



Historic England

Chysauster, Gulval, Cornwall: analytical earthwork survey

Olaf Bayer

Discovery, Innovation and Science in the Historic Environment



Chysauster, Gulval, Cornwall: analytical earthwork survey

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SUMMARY

A Level 3 analytical earthwork survey of Chysauster Ancient Village, Gulval, near Penzance, Cornwall was undertaken by Historic England on behalf of the English Heritage Trust in late January and early February 2016. The survey recorded a number of earthwork features predominantly of Iron Age and Romano-British date associated with the fogou and courtyard house settlement. Features included: a possible enclosure associated with the fogou; a series of lynchets of probable Iron Age date underlying the core of the courtyard house settlement; and a field system associated with the Romano-British courtyard house settlement. Evidence of post-medieval tin prospecting, quarrying and agricultural improvement was also recorded, as were spoil heaps from twentieth century archaeological excavations. The survey has situated archaeological features inside the Chysauster Guardianship area within earlier surveys of its environs, enabling them to be discussed in their landscape context.

CONTRIBUTORS

Fieldwork was undertaken by Olaf Bayer, Nicky Smith and Sharon Soutar. Photographs were taken by Sharon Soutar, James O. Davies and Olaf Bayer. All other illustrations were prepared by Olaf Bayer. Nicky Smith, Mark Bowden, Peter Herring and Susan Greaney all commented on the text. The report was laid out by Hannah Kennedy.

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The project was commissioned by Susan Greaney (English Heritage Trust). Fiona Fleming, Jacky Nowakowski and Adam Sharpe (Cornwall Archaeological Unit) all gave valuable advice on Chysauster and its surrounding landscape during the course of the project. Neil Linford (Historic England) commented on the potential for further geophysical survey on the site. The author is grateful to Craig Weatherhill for supplying a copy of his 1982 plan of Chysauster, to Katie Lennon and India Vaughan-Wilson of the Morrab Library, Penzance for supplying a copy of Borlase's 1871 plan of the Chysauster fogou, and to the Cornwall Records Office for supplying a digital copy of the Gulval parish tithe map and apportionment.

ARCHIVE LOCATION

Historic England Archive, The Engine House, Swindon (former National Monuments Record)

DATE OF SURVEY

Fieldwork was undertaken between 25th January and 5th February 2016.

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INTRODUCTION

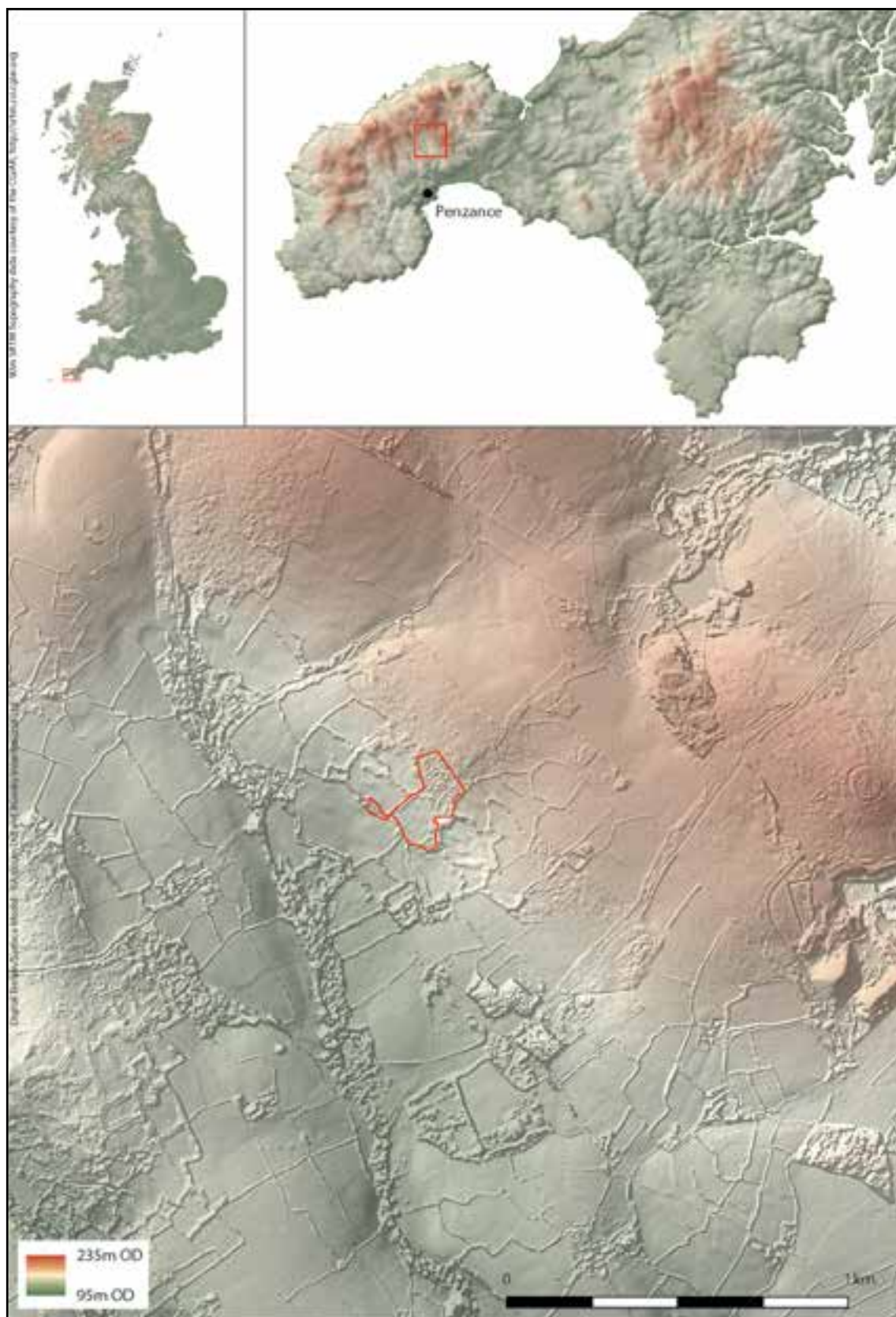
Project context

A Level 3 analytical earthwork survey (English Heritage, 2007) of Chysauster Ancient Village, Gulval, near Penzance, Cornwall was undertaken by Historic England's (HE) Assessment Team West (now Historic Places Investigation Team West) on behalf of the English Heritage Trust (EH) in late January and early February 2016. The survey was carried out in accordance with an EH project summary (Greaney 2015) and an HE project design (Bowden 2015). The Chysauster Ancient Village Guardianship area (centred on SW 4723 3502; Fig 1) comprises a series of Romano-British courtyard houses, a fogou of presumed Iron Age date and a number of previously undated features (Fig 2). The survey covered slightly over 3ha of granite walls and earthworks within the main publicly accessible Guardianship area. This can be divided into two areas; the core of the courtyard house village (Houses 1 to 9), and an open field fringed with earthworks (including the fogou) to the south. A small area of earthworks including House 10 (within the Guardianship area but not currently publicly accessible), immediately to the south-west of the main survey was also examined. The numbering system used in this report for the courtyard houses is that established by Hencken (1933), with additions after Baillie Roberts (1960) and Weatherhill (1983). The analytical earthwork survey is one of several pieces of work commissioned by EH to inform a new interpretation project and guidebook for the site. The survey was completed as part of the Shared Services agreement between HE and EH.

Archaeological features within the Chysauster Guardianship area have been surveyed with varying degrees of accuracy and detail since the mid-nineteenth century (Blight 1861a; Hencken 1928, 1933; Ministry of Works 1956a; Ordnance Survey 1888/1908; Quinnell 1960; Weatherhill 1982). However, these surveys have chiefly focussed on depicting the walls of the courtyard houses and fogou, at the expense of accurately recording many of the site's subtler earthwork features. Large parts of the landscape surrounding the Guardianship area were subject to detailed multi-period earthwork survey in the mid-1980s (Nowakowski and Sharpe 1986; Smith *et al* 1996; Nowakowski 2016). This has resulted in a curious situation in which less was known about the landscape history of the Guardianship area than that of its immediate environs (Fig 3).

The current survey was undertaken with three principal aims:

1. To provide EH with detailed and accurate mapping of the Guardianship area.
2. To understand the relationship between previously recorded features (principally the courtyard houses and the fogou) and earthwork features within the Guardianship area.
3. To understand the relationship between features inside the Guardianship area with those previously recorded in the surrounding landscape.



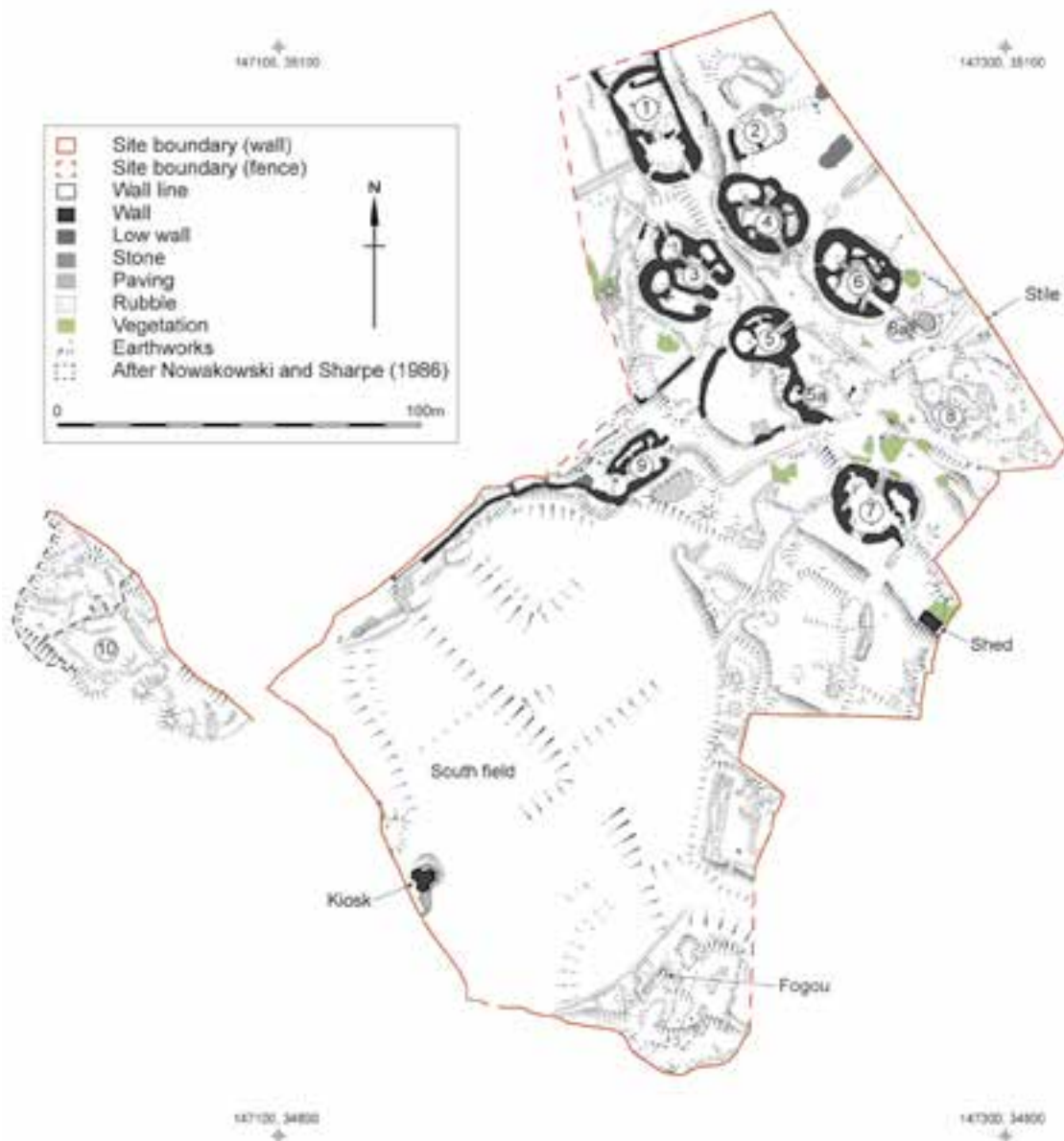


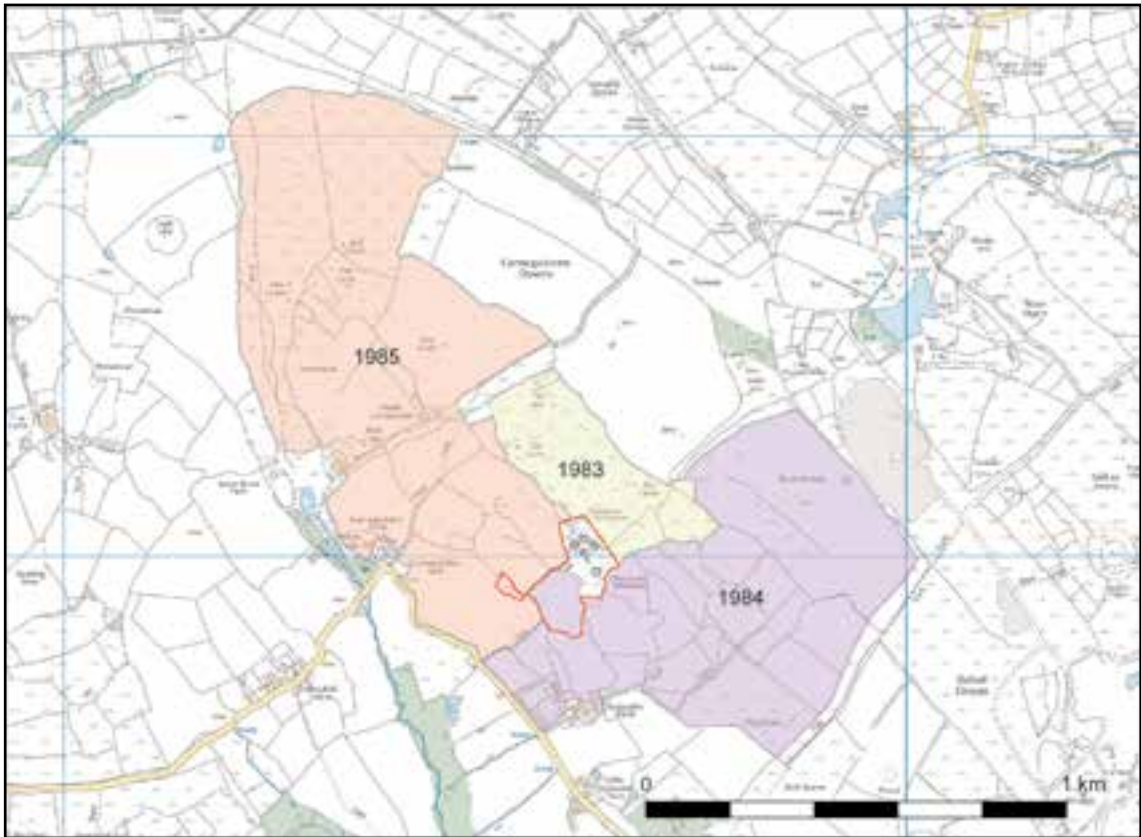
Figure 2. Site over view. Reduced to 1:2000 from original survey drawing at 1:500 (© Historic England).

