



Tregear wind turbine, Ladock, Cornwall

Archaeological watching brief



Report No

2012R004

Report Name

Tregear wind turbine, Ladock,
Cornwall. An archaeological watching
brief

Report Author

Anna Lawson-Jones

Event Type

Watching brief

Client Organisation

Trevince Estate Ltd

Client Contact

Mr Richard Stone

Monuments (MonUID)

Tregear round - SAM 32950

Tregear medieval settlement – MCO11389

Fieldwork dates (From) (To)

29th November
2011

29th November
2011

(Created By)

Anna Lawson-Jones

(Create Date)

January
2012

Location (postal address; or general location and parish)

Located between Ladock and Trispen, within land associated with medieval Tregear

(Town – for urban sites)

-

(Postcode)

-

(Easting) X co-ord

Centred at SW 8655

(Northing) Y co-ord

5033



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1 Project background

The Projects team of Historic Environment, Cornwall Council (HE, CC), was commissioned by Mr Richard Stone to carry out an archaeological watching brief during construction of a single wind turbine, two geotechnical trial pits and removal of topsoil from the gateway entrance into the field marking the start of a matted access road to the turbine. Sections through the two geotechnical trial pits were also recorded. A project design and estimate for a programme of works was produced by Andy Jones (HE Project Manager) on 9/11/2011. A copy of which is included at the back of this short report (Appendix 1). The brief was agreed and the field work was undertaken on 29/11/2011, as a part of planning condition PA11/05038.

Prior to these works an archaeological assessment (Lawson-Jones 2011), had been produced at the request of Dan Ratcliffe (Historic Environment Advice Team Leader (Central), CC), because of nearby Tregear round, an enclosed prehistoric or Romano-British settlement site. Tregear round is a Scheduled Monument (SAM 32950). It lies 210m to the west of the turbine location. The proximity of the round to the turbine site suggested the potential for features associated with the round to be disturbed by the turbine works. The site lies within a Recently Enclosed Landscape (Cornwall County Council 1996), a landscape type known to contain more upstanding archaeological sites than Anciently Enclosed Land, where long-term cultivation has reduced archaeological remains. The turbine site also lies within land associated with the medieval settlement of Tregear (first recorded in 1304).

2 Aims and objectives

The aims and objectives of the watching brief were:

- To ensure that the site works are carried out in such a way as to allow recording as set out in the Written Scheme of Investigation (included at the end of this report).
- To establish the presence/absence of archaeological remains and 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 the activity on the site.
- To identify any artefacts relating to the occupation or use of the site.
- To provide further information on the archaeology of Tregear from any archaeological remains encountered.
- To deposit the archive with the relevant museum and disseminate the results of discoveries as a concise archive report and, if merited, wider publication.

3 Working methods

Field work and archaeological recording

The excavation of two geological trial pits was agreed prior to the archaeologist being on site. These were left open for recording.

The soil strip for the turbine base (and the gate entrance area) was carried out under archaeological supervision using a machine fitted with a toothless bucket.

The soil was stripped cleanly to a level at which archaeological features or layers if present would be revealed (i.e. top of the "natural").

Machines did not run over the stripped area until inspected, photographed and recorded to the appropriated level. Recording took the form of notes and measurements added to a prepared base map.

Archiving and report

Following review with the HE Project Manager the results from the fieldwork have been collated into a small paper archive with associated digital colour photographs.

The archive is stored in an appropriate manner according to HE guidelines and will finally be deposited at the Cornwall Record Office.

All digital records will be filed on the Cornwall Council network.

The results from the fieldwork are presented here in a concise, illustrated report.

4 Results

Fieldwork involved the inspection of two geological trial pits, which had been excavated down in to the bedrock and monitoring topsoil stripping of the wind turbine base down to the top of 'natural' – at a point where archaeological features might be expected to be seen. In addition, at the junction of the road with the northern end of the temporary access track (leading to the turbine) an extant roadside gateway area was topsoil stripped and recorded.

The following text records layers exposed, from top to bottom. No archaeologically significant features were exposed or disturbed by these works.

Geological trial pit 1

Rectangular trial pit 1 measured 2.8m long by 0.5m wide and was 2m deep. It was located 13m to the north-north-east of the excavated turbine base. Three layers were identified in the vertical sections of the pit. After recording the pit was backfilled with its own spoil. No finds were recorded.

