Report No: 2014R036



# **Proposed cemetery site, Stithians, Cornwall**

# Findings of a geophysical survey



**Historic Environment Projects** 

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# Findings of a geophysical survey

Client	Stithians Parish Council		
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## **Acknowledgements**

This study was commissioned by Stithians Parish Council and carried out by Historic Environment Projects, Cornwall Council.

The Project Manager was Adam Sharpe.

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

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.



Historic Environment, Cornwall Council is a Registered Organisation with the

Institute for Archaeologists

#### Cover illustration

Extract from the tithe map of c 1840 for the parish of Stithians. The proposed cemetery site is in the field labelled 2124 just right of centre. North is to the right, Stithians parish church to lower left. (© Cornwall Record Office.)

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# **Abbreviations**

HER Cornwall and the Isles of Scilly Historic Environment Record

HE Historic Environment, Cornwall Council

HEPAO Historic Environment Planning Advice Officer

NGR National Grid Reference

OD Ordnance Datum – height above mean sea level at Newlyn

OS Ordnance Survey

# 1 Summary

Historic Environment Projects was requested by Stithians Parish Council to undertake a geophysical survey of a site north of Stithians parish council which was the subject of a planning application for change of use from agricultural land to a cemetery.

A rapid desk-based assessment carried out for the purposes of this report indicated that the site formed part of the historic pattern of fields around the churchtown at Stithians, a pattern dating to the seventeenth century or earlier. It is traversed by footpaths leading to the parish church from outlying settlements. No other archaeological or historic features are known within the site and no previous archaeological investigations are known to have taken place.

The magnetometer survey showed two linear features within the area proposed for the cemetery. One of these coincides with the alignment of an historic footpath, the other is interpreted as a former boundary. The latter is of some interest because no boundary in this location is shown on any of the available historic mapping.

Neither the geophysical survey or rapid desk-top assessment revealed any significant archaeological features within the footprint of the proposed cemetery which would require re-design of the site to mitigate potential impacts on them.

A report detailing the findings of the assessment was prepared for the client.

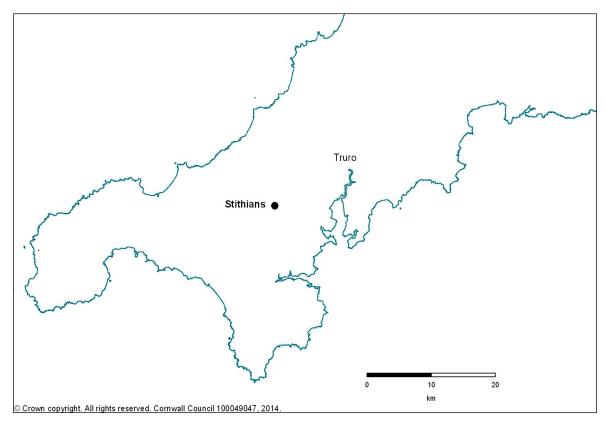


Fig 1 Location map



Fig 2 Site extent

# 2 Introduction

# 2.1 Project background

Planning application PA12/01141 was submitted on 7 February 2012 for the provision of a municipal cemetery on land currently used for farming. This application was approved subject to five conditions. Condition 4 stated:

'No development shall take place within the site until the applicant has undertaken an archaeological geophysical survey to ascertain the buried archaeological potential of the site. The findings of which shall be submitted to and approved in writing by the local planning authority in consultation with the County Archaeologist.'

The development area has been recorded on the Cornwall and Scilly Historic Environment Record (HER) as within land characterised as 'Anciently Enclosed Land' with a high potential for the survival of buried archaeological remains. The site is located immediately north of the church and settlement of Stithians. As far as is known, there have been no previous detailed archaeological investigations within the development area.

Cornwall Council Historic Environment Projects was approached by Mr. John Calvert, Clerk to Stithians Parish Council with a request for the costs and timetable for a geophysical survey of the site on 13 January 2014, a brief prepared by Mr. P. Markham, Historic Environment Planning Advice Officer (HEPAO) (west) dated 13 January 2014 being attached.

