

HXN004, Abbey Farm, Hoxne, Suffolk

Ground Penetrating Radar Survey 2019



for
Mr Wilfred White

CA Project: SU0076
OASIS ID: 374189
HER No. HXN004

CA Report: SU0076_1

November 2019



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CONTENTS

SUMMARY.....	2
1. INTRODUCTION.....	3
2. ARCHAEOLOGICAL BACKGROUND.....	4
3. AIMS AND OBJECTIVES.....	7
4. METHODOLOGY.....	7
5. RESULTS AND DISCUSSION.....	9
6. CONCLUSION.....	13
7. ARCHIVE DEPOSITION.....	14
8. CA PROJECT TEAM.....	15
9. REFERENCES.....	15
APPENDIX A: GEOPHYSICAL SURVEY METADATA	16
APPENDIX B: OASIS REPORT FORM.....	20
APPENDIX C: HISTORIC ENGLAND GEOPHYSICAL SURVEY SUMMARY	
QUESTIONNAIRE.....	22

LIST OF ILLUSTRATIONS

- Fig. 1 Extract from Skynner's estate map of 1757 depicting Abbey Farm.
- Fig. 2 Site location plan (1:25,000)
- Fig. 3 Survey areas, GPR traverses and scheduled monument outline (1:500)
- Fig. 4 Selected greyscale timeslice ground penetrating radar plots (1:500)
- Fig. 5 Interpretation plots of greyscale timeslice ground penetrating radar data (1:500)
- Fig. 6 Combined GPR and earth resistance meter anomaly interpretation plots (1:500)

LIST OF PLATES

Plate 1.	View towards Abbey Farm, Area 1, facing southeast	10
Plate 2.	View towards Abbey Farm, Area 6, facing southwest	12
Plate 3.	View towards Abbey Farm, Areas 7 and 8, facing west	13

SUMMARY

Project Name:	Abbey Farm
Location:	Hoxne, Suffolk
NGR:	676400 218300
Type:	Ground Penetrating Radar Survey
Date:	30 th October 2019
Location of Archive:	To be deposited with Suffolk HER
Site Code:	HXN004
CA Project Code:	SU0076
OASIS Reference:	374189
Historic England Case No:	SL00223827
Section 42 Licence:	AA/044753
Curatorial Officer:	Dr Will Fletcher (Historic England)
Client/Funding Body:	Mr Wilfred White

In October 2019, a ground penetrating radar survey was undertaken by Cotswold Archaeology on land at Abbey Farm, Hoxne, Suffolk, within the curtilage of the Benedictine Hoxne Priory, a Scheduled Monument. This followed earth resistance meter and ground penetrating radar surveys in 2017, which recorded structural anomalies indicative of walls and rubble spreads. The current phase prospected further walls and rubble spreads that are potentially associated with the Priory, along with ditches and discrete anomalies.



1. INTRODUCTION

- 1.1 In October 2019, Cotswold Archaeology (CA) carried out detailed ground penetrating radar survey (0.0819 hectares) within the Scheduled Monument of Hoxne Priory (Historic England website, National Heritage List for England Ref. 1020447), centred at NGR: 676400 218300 (Fig. 2).
- 1.2 The project was commissioned by the owner of the site, Mr Wilfred White, as part of his personal research into the history of the property. It follows two previous stages of geophysical survey that were carried out in 2017 by the Suffolk office of CA in its former guise as Suffolk Archaeology CIC (Schofield 2017a and 2017b) after discussions with Dr Will Fletcher (Inspector of Ancient Monuments (Beds, Norfolk and Suffolk, Historic England).
- 1.3 The fieldwork and report were guided by by *Standards for Field Archaeology in the East of England* (Gurney 2003), *Standard and Guidance for archaeological geophysical survey* (ClfA 2014), the *Management of Research Projects in the Historic Environment (MORPHE): Project Manager's Guide* (Historic England 2015), *EAC Guidelines for the Use of Geophysics in Archaeology* (Schmidt 2015), *Information for Applicants: Section 42 Licences for Survey on Scheduled Monuments and other protected places* (Historic England 2018), and the county guidelines *Requirements for a Geophysical Survey* (SCCAS 2017).

The site

- 1.4 Abbey Farm and its gardens form a rectangular enclosure of c. 1.5ha, bordered by Abbey Hill to the west and south where it is bounded by a curtilage wall. An associated complex of largely 19th century farm buildings are extant to the north and a series of linear ponds are present to the east. The farmhouse and gardens, ponds, farm complex and the 0.36ha property of Moatfield to the north, together occupy the western half of the grounds of the former Benedictine Priory that was established in the 12th to 13th centuries. Abbey Farm is believed to have contained various buildings associated with the monastic complex.
- 1.5 Although the general boundary of the Priory precinct is known and survives as a traceable feature in the modern landscape, with substantial survival of the ponds and fishponds within the Priory grounds, there are no surviving structures apart from a section of medieval wall present in the curtilage wall. The layout and location of Priory

buildings has also been largely unknown. Preceding earth resistance meter and ground penetrating radar (GPR) surveys, commissioned by Mr White and undertaken by the SACIC geophysical survey team in April and December 2017 (Schofield 2017a and 2017b) were therefore an important opportunity to investigate the site, comprising broad-ranging reconnaissance earth resistance survey followed by a more targeted detailed earth resistance meter and GPR surveys. Anomalies indicative of building structures relating to the Priory, former wings of the 16th century farmhouse and pits and ditches of possible archaeological derivation were prospected.

Geology and topography

- 1.6 The Farm lies at the northern end of a plateau of high ground, c. 40m above Ordnance Datum (AOD), which extends southeast through Cross Street to Heckfield Green. To the north, the natural topography descends towards the confluence of the Goldbrook and Chickering Beck and the settlement core of Low Street. The prevailing topography within the site (centred on NGR TM 7640 1830) slopes down from 42m in the south to 37m AOD in the north.
- 1.7 Bedrock geology is described as Norwich Crag Formation Sand, deposited up to 5 million years ago in the Quaternary and Neogene Periods in shallow seas as mud, silt, sand and gravel. Superficial deposits are described as Lowestoft Formation Diamicton, deposited up to 2 million years ago in the Quaternary Period below glaciers as moraines of till with outwash sand and gravel from seasonal and post glacial meltwaters (BGS, 2019).

