

Cornwall AONB – Monumental Improvement Project

SMC Method Statement – Geophysical Survey

Site 29. Bottreaux Castle

1. Introduction

This is a Method Statement for Geophysical Survey planned at Bottreaux Castle hillfort ([Scheduled Monument List Entry 1005455](#)), as part of the Delivery Stage of Cornwall AONB Monumental Improvement (MI) Project.

[The Monumental Improvement Project](#) is contributing towards implementation of the Cornwall AONB Management Plan 2022-2027 by seeking to ensure that 40 at risk and vulnerable Scheduled Monuments, spanning over 4,000 years of Cornish history, are better identified, supported and enjoyed by a wide range of people by 2024.

The project is funded by the National Lottery Heritage Fund (NLHF), Cornwall Council, Historic England, National Trust, Farming in Protected Landscapes (FIPL), Cornwall AONB, Cornwall Heritage Trust, Cornwall AONB Trust and Kilkhampton Parish Council.

2. The site

2.1 Location & setting

The site is located within Section 2 (Pentire Point to Widemouth) of Cornwall AONB, on the eastern side of Boscastle, in the parish of Forrabury Minster, on the summit of a steep natural spur, overlooking the head of the impressive Jordan Valley and with wide views to the coast. (NGR SX0995390847; What 3 words *budgeted.sank.undertook*).

Situated adjacent to Boscastle Primary School, Dunn Street runs along the south and western side of the Castle, while the North side is bordered by fields and Minster Woods. An off-road cycle route runs roughly parallel to Dunn Street along the northern edge of the castle motte. (Figures 1-3).

2.2 Archaeology & history

The castle survives as a circular mound or motte with a small bank at the summit representing a possible building. Part of a steeply embanked bailey wall with a terrace, representing a silted ditch, is located to the north, with further small terraces and platforms within. Only half of the castle survives and is scheduled, however, with the southern part, which presumably included the bailey, being now under houses and gardens. (Figure 5).

Known locally as 'Bottreaux Castle' and giving its name to the settlement of Boscastle, this was the principal residence of the Bottreaux family, one of the most important in medieval Cornwall, who settled here in the reign of Henry II (1154-1189). The last member of the family died in 1462, and the castle soon fell into decay. William Worcester (c. 1478) mentioned the castle, as did Leland in the mid-16th century. Carew, in about 1600, suggested the rooms and prisons of tradition were no longer discernible in the mound. The Castle was probably decastellated by an early date, for William Worcester, in circa 1478 mentions it only as a manor house (Chope 1967) and Carew, in about 1600

added that it was used as a prison (Carew 1602/1969; Sheppard 1980) suggested the rooms and prisons of tradition were no longer discernible in the mound.

By Maclaughlan's survey in 1852, although some walls were found, he noted only about half of the castle motte was still visible. These remains were examined and surveyed and Maclaughlan noted that 'about half the entrenched mound at the end of the promontory still remains, from which it seems probable that there was an outwork extending down the slope towards the mill'.

Most recently, the OS reported that, 'the castle presumably stood on the level site now occupied by a cottage & garden (at SX 0994 9081). It was probably isolated from the high grounds to the south by a ditch across the spur but all trace of this is now effaced by the dwellings and gardens in Fore Street.

The surviving earthworks on the north are somewhat enigmatic. The steep, natural slopes of the spur have been scarped approximately 10m below the top to form a crescentic terrace (or a now silted ditch) up to 6m wide; an inturned entrance cuts into this terrace but its purpose is obscure as there is apparently no access from here to the spur top. The evidence of scarping ends abruptly on the spur and gives way instead to steep natural slopes and as the OS suggests, it is most likely that the bailey actually lay to the south.

A Digital Terrain Model (DTM) taken from Lidar data reveals more definition of the upper castle mound platform and outer bailey slopes than is visible from standard aerial photographs, particularly where it is now covered with housing (Figure 6).

A war memorial lies within the scheduled area, but is excluded from it, although the ground beneath is included.

2.3 Designations

Bottreaux Castle is covered by the following designations:

- Scheduled Monument – [Motte and bailey castle at Boscastle, List Entry Number 1005455](#)
- [Boscastle Conservation Area](#)* (Figure 4)

*Non-statutory protection**

Three Grade II listed buildings lie on the southern border of the monument. (Figure 4).

