A428 Black Cat to Caxton Gibbet improvements

TR010044

Volume 6

Volume 6.3 Environmental Statement

Appendix 6.5: Geophysical Survey Phase 3

Planning Act 2008

Regulation 5(2)(a)

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

26 February 2021

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

A428 Black Cat to Caxton Gibbet improvements

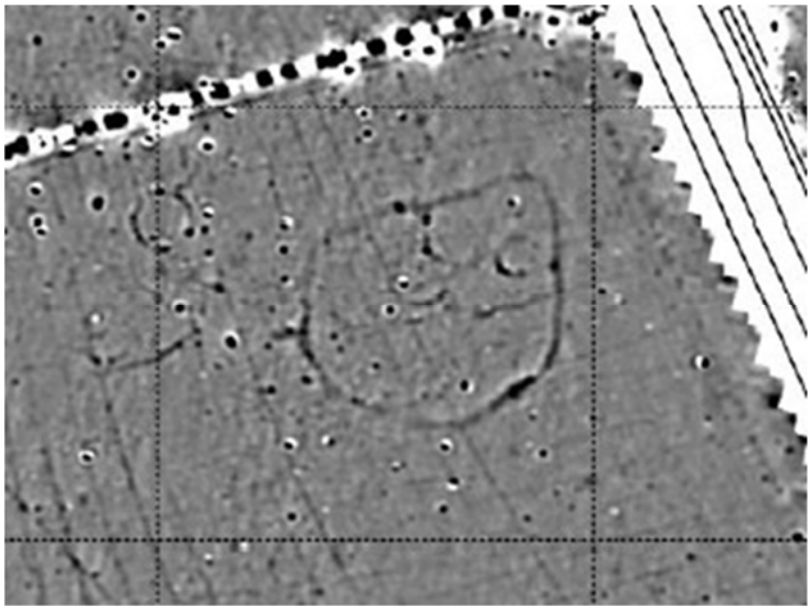
Development Consent Order 202[ ]

Appendix 6.5: Geophysical Survey Phase 3

Regulation Reference:	APFP Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010044
Application Document Reference	TR010044/APP/6.3
Author	A428 Black Cat to Caxton Gibbet Project Team, Highways England

Version	Date	Status of Version
Rev 1	26 February 2021	DCO Application

MOLA HEADLAND INFRASTRUCTURE



A428 BLACK CAT TO CAXTON GIBBET IMPROVEMENT SCHEME

Addendum report: Further archaeological geophysical survey
January 2020

MOLA Headland Infrastructure | Version 2

MOLA HEADLAND INFRASTRUCTURE

OASIS: molanort1-378961

Cambridgeshire Event Number: ECB5852

Bedford Museum Accession Number: BEDFM 2019.41

A428 BLACK CAT TO CAXTON GIBBET IMPROVEMENT SCHEME

ADDENDUM REPORT: FURTHER ARCHAEOLOGICAL GEOPHYSICAL SURVEY JANUARY 2020

Prepared for AECOM

Date: 24 April 2020

Version 2

MOLA HEADLAND INFRASTRUCTURE

Client: AECOM, on behalf of Highways England

Grid Reference: TL 1595 5539 to TL 2963 6067

Address: A1 / A428 Black Cat Roundabout, Bedfordshire to A428 / A1198 Caxton Gibbet, Cambridgeshire

Councils: Bedford Borough Council

Central Bedfordshire Council

Cambridgeshire County Council

Project Managers: Gary Brogan BSc

Sam Harrison BSc MSc MCIfA

Text: John Walford BSc MSc

Edited and approved by: Tracy Preece BA

Gary Brogan BSc

Illustrations: Adam Meadows BSc

CONTENTS

ILLUSTRATIONS

A428 BLACK CAT TO CAXTON GIBBET IMPROVEMENT SCHEME

ADDENDUM REPORT: FURTHER ARCHAEOLOGICAL GEOPHYSICAL SURVEY JANUARY 2020

1. INTRODUCTION

MOLA Headland Infrastructure (MHI) was commissioned by AECOM, on behalf of Highways England, to undertake an archaeological geophysical survey of the route of the A428 road improvement scheme between the Black Cat roundabout (Bedfordshire, TL 1595 5539) and the Caxton Gibbet junction (Cambridgeshire, TL 2963 6067). Two phases of survey work were undertaken between April and October 2019, covering all suitable and accessible land within the construction boundary as then defined (Walford 2020). The total extent of this survey was 542ha. Subsequent changes to the construction boundary prompted a third phase of survey, which was undertaken in January 2020 and covered a further 57ha of land (Fig AA.1).

The following report on the Phase 3 survey has been written as an addendum to the main survey report for Phases 1 and 2 (Walford 2020) and should therefore be read in conjunction with that document.

2. LOCATION, TOPOGRAPHY AND GEOLOGY

The areas of additional survey undertaken following the revision of the construction area boundary are depicted on Figure AA.1. They are widely distributed and mostly small (typically under 10ha each) so do not invalidate the general description of the location, topography and geology of the construction area given in the Phase 1 and 2 survey report (Walford 2020, 6-8).

In total, thirteen new areas were surveyed, all of them located on arable land. Two lay within fields which had been omitted during the earlier phases of survey (Fields 1 and 15), and most of the others lay within fields that had already been partially surveyed (Fields 5, 29, 34, 45, 52-3, 58, 76, 97 and 99). Two entirely new fields were also surveyed, and these have been named as Fields 3_2 and 5_2 in order to fit with the general sequence of field numbering from west to east along the route.

3. ARCHAEOLOGICAL BACKGROUND

The archaeological background to this project is described in the preliminary environmental information report for the proposed improvement scheme (AECOM 2019) and summarised more briefly in the Phase 1 and 2 survey report (Walford 2020, 11-14). Only two points require adding or reiterating here. One is that irregular linear cropmarks occur in the north of Field 5_2 as apparent, for instance, on Google Earth imagery dated 2 June 2009. These features have been recorded by the National Mapping Programme but not, as yet, by the Bedford HER (H. Maclean, *pers com*). The other point is that the new survey area in Field 3_2 lies immediately alongside a previously excavated Iron Age and Roman site (Timby et al 2007, 67-78), the full extent of which is yet to be determined.

520000
530000
260000
A1
A1198
A428
Great Ouse
Papworth Everard
Field 99
Field 97
Caxton Gibbet
St Neots
Field 76
Wintringham
Croxton
Eltisley
BEDFORD BOROUGH
CAMBRIDGESHIRE
Field 58
Caxton
Fields 52-53
Wyboston
Little Barford
Field 15
Field 34
Field 45
Fields 1, 5 and 5_2
Field 3_2
Roxton
Field 29
Black Cat Roundabout
CENTRAL BEDFORDSHIRE

0 2.5km

Phase 1-2 surveys inside construction area
Phase 1-2 surveys outside construction area
Phase 3 survey areas
County boundary

Scale 1:50,000

Phase 3 survey area locations Fig AA.1

4. METHODOLOGY

The Phase 3 survey was conducted according to the same methodology, and under the same WSI and brief, as the previous phases of survey (Walford 2020, 15; Gdaniec 2019), with the principal contractor, Skanska, once again providing welfare facilities and other logistical support.

Due to the vagaries of staff availability, the Phase 3 survey was undertaken entirely by surveyors from MHI's Leeds office. Consequently, all of the data was collected at a 1m traverse interval using sensors mounted on carrying frames. The magnetometer carts operated from MHI's Northampton office were not deployed.

5. SURVEY RESULTS

5.1 OVERVIEW

The Phase 3 survey has identified archaeological remains in Fields 1, 3_2, 5_2, 34, 97 and 99 and possibly also in Field 45 (Fig AA.2). Those in Fields 34 and 97 are continuations of remains already identified by the Phase 1 and 2 surveys, but the rest can be regarded as 'new' sites. Other features identified by the Phase 3 survey include ridge and furrow, former field boundaries, a probable quarry pit and continuations of several previously identified pipelines.

Figures showing the magnetometer survey results (Figs BB1-BB10), interpretation plots (Figs CC1-CC10), unprocessed magnetometer data (Figs DD1-DD10), close-ups of archaeological sites (Figs EE1-EE2) and XY trace plots of magnetometer data (Figs FF1-FF8) are presented at the end of the report.

5.2 ARCHAEOLOGICAL SITES AND FEATURES

Field 1

Two parallel linear ditches cross the centre of this field on north-east to south-west alignments (Figs BB.1 and CC.1). Both flare outwards at their north-eastern ends and both fork into divergent branches to the south-west. They perhaps define part of a short trackway with a funnelled entrance. It is noticeable that the ditches point approximately towards the 'Round Hill' bowl barrow c 200m further to the south-west. Another ditch lies in the southern corner of the field: the curve of this suggests it may be part of an enclosure or ring ditch.

Field 3_2

A pattern of ditches detected in this field define parts of a sub-rectilinear enclosure complex with a possible trackway along its western edge (Figs BB.1 and CC.1). This is evidently a continuation of the late Iron Age to early Roman enclosure complex ('Site 1') that was excavated to the immediate north during the construction of the A421 Great Barford Bypass (Timby et *al* 2007, 67-78).

Field 5_2

One curving length of ditch, of indeterminate date and function, has been detected in the north-eastern part of this field (Figs BB.1 and CC.1). A few other dispersed linear anomalies in this field may also represent ditches, but they are too weak and disjointed to interpret confidently. None of the detected feature correlate well with the cropmarks observed in this field; the reason for this is unknown.

Field 34

A short length of ditch detected in the north-eastern corner of the new survey area (Figs BB.4 and CC.4) is a direct continuation of one of the enclosure ditches previously identified in this field (Walford 2020, 20).

Field 45

A number of very weak positive linear anomalies in this field probably represent ditches (Figs BB.5 and CC.5). Several of them lie at right angles to each other, forming a coherent, though very fragmentary, plan. It is possible that they define parts of former fields or enclosures.

520000
530000
260000
A1
A428
Great Ouse
St Neots
Wyboston
Little Barford
Wintringham
Croxton
Eltisley
Papworth Everard
Caxton Gibbet
Caxton
Roxton
Black Cat Roundabout
Site of Eynesbury Fields Farm
Site of High Hayden Farm
Field 99
Field 97
Field 100
Field 96
Fields 94-5
Field 93
Field 92
Field 90
Field 89
Field 103
Field 86
Field 84
Field 85
Field 80
Field 79
Field 77
Field 76
Fields 73-4
Field 69
Field 66
Fields 71-2
Field 70
Field 65
Field 64
Field 63
Field 61
Field 62
Field 59
Field 60
Field 58
Fields 54, 56 & 57
Field 53
Field 49
Field 47
Field 46
Field 45
Field 44
Field 39
Fields 34-5
Field 36
Field 45
Fields 18-19
Field 17
Field 14
Field 9
Field 5_2
Field 1
Field 3_2

0 2.5km

Phase 1-2 surveys inside construction area
Phase 1-2 surveys outside construction area
Phase 3 survey areas
Phase 3 site (Substantive)
Phase 3 site (Minor or doubtful)
Phase 1 & 2 sites (all types)

Scale 1:50,000

Overview of principal archaeological sites surveyed Fig AA.2

Field 97

The Phase 3 data from this field reveals features defining parts of the parish boundary between Eltisley and Papworth Everard (Figs BB.9 and CC.9). One ditch follows the current boundary line whilst others flank it intermittently for much of its course. It is possible that these ditches represent different phases of the boundary or that they flanked either side of a broad feature, such as a track or headland, which once lay along it.

Field 99

Parts of two enclosure ditches have been detected at the north-eastern edge of this field. The smaller is 18m across, with a rounded and parallel sides, and is encompassed by the larger which has an irregular form and a maximum dimension of *c*55m (Figs BB.10 and CC.10). These enclosures are potentially Iron Age or Roman in date.

Approximately 150m south-west of the enclosures is a length of sinuous ditch, aligned from south-east to north-west, that has a series of short parallel linear features abutting it to the south-west. The spacing of the linear features is suggestive of ridge and furrow, but they cover only a small area and do not fit with the rest of the ridge and furrow detected in the area. It is possible they are traces of a small area of strip fields pre- or post-dating the main open field system, with the sinuous ditch defining their north-eastern limit. Another possible ditch lies to the south, and to the north there are three other anomalies which suggest strip fields separate from the main pattern of ridge and furrow.

5.3 HISTORIC AGRICULTURAL FEATURES

Ridge and furrow

Parallel linear anomalies, representing medieval to early post-medieval ridge and furrow cultivation, are widespread throughout the Phase 3 survey data and fit with the general pattern of cultivation recorded by the earlier phases of survey. For further general comments about ridge and furrow, the reader is referred to the Phase 1 and 2 survey report (Walford 2020, 28).

Two small groups of linear anomalies in Field 99 (Figs BB.10 and CC.10, see above) have the appearance of ridge and furrow but cover very limited areas and do not conform to the general pattern of cultivation. Whether these should be regarded as actual ridge and furrow or as strip fields of another date is unclear.

Old field boundaries

Former field boundaries, confirmed by late 19th to 20th-century map evidence, have been detected in Fields 3_2, 34, 45, 58, 97 and 99. Some are represented by linear scatters of small magnetic dipoles, representing pieces of scrap metal accumulated along the boundaries, whilst for others the boundary ditch itself has produced a positive linear anomaly.