Site location

“At the far end of England a land of rocks and moorland stretches itself out into a blue green sea” (Barber and Bayley 1990, 1)

“There are hoary monuments of ages past – many of them well preserved from the destroying hands of Time, yet surrounded by a deep halo of mystery, which the speculations of the antiquary can scarcely penetrate” (Blight 1861b, 1)

“The work of giants in the west is done for ever, but the hedges remain, more beautiful than their makers were” (Crawford 1936, 174)



Chysauster is situated towards the eastern end of the granite uplands that form the body of the West Penwith peninsular. Bedrock comprises granite of the Land's End intrusion (BGS 2016), which breaks down into a gritty clay-rich subsoil or 'rab' (Nowakowski and Gould 2010, 13). This is overlain at the northern end of the site by thin acidic peat rich soils of the Moretonhampstead Series (0611b) and gritty loamy acidic soils of the Hexworthy Series (756) towards the southern end (Cranfield University 2016). The survey area lies between 183 and 150m OD on a south-west facing slope overlooking the shallow valley of the Rosemorran stream. The site is bounded to the east, south and west by an area of improved pasture divided by substantial granite hedgebanks characterised as 'Anciently Enclosed Land' (Herring 2008a). Upslope to the north and east the site borders an area of partially improved moorland characterised as 'Upland Rough Ground' (Herring 2008a).

To the north and east views are restricted by the rising ground of Carnaquidden Downs, Great Downs and Gulval Downs. To the west and north-west, however, wider views across the Rosemorran valley are framed by the more distant moorland

Figure 3 (left). Extent of 1980s Cornwall Archaeological Unit surveys of Carnaquidden and Chysauster farms (after Nowakowski and Sharpe 1986, fig 1). Base map © Crown copyright and database right 2016. All rights reserved. Ordnance Survey license 10050083.

Figure 4 (below). Landscape panorama facing west. From Mount's Bay to Mulfra Hill (DP181639 © Historic England, photograph James O. Davies).



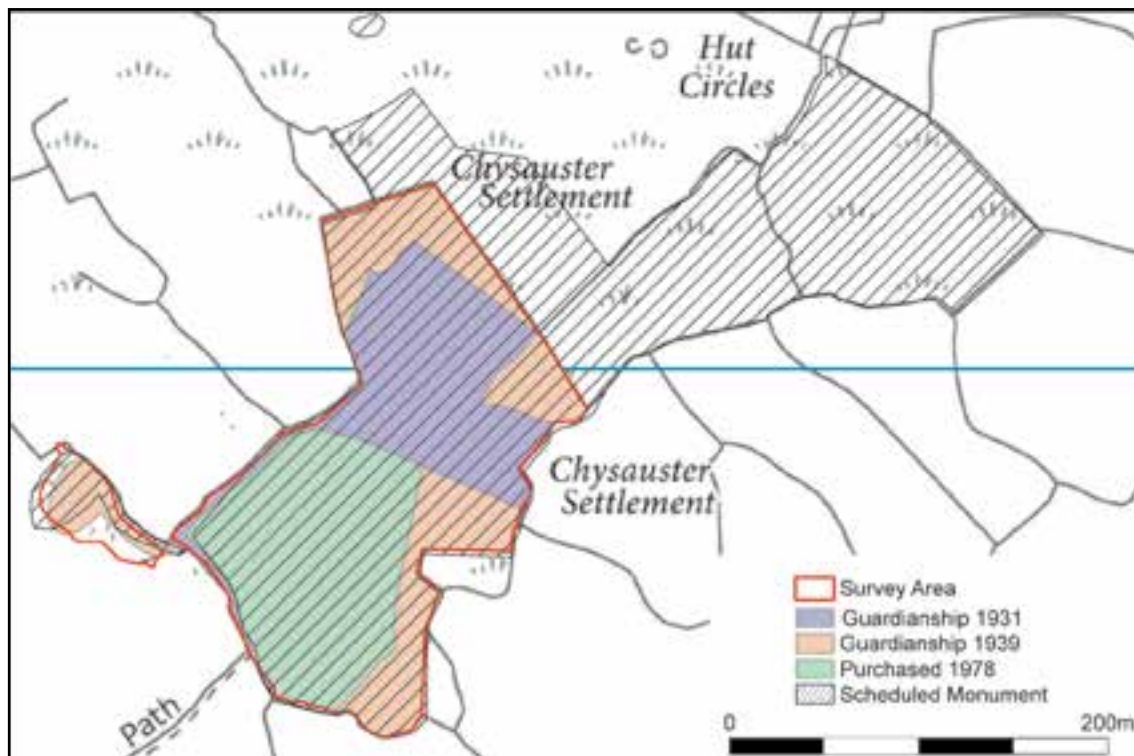


Figure 5. Extent of Chysauster Guardianship area and extent of scheduled monument. Base map © Crown copyright and database right 2016. All rights reserved. Ordnance Survey license 10050083.

interior of the peninsula, with Mulfra Quoit and Greenburrow Shaft engine house as focal points on the horizon. To the south and south-west views open out along the valley towards Penzance and the western end of Mount's Bay (Fig 4).

The Guardianship area is located within an extensive, extant multi-period landscape spanning the prehistoric to post-medieval periods. This includes Early Bronze Age barrows and cairns, a number of round houses of presumed late prehistoric date, several phases of late prehistoric/Romano-British field systems, Romano-British courtyard houses, medieval outfields and evidence of post-medieval tin streaming and extraction (Nowakowski and Sharpe 1986; Smith *et al* 1996). Castle-an-Dinas hillfort is upslope and slightly over 1km to the east of the site.

Much of the current site was placed into the care of the HM Office of Works in the 1930s by the then landowner Colonel Malone in several stages (Hencken 1930, 237; Baillie Reynolds 1960, 2). The first tranche in 1930 included Houses 3, 4, 5, 6, 7 and 9, and the second, in 1939, added Houses 1, 2, 8 and 10, as well as the area of the fogou. The remainder of the southern field was purchased by the Department of the Environment in 1978. This combined area (referred to in this report as the 'Guardianship area') is now managed by the English Heritage Trust. The Guardianship area overlaps with a larger Scheduled Monument area (list entry number 1006726) which extends north-east to include a substantial area of field system (Fig 5). The current scheduled area was defined in 1984 (Historic England 2016a).

The site of the courtyard house settlement takes its name from the farm of the same name approximately 350m to the south. The place name was first recorded in 1314 as 'Chisalvestre' meaning 'Silvester's House' (Pool 2014, 47). The stone structures of the courtyard house settlement were evidently known to the local population during the nineteenth century. Hencken (1933, 257) refers to a tenant of Chysauster farm recalling attending a sermon conducted in House 7 in the early 1860s. Borlase (1893, 52) refers to the site being known as 'the Chapels' in the nineteenth century.

Previous archaeological research

Chysauster enters the archaeological literature in the mid-nineteenth century. The antiquity and significance of the site was first recognised by Penzance antiquary Henry Crozier in the late 1840s (Pool 1990, 100; McNeil Cooke 1993, 122). Crozier's notes and drawings of the site remained unpublished and when he left the area in 1855 were passed to fellow antiquary John Blight. Blight's lectures and publications on Chysauster in the late 1850s and early 1860s prompted a wider interest in the site during the second half of the nineteenth century (Pool 1990, 101). Subsequent investigation of the site included Richard Edmonds' descriptions of the fogou (1857, 311; 1861; 1862); William Copeland Borlase's survey of the fogou (1871) and excavation of the interior of House 6 (1873; 1880–81; Lukis 1885, 19); and F Holman and JB Cornish's excavations within House 4 (1893–8).

Much of our current knowledge of the site comes from a series of excavations within and adjacent to the core of the courtyard house settlement in the late 1920s and 1930s carried out by TD Kendrick (British Museum), Hugh O'Neill Hencken (Cambridge University) and CK Croft Andrew (on behalf of HM Office of Works). Kendrick and Hencken excavated House 3 in 1928 (Hencken 1928). Hencken returned to the site in 1931 and excavated elements of Houses 3, 4, 5, 6 and 7 (Hencken 1933). By the end of his 1931 excavations Hencken was able to show that the main occupation of the courtyard house settlement began in the 1st and 2nd centuries AD and continued into the 2nd and 3rd centuries AD (Hencken 1933, 277–8). Hints of earlier Iron Age activity (1st or 2nd century BC) were found in House 7. Further excavation and consolidation work was carried out at Houses 4, 6 and 9 between 1937 and 1939 by CK Croft Andrew on behalf of the Office of Works. Croft Andrew's work at Chysauster remains unpublished; however, a rapid assessment of his archive has recently been conducted by the Cornwall Archaeological Unit (CAU) (Nowakowski and Gould 2010).

More recently several small scale archaeological investigations have been carried out within the Guardianship area during improvements to site access (Thorpe 2004), during consolidation and repair work within houses 4 and 9 (Gossip and Nowakowski 2008), and during the installation of new signage (Sharpe 2016a).

Surveying Chysauster

The first mapped depiction of the Chysauster area is the 1813 Ordnance Survey One Inch map. The map shows the surrounding topography, roads and settlements but no traces of the courtyard house settlement. The 1843 Gulval parish tithe map (Fig

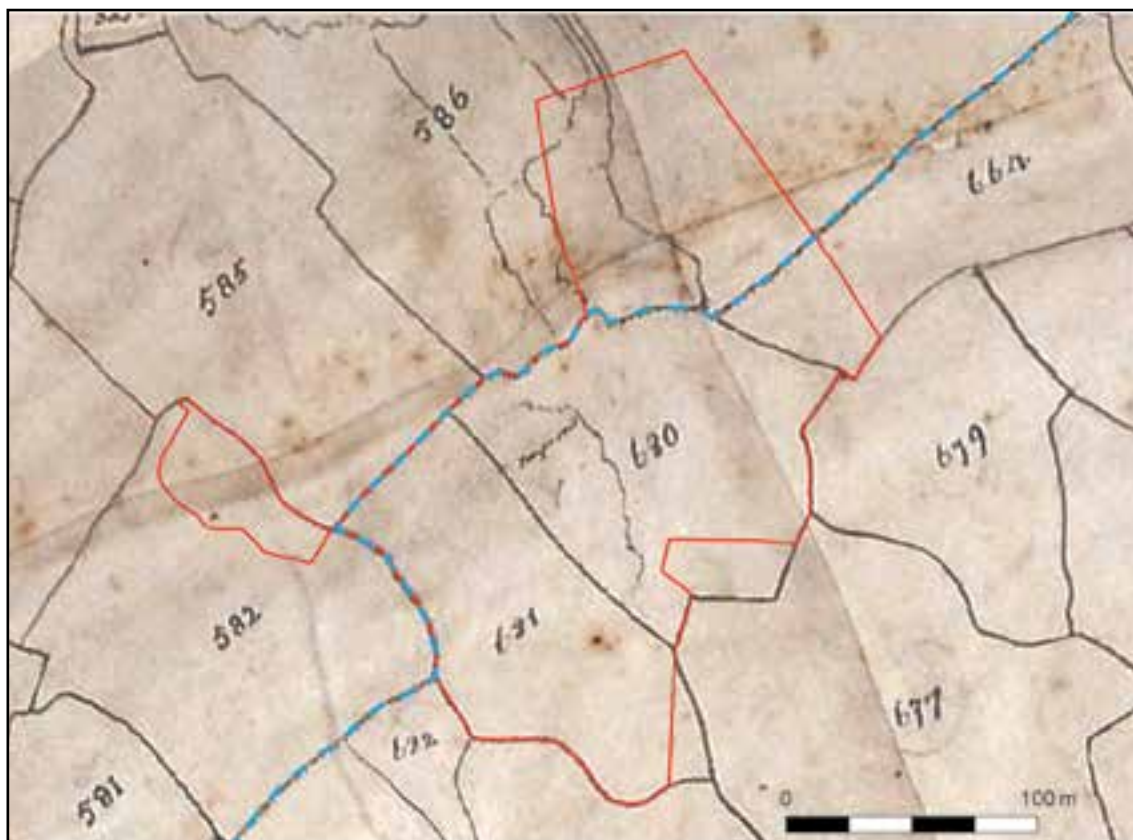


Figure 6. Extract of 1843 Gulval tithe map. The dashed line shows the division between the holdings of Carnaquidden Farm (to the west) and Chysauster Farm (to the east). 'Reproduced with permission of Cornwall Record Office. Copyright National Archives ref IR30/6/67.

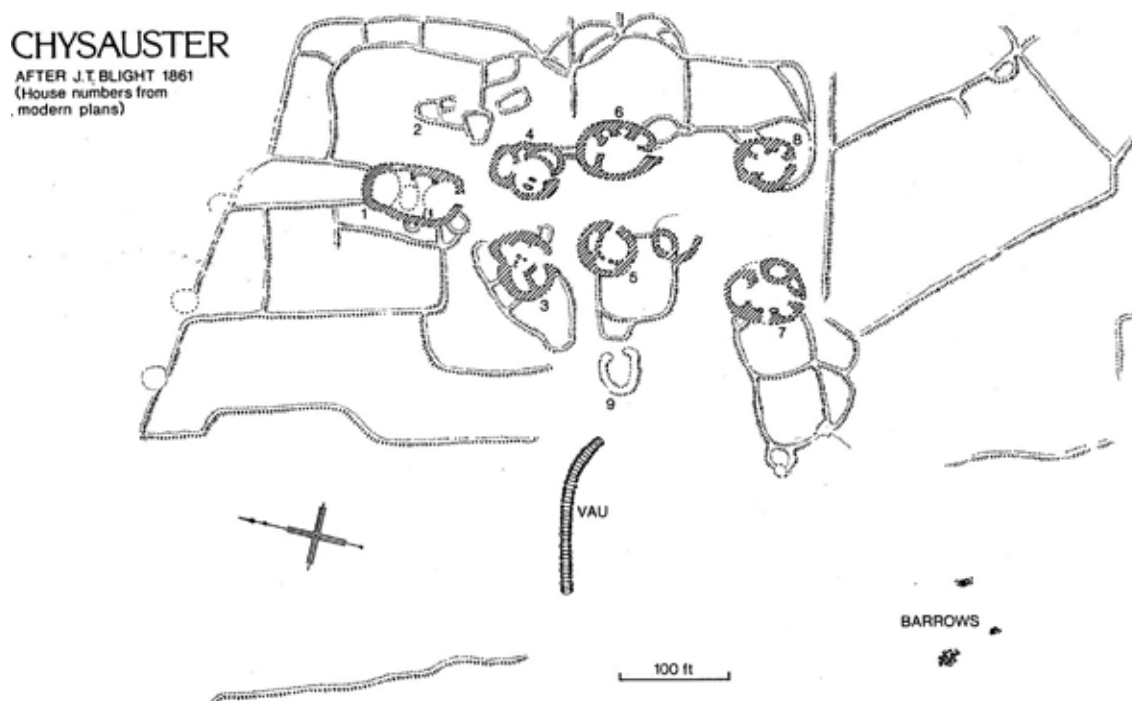


Figure 7. J.T. Blight's 1861 plan of Chysauster redrawn by Craig Weatherhill (Reproduced from Pool 1990, 100 with permission of Cornwall Archaeological Society).