2.4 Consents

Scheduled Monument Consent

As Historic England are a funding partner to the MI project, providing a grant from their Section 24 budget, any 'works' normally requiring SMC have 'deemed consent', providing the Method Statement is approved by the Inspector of Ancient Monuments (Devon & Cornwall).

Under the terms of the 1979 Ancient Monuments & Archaeological Areas Act, which protects Scheduled Monuments, works that would normally require a full SMC application can instead be discharged under Section 24 of the Act when Historic England is funding the works for the purposes for repair and improved management and is approving the methodologies for those works.

Landowner

An Agreement covering the proposed works has been drawn up between the Landowner (Forrabury and Minster Parish Council) and Cornwall AONB / Cornwall Council.

2.5 MI Development Stage work

As part of the Development Stage of the MI project, Cornwall Archaeological Unit were commissioned to carry out a programme of work to help assess the castle's condition and develop management proposals for the site (Gossip 2021). This included sourcing Lidar survey information (Figure 6) and making a basic topographic survey (Figure 7), aimed at providing information on its management and interpretation needs.

In addition, an Ecology Report was prepared by Woodland Ecology (2021), which included: a habitat survey map; ecological features and protection status; potential impacts and mitigations (of/proposed management works); and enhancement opportunities (for the ecology).

2.6 Site Condition

Removed from the Heritage at Risk Register in 2022 in response to its inclusion in the Monumental Improvement project, but regarded as 'vulnerable' by Historic England, Bottreaux Castle is recorded as being stable, with the principal vulnerability being lack of interpretation.

The site is well-maintained by the parish council with mowing of the inner bailey slopes and the top of the castle mound. More scrub clearance above the scarp surrounding the base of the outer bailey would help to define the extents and complexity of the site, hitherto not fully appreciated. Despite its amenity and landscape value the site suffers from poor interpretation. (Figures 8-11)

The site is well-accessed via a small footpath from the nearby residential road at which point it is signposted. At the entrance to the site itself is a small information panel which needs updating. This could be enhanced by the addition of a QR code giving access to online information. Geophysical survey on available areas of the inner and outer bailey could provide important information for interpretation. Local groups should be encouraged to assist with research and interpretation and participate in its management.

2.7 Management proposals

The following management proposals were identified during the MI Development Stage (Gossip, 2021). The proposal covered by this Method Statement has been underlined.

- Supervised contractor scrub clearance of lower slopes/northern edge of outer bailey above scarp, particularly around the area of the probable original entrance.
- Supervised volunteer clearance around the base of the outer bailey.
- Geophysical survey of the surviving/accessible areas of the castle to help inform interpretation.
- Enhanced Lidar survey, to add to topographic survey information.
- Community based 'garden test-pit' dig, in collaboration with the parish council.
- 3D photogrammetry model from drone photography could give a good impression of the topography and relationship of banks/earthworks to the hillslope.

3.0 Geophysical Survey - aims & methods

3.1 Research aims

The aim is to carry out geophysical survey over the accessible surviving areas of the inner and outer bailey in order to enhance understanding and interpretation of Bottreaux Castle.

Note: much of the site may prove too steep for safe surveying; volunteers likely to only be used to survey the 'flat' top of the castle.

3.2 Survey methods

Survey types:

- Magnetometry (MAG) and Resistivity (RES) for the interior only

Figure 12 shows the areas within the monument identified for each survey type.

- Total area of survey = 2.4ha MAG and RES

The surveys will follow the general guidance as outlined in: *EAC Guidelines for the use of geophysics in Archaeology: Questions to Ask and Points to Consider* (Europae Archaeologiae Consilium/European Archaeological Council 2016) and *Standard and Guidance for Archaeological Geophysical Survey* (CIfA 2014b).

The magnetometry survey will be carried out using a twin-sensor fluxgate gradiometer (Bartington Grad601). These machines are sensitive to depths of up to c.1.50m. The survey parameters will be of sample intervals of 0.25m, traverse intervals of 1m, a zigzag traverse pattern, traverse orientation will be circumstantial, grid squares of 30×30m. The gradiometer will be adjusted ('zeroed') every 0.5-1ha.

The resistivity survey will be carried out using an RM15-D Resistivity Meter with an MPX15 Multiplexer module allowing for four terminal sensing using a PA20 multiprobe (dualprobe) array system. These machines are sensitive to depths of up to c.1m. The survey parameters will be sample intervals of 1m, traverse intervals of 1m, a zigzag traverse pattern, traverse orientation will be circumstantial, grid squares of 30×30m.