#### **2.2 Aims**

Ground works may disturb buried archaeological remains. A geophysical survey was recommended by the HEPAO in order to understand the site and its potential for recording archaeological remains. This would provide evidence for any recommendations for further archaeological recording.

As stated in the brief, the site specific aims are to:

- Undertake an archaeological geophysical 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 is recommended.

The project objectives were to produce a written report on the findings of the investigations and to produce an ADS/ONLINE entry for the survey.

## 2.3 Methods

All recording work is undertaken according to the Institute for Archaeologists Standards and Guidance for Archaeological Investigation and Recording. Staff 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.

#### 2.3.1 Desk-based assessment

A rapid desk-based assessment was carried out to inform this report. This comprised examination of:

- · Historic maps, including:
  - Joel Gascoyne's map of Cornwall (1699)

- Thomas Martyn's map of Cornwall (1748)
- OS 1 inch survey (c 1809)
- Stithians tithe map (c 1840)
- 1st and 2nd editions Ordnance Survey 25in: 1 mile maps (c 1880 and c 1907)
- Modern Ordnance Survey digital mapping
- GIS layers curated by Cornwall Council and Historic Environment, Cornwall Council.

## 2.3.2 Fieldwork: geophysical survey

A specialist geophysical survey contractor was commissioned to undertake a magnetometer survey of the area of the proposed cemetery. All survey work was undertaken to nationally recommended standards and was carried out by appropriately qualified field staff. The results of the geophysical survey were made available to Historic Environment Projects in the form of a suitably illustrated summary report (Fry 2014). This includes a full description of the methodologies employed during the fieldwork and any subsequent data processing.

#### 2.3.3 Creation of site archive

This included:

- Project materials stored according to HER guidelines.
- Completion of an English Heritage/ADS OASIS online archive entry.

### 2.3.4 Archive report

An archive report (this report) was prepared summarising the findings of the deskbased assessment and geophysical survey, together with recommendations, a summary of the archive contents, a copy of the approved WSI and supporting illustrations.

A paper copy and a digital (PDF) copy of the report, illustrations and any other files will be deposited with in the Cornwall HER. Paper copies of the report will be distributed to the client, to local archives and national archaeological record centres. The information contained within the report will be deemed to be within the public domain.

#### 2.3.5 Archive deposition

An index to the site archive was created and the archive contents prepared for long term storage, in accordance with HE standards.

An ordered and integrated site archive was prepared in accordance with Management of Research Projects in the Historic Environment (MoRPHE) English Heritage 2006 upon completion of the project. As the project produced solely a documentary archive this will be deposited with the Cornwall Record Office as well as the Courtney Library of the Royal Institution of Cornwall.

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

The archiving comprised 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 PLC, Liskeard, and in due course (when space permits) at Cornwall Record Office.

# 3 Location and setting

The proposed cemetery site occupies the eastern portion of a field to the north of Stithians churchtown, centred on NGR SW 7307 3730, at a height of 140m OD (Fig 2). It is approximately 116m long north south by 50m wide and will extend over an area of about 5240 sq m. The underlying geology is recorded as granite of the Carnmenellis Intrusion (Fry 2014).

# 4 Designations

#### 4.1 National

No national designations fall within the proposed cemetery site. Two Scheduled crosses lie approximately 90m and 130m to the south, in the area around the church. The church is itself a Grade II\* Listed Building and a number of Grade II Listed features lie in the immediate vicinity.

# 4.2 Regional/county

No county, regional or local designations apply to the site.

#### 4.3 Access

The proposed cemetery site is crossed by public right of way 231/12/3 (Gold). Footpath 231/8/2 (Gold) runs just to the west.

# 5 Site history

The proposed cemetery site lies within an area characterised as Anciently Enclosed Land (Cornwall County Council 1996). This is land which forms the agricultural heartland of Cornwall, enclosed and cultivated since at least the seventeenth century but in most cases from at least the medieval period. The pattern of boundaries defining field systems in this historic landscape character Type is often derived from enclosure of groups of medieval cultivation strips.

Areas falling within Anciently Enclosed Land frequently reveal evidence for settlement and field systems extending back to the Middle Bronze Age (c 1500 BC) and on occasion earlier monuments and features. This historic landscape character Type is regarded as having a high potential for the survival of buried archaeological remains.