A low-density scatter of magnetic dipoles forms a broad and ill-defined band in Field 99 (Figs BB.10 and CC.10). This corresponds to the mapped location of a former belt of trees. A more focused zone of magnetic noise at the northern end of this feature could have a number of relatively recent causes, such as bonfire debris or ferrous material within a backfilled pond.

5.4 QUARRYING

A zone of weakly enhanced magnetic response with a well-defined but erratically angular edge lies in the north of Field 5_2. It probably represents a post-medieval quarry pit (Figs BB.1 and CC.1). The suggested dating is based on the lack of overlying ridge and furrow (which argues against a medieval or earlier date) and on the lack of map evidence for a pit here at any time since the late 19th century.

5.5 FIELD DRAINS

A small number of field drains have been detected, represented by characteristic weak linear anomalies with alternating magnetic polarity. One is present in the newly surveyed part of Field 58 and a few others in Field 99 (Figs BB.7, BB.10, CC.7 and CC.10).

5.6 MODERN SERVICES

Intense linear magnetic anomalies of alternating polarity have been detected in Fields 5_2, 34, 45 and 97. All of these represent continuations of pipelines previously mapped by the first two phases of survey (Walford 2020, 29-30). There is also a set of alternating positive and negative magnetic halos along the southern edge of Field 1 that could represent either a pipe or a metal fence lying between the field and the adjacent road.

5.7 FERROUS MATERIAL

Small dipolar anomalies are widespread throughout the Phase 3 survey data, mainly representing pieces of scrap agricultural ironwork (*eg* horseshoes, plough fittings, etc) and similar insignificant debris in the topsoil. Only three examples are large or distinctive enough to be worth noting individually. Two lie close together in the north-east of Field 5_2, and the larger of the pair has a regularly shaped core suggestive of an in-situ arrangement of metal objects (Figs BB.1 and CC.1). The third lies near the western edge of Field 45 and, given its size and location, perhaps relates to a buried object associated with the nearby pipe or railway line (Figs BB.5 and CC.5).

5.9 GEOLOGY AND OTHER NATURAL FEATURES

Much of the data from the south-western part of the survey area, to the west of the River Great Ouse, exhibits small, densely clustered positive anomalies which give it a speckled appearance. Obvious instances occur in Fields 5_2, 29 and elsewhere (Figs BB.1-3 and CC.1-3). This type of magnetic response is commonly encountered on the local river terraces, and presumably arises from minor variations in the distribution of iron minerals in the natural sand and gravel.

Very broad, low intensity positive linear anomalies in Fields 1, 3_2 and 5_2 probably represent lengths of palaeochannel within the terrace gravels (Figs BB.1 and CC.1). Other linear anomalies to the north of the channel in Field 5_2 are thought to be geological in origin but cannot be attributed to a more specific cause.

Some amorphous positive anomalies in the Phase 3 part of Field 34 lie close to the River Ouse at the foot of a slope (Figs BB.4 and CC.4). They are likely to indicate an expanse of alluvial or colluvial sediment. Other amorphous positive anomalies of various sizes occur in a number of the Phase 3 areas: these can only be interpreted broadly as relating to pockets of magnetically enhanced sediment within the subsoil or underlying geological strata.

6. DISCUSSION AND CONCLUSION

The Phase 3 survey has mapped archaeological remains in several locations, mainly towards the western and eastern ends of the construction area. The most substantive new sites are enclosures of probable Iron Age or Roman date in Fields 3_2 and 99; the first mentioned being a continuation of a site that was partially excavated during the construction of the A421 (Timby et *al* 2007, 67-78). Other remains comprise scattered ditches in Fields 1 and 5_2, a minor extension of the known enclosure complex in Field 34, some possible field system ditches in Field 45, a continuation of the historic parish boundary in Field 97 and a possible ditch and small strip fields in Field 99.

A probable former quarry pit has been identified in Field 5_2. It is suspected to be post-medieval, perhaps dating to the 18th or early 19th century, and seems unlikely to be more recent than that as it does not correspond to anything depicted on historic Ordnance Survey maps.

Field 5_2, and Fields 1 and 3_2 to the south, also contain sections of one or more palaeochannels. These are probably associated with the Pleistocene river terrace gavels mapped in the same area and stand well above the present level of the Great Ouse.

Overall, the Phase 3 survey results conform to those of the previous two phases of survey and, although providing additional information about the archaeology of the road construction area, they do not substantially change the conclusions of the main survey report (Walford 2020, 33-4).

7. BIBLIOGRAPHY

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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*, European Archaeological Council

Timby, J, Brown, R, Hardy, A, Leech, S, Poole, C, and Webley, L, 2007, *Settlement on the Bedfordshire Claylands: Archaeology along the A421 Great Barford Bypass*, Bedfordshire Archaeology Monograph, 8

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8. OASIS SUMMARY

The county-based design of the OASIS recording system means that the A428 survey has had to be recorded under two separate entries for Cambridgeshire (molanort1-378961) and Bedfordshire (molanort1-378963). The following abstract presents all of the generic information common to both entries and, where appropriate, the alternative county-specific information.

PROJECT DETAILS	**OASIS form ID - molanort1-378961 / molanort1-378963**
Project name	**A428 BLACK CAT TO CAXTON GIBBET IMPROVEMENT SCHEME: ARCHAEOLOGICAL GEOPHYSICAL SURVEY APRIL TO OCTOBER 2019**
Short description of the project	**The A428 Black Cat to Caxton Gibbet Cambridge Improvement Scheme comprises works to improve the A428 trunk road in Bedfordshire and Cambridgeshire. MOLA Headland Infrastructure was appointed to conduct a magnetometer survey as an initial, non-intrusive, stage of fieldwork. The total coverage of the survey was circa 599ha within the construction area, plus 49ha which were stipulated in the original instructions for the survey but lie outside of the construction area as currently defined. Archaeological remains, principally comprising Iron Age and Roman enclosures, were found to be abundant along the route.**
Project dates	**Start: 01-04-2019 End: 31-01-2020**
Previous/future work	**No / Yes**
Any associated project reference codes	**BEDFM 2019.41 - Museum accession ID**
Any associated project reference codes	**ECB5852 - Museum accession ID**
Type of project	**Field evaluation**
Site status	**None**
Current Land use	**Cultivated Land 2 - Operations to a depth less than 0.25m**
Current Land use	**Cultivated Land 1 - Minimal cultivation**
Current Land use	**Other 7 - Mineral extraction**
Monument type	**ENCLOSURES, DITCHES, PITS, TRACKWAYS, ROUNDHOUSES - Iron Age and Roman, RIDGE AND FURROW - Medieval**
Significant Finds	**NONE**
Methods & techniques	**"Geophysical Survey"**
Development type	**Road scheme (new and widening)**
Prompt	**National Policy Statement for National Networks (NPSNN)**
Position in the planning process	**Not known / Not recorded**
Solid geology	**OXFORD CLAY**
Solid geology	**AMPTHILL CLAY**
Drift geology	**ALLUVIUM**
Drift geology	**GLACIAL SAND AND GRAVEL**
Drift geology (other)	**OADBY DIAMICTON**
Techniques	**Magnetometry (multiple Bartingon Grad 601 fluxgate sensors, 0.1nT sensitivity, 1x0.25m max spatial resolution)**
PROJECT LOCATION	
Country	**England**

Site location	CAMBRIDGESHIRE HUNTINGDONSHIRE ST NEOTS RURAL A428 BLACK CAT TO CAXTON GIBBET IMPROVEMENT SCHEME
Site location	BEDFORDSHIRE MID BEDFORDSHIRE TEMPSFORD A428 BLACK CAT TO CAXTON GIBBET IMPROVEMENT SCHEME
Study area	599 Hectares
Site coordinates	TL 1595 5539 52.18414022813 -0.303818673587 52 11 02 N 000 18 13 W Point
Site coordinates	TL 2963 6067 52.228537537246 -0.101790846771 52 13 42 N 000 06 06 W Point
Height OD / Depth	Min: 17m Max: 65m

PROJECT CREATORS

Name of Organisation	MOLA Headland Infrastructure
Project brief originator	Kasia Gdaniec, Cambridgeshire County Council Historic Environment Team
Project design originator	MOLA Headland Infrastructure
Project director/manager	Sam Harrison
Project director/manager	Gary Brogan
Project supervisor	Graham Arkley
Project supervisor	Adam Meadows
Project supervisor	Paul Sharrock
Project supervisor	Krasimir Dyulgerski
Project supervisor	Olivier Vansassenbrouck
Project supervisor	Ross Bishop

PROJECT ARCHIVE

Physical Archive Exists?	No
Digital Archive recipient	Cambridgeshire HET / Higgins Museum, Bedford
Digital Archive ID	ECB5852 / BEDFM 2019.41
Digital Contents	"none"
Digital Media available	"Geophysics", "Survey"
Paper Archive recipient	Cambridgeshire HET / Higgins Museum, Bedford
Paper Archive ID	ECB5852 / BEDFM 2019.41
Paper Contents	"none"
Paper Media available	"Report"

PROJECT BIBLIOGRAPHY 1

Publication type	Grey literature (unpublished document/manuscript)
Title	A428 BLACK CAT TO CAXTON GIBBET IMPROVEMENT SCHEME: ARCHAEOLOGICAL GEOPHYSICAL SURVEY, APRIL TO OCTOBER 2019
Author(s)/Editor(s)	Walford, J
Other bibliographic details	MHI Report
Date	2019
Issuer or publisher	MOLA Headland Infrastructure

Place of issue or publication	Northampton

PROJECT BIBLIOGRAPHY 2

Publication type	Grey literature (unpublished document/manuscript)
Title	A428 BLACK CAT TO CAXTON GIBBET IMPROVEMENT SCHEME: ADDENDUM REPORT: FURTHER ARCHAEOLOGICAL GEOPHYSICAL SURVEY, JANUARY 2020
Author(s)/Editor(s)	Walford, J
Other bibliographic details	MHI Report
Date	2020
Issuer or publisher	MOLA Headland Infrastructure
Place of issue or publication	Northampton

520000

530000

260000

A1

Great Ouse

St Neots

Papworth
Everard

Caxton
Gibbet

A428

Wintringham

Croxton

Eltisley

Caxton

Wyboston

Little
Barford

Roxton

Black Cat
Roundabout

1

2

3

4

5

6

7

8

9

10

Concordance - Figure series BB (Phase 3 survey results)
CC (Phase 3 data interpretations) and
DD (Phase 3 unprocessed survey data)

Fig 1	Fields 1, 3_2, 5 and 5_2
Fig 2	Field 15
Fig 3	Field 29
Fig 4	Field 34
Fig 5	Field 45
Fig 6	Fields 52-53
Fig 7	Field 58
Fig 8	Field 76
Fig 9	Field 97
Fig 10	Field 99

0 2.5km

Phase 1-2 surveys inside construction area

Phase 1-2 surveys outside construction area

Phase 3 survey areas

Figure location

Scale 1:50,000

Key to figure locations (Phase 3 processed data, interpretations and raw data) Fig AA.3

520000
530000
260000
A1
Great Ouse
St Neots
Papworth
Everard
EE2
FF8
Caxton
Gibbet
A428
FF7
Wintringham
Croxton
Eltisley
Caxton
FF6
FF5
Wyboston
FF2
Little
Barford
FF3
FF4
EE1
FF1
Roxton
Black Cat
Roundabout

Concordance - Figure series EE (Phase 3 close-up plots)

Fig 1	Field 3_2
Fig 2	Field 99

Concordance - Figure series FF (Phase 3 XY trace plots)

Fig 1	Fields 1, 3_2, 5, 5_2 and 29
Fig 2	Field 15
Fig 3	Field 34
Fig 4	Field 45
Fig 5	Fields 52-53
Fig 6	Field 58
Fig 7	Field 76
Fig 8	Fields 97 and 99

0 2.5km

Phase 1-2 surveys inside construction area
Phase 1-2 surveys outside construction area
Phase 3 survey areas
Close-up plot location
XY trace plot location

Scale 1:50,000

Key to figure locations (Phase 3 XY trace plots and 1:1000 close-up plots) Fig AA.4

515000

255500

255000

F5

F5_2

F2

F1

F3_2

F3

Round Hill
bowl barrow

Previous excavation (Timbey et al 2007)