The survey grids will be tied into the Ordnance Survey National Grid and set out using a Leica CS15 GNSS Rover GPS. The data will be downloaded onto *Grad601 Version 3.16* and processed using *TerraSurveyor Version 3.0.36.0*. The primary data plots and analytical tools used in the analysis of the data will be *Shade* and *Metadata*. The full details of the data processing will be included within the report, but the processes will include the following.

- *DeStripe* all traverses; used to equalise underlying differences between grids (potentially caused by instrument drift or orientation, directional effects inherent in magnetic instrument, or differences in instrument set up during survey (e.g. using two gradiometers).
- *DeStagger* traverses where needed; this reduces staggering effects within data derived from zig-zag collection method.
- *Clip* at +/-1nT; removes extreme data point values.

3.3 Report preparation

The results from the work will be drawn together and presented in a report, which will include the following elements:

The full report will include the following elements:

- Report number, date and the OASIS record number
- Non-technical summary of the results
- Introduction to the project and the background to the project
- Description and illustration of the site location
- Methodology of the works undertaken, and an evaluation of that methodology
- Location plan and overall site plan
- Plan showing the location of areas subject to geophysical survey and grid layout
- Table summarising the survey result data parameters, including the size of the survey area, collection method, equipment used, software used, etc.
- Detailed plans of the results of the magnetometer survey, the images to include red-grey-blue shade plot of gradiometer survey data
- Resistivity results, both high and low pass
- The results overlain on LiDAR or aerial photographic data
- Interpretation of the results
- Analysis, as appropriate, of the results
- An interpretation of the results in the appropriate context
- Recommendations for the ongoing management of the monument and any further research opportunities
- The photographic archive will be presented as an appendix to the main body of the report, with representative photos included within the text where appropriate to the interpretation
- A bibliography

The finalised report will be submitted to Inspector of Ancient Monuments (Devon & Cornwall) for approval.

3.4 Deposition – archive & report

This will involve the following.

- Digital data forming part of the site archive will be deposited with the Archaeology Data Service (ADS).*
- Completion of the Historic England/ADS OASIS online archive index.*
- The approved report will be uploaded to the relevant OASIS record and made publicly available via ADS within 3 months of approval of the final report.
- Any supporting paper records will be safely stored by the MI Project/Cornwall AONB, and subsequently deposited with the Royal Institute of Cornwall/Royal Cornwall Museum and Courtney Library.

* OASIS is an online reporting form enabling archaeological and heritage practitioners to provide information about their investigations to regional Historic Environment Records (HERs) and respective national heritage organisations.

As well as being an information-gathering tool, researchers may share reports with HERs for public release in the Archaeology Data Service (ADS) Library.

The ADS, in addition to making the reports available online for access to the wider public, undertakes the curation and archiving of the digital files, ensuring long-term preservation.

4.0 Project personnel

The work covered by this Method Statement will be carried out by a suitably qualified and experienced team comprised of Monumental Improvement (MI) project staff and volunteers and a Geophysical Survey Contractor, engaged by the MI project.

- MI Manager – overall responsibility for the project; key point of contact for Historic England, landowner, tenant farmer and contractor.
- MI Archaeological Officer - co-ordinating on-site; responsibility for archaeological recording, on-site and post-fieldwork; supervision and training (of apprentice and volunteers) in archaeological recording; advising Geophysical Survey Contractor.
- MI Archaeological Technician Apprentice – receiving training in and assisting with the archaeological recording and other aspects of the work as required and appropriate.
- MI Activities Officer – responsible for organising and co-ordinating volunteer involvement, and their on-site safety and welfare.
- MI volunteers – receiving training in and assisting with the archaeological recording and geophysical survey.
- Geophysical Survey Contractor (see 5.0 below) – carrying out the geophysical survey in accordance with the Method Statement, under the oversight of MI Manager and on-site advice of the MI Archaeological Officer; training volunteers in geophysical survey techniques.

5.0 Geophysical Survey Contractor – South West Archaeology

5.1 Personnel & monitoring

The project will be managed by Dr. Samuel Walls; the work will be undertaken by suitably qualified South West Archaeology (SWARCH) staff. Where necessary, appropriate specialist advice will be sought.

The staff allocated to this project will be: Joseph Bampton BA MA MCIfA; Peter Webb BA MA; Peter Bonvoisin BA PCIfA; Alastair Nock MA BA. Project management by Sam Walls BA MA PhD MCIfA and Faye Balmond BA MA MCIfA.