The field was recorded by the Stithians tithe survey of 1840 as Churchway (TA 1124), measuring a little under 5 acres (approximately 2 ha) and with the land use recorded as arable (Fig 3). It formed part of a 49-acre holding identified by an annotation in the tithe apportionment as Glebe. At that time the farmhouse and ancillary buildings for this holding lay immediately to the south of the proposed cemetery area; this site, close to the medieval parish church, was occupied in the later nineteenth and during the twentieth century by the parish vicarage and its grounds (Ordnance Survey 1st and 2nd edition 25in: 1 mile maps: Figs 4 and 5). This is now the site of a modern residential development (Fig 6).

The tithe map of 1840 and the 1st and 2nd edition 25in maps each show two footpaths crossing the field, one entering on the north-west side, the second at the north-east corner. The paths met on the south side of the field and continued towards Stithians parish church which lies less than 150m to the south. These are the 'churchways' referred to by the name recorded for the field in the tithe survey and represent routes taken by parishioners from outlying farms to the north in coming to the church and churchtown. Both paths are shown as rights of way on modern Ordnance Survey mapping (1:25,000 and 1:10,000).

Earlier maps at smaller scales – Gascoyne's map of 1699, Martyn's of 1748 and the 1st edition Ordnance Survey 1in map of c 1809 provide no additional detail on the site. The Cornwall and Scilly Historic Environment Record provides no information on features within or close to the proposed cemetery. As far as is known, there have been no previous detailed archaeological investigations within the development area.

# 6 Geophysical results

The geophysical survey was undertaken by ArchaeoPhysica Ltd on 4 April 2014. Approximately 1.3 ha of land was surveyed within part of a field, which was under pasture at the time of survey. For convenience of survey and interpretation, the area surveyed was slightly larger than that proposed for the cemetery (Figs 7, 8). The report containing the processed results (Fry 2014) is dated 14 April 2014.

The geophysical survey revealed two features of possible archaeological significance within the area of the proposed cemetery (Fig 8). The linear feature [4], interpreted as possibly representing a former boundary, follows the line of the historic and present footpath running to the north-east corner of the field. A second linear feature [5], interpreted as a former ditched boundary, follows an alignment broadly parallel to [4], turning to the east over a few metres at its northern end. None of the available historic maps shows a boundary in this location.

Others features were identified to the west, outside the area of the proposed cemetery. A series of enhanced magnetic anomalies typical of soil-filled structures form a subcircular feature [6] approximately 23m in diameter. These appear to be discontinuous and non-aligned and therefore do not lend themselves to interpretation as the fills of a sub-circular ditch. Most of the anomalies are as or more magnetic than those from natural sources, however, reinforcing the impression that this is not an entirely natural feature and therefore potentially of archaeological interest.

A further linear feature [3] was interpreted as another former ditched boundary, again, not shown on historic maps. This lies approximately parallel to the south-eastern and north-western boundaries of the field and may represent a former subdivision of it. Feature [1] coincides with the present paved footpath running approximately north west – south east across the western side of the field, the alignment of which is shown on historic maps.

Much of the area surveyed shows a pattern of past ploughing aligned parallel to this path. That this does not align with any of the current field boundaries, which suggests that it is more likely to be of relatively recent origin than to derive from the medieval cultivation patterns which shaped the historic field pattern.

## 7 Recommendations

The geophysical survey and rapid desk-top assessment have not revealed any significant archaeological features within the footprint of the proposed cemetery which would require re-design of the site to mitigate potential impacts on them.

However, it is possible that small archaeological features, such as pits and postholes might not have been detected and the HEPAO retains the option to require further determination of the features revealed by the geophysical survey.

# 8 References

# 8.1 Primary sources

Ordnance Survey 1st edition 1in: 1 mile map, c 1809 (licensed digital copy at HE) Tithe map and apportionment, parish of Stithians, 1840 (licensed digital copy at HE) Ordnance Survey 1st edition 25in: 1 mile map, c 1880 (licensed digital copy at HE) Ordnance Survey 2nd edition 25in: 1 mile map, c 1907 (licensed digital copy at HE) Ordnance Survey Mastermap digital mapping, 2014.