0 100m

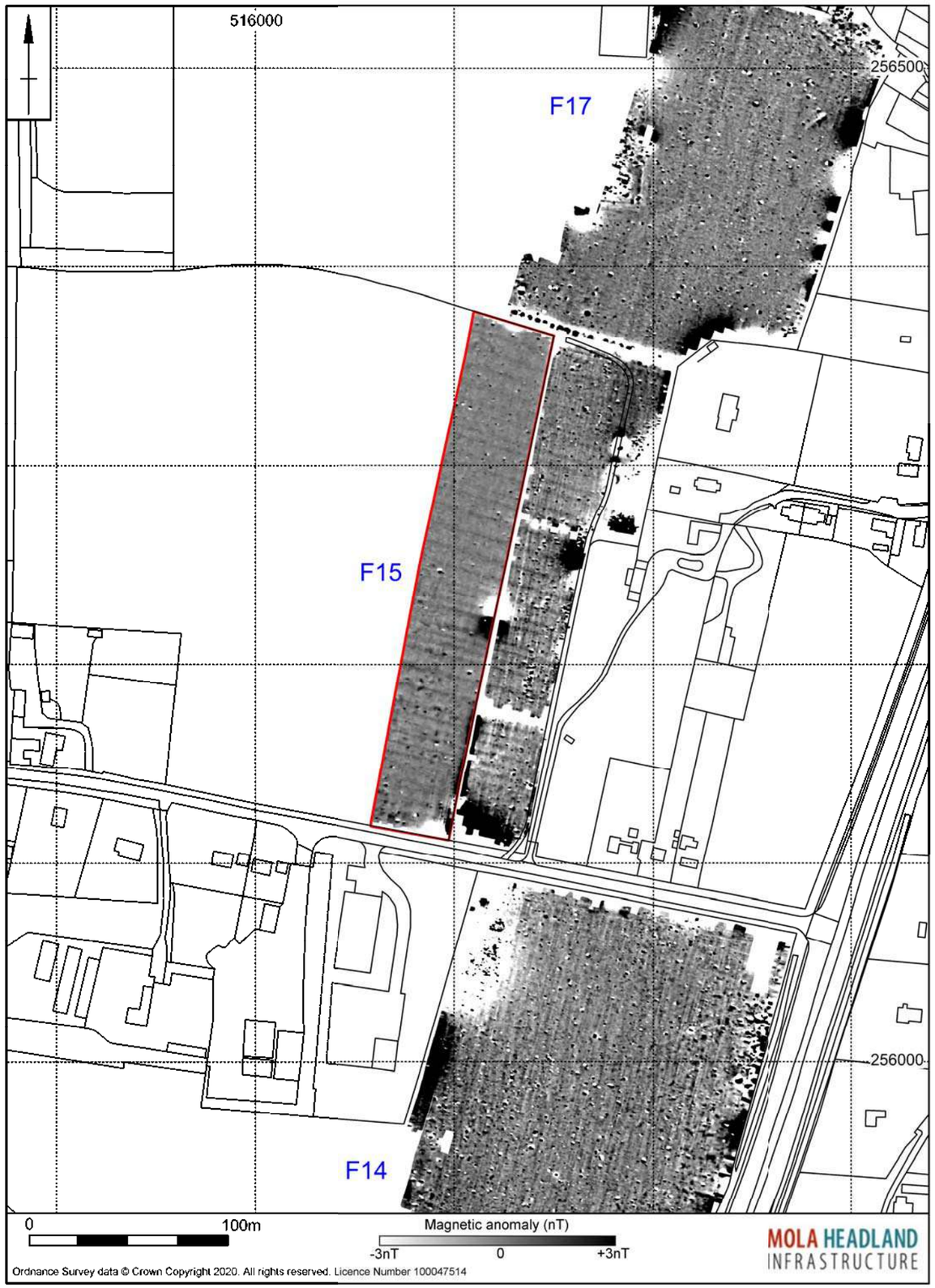
Magnetic anomaly (nT)

-3nT 0 +3nT

MOLA HEADLAND INFRASTRUCTURE

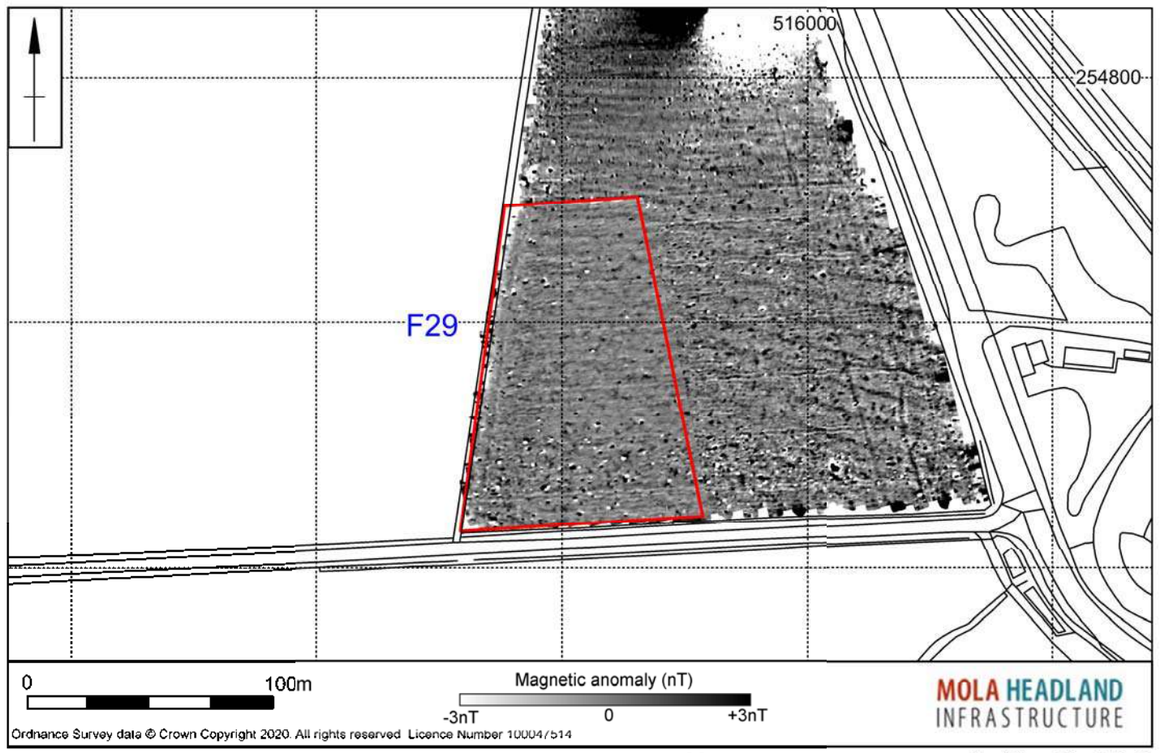
Scale 1:2500 (A3)

Magnetometer survey results (1) Fig BB.1



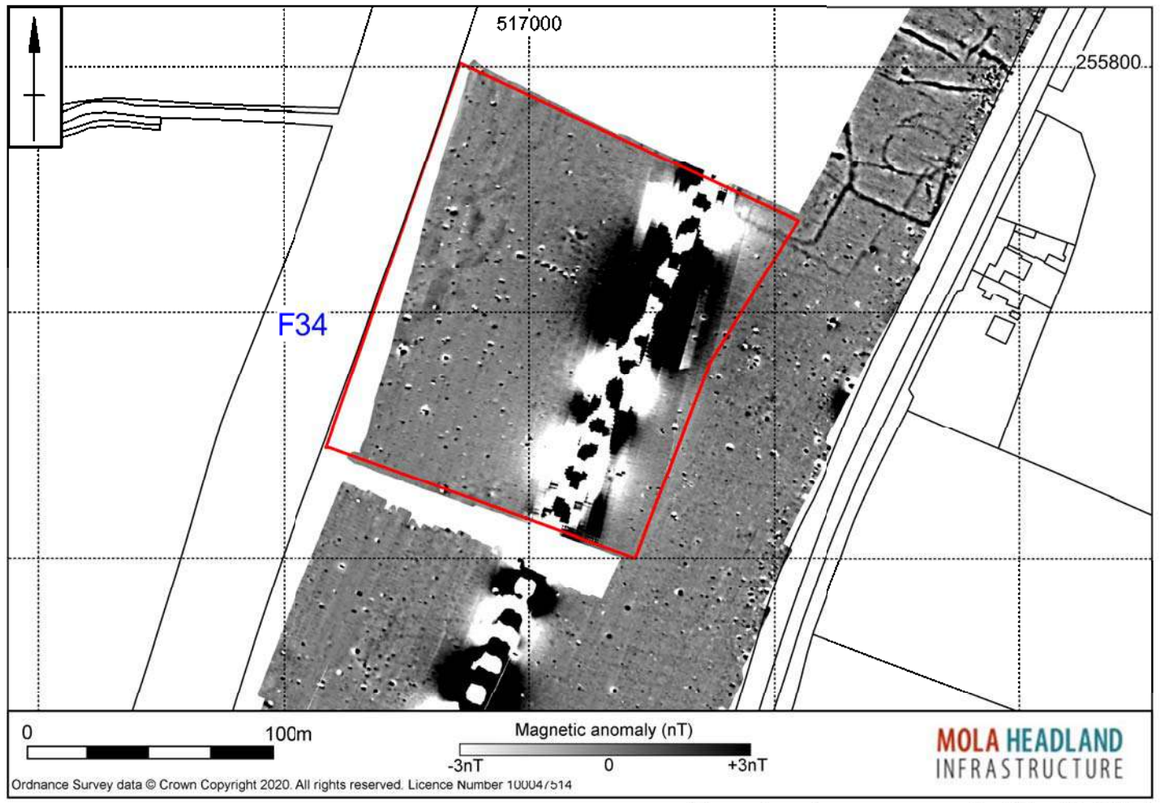
Scale 1:2500 (A3)

Magnetometer survey results (2) Fig BB.2



Scale 1:2500 (A3)

Magnetometer survey results (3) Fig BB.3



Scale 1:2500 (A3)

Magnetometer survey results (4) Fig BB.4

518500

F46

F45

255500

F44

F39

0 100m

Magnetic anomaly (nT)
-3nT 0 +3nT

MOLA HEADLAND INFRASTRUCTURE

Scale 1:2500 (A3)

Magnetometer survey results (5) Fig BB.5

519500

257500

257000

F54

F53

F52

F50

F49

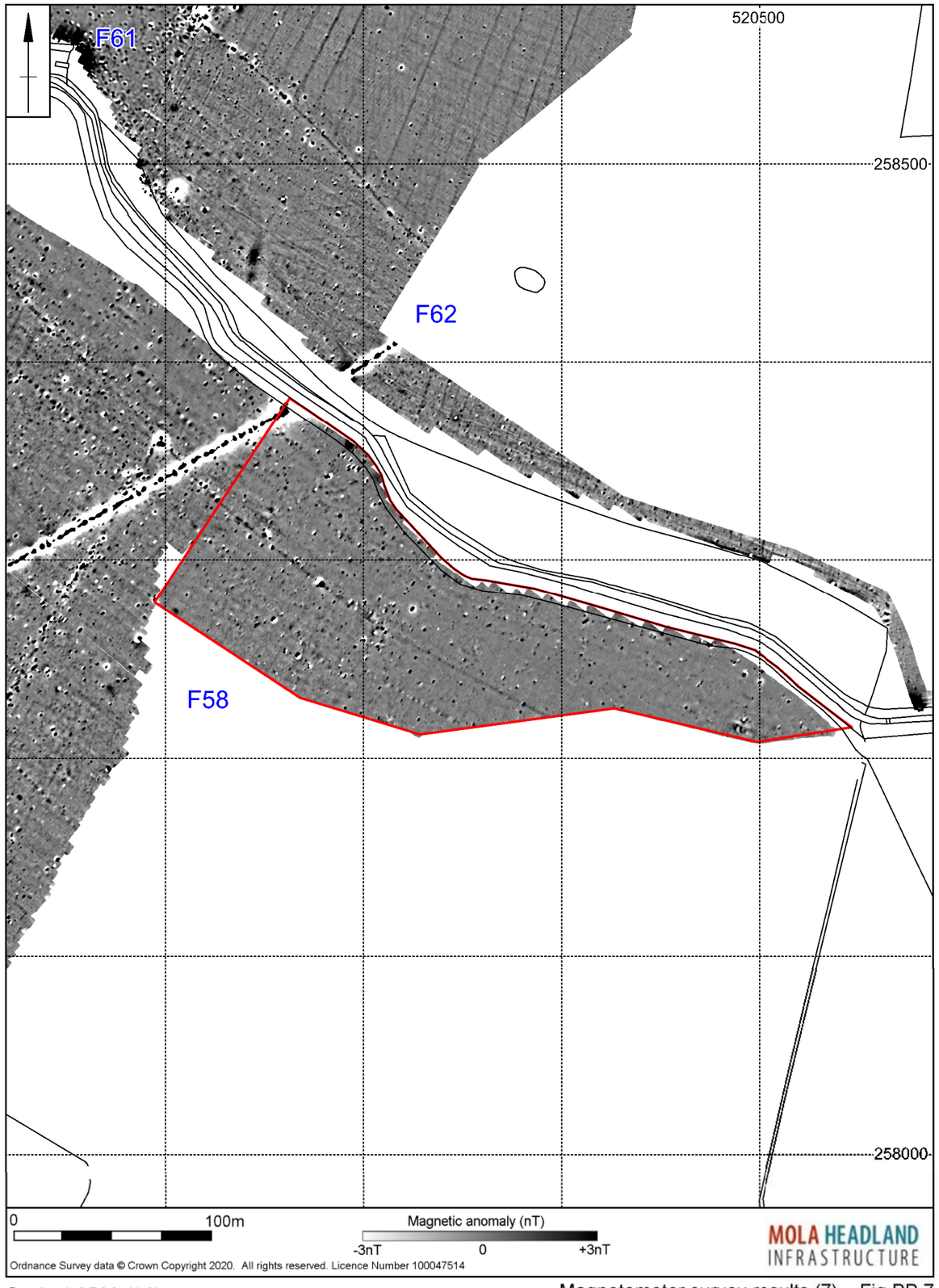
0 100m

Magnetic anomaly
-3nT 0 +3nT

MOLA HEADLAND INFRASTRUCTURE

Scale 1:2500 (A3)

