



Relistian Lane, Reawla, Cornwall  
Archaeological Watching Brief

Cornwall Archaeological Unit

Report No: 2016R083



Report No

2016R083

Report Name

Relistian Lane, Reawla, Cornwall.  
Archaeological Watching Brief

Report Author

C. M. Thorpe

Event Type

Watching Brief

Client Organisation

Barepta Cove Ltd

Client Contact

Stephen Neal

Monuments (MonUID)

--	--	--	--	--	--

Fieldwork dates (From)

12/09/16

(To)

15/12/16

(Created By)

CMT

(Create Date)

03/11/16

Location (postal address; or general location and parish)

Relistian Lane, Reawla, Gwinear Parish.

(Town – for urban sites)

--

(Postcode)

TR27 5HL

(Easting) X co-ord

SW 60518

(Northing) Y co-ord

36708

--

--



Cornwall Archaeological Unit, Cornwall Council is a Registered Organisation with the  
Chartered Institute for Archaeologists

© Cornwall Council 2017

No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by any means without the prior permission of the publisher.

## List of Figures

- Cover:* Foundation trenches for houses 7/8 under excavation.
- Figure 1.* Location of the development area.
- Figure 2.* The location of the development area (site highlighted in red).
- Figure 3.* Known archaeological sites around the development area (site highlighted in red).
- Figure 4.* Site plan showing the area of the archaeological watching brief. Locations of recorded sections shown by red numbers.
- Figure 5.* Overview of part of foundation trenches for Houses 5/6 showing nature of ground encountered.
- Figure 6.* Detail of soil profile House 5/6 showing depth of disturbed ground above natural.
- Figure 7.* Mining mitigation work within openwork illustrating the depth of the feature (Photograph courtesy of Alan Caddy).
- Figure 8.* Mining mitigation work within openwork showing possible tunnel (Photograph courtesy of Alan Caddy).
- Figure 9.* Mining mitigation work within openwork showing width of the feature. (Photograph courtesy of Alan Caddy).

## Abbreviations

CAU	Cornwall Archaeological Unit
HER	Historic Environment Record
MCO	Monument number in the Cornwall and Scilly HER
NMP	National Mapping Programme

# **1 Introduction**

Cornwall Archaeological Unit (CAU), Cornwall Council was commissioned by Stephen Neal (Barepta Cove Ltd) to undertake a programme of archaeological recording during ground works required for the construction of a new housing estate at Relistian Lane, Reawla located at SW 60518 36708 (Figs 1, 2 and 3).

The development area was a large elongated irregular shaped field measuring roughly 183m by 86m (approximately 0.85 Hectares). The site is on the north western edge of the settlement of Wall, within the ecclesiastical parish of Gwinear.

The watching brief followed an archaeological assessment of the site undertaken by CAU in 2015 (Thorpe and Buck 2015).

This assessment noted that the site was located within a historically important early tin mining area (Fig 3), possibly incorporating an infilled western extension to the large 16<sup>th</sup> century open work seen immediately to the northeast of the site and also encompassing the former site of an engine house, ore processing plants, a possible arsenic calciner and a possible shaft related to the later Relistian Consols Mine (MCO12469).

The development was the subject of a Planning Condition, which required that archaeological recording took place ahead of construction (PA13/09565). Following a brief prepared by Dan Ratcliffe (06/06/14), Historic Environment Planning Advice Officer, a written scheme of investigation (WSI) outlining the methodology (Appendix 1) for archaeological recording was produced by Colin Buck (05/06/2014).

Unfortunately the eastern and northern parts of the site had already been built upon by a previous developer, without any archaeological mitigation, leaving only the central and south western areas available for inspection, and even these areas had already been stripped of topsoil and had been tracked over by machinery before they were seen by an archaeologist. The course of the open work across the southern part of the site had also undergone mining mitigation work. This had involved the total excavation of the open work, and it's infilling with concrete to seal any tunnels, etc. The access road to the estate had been constructed over western part of the infilled open work. None of this mining mitigation work was monitored archaeologically.

Given the disturbance to the site the archaeological watching brief was carried out during the excavation of the foundation trenches for houses 5-10 and 17-20 (Fig 4). This short report covers the results of an archaeological watching brief, which was carried out intermittently between the 12<sup>th</sup> September 2016 and the 15<sup>th</sup> December 2016.

# **2 Location and background**

The site lies adjacent to the north western edge of the settlement of Wall, and roughly 400m to the north east of Reawla. It is located within the parish of Gwinear (Figs 1 and 2). The development area is a large elongated irregular shaped field which slopes gently to the south west, from roughly 76m to 72m OD (Figs 1, 2 and 5). Prior to the development the site was utilised as pasture.

The underlying geology consists of the Devonian Mylor Series of fine grained slates, and siltstones. Running roughly west to east across the centre of the site is an igneous felsite (elvan) dyke. The length of the site is traversed by a complex series of mineral lodes, trending roughly west-south-west to east-north-east. These lodes have been extensively worked for tin and copper since the 16th century comprising the focal point for the Relistian Consols Sett (BGS Sheet 351/358 Penzance 1970).

The development area is located within land which has been characterized as being Farmland: Medieval (Cornwall County Council 1996). This is land which forms part of



Cornwall's agricultural heartland with farming recorded before the 17<sup>th</sup> century and with field patterns distinct from the straight-sided fields of later enclosure. This character type has prehistoric or medieval origins with the potential to contain buried prehistoric monuments and other archaeological remains. The site is situated roughly midway between two known settlement sites of probable Romano-British date. Goneva Round (MCO7978) is approximately 310m to the north and Reawla Round (MCO8410) roughly 400m to the south. The field boundaries do not appear to have changed since at least the 1840s.

