Geophysical Survey Report

Loddon Garden Village

For

RPS Group

Magnitude Surveys Ref: MSSU1991

HER Event Number: TBC

March 2025

3 Captain Street

Bradford

BD1 4HA

01274 926020

info@magnitudesurveys.co.uk

Report By:

Henry Russell BA MA PCIfA; Sean Parker BSc (Hons) ACIFA

Report Approved By:

Finnegan Pope-Carter BSc (Hons) MSc FGS

Issue Date:

11 September 2025

Abstract

Magnitude Surveys Ltd was commissioned by RPS Group to assess the subsurface archaeological potential of c. 19.7ha of land at Loddon Garden Village. A fluxgate gradiometer survey was successfully carried out across 17.7ha, with c. 2ha unable to be surveyed due to overgrown vegetation. The geophysical survey has detected anomalies of a probable and possible archaeological origin, forming a possible double-ditched ring feature with associated smaller ring-like anomalies and pits. Anomalies of an agricultural origin were also identified as modern and historical ploughing trends and drainage features. Anomalies of a natural origin related to the nearby River Loddon were detected. Modern interference was limited to buried services and metal fencing.

Contents

List of Figures

1. Introduction

1.1. Magnitude Surveys Ltd (MS) was commissioned by RPS Group to undertake a geophysical survey over a c. 19.7ha area of land at Parrot Farm, Arborfield Road, Shinfield, Reading (SU 74130 68101).

1.2. The geophysical survey comprised a GNSS positioned, quad-towed, cart-mounted and hand-carried fluxgate gradiometer survey. Magnetic survey is the standard primary geophysical method for archaeological applications in the UK due to its ability to detect a range of different features. The technique is particularly suited for detecting fired or magnetically enhanced features, such as ditches, pits, kilns, sunken featured buildings (SFBs) and industrial activity (David *et al*., 2008).

1.3. The survey was conducted in line with the current best practice guidelines produced by Historic England (David *et al*., 2008), the Chartered Institute for Archaeologists (CIfA, 2020) and the European Archaeological Council (Schmidt *et al.,* 2015).

1.4. It was conducted in line with a WSI produced by MS (Terry, 2025).

1.5. The survey commenced on the 17th of March 2025 and took two days to complete.

2. Quality Assurance

2.1. Magnitude Surveys is a Registered Organisation of the Chartered Institute for Archaeologists (CIfA), the chartered UK body for archaeologists, and a corporate member of ISAP (International Society for Archaeological Prospection).

2.2. The directors of MS are involved in cutting edge research and the development of guidance/policy. Specifically, Dr Chrys Harris has a PhD in archaeological geophysics from the University of Bradford, is a Member of CIfA and is the Vice-Chair of the International Society for Archaeological Prospection (ISAP); Finnegan Pope-Carter has an MSc in archaeological geophysics and is a Fellow of the London Geological Society, as well as a member of GeoSIG (CIfA Geophysics Special Interest Group); Dr Paul Johnson has a PhD in archaeology from the University of Southampton, is a Fellow of the Society of Antiquaries of London and a Member of CIfA, has been a member of the ISAP Management Committee since 2015, and is currently the nominated representative for the EAA Archaeological Prospection Community to the board of the European Archaeological Association.

2.3. All MS managers, field and office staff have degree qualifications relevant to archaeology or geophysics and/or field experience.

3. Objectives

3.1. The objective of this geophysical survey is to assess the subsurface archaeological potential of the survey area.

4. Geographic Background

4.1. The survey area was located c. 300m east of Shinfield, Reading (Figure 1). Gradiometer survey was undertaken across seven fields; three were arable stubble, and four were pasture. Area 5 was located to the east of the River Loddon with all other areas to the west of the river. Areas 1-4 were in close proximity to one another and abutted East Relief Road and were bordered on all other sides by pasture field. Areas 5-7 were separated over the wider landscape. The A327 is present on the southern boundary of Area 5, with residential housing to the west of this area and an arable field to the north. Areas 6 and 7 were surrounded by pastures and forested areas (Figure 2).

4.2. Survey considerations:

Survey Area	Ground Conditions	Further Notes
1	Flat pasture.	Bordered by hedges and metal wire fencing to the east and south, with trees along the west and no physical boundary to the north. Some areas of ground to the south and east of the area were too waterlogged to be surveyed.
2	Flat arable land containing maize stubble.	Bordered by hedgerow and trees to the east and west, with metal wire fencing along the east, south and west. No physical boundary to the north.
3	Flat pasture.	Bordered by trees to the north, east and west. No physical boundary to the south. Large tree stump in the southeastern corner of the survey area.
4	Flat pasture.	Bordered by trees to the east, with no physical boundary to the north, south or west. A fallen tree obstructed a portion of the survey area along the northern boundary.
5	Flat arable land containing maize stubble.	Bordered by trees and metal wire fencing along the north, east, south and west, with a grass verge to the northwest. The survey area contained telegraph poles with overhead cables running east to west through the western half of the survey area. Overgrown vegetation prevented survey along the northern and northwestern boundary. Trees prevented survey within the northwestern part of the survey area.
6	Flat arable land containing maize stubble.	Bordered by trees and metal wire fencing to the north and south, with wooden fencing to the east and no physical boundary to the west. Overgrown maize crop left an area towards the south unable to be surveyed.
7	Flat pasture.	Bordered by trees and metal wire fencing to the east, southwest and northwest, with metal wire fencing and a ditch to the north. Metal boreholes

		were present in the northeastern part of the survey area.

4.3. The underlying geology comprises clay, silt and sand of the London Clay Formation. Clay, silt, sand and gravel alluvium comprise the superficial deposits for Areas 1, 3, 4 and 7, with clay silt and sand brickearth in Areas 2 and 6. The southeastern half of Area 5 contains sand and gravel river terrace deposits (British Geological Survey, 2025).

4.4. Areas 1, 4, 5 and 6 consist of loamy soils with naturally high groundwater. In Areas 2, 3 and 4 the soils consist of loamy and clayey floodplain soils with naturally high groundwater. (Soilscapes, 2025).

5. Archaeological Background

5.1. The following is a summary of an Archaeological Desk-Based Assessment produced and provided by RPS Group (Parker, 2025), and an Aerial Survey Report produced by Magnitude Surveys (Carli, 2022).

5.2. The previous aerial survey undertaken by Magnitude Surveys identified probable and possible archaeology in Area 3 of the magnetometer survey in the form of two ring cropmarks, and a possible linear earthwork. Anomalies of a possible archaeological origin that this aerial survey identified in the other areas were not correlated by the magnetometer survey.

5.3. Cropmarks were identified through aerial photography to the north of Area 5 and identified by the Local Planning Authority as Areas of High Archaeological Potential, with field in the surrounding area including findspots of Mesolithic flint assemblages, a Neolithic polished flint axe, and a complete ring feature. Five pieces of worked flint were recovered from trenching at Shinfield Studios c. 592m northwest of Area 2, dated to late Mesolithic or early Neolithic. A possible Bronze Age cremation was found during an archaeological evaluation c. 200m west of the study area. Multiple Prehistoric flint flakes, blades, cores, and pottery scatter were found in the fields surrounding Cedar Hall Farm, c.527m north of Area 5.

5.4. A scatter of pits and fragmentary ditches identified in aerial photography indicative of possible Iron Age or Romano-British settlement or land use were identified c. 320m east of Area 3. Southwest of this area further Iron Age activity was recovered from excavations and interpreted as parts of agricultural field systems. A Roman road is postulated to cross through Area 5, through previous intrusive investigations have not found this feature. Two sherds of Late Iron Age/Early Roano-British pottery were recovered from a ditch at Shinfield Studios. A Roman coin of Crispus Caesar was discovered c. 800m north of Area 7. A Roman sherd was found during a fieldwalking survey c. 969m east of Area 5, close to a hoard of 35 Roman denarii likely buried in the early third century.

5.5. Shinfield, located c. 420m southwest of the survey area is mentioned in the Domesday Book as a moderately sized settlement of 15 households and a mill. Arborfield, directly east of Area 5 is included in the lordship of the Bishop of Sonning.

5.6. The scheduled monument of St. Bartholomew's Church dates to the thirteenth century, located c.707m east of Area 5, with a possible rectangular enclosure directly west of this monument.