2. ARCHAEOLOGICAL BACKGROUND

- 2.1 The following is a shortened summary of that provided in the previous reports (Schofield 2017a and 2017b).
- 2.2 Hoxne was an important parish for the early Christian church in the Late Anglo-Saxon and early medieval periods, by the later Anglo-Saxon period being established as a Bishopric. The parish also has a long association with the legend of the martyrdom of St Edmund in 870 AD and the Priory was centred on a Chapel of St Edmund which may have had pre-conquest origins, before being restored and rebuilt in the early 12th century. The Priory was founded by charter in 1130, with monks taking residence in the early 13th century. Rebuilding and enlargement continued into the 15th century.

- 2.3 The description of the Scheduled Monument in the NHLE states that *'Hoxne Priory was a small house of six or seven monks under a prior or warden who was appointed by the prior of Norwich. Shortly before the Dissolution of the Monasteries the last prior, William Castleton, conveyed the property of the cell to Sir Richard Gresham and the monks were recalled to Norwich.... Details of the priory buildings and precinct are recorded in account rolls of Norwich Priory dating chiefly from the 14th and 15th centuries. In addition to the chapel the buildings comprised a hall subdivided by a parclose (screen) where the monks would have taken their communal meals, a parlour, a dormitory with a chamber over it, and offices including a kitchen, bakehouse, dairy and brewery. In the surrounding precinct were a malthouse, dovecote and stables, closes for threshing and winnowing, fishponds, a garden in the southern part, and a cemetery enclosed by a wall. There was also a cistern, presumably to collect water for domestic use, and a well - known as St Edmund's Well.'*
- 2.4 Of the medieval buildings, the only structure that visibly survives today is a length of flint wall incorporated into the Grade II listed curtilage wall (NHLE No. 1374922), which extends south for 90m from the modern driveway, before cornering and running for 60m to the east along the southern edge of the former precinct. This is believed to be the surviving western wall of a building depicted on a map of the estates of Lord Maynard in Hoxne, Chickering, Denham, Eye and Wetheringsett in 1757 by Thomas Skynner (Fig. 1) and which subsequent mapping reveals was demolished by the mid-19th century.
- 2.5 Abbey Farm itself is a Grade II* Listed Building (NHLE No. 1032502) with the east wing being described in the listing as the surviving part of a large house of c.1540, said to be for Sir Richard Gresham who acquired the Priory site after the Dissolution, and an early 17th century cross-wing on the west side which extends north to form an L-shape plan. In a Historic Building Survey of the farm complex to the north (Alston 2010) the farmhouse was described in passing as *'a fine timber-framed structure of the late-16th century...entirely inconsistent with a date of circa 1540 and was probably built by its next owners (possibly the Thruston family) in the final quarter of the 16th century.'*

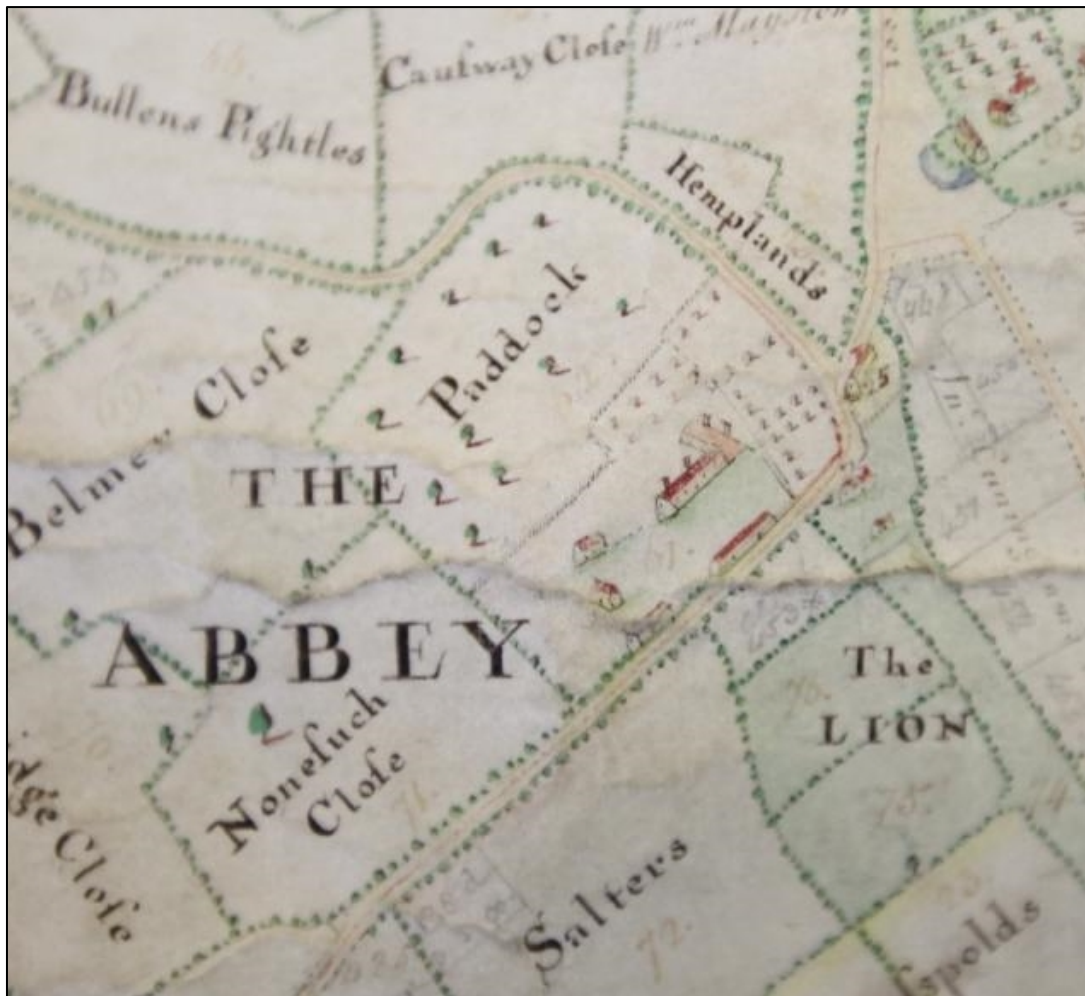


Figure 1. Extract from Skynner's estate map of 1757 depicting Abbey Farm, (north to bottom left).