The history of the early mine and its successors has been detailed in the site assessment report (Thorpe and Buck 2015) so it is not repeated here, however, prior to the fieldwork being undertaken, a number of sites in the vicinity of the study area were identified from the Cornwall and Scilly Historic Environment Record (Fig 3). These included:

- Goneva Round (MCO7978) an Iron Age/Romano-British settlement, situated approximately 310m to the north of the site. The field name 'Round' appears on the Tithe Map of 1839. The modern Ordnance Survey records no extant remains apart from a curvilinear field bank which may represent part of the original rampart. The enclosure is visible as a cropmark on air photographs.
- Reawla Round (MCO8410) an Iron Age/Romano-British settlement situated roughly 400m to the south. The Tithe Map marks the site as "ancient fort" with a field-name of 'Gurrier'. Partially excavated by CAU in 1987 in advance of construction of a housing estate (Appleton-Fox *et al* 1992). Traces of the defensive bank forming the southern side of the enclosure survive as a field boundary.
- The medieval settlement of Reawla (MCO16529) is situated 330m to the south-south-west at SW 60321 36186. The settlement of Reawla was first recorded in 1342 when it was called 'Realu' (Gover 1948). The place-name of Reawla appears to be of Norman-French origin, meaning 'royal place' (Institute of Cornish Studies 1987).
- The medieval settlement of Relistian (MCO16549) is situated 240m to the north west at SW 60299 36801. The settlement is first recorded as 'Ryslyhstyn' in 1342 (Gover 1948). The name is Cornish and contains the element *rid* 'ford' and possibly *cellester* 'a pebble' or 'small stone' (Padel 1985).
- The medieval settlement of Goneva (MCO14557) is situated 400m to the north east at SW 60831 36980. The settlement is first recorded as "Coisgwynyna" in 1367 (Gover 1948). The name is Cornish and contains the elements *cos* 'wood' and *guyn* 'white' followed by an unknown third element (Padel 1985).
- The medieval settlement of Wall (MCO18239) is situated 180m to the south at SW 60600 36499. The settlement of Wall is first recorded as 'Walle' in 1457 (Gover 1948). The name is Cornish and contains the element *gwal* 'wall' an element borrowed from English (Padel 1985). This name probably refers to an opencast mine working nearby which later became known as Relistien mine.
- The medieval mine of 'Relistian Tynn Work' or Restilian Great Work (MCO12469). Open work situated 100m east of site at SW 60619 36693 that may continue into the development area. An open work named 'Le Gracyas' on Relystyan Down is listed as an ancient tin site in 1502 (Hamilton Jenkins 1963). 'Relistian Tynn Work' was shown as a noteworthy feature on plans of the Lanhydrock estate of 1696 (Holden *et al* 2010).
- The post-medieval mine of Relistien Consols (MCO12469). Located on site of development centred at SW60582 36728. This mine operated from the early 1700's to the 1870's (Thorpe and Buck 2015).

There was high potential for prehistoric and medieval sites to survive within the project area, as well as evidence for early mining activity. There was also scope for the survival of previously unrecorded archaeological sites, organic remains, and artefacts of all periods.

### **3 Aims and objectives**

The aims of the archaeological recording were as follows:

- To ensure that the site works were carried out in such a way as to allow recording as set out in the Written Scheme of Investigation.
- To establish the presence/absence of archaeological remains and to record archaeological features and deposits affected by the scheme.
- To determine the extent, condition, nature, character, date and significance of any archaeological remains encountered.
- To establish the nature of any activity on the site.
- To identify any artefacts relating to the occupation or use of the site.
- To deposit the archive (including any finds) with the relevant museum and disseminate the results of discoveries as a concise archive report and, if merited, wider publication.

**Key objectives were:**

- To locate and identify and record activity in the area of the development with the specific reference towards any early mining features, thereby providing further information on the archaeology of the development site and the surrounding area.

### **4 Working methods**

Unfortunately as discussed above, only a limited area was available for the archaeological watching brief, and this area had also been stripped of topsoil and tracked over by machines. In some areas the ground had been built up with material (in the order of 1m thick) in order to level the site much of this material being derived from the fill of the openwork after the mining mitigation work had been undertaken.

For the watching brief it was decided to monitor the excavation of the foundation trenches for the houses that remained to be built (houses 5-10, and 17-20).

The trenches were inspected by an archaeologist who recorded significant features onto an annotated architect's site plan at a scale of 1:500. Sample sketch trench sections (noting the nature of soil depths, layers present, etc) were also recorded across the site (Fig 4). Photographs were taken during the course of the work. The ground was also examined for artefacts.

### **5 Results**

**Houses 5/6**

The foundation trenches for this pair of houses were on average 0.8m wide and reached a maximum depth of 1.2m.

The trench section recorded across this area consisted of 0.1m of grey-brown and red-brown clays with stony material (material mixed by the passage of vehicles) overlying 0.1m of dark brown clay, 0.3m of light grey-brown silty clay, 0.4m of dark red-brown clay with some stone fragments, and 0.2m of orange-brown sandy clay (natural

decayed bedrock). Harder orange brown clay and shillet (rotten bedrock) was reached at the base of the trench (Figs 5 and 6).

No archaeological features were uncovered and no artefacts were recovered. Indeed it appears the top 0.9m is composed of redeposited material dumped to level the ground with the top 0.5m being modern in nature the dark red-brown clay containing fragments of plastic sheeting.

### **Houses 7/8**

The foundation trenches for this pair of houses were on average 0.8m wide and reached a maximum depth of 1m.

The trench section recorded here was similar to that recorded for houses 5/6, with the natural bedrock appearing at a depth of 0.6m. A soft very weathered dyke of felsitic elvan, roughly 2m wide ran in a roughly north east to south west direction (roughly following the trend of the mineral lades) across the middle of the area. No archaeological features were uncovered and no artefacts were recovered.

### **Houses 9/10**

The foundation trenches for this pair of houses were on average 0.8m wide. The base of the foundation trenches had already been infilled with concrete so the profile could only be examined to a maximum depth of roughly 0.8m. It was found that a layer of disturbed and redeposited material covered the area to a depth of 0.7m. Natural orange-brown sandy clay lay below this. No archaeological features were present in the sections and no artefacts were recovered.

### **House 17/18**

This pair of houses lay in close proximity to the potential open work so these foundations were reinforced with concrete pilings set at regular intervals along the length of each foundation trench.

The foundation trenches for this pair of houses were on average 0.8m wide and reached a maximum depth of 1m.

As with the foundations for houses 19/20 (see below) it was found that a layer of disturbed ground, up to 0.7m thick, overlay the natural bedrock. There was no evidence for the northern edge of the open work. No archaeological features were recorded in the sections and no artefacts were recovered.

### **House 19/20**

This pair of houses was the most southerly of those to be constructed. The southern foundation trenches were situated very close to where it was suspected that the northern boundary of the western continuation of the early mining open work called 'Restilian Great Work' could be present. This feature still survived to the east of the development area as an extant surface feature. It had been encountered in the mining mitigation work that had been carried out prior to the construction of the estate access road (Alan Caddy pers comm, and see Figures 7, 8 and 9). Given the potential for the edge of the open work to extend into the house footprint, these foundations were reinforced with concrete pilings set at regular intervals along the length of each foundation trench.

