

EV0152 - Kirkby (Option 1)

EVOLVE UNIT - L+TEMPLATE
(53 UNITS) 4 STOREYS

ACCOMMODATION SCHEDULE

UNIT TYPE	GF	FF	SF	TF	TOTAL
EV1-1(39sqm)	3	5	5	5	18
EV2-1(43sqm)	3	3	3	3	12
EV3-1(51sqm)	1	1	1	1	4
EV4-2(61sqm)	1	1	1	1	4
EV5-2(61sqm)	2	2	2	2	8
EV6-1(57sqm)	0	1	1	1	3
EV7-2(62sqm)	1	1	1	1	4
	11	14	14	14	53
1 bed	7	10	10	10	37
2 bed	4	4	4	4	16
PARKING					24

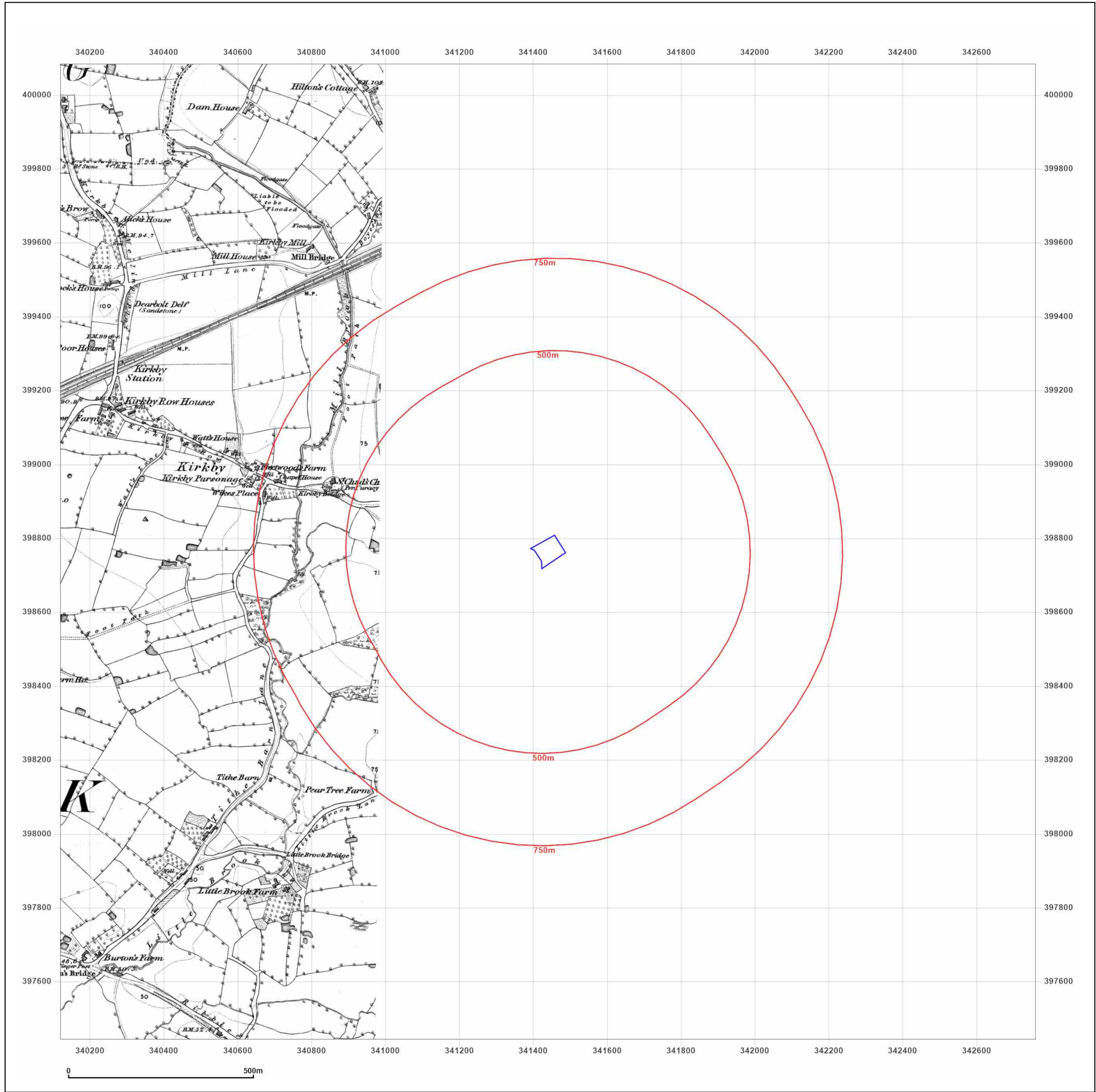
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Feasibility Sketch 1:1000@A3
13/04/2023