5.2 Insurances

SWARCH carry Professional Indemnity Insurance cover up to £5 million, Public Liability up to £5 million and Employers Liability up to £10 million. South West Archaeology is a Registered Organisation with the Chartered Institute for Archaeologists (CIfA).

5.3 Previous experience

SWARCH personnel have been carrying out geophysical surveys in-house since 2014, with numerous reports, available on request or to be found in the ADS grey literature library, produced for a range of public and private clients.

5.4 Professional standards

SWARCH work is undertaken in accordance with current best practice and ClfA guidance.

Any desk-based assessment aspect of their work follows the guidance as outlined in: *Standard and Guidance for Archaeological Desk-Based Assessment* (ClfA 2014a) and *Understanding Place: historic area assessments in a planning and development context* (English Heritage 2012).

The geophysical survey follows the general guidance as outlined in: *EAC Guidelines for the use of geophysics in Archaeology: Questions to Ask and Points to Consider* (Europae Archaeologiae Consilium/European Archaeological Council 2016) and *Standard and Guidance for Archaeological Geophysical Survey* (ClfA 2014b).

6.0 Timetable

It is anticipated that the geophysical survey will be carried out during the Spring of 2023.

7.0 Monitoring and signing off

Monitoring of the project will be carried out by the Historic England HAR Officer, on behalf of the Inspector of Ancient Monuments (Devon & Cornwall) for approval.

- Approval of the Method Statement is required from the Inspector before commencement of the project.
- The HAR Officer/Inspector will monitor the work and will be kept regularly informed of progress.
- Notification of the start of work will be given to the HAR Officer/Inspector.
- Any variations to the Method Statement will be agreed with the HAR Officer/Inspector, in writing, prior to them being carried out.

Monitoring points during the study will include:

- Approval of the Method Statement
- Completion of fieldwork
- Completion of the report
- Deposition of the archive

References

Carew, R, 1969, *The Survey of Cornwall 1602*

Chope, R Pearse (Ed), 1967, *Early Tours in Devon and Cornwall*, 2

Gossip, J., 2021. *Cornwall Archaeological Unit Monumental Improvement in the Cornwall AONB: Bottreaux Castle, Boscastle, Cornwall*. CAU report for Monumental Improvement Project Development Stage

Sheppard, PA, 1980, *The Historic Towns of Cornwall*, 71

Woodfield Ecology, 2021. *AONB Monumental Improvement Project: Ecological Briefing Note - Site 29: Bottreaux Castle*.