Previous geophysical surveys in Arborfield have discovered anomalies possible representing the medieval village, and the post-medieval Arborfield Hall may have been constructed on the site of an earlier Medieval manor. C. 420m northwest of Area 2, probable Medieval ridge and furrow earthworks were observed and identified by the LPA. An L-shaped pond of possible post-medieval date is located c. 530m north of Area 2, with possible earthworks predating it in the surrounding orchards. A timber-framed barn was recorded c. 884m northeast of Area 7 prior to its demolition.

5.7. The former course of the road linking Arborfield Hall to the Medieval village of Arborfield was recorded as cropmarks directly north of Area 5. A curving double-ditched feature can be seen extending southwards towards the village. To the north-west of Hall Farm, the site of a watermill was recorded, c. 333m north of Area 5. Cutbush Lane, c. 376m west of Area 6, is known to originate form the 18th century, depicted on a 1756 estate map. An L-shaped feature repreenting a fishpond or possible moat was recorded c.530m north of Area 2 (see 5.5) and is present on the 1838 Tithe Map but not the earlier estate map. Shinfield Grange, c. 380m north of Area 2 is recorded as being surrounded by post-medieval ditches, undated linears, a pit and possible postholes during archaeological investigations. A single post-medieval gunflint was found during a fieldwalking survey c. 419m northeast of Area 5.

5.8. Undated cropmarks c.118m southwest of Area 4 are suggested to be possible Iron Age or Romano-British settlement with modern drainage complicating the pattern. Aerial photography around Hall Farm, located c. 430m north of Area 5, has revealed a number of features including parallel linear ditches, a scatter of pits, and a double ditch linear feature. An archaeological watching brief at Hall Farm observed a single archaeological feature of a possible ditch or large pit. Cropmarks were recorded as possible enclosures, trackway features, and a pit cluster from aerial photography in fields c. 220m north and northwest of Area 6. A number of cropmarks identified in historical aerial photography c. 486m eat of Area 7 included enclosures, a field system, a trackway, and a pit cluster. Cropmarks continue to the south and southwest and interpreted as similar features.

6. Methodology

6.1. Data Collection

6.1.1. Magnetometer surveys are generally the most cost effective and suitable geophysical technique for the detection of archaeology in England. Therefore, a magnetometer survey should be the preferred geophysical technique unless its use is precluded by any specific survey objectives or the site environment. For this site, no factors precluded the recommendation of a standard magnetometer survey. Geophysical survey therefore comprised the magnetic method as described in the following section.

6.1.2. Geophysical prospection comprised the magnetic method as described in the following table.

6.1.3. Table of survey strategies:

Method	Instrument	Traverse Interval	Sample Interval
Magnetic	Bartington Instruments Grad-13 Digital Three-Axis Gradiometer	1m	200Hz reprojected to 0.125m

6.1.4. The magnetic data were collected using MS' bespoke quad-towed cart and hand-carried GNSS-positioned system.

6.1.4.1. MS' quad-towed hand-carried system was comprised of Bartington Instruments Grad 13 Digital Three-Axis Gradiometers. Positional referencing was through a multi-channel, multi-constellation GNSS Smart Antenna RTK GPS outputting in NMEA mode to ensure high positional accuracy of collected measurements. The RTK GPS is accurate to 0.008m + 1ppm in the horizontal and 0.015m + 1ppm in the vertical.

6.1.4.2. Magnetic and GPS data were stored on an SD card within MS' bespoke datalogger. The datalogger was continuously synced, via an in-field Wi-Fi unit, to servers within MS' offices. This allowed for data collection, processing and visualisation to be monitored in real-time as fieldwork was ongoing.

6.1.4.3. A navigation system was integrated with the RTK GPS, which was used to guide the surveyor. Data were collected by traversing the survey area along the longest possible lines, ensuring efficient collection and processing.

6.2.Data Processing

6.2.1. Magnetic data were processed in bespoke in-house software produced by MS. Processing steps conform to the EAC and Historic England guidelines for 'minimally enhanced data' (see Section 3.8 in Schmidt *et al.*, 2015: 33 and Section IV.2 in David *et al.,* 2008: 11).

Sensor Calibration – The sensors were calibrated using a bespoke in-house algorithm, which conforms to Olsen *et al*. (2003).

Zero Median Traverse – The median of each sensor traverse is calculated within a specified range and subtracted from the collected data. This removes striping effects caused by small variations in sensor electronics.

Projection to a Regular Grid – Data collected using RTK GPS positioning requires a uniform grid projection to visualise data. Data are rotated to best fit an orthogonal grid projection and are resampled onto the grid using an inverse distance-weighting algorithm.

Interpolation to Square Pixels – Data are interpolated using a bicubic algorithm to increase the pixel density between sensor traverses. This produces images with square pixels for ease of visualisation.

6.3.Data Visualisation and Interpretation

6.3.1. This report presents the gradient of the sensors' total field data as greyscale images, as well as the total field data from the lower sensors. The gradient of the sensors minimises

external interferences and reduces the blown-out responses from ferrous and other high contrast material. However, the contrast of weak or ephemeral anomalies can be reduced through the process of calculating the gradient. Consequently, some features can be clearer in the respective gradient or total field datasets. Multiple greyscale images of the gradient and total field at different plotting ranges have been used for data interpretation. Greyscale images should be viewed alongside the XY trace plot (Figures 14, 17, 20, 23). XY trace plots visualise the magnitude and form of the geophysical response, aiding anomaly interpretation.

6.3.2. Geophysical results have been interpreted using greyscale images and XY traces in a layered environment, overlaid against open street maps, satellite imagery, historical maps, LiDAR data, and soil and geology maps. Bing Satellite (2025) was also consulted, to compare the results with recent land use.

6.3.3. Geodetic position of results – All vector and raster data have been projected into OSGB36 (ESPG27700) and can be provided upon request in ESRI Shapefile (.SHP) and Geotiff (.TIF) respectively. Figures are provided with raster and vector data projected against OS Open Data.

7. Results

7.1.Qualification

7.1.1. Geophysical results are not a map of the ground and are instead a direct measurement of subsurface properties. Detecting and mapping features requires that said features have properties that can be measured by the chosen technique(s) and that these properties have sufficient contrast with the background to be identifiable. The interpretation of any identified anomalies is inherently subjective. While the scrutiny of the results is undertaken by qualified, experienced individuals and rigorously checked for quality and consistency, it is often not possible to classify all anomaly sources. Where possible, an anomaly source will be identified along with the certainty of the interpretation. The only way to improve the interpretation of results is through a process of comparing excavated results with the geophysical reports. MS actively seek feedback on their reports, as well as reports from further work, in order to constantly improve our knowledge and service.

7.2.Discussion

7.2.1. The geophysical results are presented in combination with satellite imagery and historical maps (Figures 4, 7, 10).

7.2.2. The fluxgate gradiometer survey has responded well to the environment of the survey area. Two hectares were unable to be surveyed due to fallen trees and overgrowth. Anomalies were identified of probable and possible archaeological, agricultural, and natural origin. Modern disturbance was limited to the edges of all areas and across Areas 5 and 7 with modern services.

7.2.3. Several amorphous and curvilinear anomalies exhibiting strong and weak positive or negative magnetic signals were identified in Area 3, forming a possible double-ditched annular feature with associated annular anomalies and pits (Figure 13). These anomalies align with two annular cropmarks identified in a previous aerial survey undertaken by Magnitude Surveys for RPS Group. The magnetometer survey has detected anomalies discontinuous in morphology if related to the same anomalies and has also identified further probable anomalies not identified in the aerial survey. Three amorphous anomalies identified as possible archaeology directly southwest of the largest annular anomaly may represent associated pits and other features but have less definitive morphologies.

7.2.4. Strongly enhanced parallel linear anomalies have been identified across Area 3 (Figure 13). The signal and morphology of these anomalies is indicative of ridge and furrow agriculture.

7.2.5. Linear anomalies relating to agricultural field drains and tractor ruts can be seen in area 5 (Figure 16). Two footpaths visible on satellite imagery have been detected by the geophysical survey as weakly enhanced linear and sinuous anomalies in Area 1 (Figure 4).

7.2.6. Anomalies of a natural origin were detected in Area 7 as a spread of amorphous anomalies of varying magnetic enhancement (Figure 22), as was a possible small watercourse visible in Area 4 as a weakly enhanced sinuous anomaly (Figure 13). A spread of material of a different enhancement to the background of the area was identified in Area 5 (Figure 16), possibly related to the deposition of material during flooding, with a pond located directly east of this area.

