



## **Lower Bogee Common, St. Ervan, Cornwall**

### **Archaeological assessment of proposed agricultural barn**



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| <b>Client</b>        | <b>Norman Treseder for Matthews Plant</b> |
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The viewshed mapping was carried out by Krystyna Truscoe and Francis Shepherd, whilst the geophysical survey was carried out by Archaeophysica Ltd.

The views and recommendations expressed in this report are those of Historic Environment Projects and are presented in good faith on the basis of professional judgement and on information currently available.

## **Freedom of Information Act**

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## **Cover illustration**

*Looking west across the site proposed for the barn towards Bears Downs*

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## **Abbreviations**

|     |  |
|-----|--|
| HER | Cornwall and the Isles of Scilly Historic Environment Record |
| HE  | Historic Environment, Cornwall Council                       |
| NGR | National Grid Reference                                      |
| OS  | Ordnance Survey  |

## **1 Summary**

Historic Environment Projects was contacted in early December 2012 by Norman Treseder on behalf of Matthews Plant with a request for the costs of a watching brief during groundworks for a new agricultural building at Lower Bogee Common, St. Ervan. Following comments for the Historic Environment Planning Advice Officer (Mr. Phil Copleston) and by English Heritage (Mr. Nick Russell), Mr. Treseder contacted Historic Environment Projects on the 10 January 2013 with a variation on the original request, for a geophysical survey of the site proposed for the barn. On 11 January 2013 Mr. Treseder requested costs for an assessment of the proposal. The relevant planning application number is PA12/10914.

Geophysical survey of the area surrounding the location proposed for the barn was commissioned from Archaeophysica Ltd.

The site chosen for the barn is on the former Lower Bogee Common: a former area of elevated downland which formed part of the very extensive St. Breock Downs, but which is now enclosed to agriculture. During the Bronze Age, this downland became the site for a large number of highly visible barrows, many of these being intervisible with one another, some being clustered into discrete groups.

From the mid 18<sup>th</sup> century, the Downs were increasingly subjected to a process of enclosure for agriculture, a process which continued through the 19<sup>th</sup> century and into the early years of the 20<sup>th</sup> century, and these barrow groups became incorporated into the newly-created fieldscape on the former downs. Many have been Scheduled.

Although still a prominent and lightly-settled upland area, modern developments have not been absent within this landscape, as there is a large and very prominent wind farm on Bears' Downs 1.25Km to the south west of the proposed barn site, and a wind turbine has recently (2012) been erected at Higher Trevibban Farm just to the east of the proposed development site.

Although the agricultural barn wind proposed for Lower Bogee Common will be the first visually prominent 'modern' feature to be erected on this particular area of former downland, and will have impacts on the settings of designated heritage assets within the surrounding landscape, the existence of the nearby Lower Trevibban farm complex to the east and the Bears' Downs wind farm to the west will inevitably somewhat reduce the scale of the impacts resulting from its construction.

Within the survey area, no archaeological features other than one partly ploughed down Scheduled barrow were found during the walkover survey, whilst a magnetometer survey of the site proposed for the barn revealed no archaeological features. Setting impacts on designated sites which would result from the construction of the barn are limited to two nearby Scheduled barrows.

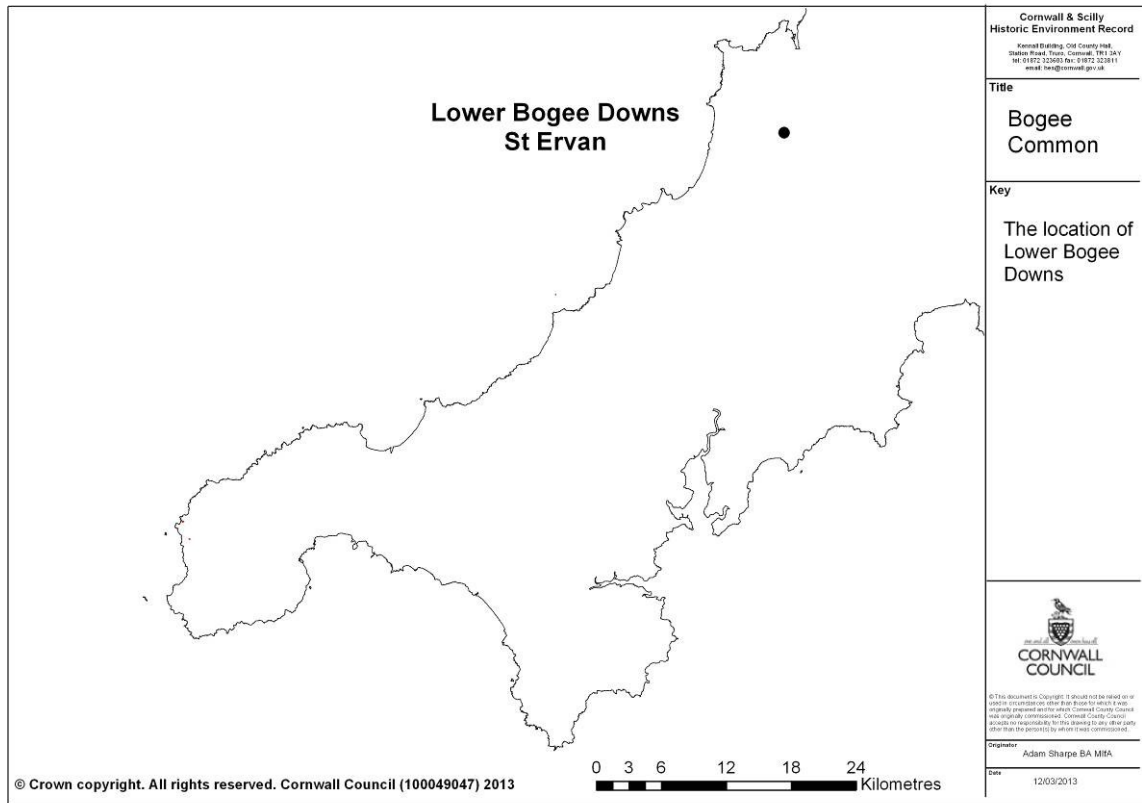


Fig 1. The location of Lower Bogee Common, St. Ervan.

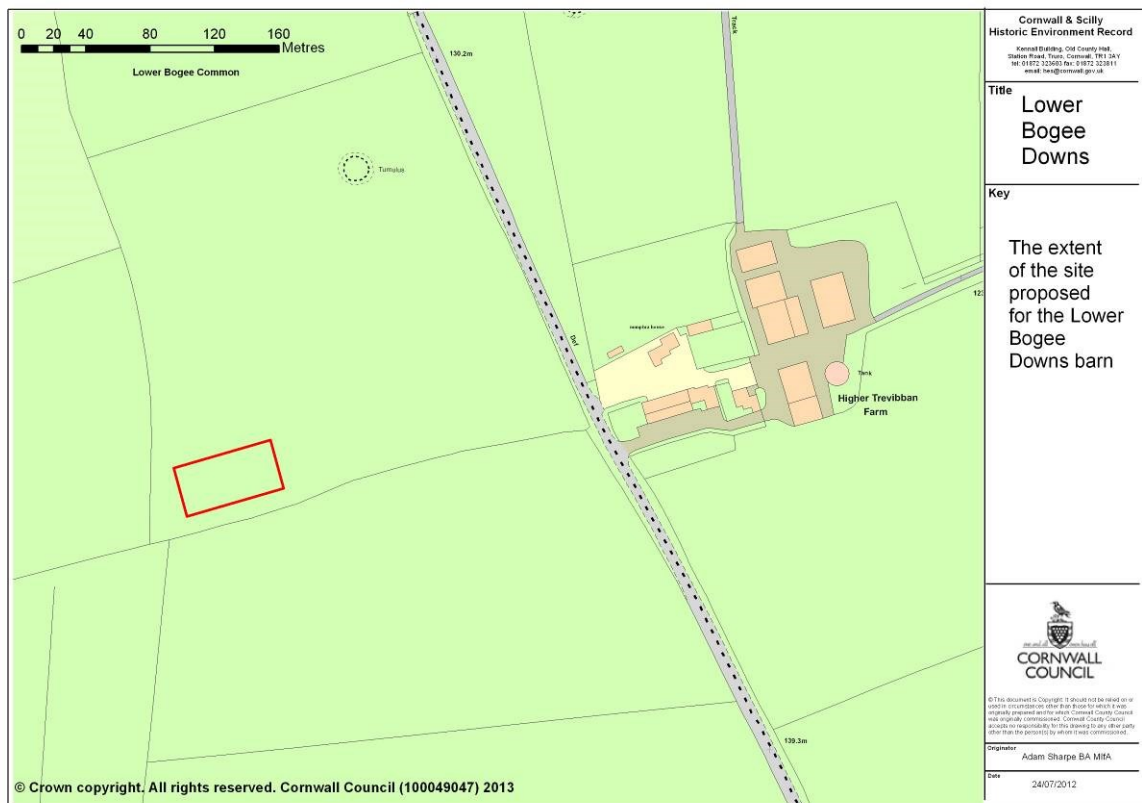


Fig 2. The location proposed for the Lower Bogee Common agricultural barn.

## 2 Introduction

### 2.1 Project background

Planning application PA12/10914 was submitted on the 19<sup>th</sup> November 2012 and was for the construction of a large agricultural barn at SW 90967 68267 at a height of 131m OD (Figs 1 and 2). The proposed barn was to measure 9.3m to its ridge height.

This application was refused on 4<sup>th</sup> February 2013 on the grounds that no archaeological assessment of its potential impacts on the historic environment had been undertaken.

HE Projects Cornwall Council was commissioned to undertake an archaeological assessment on 7<sup>th</sup> February 2013. Geophysical survey of the area proposed for the proposed agricultural barn was commissioned from Archaeophysica Ltd. A walkover survey was undertaken on 20<sup>th</sup> March 2013.

### 2.2 Aims and objectives

The principal aim of the study is to gain a better understanding of the impacts which would result from the construction of an agricultural barn on land in the southern part of the parish of St. Ervan, Cornwall, which is farmed from Higher Trevibban immediately to the east.

The overall project aims are to:

- Draw together historical and archaeological information about the development site and its surroundings, including relevant information held within the Cornwall Historic Environment Record.
- Review and analyse historic map evidence for the site.
- Follow the approach outlined in Section 3 of the English Heritage guidance on setting.

The site specific project aims are to:

- Undertake an archaeological magnetometer survey.
- Produce a report containing the geophysical data and the data in interpreted form.
- Inform whether an archaeological evaluation or further archaeological recording of any potential buried remains or other mitigation is recommended.

The objective of the project is to produce a report setting out the likely range of impacts (both direct and on settings) of the development on heritage assets within the site or the surrounding locality, as defined above.

### 2.3 Methods

#### 2.3.1 Desk-based assessment

As part of the desk-based assessment (DBA), historical databases and archives were consulted in order to obtain information about the history of the site and its surroundings, and the structures and features recorded within the site boundaries. The main sources consulted were as follows:

- Published sources available in the Cornwall and Scilly HER
- Historic maps including:
  - Joel Gascoyne's map of Cornwall (1699)
  - Norden's Map of Cornwall (1728)

- Thomas Martyn's map of Cornwall (1748)
- OS 1 inch survey (*circa* 1810)
- St. Ervan Tithe Map (*circa* 1840)
- 1<sup>st</sup> and 2<sup>nd</sup> Editions of the OS 25 inch maps (*circa* 1880 and *circa* 1907)
- Modern maps
- National Mapping Programme transcripts from aerial photographs
- Other aerial photographs in the Cornwall and Scilly HER
- Historic Landscape Characterisation mapping
- Cornwall and Scilly Historic Buildings, Sites and Monuments Record (HBSMR)
- Information held as GIS themes on the Cornwall and Scilly HER

The historical and landscape context of the site was also considered during this stage of the assessment in order to establish the nature of the heritage assets which are located within the area surrounding the proposed barn.

### **2.3.2 Viewshed analysis**

An assessment of the impacts of the proposals was made from the surrounding area using the guidelines and methodological approaches set out in English Heritage's recent consultation draft guidance on the setting of heritage assets. This was based on GIS-based viewshed mapping produced using a model of theoretical inter-visibility between the wind turbines proposed for the site and significant heritage assets within the surrounding landscape; the viewshed (ZTV or Zone of Theoretical Visibility) was generated using ArcGIS software. The methodology employs a Digital Surface Model (DSM), which takes account of surface features such as buildings, woodland, vegetation, roads etc, and provides a more accurate representation when compared to a 'bare earth' or DTM elevation model. A viewshed was generated for a single 'observer point' based on the centre point of the proposed barn.