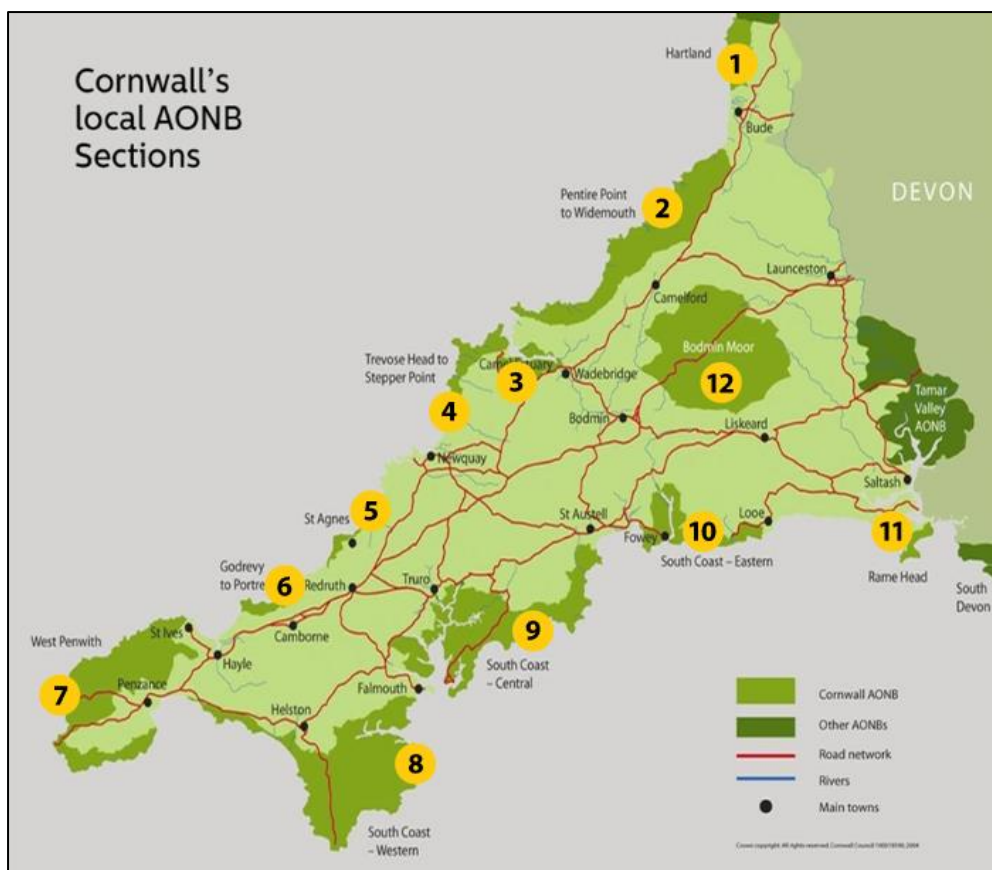


Fig 1. Cornwall AONB landscape sections

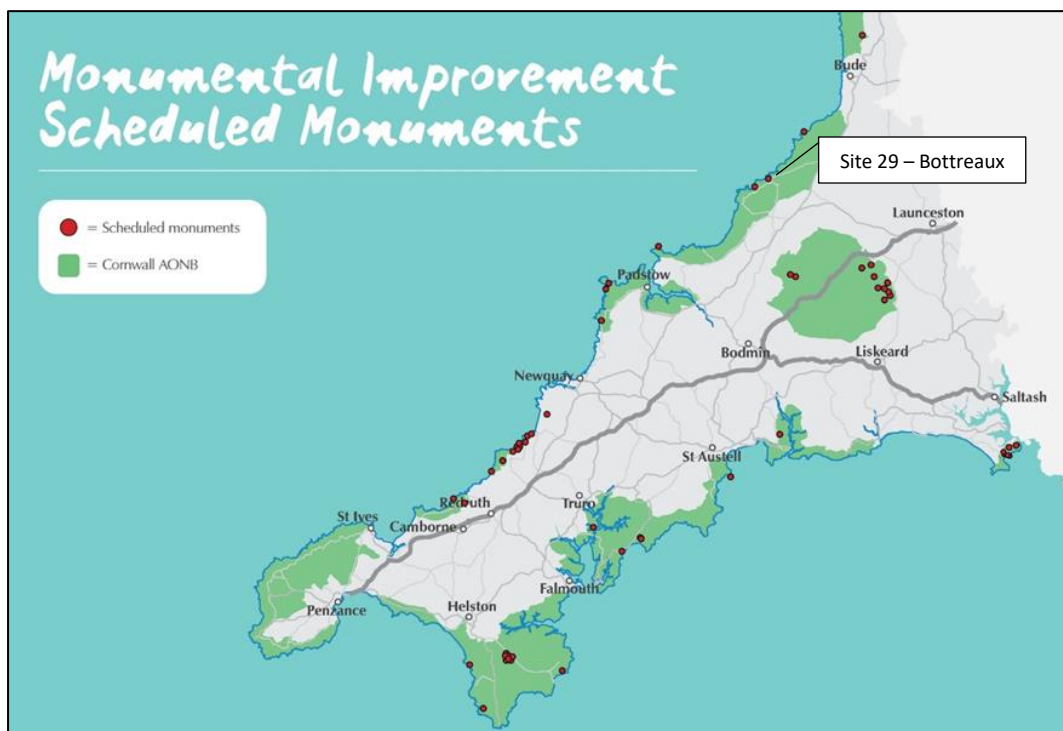


Fig 2. Location of MI Project sites, with Bottreaux Castle highlighted



Fig 3. Location of Bottreaux Castle, with Scheduled Monument area (in red) and public rights of way (in purple). (Crown Copyright. All rights reserved. Cornwall Council 100049047).

