LAND at CHYVOUNDER FARM
GOONHAVERN
PERRANZABULOE
CORNWALL

Results of a Desk-Based Assessment, Geophysical Survey and Heritage Impact Assessment

South West Archaeology Ltd. report no. 181018

ARCHAEOLOGICAL SERVICES & HISTORIC BUILDING RECORDING
SOUTHWEST ARCHAEOLOGY

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Land at Chyvounder Farm, Goonhavern, Perranzabuloe, Cornwall

Results of a Desk-Based Appraisal, Geophysical Survey and Heritage Impact Assessment

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Work undertaken by SWARCH for CAD Architects

SUMMARY

This report presents the results of a desk-based assessment, geophysical survey, and heritage impact assessment carried out by South West Archaeology Ltd. (SWARCH) for land at Chyvounder Farm, Goonhvaern, Perranzabuloe, Cornwall, in advance of a planning application for the site for a residential development.

The site is located on the north-east edge of the village of Goonhavern across a number of fields enclosed from common rough grazing in the 19th century. Within 1km of the site are Bronze Age barrows and a significant amount of post-medieval mining activity. A probable prospection pit is present on the site on historic mapping. The southern end of the site was subject to some slight development through the 20th century.

The geophysical survey identified two groups of anomalies including possible ditch or drainage fetaures. Possible modern services and disturbed ground were identifiable within the survey area. On the basis of the geophysical survey and desk-based assessment the archaeological potential of the site appears to be ***low****.*

*In terms of indirect impacts, most of the designated heritage assets in the wider area would not be impacted upon by the proposed development. Three assets which lie in close proximity to the site and were considered in detail in this assessment, none of which would be affected by the proposed development (****neutral****), with minor impacts to the Historic Landscape (****negligible*** *to* ***negative minor****) and the slight possibility of some cumulative impact (****negligible****).*

With this in mind, the overall impact of the proposed development can be assessed as ***neutral to negligible****. The impact of the development on any buried archaeological resource may be* ***permanent*** *and* ***irreversible****.*

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ACKNOWLEDGMENTS

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1.0 INTRODUCTION

LOCATION: LAND AT CHYVOUNDER FARM, GOONHAVERN
PARISH: PERRANZABULOE
COUNTY: CORNWALL
NGR: SW 78912 53974
SWARCH REF. GLC18

1.1 PROJECT BACKGROUND

South West Archaeology Ltd. (SWARCH) was commissioned by Jeremy Bradley of CAD Architects (the Client) to undertake a desk-based assessment, geophysical survey and heritage impact assessment for land at Chyvounder Farm, Goonhavern, Perranzabuloe, Cornwall, in advance of a proposed residential development. This work was undertaken in accordance with best practice and CIfA guidelines.

1.2 TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND

Goonhavern is a village focused around the junctions between the B3285 and A3075. The village is located *c.* 3.25km east of Perranporth and *c.* 3.8km south-east of the coastline. The site comprises two fields, which are (fields 1 and 2) are relatively level with a slight slope to the south-east. Field 1 slopes down to the south-east and has a sharp downhill slope along the north-eastern border of the site. The site ranges from 67 to 63m (AOD), with the high point of the site being in the western edge of field 1 and the low point of the site along the north-eastern edge of field 2. The soils of this area are well drained, fine loamy soils over slate or slate rubble of the Denbigh 2 Association ; these overlie the sedimentary mudstone and siltstone of the Trendrean Mudstone Formation. Within the wooded valley to the north-east of the site a superficial deposit of clay, silt, sand and gravel is recorded (BGS 2018).

1.3 HISTORICAL BACKGROUND

Goonhavern is a settlement in the eccleasitical parish of Perranzabuloe or *Perran-in-the-Sands*, in the Hundred and Deanery of Pyder (Lysons 1814). Goonhavern is derived from the Cornish for *downs of summer-ploughed land* and was first recorded in 1300 (*Goenhavar)* Watts 2004). The village itself is modern, not appearing till the 19th century (Watts 2004). The site lies within an area identified as post-medieval enclosed land on the Cornwall and Scilly Historic Landscape Characterisation (HLC).

1.4 ARCHAEOLOGICAL BACKGROUND

The site is in a landscape of archaeological potential with the Cornwall and Scilly Historic Environment Record (HER) listing a Bronze Age barrow cemetery within 500m north-west of the site (MCO32551); cropmarks of medieval or later field boundaries within 300m north of the site (MCO32552); and five post-medieval mines within 1km of the site (see Section 3.4). Two Grade II buildings are situated within Goonhavern itself, a post medieval nonconformist chapel (MCO32306) lies directly across the road from Chyvounder Farm; and a school (MCO51341) is located *c.*110m west of the farm. A possible Irona Age 'round' (MCO117) is located just beyond 1km north-west of the site and St. Piran's Oratory lies *c.*3.2km to the west-north-west of the site. The site has not been subject to previous archaeological works.

1.5 METHODOLOGY

This work was undertaken in accordance with best practice. The desk-based assessment follows the guidance as outlined in: *Standard and Guidance for Archaeological Desk-Based Assessment* (CIfA 2014a) and *Understanding Place: historic area assessments in a planning and development context* (English Heritage 2012). The gradiometer survey follows the general guidance as outlined in: *Geophysical Survey in Archaeological Field Evaluation* (English Heritage 2008) and *Standard and Guidance for Archaeological Geophysical Survey* (CIfA 2014b). The heritage impact assessment follows the guidance outlined in: Conservation Principles: policies and guidance for the sustainable management of the historic environment (English Heritage 2008a), The Setting of Heritage Assets (Historic England 2015), Seeing History in the View (English Heritage 2011), Managing Change in the Historic Environment: Setting (Historic Scotland 2010), and with reference to Guidelines for Landscape and Visual Impact Assessment 3rd Edition (Landscape Institute 2013).

FIGURE 1: SITE LOCATION (THE SITE IS INDICATED).

2.0 HERITAGE IMPACT ASSESSMENT

2.1 HERITAGE IMPACT ASSESSMENT - OVERVIEW

The purpose of heritage impact assessment is twofold: Firstly, to understand – insofar as is reasonably practicable and in proportion to the importance of the asset – the significance of a historic building, complex, area, monument or archaeological site (the 'heritage asset'). Secondly, to assess the likely effect of a proposed development on the heritage asset (direct impact) and/or its setting (indirect impact). This methodology employed in this assessment is based on the approach outlined in the relevant DoT guidance (DMRB vol.11; WEBTAG), used in conjunction with the ICOMOS (2011) guidance and the staged approach advocated in *The Setting of Heritage Assets* (GPA3 Historic England 2015). The methodology employed in this assessment can be found in Appendix 2.

2.2 NATIONAL POLICY

General policy and guidance for the conservation of the historic environment are now contained within the *National Planning Policy Framework* (Department for Communities and Local Government 2018). The relevant guidance is reproduced below:

Paragraph 189
In determining applications, local planning authorities should require the applicant to describe the significance of any heritage assets affected, including the contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should be consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which a development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

Paragraph 190
Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.

A further key document is the Planning (Listed Buildings and Conservation Areas) Act 1990, in particular section 66(1), which provides *statutory protection* to the setting of Listed buildings:

In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.

2.3 LOCAL POLICY

Policy 24: *Historic Environment* in *The Cornwall Local Plan: Strategic Policies 2010-2030* makes the following statement:

All development proposals should be informed by proportionate historic environment assessments and evaluations... identifying the significance of all heritage assets that would be affected by the proposals and the nature and degree of any affects and demonstrating how, in order of preference, any harm will be avoided, minimised or mitigated.

Great weight will be given to the conservation of Cornwall's heritage assets... Any harm to the significance of a designated or non-designated heritage asset must be justified... In those exceptional circumstances where harm to any heritage assets can be fully justified, and the development would result in the partial or total loss of the asset and/or its setting, the applicant will be required to secure a programme of recording and analysis of that asset, and archaeological excavation where relevant, and ensure the publication of that record to an appropriate standard in public archive.

2.4 STRUCTURE OF ASSESSMENT – DIRECT AND INDIRECT IMPACTS

This assessment is broken down into two main sections. Section 3.0 addresses the *direct impact* of the proposed development i.e. the physical effect the development may have on heritage assets within, or immediately adjacent to, the development site. Designated heritage assets on or close to a site are a known quantity, understood and addressed via the *design and access statement* and other planning documents. Robust assessment, however, also requires a clear understanding of the value and significance of the *archaeological* potential of a site. This is achieved via the staged process of archaeological investigation detailed in Section 3.0. Section 4.0 assesses the likely effect of the proposed development on known and quantified designated heritage assets in the local area. In this instance the impact is almost always indirect i.e. the proposed development impinges on the *setting* of the heritage asset in question, and does not have a direct physical effect.

3.0 DIRECT IMPACTS

3.1 STRUCTURE OF ASSESSMENT

For the purposes of this assessment, the *direct effect* of a development is taken to be its direct physical effect on the buried archaeological resource. In most instances the effect will be limited to the site itself. However, unlike designated heritage assets (see Section 4.0) the archaeological potential of a site, and the significance of that archaeology, must be quantified by means of a staged programme of archaeological investigation. Sections 3.2-3.5 examine the documentary, cartographic and archaeological background to the site; Section 3.6 details the results of the geophysical (gradiometer) survey undertaken. Section 3.7 summarises this information in order to determine the significance of the archaeology, the potential for harm, and outlines mitigation strategies as appropriate. Appendix 1 details the methodology employed to make this judgement.

3.2 DOCUMENTARY HISTORY

The site is located on the north-east side of Goonhavern, off of the A3075 and *c.*3km east of Perranporth. Goonhavern is a village in the Parish of Perranzabuloe. It was first recorded in *c.*1300 as *Goenhavar*, meaning 'downs of summer ploughe land'; from the Cornish *goon* and *havar*, which refers to an area of rough grazing with an area of summer-ploughed land in- or near it (Watts 2004). The village itself is a 19th century development (Watts 2004).

Perranzabuloe, or St Piran in the Sands, is in the hundred and deanery of Pyder (Lysons 1814). 'Perran', *Lanpiran*, which was the principle manor of the Parish in the Domesday survey was held by the church, the Canons of St Piran in 1086 (Williams and Martin 2002) and passed through the Kendall and Vincent families, although with some interests owned by the Marquis of Buckingham and the church including farm land and tin mines (Lysons 1814). The parish of Perranzubaloe was the supposed burial place of St Piran, Patron saint of Cornwall and tiners who founded an oratory church in the 7th century on the coast north of Perranporth. The Church was subsumed by the sands, which gives the parish its name: from the Medieval Latin *Perranus in Sabuloe*, for 'Piran in the sand' (Lysons 1814; Watts 2004). In the late 18th to early 19th century the church of St Piran was moved, in part, to the village of Lambourn, now called Perranzabuloe, near the centre of the parish (Lysons 1814) and *c.*2.5km south-west of the site. This new church was concecrated in 1805 (Lysons 1814).

Callestick, Halwyn and Tywarnhayle within the same parish were all Anglo-Saxon manors listed in the Domesday survey that were held by the Count of Mortain in 1086 (Williams and Martin 2002). The site is within the estate of Tywarnhayle on the 1841 tithe apportionment and Tywarnhayle is the closest and largest ancient manor to which the land containing the site may have belonged. According to the Cornwall and Scilly HER Tywarnhayle was located *c.*4km to the west near to the current town of Perranporth; however the 1841 tithe map locates it *c.*800m south-west of the site. The manor was granted in 1337 to Edward the Black Prince, who gave it to Sir Walter de Woodland. It was later annexed to the duchy of Cornwall until 1798, when it was purchased by John Thomas, Esq., of Chiverton, apart from a number of mines and wrecks of the sea, which were reserved to the duchy (lysons 1814). Tywarnhaile Barton was occupied as a farm in the 19th century. The place-name of Tywarnhayle is derived from the Cornish for 'house on the salt river/estuary' Watts 2004).

The site lies within an area identified as post-medieval enclosed land on the Cornwall and Scilly Historic Landscape Characterisation (HLC): '*Land enclosed in the 17th, 18th and 19th centuries, usually from land that was previously Upland Rough Ground and often medieval commons. Generally in relatively high, exposed or poorly-drained parts of the county*'.

3.3 CARTOGRAPHIC DEVELOPMENT

The earliest relatively detailed cartographic source available to this study is the 1810 Surveyor's Draft map for the St Columb Major area (Figure 2). These draft maps are generally a reliable depiction of road layout, extent of development and location of farms, and the general field-scape/pattern. Goonhavern is identified at a crossroads, as a single property in a landscape of large open fields with some post-medieval enclosure. The site is located in a relatively large open field. The watercourse that forms its eastern boundary has a relatively wide area depicted along it, which may imply some modifications, or alternative land use, or defined parcel of land. The curving southern boundary of the site extends between the watercourse and Goonhavern.

FIGURE 2: EXTRACT FROM THE 1810 ORDNANCE SURVEY SURVEYOR'S DRAFT MAP FOR THE ST COLUMB MAJOR AREA (THE APPROXIMATE LOCATION OF THE SITE IS INDICATED) (BL).

The 1841 Perranzabuloe tithe map (**Error! Reference source not found.**) provides the first truly detailed cartographic depiction of the site. The site incorporates three plots of land (401, 402, 406), which are part of Tywarnhayle. The estate is divided between multiple landowners, but the site was ownded by Elizabeth Demble and tenanted by Joseph Pollard. The field names were all prosaic, although their uses varied; including orchard and arable (see Table 1). These fields were post-medieval, probably 19th century enclosures within a landscape of common land excempt from tithes; specifically *Tywarnhayle Common* (plot 3110), which incorporates the open ground surrounding the enclosed fields of the site. Mining industry in the area and near to the site can be seen by the presence of *Wheal Hope* to the north of the site. The narrow enclosure along the eastern boundary as depicted on the 1810 Surveyor's Draft may be accounted for by mining prospection or canalisation for industrial works. Although, it may have reflected a less hospitable parcel of land such as a steep and/or wooded bank. Goonhavern itself appears to have grown to approximately four properties, one of which lies just within the southern corner of the site. A track or road along the sites southern bourder is indicated but not clearly depicted due to it being part of the common land excempt from tithes. A road is shown on the earlier draft map.

TABLE 1: EXTRACT FROM THE 1841 PERRANZABULOE TITHE APPORTIONMENT (CRO).