When performing a viewshed analysis, several variables are used to limit or adjust the calculation including offset values, limitations on horizontal and vertical viewing angles (azimuth) and distance parameters (radius) for each observer point. For the proposed barn at Lower Bogee Common, the viewshed was based on an 'overall observer elevation value' made up of the 'elevation value' or height above sea level of the ground at the observer viewpoint, with added to this an additional offset of 9.3m to represent the height of the ridgeline of the proposed barn. This viewshed was checked on the ground, given that vegetation and other factors may block views to key sites, whilst significant heritage assets within the theoretical viewshed were visited (where access was possible) to determine intervisibility with the proposed development site, and hence the scale and type of any visual impacts which may affect their settings, as required by English Heritage (2011). A viewshed radius of 5Km was used to determine potential impacts on designated heritage assets and a radius of 1Km for undesignated heritage assets (see Figs 15 to 20).

### **2.3.3 Fieldwork**

In order to check the validity of the Zone of Theoretical Visibility (ZTV) indicated by the viewshed analysis, and thus the potential impacts on key heritage assets within the ZTV, site visits were made to both the site proposed for the barn, and to key locations within the surrounding landscape. A visual check and photographic record were made of intervisibility (or the lack of it) between the proposed development site and heritage assets indicated by the ZTV mapping as being likely to be within the viewshed. A walkover survey of the site proposed for the barn and its access track was also undertaken to examine the site for upstanding archaeology and to record the nature of any boundary types which might be impacted upon during the development.

#### **2.3.4 Fieldwork – geophysical survey**

A geophysical survey of the area of the field proposed for the barn (covering its full extent) and the access route linking it to the main road to the east was commissioned from Archaeophysica Ltd., an area of 0.1Ha. The fieldwork was undertaken in March 2013. Parts of the area proposed for the barn proved unsurveyable due to an exceptionally muddy area around a galvanised steel cattle feeder.

Geometrics MagMapper G858 caesium vapour magnetometers were used for the survey, using a high performance sledge mounted acquisition system. The four sensors were sited approximately 0.3m above the ground surface to maximise sensitivity while decreasing the strengths of anomalies from surface, whilst a line separation of 0.5m was used. The along line interval was approximately 0.25m following English Heritage guidance. As the ground conditions were suitable the instruments were deployed as an array mounted on a specially constructed nonmagnetic high performance sledge towed by a quad bike, offering a faster rate of coverage, less contact with the ground and a stable measurement platform. The sled-based approach avoids the need for extensive grid set out because real time tracking is provided by GNSS receiver mounted on the sledge. Coverage can be guided by real time track plotting visible to the driver who also monitors instrument data, positioning quality and survey resolution through continuous display on a ruggedized laptop mounted on the quad.

The field data was subjected to normal potential field processing techniques including reduction of the background regional field and splitting of the resultant residual field into different depth models through analysis in the frequency domain, yielding a shallow data set modelling anomalies likely to originate within the upper 3m of ground and also a pseudo-gradient data set which models the response of a 1m vertical gradiometer.

The data was presented as a series of greyscale images overlaid onto map data georeferenced to the Ordnance Survey grid. A separate catalogue map graphically highlights the most significant anomalies regardless of their origin and also provides a numerical key to a detailed anomaly catalogue included within the Archaeophysica report (see Fig 21 in this report). Significant aspects of the results were discussed, and were accompanied by a detailed methodological description, and justification and analysis of the geophysical environment and its impact upon or presence within the data.

The geophysics report has been made available to Historic Environment Projects, Cornwall Council, and its findings have been incorporated into the HEP assessment report and form the basis of recommendations for any further investigative work on site.

#### **2.3.5 Post-fieldwork**

On completion of the project and following review with the HE Project Manager the results of the study were collated as an archive in accordance with: *Management of Research Projects in the Historic Environment (MoRPHE) English Heritage 2006*. The site archive will initially be stored at ReStore, with the eventual aim of deposition at Cornwall Record Office.

An archive report (this report) has been produced and supplied to the Client. This report will be lodged with the Cornwall and Scilly Historic Environment Record (HER) and made available for public consultation once a planning application for the site has been made. A copy of the report will be supplied to the National Monuments Record (NMR) in Swindon, to the Courtney Library of the Royal Cornwall Museum and to the Cornish Studies Library. All digital records will be filed on the Cornwall Council network.

An English Heritage/ADS online access to the index of archaeological investigations (OASIS) record has been made covering this assessment project.

### **3 Location and setting**

The site proposed for the agricultural barn is at SW 90962 68265 on land 329m to the west of Higher Trevibban Farm, at 130m OD on a north-facing slope on Lower Bogee Common, which was formerly at the western end of the larger St. Breock Downs (Figs 2 and 13).

The development area is characterised in the Cornwall and Scilly Historic Environment Record (HER) as 'Recently Enclosed Land (land enclosed during the 20<sup>th</sup> century), part of the former very extensive St. Breock Downs (Fig 11).

The field selected for the construction of the proposed barn contains one element of a Scheduled extant Bronze Age barrow group (National Monument Number 1021162, see Fig 15), whilst the surrounding area sites a large group of prehistoric and medieval monuments. Within a 2Km radius of the proposed barn are the sites of approximately thirty-six Bronze Age barrows, most of which are also Scheduled Monuments. There are also two Scheduled late prehistoric defended farmsteads (rounds) within the locality (Fig 12). There are few intervisible Listed Buildings within a 3Km radius of the proposed development site (Fig 18).

The parent bedrock underlying the application site is recorded as sandstones, siltstones and mudstones of the Staddon Formation, part of the Early Devonian Meadfoot Group (BGS data). The soils in the field proposed for the development are recorded as Hafren peaty loams over shale, these typically having a wet peaty surface horizon and a bleached subsurface horizon, a thin iron pan often being present.

### **4 Project extent**

The archaeological assessment was focussed on those heritage assets (whether designated or not) which might be physically impacted upon through activities associated with the erection of the barn, including its access track, the siting of temporary compounds, cranes or other equipment and with any associated semi-permanent infrastructure.

The assessment takes into account and quantifies impacts on the settings of heritage assets (both designated and undesignated) within the viewshed of the proposed barn site in line with National Planning Policy Framework 2012 Section 12, and English Heritage guidance relating to the setting of historic assets (2011), namely:

- Non-designated heritage assets – 1 km radius
- Grade II Listed Buildings and Conservation Areas – 2km radius
- Scheduled Monuments, Grade I and II\* Listed Buildings – 5km radius
- Registered Parks and Gardens – 5Km radius
- Historic Battlefields – 5Km radius.

### **5 Designations**

#### **5.1 National**

The field proposed for the development contains a Scheduled Bronze Age barrow (1021162), one element in a group of four designated barrows, the remainder of which are sited in the fields immediately to the east of the application site. A further group of nine Scheduled barrows lie just to the south (1021122), another group of four Scheduled barrows (1021008) are to the south west, a further group of seven barrows are on Denzell Downs to the south west again (1021007), whilst the Scheduled Longstone or Eddystone (1021159) is not far to the north.



There are no Listed Buildings within the immediate environs of the application site, though as noted in the brief, 24 buildings Listed at Grade II are within the 3Km radius of this site. Trelow Downs 400m to the east of the application site are designated as a Site of Special Scientific Interest (SSSI). There are no Registered Parks and Gardens or Registered Battlefields within the immediate environs of the site, though the RPG at Prideaux Place is 7.25Km to the north.

## 5.2 Regional/county

No regional or county designations apply to the field proposed for the development. The Conservation Areas at Little Petherick, St. Mawgan, St. Columb Major and St. Breock are 3.5Km to the north north east, 4.75Km to the south west, 5Km to the south and 7.25Km to the north east respectively. Trelow Downs 400m to the east of the application site is an Area of Great Historic Value (AGHV). The Cornwall and Scilly Historic Environment Record lists extensive prehistoric field systems 500m to the south west and south east of the application site, together with many Medieval and later monuments.

## 5.3 Local

No local designations apply to the field proposed for the development.

## 5.4 Rights of Way

No rights of way traverse the site proposed for the barn, nor the remainder of the field through which the access track will run. This area is not registered as open access land under the CROW Act 2005.

# 6 Results of desk-based assessment

St Breock Downs was formerly a large area of open upland stretching from St. Columb in the west to the valley of the River Camel in the east, the churchtowns and enclosed land of Withel and St. Wenn lying to its south. Lower Bogee Downs and the nearby Bears' Downs formed part of its north western flank.

During prehistory the archaeological evidence suggests that this formerly very extensive area of downland was not permanently settled, and would have been used as upland grazing by the farmers whose settlements lay on the fringes of this area, probably predominantly during the summer. In common with other upland areas in Cornwall, the Downs were also the focus for important ceremonial activity, as is demonstrated by the very extensive Bronze Age barrow cemeteries which top the high ground at Bears' Downs, Trelow Downs and Rosenannon Downs, and by the presence of three standing stones, one of Cornwall's small number of stone rows (the Nine Maidens) dating to same period, and the Neolithic Pawton Quoit (labelled on Martyn's map as '*An Altar of Ye Druids*'). St. Breock Downs were, therefore, of far more than marginal importance to those who lived around them, and the often prominent barrows sited on them (like the earlier Pawton Quoit) were as much territorial markers and shrines associated with local kin groups as places of burial. Whilst many of these barrows survive to this day (and are Scheduled Monuments), it is likely that the locations of others have been lost to agriculture. Unless deep or repeated ploughing has taken place, however, significant archaeological evidence for these lost barrows may survive. Four examples (1021162) close to the location of the proposed barn are recorded in the Cornwall and Scilly Historic Environment Record (HER). In the later Iron Age/Romano-British, an enclosed farmstead (Bogee Round) was constructed on the lower slopes of Bogee Common just to the north (1021221) (Fig 12).

St. Breock Downs remained as open land into the historic period, the rough grassland which they supported continuing to provide an important agricultural resource for farming families living in the surrounding landscape, providing summer grazing, as well

as a place where 'furze' (gorse) could be gathered for fuel, as well as 'ferns' (bracken) or rushes for animal bedding. Settlements were established off the high ground during the pre-Conquest period, these having names incorporating elements in Cornish such as 'Tre', 'Pol' or 'Pen', though a few farms were created on the fringes of the Downs – these being characterised by names beginning with the prefix 'Ros', meaning heath or downs.

The analysis of historic aerial photographs undertaken as part of the English Heritage National Mapping Programme (Fig 14) shows that, during the medieval period, parts of the Downs were also occasionally cultivated during times of high land pressure in the lowlands, most probably during the period preceding the Black Death. At several locations not far distant from Lower Bogee Downs there is often extensive evidence for medieval outfields. These strip fields would have been used for only short periods, perhaps once a generation, exploiting what little natural fertility had built up in the shallow soils of the downs in the interim. The nearby farm of Trevibban (of which Higher Trevibban is a 19<sup>th</sup> century offshoot) was first recorded in 1208 (as *Treveban*) and occupied a valley-head location at the edge of the Downs.

The first mapping depicting St. Breock Downs dates to the 17<sup>th</sup> century, when Joel Gascoyne produced his map of Cornwall. Gascoyne labelled this area 'St. Breigh Downs' (Fig 3), showing the area as being characterised by a series of elevated hills, traversed by the roadway from Bodmin to Padstow (the route now known as 'The Saints' Way') which crosses the River Camel at 'Rothrwn Bridge' (Ruthernbridge); another prominent track (now a road) crossing the Downs ran from St. Columb Major to Padstow. No settlements were depicted on St. Breock Downs at this date, and it would have been a large area of open upland grazing land, much as it had been through prehistory and the medieval period – a significant resource for local farmers.

Norden's map published in 1728 but dating from *circa* 1600 (Fig 4) also depicted St. Breock Downs as a chain of rugged hills sited 'The 9 Stones' and bereft of settlements or farms, whilst Martyn's map of 1748 (Fig 5) again showed the Downs ('St. Breock Beacon') as lacking any farms, though traversed by a plethora of routeways linking settlements to their north and south, these also providing the tracks along which animals were seasonally moved to summer pastures.

The 1<sup>st</sup> Edition of the Ordnance Survey 1" to a mile mapping (Fig 6), dating to the first decade of the 19<sup>th</sup> century, continued to show the southern part of Bogee Common as largely unenclosed. There are, however, indications on this mapping that the process of downland enclosure had begun by this date, blocks of enclosed land being shown on the lower slopes of the Downs, with examples of what were probably relatively recently established small upland farms including Longstone, Music Water, Cuckold's Peepout and Mount Misery just to the west of the proposed barn. The enclosure of parts of the Downs may reflect the increased demand for food created by the growth of Cornwall's towns and the development of a rapidly increasing industrial workforce at the time, but may also to a degree reflect the effects of naval blockades during the Napoleonic wars.