Appendix B

Historical Maps



Site Details:

unspecified

Client Ref: EMS_874706_1082165
Report Ref: EMS-874706_1119375
Grid Ref: 341439, 398763

Map Name: County Series

Map date: 1850

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1848
Revised N/A
Edition 1850
Copyright N/A
Levelled N/A



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Groundsure Insights
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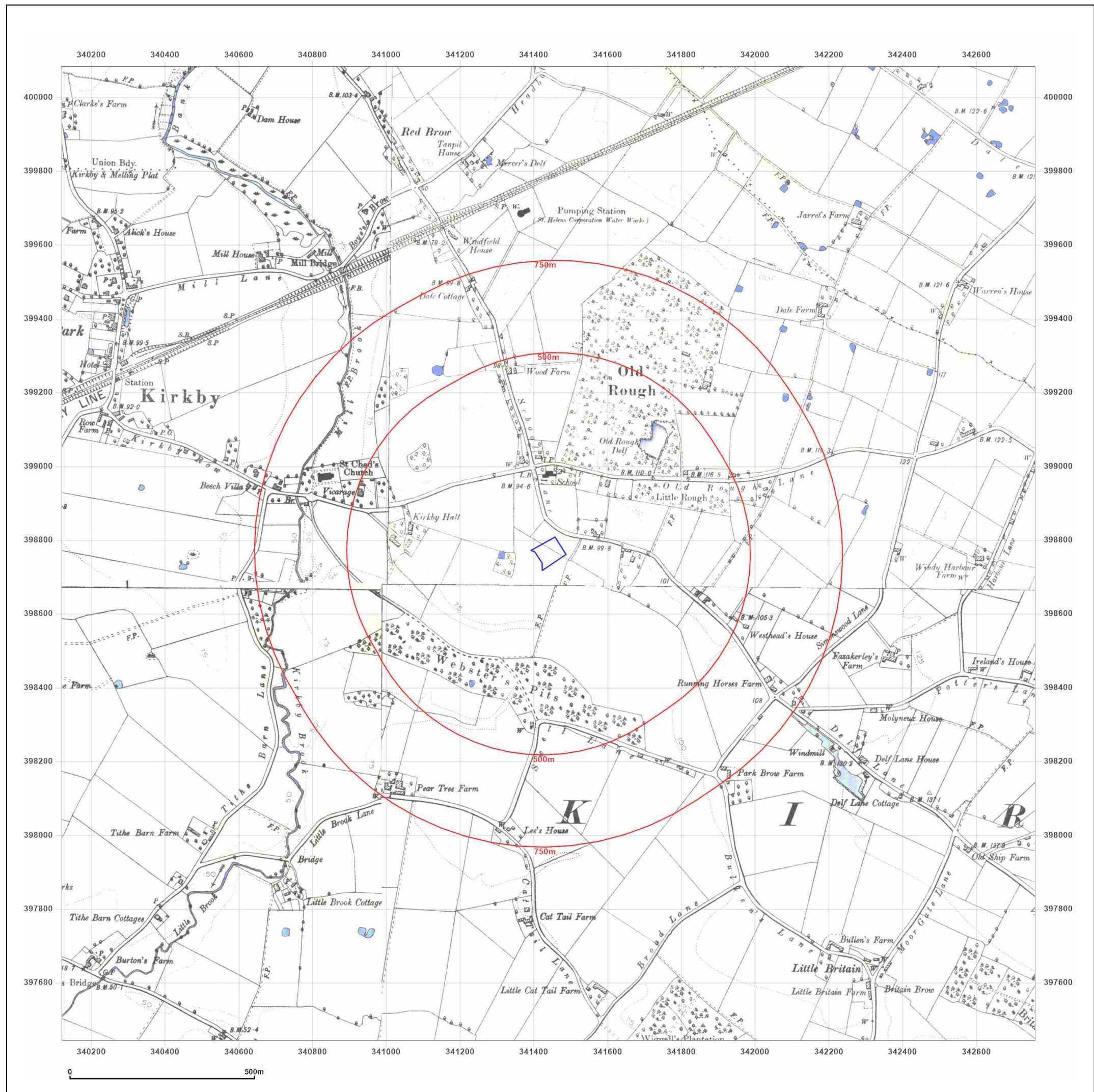


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Production date: 19 June 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

unspecified

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Report Ref: EMS-874706_1119375
Grid Ref: 341439, 398763