Plot number	Landowner	Tenant	Plot name	Landuse
Trywarnhayle				
273	Stephen & Richard Davey	Thomas Watts	Close	Arable
399	Elizabeth Demble	Joseph Pollard	Cottage and Courtlage	Homestead
400			Garden	Garden
401			Orchard	Orchard
402			Goonhavern Field	Arable
403			Middle Close	
404			Croft Close	
405			Croft	Arable & Pasture
406			Great Field	Arable
407			Slip	
408			Croft	Pasture
Hendra Goth				
1893	John Thomas Henry Peter	John Trenerry	Field	Arable
1896			Close	
1898			Meadow	
1899			Garden	
1900			garden	
Common, Roads and Waste				
3110	William Vice	John Jenkin	Tywarnhayle Common	-

FIGURE 3: EXTRACT FROM THE PERRANZABULOE TITHE MAP OF 1841; THE SITE IS OUTLINED IN RED (CRO).

By the time of the 1880 Ordnance Survey (OS) 1st edition map (Figure 4) Goonhavern has grown into a small settlement including a school, chapel and an inn identified. The small regular 19th century enclosures that were depicted on the 1841 tithe map are shown to have continued to be installed with the enclosure of most of the common land in the immediate area; although the site has remained relatively as it was in *c.*1841. The few changes or amendments to the site are that an access track to the site from the main road along the southern boundary has been depicted; the property in the southern corner of the site shown on the 1841 map is no longer depicted and its boundary appears to have been altered/rectified; the boundary defining plot 407 on the 1841 map has been removed and in the north corner of the site, within what would have been plot 407 a pit is depicted. This pit is almost certainly mining prospection, for which a large number of similar features are shown in the wider landscape; in this case particularly associated with *Wheal Albert* to the east-south-east of the site, within land that was part of the Tywarnhayle estate on the 1841 tithe apportionment. Modifications to the watercourse that defines the eastern

boundary of the site have occurred just south of the site. These modifications are probably associated with mining at *Wheal Albert*, a lead mine out of use by 1880.

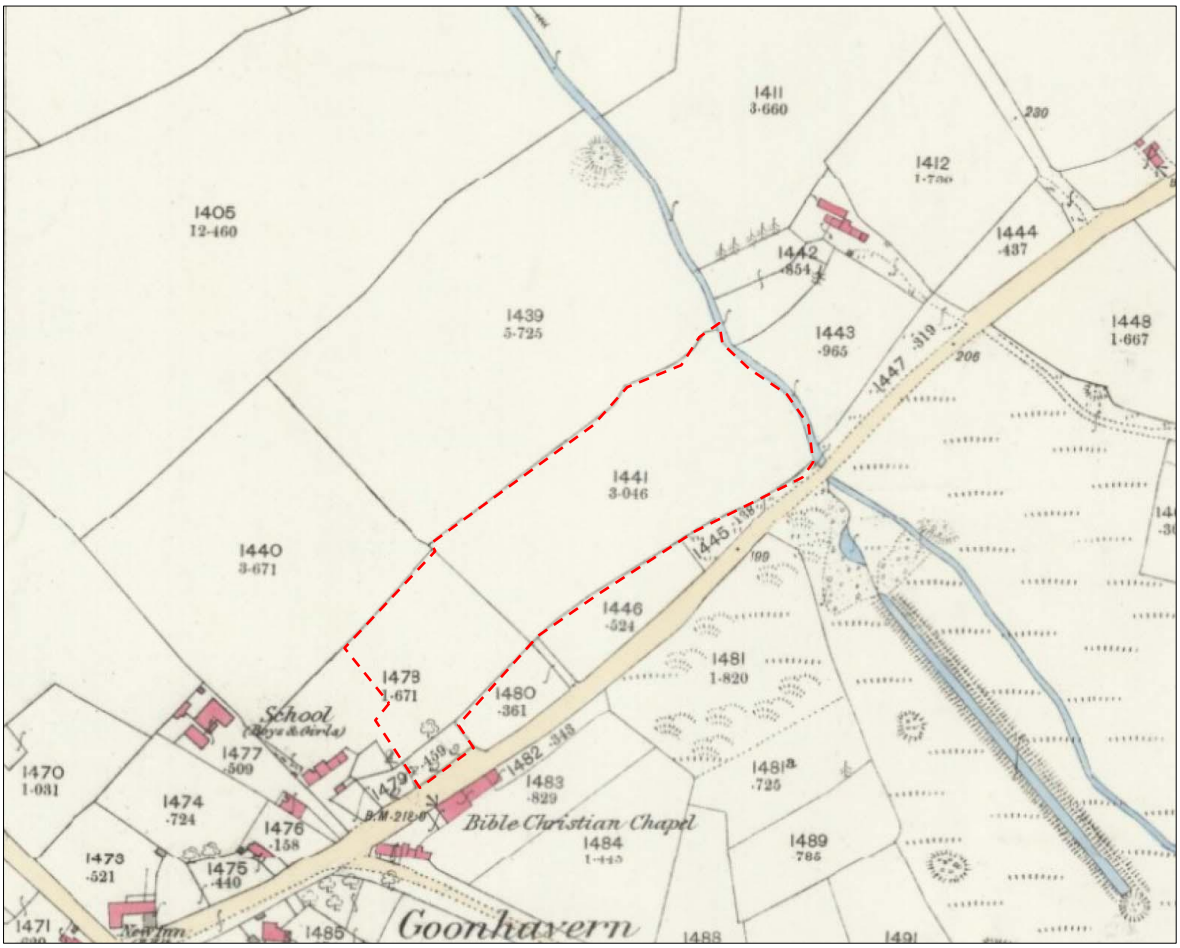

FIGURE 4: EXTRACT FROM THE OS FIRST EDITION 25" MAP, PUBLISHED 1880; THE SITE IS OUTLINED IN RED (CRO).

The OS 2nd edition map, published 1907 (Figure 5) shows general continuity across the site and the landscape. The only notable change in the landscape is the construction of the Great Western Railway, Truro to Newquay line to the south of the site. It was opened *c.*1905 and became redundant and was dismantled from Goonhavern by 1973, probably as part of the Dr Beeching cuts of the 1960's. OS mapping from the 1963 to 1973 indicates a major expansion of Goonhavern along its main roads and intersection. Some buildings are shown at the western end of what would have been plot 406 (see tithe map) and the eastern boundary, alongside the watercourse is shown as wooded. All of the OS mapping from 1880 onward shows rough or wooded ground along the boundary of this watercourse to the north of the site and it was probably this sort of ground that was defined by plot 407 in 1841. Since 1973 the site has been further subdivided with additional boundaries and alterations, including the construction of a building at the western end of plots 405 and 407 (as on the tithe map).

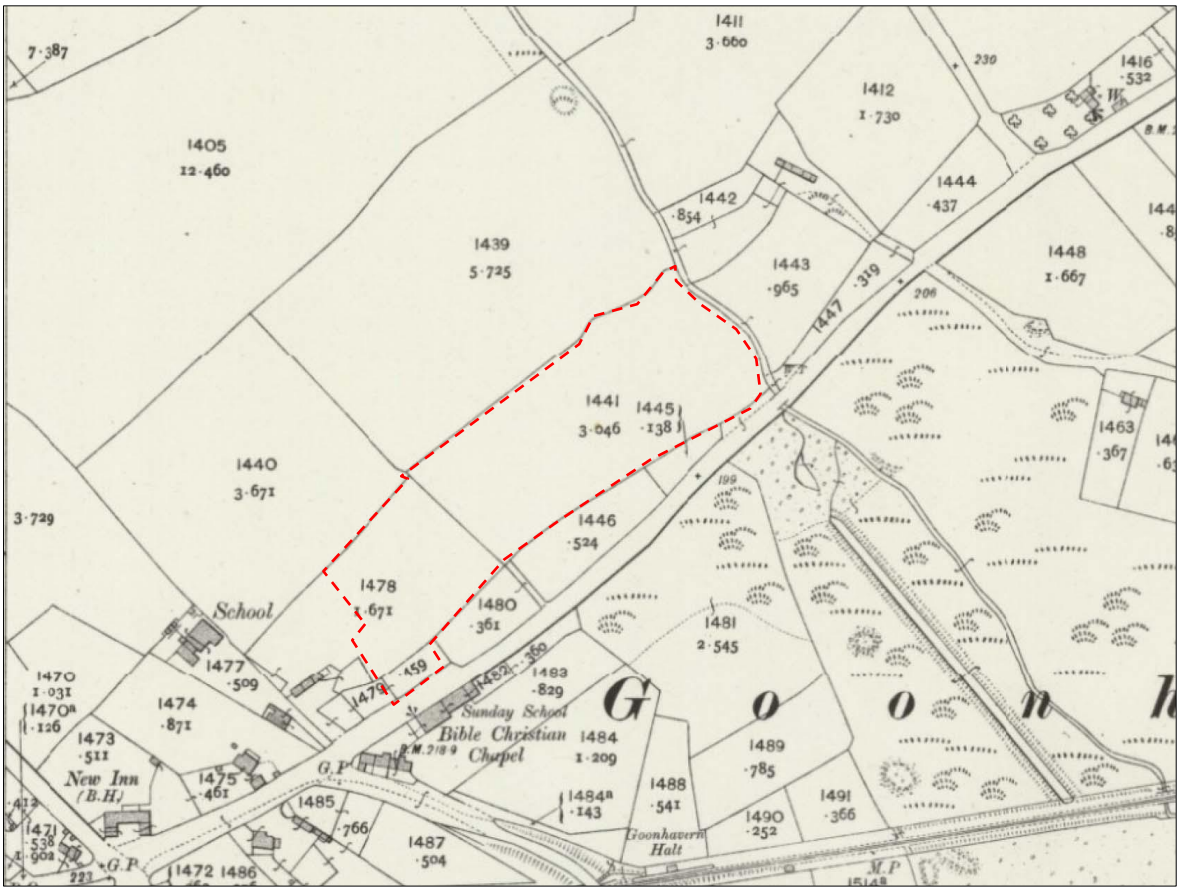

FIGURE 5: EXTRACT FROM THE SECOND EDITION OS 25" MAP OF 1907; THE SITE IS OUTLINED IN RED (CRO).

3.4 ARCHAEOLOGICAL BACKGROUND

The site has not been subject to previous archaeological works. This locality has seen limited archaeological fieldwork, mostly in the form of walkover and geophysical surveys at Martyns Close (ECO4404), Pollards Close (ECO4346) and Chywel Manor (ECO5063). The geophysical survey at Pollards Close, south of the site identified a possible track, possible field boundaries and probable disturbed ground. The Cornwall and Scilly Historic Environment Record (HER) lists a series of undesignated assets in the local area, mostly arising from cropmark evidence or documentary or place-name references to medieval and post-medieval sites (see Table 2 and Figure 6).

The historic landscape characterisation (HLC) for Cornwall shows this as *post medieval enclosed land*, land enclosed in the 17th, 18th and 19th centuries, usually from land that was previously Upland Rough Ground and often medieval commons. Generally in relatively high, exposed or poorly-drained parts of the county.

3.4.1 PREHISTORIC 4000BC - AD43

The evidence for Prehistoric activity is scattered throughout the landscape in this area. The majority of the records within 1km of the site relate to barrows, both upstanding and identified as cropmarks. St. Pirran's Round lies just outside of the survey area to the north-west.

3.4.2 ROMANO-BRITISH AD43 – AD409

The evidence for Romano-British activity is sparse, and totally absent from the 1km search area, the nearby St. Pirran's round, the only potential nearby site with activity in this period.

3.4.3 EARLY MEDIEVAL AD410 – AD1065

There are no early medieval sites recorded on the HER for this area.

3.4.4 MEDIEVAL AD1066 - AD1540

There are two medieval sites recorded within 1km of the proposed site (MCO32552 & MCO32553). Both have been identified as cropmarks and are believed to relate to the banks and ditches of medieval field systems.

3.4.5 POST-MEDIEVAL AND MODERN AD1540 - PRESENT

Population and settlement expanded during the post-medieval period in parallel with the industrialisation of the Cornish landscape (Wheal Hope MCO12797, Twarnhayle MCO12738, Wheal Albert MCO12806, North Chiverton MCO12312 and Wheal Anna [Account House at DCO4201; GII Listed]). The economy, then as now, was dominated by agriculture, and the most common undesignated heritage assets in this landscape remain the historic hedgerows. The chapel and school were constructed in this period, along with a smithy (MCO9068). More modern assets include a Second World War Radio Station (MCO54458) and railway station (MCO53895).

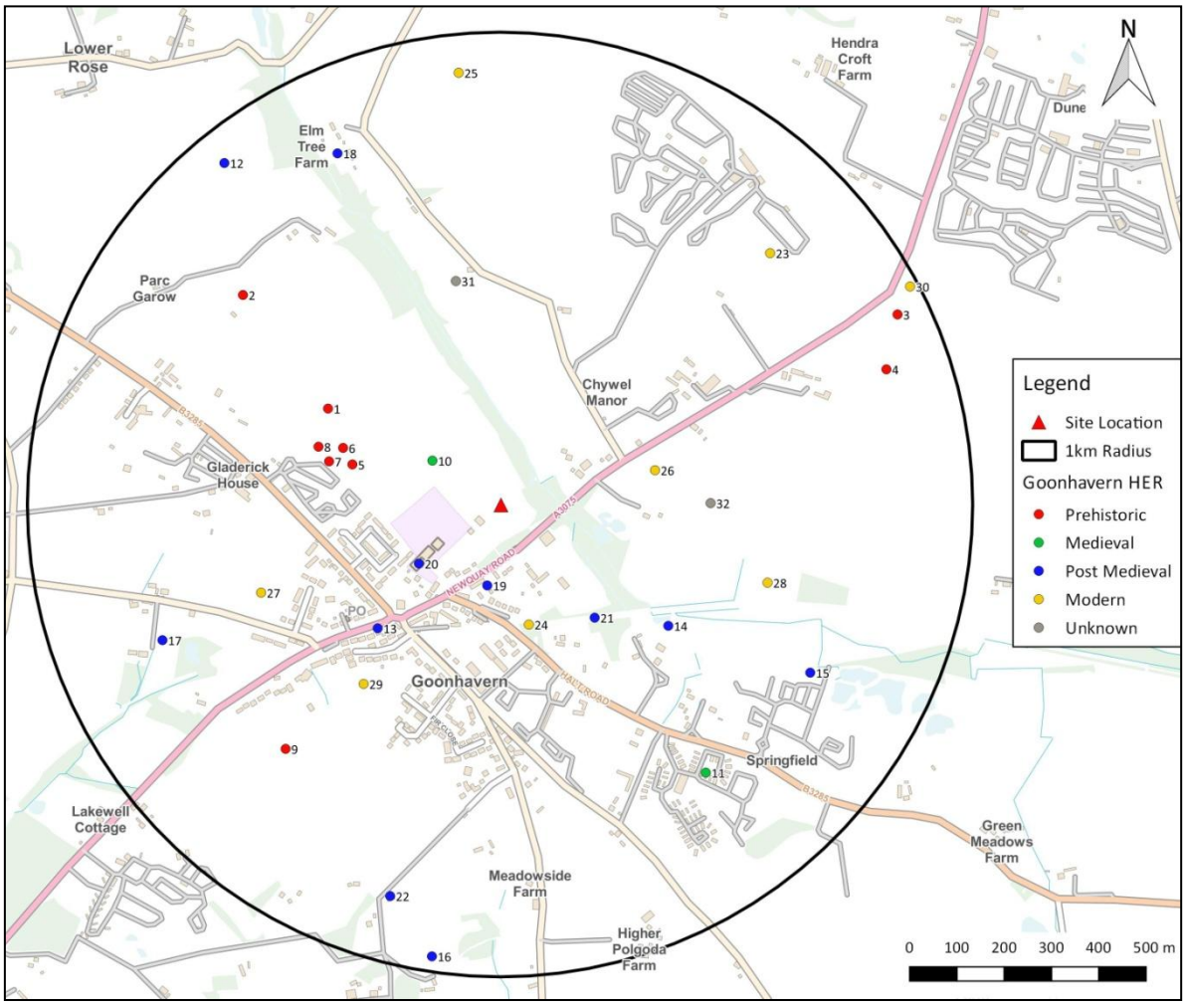

FIGURE 6: NEARBY HERITAGE ASSETS (SOURCE: CORNWALL & SCILLY HER).