Magnetometer survey results (6) Fig BB.6



Scale 1:2500 (A3)

Magnetometer survey results (7) Fig BB.7

Scale 1:2500 (A3)

Magnetometer survey results (8) Fig BB.8

529000

529500

F97

261000

0 100m

Magnetic anomaly
-3nT 0 +3nT

MOLA HEADLAND INFRASTRUCTURE

Scale 1:2500 (A3)

Magnetometer survey iresults (9) Fig BB.9

529500

530000

261500

F99

F97

F100

Ordnance Survey data © Crown Copyright 2020.
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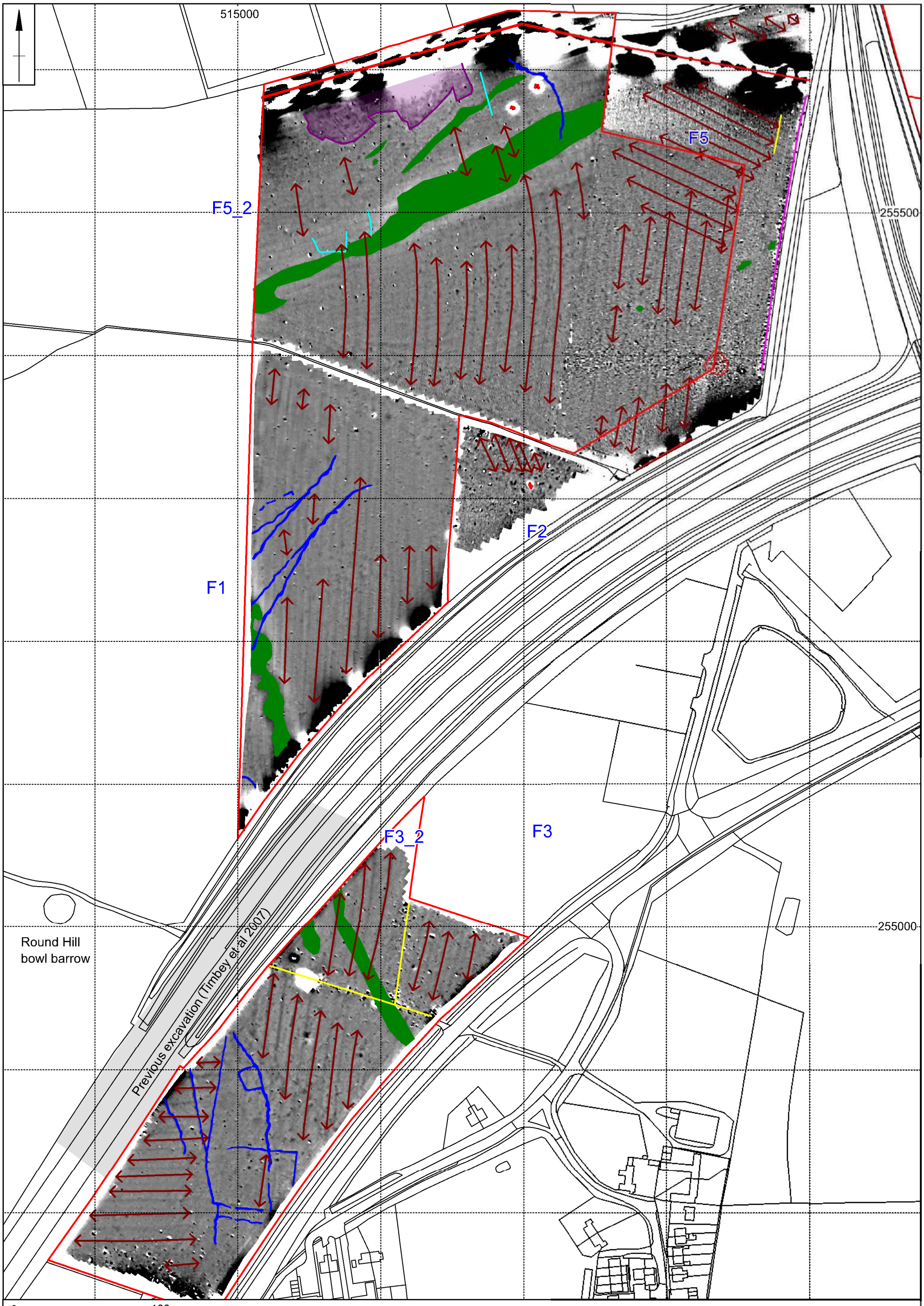
0 100m

Magnetic anomaly (nT)
-3nT 0 +3nT

MOLA HEADLAND INFRASTRUCTURE

Scale 1:2500 (A3)

Magnetometer survey results (10) Fig BB.10

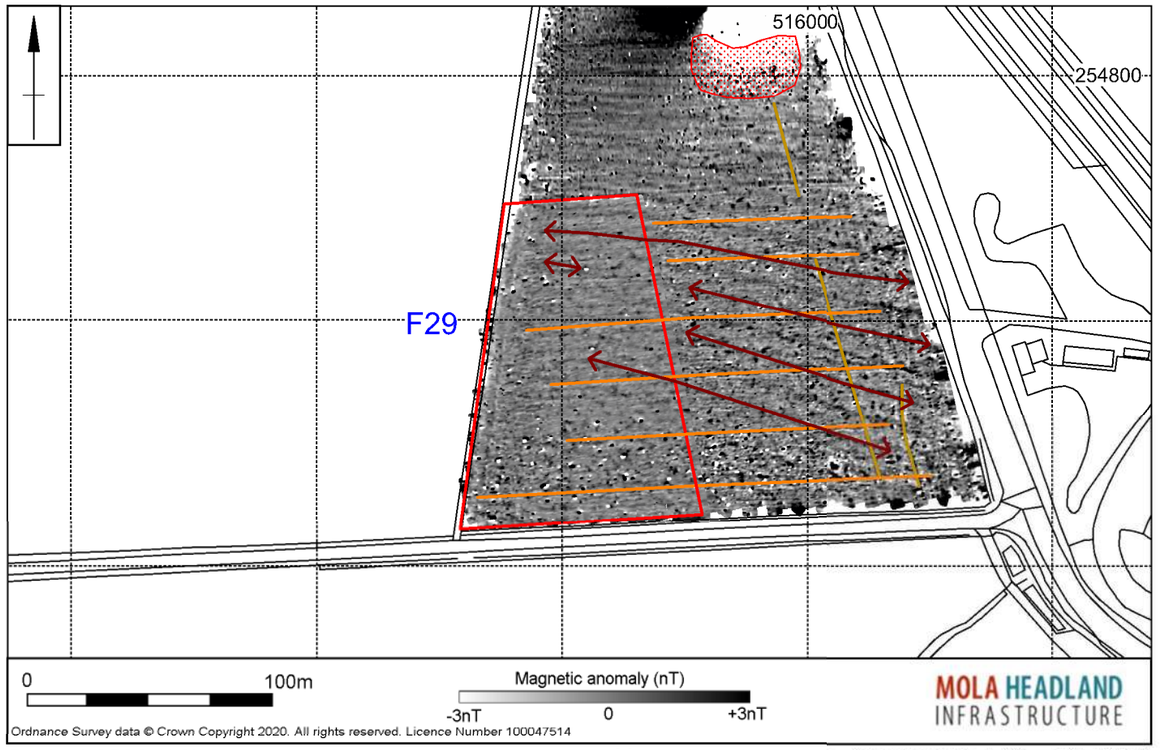


Scale 1:2500 (A3)

Magnetometer survey interpretation (1) Fig CC.1

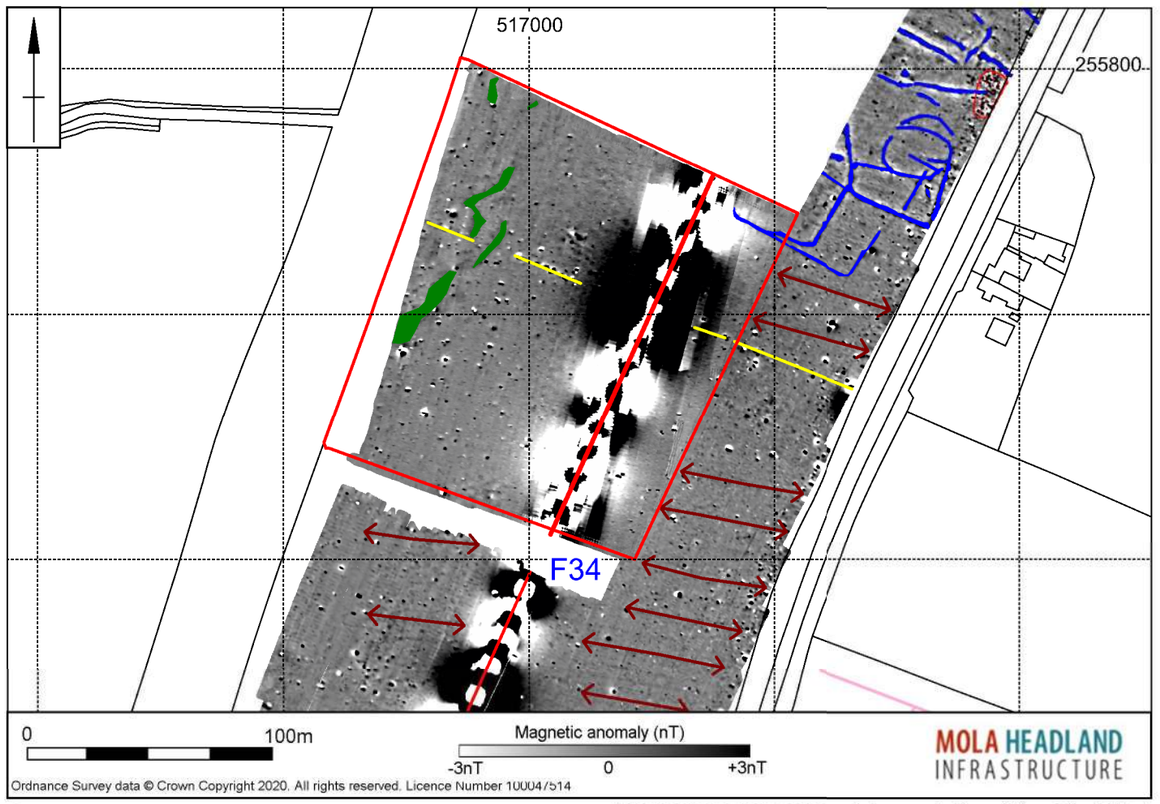
Scale 1:2500 (A3)

Magnetometer survey interpretation (2) Fig CC.2



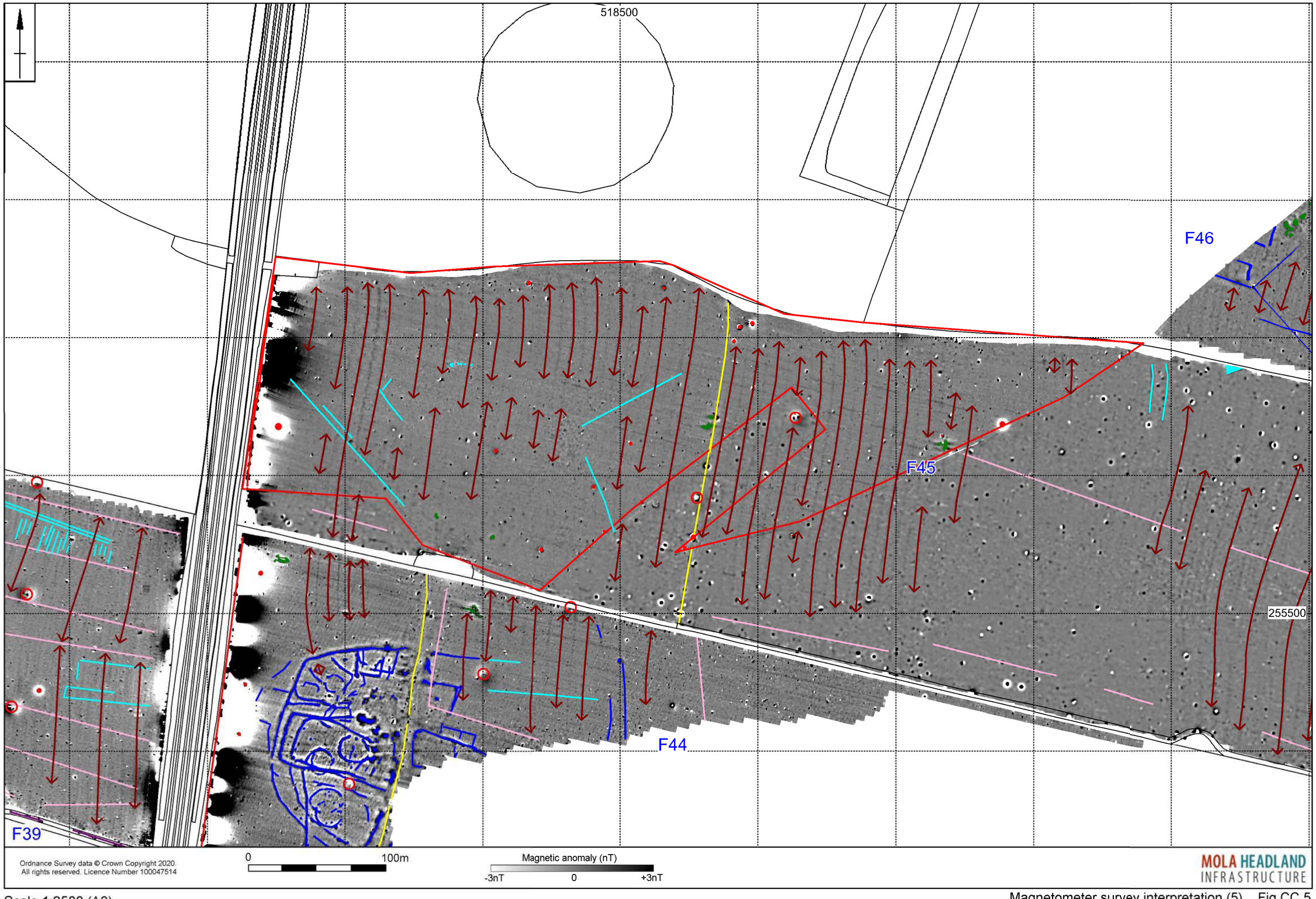
Scale 1:2500 (A3)