Map Name: County Series

Map date: 1890-1892

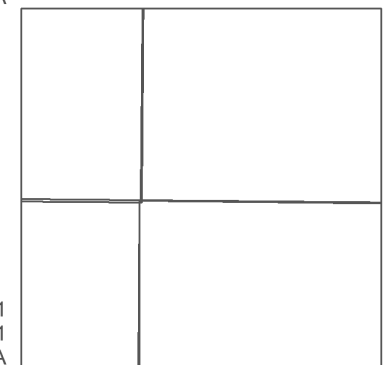
Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1891
Revised 1891
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1890
Revised 1890
Edition N/A
Copyright N/A
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Revised 1892
Edition N/A
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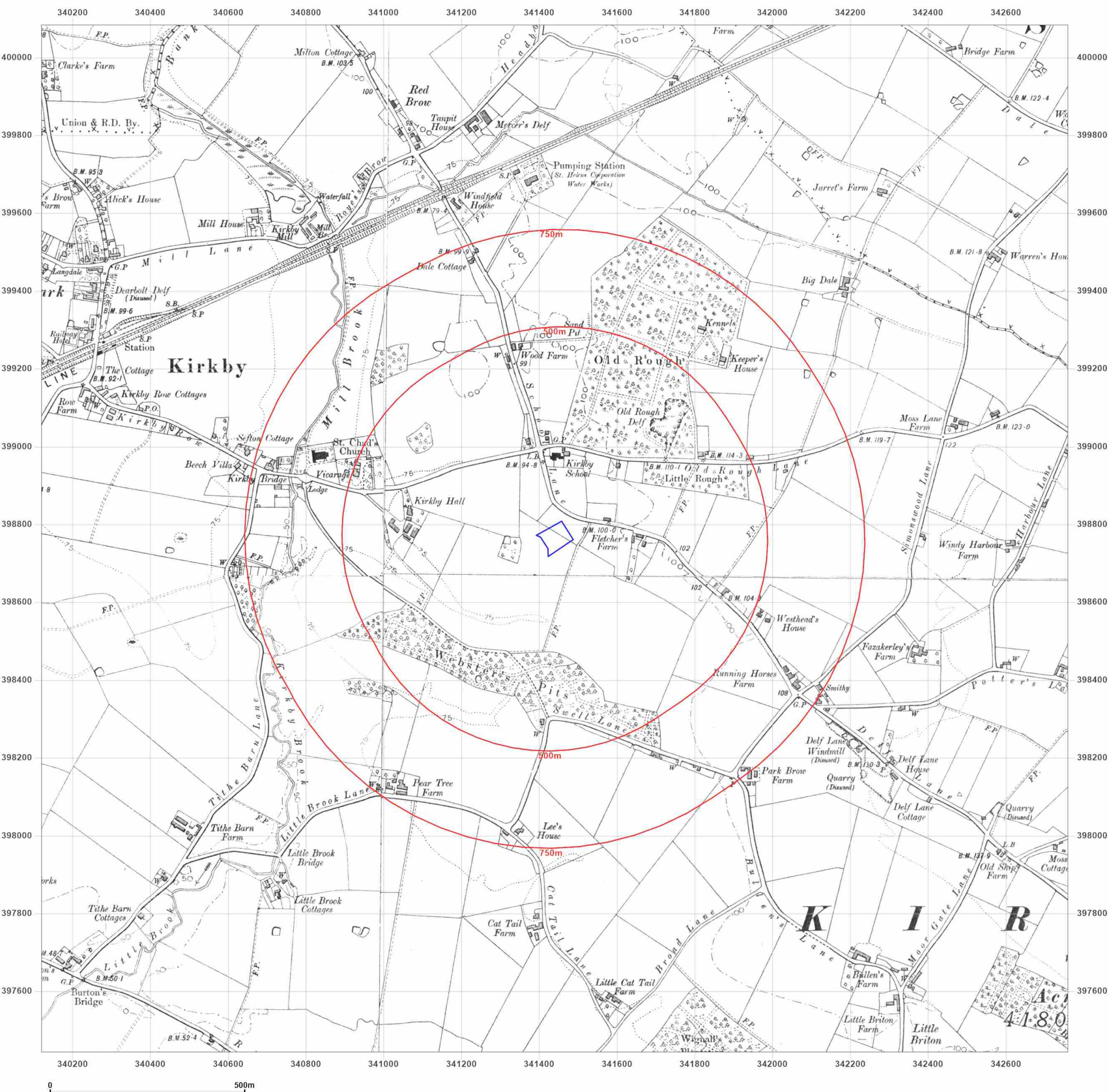