The *circa* 1840 St. Ervan Tithe Map (Fig 7) shows this process in progress with the development of new farms set within blocks of straight-sided fields, these often having grid-like layouts. Many of these fields were described within the Tithe Assessment as 'Coarse Pasture/Arable' or 'occasionally arable' indicating that the process of improvement was at a relatively early stage, the majority probably still being in coarse, unimproved pasture. A small farmstead had been established at nearby Higher Trevibban by this date. Lower Bogee Downs (plot 746) was recorded extending to 29 acres and 31 perches. Its condition/use was not recorded. It was owned by John Paynter Esq. and occupied by the lessees of Bogee.

By the late 19<sup>th</sup> century (Fig 8) it can be seen from the 1<sup>st</sup> Edition Ordnance Survey 25" to a mile mapping that the process of downland enclosure had taken place on a massive scale, almost all of the former uplands having been parcelled up. Nevertheless, many of the enclosures were still depicted as being croft, rough grassland or even

heathland, and it is evident from this mapping that the improvement process was, at the time, still ongoing. The farmstead appears to have expanded slightly by this date.

This process of gradual improvement continued during the following decades. By 1908 (Fig 9) the area surrounding the application site remained depicted by the Ordnance Survey as rough ground, though some nearby blocks of fields seem to have been fully improved. This probably reflects variations in the quality, stoniness, moisture content and depth of soils, local topography and exposure together with the resources available to tenant farmers and the degree of encouragement to improve imposed on tenants by their landlords. Some land might have remained very marginal, and simply not worth improvement to arable use, and would have remained as rough grazing, despite having been enclosed. By 1908, the land at Lower Bogee Downs remained depicted as rough grassland and heathland.

Today, as can be seen on Cornwall Council aerial photographs dating to 2005 (Fig 10) or on recent Google Earth mapping, the downland character of this part of Bogee Common has effectively disappeared completely and the landscape is now almost entirely agricultural in character, although the higher ground of Trelow Downs just to the east retains its earlier upland appearance.

The processes underlying the landscape history of Bogee Common are reflected in its Historic Landscape Characterisation (Fig 11) as Recently Enclosed Land (REL), both post-medieval and 20<sup>th</sup> century in date.

## **7 Results of site walkover**

A site walkover and inspection was made on 20 March 2013. The weather was generally and clear, and visibility was good. The field containing the site proposed for the barn and the westernmost of the three members of the scheduled barrow group (1021162) was in short grazed, somewhat waterlogged pasture. There were no impediments to survey.

Given the relatively low and largely unvegetated modern enclosure boundaries defining these large fields and wire fences dividing some of them, the open character this part of the former Bogee Common is largely intact (Fig 22). Almost all views were therefore open and extensive, particularly to the north and west. Higher Trevibban, just to the east of these fields, is made up of large, modern farm buildings and industrial/workspace units. The Bears Down wind farm is a short distance away to the south and south-west and dominates views in this direction.

The surrounding landscape is notably open in character, being for the most part divided up into large enclosures, though Trelow Downs to the east retains its original upland rough grassland character and constrains views to the east. Views to the south west are closed by Bears Downs less than a kilometre away. To the north and west the views are open and far ranging, extending down to the coast around Padstow, whilst to the north-east, views of the northern parts of Bodmin Moor are available.

With the exception of the Scheduled barrow 170m to the north east, no archaeological earthworks were found within the vicinity of the site proposed for the barn, nor within its access route.

## **8 Summary results of geophysical survey**

See Figure 21.

The area proposed for the construction of the barn and for its access track from the east were surveyed by Archaeophysica Ltd in early March 2013, the results being supplied to HE Projects on 19 March 2013.

The results revealed no significant anomalies which are likely to be archaeological features within the area of the footprint of the proposed barn. It should be noted that due to waterlogged soil conditions and the presence of a manure heap and a cattle feeder, the western part of this area could not be surveyed at the time of the site visit. The local soils were considered amenable to the detection of archaeological sites, and the absence of archaeological features from the geophysical data was considered likely to reflect the true situation within the survey area. It was concluded that no features of archaeological interest were detectable using magnetometer survey within the survey area.

## **9 Results of viewshed analysis**

See Figures 15 to 20.

Given the elevated location of the site and the substantial size of the barn, the viewshed analysis suggests that the Zone of Theoretical Visibility (ZTV) will extend to a significant distance in some directions. In line with the requirements of the brief, the ZTV has been analysed out to a distance of 5km from the site, though extend some distance beyond this. However, the visibility of the barn will diminish considerably with distance, and will be locally blocked by intervening buildings within settlements.

The ZTV mapping shows that within a 1km radius of the barn it will be visible within the fields to its immediate north and south and from the east-facing slopes of Denzell Downs. Within 2km of the site the barn will also be visible from the west-facing slopes of Trelow Downs. Between 2km and 3km, some areas of the landscape to the north and south of St. Ervan will fall within the ZTV; within 3km and 5km of the site there will be some patches of intervisibility to the north of St. Eval airfield and again around St. Merryn airfield, as well as a small block of land to the west and north west of Little Petherick. Between 5km and 10km from the site, areas of the ZTV are found between Porthcothan and Constantine Bay, to the north of St. Merryn, to the north and south of Trevone and to the north of Padstow.

Views of the site elsewhere within these zones will be blocked by topographic factors, especially to the south and east over 1km from the site.

Analysis of the ZTV mapping indicate that no areas of the Cornish Mining World Heritage Site will be fall within the specified radius of the site proposed for the barn, nor any Registered Parks and Gardens, Registered Battlefields, Conservation Areas or Areas of Outstanding Natural Beauty (AONB). A small area of an Area of Great Historic Value (AGHV) on the western part of Trelow Downs will be intervisible with the site proposed for the barn.

In relation to Scheduled Monuments, within a one kilometre radius of the site proposed for the barn (Fig 15), one element of national monument 1021162 (Four round barrows to the north west of Higher Trevibban) will be intervisible with it at a distance of 170m to the north east. The four round barrows south east of Little Trewinnick Farm (1021008) to the south west of the site will have intervisibility with the proposed barn at distances of 601m, 654m, 730m and 990m, as will the Longstone or Eddystone (1021159) 573m to the north west. Bogee Round (1021221) is 1km from the site, and though theoretically within the ZTV, will be masked from the barn by the hedges of the field which encloses it. Within 1km and 2km of the site proposed for the barn (Fig 16). National monument 1021160 (three round barrows on St. Issey Beacon) at an average of 1.4km from the site will be intervisible with it; intervisibility with Trenance Camp (1004235) further away near St. Issey will be similarly constrained. No additional Scheduled Monuments fall within the ZTV in the zone from 2km to 3km from the site, or within that extending from 3km to 5km from it (Fig 17).

No Listed Buildings of any grade fall within the ZTV out to the 5km radius zone around the site proposed for the barn (Fig 18). High grade Listed Buildings within the ZTV comprise St Merryn Church (Grade II\* 1212764) 6.5km to the north west, Trenearne (Grade II\* 1211508) 6.8km to the north west. Two high grade Listed elements of

Prideaux Place (Garden Temple, Grade II\* 1212199 and a cannon, Grade II\* 1289637) will fall with the ZTV but intervisibility with the barn is likely to be wholly or partially blocked by vegetation and significantly attenuated by distance (7.25km).

Peripheral elements of the Registered Park and Garden at Prideaux Place will fall within the ZTV at 7.25km from the site at Lower Bogee Common.

### **Field verification of ZTV**

See Figures 23 to 34.

The viewshed mapping and potential impacts were ground checked from a number of locations, including the fringes of Bears Downs (there is no public access onto this hill), St. Eval, St. Ervan, Trenance, Cannalidghey, Prince's Common and Little Penatillie on the periphery of the 3Km viewshed and from Bogee Round and the Lower Bogee Downs barrows near its centre.

The ZTV mapping was found to be an accurate representation of the likely intervisibility between the proposed barn and the surrounding landscape out to 3Km together with the heritage assets it includes. Some local blocking of intervisibility elsewhere within the viewshed is likely to be produced by hedges, tree screens and by other buildings where they occur within groups or clusters, for example at St. Ervan.

Intervisibility with the proposed barn was confirmed for the majority of Scheduled Monuments and Listed Buildings within the 3Km radius ZTV and for the large majority of undesignated heritage sites within the 1Km radius ZTV.

## **10 Synthesis**

The walkover survey and the geophysical survey suggest that, on the basis of available information, there are unlikely to be any direct impacts on substantive buried archaeological features within the site selected for the agricultural barn on Lower Bogee Downs and along the route for its connection with the Padstow road.

Impacts on both designated and undesignated heritage assets within the local landscape resulting from the construction of a substantial agricultural building on Lower Bogee Downs will vary with their distance from its site, their state of preservation, their nature, their proximity to the Bears' Downs wind farm or the dominance of this feature within views of them, and the effects of reduced or blocked intervisibility due to local topography, vegetation (including hedge plantings) or the presence of other buildings. In some cases, the topography will limit views of the barn from archaeological sites in the local landscape.

The presence of the existing, large scale and highly visible Bears' Downs wind farm 1.25Km to south west of the proposed development site inevitably reduces the impacts on the setting of heritage assets within this area which would result from the construction of other modern features. However, this development would introduce the first highly visible modern feature on this part of Lower Bogee Downs, only a few tens of metres from a group of Scheduled barrows whose current settings are characteristically relatively open, though which have been significantly impacted upon by modern agricultural practices. The majority of these features are now mostly barely visible as landscape features, though that closest to the site is a distinct earthwork. In the instance of this closest scheduled barrow, the setting impacts would inevitably be relatively significant.

## **11 Policies and guidance**

The following section brings together policies and guidance (or extracts from these) used in the development of the assessment and its methodology.

## **11.1 National Planning Policy Framework 2012**

The following paragraphs within the above document frame planning policy relating to the Historic Environment and are germane to this assessment:

**128** *In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any 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 have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which 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.*

**129.** *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.*

**132.** *When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II\* listed buildings, grade I and II\* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.*

**133.** *Where a proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:*

- *the nature of the heritage asset prevents all reasonable uses of the site; and*
- *no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and*
- *conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible; and*
- *the harm or loss is outweighed by the benefit of bringing the site back into use.*

**134.** *Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.*

**135.** *The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.*

**139.** *Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.*

## **11.2 PPS5 English Heritage guidance**

The English Heritage and DCMS (Department for Culture, Media and Sport) document 'PPS5 Planning for the Historic Environment: Historic Environment Planning Practice Guide' currently provides guidance on planning practice and its application.

This refers to the need, for decision-making in response to an application for change that affects the historic environment, of providing and assessing, at a level appropriate to the relative importance of the asset affected, information on the asset and its extent, on its setting, and on the significance of both of these aspects. Section 5, 54 states that '*Heritage assets may be affected by direct physical change or by change in their setting. Being able to properly assess the nature, extent and importance of the significance of a heritage asset and the contribution of its setting is very important...*'

Section 5 on Policies HE6 to HE 12, 58, notes among appropriate actions (in point 5) '*Seek[ing] advice on the best means of assessing the nature and extent of any archaeological interest e.g. geophysical survey, physical appraisal of visible structures and/or trial trenching for buried remains.*'

The section on Policy HE10 defines setting as follows:

*'113. Setting is the surroundings in which an asset is experienced. All heritage assets have a setting, irrespective of the form in which they survive and whether they are designated or not. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance, or may be neutral.'*

*'114. The extent and importance of setting is often expressed by reference to visual considerations. Although views of or from an asset will play an important part, the way in which we experience an asset in its setting is also influenced by other environmental factors such as noise, dust and vibration; by spatial associations; and, by our understanding of the historic relationship between places. For example, buildings that are in close proximity but not visible from each other may have a historic or aesthetic connection that amplifies the experience of the significance of each. They would be considered to be within one another's setting.'*

## **11.3 Former Cornwall Structure Plan**

The following policies in the Cornwall Structure Plan relate to the historic environment are currently used to guide responses to applications where they are consistent with the National Planning Policy Framework.