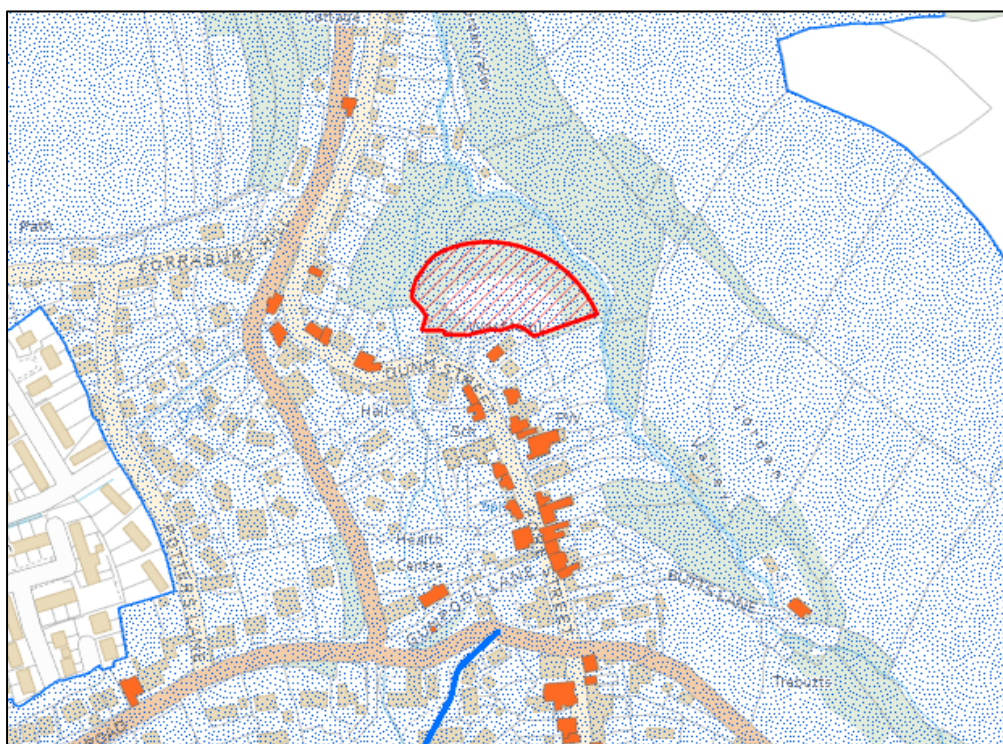
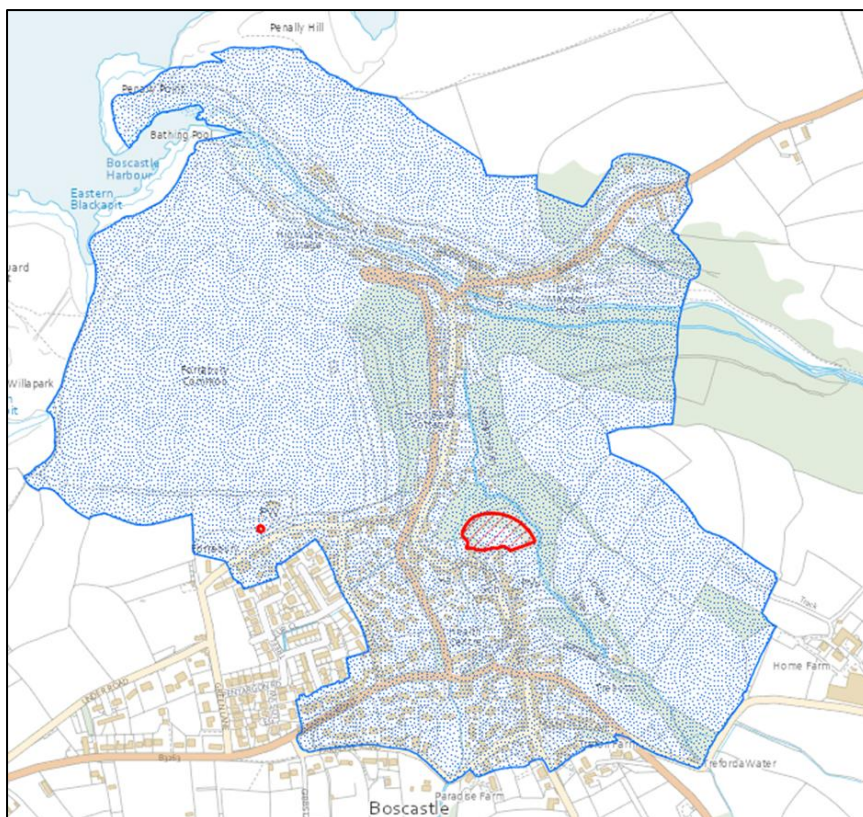


Fig 4 Boscastle Conservation area (blue), Grade II listed buildings (orange) and scheduled area (red).
(Crown Copyright. All rights reserved. Cornwall Council 100049047).