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Production date: 19 June 2023

Map legend available at:
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Site Details:
unspecified

Client Ref: EMS_874706_1082165
Report Ref: EMS-874706_1119375
Grid Ref: 341439, 398763

Map Name: County Series
Map date: 1906-1907
Scale: 1:10,560
Printed at: 1:10,560

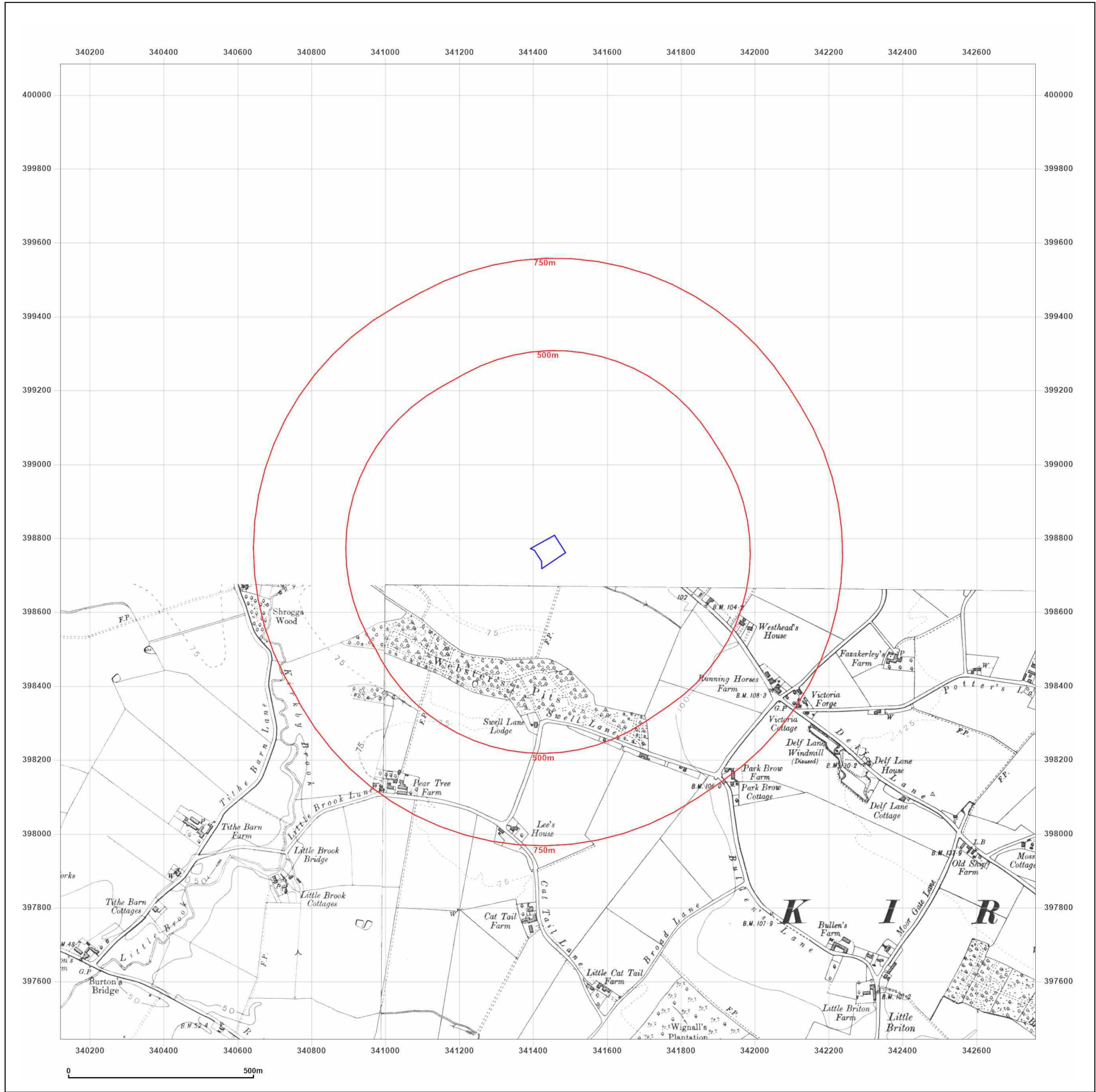


Surveyed 1847 Revised 1907 Edition N/A Copyright N/A Levelled N/A	Surveyed 1847 Revised 1907 Edition N/A Copyright N/A Levelled N/A
Surveyed 1849 Revised 1906 Edition N/A Copyright N/A Levelled N/A	Surveyed 1892 Revised 1907 Edition N/A Copyright N/A Levelled N/A