### **11.3.1 Policy 1**

*'Development should be compatible with:*

*The conservation and enhancement of Cornwall's character and distinctiveness;*

*The prudent use of resources and the conservation of natural and historic assets;*

*A reduction in the need to travel, whilst optimising the choice of modes, particularly opportunities for walking, cycling and the use of public transport;*

*Through developing the principles of Policy 1 it is intended to integrate environmental values with land use and transport policies, achieving patterns of development that reflect strong environmental protection and stewardship of resources.'*

### **11.3.2 Policy 2**

*'Throughout Cornwall, development must respect local character and:*

- *Retain important elements of the local landscape, including natural and semi-natural habitats, hedges, trees, and other natural and historic features that add to its distinctiveness;*
- *Contribute to the regeneration, restoration, enhancement or conservation of the area;*
- *Positively relate to townscape and landscape character through siting, design, use of local materials and landscaping.*
- *The conservation and enhancement of sites, areas, or interests, of recognised international or national importance for their landscape, nature conservation, archaeological or historic importance, including the proposed World Heritage Site, should be given priority in the consideration of development proposals.'*

## **11.4 Former North Cornwall Local Plan**

Although now part of Cornwall Council, North Cornwall District Council's policies listed in its local plan continue to be relevant. Relevant policies (those consistent with the broad thrust of the NPPF) concerning the historic environment are listed below.

The North Cornwall Local Plan contains policies designed to protect the archaeological resource, using the following elements of policy framework:

### **POLICY ENV12:**

4. *Development proposals for the erection of a new building or other structure, or the use of land, will not be permitted where this would adversely affect the character or appearance of a listed building or its setting.*

### **POLICY ENV14:**

1. *Development proposals affecting nationally important remains, whether scheduled or not, and their settings, will not be permitted unless:*

*(a) there will be no significant damage to, or adverse effect on, a site or its setting; and*

*(b) the development can be controlled through the use of conditions or planning obligations to ensure the remains are preserved in-situ.*

2. *Development proposals which adversely affect locally important archaeological sites or remains identified as a result of a prior archaeological investigation will only be permitted where:*

*(a) physical preservation in-situ is not feasible in conjunction with the proposed development and the importance of the development clearly outweighs the case for preservation of the remains; and*

*(b) satisfactory arrangements are made for the investigation and recording of the remains before or during development.*

3. *In areas of great historic value, historic settlements and all other locations where there is evidence to suggest that significant remains may exist on the site of a proposed development the extent and importance of which are unknown, applicants will be requested to carry out an archaeological evaluation of the proposal before the planning application is determined. The areas of great historic value and historic settlements are defined on the proposals map.*

### **POLICY ENV15:**

*Development proposals will not be permitted where they would adversely affect the character, appearance or setting of areas of great historic value, historic parks and gardens and historic battlefields.*



North Cornwall District Council Policy ENV15 3. states: *In areas of Great Historic Value, Historic Settlements and all other locations where there is evidence to suggest that significant remains may exist on the site of a proposed development the extent and importance of which are unknown, applicants will be requested to carry out an archaeological evaluation of the proposal before the planning application is determined. The Areas of Great Historic Value and Historic Settlements are defined on the Proposals Map.*

## **11.5 Hedgerow Regulations**

Under the current, 1997 Hedgerow Regulations, owners wishing to remove all or part of a hedgerow considered to be historically important must notify the Local Planning Authority (LPA). Criteria determining importance include whether the hedge marks a pre-1850 boundary, and whether it incorporates an archaeological feature. The LPA may issue a hedgerow retention notice prohibiting removal.

## **12 Likely impacts of the proposed development**

### **12.1 Types and scale of impact**

Two general types of archaeological impact associated with developments of this type have been identified as follows.

#### **12.1.1 Types of impact, construction phase**

Construction of the barn could have direct, physical impacts on the buried archaeology of the site through the construction of its foundations, through the creation of its access track, and through the provision of any works compound, together with any permanent or temporary vehicle access ways into and within the site. Such impacts would be **permanent** and **irreversible**.

#### **12.1.2 Types of impact, operational phase**

This barn might be expected to have a visual impact on the settings of some key heritage assets within their viewshed during the operational phase, given its substantial ridge height and the open nature of the local landscape. Such factors also make it likely that the development would have an impact on Historic Landscape Character. These impacts would be **temporary** and **reversible**.

#### **12.1.3 Scale and duration of impact**

The impacts of the barn on the historic environment may include positive as well as adverse effects. For the purposes of assessment these are evaluated on a seven-point scale:

**positive/substantial**

**positive/moderate**

**positive/minor**

**neutral**

**negative/minor**

**negative/moderate**

**negative/ substantial**

**Negative/unknown** is used where an adverse impact is predicted but where, at the present state of knowledge, its degree cannot be evaluated satisfactorily.

The assessment also distinguishes where possible between **permanent** and **temporary** effects, or between those that are **reversible** or **irreversible**, as appropriate, in the application of the scale of impacts.

#### 12.1.4 Potential and residual impacts

Potential adverse impacts may be capable of mitigation through archaeological recording or other interventions. In the assessments forming Section 12.2, where appropriate, both 'potential' and 'residual' impacts are given; that is, expected impacts 'before' and 'after' such work, principally in relation to the development phase. A proposed mitigation strategy is outlined below in Section 13.

### 12.2 Assessment of impact

Overall, the impacts of the proposed barn on the archaeological resource are assessed as having a potential scored as **negative/significant** to **negative/minor**, principally dependant on proximity to the proposed barn site and intervisibility with it, but also taking into account the proximity of some of its components with the Bears' Downs wind farm. Impacts on the settings of the Scheduled barrows closest to the proposed barn site have been assessed as **negative/substantial** to **neutral** given their proximity and condition. Impacts on potential sub-surface archaeology within the development site are unlikely.

The assessments supporting this general statement are outlined in the following sub-sections. To comply with current policies and guidance (Section 11) these provide assessments of impact in terms of different aspects of the archaeological resource - its individual sites, the settings of sites, Historic Landscape Character, and field boundaries. There are inevitably areas of overlap between these categories of impact; the assessment is adjusted accordingly to avoid 'double counting' of impacts.

#### 12.2.1 Impacts on archaeological sites within the development area

Ground disturbance associated with the excavation of the foundations and ground slab for the barn, access track or ancillary works during the construction phase could result in permanent, irreversible loss of below ground remains of archaeological sites within the development area, or of elements of these. The works, if deeper than current topsoil levels, might affect undetected buried cut features. However, the geophysical survey and walkover survey suggest that no archaeological features will be directly impacted upon by the proposal.

| Identifier | Site  | NGR   | Impact/recommendations   |
|------------|---|---|--|
| 1021162    | Bronze Age barrow group   | Centred SW 91163 68591  | Damage to associated undocumented sub-surface archaeology through the creation of the barn foundations and associated access track. Geophysics and the walkover survey suggest that direct impacts are unlikely. |
| None       | Buried archaeological sites, possibly including funerary, ceremonial or settlement sites. | Field proposed for the development and for its associated access track. | None.  |

#### 12.2.2 Impacts on the settings of surrounding key heritage assets

The proposed barn is considered likely to have an impact on the setting of key surrounding heritage assets, this being summarised as **negative/substantial to**

**neutral** (dependant on their proximity to the proposed barn site) and **temporary/reversible** overall:

- There are twenty-eight Scheduled Monuments within the 3Km radius of the site of the proposed barn, most of which are Bronze Age barrows, the closest of which are 170m, 332m, 456m and 546m from the proposed site (1021162).
- Most of the barrows exist in groups, these being at distances of a few hundred metres (Higher Trevibban) to roughly 1Km from the site (Bears' Downs), see Figure 15. When constructed, these monuments were intended to be the most prominent features within the local landscape, in particular when viewed from the lower lying land to the north and south of the Downs. The construction of a substantial agricultural building at Lower Bogee Downs will introduce a highly visible feature into this former ceremonial landscape, which will be visible from areas of the countryside to the north and west.
- However, as a result of the 19<sup>th</sup> and early 20<sup>th</sup> century enclosure process on Bogee Downs, Bears' Downs and St. Breock Downs, the character and appearance of the landscape within which these monuments now sit has changed from that within which they were originally designed to be seen and understood. Repeated ploughing has also rendered most of the group of four barrows closest to the development site virtually invisible as landscape features. In addition they are no longer fully intervisible with each other because of intervening field and road hedges. Bogee Round and its immediately adjacent barrow which lie just to the north of the development site have also been very considerably reduced by ploughing, and are no longer readily comprehensible landscape features.
- Furthermore, there is already a large-scale and very visible wind farm on Bears' Downs centred 1.4Km to the south west of the site at Lower Bogee Downs proposed for the new barn, and another on St. Breock Downs 5Km to the east. As a result the impact on the broader setting of local Scheduled Monuments through the construction of the Lower Bogee Downs barn will be less than were it the first feature of this type to be constructed within the local landscape.
- Whilst a number of large agricultural sheds can be seen at some distance at several points in the wider landscape surrounding this site, the Lower Bogee Downs barn would be the first in this immediate area and would be only a short distance from the four Scheduled barrows (1021162) and Bogee Round (1021221).
- The settings of Scheduled Monuments on Bears' Downs and in the surrounding landscape are considered to have already been significantly impacted upon by the proximity of the nearby wind farm. As a result, the impacts on their setting which would occur as a result of the construction of a barn at Lower Bogee Downs are considerably lessened.
- The Longstone (or Eddystone, 1021159) to the north of the site is not intervisible with the site proposed for the barn, nor would the barn be visible within any views of this site.
- During the operational phase the barn is unlikely to impact to any significant degree on the setting of the Listed Buildings within its viewshed, given the relatively large distances between the barn and these designated structures (see Fig 18) and the constraints on intervisibility.
- There are no Conservation Areas within the 3Km radius viewshed of the proposed barn.
- There are no Registered Parks and Gardens within the 3Km radius viewshed of the proposed barn.
- There are no Registered Battlefields within the 3Km radius viewshed of the proposed barn.

- During its operational life the proposed barn is felt likely to have some degree of impact on the settings of undesignated heritage assets within the 1Km viewshed, some of which consist of the earthwork remains of Bronze Age barrows and medieval outfield systems. However, these impacts will decrease with distance from the site at Lower Bogee Downs proposed for the barn and with increasing proximity to the Bears' Downs wind farm.

The most significant impacts on setting would be on the four Scheduled Bronze Age barrows to the north and west of the proposed barn, these being from 170m to 546m from its site. The potential impacts on the closest of these particular sites are therefore assessed as **negative/substantial**; on the remainder of the group the impact is assessed as **neutral**. The potential impacts on intervisible key heritage assets at a greater distance from the site have been assessed as **neutral**.

- Any impacts on heritage assets within the landscape surrounding the proposed barn would be **temporary** and **reversible** should it be dismantled in the future.

### Designated heritage assets within the 5Km radius viewshed

Scheduled Monuments (SM) – see Figures 15 to 17

| Identifier | Site   | NGR                    | Impact                          |
|------------|--|------------------------|---------------------------------|
| 1021008    | Four round barrows south east of Little Trewinnick Farm  | Centred SW 90497 67872 | Neutral                         |
| 1021162    | Four round barrows to the north east of Higher Trevibban | Centred SW 91157 68603 | Negative/substantial to neutral |
| 1021159    | The Longstone or Eddystone                               | SW 90554 68693         | Neutral                         |
| 1021222    | Nine round barrows north east of Penatillie              | Centred SW 91387 67510 | Negative/moderate to neutral    |
| 1021160    | Three round barrows on St. Issey Beacon                  | Centred SW 92454 68414 | Neutral                         |
| 1021221    | Bogee Round  | SW 90980 69229         | Neutral                         |
| 1004235    | Camp near Trenance                                       | SW 92351 71060         | Neutral                         |

Listed Buildings (LBs) with grades (see Fig 18)

| Identifier | Site                                   | NGR            | Impact  |
|------------|--|----------------|---------|
| 1212764    | St. Merryn Church (GII*)               | SW 88139 74156 | Neutral |
| 1211508    | Treearne (GII*)                        | SW 89078 74827 | Neutral |
| 1212199    | Garden temple at Prideaux Place (GII*) | SW 91308 75541 | Neutral |
| 1289637    | Cannon at Prideaux Place (GII*)        | SW 91289 74827 | Neutral |

Registered Parks and Gardens (see Fig 19)

| Identifier | Site           | NGR                    | Impact  |
|------------|----------------|------------------------|---------|
| 1001249    | Prideaux Place | Centred SW 91379 75606 | Neutral |

### Undesignated heritage assets within the 1Km radius viewshed

See Figure 20.

| Identifier | Site                                       | NGR            | Impact  |
|------------|--|----------------|---------|
| MCO8253    | Mount Misery Iron Age/Romano-British Round | SW 90097 68665 | Neutral |
| MCO2837    | Hr Bogee barrow                            | SW 90230 67892 | Neutral |

| Identifier | Site                   | NGR            | Impact  |
|------------|------------------------|----------------|---------|
| MCO1026    | Neolithic findspot     | SW 89990 68007 | Neutral |
| MCO2994    | Post-medieval defences | SW 90444 63952 | Neutral |
| MCO2836    | Hr Bogee barrow        | SW 90533 67781 | Neutral |
| MCO43361   | Air raid shelter       | SW 90760 67576 | Neutral |
| MCO29913   | Radar station          | SW 90739 67499 | Neutral |

### 12.2.3 Impacts on Historic Landscape Character

A new agricultural barn at Lower Bogee Downs can be predicted to have an impact on the historic character of the landscape to some degree. The expected effect on HLC has been assessed as **negative/minor**. Factors contributing to this assessment are as follows;

- The land-take for the proposed development is small in comparison with the area of the HLC Unit of Recently Enclosed Land within the surrounding landscape.
- There would be no impacts in terms of physical loss during the construction phase of the upstanding boundaries which form the visible components of HLC.
- Some visual impact throughout the operational phase would occur, affecting the integrity of this area as recently-created farmland, formerly open unenclosed downland, in particular through the introduction of highly visible modern features onto Bogee Downs. However, agricultural buildings of this scale are associated with most of the farms within this area.
- The neighbouring landscape includes the extensive and visually very dominant Bears' Downs wind farm to the south-west. The effects of cumulative impact are real, and should be taken into consideration, as this is not a landscape lacking visually intrusive modern features.
- Recently Enclosed Land is a traditionally dynamic landscape type. However, in the case of Lower Bogee Downs this is not currently the case, there having been few significant changes to this area since its enclosure during the 19<sup>th</sup> and early 20<sup>th</sup> centuries.
- Any impacts on the legibility of HLC would be temporary and reversible should the barn be dismantled in the future.