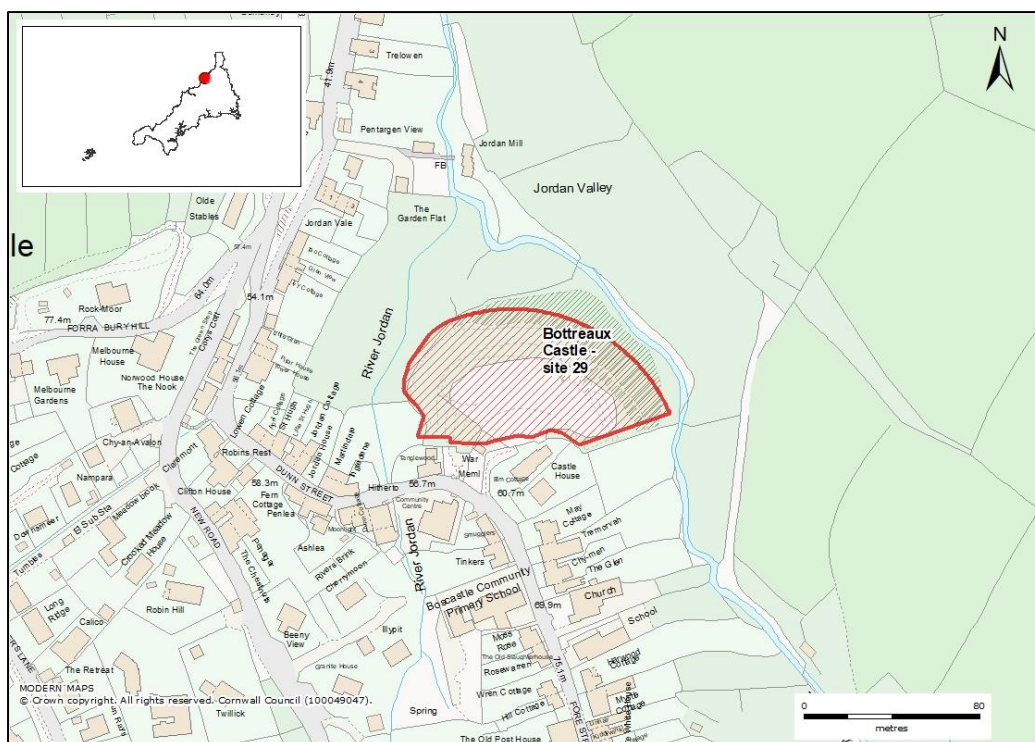


Fig 5 Location map of Bottreaux Castle, Scheduled Monument area highlighted (Crown Copyright. All rights reserved. Cornwall Council 100049047).