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Production date: 19 June 2023
Map legend available at:
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Site Details:

unspecified

Client Ref: EMS_874706_1082165
Report Ref: EMS-874706_1119375
Grid Ref: 341439, 398763

Map Name: County Series

Map date: 1925

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1849
Revised 1925
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1847
Revised 1925
Edition N/A
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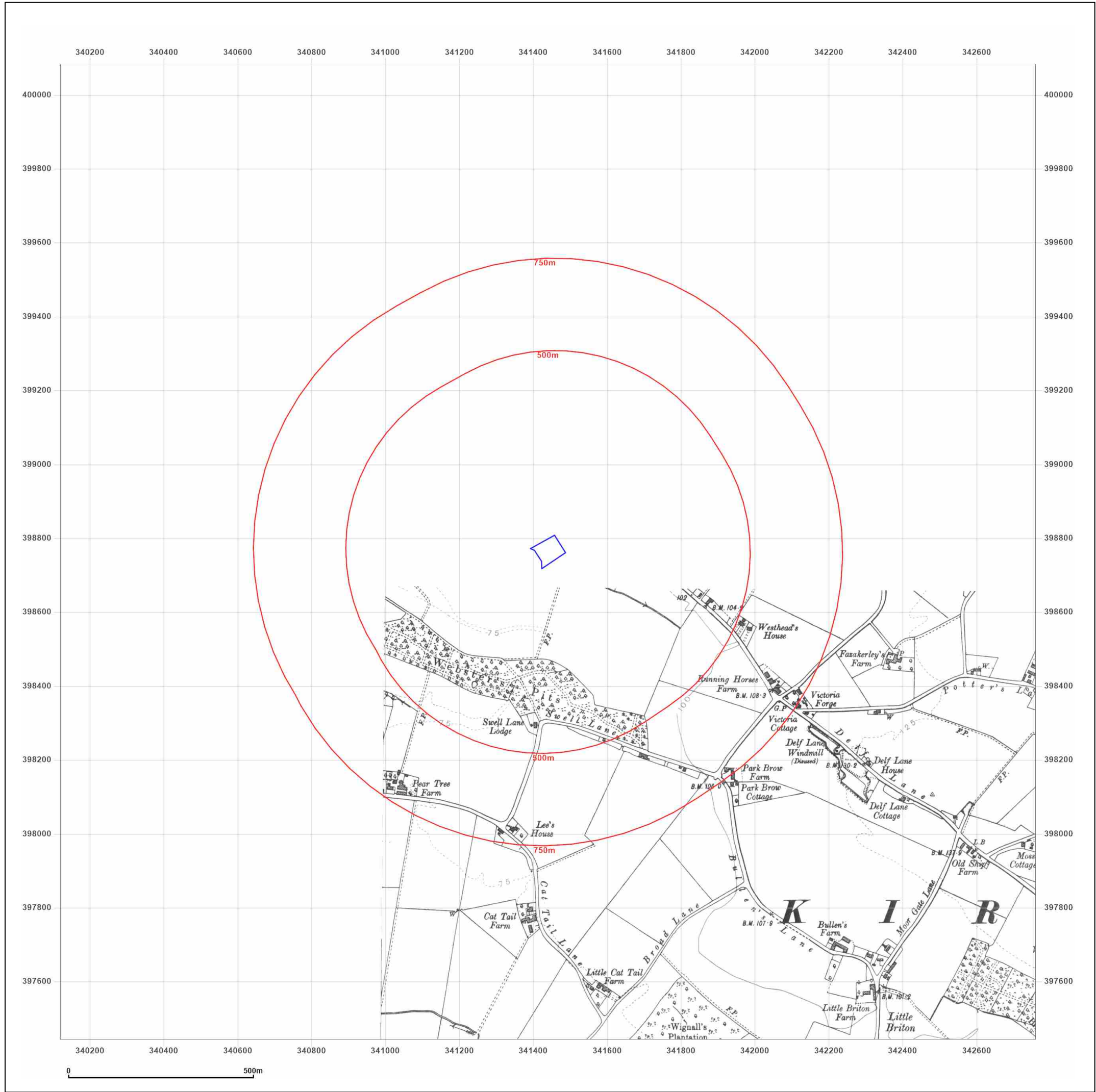


