



# Higher Bal, St Agnes, Cornwall

## Archaeological Watching Brief



**Historic Environment Projects**



Report No 2011R087	Report Name Higher Bal, St Agnes, Archaeological watching Brief	Report Author C. M. Thorpe
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Event Type Watching Brief			
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Client Organisation SWW Ltd	Client Contact Caroline Nickson Hyder Consulting Ltd
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Monuments (MonUID)					

Fieldwork dates (From)	(To)	(Created By)	(Create Date)
24/01/11	26/04/11	CMT	Jan 2011

Location (postal address; or general location and parish) Higher Bal, St Agnes
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(Town - for urban sites)	(Postcode)
	TR50ND

(Easting) X co-ord	(Northing) Y co-ord		
SW 71093	51002		

**List of Figures**

- Cover Higher Bal, site location looking due west. HE photo (F78-008)
- Fig 1 Site location
- Fig 2 Site location showing route of pipeline
- Fig 3 Site plan showing location of described sections



Historic Environment, Cornwall Council is a Registered Organisation with the Institute for Archaeologists

## Project background

HE Projects was commissioned by Caroline Nickson of Hyder Consulting Ltd on behalf of South West Water to undertake a programme of archaeological recording ahead of the construction of a sewer pipeline, part of a foul sewer scheme at Higher Bal, St Agnes (Fig 1).

The pipeline was approximately 640m long, with the stripped corridor being 5m wide. Much of the length of the pipeline passed along the route of an existing road so the watching brief concentrated on a stretch of approximately 75m in length where it crossed a field at the western end (Figs 1–3).

The area through which the pipeline passed has been designated as an Area of Great Historic Value, it is an Area of Outstanding Natural Beauty and is within the Heritage Coast area. It also falls within the Cornwall and West Devon Mining Landscape World Heritage site (Lawson-Jones 2011).

An archaeological assessment of the scheme was carried out by HE Projects (Lawson-Jones 2010). This assessment identified the potential for buried archaeological remains to survive outside of the road corridor and recommended that an archaeological watching brief should be undertaken where the pipeline route left the road. The area stripped for a site compound was also to be included in the watching brief.

Dan Ratcliffe (Historic Environment Planning Advice Officer, Cornwall Council) was consulted, and his requirements for archaeological recording were included within a written scheme of investigation produced by HE Projects outlining the methodology for archaeological recording (Jones 2011, Appendix 1).

## Location and setting

The area of the route of the pipeline falls into an historic character zone which has been classified as “Predominantly Industrial Land” (Cornwall County Council 1996). “Predominantly Industrial Land” is land which has been exploited since the 18<sup>th</sup> century and which often contains archaeological remains, such as shafts, adits, prospecting pits and spoil heaps. The pipeline was situated within an area of archaeological potential, including post-medieval mining remains associated with the Polberro sett.

### *Identified archaeological sites*

A number of sites in the vicinity of the study area were identified from the Cornwall and Scilly Historic Environment Record. They included:

- The medieval settlement of Trevaunance (MCO17841) that lies to the south of the pipeline corridor.
- Mining remains associated with the eighteenth and nineteenth century including Wheal Park (MCO39563), Wheal Pie (MCO13079) and Seal Hole (MCO39496) that are situated either side of the road.
- A post-medieval Wesleyan chapel that is located to the west of the pipeline corridor (MCO32322).
- Aerial photographs show an extensive distribution of mining-related spoil heaps and workings on either side of the road.
- The archaeological assessment of the pipeline route (Lawson-Jones 2010) identified a number of sites, including removed boundaries and a possible mineshaft within the field at the western end of the pipeline (assessment Sites 1-6).

### *Potential sites*

There was potential for prehistoric, medieval and especially post-medieval mining-related sites to survive within the project area, and there was scope for the survival of previously unrecorded archaeological sites, organic remains, and artefacts of all periods.

The field covered by the watching brief is gently sloping ground that falls towards the north east from a height of 125m OD to 120m OD. It lies to the east of the settlement of

Higher Bal, within the Parish of St Agnes (Figs 2 and 3). The field is currently utilised for pasture. The underlying geology is Oligocene clays silts and gravels of the St Agnes Formation, which overlie Devonian mudstones and siltstones of the Gramscatho Group.