The foundation trenches for this pair of houses were on average 0.8m wide and reached a maximum depth of 1m.

It was found that a layer of disturbed ground up to 0.7m deep, consisting of mixed clays (containing fragments of modern plastic sheeting), derived mostly from the mining mitigation work, had been spread over the site down to level of the natural bedrock. There was no evidence for the northern edge of the open work, suggesting that this probably lay further to the south. No archaeological features were recorded in the sections and no artefacts were recovered (Fig 4).



### Relistian open work

Though this was not seen during the archaeological watching brief, it was uncovered during mining mitigation work prior to the estate access road being constructed. In conversation with Alan Caddy (the site manager) and after an examination of some photographs taken by him it (Figs 7-9) proved possible to roughly plot the northern boundary of the open work onto a plan (Fig 4). Although the overall dimensions could not be determined from the photographs, the open work appeared to be at least 3m deep and wide enough for a swing shovel to drive along it. There also seemed to be some tentative evidence for exploratory tunnels radiating out from the open work in a southerly direction (Figs 7, 8 and 9).

## 6 Discussion

Unfortunately the area examined by the watching brief had already been heavily disturbed by recent construction related activity and the dumping of material over the site in order to level it. It is regrettable that the entire field had been stripped of topsoil without any archaeological supervision as this may have revealed evidence for early mining features such as prospecting pits, and lode back pits, similar to those encountered at Hallenbeagle (Sharpe and Thorpe 2014). The eastern end of the site also had the potential to reveal features of Relistian Consols mine.

It is also regrettable that an archaeologist was not present when mining mitigation work was undertaken on the open work, to the south of the development area, as this was one of the primary pieces of archaeological evidence for early mining in the area.

No features were revealed in those areas which were covered by the archaeological watching brief, so it can be said that the work at these locations had little impact on any significant buried archaeological remains.

## 7 References

- Appleton-Fox, N, Adkins, L, Adkins, R, Bayley, J and Straker, V, 1992. Excavations at a Romano-British round; Reawla, Gwinear, Cornwall. *Cornish Archaeology* No **31**.
- British Geological Survey, 1970. Sheet 351/358 Penzance.
- Cornwall County Council, 1996. *Cornwall: A Landscape Assessment 1994* report produced by Landscape Design Associates in association with Cornwall Archaeological Unit
- Gover, JEB, 1948. *Place-Names of Cornwall* (manuscript at RCM, Truro).
- Hamilton Jenkin, AK, 1963. *Mines and Miners of Cornwall Vol V*. Truro.
- Holden, P, Herring, P, Padel, OJ, 2010. *Lanhydrock Atlas*, Fowey.
- Institute of Cornish Studies, 1987. *Place-Names Index* (summary copy held by HES, Truro).
- Padel, O, 1985. *Cornish Place-Name Elements*, English Place-name Society, Nottingham.
- Sharpe, A, and Thorpe, C, 2014. *Hallenbeagle Phases 1 and 2, Scorrier, Cornwall: Archaeological Watching Brief*. CAU archive report 2014R084.
- Thorpe, C, and Buck, C, 2015. *Relistian Lane, Reawla, Cornwall. Archaeological Desk-based Assessment*. CAU archive report 2015R018.

## **8 Project archive**

The CAU project number is **146617**

The project's documentary, digital, photographic and drawn archive is maintained by Cornwall Archaeological Unit, Cornwall Council, Fal Building, County Hall, Treyew Road, Truro, TR1 3AY. The contents of this archive are listed below:

1. Projects file containing site records and notes, project correspondence and administration (146617).
2. Field plans stored in an A2-size plastic envelope (GRE 869/1-3).
3. Digital photographs stored in the directory: R:\Historic Environment (Images)\SITES.Q-T\Relistian Lane, Reawla WB. 2016. HEXQPR146617
4. English Heritage/ADS OASIS online reference: cornwall2-271950
5. This report text is held in digital form as: G:\TWE\Waste & Env\Strat Waste & Land\Historic Environment\Projects\Sites\Sites R\Reawla Relistian Lane WB 146617\Report
6. No artefacts were recovered in the course of the project.