7.3.Interpretation

7.3.1. General Statements

7.3.1.1. Geophysical anomalies will be discussed broadly as classification types across the survey area. Only anomalies that are distinctive or unusual will be discussed individually.

7.3.1.2. **Data Artefact** – Data artefacts usually occur in conjunction with anomalies with strong magnetic signals due to the way in which the sensors respond to very strong point sources. They are usually visible as minor 'streaking' following the line of data collection. While these artefacts can be reduced in post-processing through data filtering, this would risk removing 'real' anomalies. These artefacts are therefore indicated as necessary in order to preserve the data as 'minimally processed'.

7.3.1.3. **Ferrous (Spike)** – Discrete dipolar anomalies are likely to be the result of isolated pieces of modern ferrous debris on or near the ground surface.

7.3.1.4. **Ferrous/Debris (Spread)** – A ferrous/debris spread refers to a concentration of multiple discrete, dipolar anomalies usually resulting from highly magnetic material such as rubble containing ceramic building materials and ferrous rubbish.

7.3.1.5. **Magnetic Disturbance** – The strong anomalies produced by extant metallic structures, typically including fencing, pylons, vehicles and service pipes, have been classified as 'Magnetic Disturbance'. These magnetic 'haloes' will obscure weaker anomalies relating to nearby features, should they be present, often over a greater footprint than the structure causing them.

7.3.2. Magnetic Results - Specific Anomalies

7.3.2.1. **Archaeology Probable (Strong & Weak)** – Several amorphous and curvilinear anomalies were identified in Area 3 (Figure 14), with different anomalies possessing strong and weak positive or negative magnetic enhancements. These anomalies appear to align as several positively enhanced features with annular morphology, with a possible second annular feature formed by curvilinear anomalies with negative magnetic enhancements. The largest of these annular anomalies measures c. 20m in diameter and may be the remains of a double-ditched ring or similar feature in the landscape. Two smaller ring-like features made up of curvilinear anomalies are located directly northeast of this, and measure c. 9m and c. 7.4m in diameter.

7.3.2.2. **Archaeology Possible (Strong & Weak)** - Several amorphous anomalies were also identified in the vicinity and may represent pit features. These anomalies are also crossed by linear anomalies identified as ridge and furrow, suggesting an earlier origin than this historical agriculture. The less distinctive morphology of these anomalies and the intersection of the identified ridge and furrow anomalies has led to these anomalies being classified as only possible archaeology.

7.3.2.3. **Agricultural (weak)** – In Area 1 two linear anomalies were identified aligning with two footpaths that can be seen on satellite photos (Figure 4). These possess weak magnetic enhancements, one positive and one negative, and have been interpreted as agricultural in origin due to likely being routes taken to access other fields in the area.

7.3.2.4. **Ridge and Furrow (Trend)** – A series of roughly parallel linear anomalies have been detected in Area 3, spaced c. 4m apart (Figures 4 & 13). These anomalies possess a morphology and magnetic signal indicative of historical agriculture and have been classified as ridge and furrow.

7.3.2.5. **Agricultural (Trend)** – A series of parallel linear anomalies, spaced 1m apart were detected, aligning with the modern agricultural regimes seen in Areas 1, 2, 4 & 7(Figures (13, 16 and 22) and visible on satellite imagery.

7.3.2.6. **Drainage Feature (Trend)** – Weakly enhanced linear anomalies were detected in the eastern half of Area 5 (Figure 16). They appear both in parallel and in herringbone formation, the morphology of which is indicative of drainage systems. These anomalies are located within a spread of anomalies interpreted as natural in origin and likely caused by flooding activity, further suggesting these linear anomalies are drainage.

7.3.2.7. **Natural (Weak)** – A positively enhanced anomaly in Area 4 with a sinuous morphology and no clear relation to other anomalies has been detected (Figure 13). This could possibly relate to the nearby stream that is present to the south of the area and be part of a previous watercourse in the area.

7.3.2.8. **Natural (Spread)** – A spread of anomalies with varying enhancement was detected within the east of area 7 (Figure 22). This material possesses a stronger magnetic enhancement to the background of the area and is likely related to the river directly east of this survey area. These anomalies may be representative of a previous channel, or off material deposited during flooding.

7.3.2.9. **Natural (Spread)** – In the east of Area 5 a spread of weakly enhanced material with a recognisably different appearance to the rest of the survey area was identified (Figure 16). These anomalies may be related to changes in the superficial geology of the area, with a band of river terrace deposits within the southern half of Area 5, suggesting deposits during flooding. A pond present to the east of the survey area reinforces this interpretation, with the River Loddon to the west.

8. Conclusions

8.1. The survey was completed across 19.7ha with c. 2ha unable to be surveyed due to overgrown vegetation. The geophysical survey has detected anomalies of a possible archaeological origin. Anomalies of an agricultural and natural origin were also identified. Modern disturbances were limited to buried services and metal fencing.

8.2. Anomalies were identified as being of a probable and possible archaeological origin, forming a possible double-ditched ring or similar annular feature with associated smaller ring-like features and pits, and crosscut by ridge and furrow agriculture suggesting an earlier origin.

8.3. Linear anomalies were identified, with a morphology and appearance indicative of ridge and furrow agriculture.

8.4. The current agricultural regime has been detected as linear anomalies across multiple areas, with drainage systems also identified.

8.5. The natural variations in the survey relate to wetland and floodplain activity in the vicinity, likely due to the nearby River Loddon and areas of deposition shown in the superficial geology of the survey area.

9. Archiving

9.1. MS maintains an in-house digital archive, which is based on Schmidt and Ernenwein (2013). This stores the collected measurements, minimally processed data, georeferenced and un-georeferenced images, XY traces and a copy of the final report.

9.2. MS contributes reports to the ADS Grey Literature Library upon permission from the client, subject to any dictated time embargoes.

10. Copyright

10.1. Copyright and intellectual property pertaining to all reports, figures and datasets produced by Magnitude Services Ltd is retained by MS. The client is given full licence to use such material for their own purposes. Permission must be sought by any third party wishing to use or reproduce any IP owned by MS.

11. References

British Geological Survey, 2025. Geology of Britain. Shinfield, Reading, Berkshire. [http://mapapps.bgs.ac.uk/geologyofbritain/home.html/]. Accessed 26/03/20252025.

Carli, I., 2022. Aerial Survey Report of Loddon Garden Village. Magnitude Surveys.

Chartered Institute for Archaeologists, 2020. Standards and guidance for archaeological geophysical survey. CIfA.

David, A., Linford, N., Linford, P. and Martin, L., 2008. Geophysical survey in archaeological field evaluation: research and professional services guidelines (2nd edition). Historic England.

Google Earth, 2025. Google Earth Pro V 7.1.7.2606.

Olsen, N., Toffner-Clausen, L., Sabaka, T.J., Brauer, P., Merayo, J.M.G., Jorgensen, J.L., Leger, J.M., Nielsen, O.V., Primdahl, F., and Risbo, T., 2003. Calibration of the Orsted vector magnetometer. Earth Planets Space 55: 11-18.

Parker, S., 2025. Archaeological Desk-Based Assessment, Land South of Reading. RPS Group.

Schmidt, A. and Ernenwein, E., 2013. Guide to good practice: geophysical data in archaeology (2nd edition). Oxbow Books: Oxford.

Schmidt, A., Linford, P., Linford, N., David, A., Gaffney, C., Sarris, A. and Fassbinder, J., 2015. Guidelines for the use of geophysics in archaeology: questions to ask and points to consider. EAC Guidelines 2. European Archaeological Council: Belgium.

Soilscapes, 2025. Shinfield, Reading, Berkshire. Cranfield University, National Soil Resources Institute. [http://landis.org.uk]. Accessed 26/03/20252025.