TABLE 2: TABLE OF NEARBY UNDESIGNATED HERITAGE ASSETS (SOURCE: CORNWALL & SCILLY HER).

No.	HER No	Name	Description	Period	Designated Asset
1	MCO32551	ROSEHILL FARM - Bronze Age barrow cemetery	A group of four possible barrows, visible as faint cropmarks on vertical aerial photographs	Prehistoric	
2	MCO3308	PERRAN ROUND - Bronze Age barrow	The site of a barrow recorded by Thomas in 1851.	Prehistoric	
3	MCO2371	CARNEBO - Bronze Age barrow	One of two barrows recorded by Thomas, now visible as cropmarks on aerial photographs.	Prehistoric	

4	MCO2372	CARNEBO - Bronze Age barrow	One of two barrows recorded by Thomas, now cropmarks on aerial photographs.	Prehistoric	
5	MCO2644	GOONHAVERN - Bronze Age barrow	One of a group of four barrows in a line on a ridge to the north of Goonhavern.	Prehistoric	SAM
6	MCO2643	GOONHAVERN - Bronze Age barrow	One of a group of four barrows in a line on a ridge to the north of Goonhavern.	Prehistoric	SAM
7	MCO2642	GOONHAVERN - Bronze Age barrow	One of a group of four barrows in a line on a ridge to the north of Goonhavern.	Prehistoric	SAM
8	MCO2641	GOONHAVERN - Bronze Age barrow	One of a group of four barrows in a line on a ridge to the north of Goonhavern.	Prehistoric	SAM
9	MCO2645	GOONHAVERN - Bronze Age barrow	A barrow recorded by Thomas in 1850; now visible as a low mound.	Prehistoric	SAM
10	MCO32552	Medieval field boundary, Post Medieval field boundary	Linear banks and ditches, probably medieval or later field boundaries, are visible as cropmarks on vertical aerial photographs in field to the north of Goonhavern.	Medieval	
11	MCO32553	GOONHAVERN - Medieval trackway, Post Medieval trackway, Undated trackway	A linear ditch is visible a cropmark, running diagonally across three modern fields to the south east of Goonhavern.	Medieval	
12	MCO12797	WEST WHEAL HOPE - Post Medieval mine	Hamilton Jenkin shows the location of West Wheal Hope at this position	Post Medieval	
13	MCO9068	GOONHAVERN - Post Medieval blacksmiths	A smithy at Goonhavern crossroads is shown on the OS map of 1878. Building is still marked on the OS map of 1976.	Post Medieval	
14	MCO12738	TYWARNHAYLE - Post Medieval mine	Tywarnhaile Mine is shown at this location on Brenton's map of 1869 and is mentioned by Collins.	Post Medieval	
15	MCO12806	WHEAL ALBERT - Post Medieval mine	Wheal Albert previously worked as Goonhavern mine; working in 1840.	Post Medieval	
16	MCO12312	NORTH CHIVERTON - Post Medieval mine	North Chiverton mine was once part of Wheal Anna and resumed work between 1863 and 1868.	Post Medieval	
17	MCO32550	GOONHAVERN - Post Medieval shaft	A single mine shaft with associated spoil is visible on vertical aerial photographs (p1) to the west of Goonhavern.	Post Medieval	
18	MCO12989	WHEAL HOPE - Post Medieval mine	Wheal Hope was included in South Wheal Budnick. Spargo records work commencing in 1861 (b1) but Hamilton Jenkin says working in 1835.	Post Medieval	
19	MCO32306	GOONHAVERN - Post Medieval nonconformist chapel	Late C19 Bible Christian chapel with attached Sunday school that is probably the earlier chapel, also an attached traphouse.	Post Medieval	II
20	MCO51341	GOONHAVERN - Post Medieval school	Board School, built 1876 (datestone). Gothic style details. Single storey. Plan: E-shaped plan plus porches between the wings.	Post Medieval	II
21	MCO55865	CHACEWATER & NEWQUAY BRANCH - Post Medieval railway	The GWR branch line from Blackwater Junction to Newquay, opened in 1905	Post Medieval	
22	DCO4201	WHEAL ANNA HOUSE	Former count (account) house for Wheal Anna (mine) now a private house.	Post Medieval	II
23	MCO54458	GOONHAVERN - Modern radio station	World War Two radio station	Modern	
24	MCO53895	GOONHAVERN - Modern railway station	The site of Goonhavern Halt.	Modern	
25	ECO4038	Land at Hendra Farm, Treamble Rose, Truro, Cornwall	Survey Assessment	Modern	Event
26	ECO5063	Goonhavern, Cornwall	Geophysical Survey	Modern	Event
27	ECO4404	Land West of Martyns Close	Interpretation, Assessment; Walkover Survey	Modern	Event
28	ECO857	CWT Reserves - Report	Interpretation, Assessment	Modern	Event
29	ECO4346	Land off Pollard's Close, Goonhavern, Cornwall	Geophysical Survey	Modern	Event
30	ECO4372	Land at Monkey Tree Campsite	Interpretation, Assessment; Walkover Survey	Modern	Event
31	MCO20960	GOONHAVERN - Undated field system	-	Unknown	
32	MCO32595	CARNEBO FARM - Undated enclosure	Perpendicular linear ditches are visible as cropmarks on vertical aerial photographs.	Unknown	

3.5 AERIAL PHOTOGRAPHY AND LIDAR

Assessment of the readily-available aerial photography and LiDAR (Figures 7 and 8) for the site indicate that the site appears devoid of topographic or standing features. Any possible features within the rough/wooded ground alongside the watercourse beside the site are likely obscured.

FIGURE 7: AERIAL PHOTOGRAPH OF THE SITE TAKEN IN 2001 (SOURCE GOOGLE EARTH; ©2018 INFOTERRA & BLUESKY); THE APPROXIMATE LOCATION OF THE SITE IS OUTLINED IN RED.

FIGURE 8: IMAGE DERIVED FROM LIDAR DATA; THE LOCATION OF THE SITE IS OUTLINED IN RED(PROCESSED USING QGIS VER2.18.4, TERRAIN ANALYSIS/SLOPE, VERTICAL EXAGGERATION 3.0). DATA: CONTAINS FREELY AVAILABLE DATA SUPPLIED BY NATURAL ENVIRONMENT RESEARCH COUNCIL (CENTRE FOR ECOLOGY & HYDROLOGY; BRITISH ANTARCTIC SURVEY; BRITISH GEOLOGICAL SURVEY); ©NERC (CENTRE FOR ECOLOGY & HYDROLOGY; BRITISH ANTARCTIC SURVEY; BRITISH GEOLOGICAL SURVEY) 2017.

3.6 GEOPHYSICAL SURVEY

3.6.1 INTRODUCTION

An area of *c.*1.35ha was the subject of a magnetometry (gradiometer) survey. The purpose of this survey was to identify and record magnetic anomalies within the proposed site. While identified anomalies may relate to archaeological deposits and structures the dimensions of recorded anomalies may not correspond directly with any associated features. The following discussion attempts to clarify and characterise the identified anomalies. The survey was undertaken on the 28th of September 2018 by P. Bonvoisin; the survey data was processed by P. Bonvoisin.

3.6.2 METHODOLOGY

The gradiometer survey follows the general guidance as outlined in: *Geophysical Survey in Archaeological Field Evaluation* (English Heritage 2008) and *Standard and Guidance for Archaeological Geophysical Survey* (CIfA 2014b).

The survey was carried out using a twin-sensor fluxgate gradiometer (Bartington Grad601). These machines are sensitive to depths of up to 1.50m. The survey parameters were: sample intervals of 0.25m, traverse intervals of 1m, a zigzag traverse pattern, traverse orientation was circumstantial, grid squares of 30×30m. The gradiometer was adjusted ('zeroed') every 0.5-1ha. The survey grid was tied into the Ordnance Survey National Grid. The data was downloaded onto *Grad601 Version 3.16* and processed using *TerraSurveyor Version 3.0.33.6*. The primary data plots and analytical tools used in this analysis were *Shade* and *Metadata*. The details of the data processing are as follows:

Processes: Clip +/- 3SD; DeStripe all traverses, median. DeStagger of particular grids.
Details Field 1: 0.29715ha surveyed; Max. 98.56nT, Min. -100.00nT; Standard Deviation 15.39, mean 1.88nT, median 2.11nT.
Details Field 2: 0.3336ha surveyed; Max. 98.52nT, Min. -100.00nT; Standard Deviation 14.91, mean 1.81nT, median 2.02nT.

3.6.3 SITE INSPECTION

The site comprises of two fields with multiple interior divisions, marked out by electric fencing for use as multiple horse paddocks. A stable is located towards the noth-west corner of field 2, with a concrete surface immediately to the west. There is also a fenced off area with a horsebox and other modern metallic debris. In the northern corner of field 1 there is a shed with a small walled off area that leads towards the stables. The south-eastern boundary abuts a slim area of scrub/woodland that runs along Newquay road and the southern extent of the field abuts Chyvounder Farm with further residential buildings beyond. The south-eastern boundary of field 2 is the same as that in field 1, with a track and access to the site running along the south-western boundary of field 2. The north-western boundary of the field comprises of a hedgebank, with a band of scrubland separating the pasture of field 2 from the wooded valley beyond.

A full complement of site photographs can be found in Appendix 2.

3.6.4 RESULTS

Table 3 with the accompanying Figures 10 and 11 show the analyses and interpretation of the geophysical survey data. Additional graphic images of the survey data and numbered grid locations can be found in Appendix 1.

TABLE 3: INTERPRETATION OF GRADIOMETER SURVEY DATA.

Anomaly Group	Class and Certainty	Form	Archaeological Characterisation	Comments
1	Very strong negative moderate positive, probable	Fragmented linear with border	Raised linear	May be represenatative of land drainage or similar type of feature. Possibly related to anomaly group 2. Responses of *c.* +16.98nT to -31.79nT.
2	Negative, possible	Linear	Raised linear	May be represenatative of land drainage or similar type of feature. Possibly related to anomaly group 1. Responses of *c.* -7.85nT to -31.41nT.

3.6.5 DISCUSSION

The survey identified two groups of anomalies, with cartographic and visual sources supporting the discussion and comments can be seen in the desk-based assessment above.

Groups 1 (+17.0nT to -31.8nT) and 2 (-7.9nT to -31.4nT) are part of a linear negative feature with a positive border, the border is unclear within field 1, though this is likely due to the nearby magnetic disturbance giving a muddied view of the response. Probably representative of the same feature, this linear may be indicataive of a field drain or similar feature, though the strong response may indicate that this feature represents a previous bank or similar raised feature.

Modern disturbance, Di-Polar anomalies and magnetic disturbance are also located across the site. Magnetic disturbance along the survey area boundaries likely corresponds to metallic compents of the site boundaries, the larger areas within fields 1 and 2 correspond to a interior metallic fence and manhole cover in field 1, and disturbed ground with occasional debris elements outside of the stables.

FIGURE 9: VIEW ACROSS FIELD 1; VIEWED FROM THE NORTH-EAST.

FIGURE 10: VIEW ACROSS THE SITE; VIEWED FROM THE SOUTH.

3.7 ARCHAEOLOGICAL POTENTIAL AND IMPACT SUMMARY

The direct *effect* of the development would be the disturbance or destruction of archaeological features or deposits present within the footprint of the development; the *impact* of the

development would depend on the presence and significance of archaeological features and deposits.

Based on the results of the desk-based assessment and the geophysical survey – agricultural features probably related to medieval or later field boundaries or drainage; and possible post-medieval mining activity, the archaeological potential of the site would appear to be *low*. However further archaeological works in the form of evaluation trenching or as monitoring and recording during ground works may be necessary to more accurately determine the significance of any archaeological resource.

TABLE 4: SUMMARY OF DIRECT IMPACTS.

Asset	Type	Distance	Value	Magnitude of Impact	Assessment	Overall Assessment
Direct Impacts						
Unidentified archaeological features	U/D	Onsite	low	Major	Slight	Slight/moderate
After mitigation			Negligible	Minor	Neutral/Slight	Neutral/Negligible

FIGURE 11: SHADE PLOT OF GRADIOMETER SURVEY DATA; MINIMAL PROCESSING.