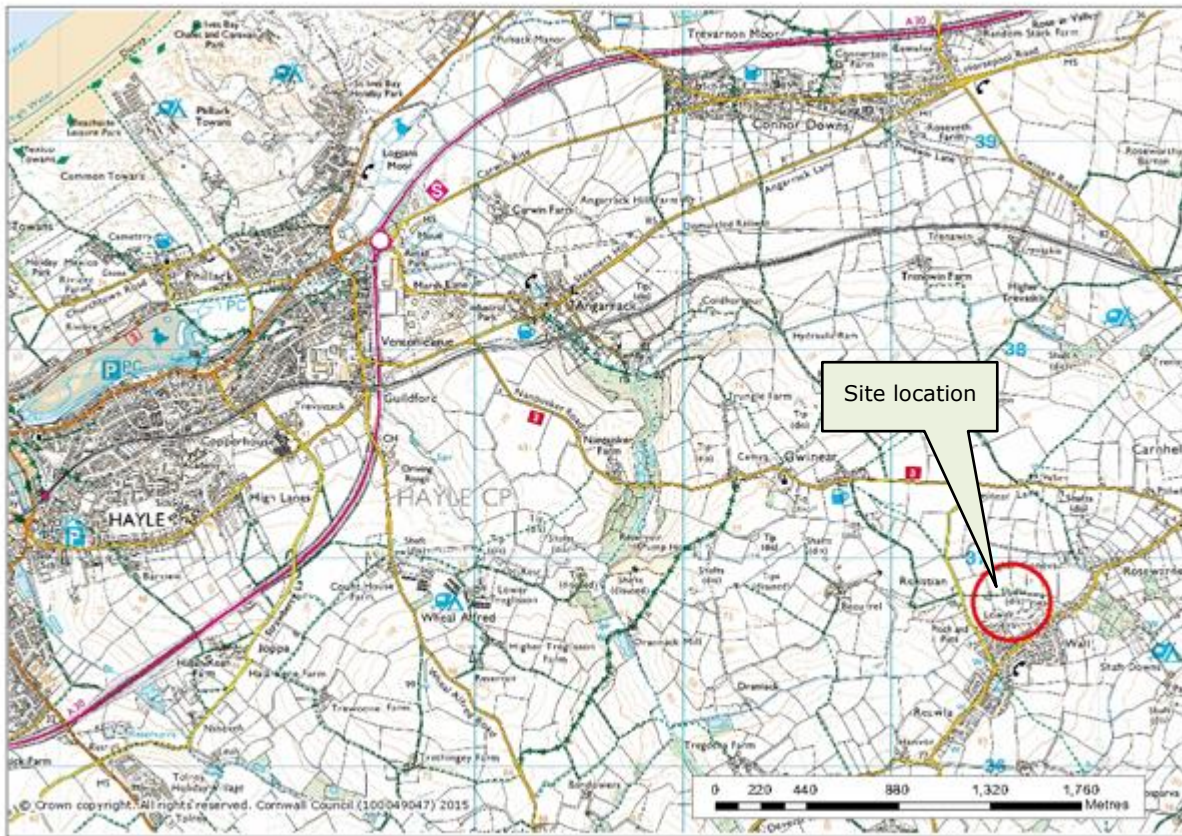


Figure 1. Location of the development area.



Figure 2. The location of the development area (site highlighted in red).



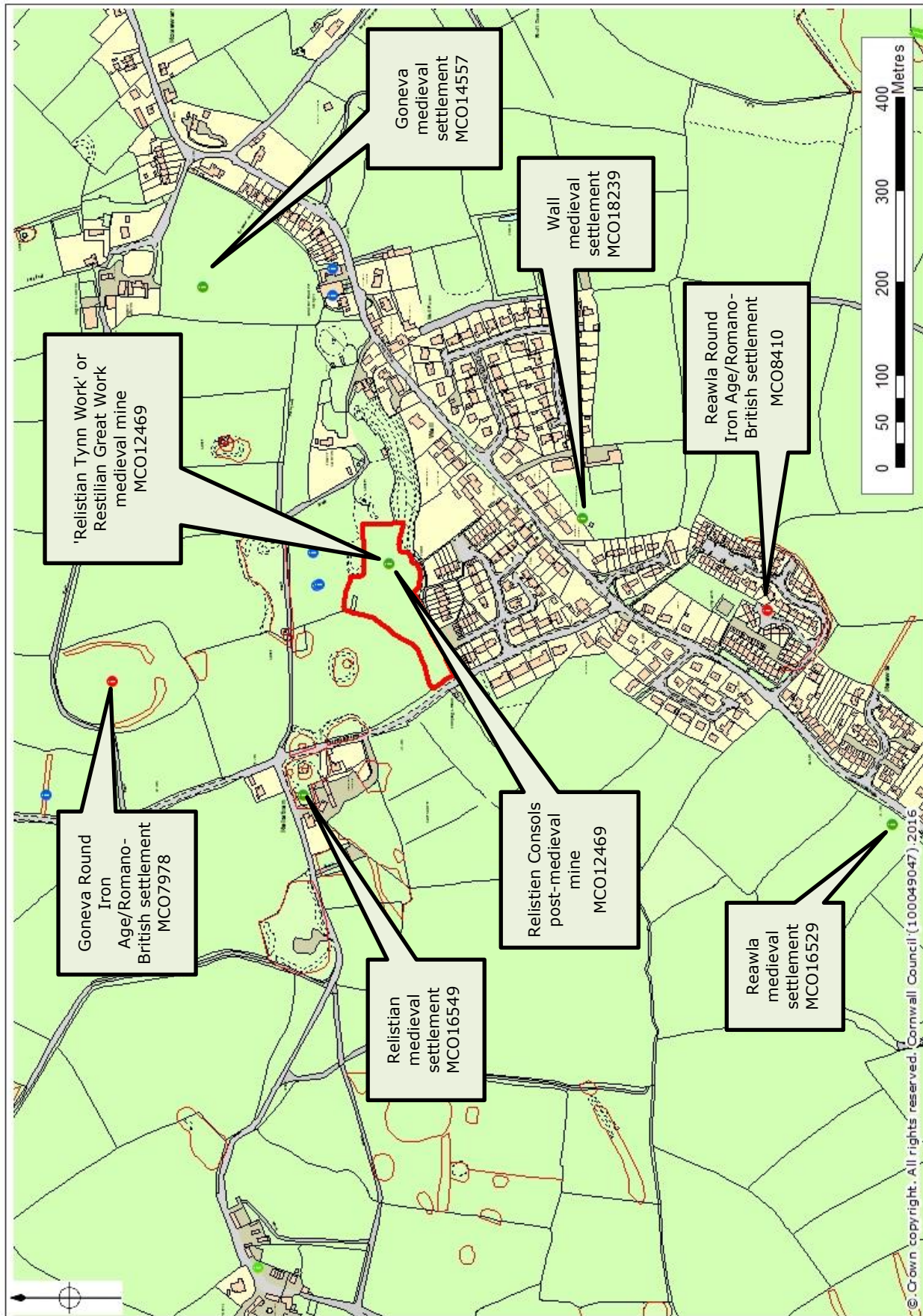


Figure 3. Known archaeological sites around the development area (site highlighted in red).