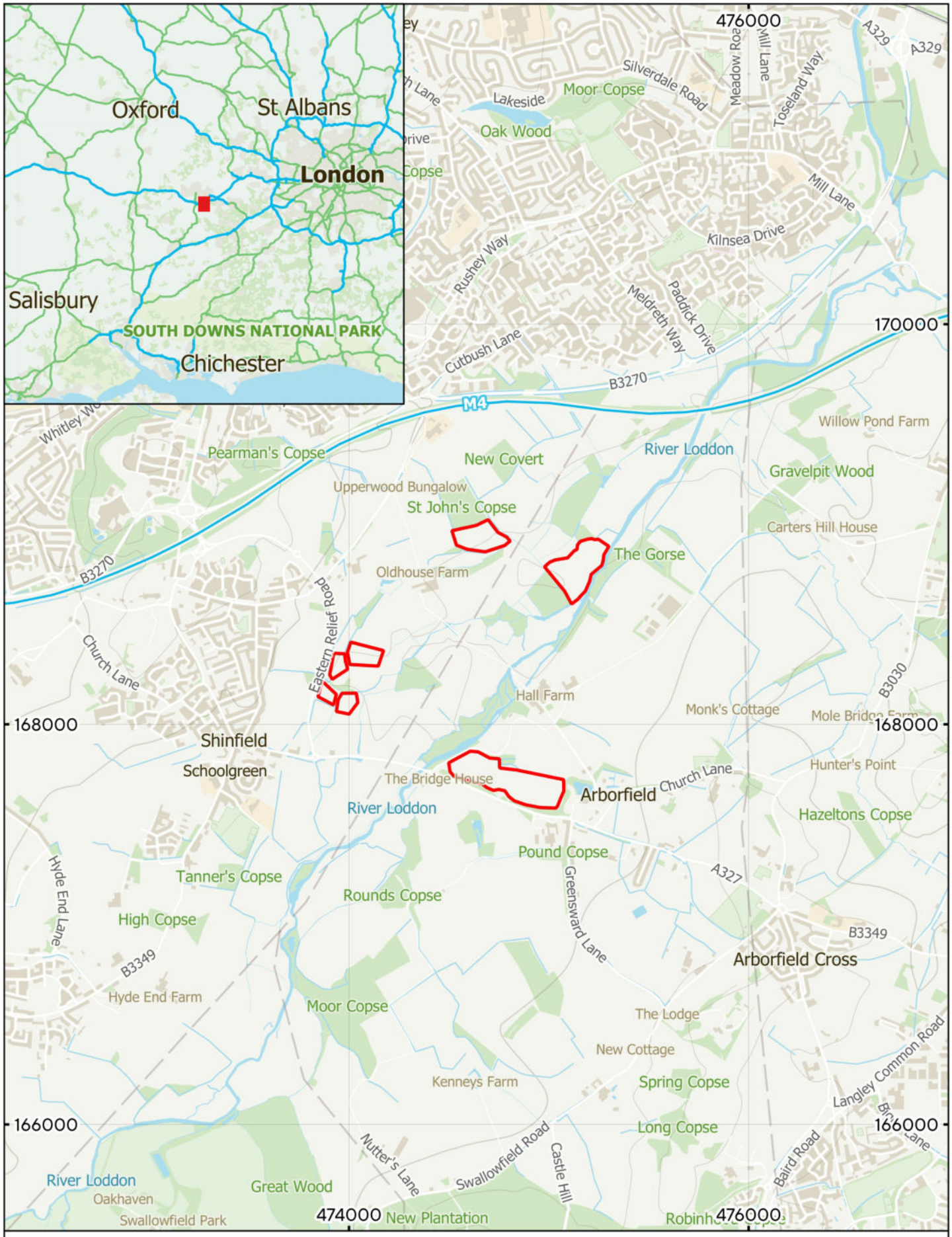
Terry, I., 2025. Written scheme of investigation for a geophysical survey of Site South of Reading. Magnitude Surveys Ltd. Project Reference No.: MSSU1991.

12. Project Metadata

MS Job Code	MSSU1991
Project Name	Loddon Garden Village
Client	RPS Group
Grid Reference	SU 74130 68101
Survey Techniques	Magnetometry
Survey Size (ha)	19.7ha
Survey Dates	17.03.2025 – 19.03.2025
Project Lead	Matthew Stead BA (Hons) MA
Project Officer	Henry Russell BA MA PCIfA
HER Event No	N/A
OASIS No	N/A
S42 Licence No	N/A
Report Version	1.0

13. Document History

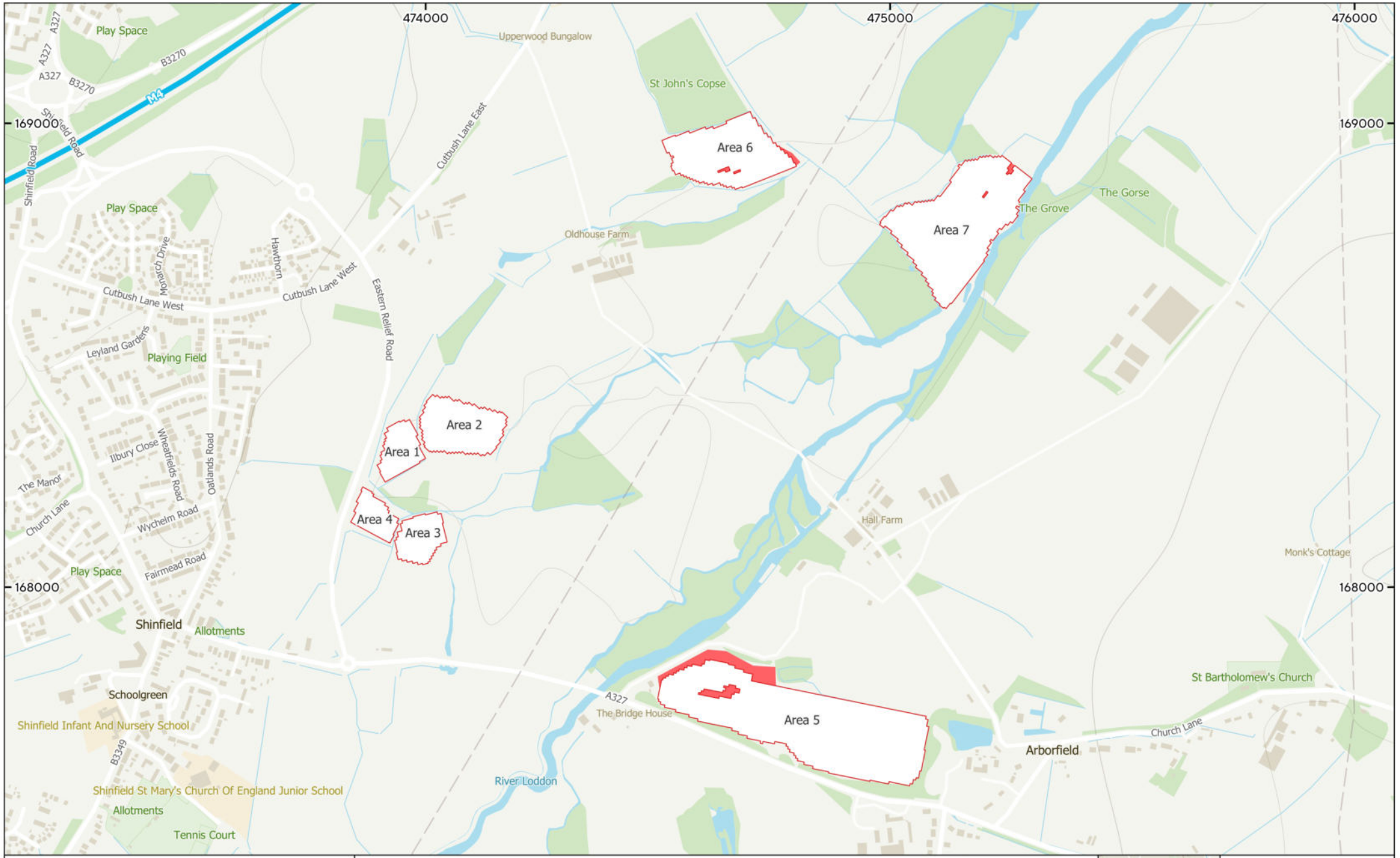
Version	Comments	Author	Checked By	Date
0.1	Initial draft for Project Lead to Review	SP	HR	31 March 2025
0.2	Project lead corrections	SP	HR	31 March 2025
0.3	Draft for Director Sign-off	SP	FPC	01 April 2025
0.4	Client Corrections	HR	MS	02 April 2025
1.0	Title change	SP	SP	11 September 2025



MSSU1991 - Loddon Garden Village
Figure 1 - Geophysical Survey Location
1:25,000 @ A4