- Ploughsoil. Mixed mid brown clay loam with occasional quartz and very occasional shillet pieces. Uniform thickness of 0.45m across the trial pit.
- Upper natural subsoil. Pale tan and grey coloured, relatively loose decayed natural killas bedrock. Uniform thickness of 1.05m (extending down to a depth of 1.5m below the top of ploughsoil).
- Lower bedrock/natural. Compact, dark, solid clay and decayed killas bedrock (hardening with depth). A 0.5m depth was removed.

Geological trial pit 2

Rectangular trial pit 2 measured 2.6m long by 0.5m wide and was 2.3m deep. It was located 12m to the south-south-west of the excavated turbine base. Three layers were identified in the vertical sections of the pit. After recording the pit was backfilled with its own spoil. No finds were recorded.

- Ploughsoil. Mixed mid/dark grey brown slightly clayey loam. Contained occasional quartz and very occasional shillet inclusions. Uniform depth of 0.35m running across the top of the pit.
- Upper natural clay. Hard pale grey and tan coloured decayed killas/clay. A uniform 0.65m depth was recorded.
- Lower clay/killas bedrock. Dark, near blue-grey decaying killas. A 1m thickness was removed. Partial collapse of the pit sides was noted below a 1.2m depth from the top of ploughsoil.

Wind turbine base

The wind turbine base measured 6m by 6m in plan and was 0.3 to 0.4m deep. It was excavated down to the top of the naturally formed subsoil. No significant archaeological features, layers or finds were disturbed. Once recording was complete, the whole area was to be reduced in preparation for concrete footings to be laid (this was not recorded). A modern pipeline trench linking the reservoir tank located on the round itself and a smaller tank located in the boundary to the east (reported by the tenant farmer) was not revealed by these works.

- Ploughsoil. Mixed mid/dark grey brown slightly clayey loam. Contained occasional quartz and very occasional shillet inclusions. No finds of any date were present in the ploughsoil.

- Upper natural clay. Hard pale grey and tan coloured decayed killas/clay was exposed, but not dug in to at the time of recording. No archaeological features were revealed.

Gate entrance

A north-west to south-east aligned quadrilateral area measuring 5m wide in the north to 7m wide in the south, 10m long and 0.2 to 0.35m deep was topsoil stripped. The narrowest width is a reflection of the existent gateway entrance, while the length reflects the direction of the access track. Once recorded this area was to be filled with compacted hard core, providing a turning area for vehicles coming on to the site. The access track itself was not topsoil stripped, but was instead covered with matting suitable for driving over without churning up underlying soil layers.

- Ploughsoil. Mixed mid/dark grey brown slightly clayey loam. Contained occasional quartz and very occasional shillet inclusions. Some compaction and wheel ruts noted, but these did not extend down below the plough depth. No ditches flanking the road boundary or any other significant layers or features were revealed, and there were no finds.

5 References

Cornwall County Council, 1996. *Cornwall Landscape Assessment 1994*, Cornwall County Council: Truro.

Lawson-Jones, A., 2011. *Tregear wind turbine, Ladock, Cornwall. Archaeological Assessment*. HE Projects, C.C.

6 Project archive

The HE project number is 2011010

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.I-L\Ladock-Tregear wind turbine 2011
3. English Heritage/ADS OASIS online reference: cornwall2-117272
4. This report text is held in digital form as:

G:\TWE\Waste & Env\Strat Waste & Land\Historic Environment\Projects\Sites\Sites L\Ladock, Tregear Wind Turbine Watching Brief