- 2.6 A first stage of survey using an earth resistance meter was carried out in April 2017 (Schofield 2017a). This technique successfully recorded the location of anomalies indicative of building structures relating to the Priory and former wings of the 16th century farmhouse, plus pits and ditches of possible archaeological derivation. Possible structures were seen on the lawn immediately to the south of the house, to the northwest of the house and straddling the driveway, and parallel and perpendicular to the east of the upstanding flint wall, forming a long and narrow rectangular building (internal dimensions of 6.3m wide by 22.6m+ long).
- 2.7 A second stage of survey using ground penetrating radar (GPR) was carried out in September 2017 on those areas with positive evidence for structural remains and to infill gaps in the earth resistance meter coverage by surveying the hard surfaces of the driveway. Due to time constraints and complexity of its shape the turning circle to the north of the farmhouse was omitted. The GPR survey (Schofield 2017b) was

successful in recording anomalies of a structural nature in greater detail than previously prospected by the earth resistance meter surveys, with anomalies indicative of walls and rubble spreads, likely to relate to the medieval Priory and the post-medieval farmhouse.

- 2.8 In 2018 Mr White commissioned a Historic Building Survey of the farmhouse itself (Alston 2018). This confirmed a date for the farmhouse of c.1580 but noted that it likely only comprises two thirds or less of the original building. Of particular note Alston observed that *the western range is less eye catching and is ostensibly a later extension, but it contains a number of anomalies and may in fact represent a much altered and heavily disguised fragment of the priory.... If the western wing of the house does pre-date the Reformation it may have formed a cellarer's hall on the western side of this cloister with the timber-framed range on the site of the refectory and the chapel on the reputed site of Edmund's death beneath the gravel drive to the north. It may well be possible to settle this intriguing question with further geophysics and investigation of the western range's wall fabric.'*

3. AIMS AND OBJECTIVES

- 3.1 At the request of Mr White, following on from Alston's comments about the possible location of the chapel, the principle aim of the survey was to prospect for geophysical anomalies associated with the former Benedictine Priory within the driveway/turning circle to the north of the house, which formed a notable gap in the previous ground radar survey (Fig. 3, Areas 1-5).
- 3.2 Four survey areas to the northwest, north and northeast (Fig.3) of the farmhouse were targeted. These were located on the lawn to the north of the driveway where the 2017 GPR survey results had been affected by a technical error (Area 1), the driveway/turning circle to the north of the house (Area 6), a concrete pad (Area 7) and the closest part of a grass field to the northeast of the house (Area 8).

4. METHODOLOGY

- 4.1 An Utsi Electronics Trivue GPR that combines three ground-coupled antenna at 250MHz, 500MHz and 1GHz central frequencies was employed. The antenna was strapped to a skid pad and pushed in the centre of a four-wheeled cart, which allowed

good ground-coupling and the survey traverses to be recorded with ease. An on-board computer tablet with automated processing software controlled the system and recorded the data, producing amplitude time-slice representations of the below ground strata along each survey traverse. Data could be viewed in real time, allowing its quality to be monitored during its acquisition.

- 4.2 Data were recorded at 0.04m inline sample intervals along 0.50m traverse separations. After preliminary scanning of the areas, the dielectric constant was set to 8. The weather was sunny following a period of prolonged precipitation; however, the ground conditions overall were found to be suitable.

Survey traverse layout

- 4.3 The radar traverses (Fig. 2 blue lines) were partly located on the same grid employed during the preceding earth resistance meter surveys (Area 1), orientated east-northeast to west-southwest and geolocated employing a Leica Viva GS08 Smart Rover RTK GLONASS/GPS, allowing an accuracy of +/- 0.03m. Data were converted to National Grid Transformation OSTN15. The three other areas were recorded on traverses that best fitted the shape of their areas.

Data capture

- 4.4 Ground penetrating radar survey points were recorded on a tablet linked to a wheel-odometer trigger, data were recorded and checked for quality during the survey and further composited in the evenings. A proforma survey sheet detailing the number of traverses and fiducial marker locations was completed enabling the traverse composites to be created. Data were filed in unique project folders and backed up onto an external storage device and then a remote server in the evening.

Data software, processing and presentation

- 4.5 The ground conditions for the GPR were found to be suitable, allowing good quality data to be recorded. Data processing involved the conversion of raw data to a time-domain model, through a time window of 0 – 60ns, using ReflexW 2D. Time zero was adjusted to the level of the true ground surface using starttime, and a background removal algorithm was run on the data. Suitable 'y' gain levels were employed to highlight late arrivals.
- 4.6 A 3D cube was created in ReflexW 3D, which enabled the production of timeslice data. The geometry files, raw files, processed files, cube files, timeslices and .mpg

files will be stored and archived in this format. Detailed processing algorithm schedules are presented in Appendix A.

- 4.7 Timeslice data were exported as GRD files from ReflexW 3D, into Terrasurveyor as grid data, then were transformed into raster png's and finally imported into AutoCAD. An interpretation plan based on the combined timeslice results (Fig. 4) has been produced (Fig. 5); a GPR interpretation plot combined with earth resistance meter has further been created (Fig. 6).