Site Boundary

0 0.5 1 km



MSSU1991 - Loddon Garden Village
Figure 2 - Geophysical Survey Areas
1:7,500 @ A3

Survey Areas Unable to Survey

Magnitude Surveys

0 75 150 225 m

MSSU1991 - Loddon Garden Village
Figure 3 - Magnetic Total Field Lower Sensor (Areas 1, 2, 3 & 4)
1:3,000 @ A3

48997 nT 49005

Magnitude Surveys

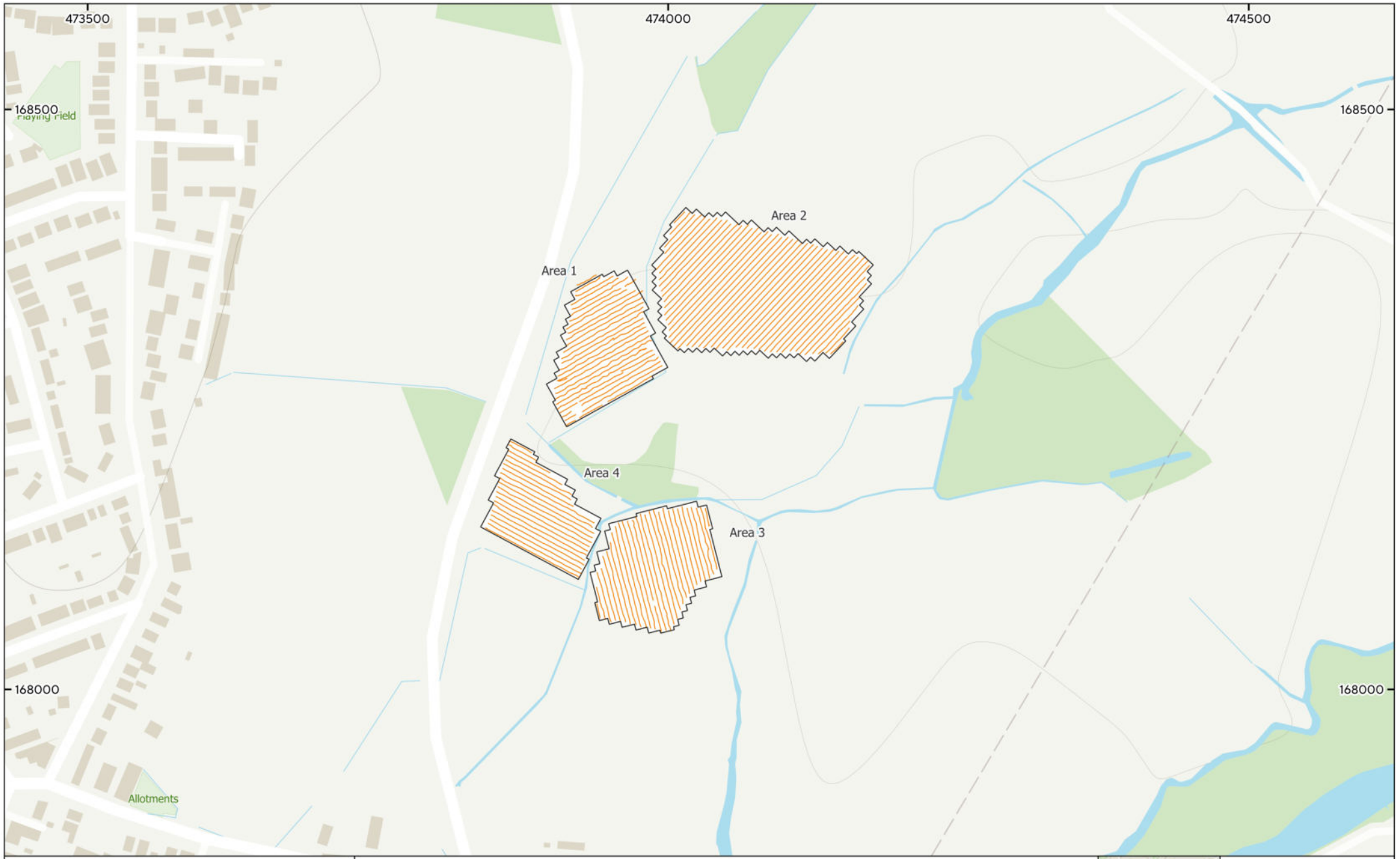
0 30 60 90 120 m

MSSU1991 - Loddon Garden Village
Figure 4 - Magnetic Interpretation Over Historical Maps and Satellite Imagery (Areas 1, 2, 3 & 4)
1:3,000 @ A3

- Archaeology Probable (Strong)
- Archaeology Probable (Weak)
- Archaeology Possible (Strong)
- Archaeology Possible (Weak)
- Agricultural (Weak)
- Natural (Weak)
- Magnetic Disturbance
- Ferrous/Debris (Spread)
- Agricultural (Trend)
- Ridge and Furrow (Trend)
- Ferrous (Spike)

Magnitude Surveys

0 30 60 90 120 m



MSSU1991 - Loddon Garden Village
Figure 5 - GNSS Plot (Areas 1, 2, 3 & 4)
1:3,000 @ A3

Magnitude Surveys

0 30 60 90 120 m

MSSU1991 - Loddon Garden Village
Figure 6 - Magnetic Total Field Lower Sensor (Area 5)
1:3,000 @ A3

48997 nT 49005

Magnitude Surveys

0 30 60 90 120 m

MSSU1991 - Loddon Garden Village
Figure 7 - Magnetic Interpretation Over Historical Maps and Satellite Imagery (Area 5)
1:3,000 @ A3

Natural (Spread)
Magnetic Disturbance
Agricultural (Trend)
Service
Drainage Feature
Ferrous (Spike)

Magnitude Surveys

0 30 60 90 120 m

MSSU1991 - Loddon Garden Village
Figure 8 - GNSS Plot (Area 5)
1:3,000 @ A3

Magnitude Surveys

0 30 60 90 120 m

MSSU1991 - Loddon Garden Village
Figure 9 - Magnetic Total Field Lower Sensor (Areas 6 & 7)
1:3,000 @ A3