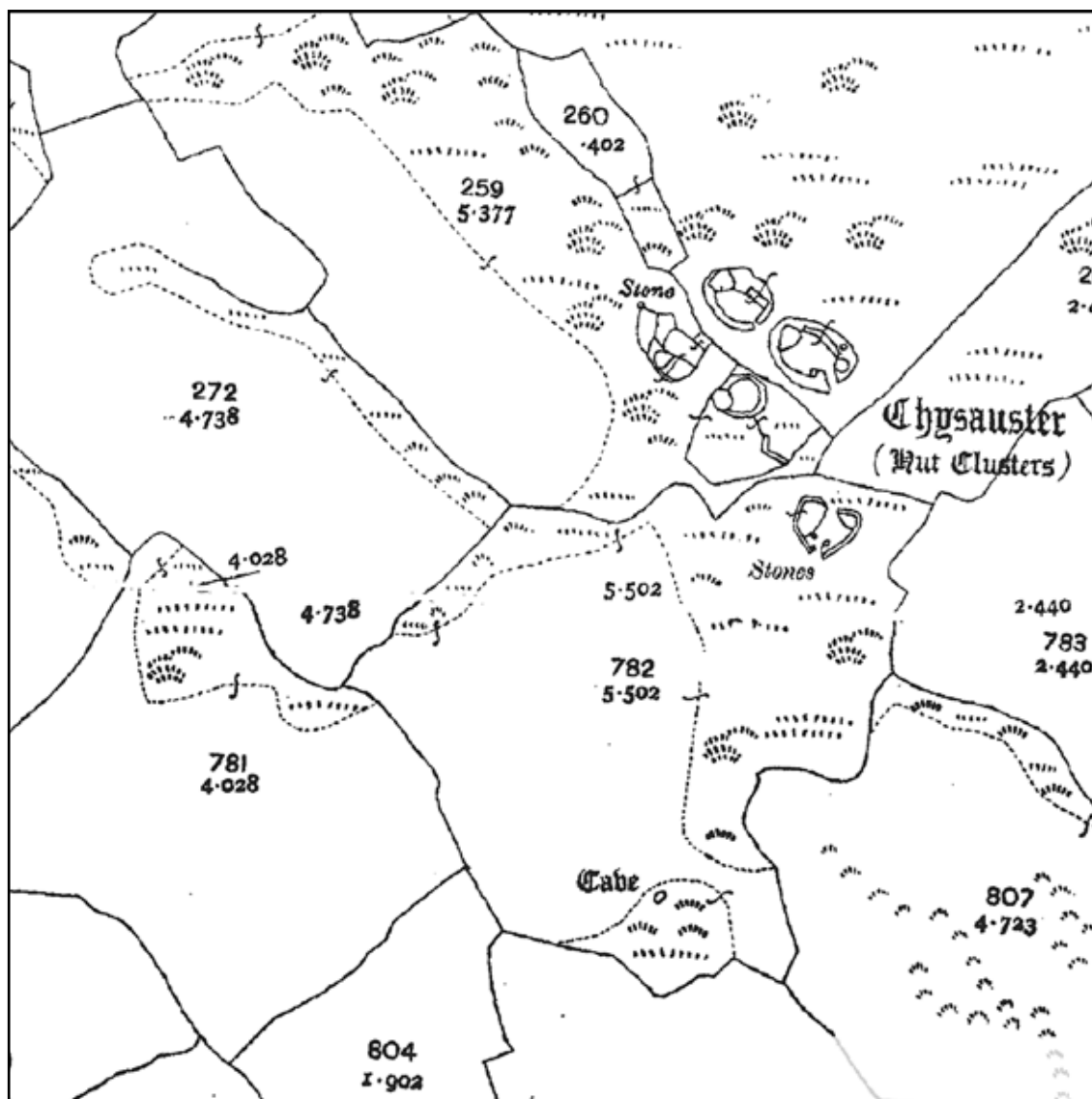


Figure 8. Extract of Ordnance Survey 1:2500 mapping, 1908. Base map ©Crown copyright/
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6) shows the area in greater detail including field boundaries. The map shows the Guardianship area split into 6 fields belonging to either Carnaquidden or Chysauster Farm. Again none of the structural elements of the courtyard houses are shown; however, a pencil line annotated 'improved' in the northern end of Broom Close (field 680) corresponds closely with the northern extent of clearance in the Guardianship area's southern field.

John Blight's 1861 plan is the first published depiction of the courtyard house settlement (Fig 7). Although not metrically accurate, the plan shows Houses 1 to 9 and elements of their associated gardens and field systems in some detail. Blight wrongly identifies the hollow way on the western edge of the site as a 'Vau' or fogou (Blight 1861a, 42). This misattribution had a lasting influence on the interpretation of this feature (for example see Hencken 1933, 239; Clarke 1961, 64). Earthworks in the area of the actual fogou are described as "barrows which have never been

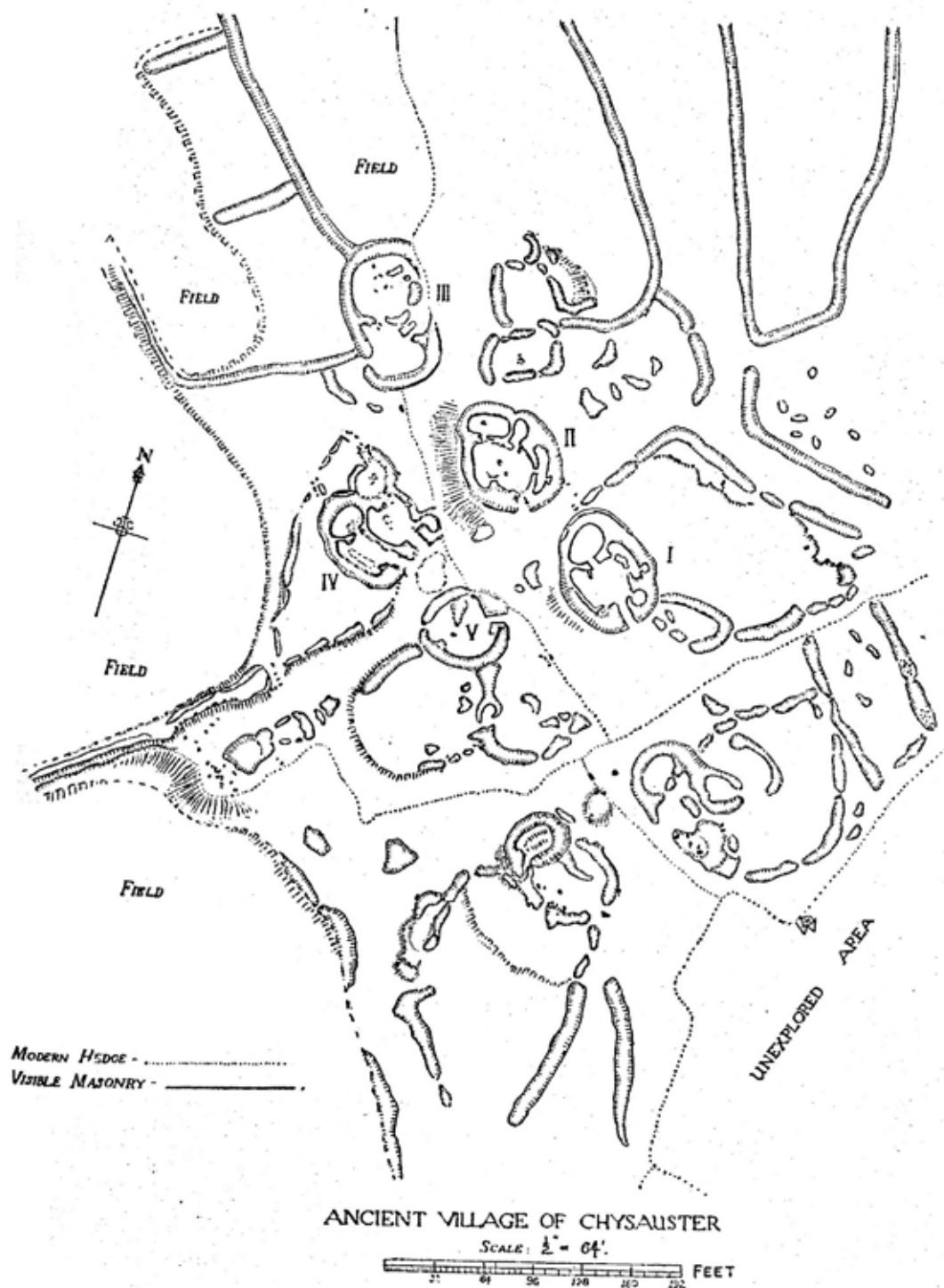


Fig. 2.—General Plan. (Survey by D. H. Watkins, 1928).

Figure 9. Watkins' 1928 plan of Chysauster (Reproduced from Hencken 1928, fig 2 with permission of the British Archaeological Association). Note Hencken (1928) uses an earlier numbering system for the courtyard houses which differs from that established by Hencken in 1933.

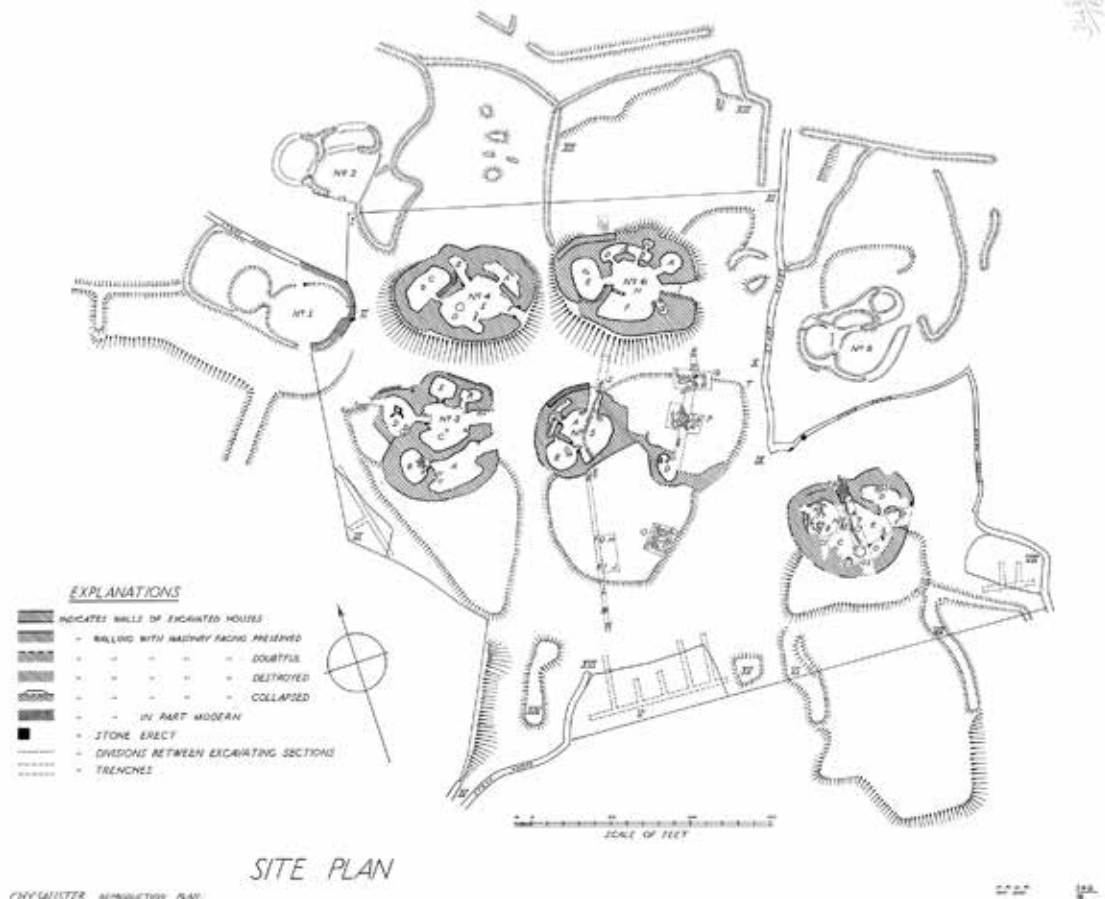


Figure 10. Office of Works 1933 plan of Chysauster (Historic England – ref MP/CHY0017).

opened” (Blight 1861a, 42). Although Blight does not depict the boundaries of the contemporary hedged landscape, he does show several features which are likely to relate to post-medieval activity. This includes three “modern mine barrows” to the east of the current survey area (Blight 1861a, 42), and “two shallow shafts: these are walled around” on the eastern edge of the site (Blight 1861a, 42) which correspond closely with evidence of post-medieval mineral prospection recorded by the current survey.

The first detailed Ordnance Survey depiction of the site is the 1877 1:2500 map. The map shows elements of the centre of the courtyard house settlement (Houses 3 to 7), including the enclosure appended to the southern edge of House 5, and the location of the fogou is marked as a ‘cave’. The 1908 1:2500 map shows largely the same detail with the addition of the extent of clearance in the southern field (Fig 8).

The publication of Kendrick and Hencken’s 1928 excavation is accompanied by a detailed survey of the site by D H Watkins of Callington (Hencken 1928, 146–7; Fig 9). Watkins’ drawing is the first near metrically accurate plan of the site. It depicts the northern end of the Guardianship area in detail, showing Houses 1 to 9 and their appended enclosures. The plan shows these enclosures extending into the wider landscape, and clearly distinguishes between boundaries associated with the courtyard houses and the lines of ‘modern hedges’. Watkins’ plan is the first to depict softer earthwork features with the Guardianship area. This includes the platforms

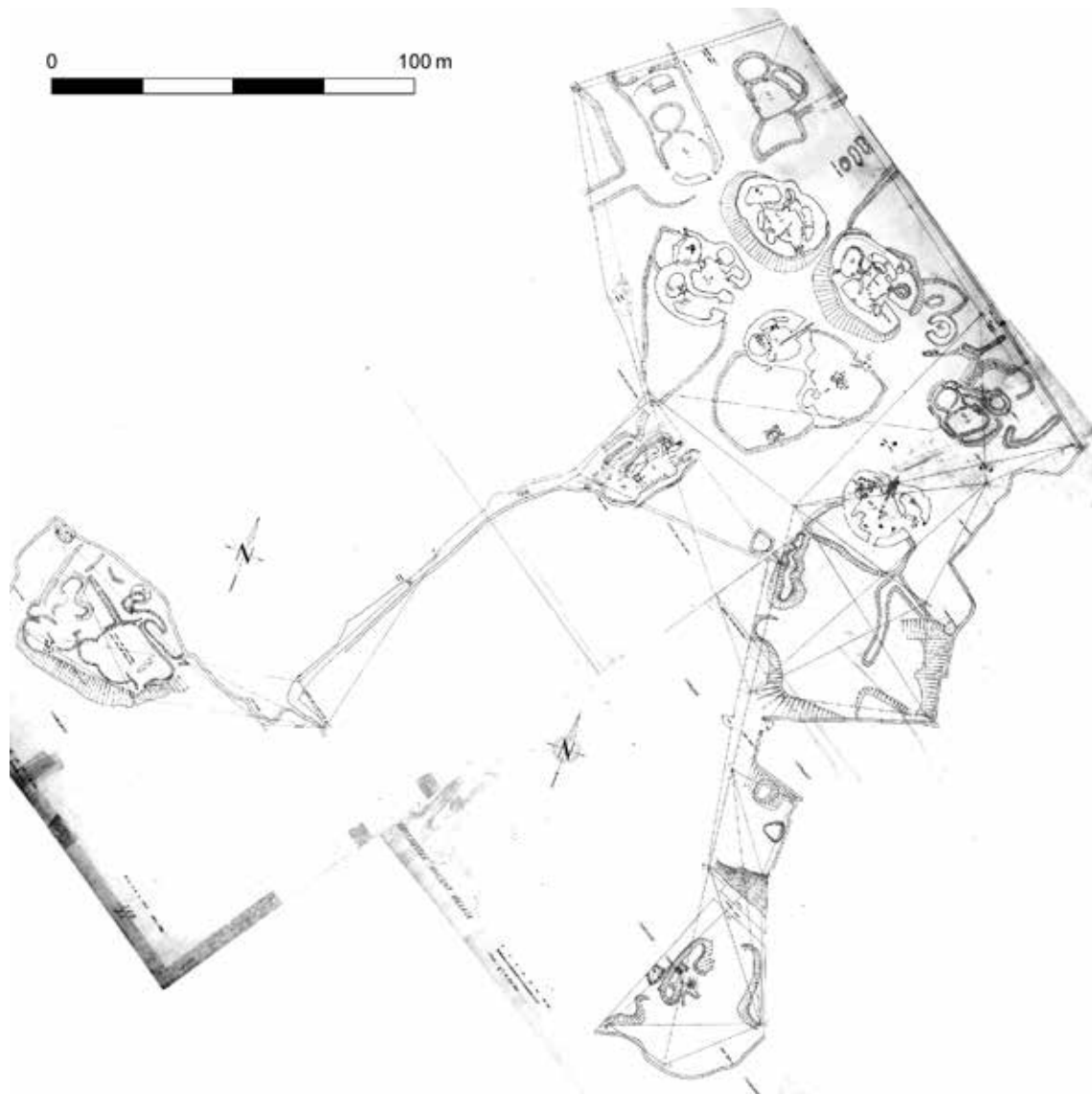


Figure 11. Ministry of Works 1956 plan of Chysauster (Historic England – ref MP/CHY0023 and MP/CHY0023).

underlying Houses 4 and 6, the major lynchet to the south of House 7, and edge of the earthworks framing the limit of clearance on the northern edge of the southern field.