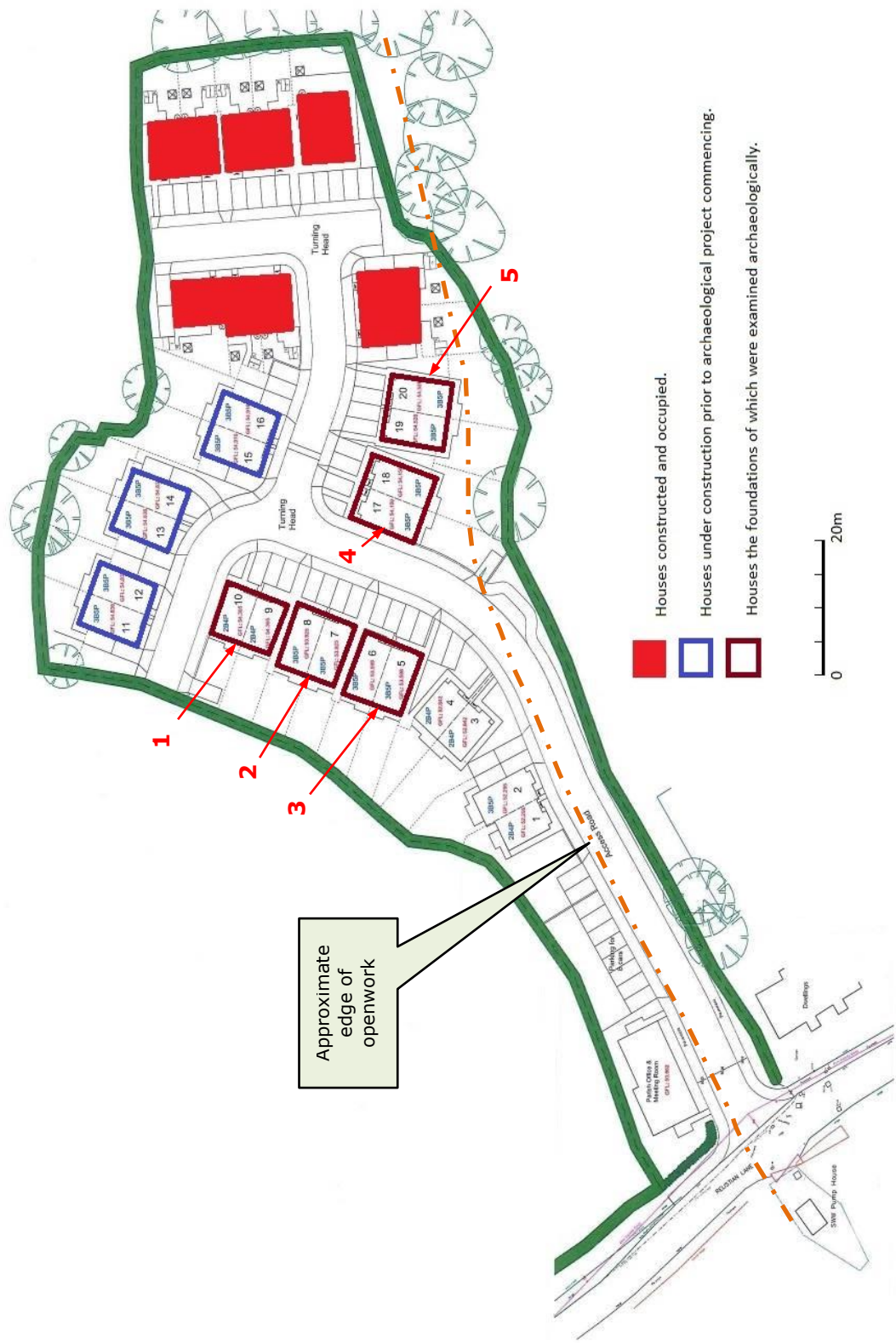


Figure 4. Site plan showing the area of the archaeological watching brief. Locations of recorded sections shown by red numbers.





Figure 5. Overview of part of foundation trenches for Houses 5/6 showing nature of ground encountered.



Figure 6. Detail of soil profile House 5/6 showing depth of disturbed ground above natural.





Figure 7. Mining mitigation work within openwork illustrating the depth of the feature (Photograph courtesy of Alan Caddy).



Figure 8. Mining mitigation work within openwork showing possible tunnel(Photograph courtesy of Alan Caddy).



*Figure 9. Mining mitigation work within openwork showing width of the feature (Photograph courtesy of Alan Caddy).*

## 9 Appendix 1. Relistian Lane, Reawla, Hayle Project Design for an archaeological watching brief

Client: Penmellyn Developments Ltd

Client contact: Steve Edwards

Client tel: 01736 710760

Client email: [steve.edwards@thedesignandplanningstudio.co.uk](mailto:steve.edwards@thedesignandplanningstudio.co.uk)

### Site location

The site is located on the north western boundary of Reawla, a small village approximately  $\frac{3}{4}$  of a mile south east of Gwinear, approximately six kilometres the east of Hayle, and adjacent to Wall, a small previously small settlement (named from a wall of ground demarking the side of two deep parallel openworks. The project area (see Fig 2) consists of the entire section of Field No. ?? and is centred at SW 60523 36716. The development site (0.84 Ha) was the northern part of a succession of openwork tin mines dating from at least the 16<sup>th</sup> century up to the early 18<sup>th</sup> century when copper mining was started, working on at least two copper lodes crossing the site approximately from east to west, up to the late 19<sup>th</sup> century.

- **Site history**

Mining on Relistian Downs stretch back to antiquity; a huge open works named '*Le Gracyas*' on Relystyan Down was listed as an ancient tin site in 1502. '*Relistian Tynn Work*' was shown as a noteworthy feature on plans of the Lanhydrock estate of 1696. According to Pryce, the mine was in operation in 1715 (1778). In 1760 Borlase (1864), described the works, also known as '*Restilian Great Work*', as the largest he had ever seen and which extended east and west for more than a furlong. The debris that had been thrown out along its course had formed a wall which probably gave rise to the place name 'Wall' that the workings traversed. In the east the huge trench split into two very deep channels with a sharp ridge between them. At the western end of the Relistian sett these coffin or open-cast workings were subsequently excavated still deeper into the elvan and as late as 1843 a chasm 39 fathoms in depth, 11 fathoms wide and nearly perpendicular remained as a reminder of its former productiveness (Hamilton Jenkin 1961, Vol V, 29-33). By the early eighteenth century copper was also being produced from Relistian and sales of copper ore begin to make regular appearances in Cornish estate books until 1719 when the mine closed down.

It remained idle until the end of the eighteenth century, there being a shortage of men to work it according to Hamilton Jenkin (*ibid*), but was in operation again in 1802 being known at various times thereafter as Relistien mine, Relistien Consols or Vyvyan Consols (it being marked by the latter name by Symons (1853 mine map). Dines (1956, 154), says it also included New West Rosewarne mine. In 1803 a new shaft was being sunk and a year later was 25 fathoms under adit (26 fms below surface). A 48" engine was purchased from Herland mine and by 1806 Relistain was working to and below the level of the old mine and just about paying its running costs. The lodes were 'bunchy' however, making the financial future of the mine uncertain and by 1808 old Relistien Mine had been suspended leaving just the eastern part working. This too, closed in 1811 and the steam engine and materials were put up for sale.