## Aims and objectives

The aims of the project were:

- To establish the absence/presence of buried archaeological remains.
- To record archaeological features, layers and finds affected by the works.
- To establish the extent, condition, significance and character of the archaeological resource.
- To establish the presence/absence of archaeological remains.
- To identify any artefacts relating to the occupation of the site.
- Gain further information about the archaeological potential of the area, through the recording of buried archaeological remains.
- The dissemination and publication of the results.
- The long-term conservation of the project archive in appropriate conditions.

## Working methods

The site soil strip 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 were expected to be revealed, in this case the top of the natural geology. The area was then inspected by the archaeologist.

## Results

The area stripped for the pipeline corridor was 5m wide, approximately 75m long, and reached a maximum depth of 1.25m. A compound area of some 15m by 45m was also cleared to a depth of approximately 0.4m. The total area of ground examined was approximately 0.8 hectares (Fig 3).

Ten sections were recorded across the site, both along the pipeline and across the compound, full descriptions of which can be found in the site archive. Six are presented here to illustrate the nature of the ground encountered across the length of the field and within the compound area (Fig 3).

### Section 1

Depth	Thickness	Description	Interpretation
0m - 0.05m	0.05m	Grass, roots and topsoil	Topsoil
0.05m - 0.20m	0.15m	Grey-black clay loam	Ploughsoil
0.20m- 0.25m	0.05m	red-brown clay	subsoil
0.25 -	-	Orange, yellow-red brown clay	Decayed natural bedrock

Within the site entrance, at the eastern side of the field.

## Section 2

Depth	Thickness	Description	Interpretation
0m - 0.05m	0.05m	Grass, roots and topsoil.	Topsoil
0.05m - 0.25m	0.20m	Grey-black clay loam.	Ploughsoil
0.25m - 0.40m	0.15m	Grey-brown clay with shillet fragments.	Subsoil
0.40m - 0.45m	0.05m	Red-brown clay.	subsoil
0.45m - 0.90m	0.45m	Orange, yellow- brown clay.	Decayed natural bedrock
0.90m	-	Grey green shillet	Rotten bedrock

## Section 8

Depth	Thickness	Description	Interpretation
0m - 0.05m	0.05m	Grass, roots and topsoil.	Topsoil
0.05m - 0.30m	0.25m	Grey-black clay loam.	Ploughsoil
0.30m - 0.45m	0.15m	Grey-brown clay with shillet fragments.	Subsoil
0.45m - 0.65m	0.20m	Yellow, grey-brown clay with grey black cinders and purple-brown manganese staining.	Mine waste
0.65m - 0.70m	0.10m	Red-brown clay.	Decayed natural
0.70m - 0.90m	0.20m	Orange, yellow-brown clay.	Decayed natural
0.90m	-	Grey-green shillet.	Rotten bedrock

## Section 9

Depth	Thickness	Description	Interpretation
0m - 0.05m	0.05m	Grass, roots and topsoil.	Topsoil
0.05m - 0.20m	0.15	Grey-black clay loam.	Ploughsoil
0.20m - 0.30m	0.10m	Grey-brown clay with shillet fragments.	Subsoil
0.30m - 0.40m	0.10m	Yellow, grey-brown clay with grey black cinders and purple-brown manganese staining.	Mine waste
0.40m - 0.50m	0.10	Red-brown clay.	Decayed natural
0.50m - 0.80m	0.30m	Orange, yellow-brown clay.	Decayed natural
0.80m	-	Grey-green shillet.	Rotten bedrock

## Section 10

Depth	Thickness	Description	Interpretation
0m - 0.05m	0.05m	Grass, roots and topsoil.	Topsoil
0.05m - 0.20m	0.15m	Grey-black clay loam.	Ploughsoil
0.20m - 0.30m	0.10m	Grey-brown clay with shillet fragments.	Subsoil
0.30m - 0.35m	0.05m	Red-brown clay.	Decayed natural
0.35m - 0.75m	0.40m	Orange, yellow-brown clay.	Decayed natural
0.75m	-	Grey-green shillet.	Rotten bedrock

This section lay at the north western end of the pipe trench.

## Section 7

Depth	Thickness	Description	Interpretation
0m - 0.05m	0.05m	Grass, roots and topsoil.	Topsoil
0.05m - 0.20m	0.15m	Grey-black clay loam.	Ploughsoil
0.20m - 0.40m	0.20m	Grey-brown clay.	Subsoil
Trench not bottomed.			