Magnetometer survey interpretation (3) Fig CC.3



Scale 1:2500 (A3)

Magnetometer survey interpretation (4) Fig CC.4



MOLA HEADLAND INFRASTRUCTURE

Scale 1:2500 (A3)

Magnetometer survey interpretation (5) Fig CC.5

519500

257500

257000

F54

F53

F52

F50

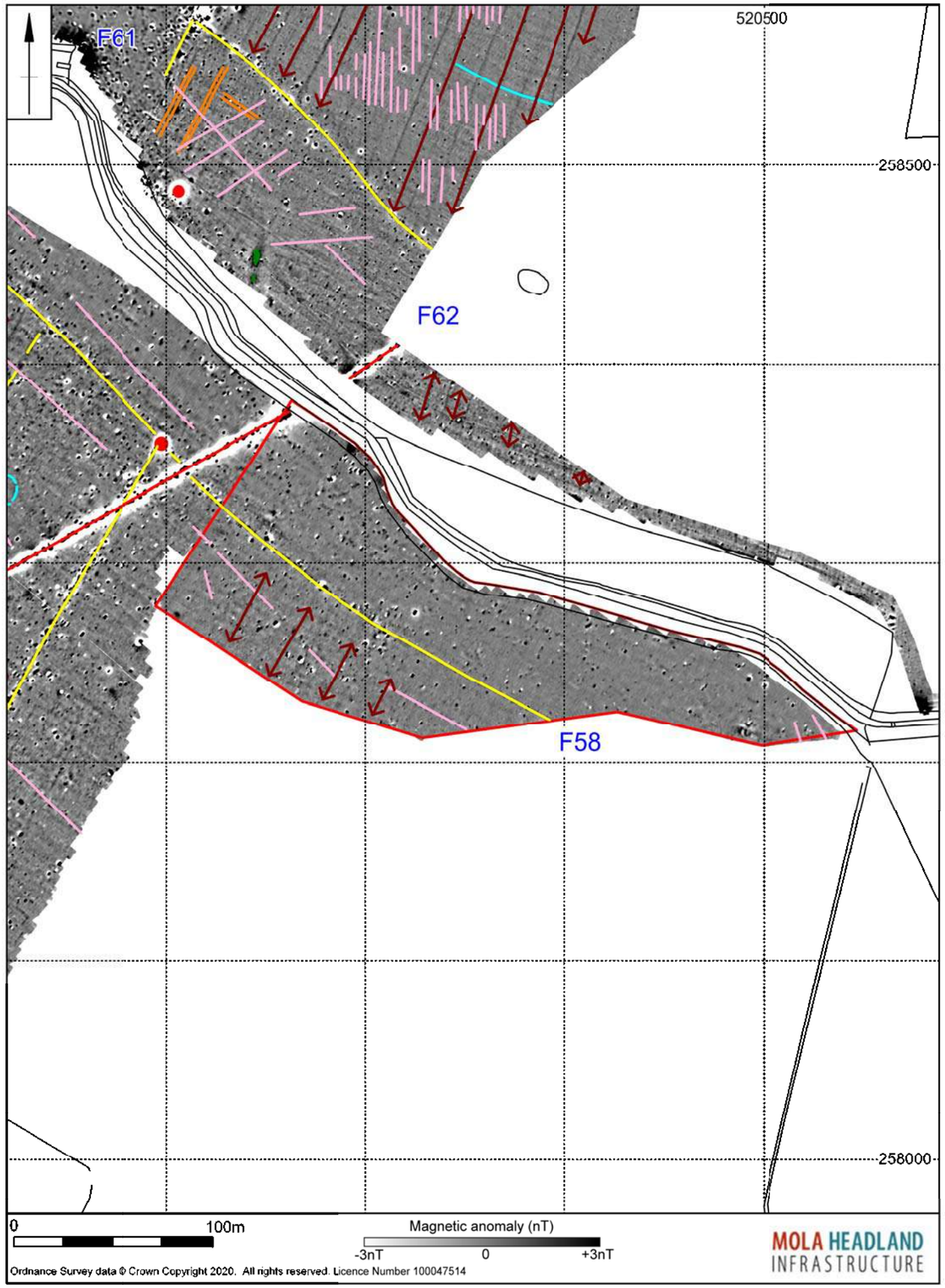
0 100m

Magnetic anomaly
-3nT 0 +3nT

MOLA HEADLAND INFRASTRUCTURE

Scale 1:2500 (A3)

Magnetometer survey interpretation (6) Fig CC.6

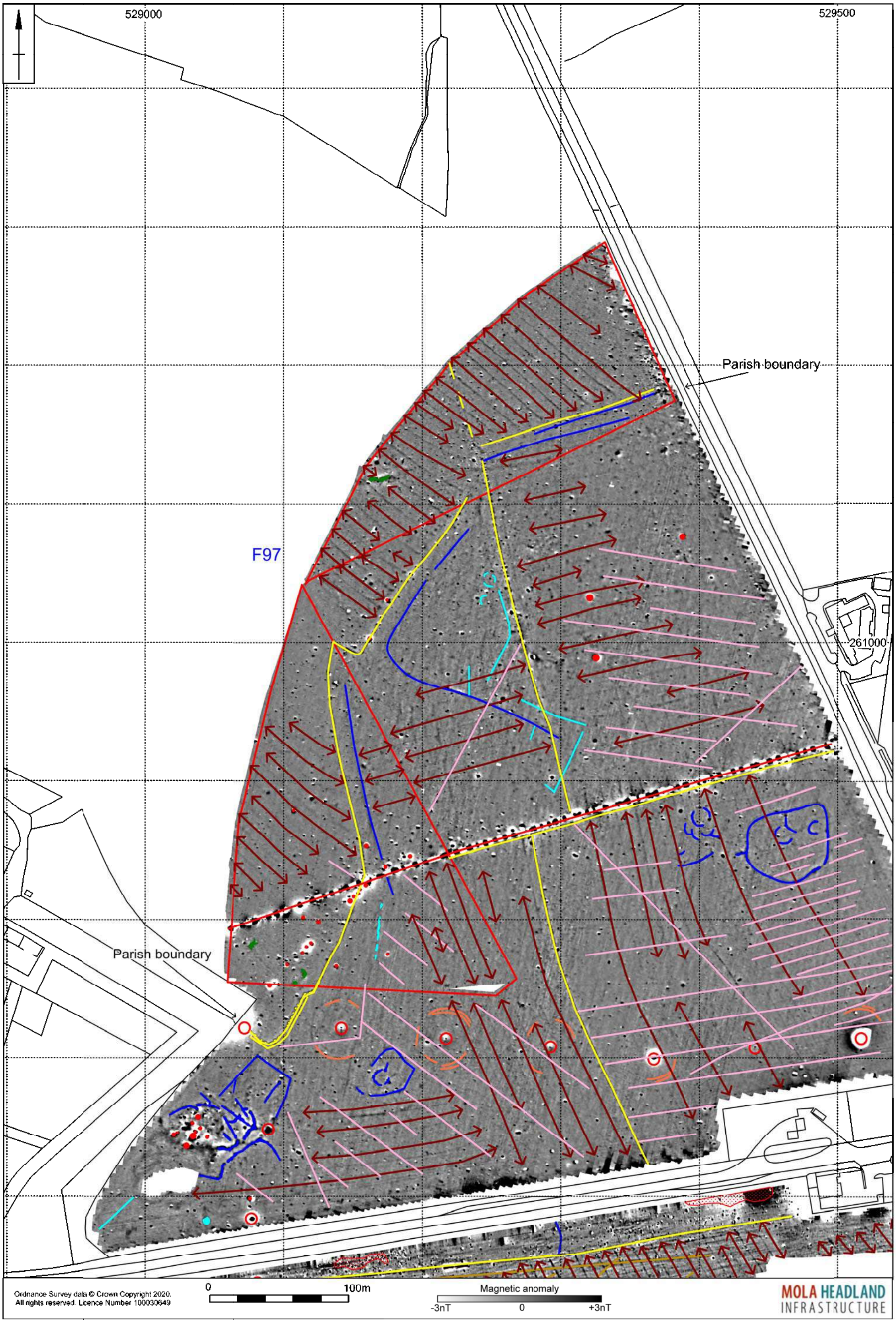


Scale 1:2500 (A3)

Magnetometer survey interpretation (7) Fig CC.7

Scale 1:2500 (A3)

Magnetometer survey interpretation (8) Fig CC.8



Scale 1:2500 (A3)

Magnetometer survey interpretation (9) Fig CC.9

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Bedford Museum Accession No. BEDFM : 2019.41

529500

530000

261500

F99

F97

F100

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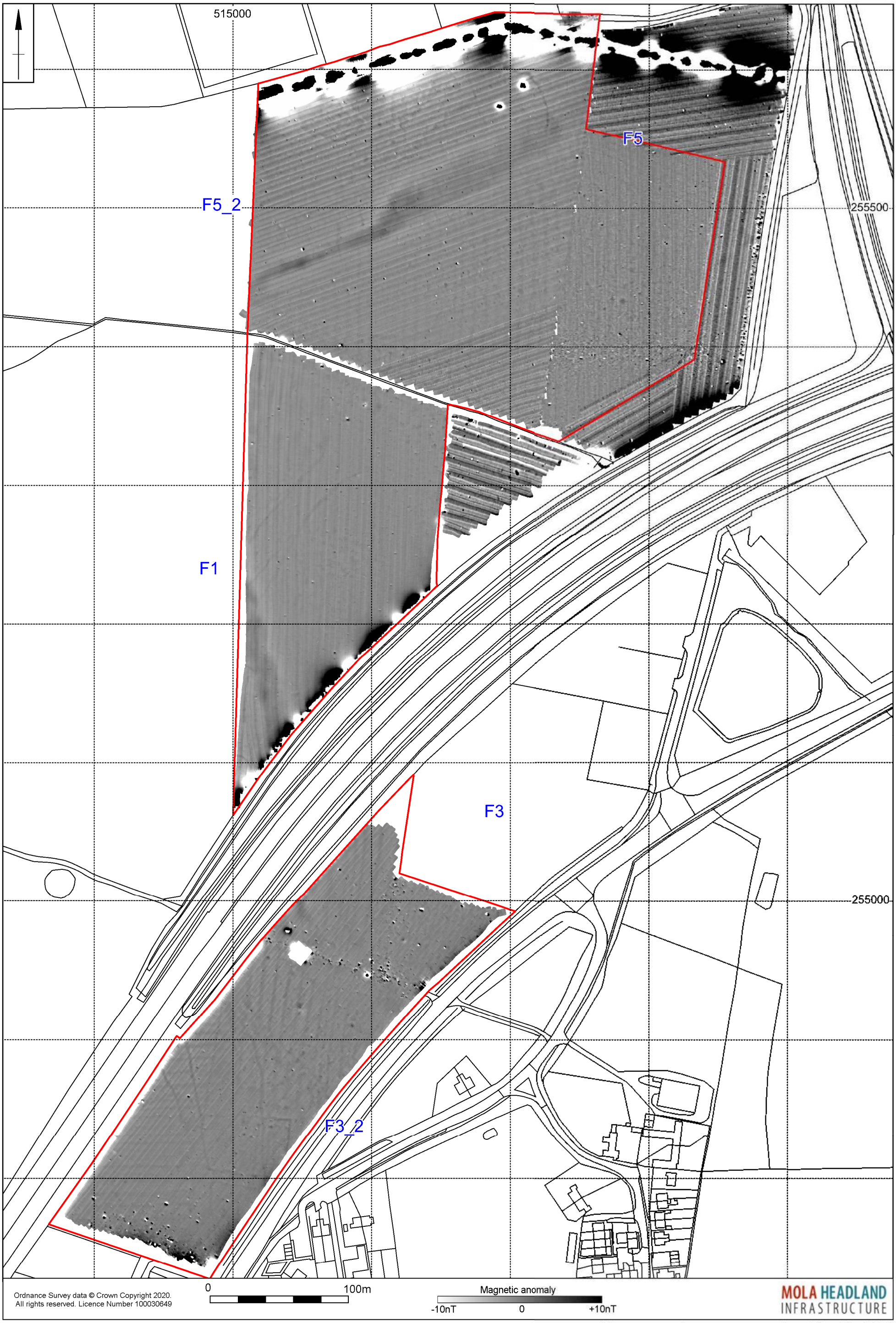
0 100m