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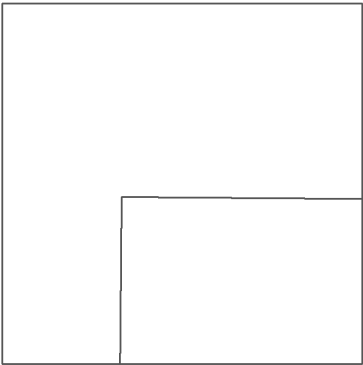
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Report Ref: EMS-874706_1119375
Grid Ref: 341439, 398763

Map Name: County Series

Map date: 1925

Scale: 1:10,560

Printed at: 1:10,560



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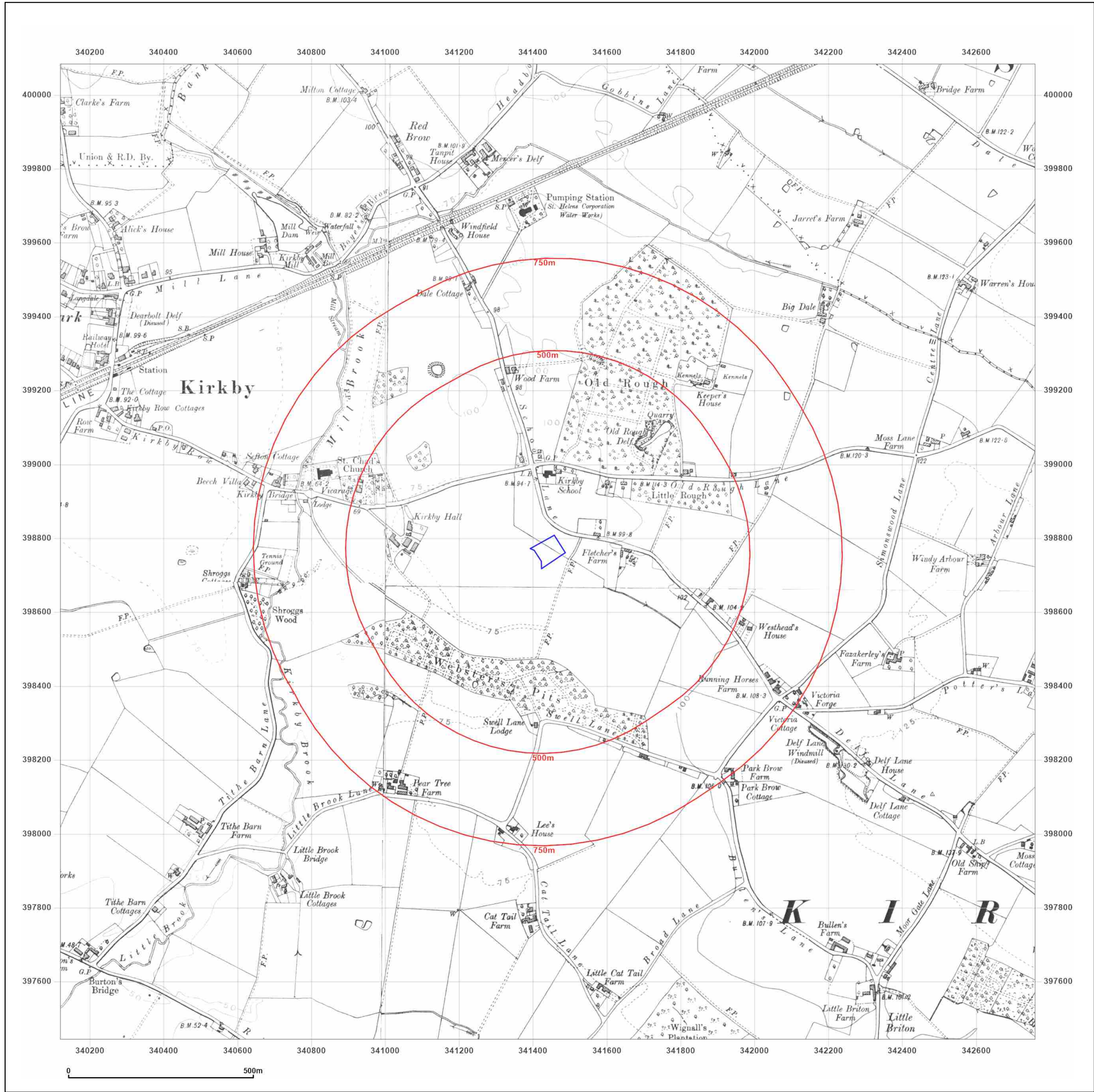