### 12.2.4 Other archaeological impacts

Any ground disturbing works on this site could encounter significant buried prehistoric or medieval remains, resulting in permanent, irreversible loss of these, or elements of them. This potential impact is assessed as **negative/unknown** as specific evidence for the nature and extent of any such remains is limited to that provided by documentary records, aerial photography and geophysical survey. Features or artefacts may not survive in forms recordable by these methods and the absence of evidence should not be taken as inferring evidence for absence. It is likely that any such impacts could be mitigated satisfactorily through archaeological recording, reducing the residual impact to **neutral** or **negative/minor**. These impacts would be **permanent** and **irreversible**.

## 13 Mitigation Strategy

A range of means to mitigate the potential impacts identified in this assessment may be considered by the Historic Environment Planning Advice Officer, who may choose to recommend one or more of the following.

### 13.1 Site re-design

The HEPAO might ask the site developer to move the barn to a less archaeologically sensitive location within the general area of the application site. Such an approach would limit any impacts on known significant below ground archaeology and would reduce the direct impacts on the below ground archaeology of the site to **neutral**. In this instance, neither the desk based assessment, nor the site walkover, nor the geophysical survey suggest that this approach would be required.

### 13.2 Controlled soil stripping and watching brief

In a case where the finalised site design would seem likely to result in unavoidable impacts on below-ground features, a Written Scheme of Investigation (WSI) would need to be prepared and agreed to establish and direct a programme of mitigating archaeological work. This would follow a brief set by Cornwall Council's Historic Environment Advice Officer, and would set out the scope of any further work required.

An archaeological watching brief (observation by an archaeologist during mechanical topsoil and subsoil stripping) or a controlled topsoil strip under archaeological supervision might be required either where any significant areas of ground are to be disturbed (for instance for the foundations for the barn or access track), in areas where significant results had been identified through aerial photographs or geophysical survey and which remain proposed for ground disturbance in the final scheme design, or where the balance of probability and proximity to known significant heritage assets such as Scheduled Monuments suggests that sub-surface archaeology might survive. This approach would provide for preservation by record of buried archaeological features or artefacts and reduce any impacts on the below ground archaeology of the site to **negative/minor**. The resultant impacts would be **permanent** and **irreversible**. In this case, neither the desk based assessment, nor the site walkover, nor the geophysical survey suggest that this approach would be required.

### 13.3 Analysis and presentation of findings

The results of any required mitigating archaeological recording outlined above would need to be compiled and analysed; significant findings would be presented as required, with publication to professional standards where appropriate.

## 14 References

### 14.1 Primary sources

Joel Gascoyne's 1699 Map of Cornwall

John Norden's 1724 Map of Cornwall

Martyn's 1748 Map of Cornwall

Ordnance Survey, 1809, *1 inch mapping* First Edition (licensed digital copy at HE)

Ordnance Survey, c1880. *25 Inch Map* First Edition (licensed digital copy at HE)

Ordnance Survey, c1907. *25 Inch Map* Second Edition (licensed digital copy at HE)

Ordnance Survey, 2007. *Mastermap Digital Mapping*

Tithe Map and Apportionment, c1840. *Parish of St. Ervan* (digital copy available from CRO)

### 14.2 Publications

English Heritage 2005, *Wind energy and the Historic Environment*

English Heritage 2011, *The setting of Heritage assets: English Heritage guidance*

Herring, P. 1998, *Cornwall's historic landscape: presenting a method of historic landscape character assessment*, Cornwall Archaeological Unit

### **14.3 Websites**

<http://www.heritagegateway.org.uk/gateway/> English Heritage's online database of Sites and Monuments Records, and Listed Buildings

## **15 Project archive**

The HE project number is **PR146138**

The project's documentary, photographic and drawn archive is housed at the offices of Historic Environment, Cornwall Council, Kennall Building, Old County Hall, Station Road, Truro, TR1 3AY. The contents of this archive are as listed below:

1. A project file containing site records and notes, project correspondence and administration.
2. Digital photographs stored in the directory R:\Historic Environment (Images)\SITES.A-D\Bogee Common barn assessment 2013
3. English Heritage/ADS OASIS online reference: cornwall2-146420
4. This report text is held in digital form as: G:\TWE\Waste & Env\Strat Waste & Land\Historic Environment\Projects\Sites\Sites B\Bogee Common barn assessment 2013\Lower Bogee Common barn assessment.doc





Fig 3. The proposed barn site and its surroundings, shown on John Norden's 1724 Map of Cornwall (drawn circa 1600) as an extensive area of hilly downland. The project area is circled in red.

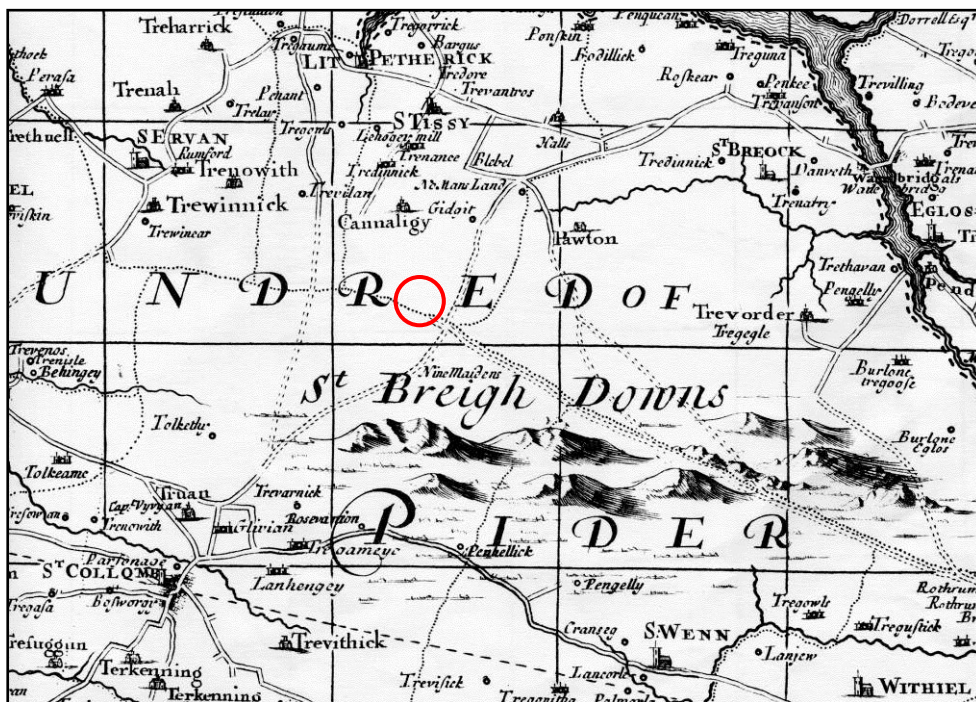


Fig 4. The project area and its surroundings, shown on Joel Gascoyne's 1699 Map of Cornwall as part of St. Breock Downs. The project area is circled in red.



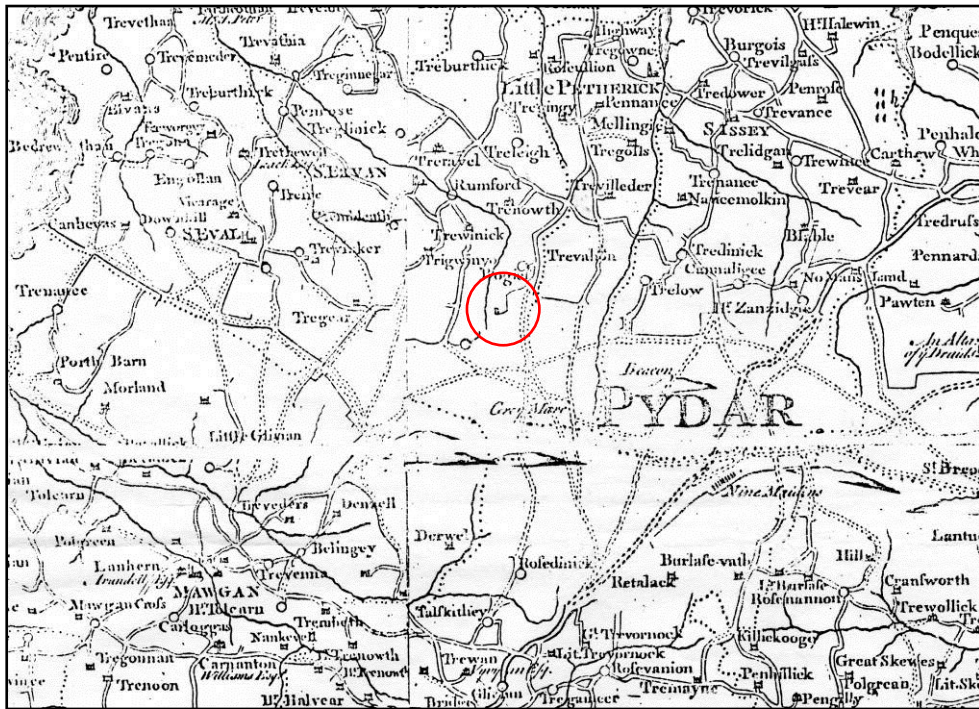


Fig 5. The proposed barn site and its surroundings, shown on Martyn's 1748 Map of Cornwall as predominantly open downland. The project area is circled in red.



Fig 6. The project area and its surroundings as shown on the circa 1809 1<sup>st</sup> Edition OS mapping. The landscape to the south was largely open downland.

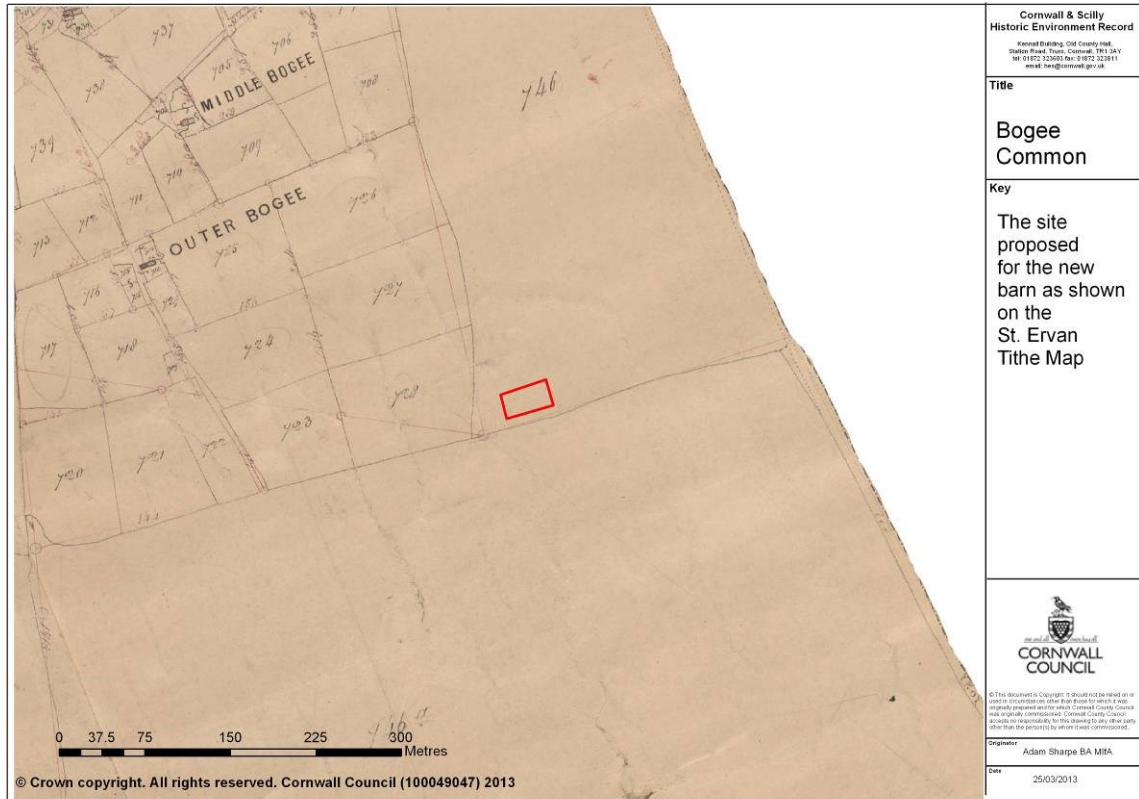


Fig 7. The project area as shown on the circa 1840 St. Ervan Tithe Map.