Relistien lay idle for close on 20 years after this when in 1830 an enterprise named Relistien Mines was set up. A 60" engine was erected and two 22" winding and stamping engines, but this company were financially overstretched and a new one set up in 1835. Over 6,500 tons of copper ore were sold between 1836 and 1839 and in 1838 the mine was employing 250 persons and working down to the 115 fathoms level



(Collins 1912, 566). By 1840 the mine was reported to be looking poor and 18 months later the materials - 2 water wheels and the 3 steam engines - were put up for sale. It recommenced operations as Relistian Consols and produced 5 tons of black tin in 1852, while Burt records copper and tin production in the 1870s under the Relistien Consols Co.

The Gwinear tithe award (1841) records the site as Field No. 1552, although the site immediately to the east is described as 'banks and trenches of old mines' (Field Nos. 1545, 1549 and 1550). The 1st edition (1880s) OS 25 inch map, made presumably whilst still working, shows engine houses at SW 60611 36735, SW 60524 36744 and a chimney at SW 60506 36755 (the latter two sites within the study area). William Holman (*pers comm*) recorded that c.1900 schoolboys explored the east section of the workings (outside and east of the study area - marked by the OS as a large circular pit, possibly a partly collapsed shaft or lode back pit) but found nothing. The best preserved section of the openwork is in the grounds of Parc Tye. It is locally known as "The Tye". Overall, the trench is 1/4 mile long and 100 ft wide. The trench and a series of shafts are visible on air photographs (1946 and 1996), and were plotted as part of the NMP. The third edition (1970s) OS map still show an openwork immediately east of the site. The mine worked two main lodes: North and South Lode, about 60 yards apart, each coursing about E. 20° N and underlying 30° to 40° N.

By the start of the 20<sup>th</sup> century the mine was depicted as abandoned (see 1907 OS map), its landscape covered with spreads of mine waste and accompanied by remnants of ruined engine houses and dressing floor perimeter walls. By 2005 (CCC aerial photographic evidence) western areas of the mine site (within the eastern half of the study area) had been reclaimed to agriculture, whilst the western part of the study area was still used for pasturage purposes.

The mine is centred at SW 60623 36722, close to the eastern boundary of the development site, at an average height of 75m OD. The underlying geology consists of Upper Devonian mudstone, siltstone and sandstones supporting occasionally shallow well drained fine loam and silty soils (BGS data).

### • **Project Background**

Planning application C1/MC04/0836/07/B relates to modifying conditions for a former warehouse development on this site and was submitted in 2007. This application has been approved subject to an archaeological planning condition. Condition 6 states:

1. *No development shall take place/commence until a programme of archaeological work including a Written Scheme of Investigation has been submitted to and approved by the local planning authority in writing. The scheme shall include an assessment of significance and research questions; and:*
  - a. *The programme and methodology of site investigation and recording*
  - b. *The programme for post investigation assessment*
  - c. *Provision to be made for analysis of the site investigation and recording*
  - d. *Provision to be made for publication and dissemination of the analysis and records of the site investigation*
  - e. *Provision to be made for archive deposition of the analysis and records of the site investigation*
  - f. *Nomination of a competent person or persons/organisation to undertake the works set out within the Written Scheme of Investigation.*
2. *No development shall take place other than in accordance with the Written Scheme of Investigation approved under Part (1) of this condition.*
3. *The development shall not be utilised/ occupied until the site investigation and post investigation assessment has been completed in accordance with the programme set out in the Written Scheme of Investigation approved under Part (1) of this condition and the provision made for*

*analysis, publication and dissemination of results and archive deposition has been secured; or by agreement with the Local Planning Authority in consultation with Historic Environment Advice.*

*Reason: To accord with the aims at paragraph 141 of the National Planning Policy Framework.*

Relevant elements of the development work on site will include the following:

- Establishment of a levelled site compound
- Groundworks to create the internal site road
- Works to connect the site road to the public highway
- Creation of a public bridleway
- Laying of services
- Treatment of extensive Japanese knotweed infestations, requiring, in some areas, large area excavations down to bedrock and removal of contaminated material
- Treatment of mine shafts and outcrop mining features by excavation, and exposure, followed by plugging or capping
- Removal or levelling of mine waste, contaminated soils, rubbish, rubble and other materials
- Extensive removal of topsoil and superficial materials and grading of the site to enable the development of components of the Biopark.

The brief states a requirement for work as follows:

Ground works associated with the development may well disturb buried archaeological remains. It is therefore important that a suitably qualified archaeologist(s) is/are present during these works in order to identify and record any features of interest.

The generic site specific aims of a watching brief are to:

- Establish the presence/absence of archaeological remains
- Determine the extent, condition, nature, character, date and significance of any archaeological remains encountered
- To establish the nature of the mining activities on the site
- To identify any artefacts relating to the occupation or use of the site

Aims specific to this site include;

- **“Widen our understanding of the extraction, processing and transportation of minerals”** (SWARF Research Aim 38)
- Identify and study particularly early examples of mining technology.
- Identify, record and further understanding of any evidence of copper smelting on this site.
- Record and place in social context evidence for the development of mining and related landscapes.
- **Research questions**

Identify and study particularly early examples of mining technology.

- **Project extent**

The project area (see Fig 2) is centred at SW 60523 36716, and includes a large field whose boundaries have not changed since at least the 1840s.

- **Previous archaeological work**

There has been no previous archaeological assessments within the study area. Unfortunately a site investigation trenching exercise by the Wheal Jane Consultancy in

July 2012 (Ref. SI18749), during an attempt to locate the site of a possible shaft – appears to have destroyed the shallow sub-surface remnants of a rotary engine house and chimney (as shown on the 1880 OS map).

- **Working methods**

All recording work will be undertaken according to the Institute for Archaeologists *Standards and Guidance for Archaeological Investigation and Recording*. Staff will follow the IfA *Code of Conduct* and *Code of Approved Practice for the Regulation of Contractual Arrangements in Archaeology*. The Institute for Archaeologists is the professional body for archaeologists working in the UK.