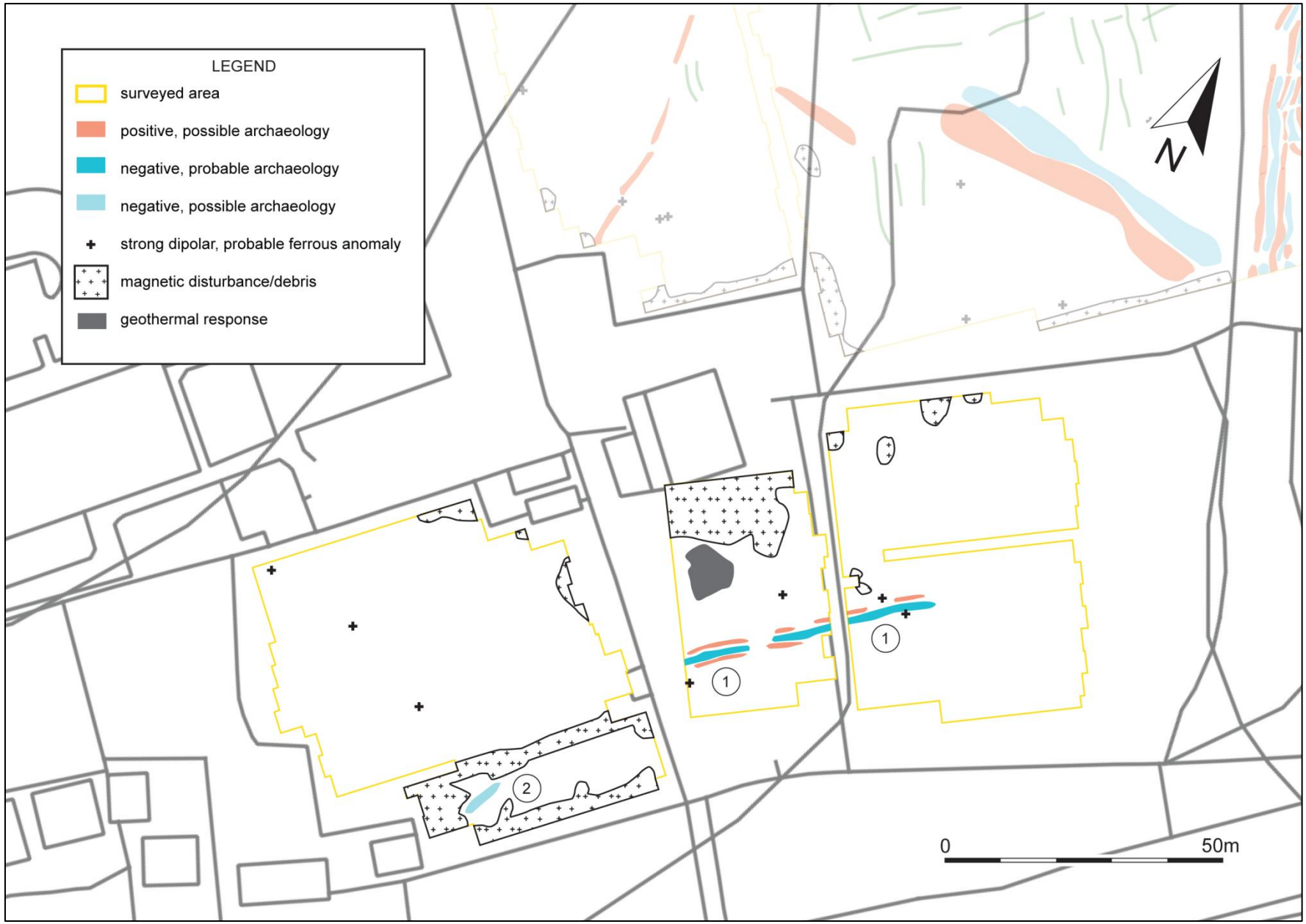

FIGURE 12: INTERPRETATION OF GRADIOMETER SURVEY DATA.

4.0 INDIRECT IMPACTS

4.1 STRUCTURE OF THE ASSESSMENT

For the purposes of this assessment, the *indirect effect* of a development is taken to be its effect on the wider historic environment. The principal focus of such an assessment falls upon identified designated heritage assets like Listed buildings or Scheduled Monuments. Depending on the nature of the heritage asset concerned, and the size, character and design of a development, its effect – and principally its visual effect – can impact on designated assets up to 20km away.

The methodology adopted in this document is based on that outlined in *The Setting of Heritage Assets* (GPA3 Historic England 2015), with reference to ICOMOS (2011) and DoT (DMRB, WEBTAG) guidance. The assessment of effect at this stage of a development is an essentially subjective one, but one based on the experience and professional judgement of the authors. Appendix 1 details the methodology employed.

This report follows the staged approach to proportionate decision making outlined in *The Setting of Heritage Assets* (Historic England 2015, 6). *Step one* is to identify the designated heritage assets that might be affected by the development. The first stage of that process is to determine an appropriate search radius, and this would vary according to the height, size and/or prominence of the proposed development. For instance, the search radius for a wind turbine, as determined by its height and dynamic character, would be much larger than for a single house plot or small agricultural building. The second stage in the process is to look at the heritage assets within the search radius and assign to one of three categories:

- Category #1 assets: Where proximity to the proposed development, the significance of the heritage asset concerned, or the likely magnitude of impact, demands detailed consideration.
- Category #2 assets: Assets where location and current setting would indicate that the impact of the proposed development is likely to be limited, but some uncertainty remains
- Category #3 assets: Assets where location, current setting, significance would strongly indicate the impact would be no higher than negligible and detailed consideration both unnecessary and disproportionate. These assets are still listed in the impact summary table.

For *Step two* and *Step three*, and with an emphasis on practicality and proportionality (*Setting of Heritage Assets* p15 and p18), this assessment then groups and initially discusses heritage assets by category (e.g. churches, historic settlements, funerary remains etc.) to avoid repetitious narrative; each site is then discussed individually, and the particulars of each site teased out. The initial discussion establishes the baseline sensitivity of a given category of monument or building to the potential effect, the individual entry elaborates on local circumstance and site-specific factors. The individual assessments should be read in conjunction with the overall discussion, as the impact assessment is a reflection of both.

4.2 QUANTIFICATION

The size of the proposal site would indicate a search radius of 1km is sufficient to identify those designated heritage assets where an appreciable effect might be experienced.

There are only a few designated heritage assets in the local area: two GII Listed structures (Goonhavern County Primary School & the Methodist Chapel) and the Scheduled barrows 150m east of Rosehill Farm. There is an additional Grade II Listed building within 1km (Wheal Anna

House) and an additional Scheduled monument (a barrow). There are no Conservation Areas, Registered Parks and Gardens or Battlefields within this area.

With an emphasis on practicality and proportionality (see *Setting of Heritage Assets* p15 and p18), only those assets where there is the possibility for a effect greater than negligible (see Table 8 in Appendix 1) are considered here in detail.

- Category #1 assets: None.
- Category #2 assets: Goonhavern County Primary School, the Methodist chapel and the Bowl Barrows 150m east of Rosehill Farm.
- Category #3 assets: the other assets within 2.5km.

4.3 IMPACT BY CLASS OF MONUMENT OR STRUCTURE

4.3.1 INSTITUTIONAL BUILDINGS

Range of structures, usually exhibiting elements of formal planning, often with a view to aesthetics

A wide range structures relating to formal governance or care, built and/or maintained by local, county or national authorities. This category covers structures built for a specific purpose and includes: work/poor houses, hospitals, asylums, schools, council offices or other facilities. Some of these buildings are 18th century in date, but most are 19th century or later. The earlier structures that fall into this category – principally almshouses – may have been privately built and supported. These structures betray a high degree of formal planning, within which aesthetics, setting and long views could play an important part. The sensitivity of these structures to the visual intrusion of a wind turbine depends on type, age and location.

What is important and why

Some of these structures are good examples of institutional architecture, and may retain period fitments (evidential). They are likely to conform to a particular architectural template, and may be associated with an architect of note; they may or may not retain their original function, which will have a bearing on associational value (historical/associational). There is usually a clear aesthetic/design value, with form following function but ameliorated by design philosophy. The exteriors are more likely to retain authentic period features, as the interiors will have been subject to repeated adaptation and redevelopment. There may be some regard to the layout of associated gardens and the position of buildings within a historical settlement (aesthetic/design). The level of communal value will depend on continuity of function – older structures redeveloped as residential flats will lose the original social value.

Asset Name: **Goonhavern County Primary School**	
Parish: Perranzabuloe	*Value*: Medium
Designation: GII	*Distance to Development*: <50m
Summary: (Listing text): Board school. Datestone 1876. Killas brought to course, granite dressings. Tall brick lateral stacks. Plan: E-shaped plan plus porches between the wings. Original plan has large central schoolroom (for the top class) with folding screen on its right (so that it could be linked to room on its right) an entrance hall and cloakroom left of the schoolroom, and at the left and right forward projecting cross wings each containing two rooms with folding screen between the 2 rooms on the left plus a short central wing projecting at the front containing a small room (now the staff room). Until the 1950s there was a gallery in the front right-hand room. The plan is unchanged except that the folding screens have been replaced with fixed partitions and there is a small C20 extension in front of the left-hand wing. Gothic style details. Exterior: Single storey. Unaltered elevations except where front wing (left) is partly obscured by C20 addition. Original doors and windows. Symmetrical 1:1:1:1-bay front with projecting cross wings with gable ends at left and right, smaller gable end of central projecting wing and small gable-	

ended entrance porches betweeen the wings. Pointed arched opening with hoodmould to each gable end: doorway to each porch and large 3-light traceried reticulated wooden window to each of the other gable ends. Ledged doors have shouldered heads with blind tympana over. Interior: Some original doors and dado panelling; original Gothic style roof structures obscured by C20 acoustic ceilings.
Conservation Value: The school was listed in 1988 for its architectural value. It appears that it has since been extended to the north and west, a small block added along the south elevation and the whole building incorporated within a new, larger school to the north and east. The school could not be accessed to ascertain how much of the original architecture is still visible.
Authenticity and Integrity: The exterior appears to have been almost entirely masked by extensions along the north and west elevations. It is assumed that the south and east elevations are still original, but the school was not accessed to confirm this. It is unknown how much the interior has been changed.
Setting: The setting of the school has changed dramatically since its construction. Where it once lay on the edge of the village, surrounded by undeveloped land and fields on all sides, it is now enclosed by modern houses and estates on all but the north-east side, where it is abutted by the modern school, car park and playing fields beyond. The school can be glimpsed in gaps between the houses along the main road, but the building has been swallowed by the expansion of the village and school.
Contribution of Setting to the Significance of the Asset: The school is barely visible in its modern setting, no longer the feature in the village that it would have been historically. The setting has been so eroded, that further development will have little impact.
Magnitude of Effect: Despite its close proximity, the house to the south, school to the north-east and the trees and shrubs forming property boundaries will likely entirely block any intervisibility between the school building and the proposed development. The setting of the school building has already been so completely changed that further development will have no impact.
Magnitude of Impact: Medium value assets and Neutral = Neutral
Overall Impact Assessment: **Neutral**

4.3.2 NON-CONFORMIST CHAPELS

Non-Conformist places of worship, current and former

Non-Conformist chapels are relatively common and tend to be fairly modest structures in all but the largest settlements, lacking towers and many of the ostentatious adornments of older Church of England buildings. They are usually Grade II Listed structures, most dating from the 19th century, and adjudged significant more for their religious and social associations than necessarily any individual architectural merit. They can be found in isolated locations, but are more often encountered in settlements, where they may be associated with other Listed structures. In these instances, the setting of these structures is very local in character and references the relationship between this structure and other buildings within the settlement. The impact of a wind turbine is unlikely to be particularly severe, unless it is built in close proximity.

What is important and why

Nonconformist chapels are typically 18th century or later in date, and some retain interior period fitments (evidential). Some of the better preserved or disused examples are representative of the particularly ethos of the group in question, and buildings may be linked to the original preachers (e.g. John Wesley) (historical value). Congruent with the ethos of the various movements, the buildings are usually adapted from existing structures (early) or bespoke (later), and similar in overall character to Anglican structures of the same period (aesthetic value). They often have strong communal value, where they survive as places of worship (communal value).

Asset Name: **Methodist Chapel**	
Parish: Perranzabuloe	*Value*: Medium
Designation: GII	*Distance to Development*: c.50m

Summary: (Listing text): Nonconformist chapel, forecourt walls and gate and adjoining school room. Circa early C19 schoolroom. Circa late C19 chapel. Killas rubble walls with brick dressings. Asbestos slate roof with pedimented gable at the entrance front. Plan: Rectangular aisle-less plan probably with galleries on 3 sides. Schoolroom adjoining at rear and small room probably a former vestry (now used as a funeral directors) at far rear. Schoolroom is possibly the original chapel. Exterior: Unaltered 2-storey elevations (chapel) and single-storey schoolroom. Symmetrical 3-window south-west pedimented entrance front with central round-arched doorway. Plinth impost strings (string continues as hoodmould over first-floor windows). Cogged upper cornice to triangular pediment, stepped lower cornice. Round-headed window openings. Original doors and windows. Traceried tympanum over pair of V-jointed, boarded doors. Horned sashes with glazing bars and fanlight heads (3 similar windows to each side wall). Schoolroom has 3-window north-west front with doorway on its left. Original door and windows; 4-panel door, 16-pane hornless sashes. Cement coped rubble walls at roadside adjoining front left-hand side of entrance front. Original braced iron gates. Interior: Unaltered interior has gallery with panelled front, moulded plaster ceiling cornices and an elaborate central ceiling rose with acanthus detail.
Conservation Value: The building is aesthetically pleasing, with red and yellow brick detailing around the windows and doors and string decoration contrasting with the paler walls. The building appears to be uninhabited, but in fairly good repair, the adjoining Sunday School looks to have had another use since the closure of the church in 1998, the door repainted a pale yellow, having previously been red to match the other doors.
Authenticity and Integrity: The building's exterior appears little altered, with the exception of the Sunday School door. An image from 2014 appears to show damage to some of the windows and the glazing of the front door, but these seem to have been replaced. Some grass and weeds are growing up around the exterior walls of the building, but otherwise it appears in fairly good order.
Setting: The chapel lies towards the north-western edge of the village, immediately adjacent to the A3075 and surrounded on all sides by houses and small businesses. The front elevation faces west, towards the centre of the village it once served and its stone and brickwork, along with its height, make it a distinctive feature among the white and cream rendered buildings surrounding it. The adjoining Sunday School and traphouse add to the scale of the building and contribute to making it a focal point in its immediate surroundings.
Contribution of Setting to the Significance of the Asset: The chapel is a focal point from along the main road, its scale and materials drawing the eye. Its location, nestled among the village buildings, is a reminder of its function as a community building.
Magnitude of Effect: The buildings, wall, trees and planting along the opposite side of the road will provide almost total screening from the proposed development. Glimpses of rooftops may be possible, especially during the winter when foliage is reduced, but as a building which served the community, further buildings within the village will have little impact.
Magnitude of Impact: Medium value asset and No imapct = Neutral
Overall Impact Assessment: **Neutral**

4.3.3 PREHISTORIC RITUAL/FUNERARY MONUMENTS

Stone circles, stone rows, barrows and barrow cemeteries

These monuments undoubtedly played an important role in the social and religious life of past societies, and it is clear they were constructed in locations invested with considerable religious/ritual significance. In most instances, these locations were also visually prominent, or else referred to prominent visual actors, e.g. hilltops, tors, sea stacks, rivers, or other visually prominent monuments. The importance of intervisibility between barrows, for instance, is a noted phenomenon. As such, these classes of monument are unusually sensitive to intrusive and/or disruptive modern elements within the landscape. This is based on the presumption these monuments were built in a largely open landscape with clear lines of sight; in many cases these monuments are now to be found within enclosed farmland, and in varying condition. Sensitivity to turbine is lessened where tall hedgebanks restrict line-of-sight.