The publication of Hencken's 1931 excavation includes a detailed and metrically accurate plan of the site undertaken by TS Copplestone and G Singleton of the Department of Ancient Monuments and Historic Buildings of HM Office of Works (Hencken 1933, 240; Fig 10). Copplestone and Singleton's plan covers a slightly smaller area than Watkins' plan and is reproduced at a larger scale, showing features in considerably more detail. The plan is the first to establish the currently used numbering system for the houses. It shows Houses 1 to 8 and their associated enclosures, and depicts the yet-to-be-discovered House 9 as a single mound (see Fig 10 point XIV). Copplestone and Singleton's plan shows a similar range of earthwork features to that shown by Watkins; however, their more refined depiction and formalised drawing smooths out some of the, in reality, fragmented and 'scrappy'

CHYSAUSTER

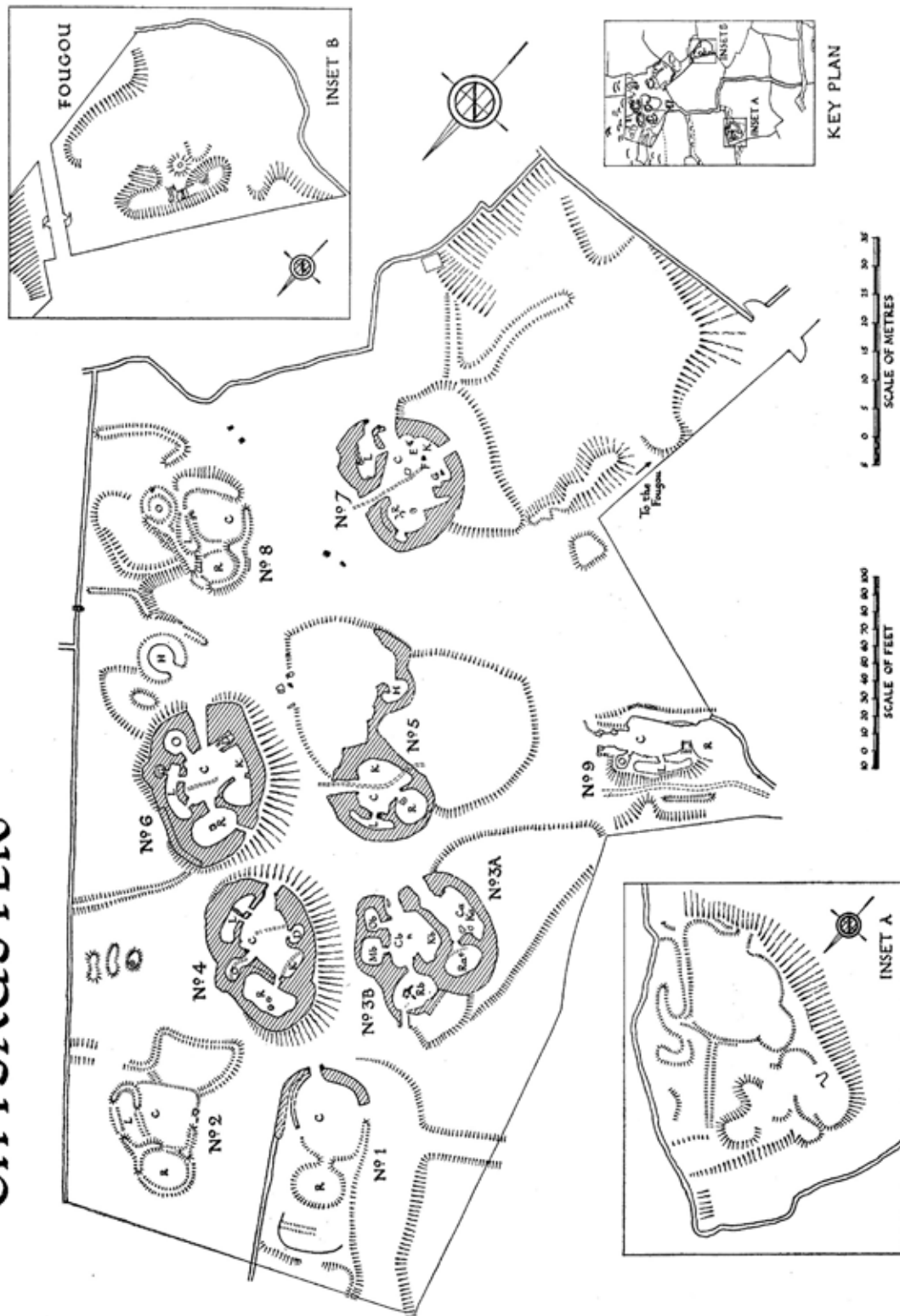


Figure 12. Ministry of Works 1960 plan of Chysauster (Baillie Reynolds 1960, 6-7. *Historic England*).

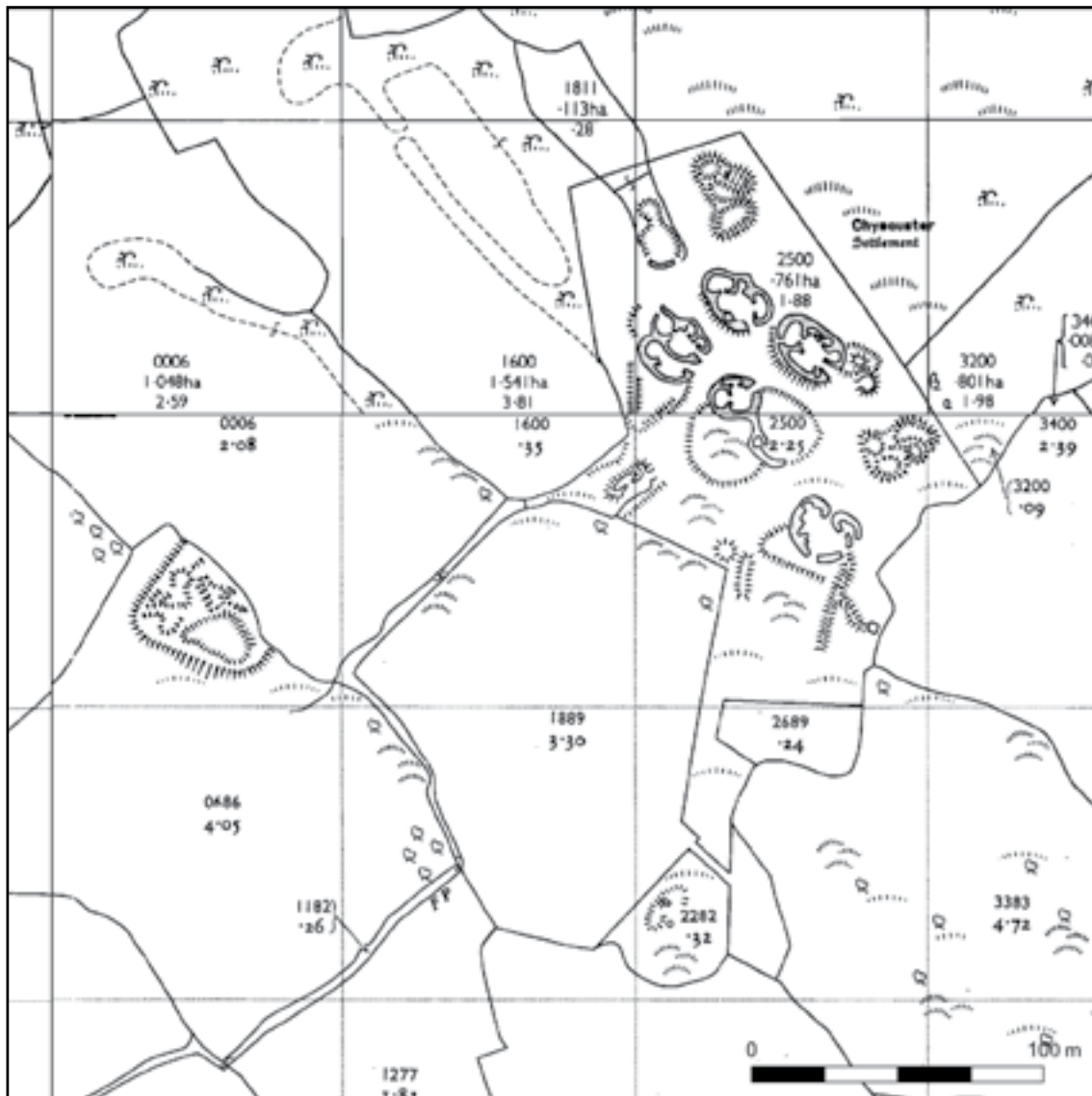


Figure 13. Extract of Ordnance Survey 1:2500 mapping, 1963 and 1978. Base map © crown copyright/database right and Landmark Information Group Limited (all rights reserved 2016).

nature of these features which are better illustrated by Watkins. The drawing records the extent of modern stone hedges at the end of the 1931 excavation, as well as showing the extent of modern additions to the courtyard houses. It also shows the location of a series of trenches excavated prior to the creation of excavation spoil heaps (see Fig10 points III, V and VIII).

In 1956 the Ministry of Works undertook a further survey of the now enlarged Guardianship area (Fig 11). This 'wishbone' shaped survey was conducted by three unidentified surveyors (with the initials BJS, EA and UHC) at a scale of approximately 1:200. Within the core of the courtyard house settlement this survey records a similar range of features and level of detail to that seen in Copplestone and Singleton's 1931 plan, with the addition of further detail within the now excavated House 9. The principal additions to the new survey are a number of features in the south-east and south-west 'wings' of the enlarged Guardianship area including the

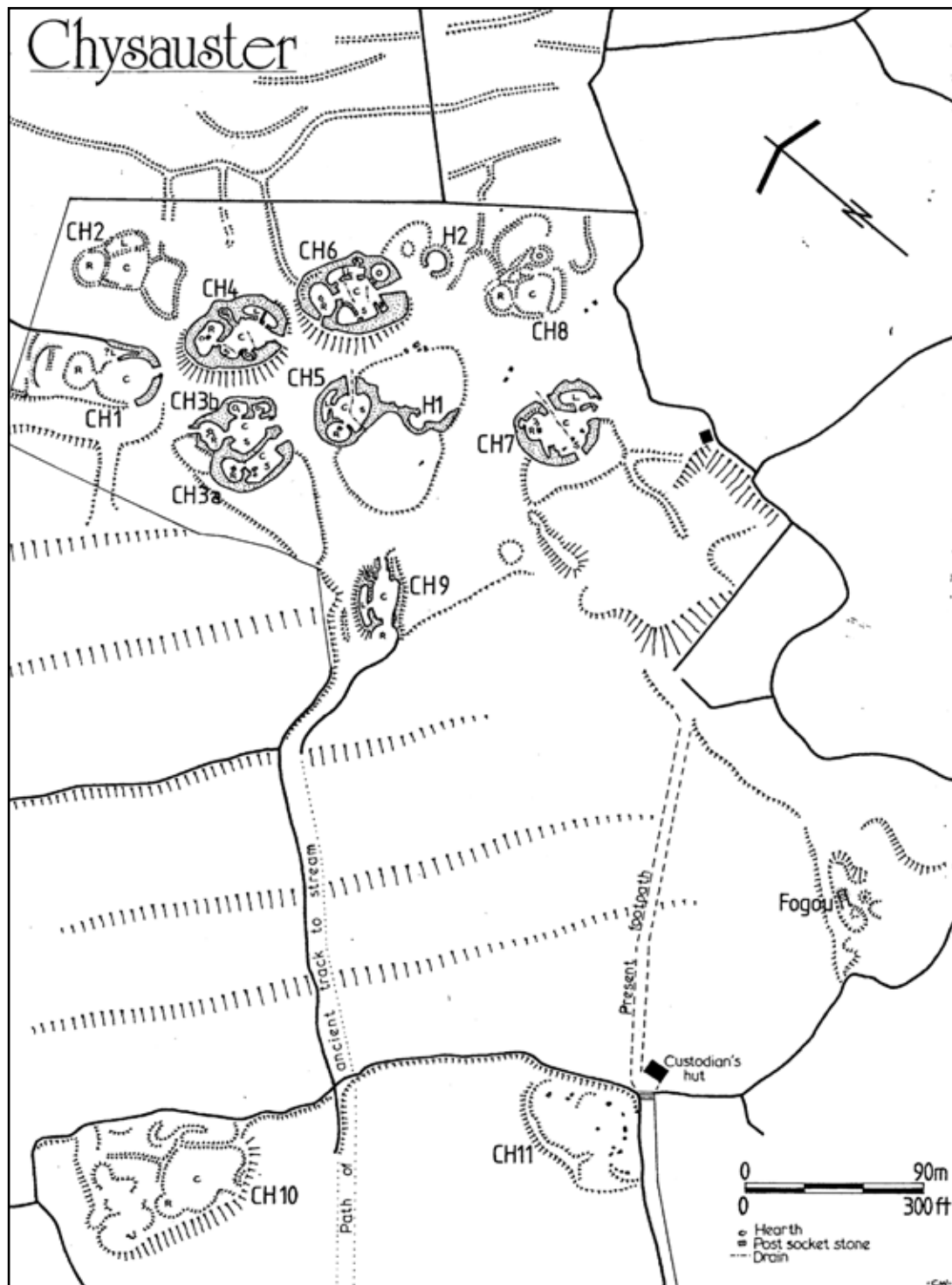


Figure 14. Plan of Chysauster courtyard village (Reproduced from Weatherhill 1982 with permission of Craig Weatherhill).

full length of the hollow way, and the areas of House 10 and the fogou. Although still primarily focussed on the courtyard houses the survey recorded a number of further major earthwork features including elements of lynchets and quarrying on the eastern edge of the site identified during the current survey. The north-east boundary wall of the current Guardianship area appears to have been constructed between Copplestone and Singleton's survey and the 1956 survey.