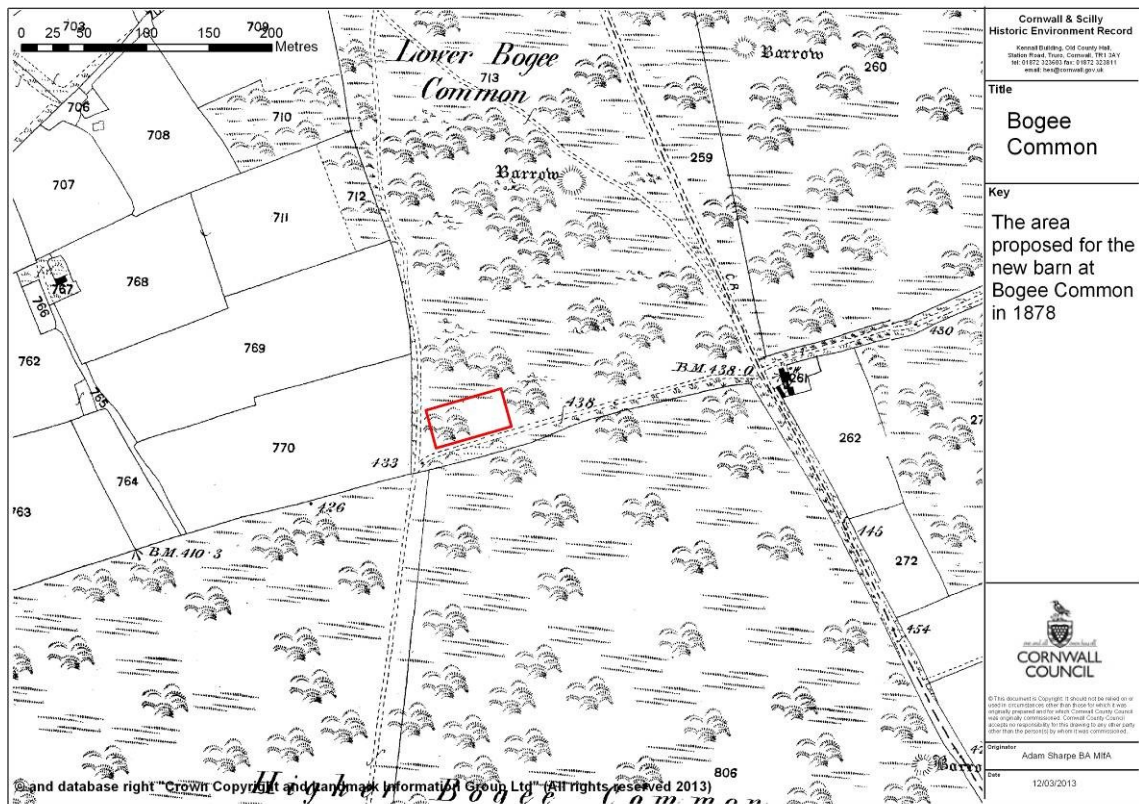


Fig 8. The project area as shown on the circa 1877 1<sup>st</sup> Edition OS 25" to the mile mapping. Although the downland had been enclosed, it was still recorded as being dominated by scrubby grassland.



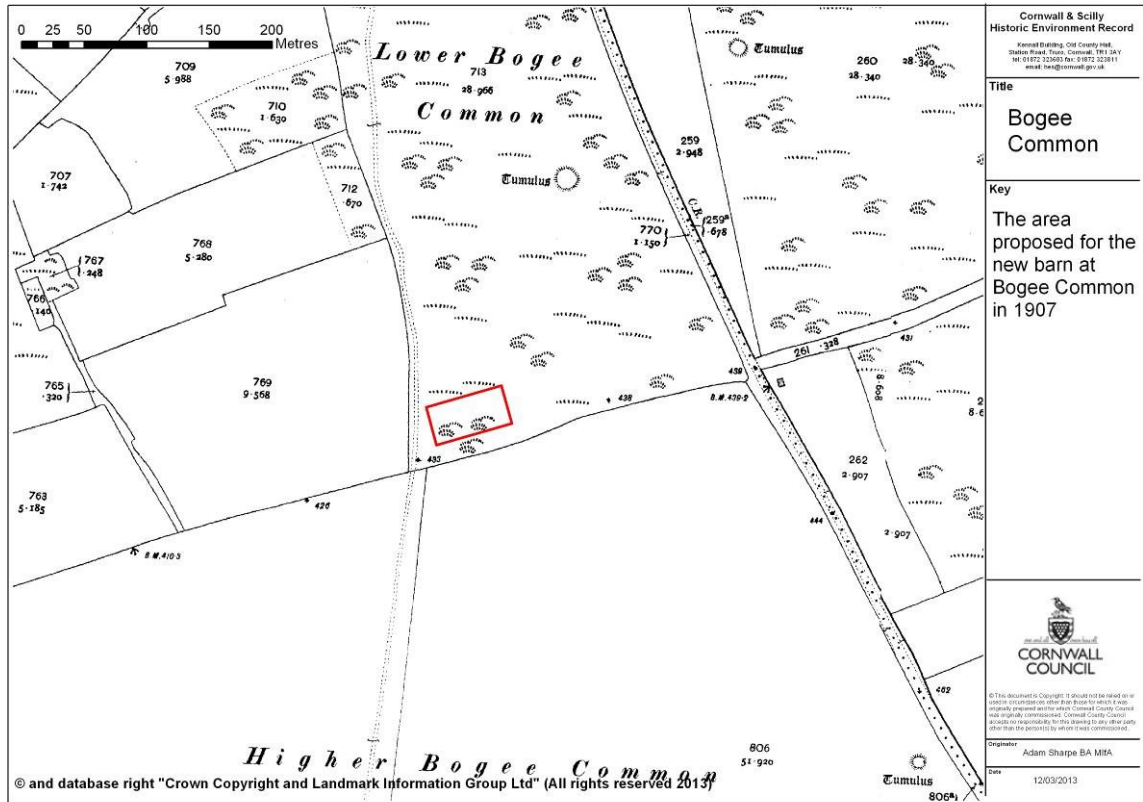


Fig 9. The project area as shown on the circa 1908 OS 25" mapping showing that little improvement of the downland had taken place over the past three decades.



Fig 10. The project area as shown on a 2005 CC aerial photographs, showing how the former downland character of this area has been completely removed through the process of enclosure and the development of the farm buildings.

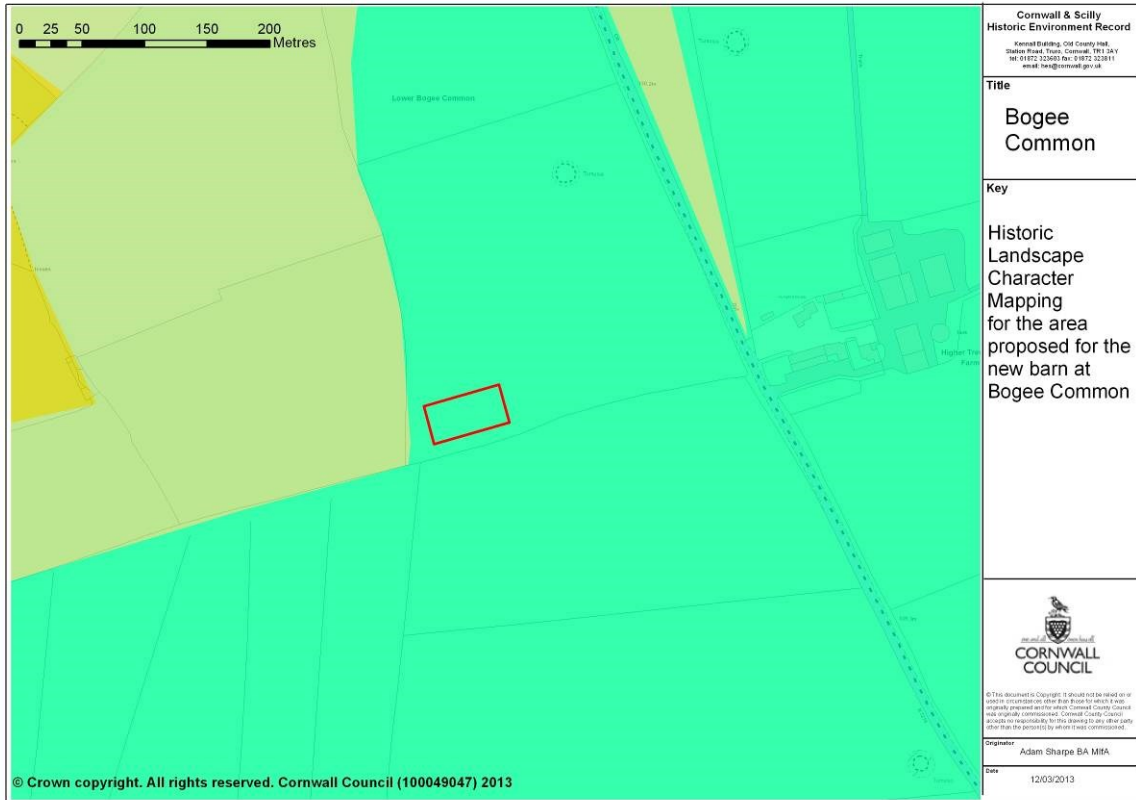


Fig 11. Historic Landscape Character mapping summarises the changes shown on the previous map extracts, showing progressive enclosure from downland over a period of some years.

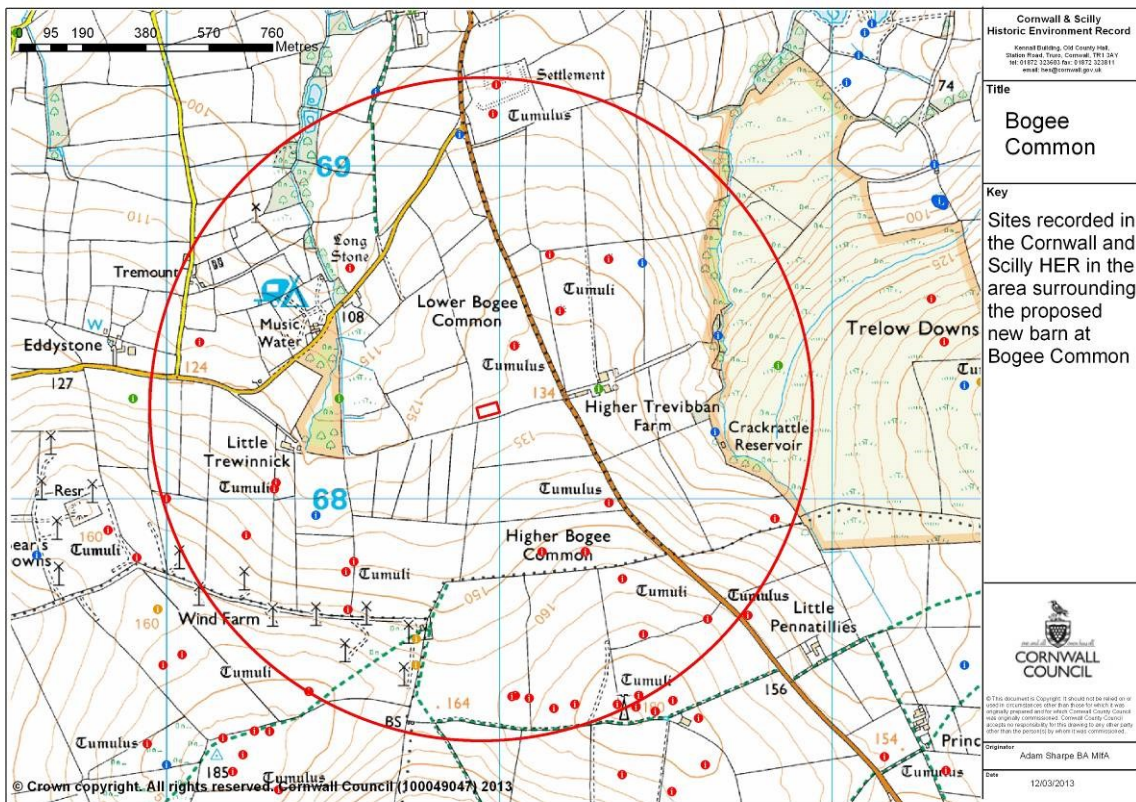


Fig 12. Archaeological sites recorded close to the proposed barn include numerous Bronze Age barrows groups, an Iron Age enclosure (to the north), the Longstone and medieval trackways.