What is important and why

Prehistoric ritual sites preserve information on the spiritual beliefs of early peoples, and archaeological data relating to construction and use (evidential). The better examples may bear names and have folkloric aspects (historical/illustrative) and others have been discussed and illustrated in historical and antiquarian works since the medieval period (historical/associational). It is clear they would have possessed design value, although our ability to discern that value is limited; they often survive within landscape palimpsests and subject to the 'patina of age', so that fortuitous development is more appropriate. They almost certainly once possessed considerable communal value, but in the modern age their symbolic and spiritual significance is imagined or attributed rather than authentic. Nonetheless, the location of these sites in the historic landscape has a strong bearing on the overall contribution of setting to significance: those sites located in 'wild' or 'untouched' places – even if those qualities are relatively recent – have a stronger spiritual resonance and illustrative value than those located within enclosed farmland or forestry plantations.

Asset Name: **Group of three bowl barrows east of Rosehill Farm**	
Parish: Perranzabuloe	*Value*: High
Designation: SAM	*Distance to Development*: c.150m
Summary: (Scheduling text): The monument includes a group of three bowl barrows situated 150m east of Rosehill Farm. The barrows are in a line on an approximate east-west alignment on a ridge north of Goonhavern. Two of the group survive as visible mounds whilst the position of the other is indicated by the sparstone and local stone derived from the underlying Devonian geological formations which lie on the ground surface above its position. The two barrows which survive with mounds are those in the centre and to the east of the monument and these are 20m apart. The easternmost barrow mound is 15m in diameter and 0.2m in height whilst the mound of the central barrow is 23m in diameter and 0.5m in height. The barrow on the western side of the group has no visible mound but the stone debris which represents it denotes its position and this covers an oval area about 20m by 12m in a position just over 20m west of the central barrow. Excluded from the scheduling is all fencing, although the ground beneath it is included.	
Conservation Value: The barrows have been reduced by ploughing leaving only low mounds and some confusion over whether three or four exist. The barrows lie within an enclosed field immediately bordered by a caravan site. Their condition was not assessed as part of this survey.	
Setting: The barrows lie within a post-medieval field, close to the hedgebank and immediately adjacent to a modern caravan park and just north of the modern housing estates in the north of the village. Cropmark evidence in the neighbouring field to the north suggests that there may be further barrows present, but their visibility and link with the scheduled barrows has long since been severed. The barrows are no longer a prominent feature within an open landscape and are not publicly accessible.	
Contribution of Setting to the Significance of the Asset: The barrows survive as low mounds, not visible from outside of the field in which they lie and not publicly accessible.	
Magnitude of Effect: Intervisibility between the proposed development and the barrows is unlikely and the proposed development to the south will only form a slight extension to the modern village setting on the edge of which the barrows now lie.	
Magnitude of Impact: Medium value asset and No imapct = Neutral	
Overall Impact Assessment: **Neutral**	

4.3.4 HISTORIC LANDSCAPE

General Landscape Character

The landscape of the British Isles is highly variable, both in terms of topography and historical biology. Natural England has divided the British Isles into numerous 'character areas' based on topography, biodiversity, geodiversity and cultural and economic activity. The County Councils and AONBs have undertaken similar exercises, as well as Historic Landscape Characterisation.

Some character areas are better able to withstand the visual impact of development than others. Rolling countryside with wooded valleys and restricted views can withstand a larger number of sites than an open and largely flat landscape overlooked by higher ground. The English landscape is already populated by a large and diverse number of intrusive modern elements, e.g. electricity pylons, factories, modern housing estates, quarries, and turbines, but the question of cumulative impact must be considered. The aesthetics of individual developments is open to question, and site specific, but as intrusive new visual elements within the landscape, it can only be **negative**.

The proposed site would be constructed within the ***Newquay and Perranporth Coast*** Landscape Character Area (LCA):

- The area is an exposed northwest facing coastline with numerous surfing beaches and small sandy coves, backed by dramatic cliffs in the east and extensive Coastal Sand Dunes in the west. Inland there are sheltered valleys with narrow woodlands and small areas of wetland along the small streams which run to the coast and pastoral and arable land enclosed with Cornish hedges. The martime cliff remains largely undeveloped and includes small areas of heath and rough ground. The area attracts large numbers of tourists and surfers and this has led to a proliferation of holiday accommodation especially in association with the holiday resort of Newquay and settlements such as Perranporth. Caravan and camp sites and associated roadside development have a major impact on the landscape character especially during the summer months. Newquay Cornwall Airport and RAF St Mawgan lie to the north on the coastal plateau. The development of the proposed site will be consistent with the development of towns and villages in this LCA, rapid modern expansion, but not impacting the coast or having an appreciable impact on the pastoral landscape; occupying a small area between modern developments on the northern edge of Goonhavern. On that basis the impact is assessed as **negligible** to **negative/minor**.

4.3.5 AGGREGATE IMPACT

The aggregate impact of a proposed development is an assessment of the overall effect of a single development on multiple heritage assets. This differs from cumulative impact (below), which is an assessment of multiple developments on a single heritage asset. Aggregate impact is particularly difficult to quantify, as the threshold of acceptability will vary according to the type, quality, number and location of heritage assets, and the individual impact assessments themselves.

Based on the restricted number of assets where any appreciable effect is likely, the aggregate impact of this development is **neutral**.

4.3.6 CUMULATIVE IMPACT

Cumulative impacts affecting the setting of a heritage asset can derive from the combination of different environmental impacts (such as visual intrusion, noise, dust and vibration) arising from a single development or from the overall effect of a series of discrete developments. In the latter case, the cumulative visual impact may be the result of different developments within a single view, the effect of developments seen when looking in different directions from a single viewpoint, of the sequential viewing of several developments when moving through the setting of one or more heritage assets.
The Setting of Heritage Assets 2011a, 25

*The key for all cumulative impact assessments is to focus on the **likely significant** effects and in particular those likely to influence decision-making.*
GLVIA 2013, 123

An assessment of cumulative impact is, however, very difficult to gauge, as it must take into account existing, consented and proposed developments. The threshold of acceptability has not, however, been established, and landscape capacity would inevitability vary according to

landscape character. The proposed development would have little to no impact on the nearby heritage assets, despite its close proximity. With that in mind, an assessment of **negligible** is appropriate.

TABLE 5: SUMMARY OF IMPACTS.

Asset	Type	Distance	Value	Magnitude of Impact	Assessment	Overall Assessment
Indirect Impacts						
Three bowl barrows 150m east of Rosehill Farm	SAM	c.150m	High	None	Neutral	Neutral
Goonhavern County Primary School	GII	c.50m	Medium	None	Neutral	Neutral
Methodist Chapel	GII	<50m	Medium	None	Neutral	Neutral
Indirect Impacts						
Historic Landscape Newquay and Perranporth Coast LCA	n/a	n/a	High	Minor	Neutral/Slight	Negligible to Negative/Minor
Aggregate Impact	n/a	n/a				Neutral
Cumulative Impact	n/a	n/a				Negligible

5.0 CONCLUSION

The site is located in the modern civil parish of Perranzabuloe on the north-east edge of the village of Goonhavern. The site is across a number of fields enclosed from common rough grazing in the 19th century, but possibly subject to some summer ploughing. It is in a landscape that includes Bronze Age barrows and has been subject to significant post-medieval mining activity, for which some evidence in the form of a probable prospection pit is present on historic mapping. The site is within land probably associated with *Tywarnhayle*, a Domesday estate and the name of the estate of which it was a part during the mid 19th century.

The geophysical survey identified two groups of anomalies including possible ditch or drainage fetaures. Possible modern services and disturbed ground were identifiable within the survey area. On the basis of the geophysical survey and desk-based assessment the archaeological potential of the site appears to be **low**.

In terms of indirect impacts, most of the designated heritage assets in the wider area are located at such a distance to minimise the impact of the proposed development, or else the contribution of setting to overall significance is less important than other factors. The landscape context of many of these buildings and monuments is such that they would be partly or wholly insulated from the effects of the proposed development by a combination of local blocking from trees, buildings or embankments, or that other modern intrusions have already impinged upon their settings. The three assets which lie in close proximity and were considered in detail in this assessment would be unaffected by the proposed development (**neutral**), with minor impacts to the Historic Landscape (**negligible to negative minor**) and the slight possibility of cumulative impact (**negligible**).

With this in mind, the overall impact of the proposed development can be assessed as **neutral to negligible**. The impact of the development on any buried archaeological resource may be **permanent** and **irreversible**.