The 1956 survey formed the basis of plans in subsequent Ministry of Works/Department of the Environment/English Heritage site guide books and signage (for example Ballie Roberts 1960; Christie 2011; Fig 12). No additional detail was added to the 1956 plan by the Ordnance Survey Antiquity Model of the site (Quinnell 1960). The Model forms the basis of archaeological detail shown on the Ordnance Survey 1:2500 National Grid mapping published in 1963 (northern half of the site) and 1979 (southern half of the site) (Fig 13).

Weatherhill's (1982) survey of courtyard houses in West Penwith includes a plan of Chysauster which appears to be in large part derived from the 1956 Ministry of Works survey and 1963/79 Ordnance Survey mapping (Fig 14). Weatherhill's plan covers the full extent of the current Guardianship area and its immediate environs, and includes two significant additions to previous plans; a further potential courtyard house (House 11) immediately to the south of the current EH kiosk, and a series of lynchets running across the southern field and extending west beyond the Guardianship area.

In the mid-1980s the threat posed to extant archaeological features by agricultural improvement in the moorland areas to the north and east of the Guardianship area (Johnson 2016; Johnson and Rose 1983, 11) prompted a series of landscape scale interventions by the CAU and EH (Nowakowski and Sharpe 1986; Smith *et al* 1996). This included earthwork survey followed by targeted excavation and palaeo-environmental investigation in an area immediately to the north of the courtyard house settlement (Smith *et al* 1996), and the more extensive detailed survey of earthwork features on both Carnaquidden and Chysauster farms (Nowakowski and Sharpe 1986; Fig 15 *and see* Fig 51). These surveys covered over 100ha surrounding the Guardianship area. Crucially, however, although the southern field of the Guardianship area was surveyed, the core of the courtyard house settlement, and the access path leading to it, were excluded, leaving a 'doughnut hole' at the centre of the 1980s surveys.

Nowakowski and Sharpe (1986) and Smith *et al* (1996) recorded a multiperiod landscape with extant archaeological remains spanning Early Bronze Age funerary monuments to post-medieval tin streaming and extraction. The most significant element of this survey was the mapping of large areas of late prehistoric and Romano-British field systems surrounding the Guardianship area. This is characterised by discrete areas of late prehistoric 'relict' field system defined by banks which disappear under the edges of a more extensive 'perpetuated' field system defined by substantial lynchets which have gone on to greatly influence the layout of the present day hedged landscape (Smith *et al* 1996, 170; Nowakowski 2016). As outlined above, one of the principal aims of the current survey was to fill the 'doughnut hole' enabling the courtyard houses inside the Guardianship area to be understood in the context of boundaries and other features recorded in the surrounding landscape.

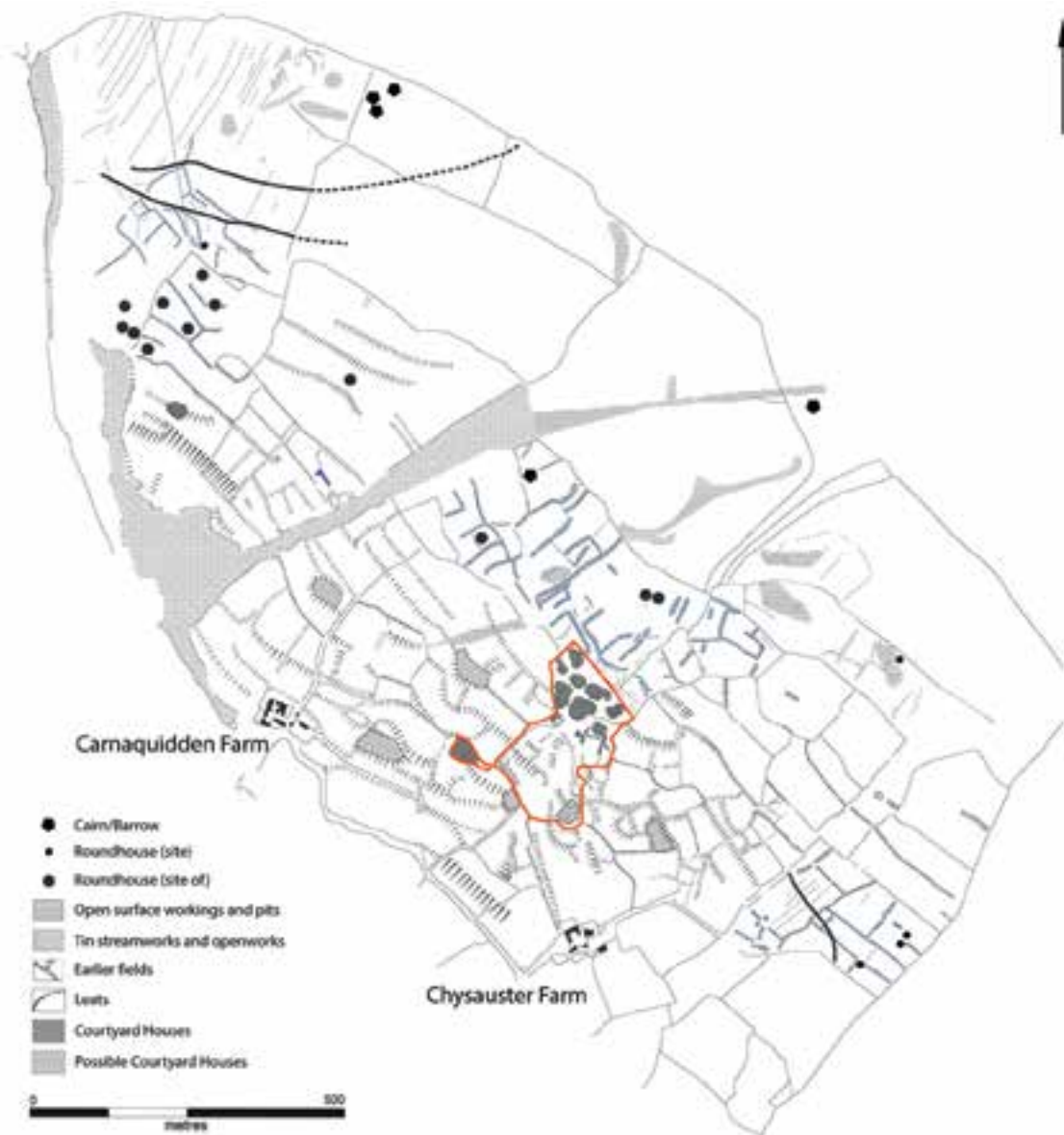


Figure 15. Cornwall Archaeological Unit surveys of Carnaquidden and Chysauster farms (After Nowakowski 2016, fig 7.7. Reproduced with permission of Cornwall Archaeological Unit).



Figure 16



Figure 17a

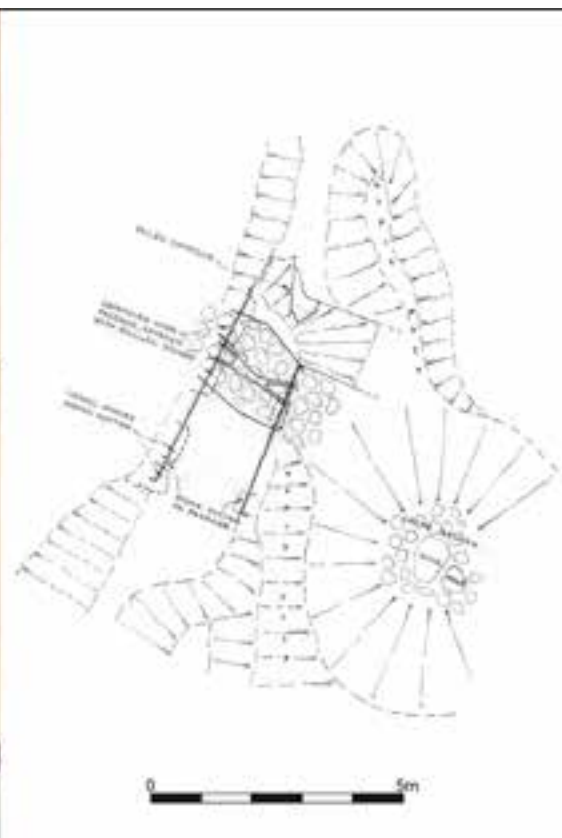


Figure 17b

DESCRIPTION AND PHASING

The survey results are presented as two principal drawings at the end of this report. Fig 44 gives a detailed view of the survey area at a scale of 1:1250. Earthwork features are depicted with hachures and a series of additional lines and polygons show the site boundary, extant walls, wall lines (where only one face of a wall survives), low walls (walls considerably lower than other courtyard house walls), individual stones, and areas of paving, rubble and vegetation. Fig 51 (at a scale of 1:2000) contextualises the survey within its wider landscape. It incorporates features transcribed from the photogrammetric survey Digital Surface Model (DSM) and orthophoto (Intellegent Mapping Solutions 2016), as well as details of features in the surrounding area derived from Nowakowski and Sharpe (1986) and Nowakowski (2016, fig 7.7).

For ease of reference earthwork features are grouped together into a series of phased and annotated plans (see Figs 45 to 50), and are presented below as text descriptions. All bracketed numbers refer to annotated features on plans 45 to 50.

Fogou (Fig 16; see also Fig 45)

Due to the apparently disturbed nature of the area surrounding the fogou, results from the current survey (Fig 17a) are compared to two previously unpublished surveys of the fogou by Borlase (1871; Fig 18 and the Ministry of Works (1956b; Fig 17b).

The fogou is located in the south-east corner of the site (F1). The approach to the fogou consists of a narrow linear feature oriented south-south-west to north-north-east cut into the slope of the hillside (F2). The southern 4m of this feature is approximately 2m wide at its base, by approximately 1m deep. The final 2m narrows to 1.3m wide by 1.2m deep, is stone lined and probably originally carried horizontal capstones. These dimensions are broadly comparable with those shown in Borlase (1871, see Fig 18) and Ministry of Works (1956b; see Fig 17b). It is likely that the detail of earthwork features in the area may in part be attributed to focused erosion caused by visitors, and by the backfilling (followed by the emptying) of the fogou approach by EH in the late 1980s or early 1990s (McNeil Cooke 1993, 121; Weatherhill 1997, 101).

The approach ends in the rectangular opening to the extant fogou chamber. The opening is approximately 1.5m wide by 1m high and is capped with an approximately 0.35m thick granite slab. Borlase's (1871) drawing includes a profile across the fogou chamber showing it to be approximately 2m wide at the base with its corbelled walls tapering to approximately 1.45m wide at the top, by approximately 1.8m high. This suggests that the fogou chamber and approach

Across: Figure 16 (top). The fogou - 1m scale, view to north (© Historic England, photograph Sharon Soutar)

Figure 17a (bottom left). The fogou at 1:150 (© Historic England).

Figure 17b (bottom right). Ministry of Works 1956 plan of Chysauster Fogou (Historic England – ref MP/CHY0025).

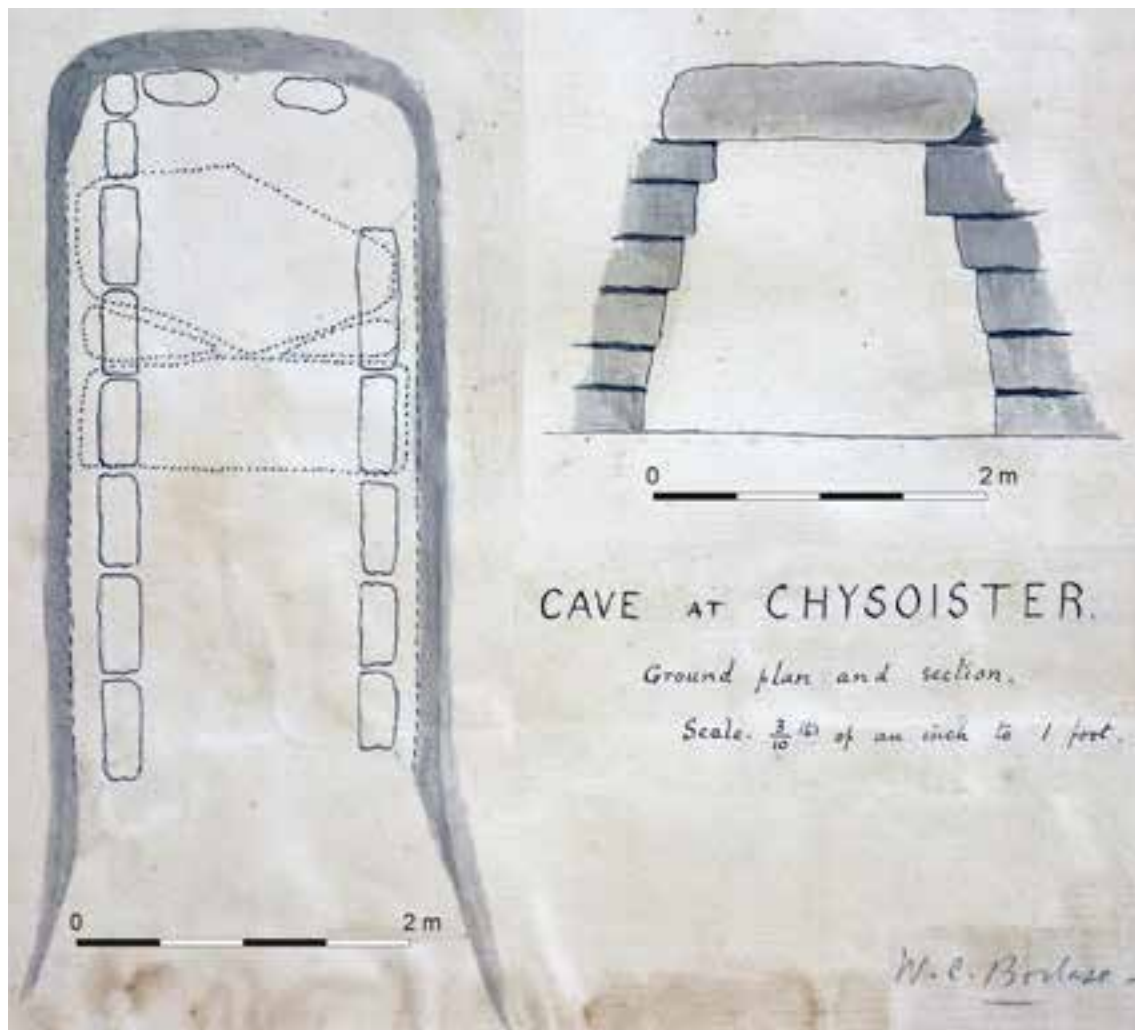


Figure 18. Plan and section of Chysauster fogou by WC Borlase. (Borlase 1871. Reproduced by permission of the Morrab Library, Penzance <http://morrablibrary.org.uk>).

have been substantially infilled since the late nineteenth century. It is difficult to assess the internal extent of the fogou chamber as it was partially filled and gated by EH in the late 1980s or early 1990s. Surface evidence shows a mound measuring approximately 0.4m high and 2.5m long by 2m wide (F3). This is broadly comparable with dimensions from Borlase's (1871) plan which shows the chamber measuring approximately 2.5m long by 2m wide and capped by two substantial stone slabs.