Magnetic anomaly (nT)
-3nT 0 +3nT

MOLA HEADLAND INFRASTRUCTURE

Scale 1:2500 (A3)

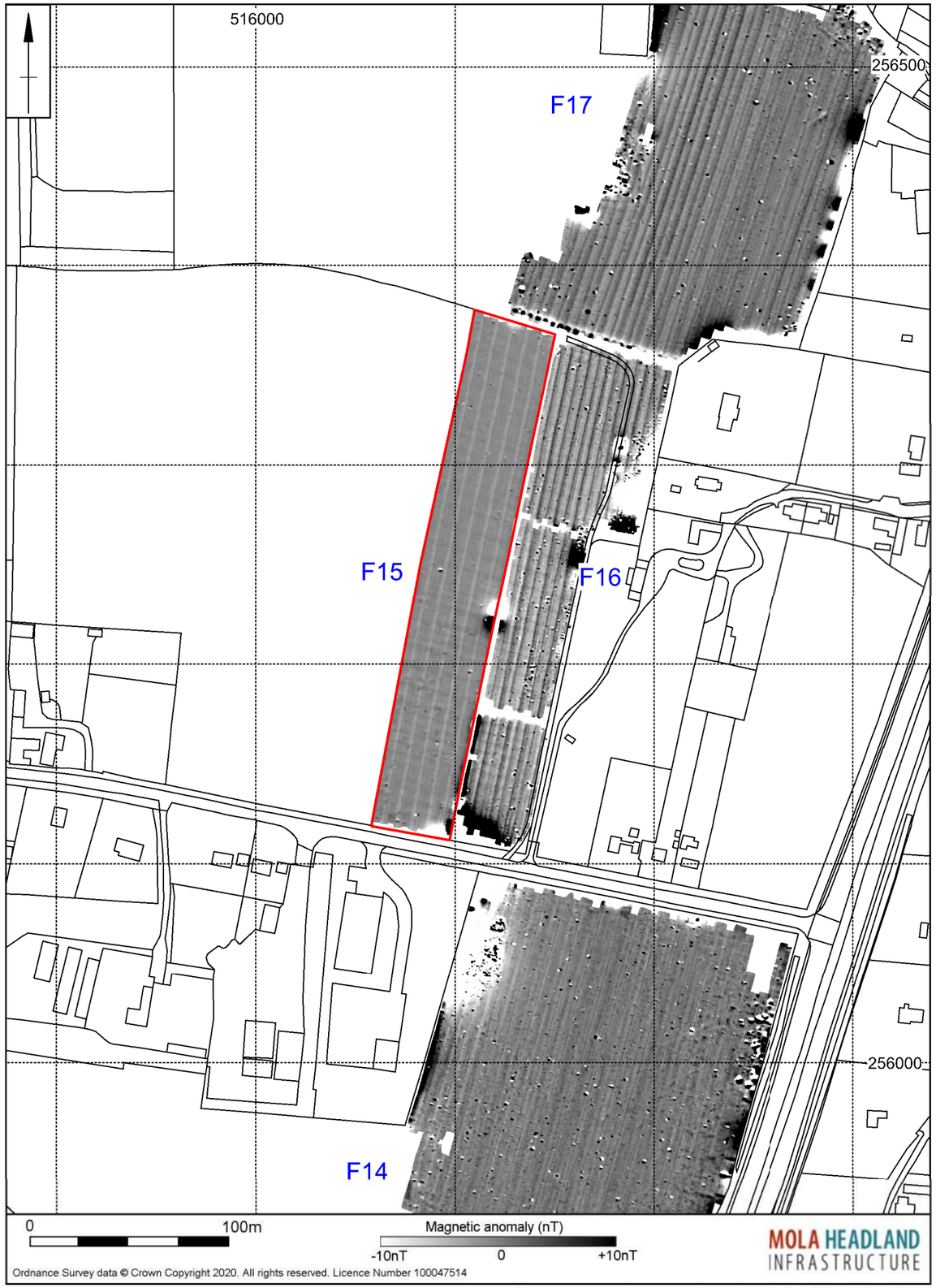
Magnetometer survey interpretation (10) Fig cc.10



MOLA HEADLAND INFRASTRUCTURE

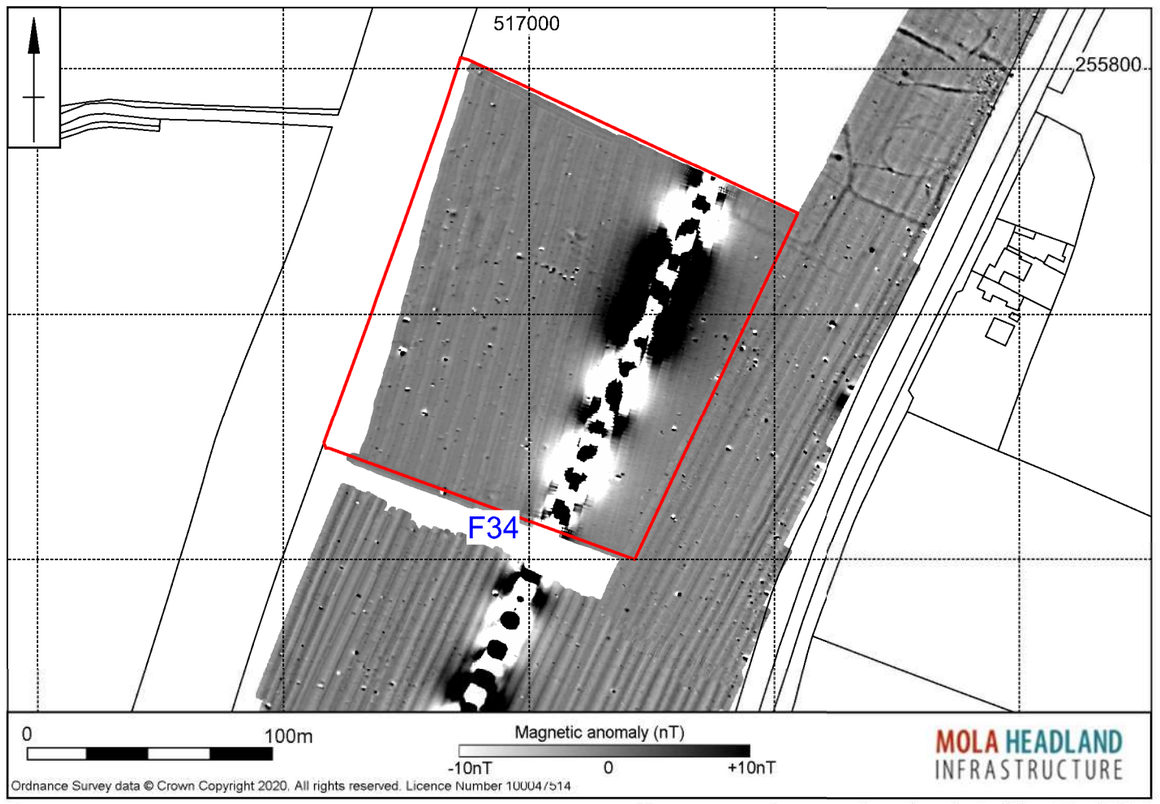
Scale 1:2500 (A3)

Unprocessed magnetometer data (1) Fig DD.1

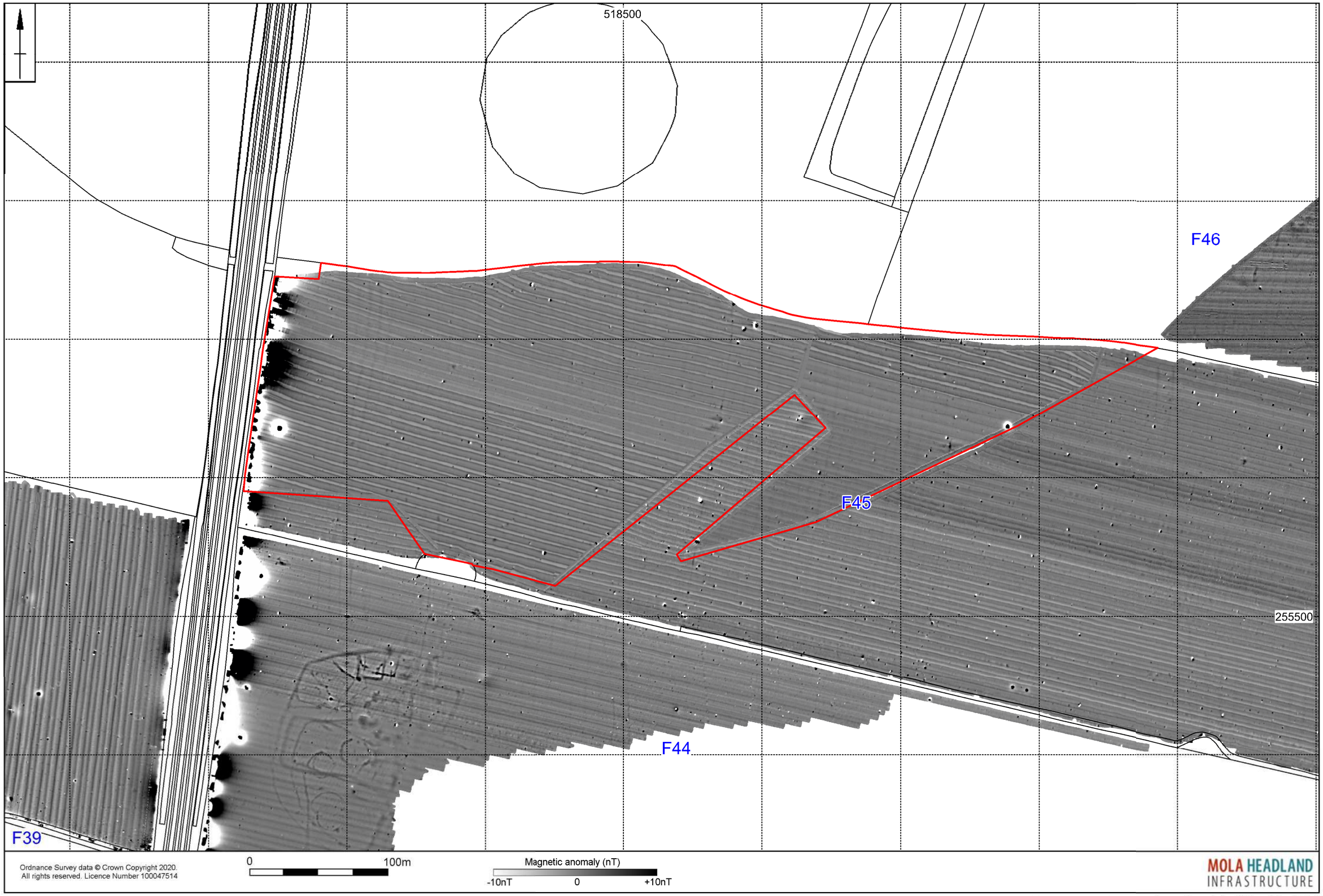


Scale 1:2500 (A3) Unprocessed magnetometer data (2) Fig DD.2

Scale 1:2500 (A3) Unprocessed magnetometer data (3) Fig DD.3



Scale 1:2500 (A3) Unprocessed magnetometer data (4) Fig DD.4



MOLA HEADLAND INFRASTRUCTURE

Scale 1:2500 (A3)

Unprocessed magnetometer data (5) Fig DD.5

519500

257500

257000

F54

F53

F52

F50

F49

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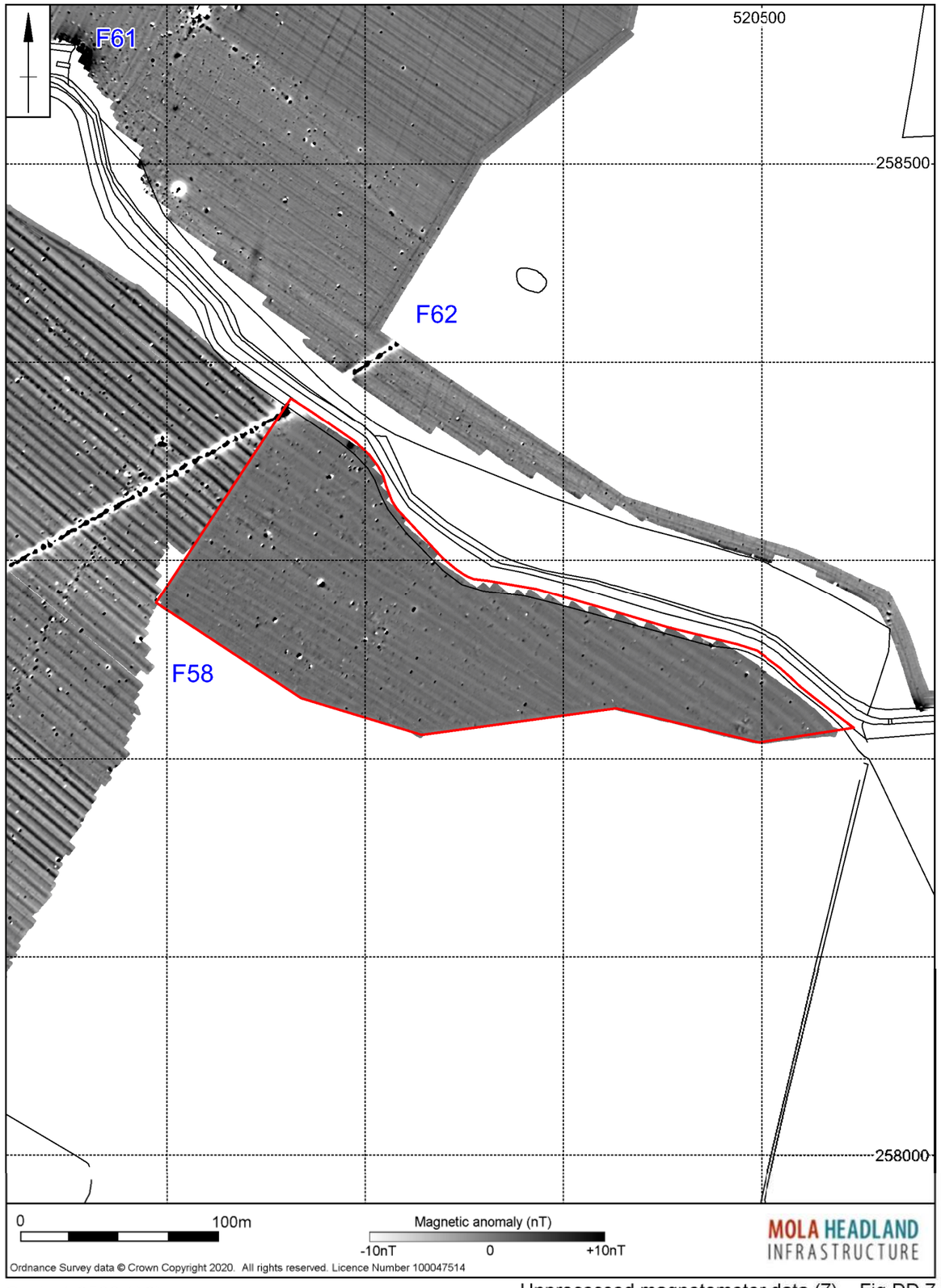
0 100m