48997 nT 49005

Magnitude Surveys

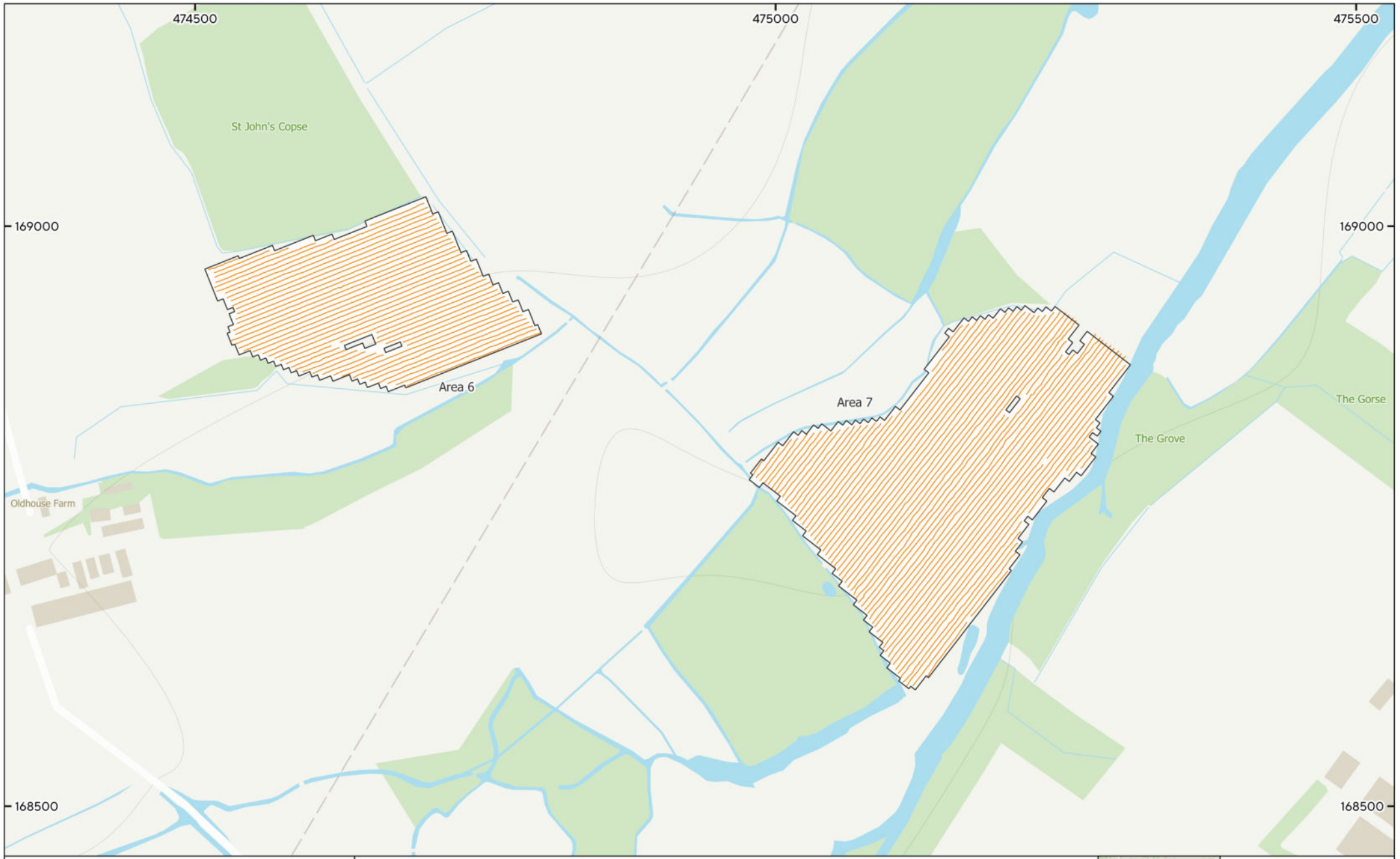
0 30 60 90 120 m

MSSU1991 - Loddon Garden Village
Figure 10 - Magnetic Interpretation Over Historical Maps and Satellite Imagery (Areas 6 & 7)
1:3,000 @ A3

- Agricultural (Weak)
- Natural (Spread)
- Magnetic Disturbance
- Ferrous/Debris (Spread)
- Agricultural (Trend)
- Service
- Ferrous (Spike)

Magnitude Surveys

0 30 60 90 120 m



MSSU1991 - Loddon Garden Village
Figure 11 - GNSS Plot (Areas 6 & 7)
1:3,000 @ A3

Magnitude Surveys

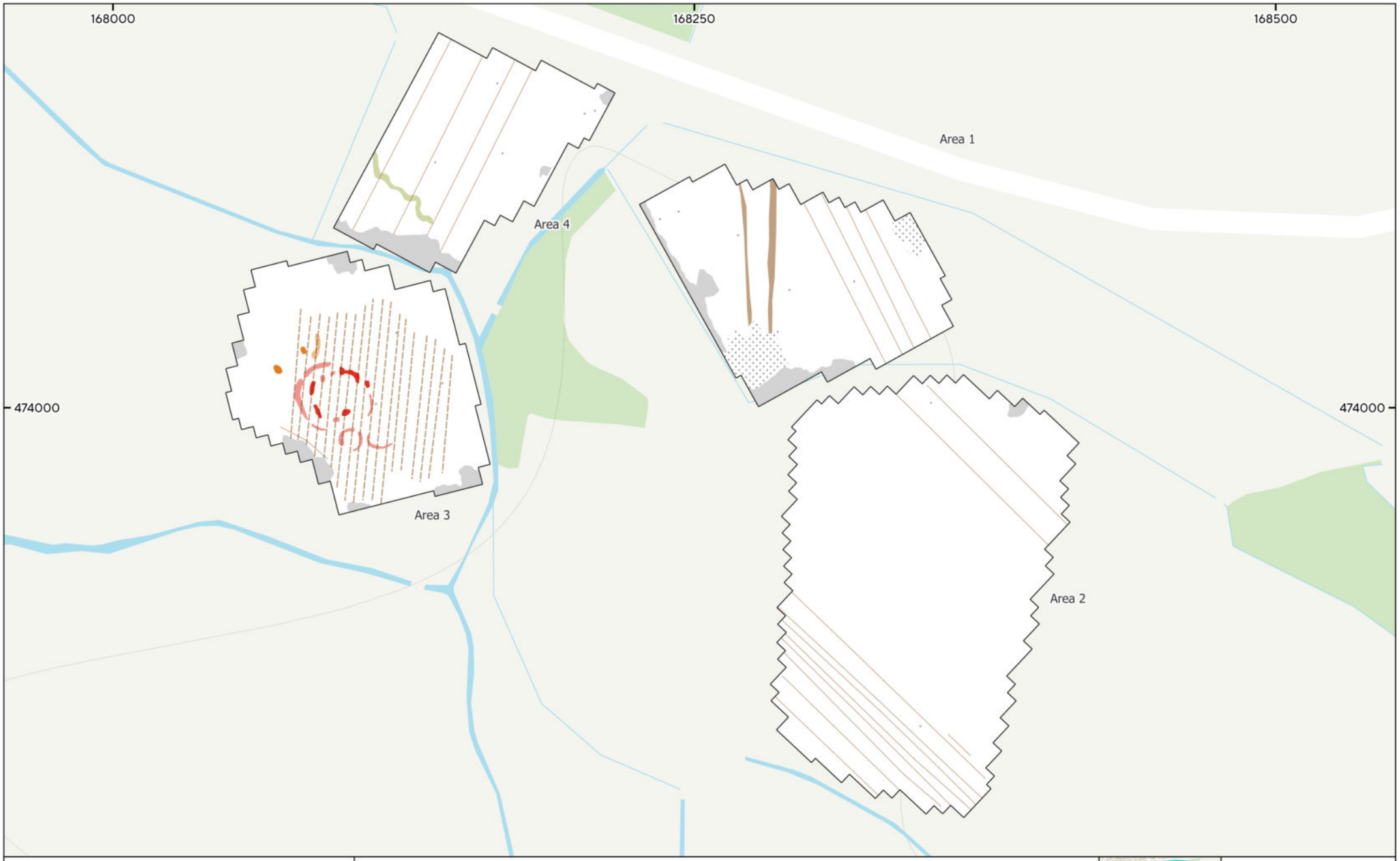
0 30 60 90 120 m

MSSU1991 - Loddon Garden Village
Figure 12 - Magnetic Gradient (Areas 1, 2, 3 & 4)
1:1,500 @ A3

-1 nT 2

Magnitude Surveys

0 15 30 45 60 m



MSSU1991 - Loddon Garden Village
Figure 13 - Magnetic Interpretation (Areas 1, 2, 3 & 4)
1:1,500 @ A3

- Archaeology Probable (Strong)
- Archaeology Probable (Weak)
- Archaeology Possible (Strong)
- Archaeology Possible (Weak)
- Agricultural (Weak)
- Natural (Weak)
- Magnetic Disturbance
- Ferrous/Debris (Spread)
- Agricultural (Trend)
- Ridge and Furrow (Trend)
- Ferrous (Spike)

Magnitude Surveys

0 15 30 45 60 m

MSSU1991 - Loddon Garden Village
Figure 14 - XY Trace Plot (Areas 1, 2, 3 & 4)
90nT/cm at 1:1,500 @ A3