#### 8.2 Publications

Cornwall County Council 1996. Cornwall: a landscape assessment, 1994, Truro

Fry, R, 2014. New cemetery, Stithians, Cornwall. Geophysical survey report produced for Cornwall Council HES, Hereford (ArchaeoPhysica Ltd)

# 8.3 Websites

Heritage Gateway (English Heritage's online database of Sites and Monuments Records, and Listed Buildings): www.heritagegateway.org.uk/gateway/

# 9 Project archive

The HE project number is 146342

The project's documentary, photographic and drawn archive is housed at the offices of Historic Environment, Cornwall Council, Fal Building, County Hall, Treyew 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. English Heritage / ADS OASIS online reference: cornwall2-177891

This report text is held in digital form as: G:\TWE\Waste & Env\Strat Waste & Land\Historic Environment\Projects\Sites\Sites S\Stithians cemetery geophysics\Stithians cemetery geophysics report 2014 146.342.docx

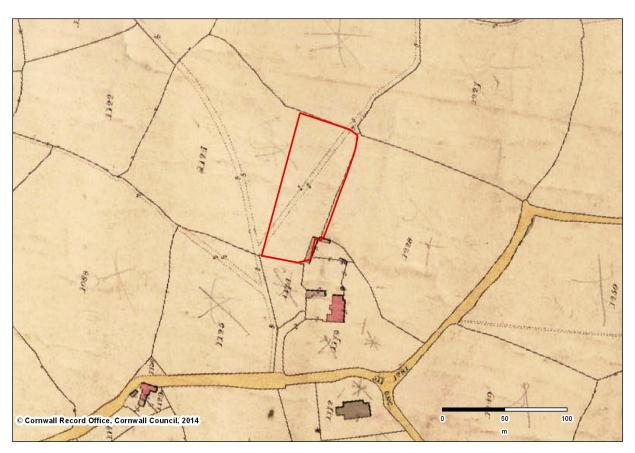


Fig 3 Extract from Stithians tithe map, c 1840. The proposed cemetery site is outlined in red on this and subsequent maps.

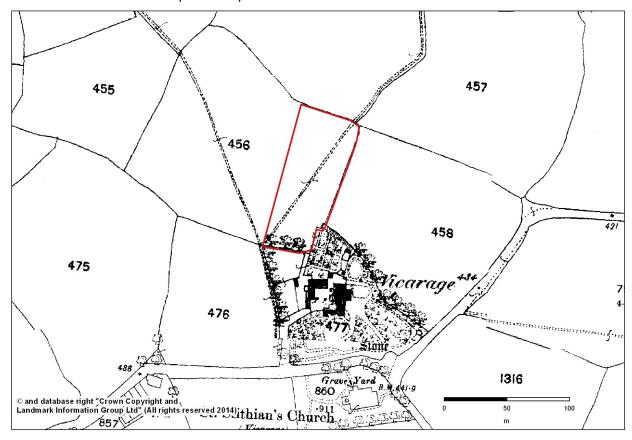


Fig 4 1st edition Ordnance Survey 25in: 1 mile map, c 1880

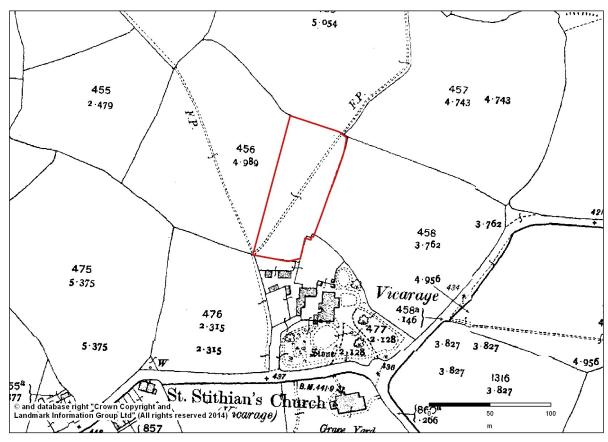


Fig 5 2nd edition Ordnance Survey 25in: 1 mile map, c 1907



Fig 6 Ordnance Survey digital mapping showing the site and its environs (2014)



Fig 7 The geophysics data plot for the Stithians cemetery site. Several linear features are evident, as well as a cluster of discontinuous arcs making up a sub-circular feature. **NB.** The area over which the geophysical survey was conducted extended over the proposed cemetery site but also covered an additional area to the west.