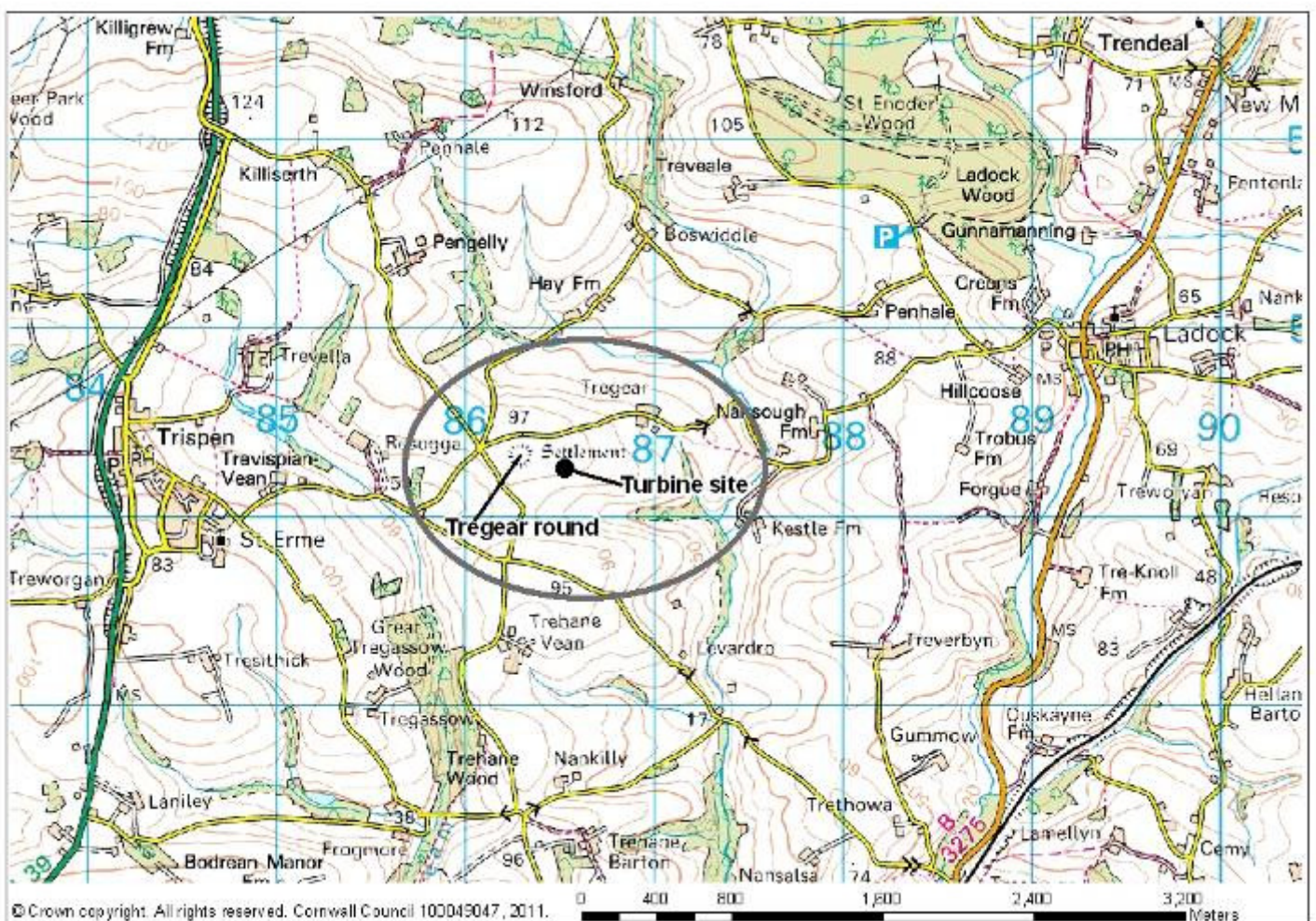


Fig 1 Location map showing Scheduled Tregear round and the wind turbine site.