Magnitude Surveys

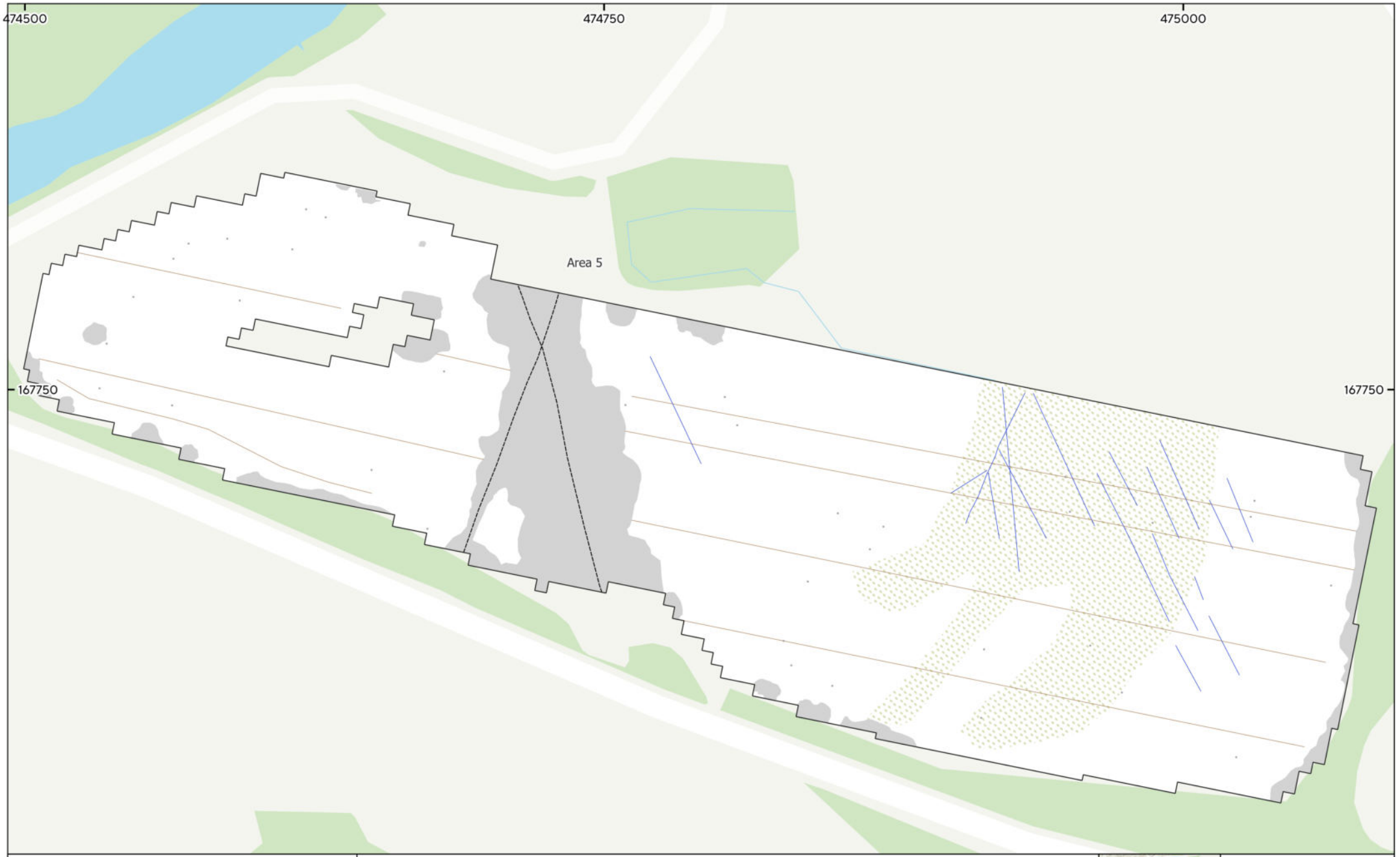
0 15 30 45 60 m

MSSU1991 - Loddon Garden Village
Figure 15 - Magnetic Gradient (Area 5)
1:1,500 @ A3

-1 nT 2

Magnitude Surveys

0 15 30 45 60 m



MSSU1991 - Loddon Garden Village
Figure 16 - Magnetic Interpretation (Area 5)
1:1,500 @ A3

Natural (Spread)
Magnetic Disturbance
Agricultural (Trend)
Drainage Feature
Service
Ferrous (Spike)

Magnitude Surveys

0 15 30 45 60 m

MSSU1991 - Loddon Garden Village
Figure 17 - XY Trace Plot (Area 5)
90nT/cm at 1:1,500 @ A3

Magnitude Surveys

0 15 30 45 60 m

MSSU1991 - Loddon Garden Village
Figure 18 - Magnetic Gradient (Area 6)
1:1,500 @ A3

-1 nT 2

Magnitude Surveys

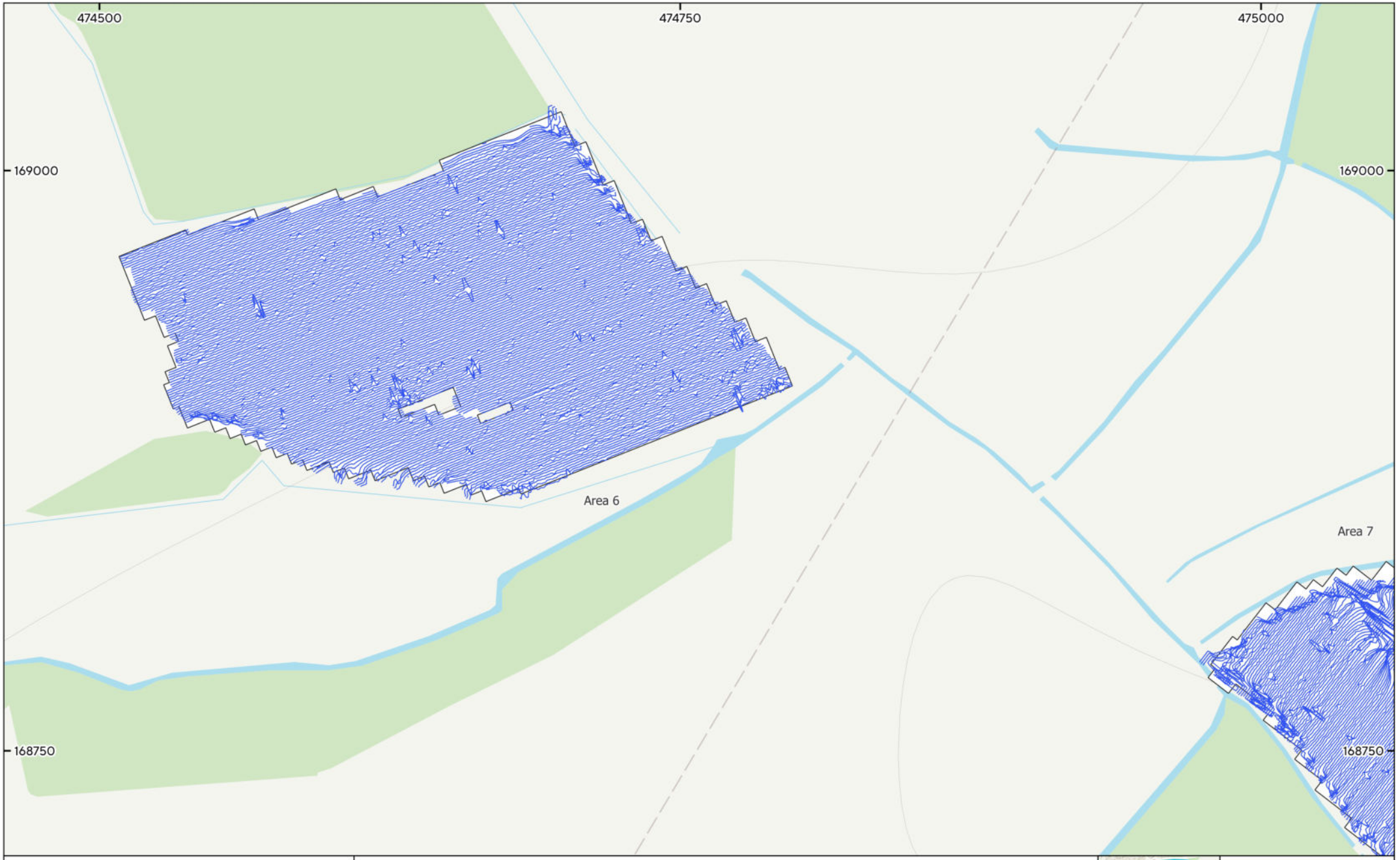
0 15 30 45 60 m

MSSU1991 - Loddon Garden Village
Figure 19 - Magnetic Interpretation (Area 6)
1:1,500 @ A3

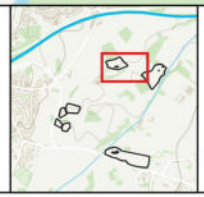
Agricultural (Weak)
Magnetic Disturbance
Service
Natural (Spread)
Ferrous/Debris (Spread)
Ferrous (Spike)