Magnetic anomaly
-10nT 0 +10nT

MOLA HEADLAND INFRASTRUCTURE

Scale 1:2500 (A3)

Unprocessed magnetometer data (6) Fig DD.6



Scale 1:2500 (A3)

Unprocessed magnetometer data (7) Fig DD.7

Scale 1:2500 (A3)

Unprocessed magnetometer data (8) Fig DD.8

529000

529500

F97

261000

0 100m

Magnetic anomaly
-10nT 0 +10nT

MOLA HEADLAND INFRASTRUCTURE

Scale 1:2500 (A3)

Unprocessed magnetometer data (9) Fig DD.9

529500

530000

261500

F99

F97

F100

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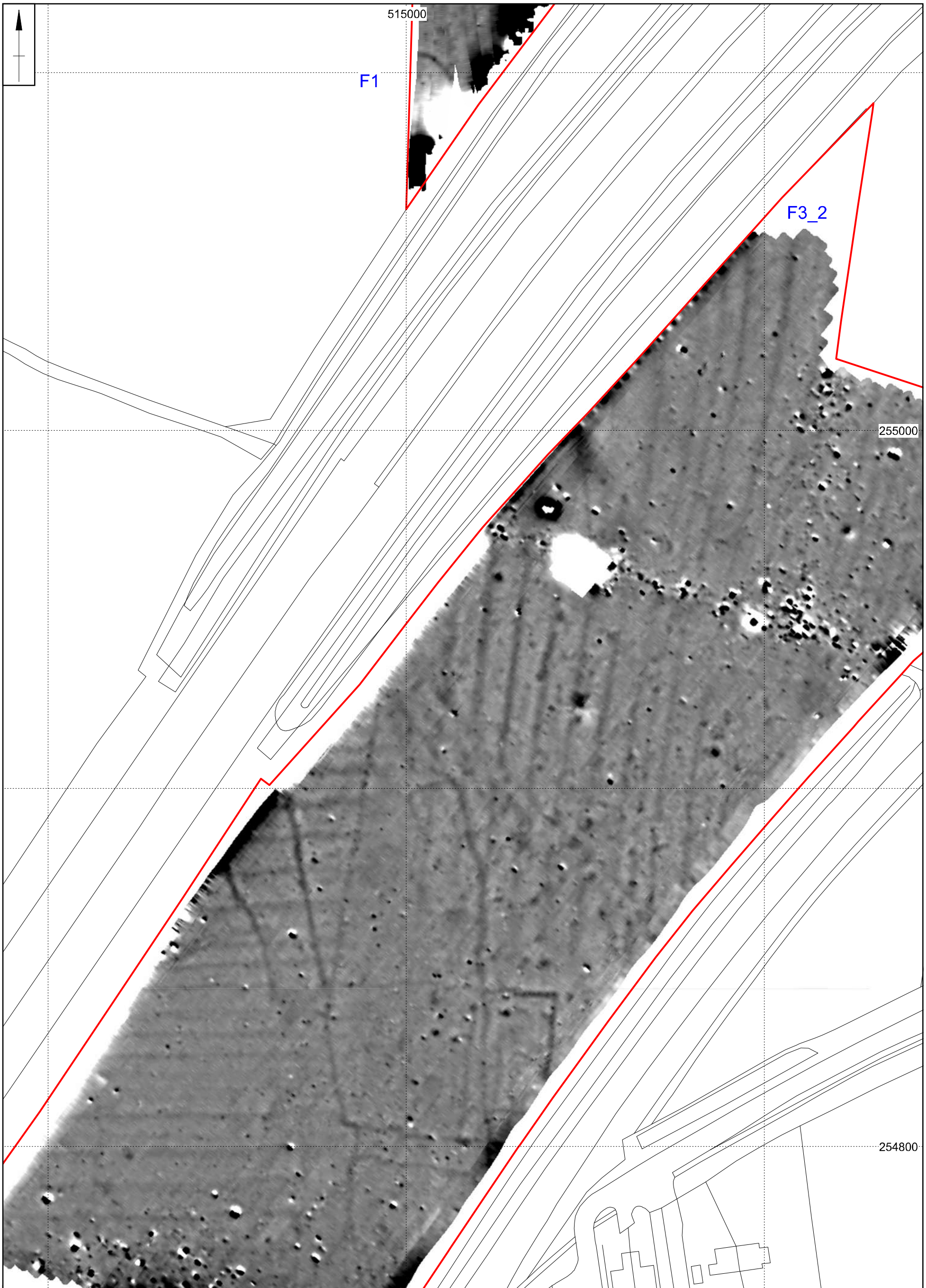
0 100m

Magnetic anomaly (nT)
-10nT 0 +10nT

MOLA HEADLAND INFRASTRUCTURE

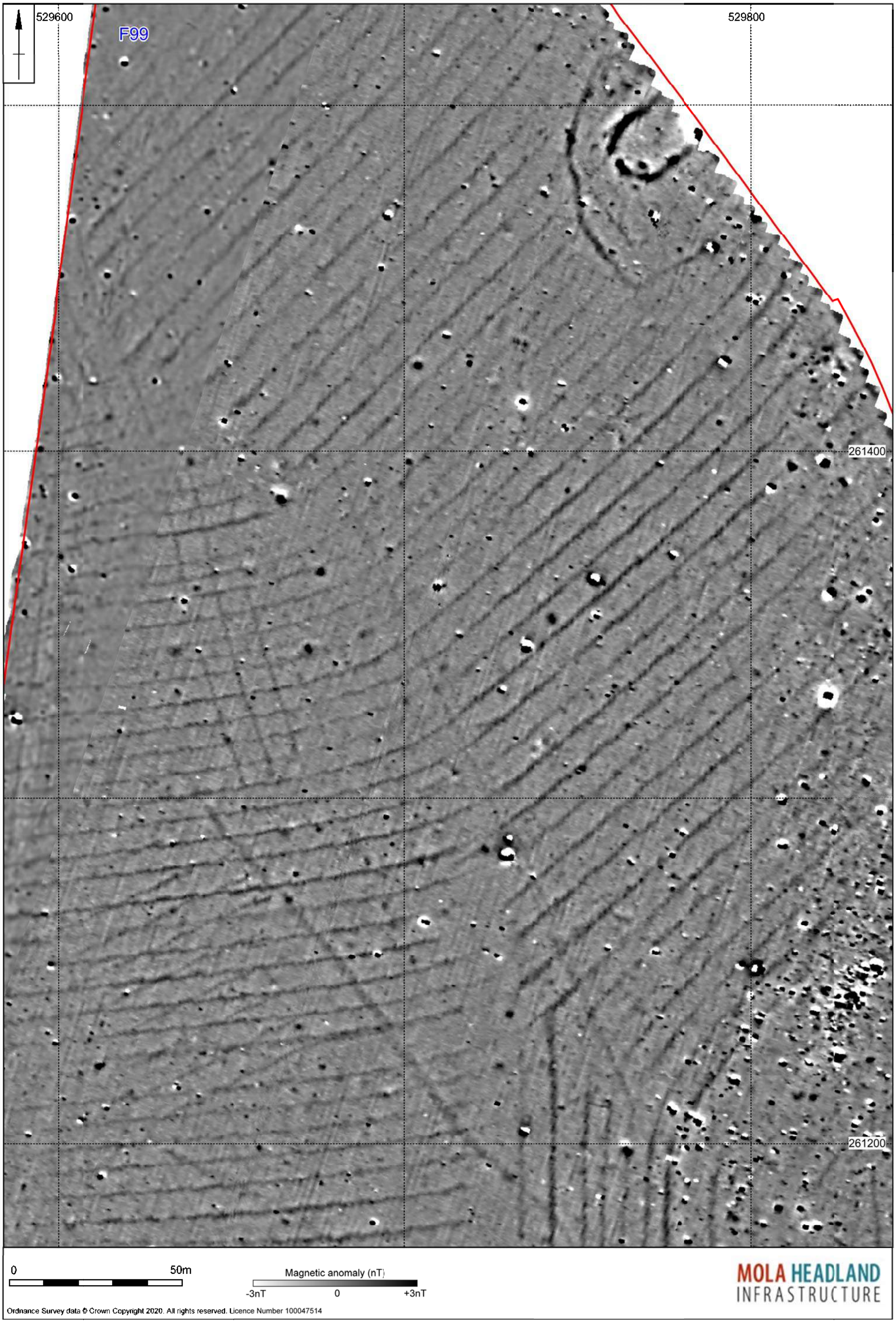
Scale 1:2500 (A3)

Magnetometer survey results (10) Fig DD.10



Scale 1:1000 (A3)

Close-up of archaeological features in Field 3_2 Fig EE.1



Scale 1:1000 (A3)

Close-up of archaeological features in Field 99 Fig EE.2

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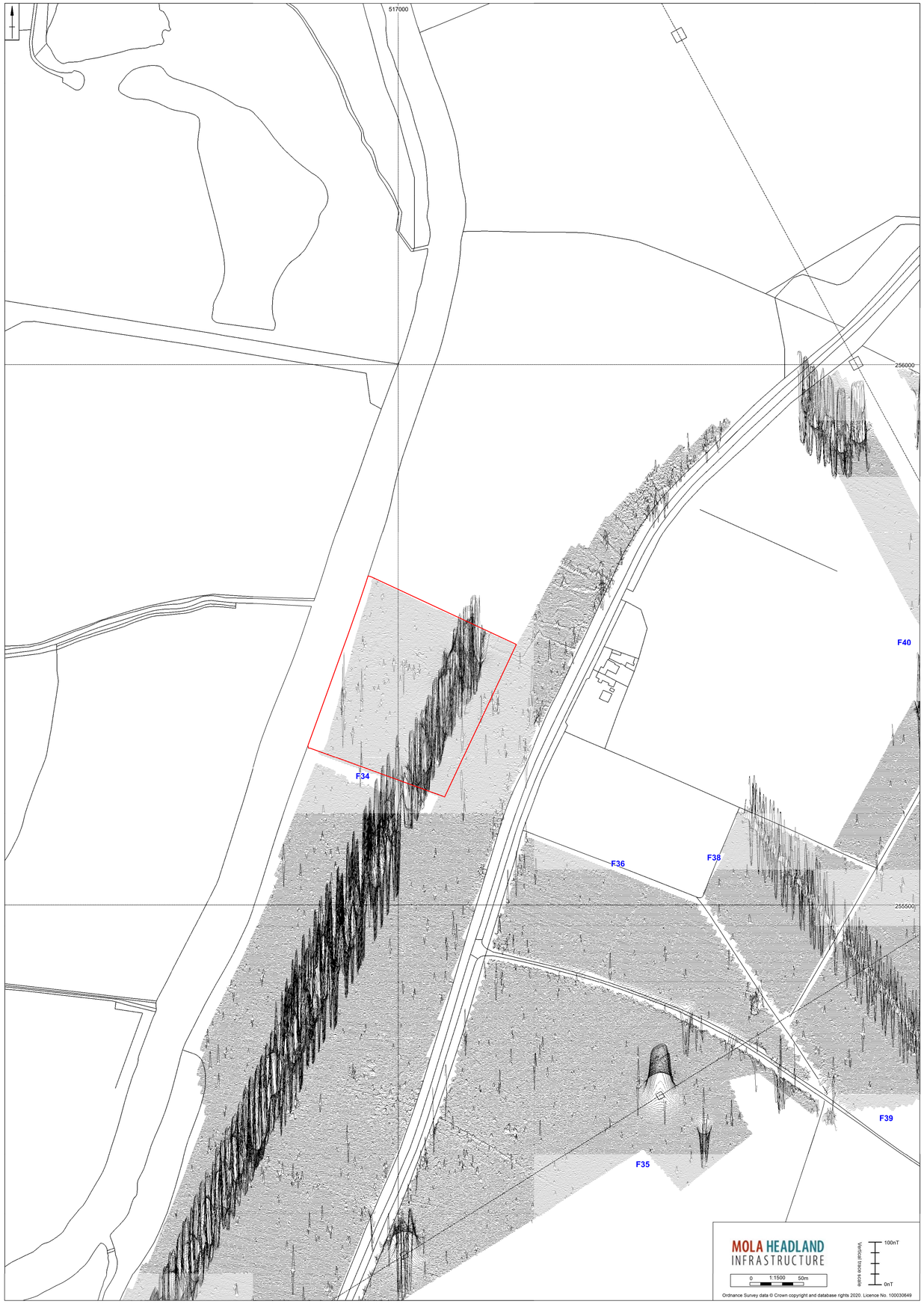
515000
515500
516000
255000
254500
F1
F2
F3_2
F5
F5_2
F7
F8
F9
F28
F29
F29_2