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Map Name: County Series

Map date: 1925-1928

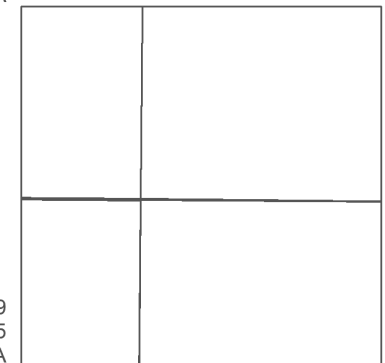
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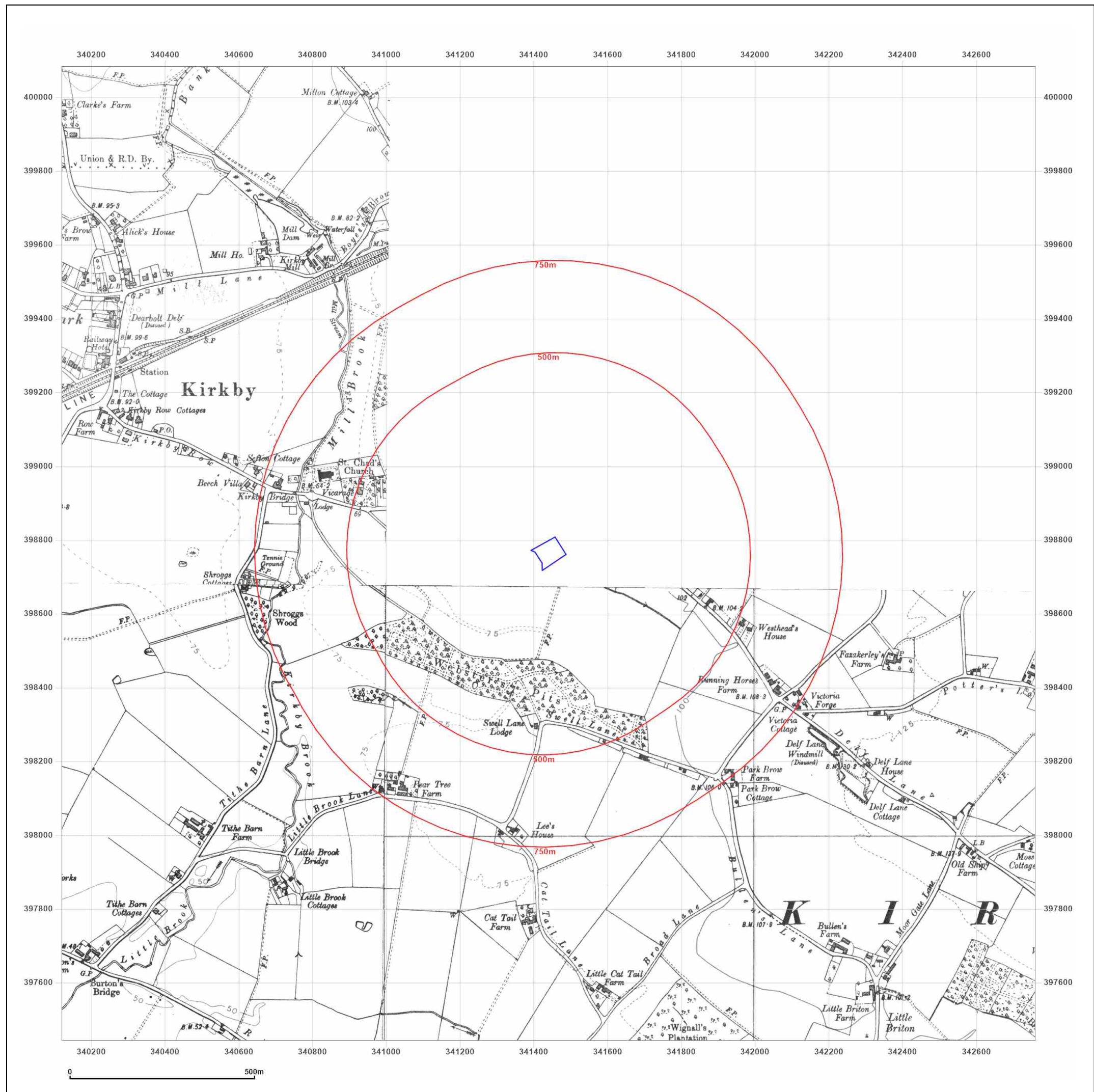


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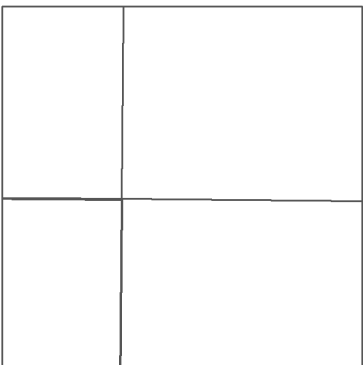
Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