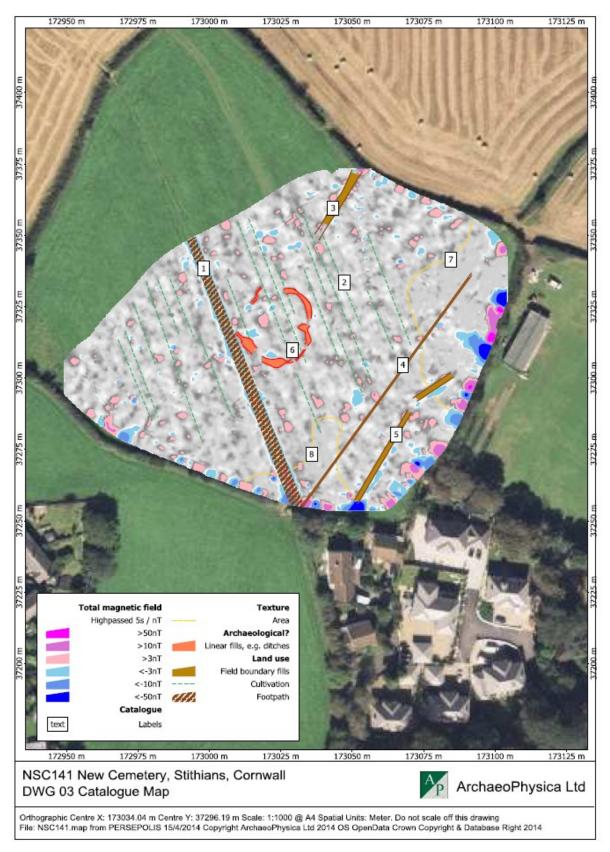


Fig 8 The interpreted geophysical data for the site. See section 6 of this report for descriptions and interpretation of the features identified.

# **Appendix 1: Written Scheme of Investigation**

Geophysical survey at Stithians new cemetery: Rev01, AS, 14/01/14

# Historic Environment Projects, Cornwall Council



# Land north of Stithians proposed for new cemetery: Written Scheme of Investigation for archaeological a geophysical survey

Client: Stithians Parish Council

Client contact: John Calvert

Client email: stithianspc@aol.com

# Project background

Planning application PA12/01141 was submitted on the 7<sup>th</sup> February 2012 for the provision of a municipal cemetery on land currently used for farming. This application has been approved subject to 5 conditions. Condition 4 states:

"No development shall take place within the site until the applicant has undertaken an archaeological geophysical survey to ascertain the buried archaeological potential of the site. The findings of which shall be submitted to an approved in writing by the local planning authority in consultation with the County Archaeologist.

The development area has been recorded on the Cornwall and Scilly Historic Environment Record (HER) as within land characterised as 'Anciently Enclosed Land' with a high potential for the survival of buried archaeological remains. The site is located immediately north to the church and settlement of Stithians. As far as is known, there have been no previous detailed archaeological investigations within the development area.

Historic Environment Projects were approached by Mr. John Calvert, Clerk to Stithians Parish Council with a request for the costs and timetable for a geophysical survey of the site on 13 January 2014, a brief prepared by Mr. P. Markham, HEPAO (west) dated 13 January 2014 being attached.

# Site history

The project area lies immediately to the north of the settlement of Stithians within the eastern part of an agricultural enclosure. No archaeological sites are recorded in this location within the Cornwall and Scilly Historic Environment Record, or have been recorded here as cropmarks by the National Mapping Programme. The evidence appears to suggest that this area has been longstanding agricultural land in continuous cultivation since the medieval period, if not earlier.