This was typical of the profiles observed within the area stripped for the compound which was only taken down to a depth of approximately 0.4m.

A trench for a modern water pipe was exposed close to the entrance on the south east side of the pipeline corridor. This was the only feature to be uncovered (Fig 3).

The deposits of mining waste observed within some of the sections were the only indication that mining activity had occurred within the vicinity. The fact that these deposits had been sealed by clay and covered by a well developed ploughsoil suggests that this field had been enclosed by the time of the 1840 Tithe map after an episode of mining.

No other features of archaeological interest were recorded over the area of the site and the development had very little or no impact on any significant buried remains.

## References

- Cornwall County Council, 1996. *Cornwall: A Landscape Assessment 1994* report produced by Landscape Design Associates in association with Cornwall Archaeological Unit
- Lawson-Jones, A, 2010. *Higher Bal, St Agnes, Cornwall, Archaeological Assessment*. HE Archive report 2010R142

# Project archive

The HE project number is **2011013**

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. Projects file containing site records and notes, project correspondence and administration (2011013).
2. Field plans and copies of historic maps stored in an A2-size plastic envelope (GRE750/1-2).
3. Digital photographs stored in the directory R:\Historic Environment (Images)\SITES.Q-T\St Agnes, Higher Bal Farm WB January 2011013.
4. English Heritage/ADS OASIS online reference: cornwall2- 106171
5. This report text is held in digital form as: G:\Historic Environment (Documents)\HE Projects\Sites\Sites S\St Agnes Higher Bal Archaeological Watching brief 2011013\St Agnes Higher Bal Archive report 2011\Report.doc

No artefacts were retained during the course of this project.



# Appendix 1: Written Scheme of investigation for Archaeological Mitigation along the South West Water Higher Bal Sewer pipeline

## 1.1 Introduction

HE Projects has been requested by Caroline Nickson of Hyder Consulting Ltd on behalf of South West Water to provide a project design and estimate for archaeological monitoring during the excavation of a sewer pipeline, foul sewer scheme at Higher Bal, St Agnes. The area through which it passes has been designated as an Area of Great Historic Value, is an Area of Outstanding Natural Beauty and is within the Heritage Coast area. It also falls within the Cornwall and West Devon Mining Landscape World Heritage site. The pipeline will be approximately 640m long, the pipe itself will be 150mm wide and the stripped corridor 5m wide. Much of the length of the pipeline will pass along the route of an existing road.

An archaeological assessment of the scheme was carried out by HE Projects (Lawson-Jones 2010). This assessment identified the potential for buried archaeological remains to survive outside the road corridor. Consequently the report recommended that an archaeological watching brief should be undertaken, where it crossed the field at the western end. The watching brief will therefore cover a stretch of approximately 100m in length. It will also cover the construction of a small compound in the field measuring 25m by 25m.

Dan Ratcliffe (Historic Environment Planning Advice Officer, Cornwall Council) has been consulted in the preparation of this project design and his requirements for the archaeological assessment have guided this written scheme of investigation.

## 1.2 Historical background

The area of the route of the pipeline falls into an historic character zone which has been classified as "Predominantly Industrial Land" (Countryside Commission 1996). "Predominantly Industrial Land" is land which has been exploited since the 18<sup>th</sup> century and which often contains archaeological remains, such as shafts, adits, prospecting pits and spoil heaps. The pipeline is situated within an area of archaeological potential, including post-medieval mining remains associated with the Polberro sett.

### *Identified archaeological sites*

A number of sites in the vicinity of the study area have already been identified from the CSHER. They include:

- The medieval settlement of Trevaunance (MCO17841) lies to the south of the pipeline corridor.
- Mining remains associated with eighteenth and nineteenth century remains including Wheal Park (MCO39563), Wheal Pie (MCO13079) and Seal Hole (MCO39496) are situated either side of the road.
- A post-medieval Wesleyan chapel is located to the west of the pipeline corridor (MCO32322).
- Aerial photographs show an extensive distribution of mining-related spoil heaps and workings on either side of the road.
- The archaeological assessment of the pipeline route identified a number of sites, including removed boundaries and a possible mineshaft within the field at the western end of the pipeline (assessment Sites 1-6).

### *Potential sites*

There is potential for prehistoric, medieval and especially post-medieval mining-related sites to survive within the project area, and there is the scope for the survival of previously unrecorded archaeological sites, organic remains, and artefacts of all periods.