Magnitude Surveys

0 15 30 45 60 m

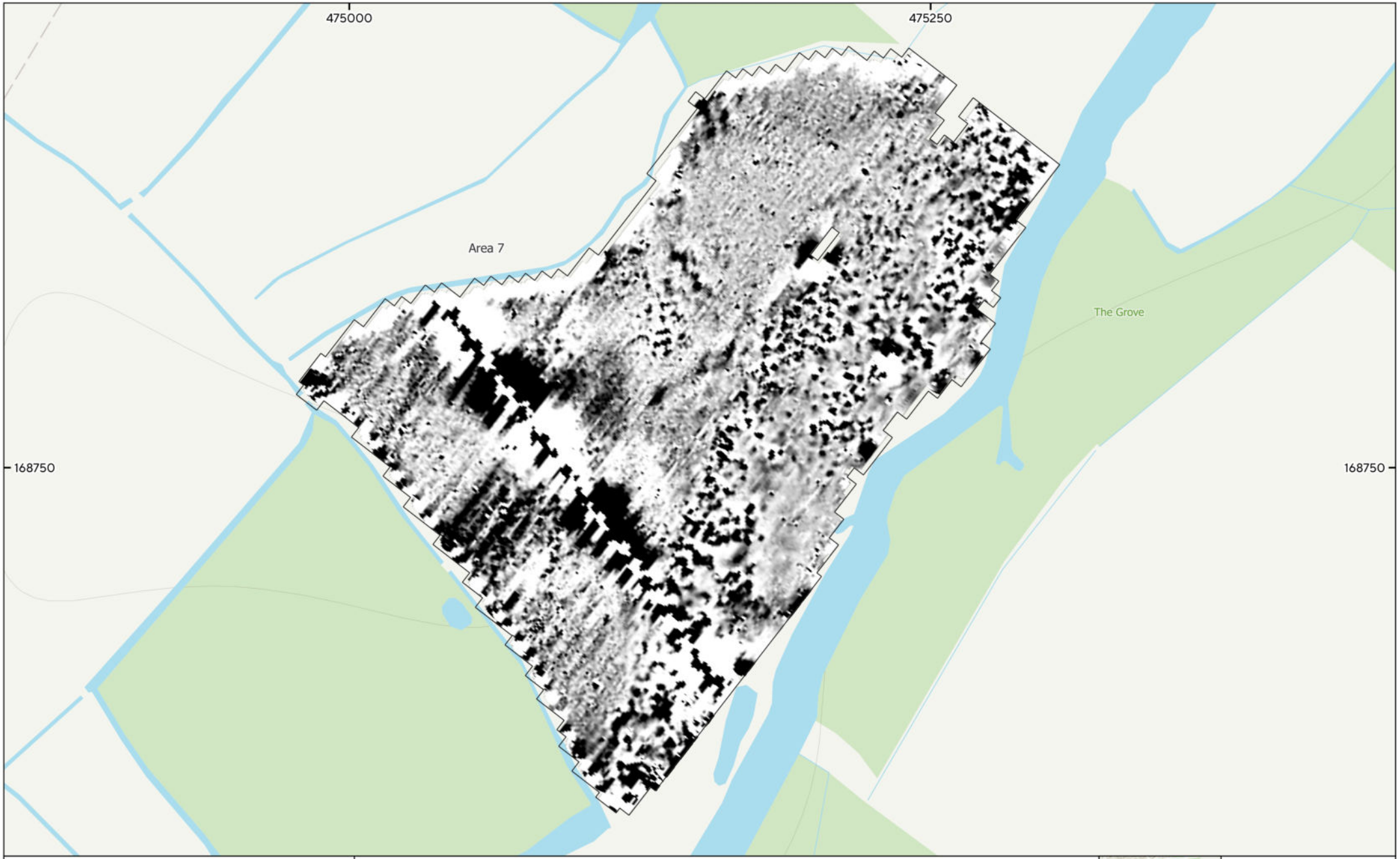


MSSU1991 - Loddon Garden Village
Figure 20 - XY Trace Plot (Area 6)
90nT/cm at 1:1,500 @ A3



Magnitude Surveys

0 15 30 45 60 m



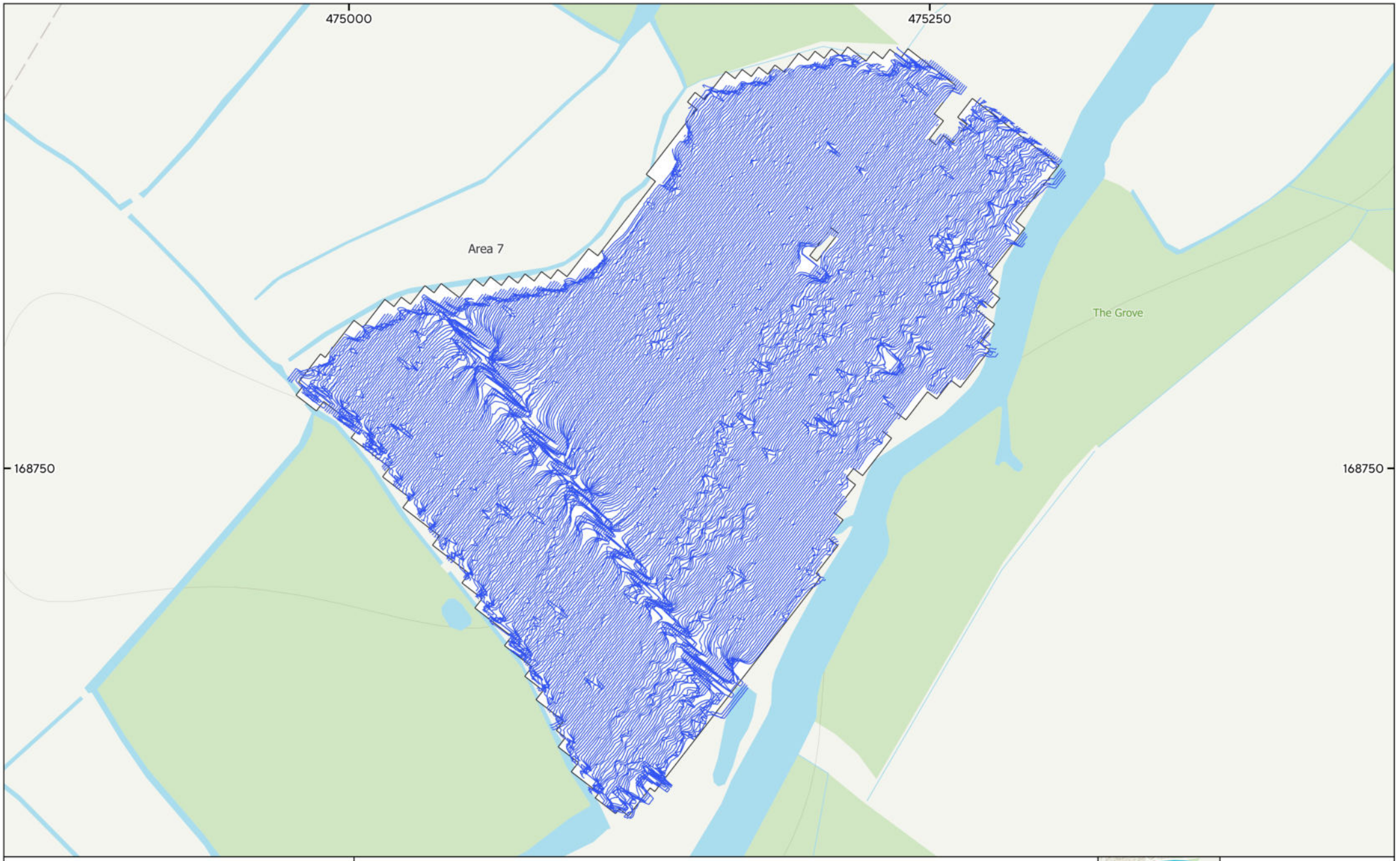
MSSU1991 - Loddon Garden Village
Figure 21 - Magnetic Gradient (Area 7)
1:1,500 @ A3

MSSU1991 - Loddon Garden Village
Figure 22 - Magnetic Interpretation (Area 7)
1:1,500 @ A3

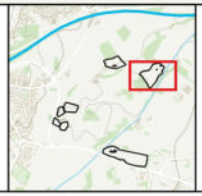
Agricultural (Weak)
Magnetic Disturbance
Service
Natural (Spread)
Agricultural (Trend)
Ferrous (Spike)

Magnitude Surveys

0 15 30 45 60 m



MSSU1991 - Loddon Garden Village
Figure 23 - XY Trace Plot (Area 7)
90nT/cm at 1:1,500 @ A3



Magnitude Surveys

0 15 30 45 60 m