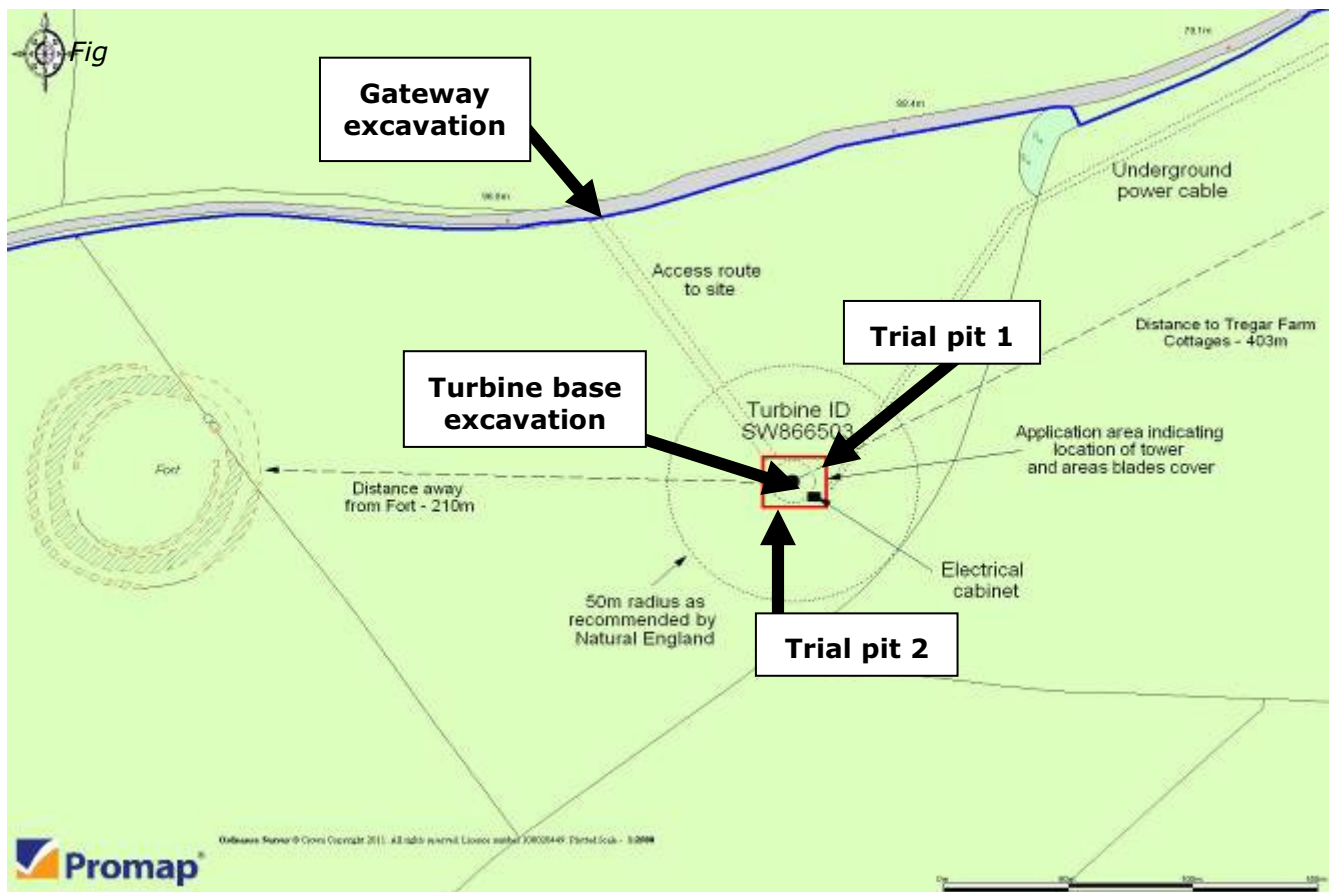


Fig 2 Location of all excavated areas recorded during the watching brief marked on to the map supplied by the client showing proposed site works.



Fig 3 Looking east across the topsoil stripped turbine base towards Tregar round on the horizon.



Fig 4 Section through trial pit 1(top), plan view of trial pit 2 (middle), and looking north-east across the topsoil stripped gateway area (bottom).

Appendix 1

Written Scheme of Investigation

Archaeological Mitigation at Tregear, Ladock Wind turbine

Background

HE Projects, have been requested by Mr Richard Stone, to provide a project design and estimate for a programme of archaeological recording ahead of the construction of a wind turbine site at Tregear, Ladock. The proposed scheme will involve the erection of a turbine and the construction of an access track. The proposed development lies approximately 200m to the east of Tregear round an enclosed prehistoric or Romano-British settlement site. The enclosure is a Scheduled Monument (SAM32950). The proposed development was assessed by Historic Environment Projects in 2011 (Lawson-Jones 2011). This assessment identified a number of archaeological sites in the wider vicinity of the development.

The scheme will include the excavation of a turbine base. There will also be an access track measuring approximately 100m between the turbine and the road.

Archaeological investigations during site works are required as part of planning condition (PA11/05038). The condition contains the following words:

No development shall take place within the area to be developed with the installation of the wind turbine and also adjoining sections of land affected by the installation of new cabling routes until the applicant has secured and implemented of a programme of archaeological recording in accordance with a written scheme of investigation to be submitted by the applicant and approved in writing by the Local Planning Authority in consultation with the County Archaeologist.

Dan Ratcliffe (Historic Environment Planning Advice Officer, Cornwall Council) has produced a brief for archaeological recording (7/11/11).