The Ministry of Works (1956b) depiction of the fogou chamber is harder to interpret. The two major capstones shown by Borlase (1871) are easy to identify; but several features, particularly a large stone annotated as 'fallen capstone', and substantial hollow immediately to the north of the fogou chamber, differ substantially both from Borlase's drawing and features recorded in the current survey. It is unclear from the drawing whether these features are a schematic 'cutaway' representation of internal features inside the fogou chamber, or are features which were exposed in 1956 and have subsequently been buried. The former interpretation would suggest that the fogou chamber extends further to the north than is shown in Borlase's plan.

The latter interpretation would suggest that a substantial unrecorded disturbance, possibly an excavation trench, was open in this area in spring 1956.

A small 0.3m high scarp (F4) to the north-east of the fogou chamber, and on broadly the same alignment as the fogou approach, is not shown on either historic plan and is considered unlikely to reflect a subsurface continuation of the fogou chamber. The earthworks recorded by the current survey are difficult to reconcile with those shown on the Ministry of Works (1956b) plan. It appears that substantial changes have occurred in this area since the 1956 survey.

A low mound to the east of the fogou chamber (F5), shown as an area of 'loose stones' and two 'holes' on the Ministry of Works (1956b) plan, is considered more likely to result from nineteenth or twentieth century disturbance, than to constitute surface evidence of a further fogou chamber.

Lynchets (*see Fig 45*)

Arguably the earliest major earthworks within the Guardianship area are a series of linear features chiefly running on a north-north-west to south-south-east alignment and broadly following the contours of the hillside. These features range between 0.6 and 1.5m in height and are spaced at intervals of between 20 and 25m. There is limited evidence (particularly apparent at the southern end of the site) for perpendicular banks subdividing the areas enclosed by these earthworks into a series of sub-rectangular blocks. This group of features corresponds closely with the position of a series of lynchets identified by previous surveys (Nowakowski and Sharpe 1986; Smith *et al* 1996) outside the Guardianship area.



Figure 19. Lynchet 1.3 underlying houses 4 and 6, view to north-east (© Historic England, photograph Olaf Bayer).



Figure 20. Lynchet 2.3 underlying the entrance to House 5, view to north-east (© Historic England, photograph Olaf Bayer).

Lynchet 1 (Fig 19) runs from the northern edge of the site between Houses 1 and 2, under Houses 4, 6, 6a, the southern edge of House 8, and across the eastern site boundary beyond House 8. This feature varies in height from 0.7m at (1.1), to 1.5m at (1.3), 1m at (1.5) and less than 0.5m at (1.8). The line of this feature is less distinct towards its south-eastern end (1.7–1.8) due to its close proximity to, or reuse by, a removed hedgeline (see Fig 48, feature 3). Its orientation corresponds closely with that of a lynchet underlying a hedgeline recorded by Nowakowski and Sharpe (1986) to the south-east of the Guardianship area (see Figs 15 and 51).

Lynchet 2 (Fig 20) is overlain by the western wall of House 1, runs beneath Houses 3, 5/5a and 7, and crosses the south-eastern site boundary immediately to the north of the current EH shed. Lynchet 2 varies in height from approximately 0.8m high at (2.1), to 0.7m at (2.3), 0.8m at (2.5), 0.8m at (2.6), and 0.6m at (2.8).

Lynchet 3 runs from the angle-change in the western site boundary (immediately north of House 9), and continues in fragmentary form to become a substantial feature to the south of House 7. It varies in height between 1m at (3.1), 0.6m at (3.2), 1m at (3.3), and 1.3m at (3.4). This feature corresponds closely to lynchets recorded to the north-west and south-east of the Guardianship area by Nowakowski and Sharpe (1986; see Figs 15 and 51).

Lynchet 4 is a short length of earthwork underlying the eastern site boundary wall immediately to the south of, and roughly perpendicular with, lynchet (3). It is approximately 0.6m high and corresponds closely with a lynchet recorded by Nowakowski and Sharpe (1986; see Figs 15 and 51).



Figure 21. Lynchet 6.5, view to south-east (© Historic England, photograph Sharon Soutar).

Lynchet 5 underlies the western site boundary in the area of the hollow way and House 9; it is approximately 0.7m high.

There is a substantial drop between the southern edge of the core of the courtyard house settlement and the northern edge of the open field to the south. Earthworks in this area are difficult to understand and are partially obscured by nineteenth-century field clearance and twentieth-century excavation spoil heaps. Lynchet 6 is proposed as underlying the southern edge of House 9 (6.1–6.2), defining part of the northern extent of clearance in the southern field (6.4), before being cut by the present day foot access to the northern half of the site (see Fig 49, feature 11) and continuing in more pronounced form underlying the southern edge of the enclosure associated with House 7 (6.5; Fig 21). This feature continues to the east of the Guardianship area (Nowakowski and Sharpe 1986; see Figs 15 and 51). It is possible that the southern edge of a 1930s spoil heap (see Fig 45, feature 6.3 and Fig 49, feature 14) may be part of this feature. Lynchet 6 varies in height between 1.2m at (6.1), 1.4m at (6.3) (albeit enhanced by spoil heap 14), and 1.3m at (6.5).

Lynchet 7 defines the corner of a plot of land, and is approximately 0.4m high, on the eastern fringe of the southern area of the site. It partly underlies an east-west running element of the boundary wall, and appears to continue as a slight earthwork outside the Guardianship area to the east (Nowakowski and Sharpe 1986; see Figs 15 and 51). The course of lynchet 7 further to the west is unclear; however, it is

possible that it continues as lynchet 9 to the west, with which it shares a common position on the slope.

Lynchet 8 lies to the south of, and parallel with, lynchet 7. It is an approximately 1.2m high, east-west oriented earthwork located against the eastern edge of the site. Its line continues as a major earthwork to the east of the site boundary (Nowakowski and Sharpe 1986; see Figs 15 and 51). To the west it is likely to be linked to feature (12.2).

Lynchets 9, 10, 11 and 12 (Fig 22) are all plough-levelled earthworks in the southern area of the site. Features (9), (10), and (11) are principally oriented north-west to south-east, with slighter perpendicular fragments of similar earthworks appended to them. All survive to a height of approximately 1m but in a very spread state. Feature (12) groups together a series of smaller fragmentary earthworks in the south-east corner of the southern field. Lynchets 9, 10, and 11 all appear to continue to the west of the study area. Similarly, it is likely that features (9) and (10) continue further to the east into the uncultivated fringe of the southern field where they survive as more pronounced lynchets 7, 8 and possibly 13.

Lynchets 13 and 14 bound the area of the fogou in the south-eastern corner of the site. Only the very slight northern, upslope edge of feature (13) is apparent in the current survey. It is likely that the northern edges of probable quarrying in this area (see Fig 47, features 9 and 10) are cut into its much modified southern face. Feature (15) in the far south-east of the site survives to a height of 0.6m and is likely to be a further lynchet much modified by the southern edges of the same quarrying (see Fig 47, features 7 and 8).



Figure 22. Lynchet 12.1 - 1m scale, view to east (© Historic England, photograph Olaf Bayer).

A combination of the southern edge of feature (8.1), features (12.1) and (12.2) within the survey area, and an earthwork and a curving length of post-medieval field boundary immediately outside the south-east corner of the Guardianship area, suggest the possibility of an oval enclosure surrounding the area of the fogou (see Figures 15, 41–43 and 51). The possible enclosure measures approximately 70m in diameter (east-west) by 85m (north-south).

Lynchets 15 and 16 are in the area of House 10 in the far south-west of the Guardianship area. Feature (16) underlies the hedge bank that forms the northern edge of this area of the survey, and at (16.1) is 0.6m high. Feature (15) wraps around the southern and western edges of House 10. It is possible that feature (15) forms the southern edge of a platform created for House 10 rather than a lynchet. At (15.1) this feature is 0.7m high.

Courtyard houses (see Fig 46)

The survey area contains ten previously recorded courtyard houses. Houses 1 to 9 are in a closely spaced group at the northern end of the site and form the core of the courtyard house settlement. House 10 is isolated at the far south-western corner of the site. These houses have been the primary focus of several previous archaeological surveys (see above). The current project has resurveyed each of the courtyard houses with modern equipment to enable the production of high accuracy plans of the site for updated illustrations and to act as a baseline for management and monitoring change. Rather than repeating the detailed description of each of the courtyard houses given in previous publications (for example, Hencken 1933, Baillie Reynolds 1960, Weatherhill 1982 and Christie 2011), the focus of this report is cast at a wider scale to describe the relationship between the houses, their appended field systems, and underlying features. More attention is given to describing the structure of Houses 1, 2, 8, 9 and 10, which have seen less previous investigation.

House 1 (Fig 23)

Although substantially cleared of vegetation, House 1 is unexcavated and lies at the far northern edge of the site. Given its proximity to the northern and western site boundaries it is difficult to get a full impression of House 1's relationship with surrounding features. This is particularly the case due to the overgrown nature of the areas immediately outside the site to the north and west. Its wall lines have also been reused by post-medieval field boundaries (Hencken 1928 and 1933), potentially altering its appearance.

Linear feature (1.1) spans from the western edge of House 1 to the current site boundary and continues beyond the Guardianship area in a sweeping curve to the north-west. Feature (1.2) is a low terrace wrapping around the western edge of the house. It survives to a height of 0.5m and abuts boundary (1.1). Curvilinear feature (1.3) also abuts boundary (1.1) and hints at a small enclosure appended to the southern-western corner of House 1. It is suggested that walls (1.4) and (1.5), which cross the northern site boundary into the wider landscape, are in their current form more recent additions to the house. However, it is possible these features fossilise an enclosure appended to the northern edge of House 1. Feature (1.6), a slight and



Figure 23. Courtyard House 1 – view to north (DP181440 © Historic England, photograph James O. Davies).



Figure 24. Courtyard House 2 – view to north-east (DP181439 © Historic England, photograph James O. Davies).

fragmentary earthwork immediately to the east of House 1, suggests that the eastern edge of the structure may be terraced into the base of the lynchet upslope (see Fig 45 feature 1.1).

House 2 (Fig 24)

House 2 lies in the far north-east corner of the site. Although partly cleared of vegetation at the time of the current survey, the morphology of House 2 is difficult to discern. It consists of a series of low banks and traces of walls all less than 1m high. Its plan suggests a courtyard (2.1), with a round room (2.2) and a long room (2.3) to the north. Feature (2.4) is a small enclosure to the south-east of the courtyard. As with House 1, understanding House 2's relationship with surrounding features is made difficult due to the proximity of the northern and eastern site boundaries and the very overgrown land beyond. Bank (2.5) is appended to the eastern edge of enclosure (2.4). This feature extends across the site boundary potentially forming an enclosure (2.6) appended to the eastern and northern sides of House 2, with lynchet (1.1; see Fig 45, feature 2.) forming its western edge. The south-west corner of enclosure (2.4) is underlain by a length of bank (2.7) which connects it to the northern edge of House 4. This feature is 0.3m high and may be a fragment of lynchet (1.1).

House 3 (Fig 25)

House 3 is located between Houses 1, 4 and 5. The northern edge of House 3 appears to have been terraced (3.1) into the foot of the southern extent of lynchet 1. Internally there is a drop of approximately 1m between the floor levels in the north-eastern and south-western sides of the house. It is suggested that this is caused by lynchet 2 underlying the eastern edge of the structure. House 3 is associated with a series of external enclosures to the west and south-west defined by features (3.2) and (3.3). Understanding the full extent of the enclosures to the south-west is complicated by the proximity of the site boundary.

House 4 (Fig 26)

House 4 is located between Houses 2 and 6. There is a marked north-east to south-west drop (over 1m) in floor levels within House 3. This is most obvious with the step up from the courtyard into the rooms on its northern and eastern edge, and the step down from the courtyard into the small cell on its south-western edge. It is suggested that this is caused by the north-eastern edge of the building being constructed over lynchet 1. The western edge of the house is built on a substantial platform (4.1).

Externally House 4 is associated with an enclosure (4.2) to the north-east formed by features (2.5) and (6.5). This enclosure continues across the site boundary and into the rough grazing to the north-east.

House 5 (Fig 27 and 28)

House 5 lies at the core of the courtyard house settlement. Again there is a marked north-east to south-west drop in levels inside this structure. Within House 5 this



Figure 25. Courtyard House 3 – view to north-west (DP181443 © Historic England, photograph James O. Davies).



Figure 26. Courtyard House 4 – view to north-west (DP181641 © Historic England, photograph James O. Davies).

can be seen in the drop of over 1m from exterior to interior at the entrance to the courtyard (see Fig 20). There is a similar east to west fall along the wall-line connecting House 5 with House 5a. It is suggested that this is caused by House 5/5a being constructed over lynchet 2.



Figure 27. Courtyard House 5 – view to south-west (DP181397 © Historic England, photograph James O. Davies).



Figure 28. Enclosure 5.2 appended to the south-west side of Courtyard House 5 (© Historic England, photograph Sharon Soutar).

Externally House 5 is associated with two small enclosures (5.1) to the north and north-west, a larger enclosure to the south-west (5.2), (5.3) to the east (Fig 28) and (5.4) to the north. Several small earthworks suggest some subdivision of enclosure (5.3). The lynched downslope edge of enclosure (5.3) indicates that it was cultivated. Much of the outer limits of enclosure (5.3) are reused by post-medieval boundaries (see Fig 48 features 1 and 2).



Figure 29. Courtyard House 6 – interior view to north-east (DP181430 © Historic England, photograph James O. Davies).



Figure 30. Bank 6.5 appended to the north-east side of Courtyard House 6 (© Historic England, photograph Sharon Soutar).

House 6 (Figs 29 and 30)

House 6 lies between Houses 4 and 8. The structure appears to have been built on a low platform (6.1) to the south-west, and possibly (6.2) to the north-east. It is suggested that lynchet 1 underlies the south-western side of the house, causing a fall of almost 1m between the rooms to the north and the surface of the courtyard. A slight linear depression in the centre of the courtyard (6.3) marks the southern continuation of the covered drain visible on the northern edge of the courtyard. Externally House 6 is associated with an enclosure (6.4) appended to its northern edge, defined to the west by feature (6.5) and to the east by feature (6.6) (Fig 30). This enclosure extends beyond the boundary wall into the rough grazing to the north-east of the Guardianship area. Two slight features within (6.4) suggest possible internal subdivision of this enclosure.

A small circular structure (6a) with an internal diameter of 5.6m is connected to the eastern side of House 6 by with a 0.4m high bank with occasional stone facing (6.7).

House 7 (Fig 31)

House 7 lies to the south of Houses 5 and 8. On its western edge the house appears to have been built on a platform (7.1) approximately 0.8m high, while on its north-eastern edge it appears to have been cut into the slope (7.2). It is suggested that lynchet 2 underlies the house, accounting for a fall of approximately 0.5m between the surface of the rooms to its north and the surface of the courtyard.

Externally House 7 is associated with a large enclosure running down slope to the south-west, crossing lynchet 3 and ending at lynchet 6. The limit of this enclosure is defined by a combination of low banks (7.3) and lynchet 7 on its western and southern sides. A group of low boundaries (7.4) approximately 0.3m in height form a series of small rectilinear plots to the south of lynchet (4.3). Their chronological relationship with enclosure (7.3) is uncertain. Elements of (7.4) appear to extend to the east of enclosure (7.3).