A brief review of available information will be carried out to inform the watching brief. This will comprise the following material:

- Published industrial archaeological and historical sources
- Historic maps:
  - Joel Gascoyne's 'Lanhydrock Atlas' map of parts of Cornwall (1696)
  - Thomas Martyn's map of Cornwall (1748),
  - OS 1 inch survey (c1810)
  - Gwinear Tithe map (1841),
  - Relevant mid 19<sup>th</sup> century mine plans (Cornwall Record Office)
  - 1<sup>st</sup> and 2<sup>nd</sup> Editions of the OS 25 inch maps (c1880 and c1907)
- Modern maps
- Databases recording geology, soil types, Historic Landscape Character, Designations, Rights of Way

*Fieldwork – watching brief*

Archaeological recording of sub-surface features will be undertaken as a watching brief during a range of groundworks activities including road construction, treatment of areas infested with any invasive weed species, the treatment of known mining features and ground level reduction in advance of site development. Whilst some areas of the site may be specifically targeted on the basis of information gathered during any pre-works archaeological desk based assessment, specifically the sites of documented mine shafts and mine buildings, all areas of ground opened up will be inspected for evidence of archaeological features following the removal of superficial deposits or modern topsoil, as appropriate.

The contractor will be asked to undertake this phase of initial top soil removal of material utilising a (toothless) grading bucket. The exposed stripped surface will be checked for indications of sub-surface archaeology, which will be recorded using direct measurement, notes and/or photography as appropriate. Features will be located with reference to the site plan and by the use of a hand-held GPS unit. Where areas of particular interest or significance are revealed during the initial soil strip, a request will be made to the principal contractor for an allowance of time to undertake appropriate excavation of the feature followed by recording by written description, plan and section and photographic record as appropriate. The level of recording undertaken will be appropriate to the character/importance of the archaeological remains. Surviving remains which will be disturbed or destroyed by the development shall be archaeologically recorded, in proportion to the aims stated above.

If complex and/or significant archaeological deposits are encountered then the archaeological requirements of the project should be reviewed by the client, the Historic Environment Planning Advice Officer and HE Projects. The significance of the remains and the nature of any further recording should be agreed between the client, the Historic Environment Planning Advice Officer and HE Projects.



Where necessary the detailed archaeological recording may include:

- Excavation of archaeological features exposed in the stripped area and plotting them onto a base map.
- Production of plans and section drawings of the excavated features and recording of features using a continuous numbering system.
- Retrieval of artefacts.

In the case of mine shafts or near surface mining features where it would be hazardous to enter any open excavation, recording will be by means of high resolution digital photography and notes taken from an agreed safe vantage point.

### **Recording: general**

Site drawings (plans, sections, locations of finds) will be made by pencil (4H) on drafting film; all plans will be linked to the Ordnance Survey Landline (electronic) map; all drawings will include standard information: site details, personnel, date, scale, north-point.

- All features and finds will be accurately located at an appropriate scale. Sections will normally be drawn at 1:10 and plans at 1:20.
- All archaeological contexts will be described to a standard format linked to a continuous numbering sequence.
- Drawings and photographs will be recorded in a register giving details of feature number and location.
- Sealed/undisturbed archaeological contexts in the form of buried soils, layers or deposits within significant archaeological features (ditches and pits, etc) will be sampled for environmental evidence and dating material. In the event that significant organic remains are encountered, advice may be needed from Vanessa Straker (Regional Advisor for Archaeological Science). Any necessary environmental sampling will be guided by *Environmental Archaeology* (English Heritage Centre for Archaeological Guidelines. 2001/02).

- **Treatment of finds**

The archaeological fieldwork may produce artefactual material.

- All finds will be collected in sealable plastic bags which will be labelled immediately with the context number or other identifier.
- All finds, where appropriate, will be retained from each archaeological context excavated.
- All finds, where appropriate, shall be washed.
- All pottery, and other finds, where appropriate, shall be marked with the site code and context number.
- The brief requires that this WSI shall include an agreed list of specialist consultants, who may be required to conserve and/or report on finds, and advise or report on other aspects of the work including environmental sampling. In this instance the finds advisor will be Carl Thorpe of HE Projects.
- All finds work will be to accepted professional standards and will adhere to the Institute for Archaeologists *Guidelines for Finds Work*.
- The requirements for conservation and storage will be agreed with the Royal Cornwall Museum as soon as possible following the start of work, and will be confirmed in writing to the HEPAO.

- Environmental sampling, should this be required, will be guided by *Environmental Archaeology* (English Heritage Centre for Archaeological Guidelines. 2001/02).
- The English Heritage Advisor for Archaeological Science will be requested for archaeological science advice if required (Vanessa Straker 0117 975 0689).

### **Human remains**

Any human remains which are encountered will initially be left in situ and reported to the HEPAO and the appropriate authorities (the Coroner), where appropriate. If removal is necessary this must comply with the relevant Government regulations. If burials are encountered their legal status must be ascertained and recording and/or removal must comply with the legal guidelines. If human remains are not to be removed their physical security will be ensured by back filling as soon as possible after recording. If human remains are to be removed this will be done with due reverence and in accordance to current best practice and legal requirements. The site will be adequately screened from public view. Once excavated human remains will not be exposed to public view.

- **Fieldwork: photographic recording**

The photographic record shall consist of prints in both black and white and colour together with the related negatives. Digital photography will be used for report illustration. For both general and specific photographs, a photographic scale shall be included. In the case of detailed photographs it may be appropriate to include a north arrow. The photographic record shall be accompanied by a photographic register detailing as a minimum, feature number, location and direction of shot.

The photo record will comprise:

- general views
- examples of significant detail

Methodology for the archive standard photography is set out as follows:

- Photographs of details will be taken with lenses of appropriate focal length
- A tripod will be used to take advantage of natural light and slower exposures
- Difficulties of back-lighting will be dealt with where necessary by balancing the lighting by the use of flash
- A metric scale will be included in all views, except where health and safety considerations make this impractical.

### *Post-fieldwork tasks*

- **Archiving**

Following review with the HE Project Manager the results from the fieldwork will be collated as an archive in accordance with: *Management of Research Projects in the Historic Environment (MoRPHE) English Heritage 2006* upon completion of the project.

This will involve washing and cataloguing of finds, the indexing and cross-referencing of photographs, drawings and context records.

All records (context sheets, photographs, etc) will be ordered, catalogued and stored in an appropriate manner (according to HE guidelines).

The site archive and finds will initially be stored at HE premises. The archive including a copy of the written report shall be deposited with the Royal Cornwall Museum within two months of the completion of the full report and confirmed in writing with the HEPAO. The RCM will be notified of the commencement of the project and included in discussions for sampling and disposal as appropriate.