Historical background

The proposed wind turbine and access road are situated within an area of land that has been classified as 'Anciently Enclosed Land' (Countryside Commission 1996). 'Anciently Enclosed Land' is land which has been settled since at least the medieval period and which often contains buried archaeological remains dating to prehistoric and medieval times.

The project area is situated in an area with significant archaeological potential, which contains evidence of prehistoric and medieval activity. The sites, which have been identified on the Historic Buildings, Sites and Monuments Record (HBSMR) in the vicinity, include:

- The proposed turbine site is located 210m to the east of Tregear round an enclosed settlement of prehistoric or Roman date (MCO8040). The site is a Scheduled Monument (SAM32950).
- The proposed turbine sites lies 500m to the north of a crop-mark enclosure of prehistoric date which is visible from the air (MCO 32146).
- The proposed turbine site and associated work lie within land associated with the early medieval settlement of Tregear, which was first recorded in 1304 (MCO11389).

Potential sites

Given the proximity of the development area to known archaeological sites, there is potential for prehistoric, Romano-British and medieval sites to survive within the project area and for the survival of unrecorded buried archaeological remains and artefacts of all periods.

Aims and objectives

- To ensure that the site works are carried out in such a way as to allow recording as set out in this Written Scheme of Investigation.
- To establish the presence/absence of archaeological remains and 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 the activity on the site.
- To identify any artefacts relating to the occupation or use of the site.
- To provide further information on the archaeology of Tregear from any archaeological remains encountered
- 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.

Methodology

The archaeological programme will follow five stages: fieldwork; archiving; assessment; analysis; final publication.

Fieldwork

Archaeological Recording

The soil strip for the turbine base and access road should be carried out under archaeological supervision using a machine fitted with a toothless bucket. The soil will be stripped cleanly to a level at which archaeological features or layers can be expected to be revealed (i.e. top of the "natural"). Machines will not run over the stripped area until the archaeological works are complete. The stripped area will then be inspected by an archaeologist and any archaeological features or layers exposed in the stripped area will be carefully excavated by hand and archaeologically recorded by written description, plan and section and photographic record as appropriate by an HE Projects archaeologist.

During the archaeological recording the archaeologist will:

- Identify and record any archaeological features that are revealed in the stripped area; the level of recording will be appropriate to the character/importance of the archaeological remains.

If complex and/or significant archaeological deposits are encountered then the archaeological requirements should be reviewed by the client, the Historic Environment Planning Advice Officer and HE Projects. **In the event that remains cannot be preserved *in situ* then full-scale excavation may be required.** A contingency should be allowed to record any significant archaeological remains which are uncovered during the stripping. The significance of the remains 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.

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.
- Photography: scaled monochrome photography will be used as the main record medium, with colour digital images used more selectively and for illustrative purposes. This will include both general and site specific photographs. Photographs should have a scale and detailed ones should include a north arrow.
- 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).
- If human remains are discovered on the site the Historic Environment Planning Advice Officer and the Ministry of Justice will be informed. All recording will conform to best practice and legal requirements.
- If human remains are uncovered, which require excavation, they will be excavated with due reverence. The site will be adequately screened from public view. Once excavated, human remains must not be exposed to public view.
- If human remains are not to be removed their physical security will be ensured, by back filling as soon as possible after recording.

Treatment of finds

The archaeological fieldwork may produce artefactual material.

- All finds in significant stratified contexts predating 1800 AD (e.g. settlement features) should be collected by context and described. Post medieval or modern finds may be disposed of at the cataloguing stage. This process will be reviewed ahead of its implementation.
- All finds will be collected in sealable plastic bags which will be labelled immediately with the context number or other identifier.

Archiving

Following review with the HE Project Manager the results from the fieldwork will be collated as an archive. This will involve washing and cataloguing of finds, the indexing and cross-referencing of photographs, drawings and context records.

All finds, etc will be stored in a proper manner (being clearly labelled and marked and stored according to HE guidelines).

- 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 and transferred to the Royal Cornwall Museum and the RCM conditions for archives will be followed. The RCM will be notified of the commencement of the project and included in discussions for sampling and disposal as appropriate.
- 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 Cornwall Council Archive Store. All digital records will be filed on the Cornwall Council network.

Archive report

The results from the fieldwork will be presented in a concise report. Copies of the report will be distributed to the Client, the County Archaeologist and the local and main archaeological record libraries. A PDF copy of the report will be produced.