Figure 31. Courtyard House 7 – view to north-west (DP181411 © Historic England, photograph James O. Davies).



Figure 32. Courtyard House 8 – view to north-west (DP181412 © Historic England, photograph James O. Davies).

House 8 (Fig 32)

House 8 is unexcavated and lies in the north-western corner of the site. The structure survives as a series of heavily vegetated earthworks up to 1m in height. The precise morphology of the house is difficult to determine. The main courtyard (8.1) and a round room to the north-west (8.2) are relatively easy to define; however, possible rooms to the north-east (8.3) are much more amorphous. Round room 8.2 is unusual in that its form slightly protrudes beyond the line of the exterior wall enclosing the courtyard house.

Earthworks to the north of House 8 indicate fragmentary remains of several smaller enclosures within a larger enclosure (8.4) defined by boundaries (8.5) (to the west) and (8.6) (to the east), both of which extend beyond the site boundary into the rough grazing to the north-east.

House 9 (Fig 33)

House 9 lies immediately south-west of the abrupt corner in the Guardianship area's western boundary. This house is the most atypical within the core of the neucleated settlement, and several factors complicate the interpretation of this structure. Firstly a stone hedge bank (*see* Fig 48, feature 2) overlies and potentially reworks much of the southern wall. Secondly, until at least the late 1970s, this area saw heavy footfall, being located at the northern end of the hollow way which provided the principal access to the core of the Guardianship area. The pre-1980s ticket kiosk was located



Figure 33. Courtyard House 9 – view to south-west (DP181460 © Historic England, photograph James O. Davies).

inside the large round room (9.2). Identification of associated features or appended enclosures is hindered by the house's proximity to the edge of the site and excavation spoil heaps (*see* Fig 49, features 14 and 16). The house is built on top of lynchet 6 and it is possible that feature (9.5) is a constructed platform for the house. A clear long room (9.3) and small round room (9.4) exist on the northern edge of the building. Both rooms open to the south into a possible courtyard (9.1). Immediately to the west are the more fragmentary remains of a further large round room (9.2).

House 10

House 10 is unexcavated and is isolated in the far south-west corner of the Guardianship area, over 200m from the core area of courtyard houses, and as such is unlikely to have formed part of the hamlet. The area of House 10 is very overgrown and substantial amounts of recent material have been tipped on its periphery. Due to high vegetation obscuring the northern and western part of House 10 at the time of the current survey, elements of Nowakowski and Sharpe's 1986 1:200 plan of House 10 (Nowakowski and Sharpe 1986, plan reference grh68-2-8-4_CarnaquiddenCourtyardHouse_1:200_1985015) have been redrawn and incorporated into plans in this report (*see* Fig 2 for extent).

The morphology of House 10 is difficult to discern. Its eastern edge (10.1) consists of a sub-rectangular platform measuring approximately 15m by 15m and probably an appended enclosure built between lynchets to the north and south (*see* Fig 45 features 16 and 17). The core of the courtyard house is probably immediately to the north (10.2) where several smaller possible room structures are discernible. An earthwork (10.3) appears to extend south-east from the south-eastern edge of (10.1).

This area of the site has been particularly badly affected by modern tipping and the stratigraphic relationship between these features and House 10 remains unclear.

House 11

The location of House 11 (after Weatherhill 1982, fig 14) is included in Fig 46 for reference purposes. This feature lies outside the Guardianship area and was heavily overgrown at the time of the current survey. As a result no new fieldwork was conducted in this area.

House 12?

Nowakowski and Sharpe (1986, 24) suggest that the earthworks in the area of the fogou are likely to include the remains of a further courtyard house. It is difficult to reconcile the size and morphology of the earthworks recorded in this area with anything seen further upslope in the core of the village. It is possible that three short linear features (12.1), (12.2) and in particular (12.3) represent the remains of much disturbed walls. However, should a courtyard house have existed in this location it would have been very heavily disturbed by subsequent quarrying and stone robbing (*see below*). If it was a courtyard house, as with Houses 10 and 11, it would have been an isolated example at a distance from the core of the nucleated settlement.

Prospection pits, quarrying and stone robbing (*see Fig 47*)

Several small features on the central eastern fringe of the site are suggested as possible tin prospection pits (after Nowakowski and Sharpe 1986, 26–7). Each



Figure 34. Prospection pit 5, view to north-east (© Historic England, photograph Sharon Soutar).

consists of a sub-circular depression between 2 and 4m in diameter and up to 1m in depth (Fig 34). Features (3) and (5) have associated spoil heaps on their downhill sides.

Several features on the eastern fringe of the site are suggested as evidence of small scale quarrying and robbing of stone from earlier structures, including the courtyard houses and the fogou (see Fig 46). These features include a series of four depressions (7–10) terraced into the prevailing slope immediately to the east of the fogou. The largest (8) measures approximately 18m north to south by 10m east to west by up to 0.75m deep, whilst the smallest (9) measures 6m north to south by 5m east to west by up to 0.3m deep. The northern and eastern edges of feature (8) are capped with a series of low spoil heaps. Features (7–10) cover most of the area to the east of the fogou suggested by Nowakowski and Sharpe (1986, 24) as the site of a potential courtyard house (see Fig 15). A spread of apparently abandoned granite blocks is found between features (9) and (10) and the southern boundary of the site (Fig 35). Several of these blocks show signs of having been drilled or split with chisels. Fig 36 shows a granite block with traces of a charge-hole drilled into its edge. This indicates the blasting of larger boulders into smaller fragments and is presumed to be nineteenth century or later in date.

A further area of quarrying is suggested at (11) against the eastern edge of the site. This feature consists of a single depression measuring approximately 6m long by 4m wide by 0.9m deep terraced into the slope at the base of lynchet 7 (see Fig 45).



Figure 35. Rubble spread south of quarries 9 and 10 – view to south (© Historic England, photograph Sharon Soutar).



*Figure 36. Granite block with traces of a drilled charge hole from rubble spread – 15cm scale
(© Historic England, photograph Olaf Bayer).*

A series of amorphous earthworks to the south and east are suggested as associated spoilheaps.

Removed field boundaries (see Fig 48)

Several field boundaries shown on nineteenth and early twentieth century mapping were removed from the area of the courtyard houses prior to the Ministry of Works (1956a) plan (compare Figs 9 and 11). Elements of these features survive as low linear earthworks, often overlying earlier features.

Boundary (1) runs south-east from the northern edge of the site to terminate at its junction with boundary 2 at a point between Houses 5, 6, 7 and 8. This feature is shown in Watkins' 1928 plan (see Fig 9), and Hencken describes its removal in 1931 (1933, 241). Boundary 1 survives as an extant wall outside the Guardianship area to the north, and incorporates the eastern and elements of the southern walls of House 1. It then runs as a slight earthwork up to 0.2m high linking House 1 with the eastern edges of Houses 3 and 5, follows the top of the break of slope defining the northern edge of the enclosure associated with House 5/5a (see Fig 46, feature 5.3), before joining boundary 2.

Boundary (2) runs north-east to south-west across the central area and western edge of the site. It was partly removed by 1931 and fully removed by 1956 (see Figures 10 and 11). It runs south-west from the north-eastern edge of the site between Houses 6a and 8, skirts the eastern and southern edge of House 5/5a before turning at right angles to meet the southern wall of House 9. It then incorporates the southern



Figure 37. Removed boundary 2 running under the north-east site boundary, view to north (© Historic England, photograph Sharon Soutar).



Figure 38. Gateway 3.1 in removed boundary 3. The post on the left appears to have been blasted/split, view to south (© Historic England, photograph Olaf Bayer).

wall of House 9 and forms the wall on the southern side of the hollow way running along the western edge of the site towards the south-western corner of the site. Boundary (2) is clearly visible as a stone wall/hedge outside and to the north-east of the Guardianship area. Within the Guardianship area this feature is generally a low earthwork with a maximum height of 0.2–0.25m. At its northern end it incorporates several large granite blocks (Fig 37). South of House 5 the south-western edge of the boundary is more pronounced, probably overlying an earlier lynchet (see Fig 45, feature 3.2).

Boundary (3) was removed between 1931 and 1956 (compare Figs 10 and 11) and runs east to west between the eastern edge of the site and boundary 2. This feature is best preserved towards its eastern end where it survives to a maximum of 0.2m high. Further west it is less distinct and difficult to discern due to its proximity to, or reuse of, lynchet 1. There are two openings in boundary 3 marked by pairs of orthostatic gateposts at (3.1) and (3.2). The posts at (3.1) frame the northern entrance to House 7 approximately 10m to the south (Fig 38). The eastern post appears to have been blasted or split. This suggests that posts (3.1) were initially erected as part of the post-medieval boundary rather than having an older association with House 7.

Boundary (4) is a pronounced linear earthwork surviving to a height of approximately 0.7m running from the north-west site boundary and fading out in the gap between Houses 1 and 3. The line of this feature is shown as a fence line marking the western edge of the Guardianship area by Hencken (1933; see Fig 10), and was removed between the expansion of the Guardianship area in 1939 and the Ministry of Works survey in 1956 (see Fig 11). The western end of this feature is overlain by spoil heap (12) derived from Hencken's 1931 excavations. It is possible that more material from Hencken's excavations was dumped along the line of boundary (4).

Feature (5) groups together several elements formed by a track way cutting across earlier earthworks, running from a now blocked gate way in the eastern site boundary into the southern area of the site.

Miscellaneous nineteenth and twentieth century features (see Fig 49)

Features (1) to (5) form a series of earthworks framing the northern, eastern and south-eastern fringes of the southern field of the Guardianship area. Their position corresponds closely with an annotation on the 1843 Gulval tithe map marking the extent of clearance in this field (Fig 40; see also Fig 6). It is suggested that these features are spoil heaps formed by the clearance of earlier earthworks and structures (see Fig 45, lynchets 9–12), and accentuated in places by erosion caused by the cultivation of the southern field between the late nineteenth and twentieth centuries. It is suggested that on the northern and eastern edges of the field the limits of clearance were in part determined by the position of earlier lynchets (see Fig 45, lynchet (6.4) to the north and lynchets (7) and (8) to the east).



*Figure 39. Spoil heaps 14.1 (fore ground) and 14.2/14.2 (back ground) – view to east
(© Historic England, photograph Sharon Soutar).*

Feature (6) comprises a negative earthwork created by the excavation of the terrace for the EH ticket kiosk in the late 1970s, and an associated spoil heap against the site boundary.

Feature (7) includes a series of earthworks overlying the eastern edge of House 10, probably caused by twentieth-century clearance in the field immediately to the south.

Features (8), (9), (10) and (11) on the eastern edge of the site are caused by informal twentieth and twenty first century footpaths cutting across earlier earthworks within the Guardianship area.

Features (12) to (16) are spoil heaps from twentieth-century archaeological excavations. The location of trenches excavated in advance of the deposition of excavation spoil are marked by Hencken (1928; 1933, 239; see Figs 9 and 10).

Feature (12) corresponds with the location of trenches labelled 'III' by Hencken (1933, 239; see Fig 10). It stands approximately 2m high and is located against the north-western site boundary in what, in 1931, would have been the north-west corner of the Guardianship area.

Feature (13) is a small 0.2m high mound between Houses 3 and 6. Its location corresponds closely with the position of a spoil heap from Hencken's 1928 excavation (see Fig 9, labelled 'dump').



*Figure 40. The southern field showing limit of cultivation 3, 4 and 5 – view to south
(© Historic England, photograph Olaf Bayer).*

Feature (14) corresponds with the location of trenches labelled ‘V’ by Hencken (1933, 240; see Fig 10). It is immediately to the west of House 9, and is located against what, in 1931, would have been the southern boundary of the Guardianship area. Feature (14.1) is a rubble mound approximately 0.75m high. Feature (14.2) is a larger – apparently earthen – mound, approximately 1m high. Sloped feature (14.3) on the northern edge of (14.2) is possibly the remains of a barrow run for the spoil heap. Feature (14.4) is slightly to the east of the main spoil heap. Hencken (1933, 240; see Fig 10) labels this feature ‘XV’ and describes it as “unused stone left by some farmer who was making a stone wall in the vicinity”. It is likely that the southern edge of these features overly elements of lynchet 6.3 (see Fig 45).

Feature (15) consists of two mounds up to 2m high, dumped against the eastern site boundary, immediately north of the EH shed/education room. This corresponds with trenches labelled VIII by Hencken (1933, 257; see Fig 10) excavated in advance of spoil dumping.

Feature (16) is a small mound approximately 0.6m high overlying lynchet 5.2 on the western side of the site. This feature is probably spoil derived from the excavation of House 9.

Feature (17) is a series of low mounds tipped against the southern boundary of the Guardianship area to the south of the fogou area. This material is likely to be spoil derived from quarrying or stone robbing immediately to the north (see Fig 47, features 7–10).

Feature (18) to the west of the fogou is an approximately 0.7m high mound. It corresponds closely with the position of a spoil heap shown on the 1956 Ministry of Works plan of the fogou (*see* Fig 18b). It is unclear as to whether this feature relates to excavation/stabilisation of the fogou being carried out in 1956, or is earlier.

Unphased features (*see* Fig 50)

Fig 50 shows features that it has not been possible to assign to a particular phase. Feature (1) comprises two low sub-circular platforms approximately 0.3m high and 4m in diameter appended to courtyard house enclosure wall 1.1 (*see* Fig 46).

Feature (2) is a short length of 0.2m high bank linking the south-east corner of House 1 and the north-west corner of House 4. Its relationship with both structures is unclear.

Features (3), (4), (5) and (6) are small discrete mounds less than 0.3 high close to Houses 3, 4, 5 and 6. It is possible that these are the remains of temporary spoil heaps from 1920s and 30s excavations that were never completely removed to the formal spoil heaps (*see* Fig 49, features 12, 13 and 14).

Feature (7) comprises a series of low (less than 0.4m high) amorphous earthworks between House 8 and the north-east corner of the site. No reported excavation of archaeological features has taken place in this area so the origin of these features is uncertain. It is most likely that they were caused by twentieth-century dumping of material in the far north-east corner of the site.

Feature (8) comprises a pair of features between House 7 and the eastern site boundary. It is made up of a small negative feature approximately 0.25m deep by 4m in diameter, and an associated small mound approximately 0.3m high by 4.5m in diameter which overlies the terraced cut for the north-eastern (upslope) edge of House 7 (*see* Fig 46, feature 7.2). It is possible that these features are either associated with the early twentieth-century excavation of House 7 or are remains of post-medieval mineral prospection (*see* Fig 47, features 1 to 6).

Feature (9) comprises two short lengths of linear earthwork immediately to the north of House 7. Their relationship with House 7 is unclear.

Features (10), (11) and (12) comprise a series of amorphous earthworks in the central eastern part of the Guardianship area. These features are located at the juncture between the southern edge of the core of the courtyard house village, the northern edge of clearance in the southern field and the present day principal access between the southern and northern halves of the Guardianship area. It is likely that these features are formed from a mixture of lynchets (*see* Fig 45, features 6.4 and 6.5), post-medieval quarrying or mineral prospection (*see* Fig 47, 1–10), nineteenth- or twentieth-century clearance and excavation spoil heaps (*see* Fig 49, features 1–7 and 11–17), cross cut by more recent informal footpaths or ‘desire lines’ caused by visitors to the site (*see* Fig 49, features 8–10).