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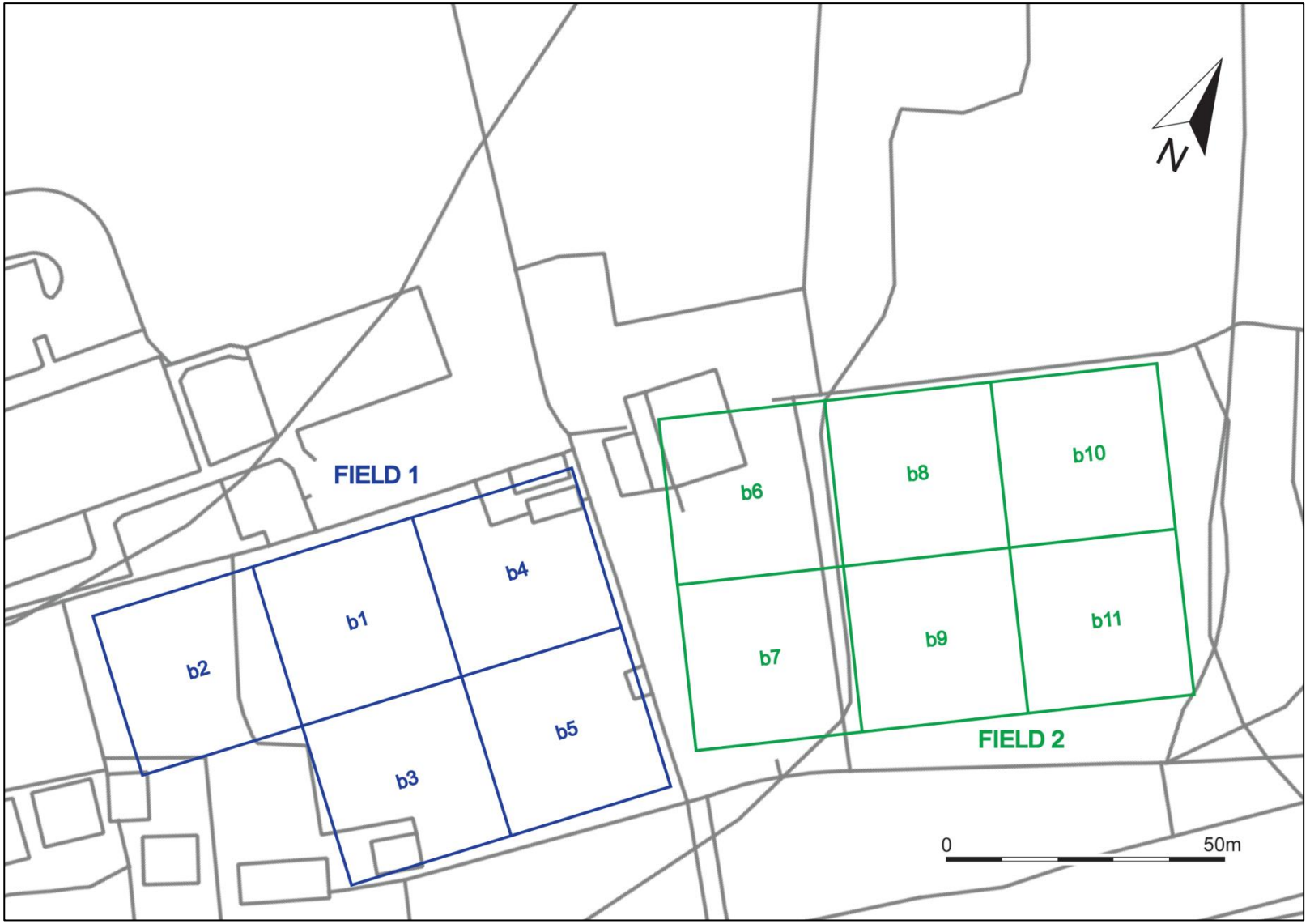
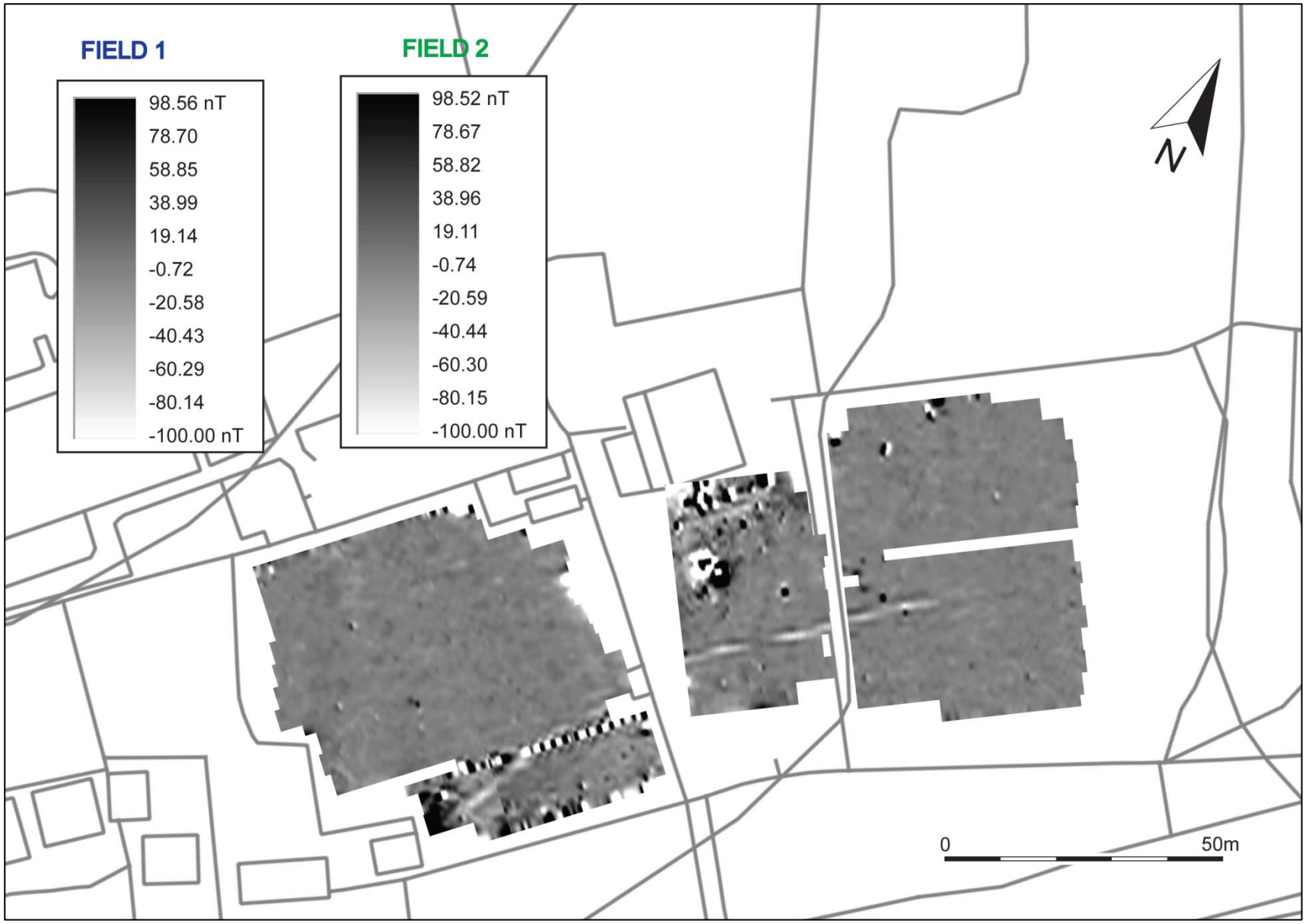
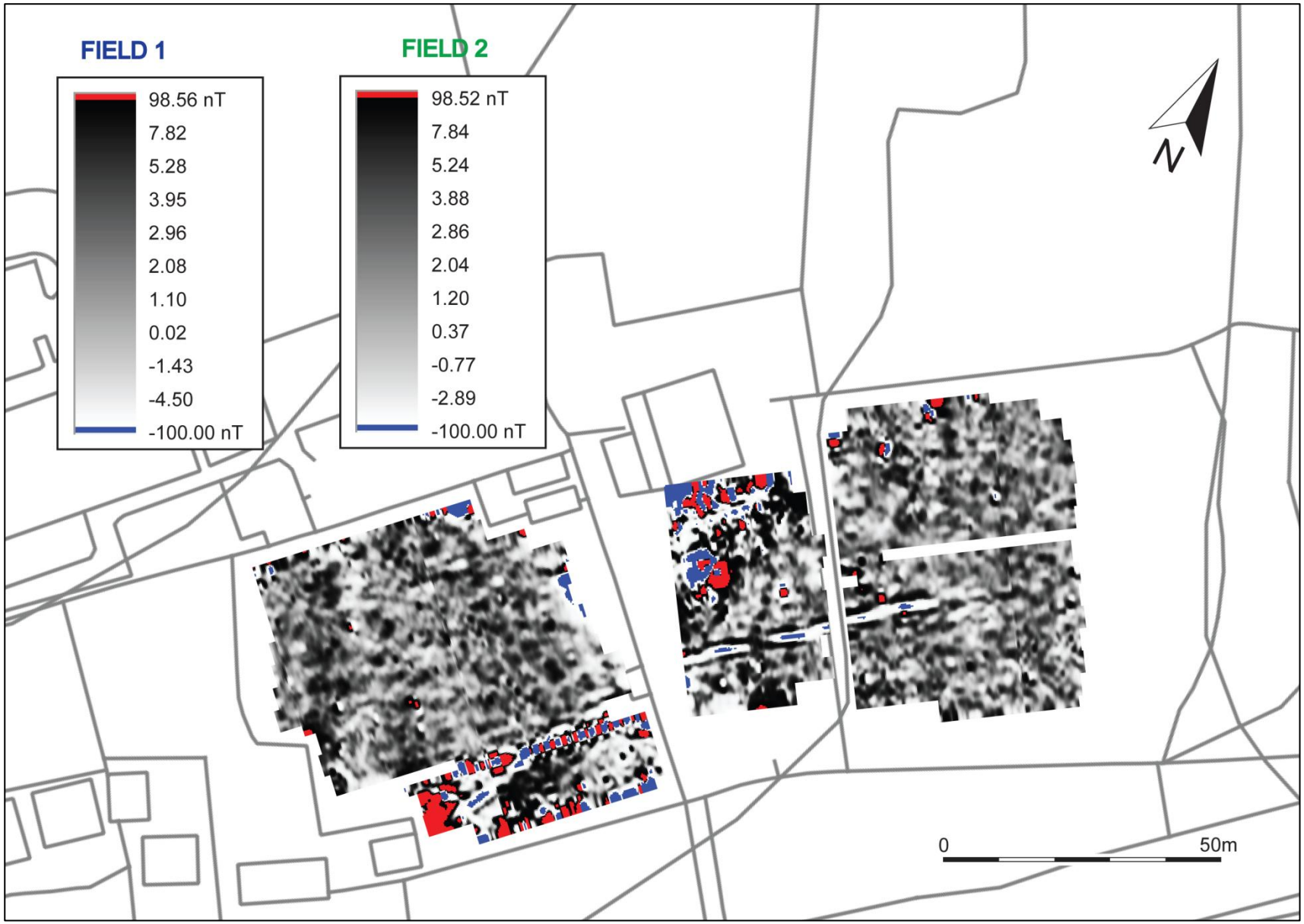
APPENDIX 1: ADDITIONAL GRAPHICAL IMAGES OF THE GRADIOMETER SURVEY



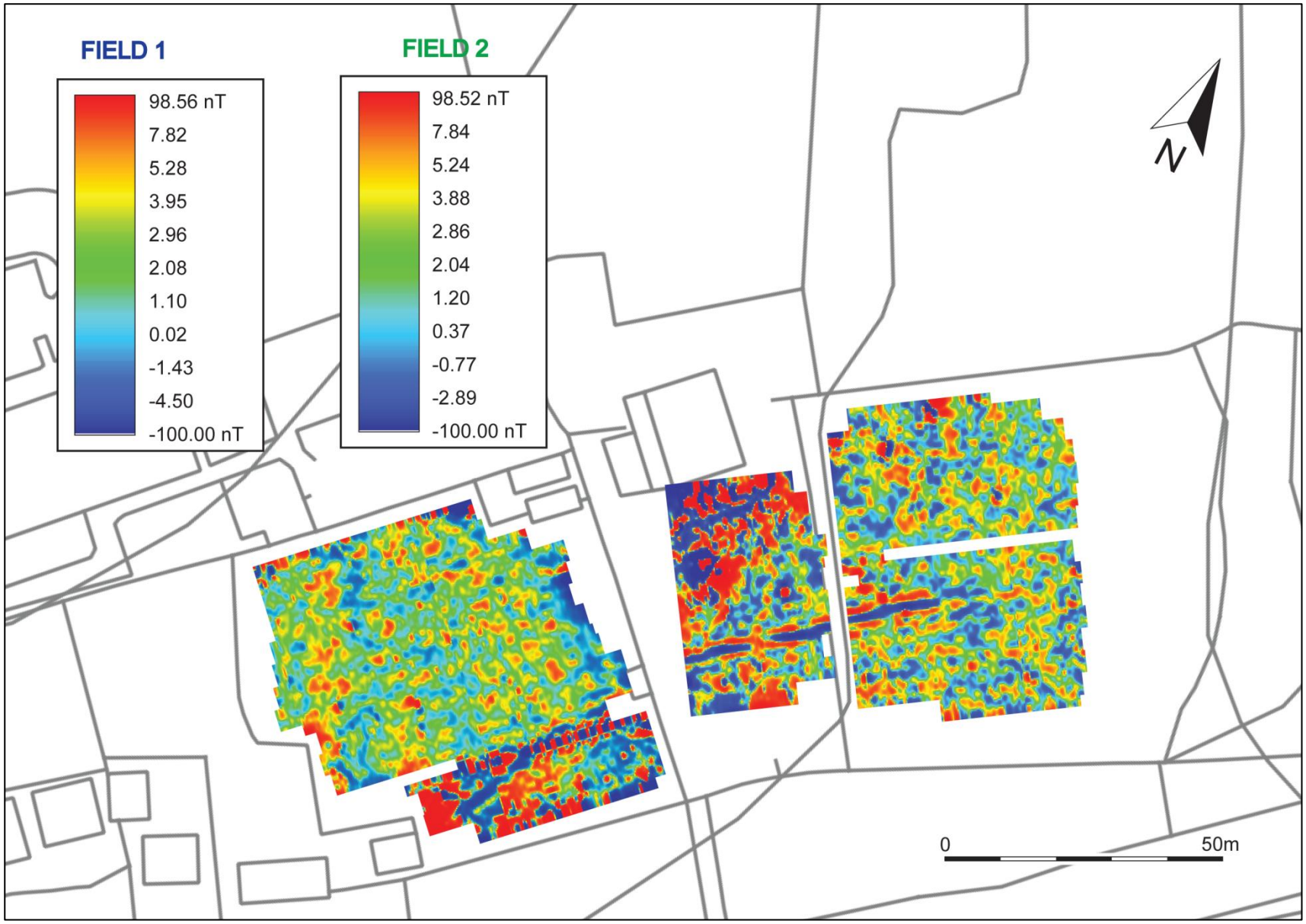
GEOPHYSICAL SURVEY GRID LOCATION AND NUMBERING.



SHADE PLOT OF GRADIOMETER SURVEY DATA; GRADIATED SHADING.



RED GREYSCALE BLUE SHADE PLOT OF GRADIOMETER SURVEY DATA; BAND WEIGHT EQUALISED; GRADIATED SHADING.



RED-BLUE-GREEN(2) SHADE PLOT OF GRADIOMETER SURVEY DATA; BAND WEIGHT EQUALISED; GRADIATED SHADING.

APPENDIX 2: IMPACT ASSESSMENT METHODOLOGY

Heritage Impact Assessment - Overview

The purpose of heritage impact assessment is twofold: Firstly, to understand – insofar as is reasonable practicable and in proportion to the importance of the asset – the significance of a historic building, complex, area or archaeological monument (the 'heritage asset'). Secondly, to assess the likely effect of a proposed development on the heritage asset (direct impact) and its setting (indirect impact). This methodology employed in this assessment is based on the staged approach advocated in *The Setting of Heritage Assets* (GPA3 Historic England 2015), used in conjunction with the ICOMOS (2011) and DoT (DMRB vol.11; WEBTAG) guidance. This Appendix contains details of the methodology used in this report.

National Policy

General policy and guidance for the conservation of the historic environment are now contained within the *National Planning Policy Framework* (Department for Communities and Local Government 2018). The relevant guidance is reproduced below:

Paragraph 189

In determining applications, local planning authorities should require the applicant to describe the significance of any heritage assets affected, including the contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should be consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which a development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

Paragraph 190

Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.

A further key document is the Planning (Listed Buildings and Conservation Areas) Act 1990, in particular section 66(1), which provides *statutory protection* to the setting of Listed buildings:

In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.

Cultural Value – Designated Heritage Assets

The majority of the most important ('nationally important') heritage assets are protected through *designation*, with varying levels of statutory protection. These assets fall into one of six categories, although designations often overlap, so a Listed early medieval cross may also be Scheduled, lie within the curtilage of Listed church, inside a Conservation Area, and on the edge of a Registered Park and Garden that falls within a world Heritage Site.

Listed Buildings

A Listed building is an occupied dwelling or standing structure which is of special architectural or historical interest. These structures are found on the *Statutory List of Buildings of Special Architectural or Historic Interest.* The status of Listed buildings is applied to 300,000-400,000 buildings across the United Kingdom. Recognition of the need to protect historic buildings began after the Second World War, where significant numbers of buildings had been damaged in the county towns and capitals of the United Kingdom. Buildings that were considered to be of 'architectural merit' were included. The Inspectorate of Ancient Monuments supervised the collation of the list, drawn up by members of two societies: The Royal Institute of British Architects and the Society for the Protection of Ancient Buildings. Initially the lists were only used to assess which buildings should receive government grants to be repaired and conserved if damaged by bombing. The *Town and Country Planning Act 1947* formalised the process within England and Wales, Scotland and Ireland following different procedures. Under the 1979 *Ancient Monuments and Archaeological Areas Act* a structure cannot be considered a Scheduled Monument if it is occupied as a dwelling, making a clear distinction in the treatment of the two forms of heritage asset. Any alterations or works intended to a Listed Building must first

acquire Listed Building Consent, as well as planning permission. Further phases of 'listing' were rolled out in the 1960s, 1980s and 2000s; English Heritage advise on the listing process and administer the procedure, in England, as with the Scheduled Monuments.

Some exemption is given to buildings used for worship where institutions or religious organisations (such as the Church of England) have their own permissions and regulatory procedures. Some structures, such as bridges, monuments, military structures and some ancient structures may also be Scheduled as well as Listed. War memorials, milestones and other structures are included in the list, and more modern structures are increasingly being included for their architectural or social value.

Buildings are split into various levels of significance: Grade I (2.5% of the total) representing buildings of exceptional (international) interest; Grade II* (5.5% of the total) representing buildings of particular (national) importance; Grade II (92%) buildings are of merit and are by far the most widespread. Inevitably, accuracy of the Listing for individual structures varies, particularly for Grade II structures; for instance, it is not always clear why some 19th century farmhouses are Listed while others are not, and differences may only reflect local government boundaries, policies and individuals.

Other buildings that fall within the curtilage of a Listed building are afforded some protection as they form part of the essential setting of the designated structure, e.g. a farmyard of barns, complexes of historic industrial buildings, service buildings to stately homes etc. These can be described as having *group value*.

Conservation Areas
Local authorities are obliged to identify and delineate areas of special architectural or historic interest as Conservation Areas, which introduces additional controls and protection over change within those places. Usually, but not exclusively, they relate to historic settlements, and there are c.7000 Conservation Areas in England.