This will involve:

- producing a descriptive text;
- producing maps and line drawings;
- selecting photographs;
- report design;
- report editing;
- dissemination of the finished report;
- deposition of archive and finds in the Royal Cornwall Museum, Truro.

The report will have the following contents:

- Summary - Concise non-technical summary.
- Introduction - Background, objectives, aims and methods.
- Results - Factual description of the results of the various aspects of the project, with separate sections as necessary for discussion/interpretation and potential for further analysis.
- Discussion - Discussion of the interpretation of the results, highlighting information gained on a chronological or thematic basis
Recommendations for further analysis and publication.
- Archive - A brief summary and index to the project archive.
- Appendix - A copy of the project brief.
- A copy of the WSI
- Illustrations - General location plan.
- Detailed location plans to link fieldwork results to OS map.
- Selected plans and section drawing (if appropriate).
- Finds drawings (if appropriate).
- Photographs (if appropriate).

An English Heritage/ADS online access to the index of archaeological investigations (OASIS) record will be made.

Assessment/analysis

The structural and stratigraphic data and artefactual material will be assessed to establish whether further analyses and reporting is appropriate. The outline of the final report, and the work required to produce it will be determined in an updated project design.

In the event of significant remains being recovered (e.g. prehistoric or medieval artefacts) it may be appropriate to:

- Consult with the Historic Environment Planning Advice Officer over the requirements for assessment, analysis and reporting.
- Liaise with specialists (e.g. artefacts) to arrange for assessment of the potential for further analysis and reporting.
- Arrange for specialist analyses, where appropriate.

Final publication

In the event of significant archaeological remains being recorded the scope and final form of the report will be reviewed; for example in addition to an archive report the results should be published in an academic journal (e.g. *Cornish Archaeology*).

Monitoring

- This written scheme of investigation will need to be approved by the Planning authority.
- The recording exercise will be monitored. The Historic Environment Planning Advice Officer should be informed 1 week in advance of the intention to start the recording.
- HE Projects will liaise with the Historic Environment Planning Advice Officer to advise on the programme and progress of work, and agree site meetings as required.
- A summary of the results will be presented to the Historic Environment Planning Advice Officer within 1 month of the completion of the fieldwork.
- In the event that significant remains are encountered an updated project design will be agreed with the Historic Environment Planning Advice Officer.

Project Staff

An experienced archaeologist employed by HE will carry out the archaeological fieldwork.

The report will be compiled by experienced archaeologist(s) employed by HE.

Relevant experienced and qualified specialists will be employed to undertake appropriate tasks during the assessment and analysis stages of the project.

The project will be managed by a manager who is a Member of the Institute for Archaeologists, who will:

- Take responsibility for the overall direction of the project.
- Discuss and agree the objectives and programme of each stage of the project with project staff, including arrangements for Health and Safety.
- Monitor progress and results for each stage.
- Edit the project report.

Timetable

The archiving and archive report will be completed within 12 months of the ending of the excavations. The timetable for further stages of assessment, analyses and publication will be agreed with Historic Environment Planning Advice Officer in the light of the results of the excavations.

Health and safety during the fieldwork

Health and safety statement

Historic Environment is within the Environment, Planning and Economy Directorate of Cornwall Council. The HE projects team follows Cornwall Council's *Statement of Safety Policy*.

Prior to carrying out any excavations HE will carry out a risk assessment

Insurance

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

Standards

The HE follows the Institute for Archaeologists' Standards and Code of Conduct and is a Registered Archaeological Organization.

As part of Environment, Planning and Economy Directorate of Cornwall Council, the HE projects team has certification in BS9001 (Quality Management), BS14001 (Environmental Management), OHSAS18001 (Health, Safety and Welfare), Investors in People and Charter Mark.

Copyright

Copyright of all material gathered as a result of the project will be reserved to the Environment, Planning and Economy Directorate of Cornwall Council. Existing copyrights of external sources will be acknowledged where required.

This project design and estimate is the copyright of Historic Environment, Cornwall Council.

Use of the material will be granted to the client.

Freedom of Information

All information gathered during the implementation of the project will be subject to the rules and regulations of the Freedom of Information Act 2000.

Notes

- It is assumed that the client will supply the mechanical excavator. The cost is not included in the attached estimate.
- The client will be responsible for the Health and Safety arrangements onsite.
- The post excavation programme (assessment, analysis and reporting) will need to be reviewed in the light of the fieldwork.

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