Scale 1:1500

XY trace plots of magnetometer data (1) Fig FF.1

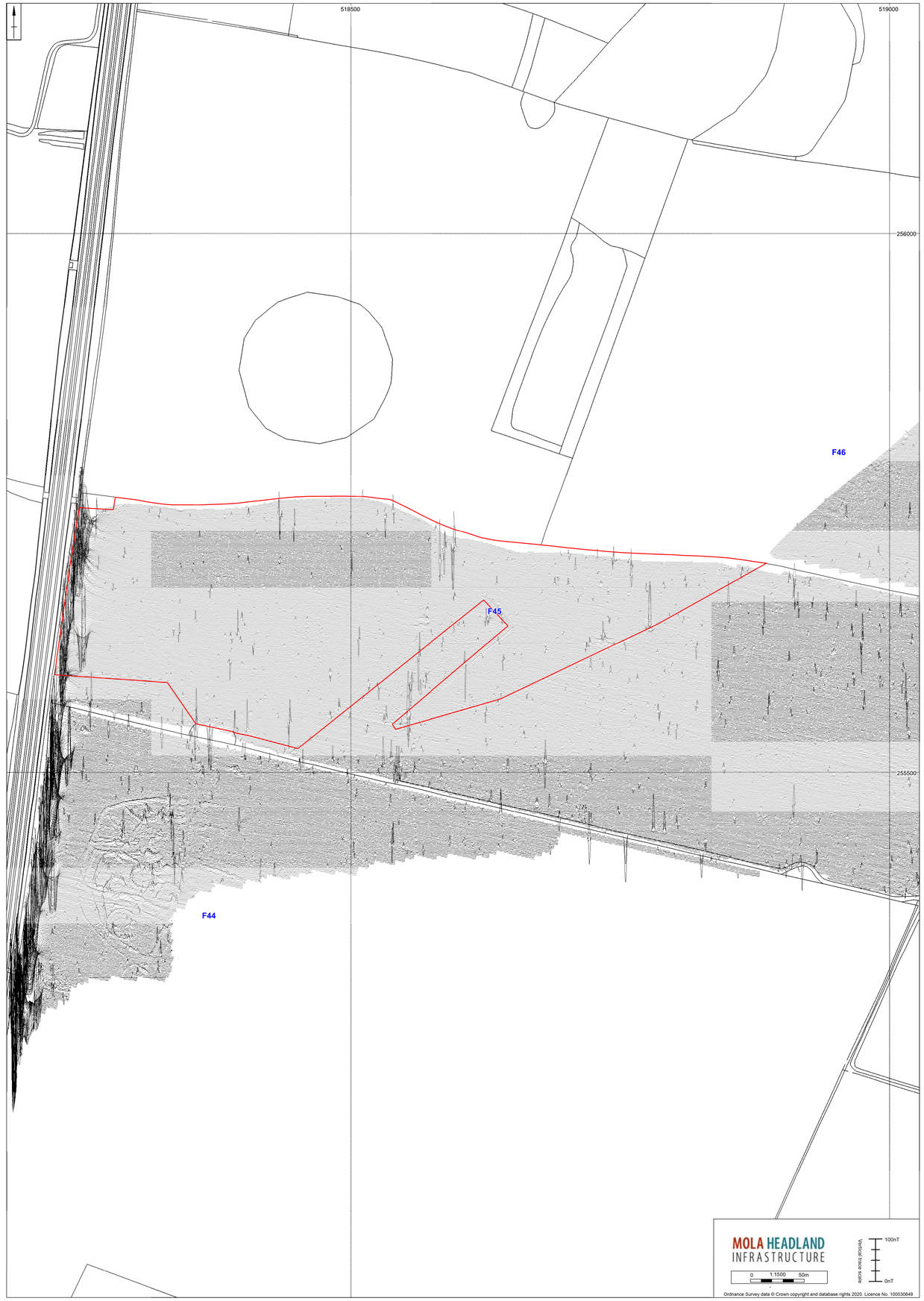
516000
256000
255500
F14
F15
F16
F17
F18
F19

XY trace plots of magnetometer data (2) Fig FF.2



Scale 1:1500

XY trace plots of magnetometer data (3) Fig FF.3

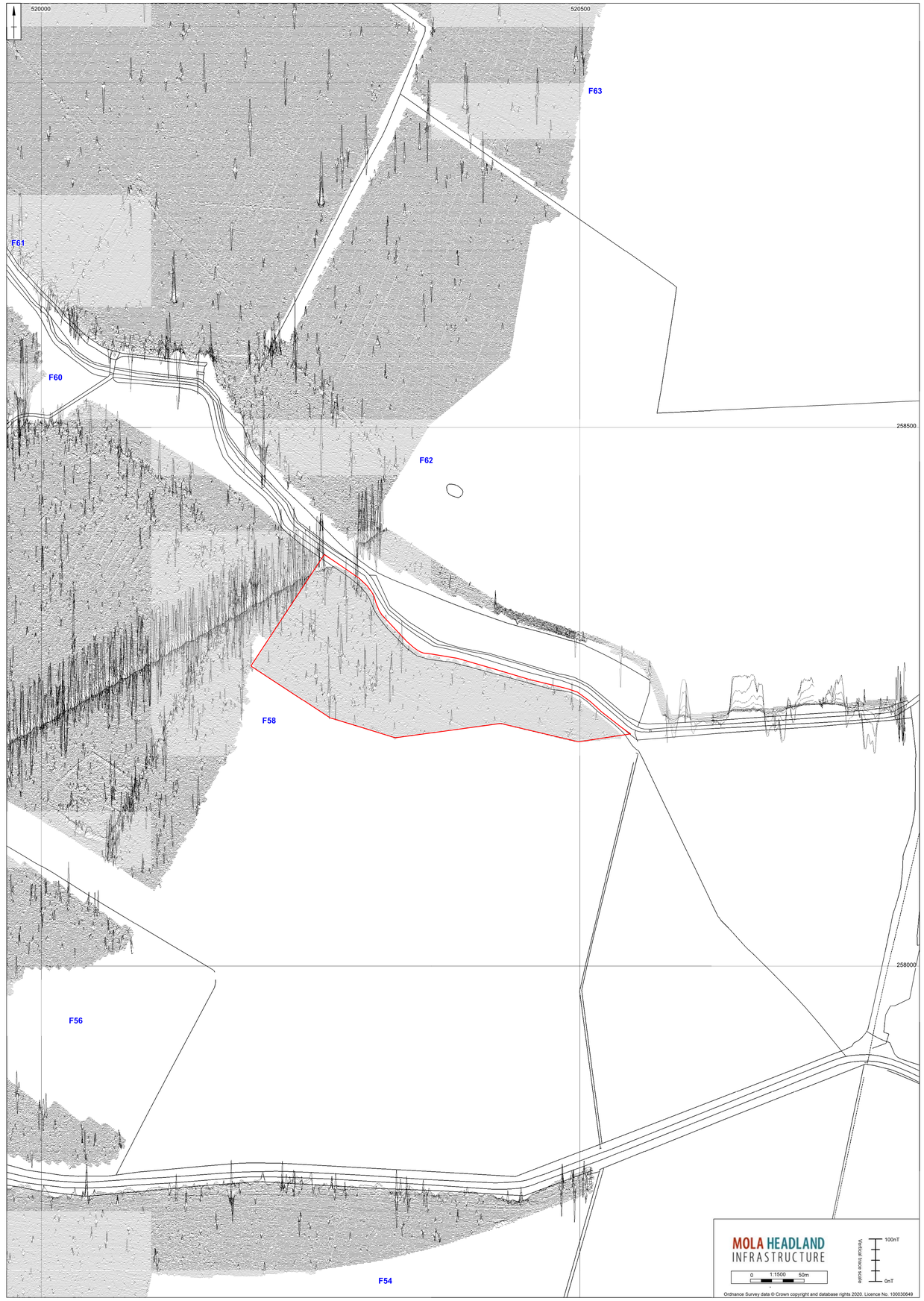


Scale 1:1500

XY trace plots of magnetometer data (4) Fig FF.4

Scale 1:1500

XY trace plots of magnetometer data (5) Fig FF.5

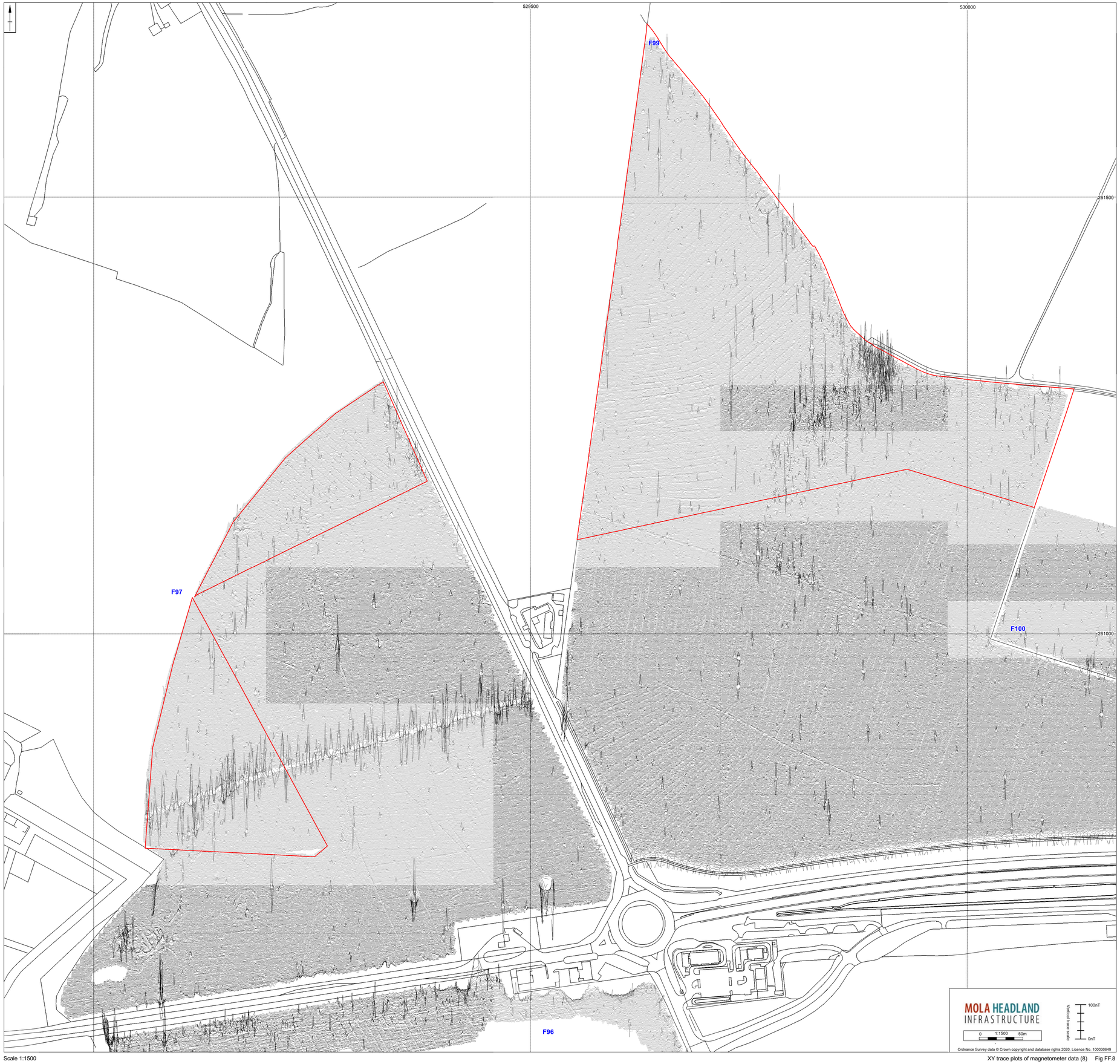


Scale 1:1500

XY trace plots of magnetometer data (6) Fig FF.6

Scale 1:1500

XY trace plots of magnetometer data (7) Fig FF.7



Scale 1:1500

XY trace plots of magnetometer data (8) Fig FF.8