## **2. Aims and objectives**

The purpose of the monitoring is:

- To establish the absence / presence of buried archaeological remains.
- To identify and record, any archaeological features that become affected by the scheme.
- Gain further information about the archaeological potential of the area, through the recording of buried archaeological remains.

## **3. Methodology**

The archaeological recording will consist of three stages: fieldwork, archiving and archive report.

### **3.1 Fieldwork**

The archaeological work will be undertaken as an 'archaeological watching brief', with a member of HE present during groundwork excavations to identify and record any archaeological features, layers and finds exposed during the site works. Where significant deposits are encountered HE will be given the opportunity to excavate them by hand. A contingency of 5 person days of on site recording time has been included to cover the recording of significant archaeological deposits. In the event that this contingency is insufficient, additional time will be negotiated between South West Water and HE Projects.

During the site monitoring the archaeologist will:

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

Where necessary the detailed archaeological recording may include:

- The production of plans and section drawings of the excavated features.
- The recording of features, using a continuous numbering system.

#### **3.1.1 Fieldwork recording**

Following the soil stripping the archaeologist will record any archaeological features which are to be affected by construction activities.

*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 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.
- 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 slides used more selectively and for illustrative purposes.
- A location plan will be made linking the site with features that have been mapped by the Ordnance Survey.
- The heights of all features will be tied into the Ordnance Datum.
- Phased plans and sections at a scale of 1:10 and 1:20 will be made of all excavated features.
- Sealed / undisturbed archaeological contexts in the form of buried soils, layers or deposits within cut features (ditches and pits, etc) will be sampled for environmental evidence and dating material. Advice may be needed from Vanessa Straker (Regional Advisor for Archaeological Science).
- The spoil from the stripping will be adequately inspected for finds.

- If human remains are discovered on the site they will be treated with respect and the Historic Environment Planning Advice Officer and the Ministry of Justice will be informed.

### **3.1.2 Treatment of finds**

The fieldwork may produce artefactual / ecofactual material.

- All finds in significant stratified contexts predating 1800 AD (eg, settlement features) should be plotted on a scaled base plan 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.
- Significant, sealed archaeological contexts (predating c 1500 AD) will be considered for sampling for environmental material and the strategy will be discussed with the project manager. All recovered samples will be evaluated at the initial archiving stage and some may be disposed of. Only flots will be retained for inclusion within the project archive.

### **3.2 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. Initial processing of palaeoenvironmental samples will be undertaken. This will involve flotation of bulk samples to recover plant macrofossils and other remains.

- All retained finds and samples, 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).

### **3.3 Archive report**

The results of the archaeological monitoring will be gathered together and assimilated into the overall archive report for the pipeline project.

The archive report will follow the standard HE format. 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.

Tasks include:

- producing a descriptive text;
- producing maps and line drawings;
- selecting photographs;
- report design;
- report editing;
- dissemination of the finished report

The report will have the following contents:

Summary

Introduction - Background, objectives, methods.

Results - Factual description of the results of the data

Discussion - Discussion of the interpretation of the results, highlighting, the significance of the site and the potential for further recording.

Archive - A brief summary and index to the project archive.

*References*

### *Illustrations:*

- General Location map.
- Detailed location plan linking the pipeline trench to the OS map.
- Location of identified deposits.
- Illustrative photographs if appropriate.
- An English Heritage / ADS Online Access to the Index of Archaeological Investigations (OASIS) record will be made.

### **3.5 Analyses/Academic (final publication)**

In the event of significant remains being discovered there may be a further stage of analyses leading to formal publication. This will involve the analysis of structural and stratigraphic data and artefacts, etc to be agreed with the Historic Environment Advice Officer. 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 (eg, *Cornish Archaeology*) and would include:

- Discussion of the significance of the results in relation to Local, Regional and National research objectives.

**The costs for these stages have not been included in the estimate, however if further stages of recording are needed HE Projects will liaise with South West Water.**

## **4. Archive deposition**

- The site archive and finds will initially be stored at HE premises and if appropriate transferred to the Royal Cornwall Museum (RCM). The RCM conditions for archives will be followed.

## **5. Health and safety during the fieldwork**

### **5.1 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*. For more specific policy and guidelines the Unit uses the manual *Health and Safety in Field Archaeology* (2010) endorsed by the Federation of Archaeological Managers and Employers.