# Project extent

The development area is centred at SW 73068 37309, and consists of a broadly rectangular area of land immediately to the north of the settlement of Stithians. The proposed new cemetery extends to approximately 5,250 m<sup>2</sup> and is at an average elevation of 140m OD, the site sloping gently from the north west towards the south east.

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# Aims and objectives

Ground works may disturb buried archaeological remains. In order to understand the site and its potential for recording archaeological remains a geophysical survey has recommended by the HEPAO. This would provide evidence for any recommendations for further archaeological recording.

As stated in the brief, the site specific aims are to:

- Undertake an archaeological geophysical 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 is recommended.

The results of this geophysical survey may lead to a requirement for further archaeological mitigation in the form of evaluation trenching or a 'watching brief' during the early phases of site development, depending on the nature and extent of any discoveries.

The project objectives are to produce a written report on the findings of the investigations and to produce an ADS/ONLINE entry for the survey.

# 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.

#### Background information

A rapid review of readily available historic sources will be carried out to inform the interpretation of the geophysical survey. This will comprise:

- Historic maps, including
  - OS 1 inch survey (c1810)
  - Stithians Tithe map (c1840),
  - 1st and 2nd Editions of the OS 25 inch maps (c1880 and c1907)
- Modern maps
- GIS layers curated by Cornwall Council and Historic Environment Projects.

#### Fieldwork: geophysical survey

A magnetometer survey of the whole of the project area will be commissioned from a suitably qualified specialist contractor. Nationally agreed standards will be followed for the undertaking of the survey.

#### Creation of site archive

To include:

Completion of the English Heritage/ADS OASIS online archive index.

#### Archive report

A written report will include:

- Summary
- Project background
- · Aims and objectives

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- Methodology
- Location and setting
- Designations
- Site history
- · Geophysical survey results
- Recommended mitigation measures
- Conclusions
- References
- Project archive index
- Supporting illustrations as appropriate: location map, historic maps, plans, photographs

A digital (PDF) copy of the report, illustrations and any other files will be held in the Cornwall HER. Paper copies of the report will be distributed to the client, to local archives and national archaeological record centres.

#### Archive deposition

An index to the site archive will be created and the archive contents prepared for long term storage, in accordance with HE standards.

The archiving will comprise the following:

- 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
- The project archive will be deposited initially at ReStore PLC, Liskeard and in due course (when space permits) at Cornwall Record Office.

# Timetable

The study is anticipated to be commenced during early 2014. HE will require at least two weeks notice before commencement of work, in order to allow the allocation of staff time and other logistics.

The archive report will be completed within 3 months of the end of the fieldwork. The deposition of the archive will be completed within 3 months of the completion of the archive report.

# Monitoring and Signing Off Condition

Monitoring of the project will be carried out by Mr. P. Markham, Historic Environment Planning Advice Officer. 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).

Monitoring points during the study will include:

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

# Historic Environment Projects

Historic Environment Projects is the contracting arm of Historic Environment, Cornwall Council (HE). HE employs some 20 project staff with a broad range of expertise, undertaking around 120 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

## Standards



HE is a Registered Organisation with the Institute for Archaeologists and follows their Standards and Code of Conduct.

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

### Terms and conditions

#### 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 the HE projects team and will be presented in good faith on the basis of professional judgement and on information currently available.

#### Project staff

The project will be managed by a nominated Senior Archaeologist (Adam Sharpe BA MIfA) who will:

 Discuss and agree the detailed objectives and programme of each stage of the project with the client and the field officers, including arrangements for health and safety.

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- · Monitor progress and results for each stage.
- Edit the project report.
- Liaise with the client regarding the budget and related issues.

Work will be carried out by HE field staff and qualified specialist and sub-contractors.

#### Report distribution

Paper copies of the report will be distributed to the client, to local archives and national archaeological record centres.

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

#### Copyright

Copyright of all material gathered as a result of the project will be reserved to the 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.

#### Health and safety statement

HE follows the Council's Statement of Safety Policy.

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, with a policy value of £50m. The Council also has Professional Negligence insurance with a policy value of £5m.

Adam Sharpe BA MIfA

Senior Archaeologist

14 January 2014

Historic Environment Projects

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