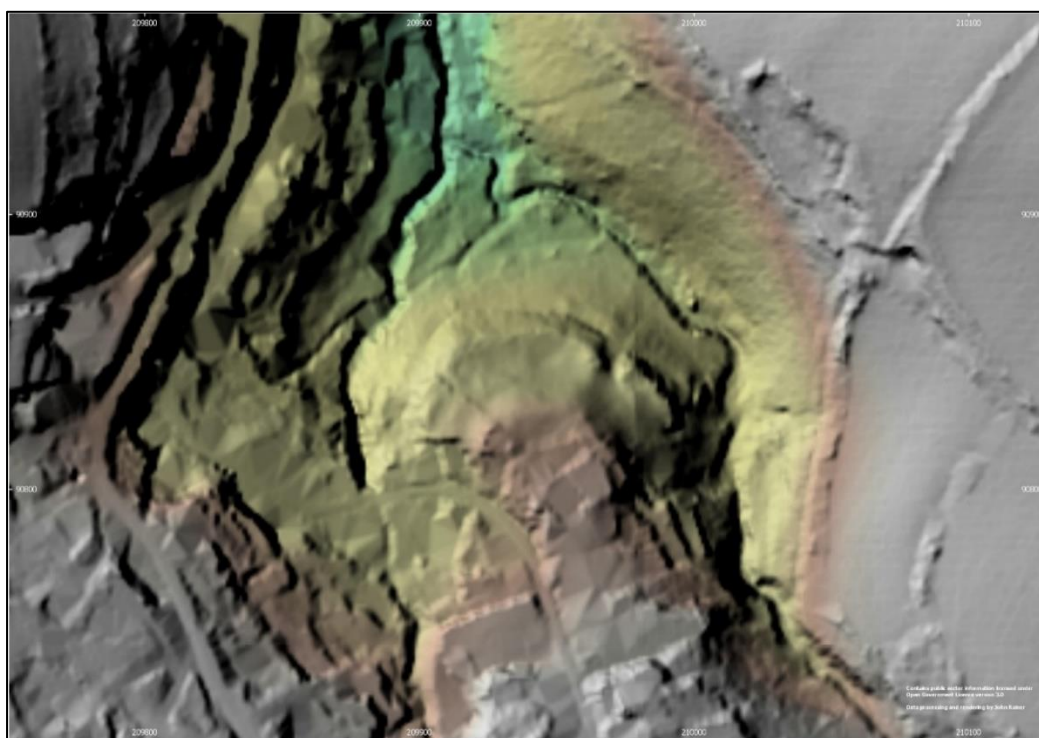


Fig 6 Lidar imagery of Bottreaux Castle courtesy John Rainer.



Fig 7 Bottreaux Castle 2021 Total Station Survey.



Fig 8 The overgrown lower slopes of the bailey, facing north-west.



Fig 9 The overgrown lower slopes of the bailey, facing north.

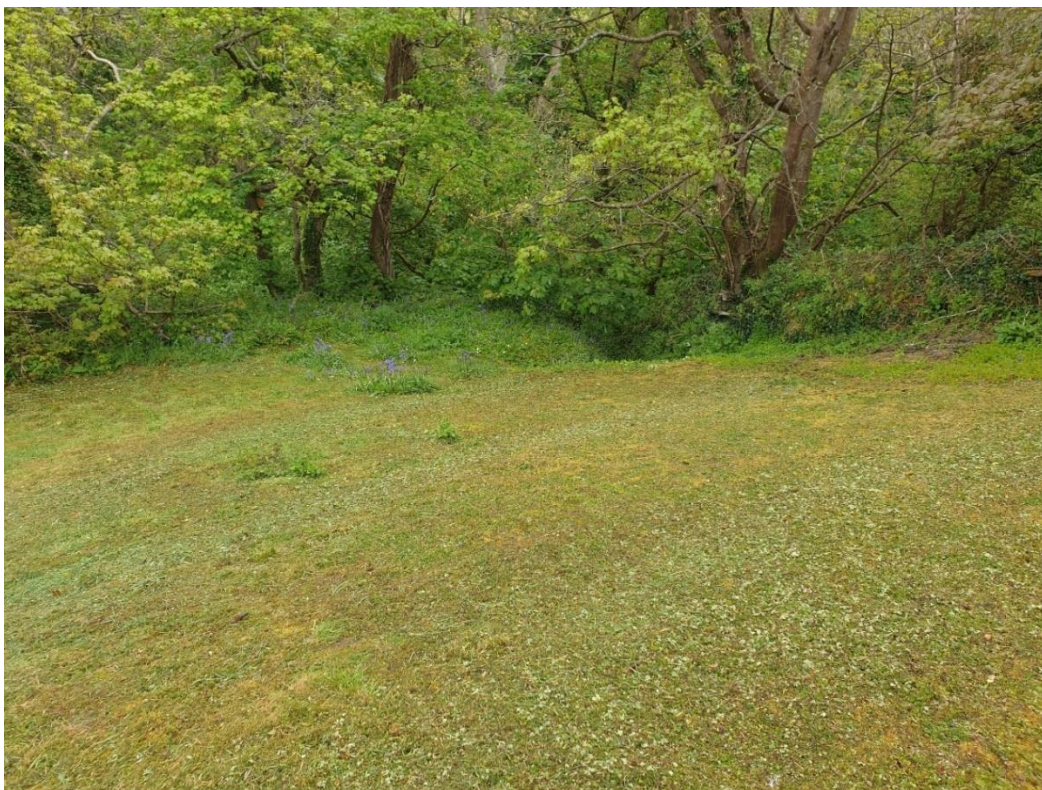
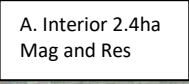


Fig 10 The densely overgrown lower slopes of the bailey, facing north-east towards probable original inturned entrance (now an informal footpath).



Fig 11 Total station taking place, facing south-east across the flat top of what survives of the castle mound



MI Project: SMC Method Statement – Geophysical Survey (Bottreaux Castle)