The full report including all specialist assessments of artefact assemblages shall be submitted within a length of time (but not exceeding six months) to be agreed between the applicant and the archaeological contractor, Cornwall Council Historic Environment Service and the Royal Cornwall Museum. A further digital copy shall be supplied on CD-ROM preferably in 'Adobe Acrobat' PDF format. This report will be held by the Cornwall and Scilly Historic Environment Record (HER) and made available for public consultation. 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.

In the event that there are no finds or they are retained by the owner, the documentary archive in due course shall be deposited with the Cornwall Record Office, but in the medium term will be stored at ReStore. All digital records will be filed on the Cornwall Council network.

A summary of the contents of the archive shall be supplied to the HEPAO.

The archiving will comprise the following:

1. All correspondence relating to the project, the WSI, a single paper copy of the report together with an electronic copy on CD, stored in an archive standard (acid-free) documentation box
2. The project archive will be deposited initially at ReStore, and in due course (when space permits) at Cornwall Record Office.

### *Report*

This will contain:

- A concise non-technical summary of the project results.
  - Introduction/background/terms of reference
  - The aims and methods adopted in the course of the investigation.
  - A discussion of the archaeological findings in relation to the site specific aims.
  - A short statement of archaeological significance, in terms of importance, rarity, local character, educational and academic value.
  - A statement of any requirements for further work.
  - A location map, a drawing showing those areas examined as part of the archaeological recording, copies of historic maps and plans consulted and any archaeological plans and/or sections. All plans shall be tied to the national grid.
  - A summary of the archive contents and date of deposition.
  - A full and properly referenced bibliography.
  - Project archive
  - A copy of the brief and the approved WSI will be included as an appendix.
- **Product**

The study will result in the following outputs:

1. Annotated plan of the site.
2. Watching brief field notes and descriptions
3. Digital photographs (archived according to the Historic Environment's guidelines) supplied to the client on CD.

4. An entry in the English Heritage/ads online access to the index of archaeological investigations (OASIS).
5. A written report (as above).
6. A WSI for the proposed watching brief.

A digital copy of the report, illustrations and any other files will be held in the Cornwall HER, and will be supplied to the client on CD or other suitable media.

Copies of the report will also be distributed to local archives and national archaeological record centres, and will be made available for public consultation.

A contingency shall be made for full publication of the results of the watching brief in an appropriate journal in the event of significant findings being revealed, and for presentation of results to the public, for instance in the form of talks to interested groups or press releases, web content etc. The HEPAO will notify the client and contractor of such a need within four weeks of receipt of the report or following the discovery of significant findings.

- **Copyright**

Copyright of all material gathered as a result of the project will be reserved to Historic Environment, Cornwall Council. Existing copyrights of external sources will be acknowledged where required. Use of the material will be granted to the client.

- **Freedom of Information Act**

As Cornwall Council is a public authority it is subject to the terms of the Freedom of Information Act 2000, which came into effect from 1st January 2005.

HE will ensure that all information arising from the project shall be held in strict confidence to the extent permitted under the Act. However, the Act permits information to be released under a public right of access (a "Request"). If such a Request is received HE may need to disclose any information it holds, unless it is excluded from disclosure under the Act.

- **Timetable**

The study is anticipated to be undertaken between February and March 2015. HES will require adequate notice before commencement of work, in order to allow the allocation of field staff time and to arrange other logistics.

## **Monitoring**

Monitoring of the project will be carried out by Dan Ratcliffe, Historic Environment Planning Advice Officer. The HEPAO will be regularly kept informed of progress. Notification of the start of work shall be given in writing to the HEPAO at least one week in advance of its commencement. Any variations to the WSI shall be agreed with the HEPAO, preferably in writing, prior to them being carried out.

Monitoring points during the study will include:

- Approval of the WSI
- Completion of fieldwork
- Completion of archive report
- Deposition of the archive

Where the Historic Environment Planning Advice Officer is satisfied with the archive report and the deposition of the archive written discharge of the planning condition will be expected from the local planning authority (LPA).

- **Historic Environment, Cornwall Council**

Historic Environment Projects is the contracting arm of Historic Environment of Cornwall Council (HE). HE employs some 20 project staff with a broad range of expertise, undertaking around 80 projects each year.

HE is committed to conserving and enhancing the distinctiveness of the historic environment and heritage of Cornwall and the Isles of Scilly by providing clients with a number of services including:

- Conservation works to sites and monuments
- Conservation surveys and management plans
- Historic landscape characterisation
- Town surveys for conservation and regeneration
- Historic building surveys and analysis
- Maritime and coastal zone assessments
- Air photo mapping
- Excavations and watching briefs
- Assessments and evaluations
- Post-excavation analysis and publication
- Outreach: exhibitions, publication, presentations
- **Project staff**

The project will be partly carried out by HE field staff (Carl Thorpe) and will also be undertaken and managed by a nominated Senior Archaeologist (Colin Buck MifA) who will:

- Discuss and agree the detailed objectives and programme of each stage of the project with the field staff, including arrangements for health and safety.
- Monitor progress and results for each stage.
- Edit the project report.

- **Contract**

HE Projects is part of Historic Environment, Cornwall Council. If accepted, the contract for this work will be between the client and Cornwall Council.

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

- **Standards**

HE follows the Institute for Archaeologists' Standards and Code of Conduct.

As part of Cornwall Council, HE has certification in BS9001 (Quality Management), BS14001 (Environmental Management), OHSAS18001 (Health, Safety and Welfare), Investors in People and Charter Mark.

- **Health and safety statement**

HE follows the Council's *Statement of Safety Policy*. For more specific policy and guidelines HE uses the manual *Health and Safety in Field Archaeology* (2002) endorsed by the Standing Conference of Archaeological Unit Managers.

Prior to carrying out on-site work HE will carry out a Risk Assessment.

- **Insurance**

As part of Cornwall Council, HE is covered by Public and Employers Liability Insurance.

*Colin Buck MifA*

*Senior Archaeologist*

*5/06/2014*

*cbuck@cornwall.gov.uk*

*Tel: 01208 262841/07968 892144*





## **Cornwall Archaeological Unit**

Fal Building, County Hall, Treyew Road, Truro, Cornwall,  
TR1 3AY



(01872) 323603  
[enquiries@cau.org.uk](mailto:enquiries@cau.org.uk)  
[www.cau.org.uk](http://www.cau.org.uk)