5. GEOPHYSICAL SURVEY RESULTS AND DISCUSSION (FIGS. 3 – 6)

- 5.1 Four areas (2-5) were surveyed with ground penetrating radar in 2017 with Area 1 being affected by a technical error. Area 1 and three new areas (6–8) were prospected during the current survey and have been plotted alongside the preceding for comparison (Fig's 4 – 6).



Plate 1. View towards Abbey Farm, Area 1, facing southeast

Area 1

- 5.2 Area 1, which was located to the northwest of the farmhouse on a lawned expanse

bordering the driveway and Area 2, is perhaps the most interesting dataset recorded during the current phase of survey. A linear anomaly (blue line), orientated northeast to southwest, is first recorded as a low amplitude response at 12.03ns (0.60m) that resolves into a high amplitude reflector at 14.53ns (0.74m). It is indicative of a service trench containing a service pipe, the continuation of which is recorded at similar depths in Area 2. A second linear anomaly (blue line) orientated c. north to south is recorded as a low amplitude anomaly at 7.34ns (0.37m) and a high amplitude response at 8.4ns (0.42m); it appears to adjoin and branch off from the northwest/southeast running linear anomaly. Both are believed to be modern and potentially still in use.

- 5.3 A discrete high amplitude anomaly (orange hatch), present from 2.34 to 13.67 ns (0.11 - 0.68m) in the dataset was recorded in the centre-south. It is rectangular in plan, with its long edge running parallel to the driveway. It resolves into a high amplitude response that is of potential archaeological origin.
- 5.4 A single high amplitude area response (purple hatch) is recorded immediately south of the perpendicular linear anomalies (red hatching). It is first encountered at 3.59ns (0.18m) and is present until 13.20ns (0.66m). A low resistance (cyan hatch) and high resistance anomaly (red hatch) were recorded in similar locations on the earth resistance meter plot, both interpreted as being of potential archaeological origin. These anomalies are indicative of a layer of demolition rubble associated with the corner of a walled structure.
- 5.5 A broad linear/irregular high amplitude response (brown hatch) is recorded from 5.31 to 11.09 (0.27 – 0.55m), which was also prospected during the earth resistance meter survey as a high resistance broad linear anomaly (light pink hatch) and interpreted as building structure remains. The GPR anomaly consisted of a collection of individual targets, causing a broad and irregular trend in the data, more consistent with demolition objects rather than *in situ* structural remains.
- 5.6 Two adjoining high amplitude linear reflections (red hatching), orientated northeast to southwest and perpendicular, form the corner of an anomaly interpreted as the walls of a building. Their depth and form suggest a close association with the high amplitude layer of demolition rubble (purple hatch). This response initially enters the dataset at 3.83ns (0.19m) before leaving at 16.02ns (0.80m). These anomalies appear to adjoin the linear anomalies recorded in Area 2 and together may form a section of a wider

ranging building complex.



Plate 2. View towards Abbey Farm, Area 6, facing southwest

Area 6

- 5.7 Area 6 was located on the driveway, directly to the north of the house, and was a complicated shape to survey. Despite these difficulties, a good quality dataset was acquired. There are many small targets located within the dataset as well as an irregular linear anomaly, a service pipe and a high amplitude discrete response.
- 5.8 A single high amplitude linear anomaly (blue line) was recorded in the dataset, it first appears as a low amplitude response at 18.52 ns (0.92m) before resolving into a high amplitude reflection at 20ns (1m). It is orientated on a north-northwest to south-southeast alignment and has been interpreted as service pipe.
- 5.9 A high amplitude discrete reflector (orange hatching) has further been recorded in the dataset, located to the north of the house. It has the highest amplitude in the dataset. It is present from 8.99 to 33.52ns (0.45 – 1.67m) and is possibly the butt end of a wall, or potentially a part of the building foundation of the existing farmhouse.
- 5.10 A broad linear/irregular high amplitude response (brown hatch) is recorded from 5.31

to 11.09 (0.27 – 0.55m) that is potentially of an archaeological derivation. It is a collection of irregular linear anomalies and individual targets. A natural or modern derivation cannot be ruled out.



Plate 3. View towards Abbey Farm, Areas 7 and 8, facing west

Area 7

- 5.11 Area 7 was targeted to the north of a garage and on a small concrete pad to the east of Area 2. It was positioned here to prospect for structural remains associated with the house. No anomalies of archaeological interest were recorded in this dataset.

Area 8

- 5.12 This was the most easterly of the areas surveyed in 2019, located in the field that was previously surveyed by earth resistance meter (Schofield 2017a).

- 5.13 A large high amplitude discrete response (orange hatch) was recorded in the southwestern corner of the dataset. It lies on or adjacent to the concrete pad prospected as Area 7. It appears throughout the timeslice, from 0 to 39.00ns (0 to 1.95m) and is adjacent to the concrete pad located immediately to its west, which is the most likely cause for these high readings.
- 5.14 A linear high amplitude response (yellow hatch) that runs perpendicular to the direction of traverse (east to west) was recorded in the southern third of the surveyed area. It runs on a similar orientation to the field boundaries and house alignment. It was fairly broad, at c. 2.00m and was somewhat intermittent in response as the timeslices deepened; prospected from 0 to 39ns (0 to 1.95m). It appears as a collection of multiple hyperbola that record compact individual targets, which together are interpreted as a ditch backfill.

6 CONCLUSION

- 6.1 The data recorded by ground penetrating radar survey has added to the results of the preceding surveys of 2017, with the most interesting anomalies interpreted as structures potentially associated with the former Priory.
- 6.2 The areas targeted were small in size and were hindered by that location of garden features and a brick turning circle, which together has caused issues with data interpretation (Area 6 and 7). Anomalies with well-defined surfaces were once again recorded with greatest clarity, those associated with smaller targets have further been recorded, however, their extents remain broad and inconclusive.
- 6.3 The extent of the structural remains previously recorded by earth resistivity to the west of the house (Area 1) appears to have been resolved, with the corner of a walled structure and associated internal demolition rubble remains prospected on a similar alignment to that seen in Area 2. The orientation of these structures remains intriguing as they differ from the boundaries of the Priory precinct, the extant medieval wall and the later farmhouse. It seems most likely that they are related to the former monastic complex but no firm conclusions can be drawn as to their position and function.
- 6.4 Areas targeted to the north and east of the post-medieval farmhouse have ruled out the presence of walled remains associated with it or the former priory. However, a

single ditch-type anomaly in Area 8, orientated east to west, provides evidence of a former boundary or broad field sub-division, containing large targets potentially indicative of backfilled demolition rubble material.