Scheduled Monuments
In the United Kingdom, a Scheduled Monument is considered an historic building, structure (ruin) or archaeological site of **'national importance'**. Various pieces of legislation, under planning, conservation, etc., are used for legally protecting heritage assets given this title from damage and destruction; such legislation is grouped together under the term 'designation', that is, having statutory protection under the *Ancient Monuments and Archaeological Areas Act 1979*. A heritage asset is a part of the historic environment that is valued because of its historic, archaeological, architectural or artistic interest; those of national importance have extra legal protection through designation. Important sites have been recognised as requiring protection since the late 19th century, when the first 'schedule' or list of monuments was compiled in 1882. The conservation and preservation of these monuments was given statutory priority over other land uses under this first schedule. County Lists of the monuments are kept and updated by the Department for Culture, Media and Sport. In the later 20th century sites are identified by English Heritage (one of the Government's advisory bodies) of being of national importance and included in the schedule. Under the current statutory protection any works required on or to a designated monument can only be undertaken with a successful application for Scheduled Monument Consent. There are 19,000-20,000 Scheduled Monuments in England.

Registered Parks and Gardens
Culturally and historically important 'man-made' or 'designed' landscapes, such as parks and gardens are currently "listed" on a non-statutory basis, included on the 'Register of Historic Parks and Gardens of special historic interest in England' which was established in 1983 and is, like Listed Buildings and Scheduled Monuments, administered by Historic England. Sites included on this register are of **national importance** and there are currently 1,600 sites on the list, many associated with stately homes of Grade II* or Grade I status. Emphasis is laid on 'designed' landscapes, not the value of botanical planting. Sites can include town squares and private gardens, city parks, cemeteries and gardens around institutions such as hospitals and government buildings. Planned elements and changing fashions in landscaping and forms are a main focus of the assessment.

Registered Battlefields
Battles are dramatic and often pivotal events in the history of any people or nation. Since 1995 Historic England maintains a register of 46 battlefields in order to afford them a measure of protection through the planning system. The key requirements for registration are battles of national significance, a securely identified location, and its topographical integrity – the ability to 'read' the battle on the ground.

World Heritage Sites

Arising from the UNESCO World Heritage Convention in 1972, Article 1 of the Operational Guidelines (2015, no.49) states: 'Outstanding Universal Value means cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity'. These sites are recognised at an international level for their intrinsic importance to the story of humanity, and should be accorded the highest level of protection within the planning system.

Value and Importance

While every heritage asset, designated or otherwise, has some intrinsic merit, the act of designation creates a hierarchy of importance that is reflected by the weight afforded to their preservation and enhancement within the planning system. The system is far from perfect, impaired by an imperfect understanding of individual heritage assets, but the value system that has evolved does provide a useful guide to the *relative* importance of heritage assets. Provision is also made for heritage assets where value is not recognised through designation (e.g. undesignated 'monuments of Schedulable quality and importance' should be regarded as being of *high* value); equally, there are designated monuments and structures of *low* relative merit.

TABLE 6: THE HIERARCHY OF VALUE/IMPORTANCE (BASED ON THE DMRB VOL.11 TABLES 5.1, 6.1 & 7.1).

Hierarchy of Value/Importance	
Very High	Structures inscribed as of universal importance as World Heritage Sites; Other buildings of recognised international importance; World Heritage Sites (including nominated sites) with archaeological remains; Archaeological assets of acknowledged international importance; Archaeological assets that can contribute significantly to international research objectives; World Heritage Sites inscribed for their historic landscape qualities; Historic landscapes of international value, whether designated or not; Extremely well preserved historic landscapes with exceptional coherence, time-depth, or other critical factor(s).
High	Scheduled Monuments with standing remains; Grade I and Grade II* (Scotland: Category A) Listed Buildings; Other Listed buildings that can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the Listing grade; Conservation Areas containing very important buildings; Undesignated structures of clear national importance; Undesignated assets of Schedulable quality and importance; Assets that can contribute significantly to national research objectives. Designated historic landscapes of outstanding interest; Undesignated landscapes of outstanding interest; Undesignated landscapes of high quality and importance, demonstrable national value; Well-preserved historic landscapes, exhibiting considerable coherence, time-depth or other critical factor(s).
Medium	Grade II (Scotland: Category B) Listed Buildings; Historic (unlisted) buildings that can be shown to have exceptional qualities in their fabric or historical associations; Conservation Areas containing buildings that contribute significantly to its historic character; Historic Townscape or built-up areas with important historic integrity in their buildings, or built settings (e.g. including street furniture and other structures); Designated or undesignated archaeological assets that contribute to regional research objectives; Designated special historic landscapes; Undesignated historic landscapes that would justify special historic landscape designation, landscapes of regional value; Averagely well-preserved historic landscapes with reasonable coherence, time-depth or other critical factor(s).
Low	Locally Listed buildings (Scotland Category C(S) Listed Buildings); Historic (unlisted) buildings of modest quality in their fabric or historical association; Historic Townscape or built-up areas of limited historic integrity in their buildings, or built settings (e.g. including street furniture and other structures); Designated and undesignated archaeological assets of local importance; Archaeological assets compromised by poor preservation and/or poor survival of contextual associations; Archaeological assets of limited value, but with potential to contribute to local research objectives; Robust undesignated historic landscapes; Historic landscapes with importance to local interest groups; Historic landscapes whose value is limited by poor preservation and/or poor survival of contextual associations.
Negligible	Buildings of no architectural or historical note; buildings of an intrusive character; Assets with very little or no surviving archaeological interest; Landscapes with little or no significant historical interest.
Unknown	Buildings with some hidden (i.e. inaccessible) potential for historic significance; The importance of the archaeological resource has not been ascertained.

Concepts – Conservation Principles

In making an assessment, this document adopts the conservation values (*evidential*, *historical*, *aesthetic* and *communal*) laid out in *Conservation Principles* (English Heritage 2008), and the concepts of *authenticity* and *integrity*

as laid out in the guidance on assessing World Heritage Sites (ICOMOS 2011). This is in order to determine the relative importance of *setting* to the significance of a given heritage asset.

Evidential Value
Evidential value (or research potential) is derived from the potential of a structure or site to provide physical evidence about past human activity, and may not be readily recognised or even visible. This is the primary form of data for periods without adequate written documentation. This is the least equivocal value: evidential value is absolute; all other ascribed values (see below) are subjective. However,

Historical Value
Historical value (narrative) is derived from the ways in which past people, events and aspects of life can be connected via a place to the present; it can be *illustrative* or *associative*.

Illustrative value is the visible expression of evidential value; it has the power to aid interpretation of the past through making connections with, and providing insights into, past communities and their activities through a shared experience of place. Illustrative value tends to be greater if a place features the first or only surviving example of a particular innovation of design or technology.

Associative value arises from a connection to a notable person, family, event or historical movement. It can intensify understanding by linking the historical past to the physical present, always assuming the place bears any resemblance to its appearance at the time. Associational value can also be derived from known or suspected links with other monuments (e.g. barrow cemeteries, church towers) or cultural affiliations (e.g. Methodism).

Buildings and landscapes can also be associated with literature, art, music or film, and this association can inform and guide responses to those places.

Historical value depends on sound identification and the direct experience of physical remains or landscapes. Authenticity can be strengthened by change, being a living building or landscape, and historical values are harmed only where adaptation obliterates or conceals them. The appropriate use of a place – e.g. a working mill, or a church for worship – illustrates the relationship between design and function and may make a major contribution to historical value. Conversely, cessation of that activity – e.g. conversion of farm buildings to holiday homes – may essentially destroy it.

Aesthetic Value
Aesthetic value (emotion) is derived from the way in which people draw sensory and intellectual stimulation from a place or landscape. Value can be the result of *conscious design*, or the *fortuitous outcome* of landscape evolution; many places combine both aspects, often enhanced by the passage of time.

Design value relates primarily to the aesthetic qualities generated by the conscious design of a building, structure or landscape; it incorporates composition, materials, philosophy and the role of patronage. It may have associational value, if undertaken by a known architect or landscape gardener, and its importance is enhanced if it is seen as innovative, influential or a good surviving example. Landscape parks, country houses and model farms all have design value. The landscape is not static, and a designed feature can develop and mature, resulting in the 'patina of age'.

Some aesthetic value developed *fortuitously* over time as the result of a succession of responses within a particular cultural framework e.g. the seemingly organic form of an urban or rural landscape or the relationship of vernacular buildings and their materials to the landscape. Aesthetic values are where a proposed development usually have their most pronounced impact: the indirect effects of most developments are predominantly visual or aural, and can extent many kilometres from the site itself. In many instances the impact of a development is incongruous, but that is itself an aesthetic response, conditioned by prevailing cultural attitudes to what the historic landscape should look like.

Communal Value
Communal value (togetherness) is derived from the meaning a place holds for people, and may be closely bound up with historical/associative and aesthetic values; it can be *commemorative, symbolic*, *social* or *spiritual*.

Commemorative and symbolic value reflects the meanings of a place to those who draw part of their identity from it, or who have emotional links to it e.g. war memorials. Some buildings or places (e.g. the Palace of Westminster) can symbolise wider values. Other places (e.g. Porton Down Chemical Testing Facility) have negative or uncomfortable

associations that nonetheless have meaning and significance to some and should not be forgotten. *Social value* need not have any relationship to surviving fabric, as it is the continuity of function that is important. *Spiritual value* is attached to places and can arise from the beliefs of a particular religion or past or contemporary perceptions of the spirit of place. Spiritual value can be ascribed to places sanctified by hundreds of years of veneration or worship, or wild places with few signs of modern life. Value is dependent on the perceived survival of historic fabric or character, and can be very sensitive to change. The key aspect of communal value is that it brings specific groups of people together in a meaningful way.

Authenticity
Authenticity, as defined by UNESCO (2015, no.80), is the ability of a property to convey the attributes of the outstanding universal value of the property. 'The ability to understand the value attributed to the heritage depends on the degree to which information sources about this value may be understood as credible or truthful'. Outside of a World Heritage Site, authenticity may usefully be employed to convey the sense a place or structure is a truthful representation of the thing it purports to portray. Converted farmbuildings, for instance, survive in good condition, but are drained of the authenticity of a working farm environment.

Integrity
Integrity, as defined by UNESCO (2015, no.88), is the measure of wholeness or intactness of the cultural heritage ad its attributes. Outside of a World Heritage Site, integrity can be taken to represent the survival and condition of a structure, monument or landscape. The intrinsic value of those examples that survive in good condition is undoubtedly greater than those where survival is partial, and condition poor.

Summary
As indicated, individual developments have a minimal or tangential effect on most of the heritage values outlined above, largely because almost all effects are indirect. The principle values in contention are aesthetic/designed and, to a lesser degree aesthetic/fortuitous. There are also clear implications for other value elements (particularly historical and associational, communal and spiritual), where views or sensory experience is important. As ever, however, the key element here is not the intrinsic value of the heritage asset, nor the impact on setting, but the relative contribution of setting to the value of the asset.

Setting – The Setting of Heritage Assets
The principle guidance on this topic is contained within two publications: *The Setting of Heritage Assets* (Historic England 2015) and *Seeing History in the View* (English Heritage 2011). While interlinked and complementary, it is useful to consider heritage assets in terms of their *setting* i.e. their immediate landscape context and the environment within which they are seen and experienced, and their *views* i.e. designed or fortuitous vistas experienced by the visitor when at the heritage asset itself, or those that include the heritage asset. This corresponds to the experience of its wider landscape setting.

Where the impact of a proposed development is largely indirect, *setting* is the primary consideration of any HIA. It is a somewhat nebulous and subjective assessment of what does, should, could or did constitute the lived experience of a monument or structure. The following extracts are from the Historic England publication *The Setting of Heritage Assets* (2015, 2 & 4):

The NPPF makes it clear that the setting of a heritage asset is the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve.

Setting is not a heritage asset, nor a heritage designation. Its importance lies in what it contributes to the significance of the heritage asset. This depends on a wide range of physical elements within, as well as perceptual and associational attributes, pertaining to the heritage asset's surroundings.

While setting can be mapped in the context of an individual application or proposal, it does not have a fixed boundary and cannot be definitively and permanently described for all time as a spatially bounded area or as lying within a set distance of a heritage asset because what comprises a heritage asset's setting may change as the asset and its surroundings evolve or as the asset becomes better understood or due to the varying impacts of different proposals.

The HIA below sets out to determine the magnitude of the effect and the sensitivity of the heritage asset to that effect. The fundamental issue is that proximity and visual and/or aural relationships may affect the experience of a

heritage asset, but if setting is tangential to the significance of that monument or structure, then the impact assessment will reflect this. This is explored in more detail below.

Landscape Context

The determination of *landscape context* is an important part of the assessment process. This is the physical space within which any given heritage asset is perceived and experienced. The experience of this physical space is related to the scale of the landform, and modified by cultural and biological factors like field boundaries, settlements, trees and woodland. Together, these determine the character and extent of the setting.

Landscape context is based on topography, and can vary in scale from the very small – e.g. a narrow valley where views and vistas are restricted – to the very large – e.g. wide valleys or extensive upland moors with 360° views. Where very large landforms are concerned, a distinction can be drawn between the immediate context of an asset (this can be limited to a few hundred metres or less, where cultural and biological factors impede visibility and/or experience), and the wider context (i.e. the wider landscape within which the asset sits).

When new developments are introduced into a landscape, proximity alone is not a guide to magnitude of effect. Dependant on the nature and sensitivity of the heritage asset, the magnitude of effect is potentially much greater where the proposed development is to be located within the landscape context of a given heritage asset. Likewise, where the proposed development would be located outside the landscape context of a given heritage asset, the magnitude of effect would usually be lower. Each case is judged on its individual merits, and in some instances the significance of an asset is actually greater outside of its immediate landscape context, for example, where church towers function as landmarks in the wider landscape.

Views

Historic and significant views are the associated and complementary element to setting, but can be considered separately as developments may appear in a designed view without necessarily falling within the setting of a heritage asset *per se*. As such, significant views fall within the aesthetic value of a heritage asset, and may be *designed* (i.e. deliberately conceived and arranged, such as within parkland or an urban environment) or *fortuitous* (i.e. the graduated development of a landscape 'naturally' brings forth something considered aesthetically pleasing, or at least impressive, as with particular rural landscapes or seascapes), or a combination of both (i.e. the *patina of age*, see below). The following extract is from the English Heritage publication *Seeing History in the View* (2011, 3):

Views play an important part in shaping our appreciation and understanding of England's historic environment, whether in towns or cities or in the countryside. Some of those views were deliberately designed to be seen as a unity. Much more commonly, a significant view is a historical composite, the cumulative result of a long process of development.