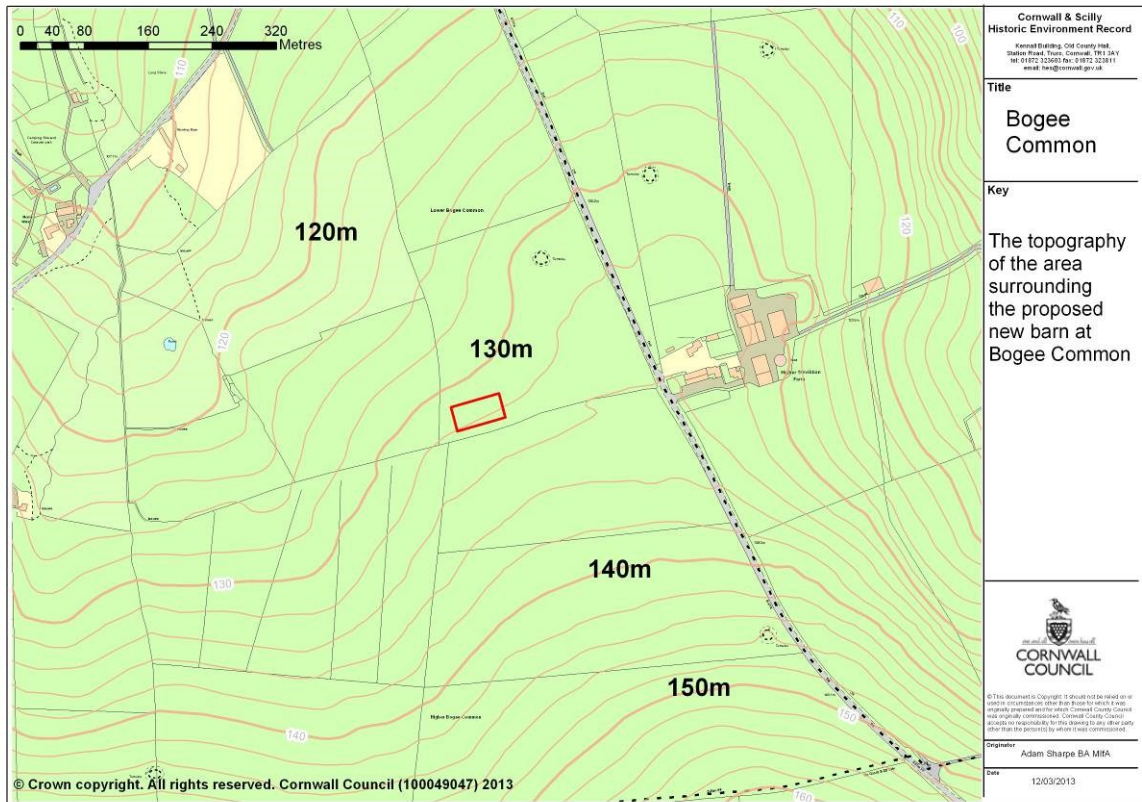


Fig 13. OS contour data for the area immediately surrounding the proposed barn shows the site located on a hillslope falling to the north and west.

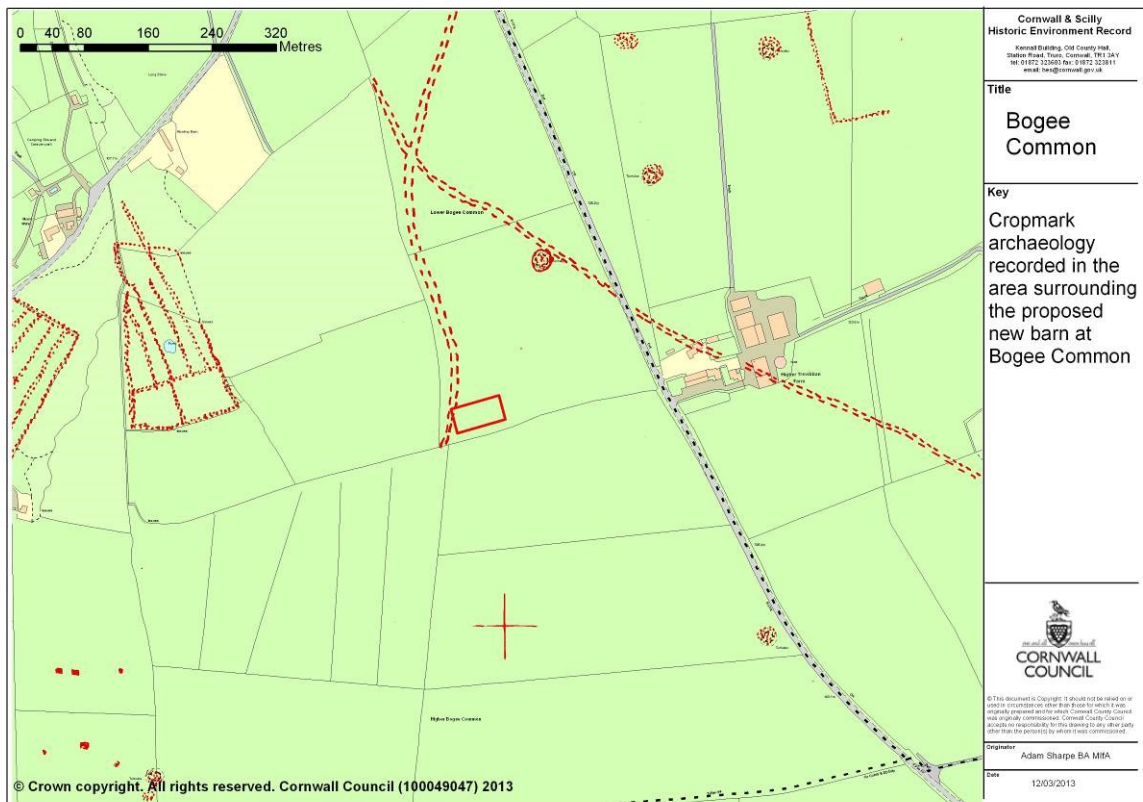


Fig 14. NMP mapping from aerial photographs covering Bogee Common, showing the medieval holloways to the west and east of the application area and the medieval strip fields to the west.







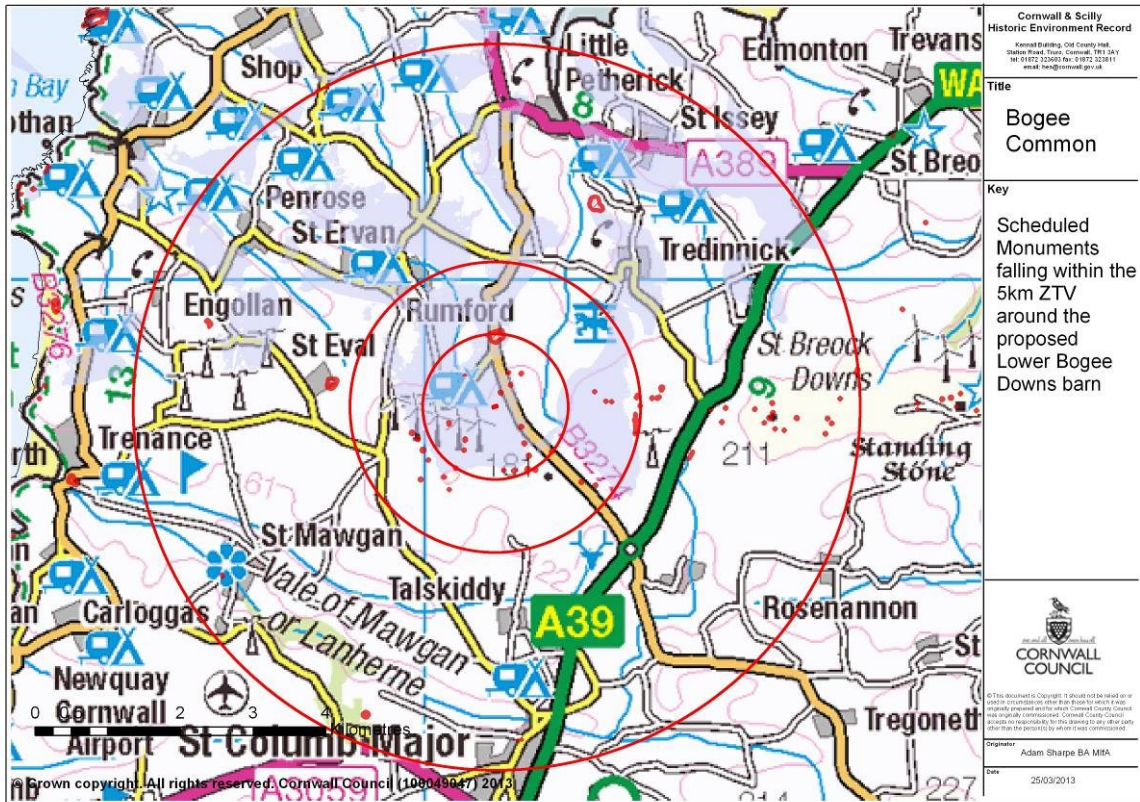


Fig 17. Mapping showing the ZTV within a 5Km radius of the site proposed for the barn, showing potentially intervisible Scheduled Monuments.

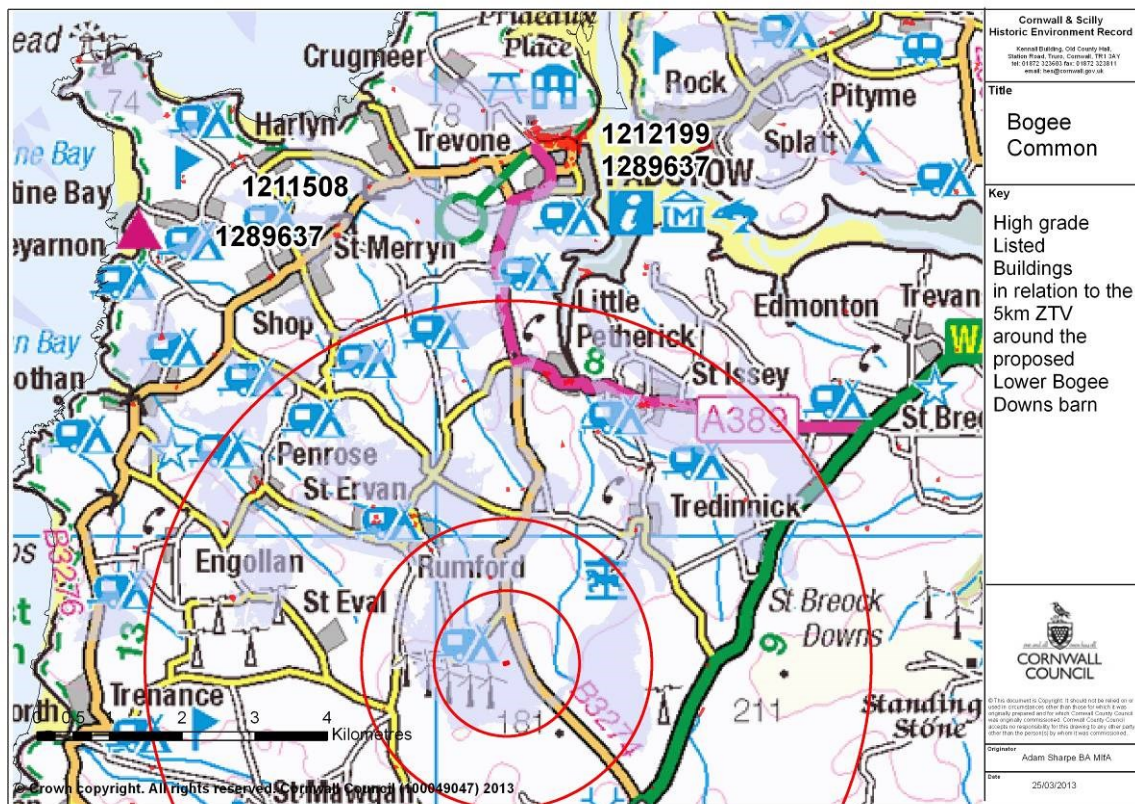


Fig 18. Mapping showing the ZTV within a 5Km radius of the site proposed for the barn, showing potentially intervisible high grade Listed Buildings.