- 6.5 The combined survey evidence from 2017 and 2019 now indicates the presence of structural remains to the south, southwest and west of the current farmhouse, underneath lawns and kitchen garden, and increasingly suggest that the buildings forming the monastic complex are sited in the vicinity, as opposed to underneath the adjacent farm complex to the north or elsewhere within the grounds. However no clear overall plan is visible, in large part due to the piecemeal nature of the survey areas caused by the current landscaping/availability of the gardens and position of the farmhouse, and it is uncertain as to whether these structures relate to the priory or the subsequent occupation of the site.
- 6.6 If the apparent structures within Areas 1-5 are related to the Benedictine Priory it suggests that the farmhouse may be positioned towards the northeast of the complex which, if the medieval buildings followed a broadly typical layout of a central cloister with refectory to the south, cellarers' hall to the west and chapel to the north, could place the farmhouse in the vicinity of the former chapel. However this is by no means certain, in particular the orientation of the anomalies in Areas 1 and 2 differ from those seen in Areas 3 to 5 and of the extant medieval wall and this may indicate that either or both sets of anomalies could belong to another phase of activity.
- 6.7 The absence of structural remains in Area 6 does not lend support to Alston's suggestion that the driveway could be the site of cloister and chapel, with the two wings of the farmhouse being located on the refectory and cellarer's hall. However this should not be regarded as conclusive as it is possible that subsequent occupation/construction of the driveway etc. has removed structural evidence which has elsewhere been preserved under long established lawns.

7 ARCHIVE DEPOSITION

The paper and digital archive is held by CA in Needham Market, Suffolk. Digital and hard copies of the report and dataset will be deposited with the Suffolk Historic Environment Record and Historic England in due course.

8 CA PROJECT TEAM

Fieldwork was undertaken by Georgina Palmer and Tim Schofield. The report was written by Tim Schofield and edited by John Craven. The illustrations were prepared by Tim Schofield. The archive has been compiled and prepared for deposition by Ruth Beveridge. The project was managed for CA by John Craven.

9 REFERENCES

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- SCCAS, 2017, *Requirements for a Geophysical Survey*.

APPENDIX A: GEOPHYSICAL SURVEY METADATA

Area 1

Source

Traverses: 26
HOXNE301019_100_CH2.DAT
HOXNE301019_101_CH2.DAT
HOXNE301019_102_CH2.DAT
HOXNE301019_103_CH2.DAT
HOXNE301019_104_CH2.DAT
HOXNE301019_105_CH2.DAT
HOXNE301019_106_CH2.DAT
HOXNE301019_107_CH2.DAT
HOXNE301019_108_CH2.DAT
HOXNE301019_109_CH2.DAT
HOXNE301019_110_CH2.DAT
HOXNE301019_111_CH2.DAT
HOXNE301019_112_CH2.DAT
HOXNE301019_113_CH2.DAT
HOXNE301019_114_CH2.DAT
HOXNE301019_115_CH2.DAT
HOXNE301019_116_CH2.DAT
HOXNE301019_117_CH2.DAT
HOXNE301019_118_CH2.DAT
HOXNE301019_119_CH2.DAT
HOXNE301019_120_CH2.DAT
HOXNE301019_121_CH2.DAT
HOXNE301019_122_CH2.DAT
HOXNE301019_123_CH2.DAT
HOXNE301019_124_CH2.DAT
HOXNE301019_125_CH2.DAT

Processed Data

Description	
Instrument Type	Utsi GPR
Units	MHz
Direction of 1st Traverse	0 deg
Collection Method	ZigZag
Antenna	3
Dummy Value	2047.5
Dimensions	
Survey Size (meters)	25.2 m x 13 m
X&Y Interval	0.04 m
Stats	
Max	16098.00
Min	-12273.00
Std Dev	2268.42
Mean	3.22
Median	0.00
Composite Area	0.03276 ha
Surveyed Area	0.03276 ha
Program	
Name	TerraSurveyor
Version	3.0.35.10

Processes

1. Move start time / -0.93
2. Subtract-mean (dewow) / 60
3. Bandpass frequency /62.5/250/1000 /1250
4. Bandpass butterworth / 250 / 1250
5. Background removal / 0 / 38.98438
6. Manual gain (y) 1 / 45 / 1 / 1578
7. Kirchoff migration / 17 / 30 / 0 / 38.98438

Area 6**Source**

Traverses: 40
HOXNE301019_100_CH2.DAT
HOXNE301019_101_CH2.DAT
HOXNE301019_102_CH2.DAT
HOXNE301019_103_CH2.DAT
HOXNE301019_104_CH2.DAT
HOXNE301019_105_CH2.DAT
HOXNE301019_106_CH2.DAT
HOXNE301019_107_CH2.DAT
HOXNE301019_108_CH2.DAT
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HOXNE301019_134_CH2.DAT
HOXNE301019_135_CH2.DAT
HOXNE301019_136_CH2.DAT
HOXNE301019_137_CH2.DAT
HOXNE301019_138_CH2.DAT
HOXNE301019_139_CH2.DAT

Processed Data

Description	
Instrument Type	Utsi GPR
Units	MHz
Direction of 1st Traverse	0 deg
Collection Method	ZigZag
Antenna	1
Dummy Value	2047.5
Dimensions	
Survey Size (meters)	19.1 m x 20 m
X&Y Interval	0.04 m
Stats	
Max	1499.00
Min	-686.00
Std Dev	207.43
Mean	1.85
Median	0.00
Composite Area	0.03824 ha
Surveyed Area	0.03824 ha
Program	
Name	TerraSurveyor
Version	3.0.35.10