**Prior to carrying out the fieldwork HE Projects will carry out a risk assessment.**

## **6. Insurance**

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

## **7. Standards**

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.

## **8. 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.

## **9. Monitoring**

The project will be monitored. The Historic Environment Planning Advice Officer should be informed in advance of the intention to start the archaeological recording. HE Projects will liaise with the Historic Environment Planning Advice Officer to advise on the programme and progress of work.

## **10. 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.

## **11. Project staff**

The project will be managed by Andrew Jones, a member of staff who is a Member of the Institute for Archaeologists, he will:

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

An experienced member of HE Projects staff will undertake the archaeological fieldwork and produce the archive report.

Andy Jones      17/1/11  
Historic Environment Projects  
Cornwall Council  
Kennall Building  
Old County Hall  
Station Road  
Truro  
TR1 3AY  
Tel: 01872 323691



Figure 1. Site location.

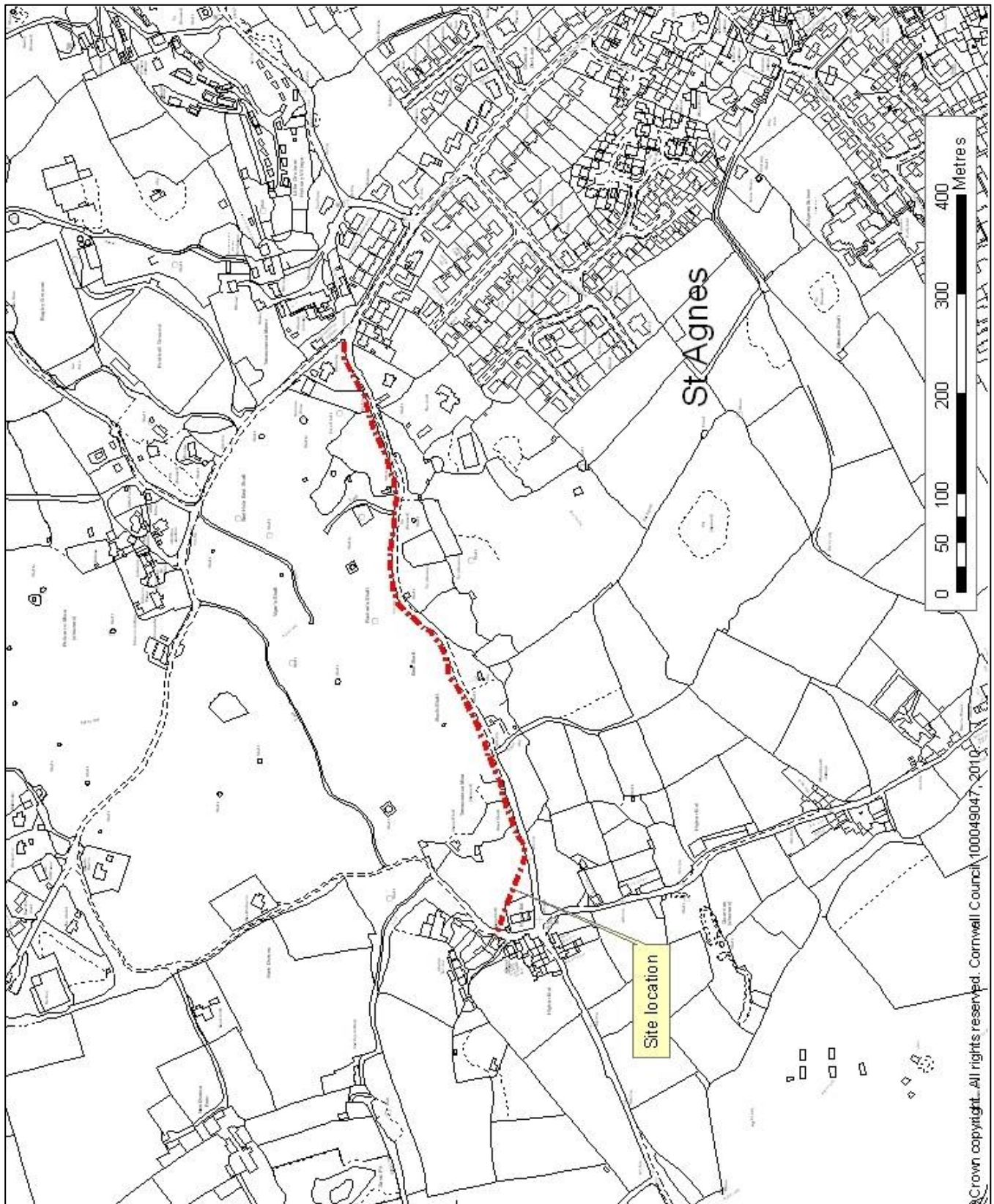


Figure 2. Site location showing pipeline route.