The Setting of Heritage Assets (2015, 3) lists a number of instances where views contribute to the particular significance of a heritage asset:

- Views where relationships between the asset and other historic assets or places or natural features are particularly relevant;
- Views with historical associations, including viewing points and the topography of battlefields;
- Views where the composition within the view was a fundamental aspect of the design or function of the heritage asset;
- Views between heritage assets and natural or topographic features, or phenomena such as solar and lunar events;
- Views between heritage assets which were intended to be seen from one another for aesthetic, functional, ceremonial or religious reasons, such as military or defensive sites, telegraphs or beacons, Prehistoric funerary and ceremonial sites.

On a landscape scale, views, taken in the broadest sense, are possible from anywhere to anything, and each may be accorded an aesthetic value according to subjective taste. Given that terrain, the biological and built environment, and public access restrict our theoretical ability to see anything from anywhere, in this assessment the term *principal view* is employed to denote both the deliberate views created within designed landscapes, and those fortuitous views that may be considered of aesthetic value and worth preserving. It should be noted, however, that there are distance thresholds beyond which perception and recognition fail, and this is directly related to the scale, height, massing and nature of the heritage asset in question. For instance, beyond 2km the Grade II cottage comprises a single indistinct component within the wider historic landscape, whereas at 5km or even 10km a large stately home or castle may still

be recognisable. By extension, where assets cannot be seen or recognised i.e. entirely concealed within woodland, or too distant to be distinguished, then visual harm to setting is moot. To reflect this emphasis on recognition, the term *landmark asset* is employed to denote those sites where the structure (e.g. church tower), remains (e.g. earthwork ramparts) or – in some instances – the physical character of the immediate landscape (e.g. a distinctive landform like a tall domed hill) make them visible on a landscape scale. In some cases, these landmark assets may exert landscape *primacy*, where they are the tallest or most obvious man-made structure within line-of-sight. However, this is not always the case, typically where there are numerous similar monuments (multiple engine houses in mining areas, for instance) or where modern developments have overtaken the heritage asset in height and/or massing.

Yet visibility alone is not a clear guide to visual impact. People perceive size, shape and distance using many cues, so context is critically important. For instance, research on electricity pylons (Hull & Bishop 1988) has indicated scenic impact is influenced by landscape complexity: the visual impact of pylons is less pronounced within complex scenes, especially at longer distances, presumably because they are less of a focal point and the attention of the observer is diverted. There are many qualifiers that serve to increase or decrease the visual impact of a proposed development (see Table 2), some of which are seasonal or weather-related.

Thus the principal consideration of assessment of indirect effects cannot be visual impact *per se*. It is an assessment of the likely magnitude of effect, the importance of setting to the significance of the heritage asset, and the sensitivity of that setting to the visual or aural intrusion of the proposed development. The schema used to guide assessments is shown in Table 2 (below).

Type and Scale of Impact

The effect of a proposed development on a heritage asset can be direct (i.e. the designated structure itself is being modified or demolished, the archaeological monument will be built over), or indirect (e.g. a housing estate built in the fields next to a Listed farmhouse, and wind turbine erected near a hillfort etc.); in the latter instance the principal effect is on the setting of the heritage asset. A distinction can be made between construction and operational phase effects. Individual developments can affect multiple heritage assets (aggregate impact), and contribute to overall change within the historic environment (cumulative impact).

Construction phase: construction works have direct, physical effects on the buried archaeology of a site, and a pronounced but indirect effect on neighbouring properties. Direct effects may extend beyond the nominal footprint of a site e.g. where related works or site compounds are located off-site. Indirect effects are both visual and aural, and may also affect air quality, water flow and traffic in the local area.

Operational phase: the operational phase of a development is either temporary (e.g. wind turbine or mobile phone mast) or effectively permanent (housing development or road scheme). The effects at this stage are largely indirect, and can be partly mitigated over time through provision of screening. Large development would have an effect on historic landscape character, as they transform areas from one character type (e.g. agricultural farmland) into another (e.g. suburban).

Cumulative Impact: a single development will have a physical and a visual impact, but a second and a third site in the same area will have a synergistic and cumulative impact above and beyond that of a single site. The cumulative impact of a proposed development is particularly difficult to estimate, given the assessment must take into consideration operational, consented and proposals in planning.

Aggregate Impact: a single development will usually affect multiple individual heritage assets. In this assessment, the term aggregate impact is used to distinguish this from cumulative impact. In essence, this is the impact on the designated parts of the historic environment as a whole.

Scale of Impact

The effect of development and associated infrastructure on the historic environment can include positive as well as negative outcomes. However, all development changes the character of a local environment, and alters the character of a building, or the setting within which it is experienced. change is invariably viewed as negative, particularly within respect to larger developments; thus while there can be beneficial outcomes (e.g. positive/moderate), there is a presumption here that, as large and inescapably modern intrusive visual actors in the historic landscape, the impact of a development will almost always be **neutral** (i.e. no impact) or **negative** i.e. it will have a **detrimental impact** on the setting of ancient monuments and protected historic buildings.

This assessment incorporates the systematic approach outlined in the ICOMOS and DoT guidance (see Tables 6-8), used to complement and support the more narrative but subjective approach advocated by Historic England (see Table 5). This provides a useful balance between rigid logic and nebulous subjectivity (e.g. the significance of effect on a Grade II Listed building can never be greater than moderate/large; an impact of negative/substantial is almost never achieved). This is in adherence with GPA3 (2015, 7).

TABLE 7: MAGNITUDE OF IMPACT (BASED ON DMRB VOL.11 TABLES 5.3, 6.3 AND 7.3).

Factors in the Assessment of Magnitude of Impact – Buildings and Archaeology	
Major	Change to key historic building elements, such that the resource is totally altered; Change to most or all key archaeological materials, so that the resource is totally altered; Comprehensive changes to the setting.
Moderate	Change to many key historic building elements, the resource is significantly modified; Changes to many key archaeological materials, so that the resource is clearly modified; Changes to the setting of an historic building or asset, such that it is significantly modified.
Minor	Change to key historic building elements, such that the asset is slightly different; Changes to key archaeological materials, such that the asset is slightly altered; Change to setting of an historic building, such that it is noticeably changed.
Negligible	Slight changes to elements of a heritage asset or setting that hardly affects it.
No Change	No change to fabric or setting.
Factors in the Assessment of Magnitude of Impact – Historic Landscapes	
Major	Change to most or all key historic landscape elements, parcels or components; extreme visual effects; gross change of noise or change to sound quality; fundamental changes to use or access; resulting in total change to historic landscape character unit.
Moderate	Changes to many key historic landscape elements or components, visual change to many key aspects of the historic landscape, noticeable differences in noise quality, considerable changes to use or access; resulting in moderate changes to historic landscape character.
Minor	Changes to few key historic landscape elements, or components, slight visual changes to few key aspects of historic landscape, limited changes to noise levels or sound quality; slight changes to use or access: resulting in minor changes to historic landscape character.
Negligible	Very minor changes to key historic landscape elements, parcels or components, virtually unchanged visual effects, very slight changes in noise levels or sound quality; very slight changes to use or access; resulting in a very small change to historic landscape character.
No Change	No change to elements, parcels or components; no visual or audible changes; no changes arising from in amenity or community factors.

TABLE 8: SIGNIFICANCE OF EFFECTS MATRIX (BASED ON DRMB VOL.11 TABLES 5.4, 6.4 AND 7.4; ICOMOS 2011, 9-10).

Value of Assets	Magnitude of Impact (positive or negative)				
	No Change	Negligible	Minor	Moderate	Major
Very High	Neutral	Slight	Moderate/Large	Large/Very Large	Very Large
High	Neutral	Slight	Moderate/Slight	Moderate/Large	Large/Very Large
Medium	Neutral	Neutral/Slight	Slight	Moderate	Moderate/Large
Low	Neutral	Neutral/Slight	Neutral/Slight	Slight	Slight/Moderate
Negligible	Neutral	Neutral	Neutral/Slight	Neutral/Slight	Slight

TABLE 9: SCALE OF IMPACT.

Scale of Impact	
Neutral	No impact on the heritage asset.
Negligible	Where the developments may be visible or audible, but would not affect the heritage asset or its setting, due to the nature of the asset, distance, topography, or local blocking.
Negative/minor	Where the development would have an effect on the heritage asset or its setting, but that effect is restricted due to the nature of the asset, distance, or screening from other buildings or vegetation.
Negative/moderate	Where the development would have a pronounced impact on the heritage asset or its setting, due to the sensitivity of the asset and/or proximity. The effect may be ameliorated by screening or mitigation.
Negative/substantial	Where the development would have a severe and unavoidable effect on the heritage asset or its setting, due to the particular sensitivity of the asset and/or close physical proximity. Screening or mitigation could not ameliorate the effect of the development in these instances.

TABLE 10: IMPORTANCE OF SETTING TO INTRINSIC SIGNIFICANCE.

Importance of Setting to the Significance of the Asset	
Paramount	Examples: Round barrow; follies, eyecatchers, stone circles
Integral	Examples: Hillfort; country houses
Important	Examples: Prominent church towers; war memorials
Incidental	Examples: Thatched cottages
Irrelevant	Examples: Milestones

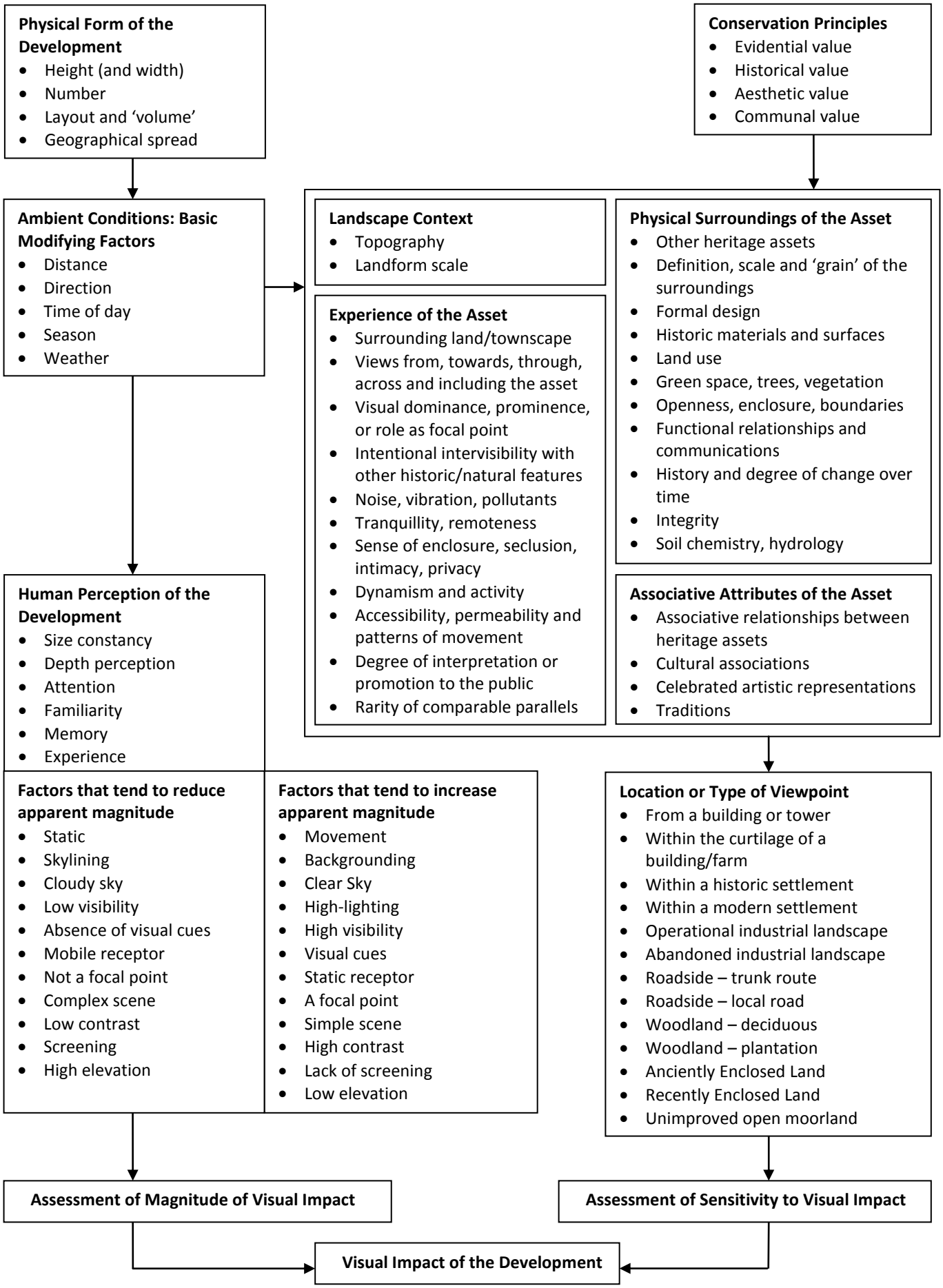


TABLE 11: THE CONCEPTUAL MODEL FOR VISUAL IMPACT ASSESSMENT PROPOSED BY THE UNIVERSITY OF NEWCASTLE (2002, 63), MODIFIED TO INCLUDE ELEMENTS OF *ASSESSMENT STEP 2* FROM THE SETTING OF HERITAGE ASSETS (HISTORIC ENGLAND 2015, 9).

APPENDIX 3: SUPPORTING PHOTOGRAPHS - WALKOVER

VIEW OF THE REAR OF THE STABLED AND THE NORTH-WESTERN BOUNDARY OF FIELD 2; TAKEN FACING NORTH-EAST.

VIEW ALONG THE FRONT OF THE STABLES AND ALONG THE NORTH-WESTERN BOUNDARY OF FIELD 2; TAKEN FACING NORTH-EAST.

VIEW OF THE ACCESS TRACK TO SITE AND THE REST OF FIELD 2, INCLUDING BURNT AREA; TAKEN FACING EAST.

VIEW ALONG THE FENCE WITHIN FIELD 1 TOWARDS CHYVOUNDER FARM; TAKEN FACING SOUTH-WEST.

VIEW ALONG THE NORTH-EASTERN BOUNDARY OF FIELD 1; TAKEN FACING NORTH-WEST.

VIEW OF THE CHURCH FROM THE ROAD PARALLEL TO FIELD 1; VIEWED FROM THE NORTH.

VIEW OF THE CHURCH FROM THE FRONT; TAKEN FACING EAST.

VIEW TOWARDS THE SITE FROM THE CHURCH, HOUSE IN THE PHOTO IS CHYVOUNDER FARM; TAKEN FACING NORTH.

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