Processes

1. Move start time / -0.93
2. Subtract-mean (dewow) / 60
3. Bandpass frequency /62.5/250/1000 /1250
4. Bandpass butterworth / 250 / 1250
5. Background removal / 0 / 38.98438
6. Manual gain (y) 1 / 1 / 1 / 1003
7. Kirchoff migration / 10 / 0.0239 / 0 / 38.98438

Area 7**Source**

Traverses: 18
HOXNE301019_100_CH2.DAT
HOXNE301019_101_CH2.DAT
HOXNE301019_102_CH2.DAT
HOXNE301019_103_CH2.DAT
HOXNE301019_104_CH2.DAT
HOXNE301019_105_CH2.DAT
HOXNE301019_106_CH2.DAT
HOXNE301019_107_CH2.DAT
HOXNE301019_108_CH2.DAT
HOXNE301019_109_CH2.DAT
HOXNE301019_110_CH2.DAT
HOXNE301019_111_CH2.DAT
HOXNE301019_112_CH2.DAT
HOXNE301019_113_CH2.DAT
HOXNE301019_114_CH2.DAT
HOXNE301019_115_CH2.DAT
HOXNE301019_116_CH2.DAT
HOXNE301019_117_CH2.DAT

Processed Data

Description	
Instrument Type	Utsi GPR
Units	MHz
Direction of 1st Traverse	0 deg
Collection Method	ZigZag
Antenna	1
Dummy Value	2047.5
Dimensions	
Survey Size (meters)	10 m x 9 m
X&Y Interval	0.04 m
Stats	
Max	7208.00
Min	-5686.00
Std Dev	1867.65
Mean	2.91
Median	0.00
Composite Area	0.009 ha
Surveyed Area	0.009 ha
Program	
Name	TerraSurveyor
Version	3.0.35.10

Processes

1. Move start time / -0.93
2. Subtract-mean (dewow) / 60
3. Bandpass frequency /62.5/250/1000 /1250
4. Bandpass butterworth / 250 / 1250
5. Background removal / 0 / 38.98438
6. Manual gain (y) 1 / 1 / 1 / 6333
7. Kirchoff migration / 11 / 0.12 / 0 / 38.98438

Area 8**Source**

Traverses: 40
HOXNE301019_118_CH2.DAT
HOXNE301019_119_CH2.DAT
HOXNE301019_120_CH2.DAT
HOXNE301019_121_CH2.DAT
HOXNE301019_122_CH2.DAT
HOXNE301019_123_CH2.DAT
HOXNE301019_124_CH2.DAT
HOXNE301019_125_CH2.DAT
HOXNE301019_126_CH2.DAT
HOXNE301019_127_CH2.DAT
HOXNE301019_128_CH2.DAT
HOXNE301019_129_CH2.DAT
HOXNE301019_130_CH2.DAT
HOXNE301019_131_CH2.DAT
HOXNE301019_132_CH2.DAT
HOXNE301019_133_CH2.DAT
HOXNE301019_134_CH2.DAT
HOXNE301019_135_CH2.DAT
HOXNE301019_136_CH2.DAT
HOXNE301019_137_CH2.DAT
HOXNE301019_138_CH2.DAT
HOXNE301019_139_CH2.DAT
HOXNE301019_140_CH2.DAT
HOXNE301019_141_CH2.DAT

Processed Data

Description	
Instrument Type	Utsi GPR
Units	MHz
Direction of 1st Traverse	0 deg
Collection Method	ZigZag
Antenna	1
Dummy Value	2047.5
Dimensions	
Survey Size (meters)	19.1 m x 20 m
X&Y Interval	0.04 m
Stats	
Max	9863.00
Min	-8299.00
Std Dev	2495.49
Mean	-2.95
Median	-1.00
Composite Area	0.036912 ha
Surveyed Area	0.036912 ha
Program	
Name	TerraSurveyor
Version	3.0.35.10

Processes

1. Move start time / -0.93
2. Subtract-mean (dewow) / 60
3. Bandpass frequency /62.5/250/1000 /1250
4. Bandpass butterworth / 250 / 1250
5. Background removal / 0 / 38.98438
6. Manual gain (y) 1 / 1 / 1 / 633
7. Kirchoff migration / 11 / 0.12 / 0 / 38.98438

APPENDIX B: OASIS FORM

OASIS ID: cotswold2-374189

Project details

Project name	HXN 004, Abbey Farm, Hoxne, Suffolk; Ground Penetrating Radar Survey 2019
Short description of the project	In October 2019, a ground penetrating radar survey was undertaken by Cotswold Archaeology on land at Abbey Farm, Hoxne, Suffolk, within the curtilage of the Benedictine Hoxne Priory Scheduled Monument. This followed reconnaissance and targeted earth resistance meter and ground penetrating radar surveys in 2017, which recorded structural anomalies indicative of walls and rubble spreads. Data recorded in four further areas has prospected walls and rubble spreads potentially associated with the abbey, ditches and discrete anomalies.
Project dates	Start: 30-10-2019 End: 30-10-2019
Previous/future work	Yes / Not known
Any associated project reference codes	SU0076 - Contracting Unit No.
Any associated project reference codes	HXN 004 - Sitecode
Type of project	Field evaluation
Site status	Scheduled Monument (SM)
Current Land use	Other 5 - Garden
Monument type	WALL ANOMALIES Uncertain
Monument type	DITCH ANOMALIES Uncertain
Monument type	DISCRETE ANOMALIES Uncertain
Monument type	PIT ANOMALIES Uncertain
Monument type	RUBBLE SPREAD ANOMALIES Uncertain
Significant Finds	NONE None
Methods & techniques	"Geophysical Survey"
Development type	Research project
Prompt	Research project
Position in the planning process	Not known / Not recorded
Solid geology (other)	Norwich Crag Formation Sand
Drift geology (other)	Lowestoft Formation Diamicton
Techniques	Ground penetrating radar