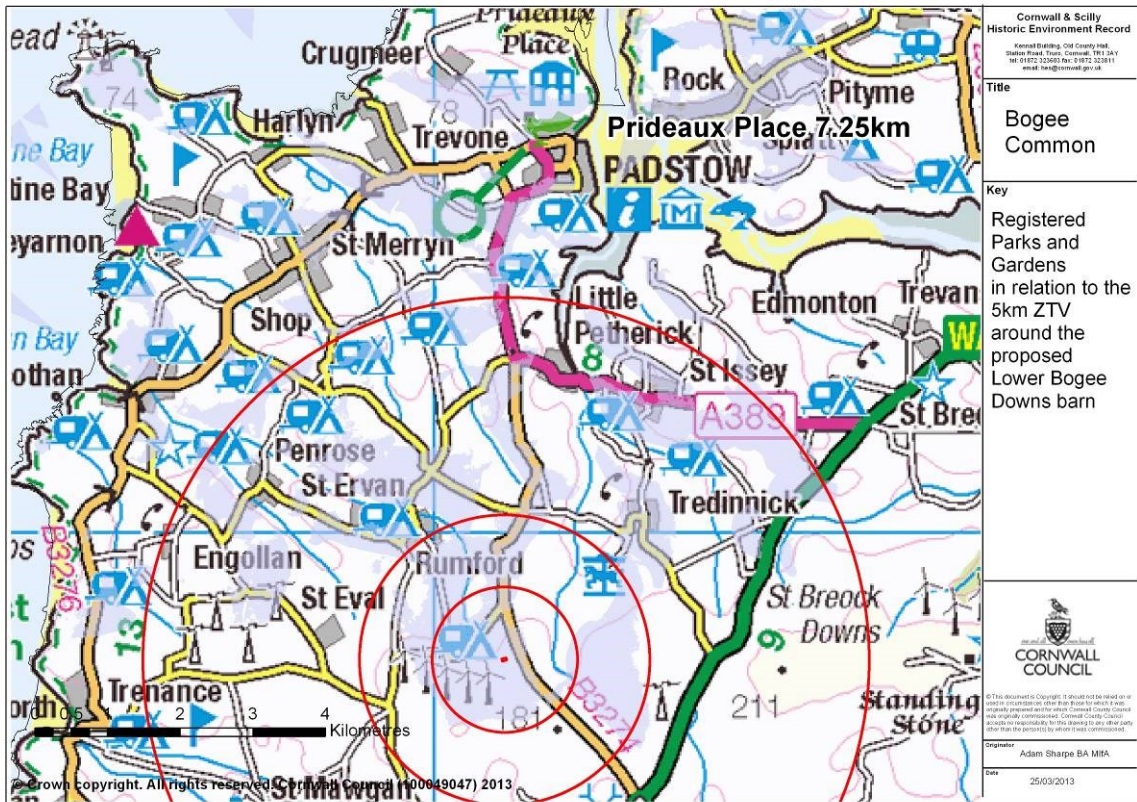


Fig 19. Mapping showing the ZTV within a 5Km radius of the site proposed for the barn, showing potentially intervisible Registered Parks and Gardens.

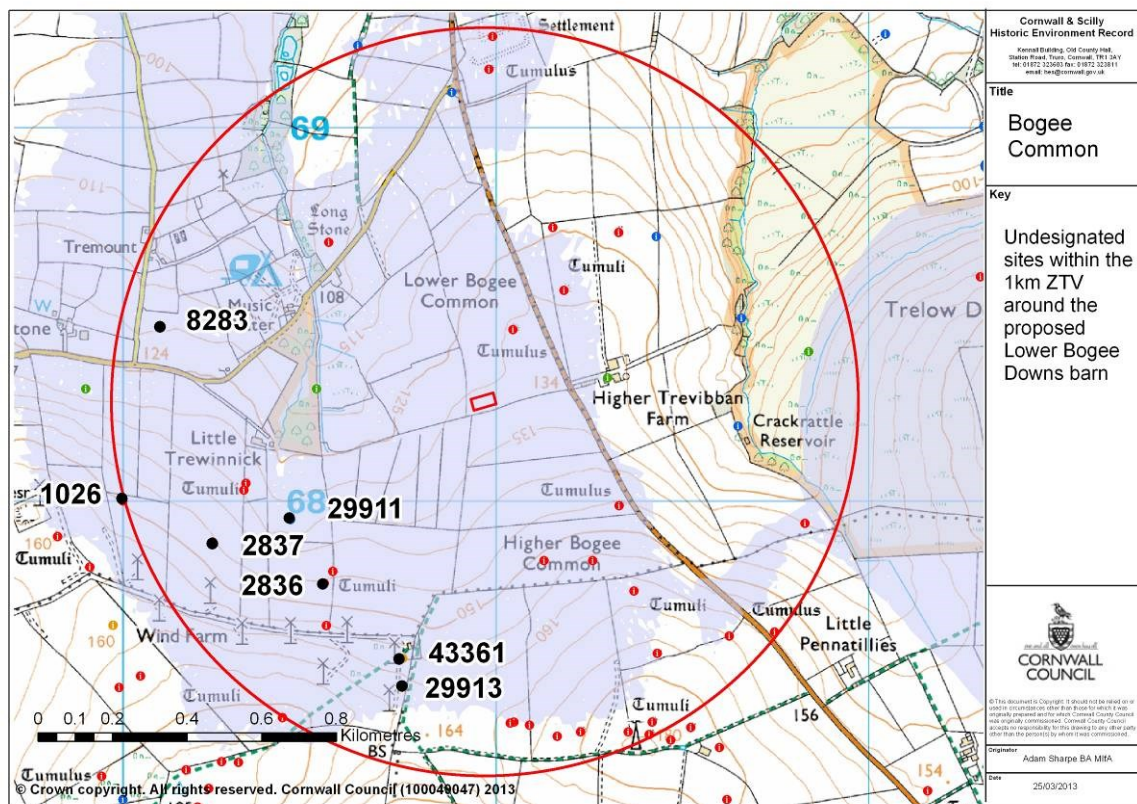


Fig 20. Mapping showing the ZTV within a 1Km radius of the site proposed for the barn, showing potentially intervisible undesignated sites.





| Label | Anomaly Type            | Feature Type             | Description  | Easting  | Northing |
|-------|-------------------------|--------------------------|--|----------|----------|
| 1     | Linear dipolar enhanced | Fill? - Ditch?           | Uncertain as only just within the NW corner of the area available for survey                     | 190961.9 | 68301.3  |
| 2     | Area enhanced gradient  | Fill? - Natural?         | Possibly natural, however, its proximity to [1] may increase the significance of this structure? | 190973.5 | 68301.3  |
| 3     | Disturbance             | Modern                   | Apparently the site of fairly recent boulder removal   | 190988.1 | 68280.7  |
| 4     | Linear reduced gradient | Fill - stony? / Natural? | Drain or former field boundary? Not a typical anomaly for a ditch fill                           | 191000.0 | 68289.4  |

Fig 21. The interpreted geophysical survey results (© Archaeophysica Ltd 2013).



*Fig 22. Looking north from just south of Higher Trevibban – a landscape characterised by open fields, scattered large agricultural buildings and wind turbines in a generally open landscape. The proposed barn would be just off the left of this view.*



*Fig 23. Looking north east from the site proposed for the barn towards the nearby Scheduled barrow (arrowed).*





*Fig 24. The view back from the Scheduled barrow towards the site of the barn (arrowed).*



*Fig 25. Looking south south east towards the skylining Scheduled barrow.*





Fig 26. Looking north north west back from the Scheduled barrow towards the site proposed for the barn (arrowed).



Fig 27. Looking east from the site proposed for the barn towards the Scheduled barrows on Trelow Downs (just below the skyline).





*Fig 28. Looking towards Bear's Downs and its skylining barrow cemetery (one example arrowed) and wind farm.*



*Fig 29. Looking north west from the site proposed for the barn, showing another group of large agricultural buildings not far away in the landscape.*





*Fig 30. The landscape immediately to the east of the site proposed for the barn, showing the group of large agricultural buildings and wind turbine at Higher Trevibban, as well as other farm buildings and wind turbines in the wider landscape.*



*Fig 31. Looking towards the site of the Scheduled Longstone, from this angle hidden behind a tree screen (right centre).*





*Fig 32. The Longstone or Eddystone, seen here from the south east. Intervisibility between this site and the proposed Lower Bogee Common barn is completely blocked by trees along the edge of the road immediately to its south east.*



*Fig 33. Looking north across the Scheduled Bogee Round towards the site proposed for the barn (right centre).*

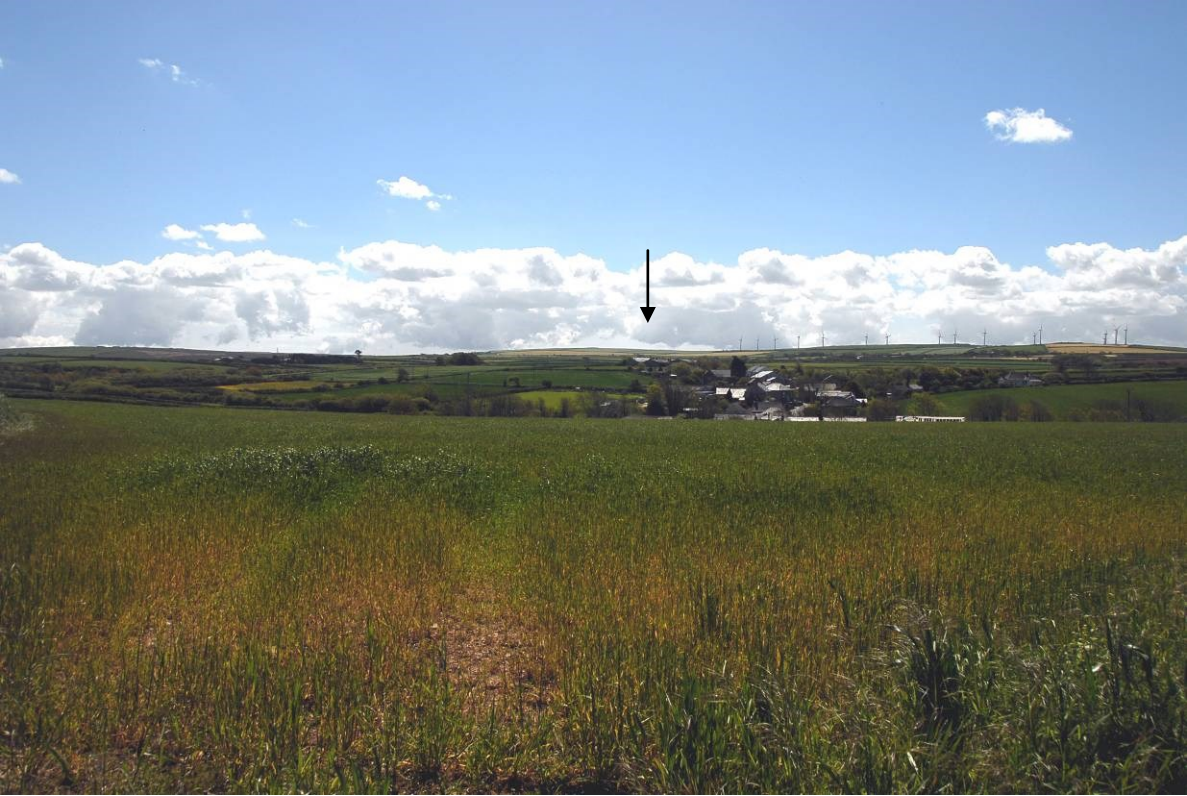


Fig 34. Looking south across the landscape around St Issey towards the site of the barn (arrowed).