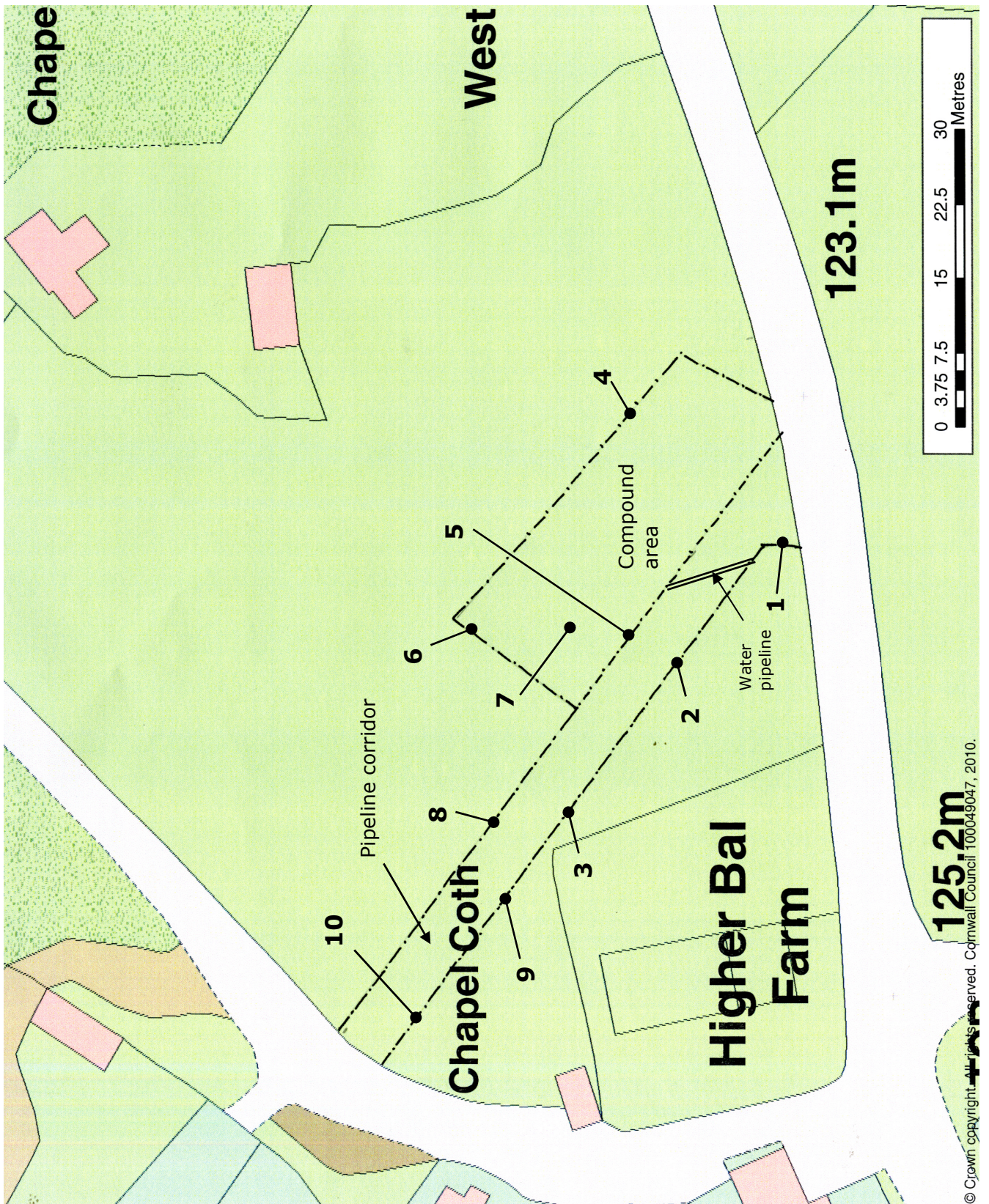


Figure 3. Site plan showing location of described profiles.