Project location

Country	England
Site location	SUFFOLK MID SUFFOLK HOXNE Abbey Farm
Study area	0.21 Hectares
Site coordinates	TM 7640 1830 51.794153463516 2.009017017335 51 47 38 N 002 00 32 E Point
Height OD / Depth	Min: 37m Max: 42m

Project creators

Name of Organisation	Cotswold Archaeology
Project brief originator	Historic England

Project design originator	Cotswold Archaeology (Suffolk)
Project director/manager	John Craven
Project supervisor	Timothy Schofield
Type of sponsor/funding body	Landowner
Name of sponsor/funding body	Mr Wilfred White

Project archives

Physical Archive Exists?	No
Digital Archive recipient	Suffolk HER
Digital Contents	"Survey"
Digital Media available	"Geophysics", "Survey", "Text"
Paper Archive recipient	Suffolk HER
Paper Contents	"Survey"
Paper Media available	"Report"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Abbey Farm, Hoxne, Suffolk; Ground Penetrating Radar Survey 2019
Author(s)/Editor(s)	Schofield, T. P.
Other bibliographic details	SU0076_1
Date	2019
Issuer or publisher	Cotswold Archaeology
Place of issue or publication	Needham Market
Description	A4 report with A3 figures
URL	www.cotswoldarchaeology.co.uk
Entered by	Timothy Schofield (tim.schofield@cotswoldarchaeology.co.uk)
Entered on	18 November 2019



Appendix C:

Historic England Geophysical Survey Summary Questionnaire

Survey Details

Name of Site: ABBEY FARM, HOXNE

County: SUFFOLK

NGR Grid Reference: 618300, 276400

Start Date: 30/10/19

End Date: 30/10/2019

Geology at site:

Drift: Lowestoft Formation Diamicton

Solid: Norwich Crag Formation sand.

Known archaeological Sites/Monuments covered by the survey

Monument no:1020447 - Remains of Hoxne Priory at Abbey Farm

Archaeological Sites/Monument types detected by survey

Anomalies indicative of structures associated with the medieval priory or post-medieval farmhouse, pits and ditches of unknown origin.

Surveyor: Tim Schofield, Cotswold Archaeology (Suffolk) Ltd

Name of Client:

Mr Wilfred White
Abbey Farm
Hoxne
Suffolk



24 BROOKLANDS AVENUE, CAMBRIDGE, CB2 8BU

Telephone 01223 582749
HistoricEngland.org.uk





Purpose of Survey:

The survey was commissioned by the owner of Abbey Farm as a part of his continuing personal research project into the history of the site. The primary objective was to investigate the area to the north of the house, infilling a gap in previous surveys, where it has been suggested that the chapel of the former Benedictine Priory could be located.

Location of:

a) Primary archive:

Cotswold Archaeology
Unit 5, Plot 11, Maitland Road
Lion Barn Industrial Estate
Needham Market
Suffolk
IP6 8NZ

A copy of the digital archive will be submitted to the Suffolk HER

b) Full Report:

Cotswold Archaeology
Unit 5, Plot 11, Maitland Road
Lion Barn Industrial Estate
Needham Market
Suffolk
IP6 8NZ

A copy of the report archive will be submitted to the Suffolk HER and Archaeology Data Service website via the OASIS project





Technical Details

Type of Survey:

Ground Penetrating Radar

Area Surveyed:

0.2 Hectares

Traverse Separation:

0.50m

Reading/Sample Interval:

0.04m

Type, Make and model of Instrumentation:

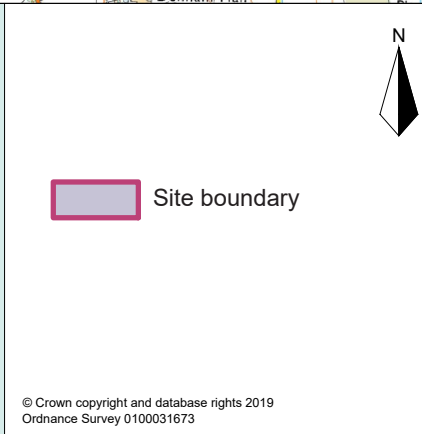
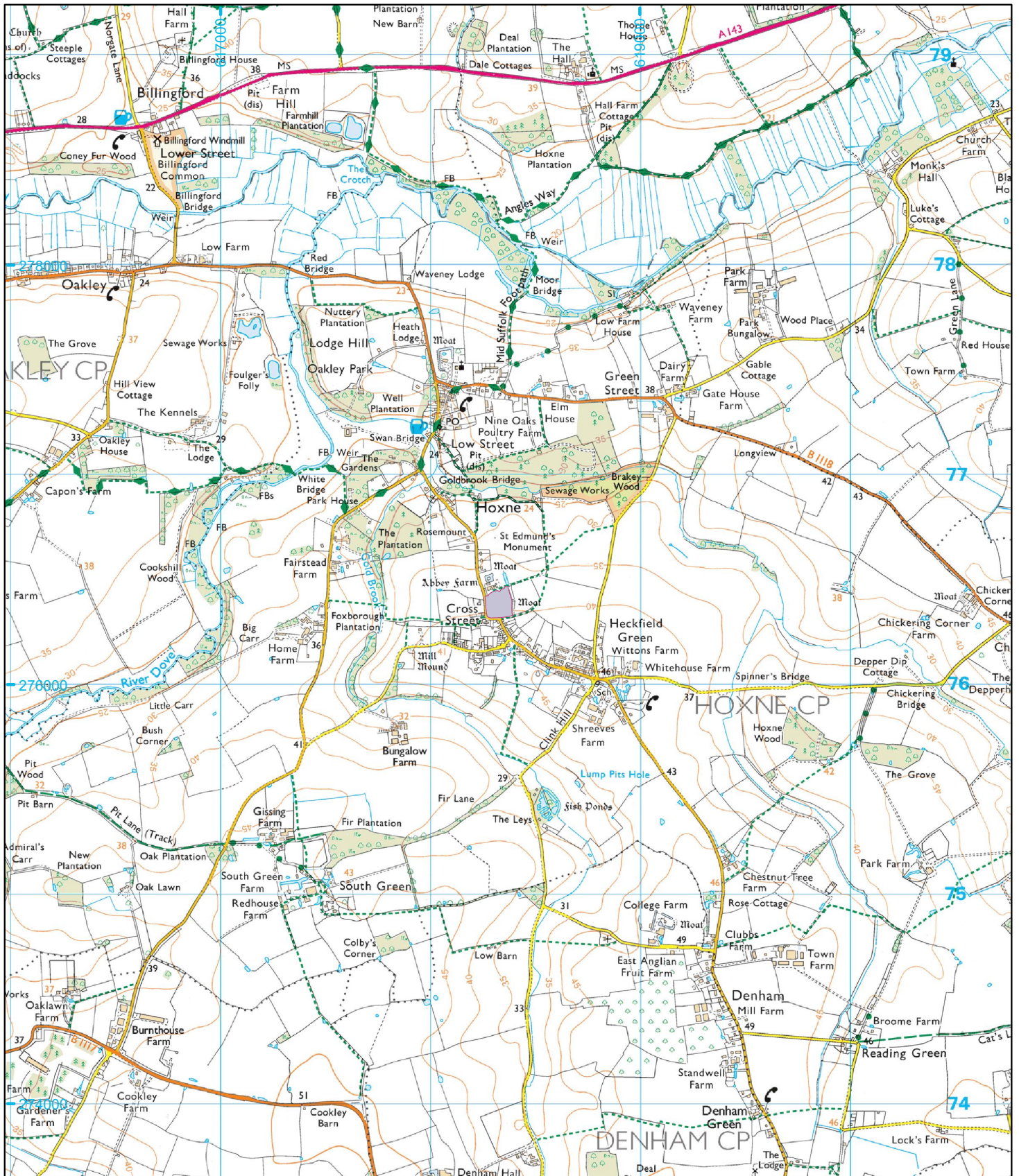
Utsi Electronics Trivue, 250MHz, 500MHz and 1GHz antenna