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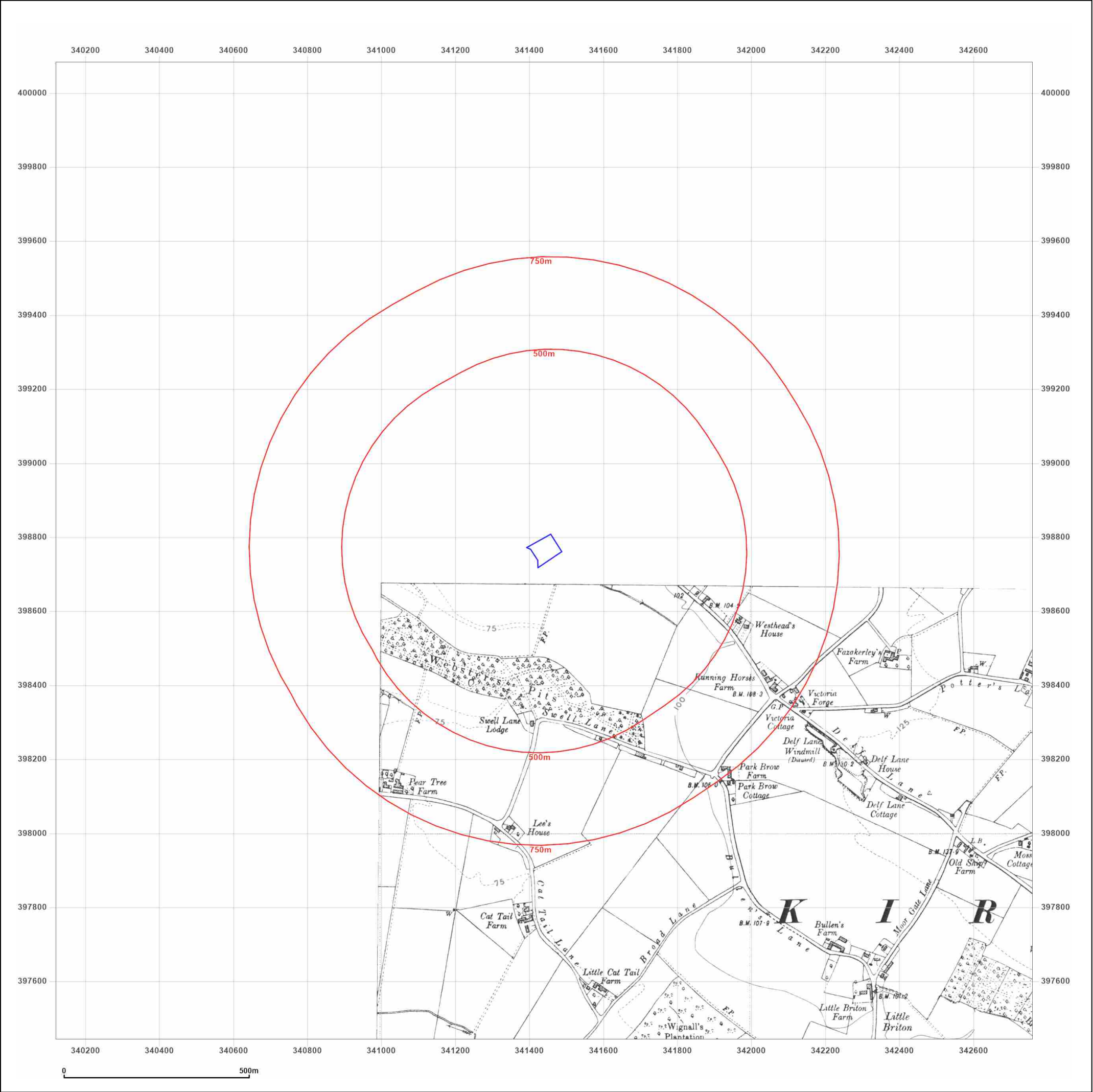


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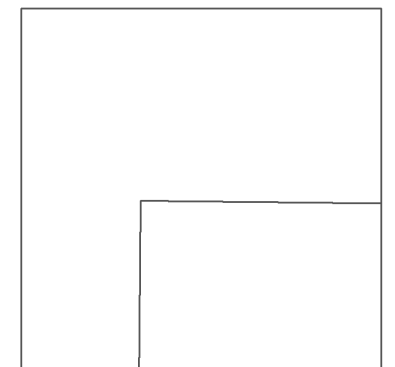
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Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



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