Land use:

Garden, Grassland - pasture, Other (concrete pad, gravel drive turning circle)

Additional Remarks (Please mention any other technical aspects of the survey that have not been covered by the above questions such as sampling strategy, non standard technique, problems with equipment etc.):





Cotswold Archaeology




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 Cirencester 01285 771022
 Exeter 01392 826185
 Milton Keynes 01908 564660
 Suffolk 01449 900120
www.cotswoldarchaeology.co.uk
enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE
Abbey Farm, Hoxne, Suffolk

FIGURE TITLE
Site location plan

DRAWN BY JC	TPS	PROJECT NO. SU0076	FIGURE NO. 2
CHECKED BY DATE	Nov 2019	REVISION SCALE@A4	1:25,000



-  All survey areas, with survey traverse line locations
-  Scheduled Monument area
-  Site Boundary



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 Cotswold Archaeology

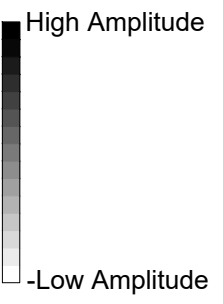
Andover	01264 347630
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 enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE
 Abbey Farm, Hoxne, Suffolk

FIGURE TITLE
Survey areas, GPR traverses and scheduled monument outline

DRAWN BY	TPS	PROJECT NO.	SU0076	FIGURE NO.
CHECKED BY	JC	DATE	Nov 2019	3
APPROVED BY	JC	SCALE@A3	1:500	



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PROJECT TITLE
Abbey Farm, Hoxne, Suffolk

FIGURE TITLE
Selected greyscale timeslice ground penetrating radar plots

DRAWN BY	TPS	PROJECT NO.	SU0076	FIGURE NO.
CHECKED BY	JC	DATE	Nov 2019	4
APPROVED BY	JC	SCALE@A3	1:500	



-  High amplitude linear, structural remains
-  High amplitude area, demolition layer, flanking walls
-  Increased response, broad linear anomaly, ditch
-  Increased response, broad linear anomaly, archaeology?
-  Increased response, discrete anomaly, archaeology?
-  Narrow high amplitude linear anomaly, garden feature
-  Area of disturbance, garden feature
-  High amplitude response, modern Tarmacadam road
-  Large high amplitude response, inspection chamber
-  Linear response, service pipe and trench backfill deposit



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PROJECT TITLE
Abbey Farm, Hoxne, Suffolk

FIGURE TITLE
Interpretation plots of greyscale timeslice ground penetrating radar data

DRAWN BY	TPS	PROJECT NO.	SU0076	FIGURE NO.
CHECKED BY	JC	DATE	Nov 2019	5
APPROVED BY	JC	SCALE@A3	1:500	

RED LION CLOSE

















ABBEY HILL

Pond

276400

618300



-  High amplitude linear, structural remains
-  High amplitude area, demolition layer, flanking walls
-  Increased response, broad linear anomaly, ditch
-  Increased response, broad linear anomaly, archaeology?
-  Increased response, discrete anomaly, archaeology?
-  Narrow high amplitude linear anomaly, garden feature
-  Area of disturbance, garden feature
-  High amplitude response, modern Tarmac road
-  Large high amplitude response, inspection chamber
-  Linear response, service pipe and trench backfill deposit
-  High resistance anomaly, building structure remains
-  Low resistance anomaly, material flanking structural remains
-  High resistance discrete / increased response, archaeology?
-  Low resistance discrete, archaeology?
-  Low resistance anomaly, flower beds
-  High resistance discrete / increased response, geology?



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PROJECT TITLE
Abbey Farm, Hoxne, Suffolk

FIGURE TITLE
Combined GPR and earth resistance meter anomaly interpretation plots

DRAWN BY	TPS	PROJECT NO.	SU0076	FIGURE NO.
CHECKED BY	JC	DATE	Nov 2019	6
APPROVED BY	JC	SCALE@A3	1:500	

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