Feature (13) comprises a series of slight earthworks within the area defined by lynchet 8 and the eastern site boundary. The northern area of these features appears to be overlain by quarrying and associated spoil heaps (*see* Fig 49, feature 12). Fleming (2016, 143) suggests this area as the possible location of a further courtyard house. Results of the current survey do not support this interpretation. It is possible that these features are fragmentary and undated traces of the subdivision of the area defined by lynchet 8, perhaps similar to feature (7.4) within enclosure (7.3) to the south of House 7 (*see* Fig 46).

DISCUSSION

Before the courtyard houses (*see* Fig 41)

The fogou

The Chysauster fogou is one of 15 confirmed examples in Cornwall (Gossip 2013, 85; Brannlund and Busby 2015). All but the recently discovered examples at Penhale Round, Fraddon (Hood 2007) and Carloggas Farm, St Austell (Brannlund and Busby 2015), are found in West Penwith, the Falmouth area and the Isles of Scilly. Although linked by recurrent structural themes, these subterranean features vary in size and morphology, from simple linear roofed passages, to complex multiphase structures with side passages and round chambers (Christie 1979, 190; McNeil Cooke 1993). On the basis of ceramic evidence and a small number of radiocarbon dates, an early to mid Iron Age date is assumed for the construction of Cornish fogous (Gossip 2013, 88), but potentially with protracted use continuing into the Romano-British period (McNeil Cooke 1993, 227). Such a date range implies that the fogou is one of the earliest extant features within the Chysauster Guardianship area.

Results of the current survey suggest that the present fogou chamber may well be the truncated stub of a formally longer linear passage, orientated north-north-west to south-south-east, with a single south-facing entrance. The southern end of the structure is likely to have been effected by nineteenth-century stone robbing (Blight 1861, 42; Edmonds 1857, 31; 1862, 51). The combined length of the fogou chamber and its present approach (c 7m or 23 feet) suggest that the account given by Crozier of the fogou having once been 20 feet long (Blight 1861a, 42), is more credible than Edmonds' (1861, 49) suggestion that it could once have been over 50 feet in length. No surface evidence of further passages or side chambers was encountered.

A range of functions has been suggested for fogous, including places of refuge, storage or ritual (MacLean 1992; Gossip 2013, 88–90). Gossip (2013, 88) rightly observes that in the context of Iron Age society these proposed functions are unlikely to have been mutually exclusive. Similarly, given the potentially long use-life of the Chysauster fogou – probably constructed in the mid first millennium BC, and then existing close to a courtyard house settlement active until the fourth century AD – it is suggested that the use and meaning of this structure is unlikely to have remained static.

All known examples of fogous are directly associated with other contemporary settlement activity (Gossip 2013, 87), either enclosures, or in their later phases, as at Carn Euny, with courtyard houses. It has proved difficult to understand the chronology and character of the earthworks in the immediate area of the Chysauster fogou. Smith *et al* (1996, 174) suggested that the area between the fogou and the south-east site boundary may be the remains of a further courtyard house or an earlier settlement. The current survey recorded several possible wall lines in this area; however, disturbance caused by quarrying or stone robbing and clearance make it difficult to understand the original context of these features. Considering the fogou in a slightly wider context, it is possible that it was associated with a surrounding oval enclosure (*see* Figures 41–43). The association of fogous with sub-

circular or oval enclosures is seen at several other sites including Halligye (Startin 2009–10) and Penhale Round (Hood 2007).

Lynchets

The earliest major earthwork features within the Guardianship area are a series of contour following lynchets which chiefly run on a north-north-west to south-south-east alignment across the site, following the underlying topography. The majority of these features can be traced into the wider landscape beyond the Guardianship area, many corresponding closely with earthworks recorded in the 1980s (Nowakowski and Sharpe 1986; Smith et al 1996). In the southern part of the Guardianship area several of the lynchets have perpendicular cross-contour elements dividing the area into sub-rectangular blocks or 'brick-shaped' fields. These lynchet subdivisions may have existed within and surrounding the core of the northern half of the site but are difficult to trace amongst the concentration of features within the courtyard house settlement. The dog-leg (3.1) in removed field boundary 3 (*see* Fig 48) may preserve one such element within the core of the settlement.

Significantly, in several locations lynchets can be seen to run under, and therefore predate, the courtyard houses. This stratigraphic relationship is best illustrated at the points where lynchets run under the platforms on which the courtyard houses are constructed; for example, the junctions between lynchet 1 and house platforms 4.1 and 6.1. (*see* Fig 46). This relationship supports the suggestion made by Smith *et al* (1996, 174 and 214) that the courtyard house settlement overlies and adapts a pre-existing lynched field system. It also indicates a very early Romano-British, or more probably Iron Age, origin for the lynchets which makeup the 'perpetuated' field system in the surrounding area.

Other early features

The question of whether other early features predating the Romano-British courtyard house settlement exist within the Guardianship area remains open. As stated above, Hencken (1933, 277–8) recovered late Iron Age ceramics from House 7, hinting at earlier activity within the core of the courtyard house settlement. Purely on morphological grounds circular House 6a stands out from the other structures in the courtyard house settlement, and is suggested as a possible early feature. It is similar in size to 'Round House 497' approximately 400m to the north-west, excavated by Smith et al (1996, 181). Elements of House 8, particularly the round room which protrudes slightly from its north-west edge (*see* Fig 45, feature 8.2), could also be considered to be plausible earlier components amongst the courtyard houses. The form of House 8 and room 8.2 has similarities with the courtyard house settlement at Bosigan West where two slightly protruding round rooms are suggested as Iron Age round houses later incorporated into a courtyard house (Herring 2016, 91–92). The identification of potentially Iron Age settlement activity at Chysauster is significant in that it provides a contemporary focus for domestic activity within the surrounding, lynched field system. Herring (2008b) suggests that brick-shaped fields are a response to agricultural intensification and settlement nucleation during the first millennium BC. The brick-shaped fields being a system

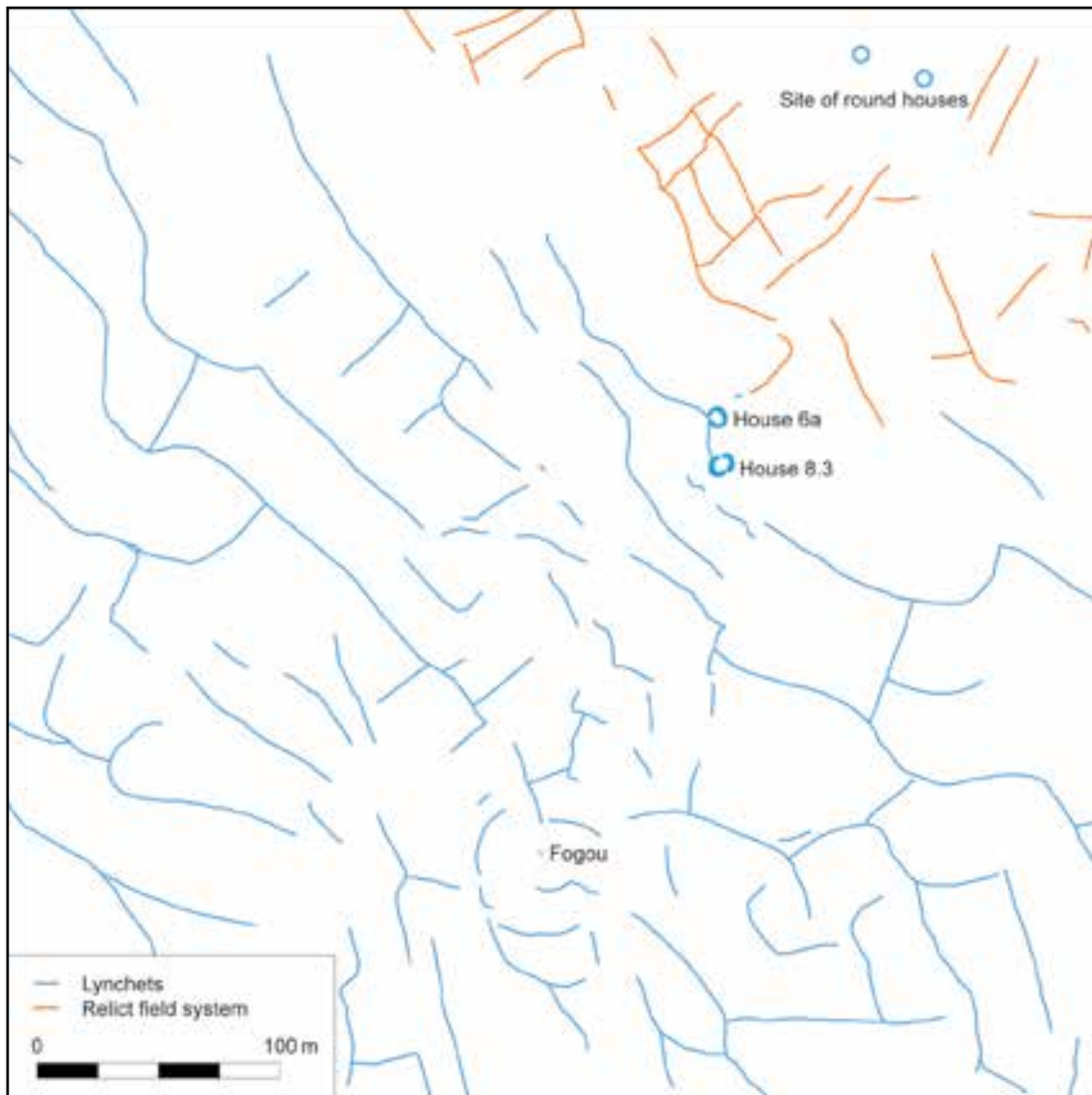


Figure 41. Before the courtyard houses (features outside the Guardianship area derived from Nowakowski 2016, fig 7.7.)

for effectively apportioning landholding surrounding a settlement, analogous with medieval stripfields (Herring 2008b, 88).

The courtyard houses (Fig 42)

The 10 courtyard houses recorded within the Chysauster Guardianship area are part of a body of 93 definite examples recorded across the West Penwith peninsula (Nowakowski 2016, 173). The nucleated group of nine courtyard houses at the northern end of the site is one of the largest and best preserved groups of these structures. Although the courtyard houses vary slightly in form and configuration, each follows the same theme of granite walls up to 4m thick enclosing a central courtyard surrounded by several round or elongated 'long' rooms.

While results of the current survey have added little to our knowledge of the size, shape and structure of the individual courtyard houses, they have significantly

changed our understanding of the lay out of the settlement as a whole. To date most authors (for example Nowakowski 2016, 175; Christie 2011, 10) have interpreted the two parallel rows of courtyard houses at the core of Chysauster as evidence of a planned settlement laid out along a 'village street'. Survey results instead indicate that this configuration was determined by the position of two pre-existing lynchets. In essence the courtyard house settlement was constructed within a developed agricultural landscape of lyncheted 'brick-shaped' fields and associated round houses, and these earlier features significantly influenced its form and layout.

A field system of small enclosures, termed 'gardens' or 'terraces' by Hencken (1933, 238) is associated with most of the courtyard houses. These features have been recognised since Blight's survey (1861a). The results of the current survey to a large extent concur with the field system identified by Blight. As shown by previous surveys this field system is significantly larger than the Guardianship area and extends beyond the site boundaries to the north, north-west and north-east. These

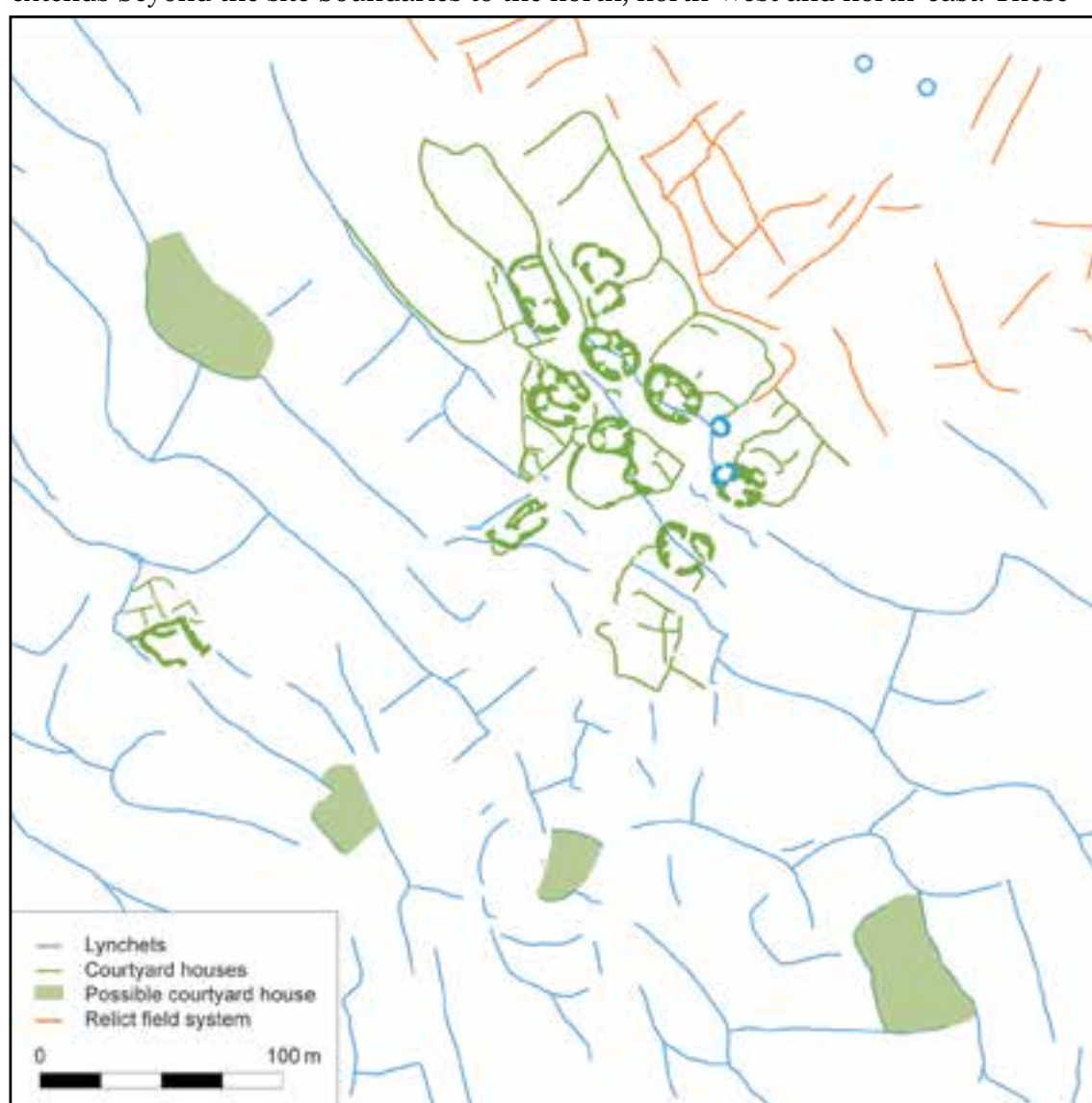


Figure 42. Courtyard houses and associated features. (features outside the Guardianship area derived from Nowakowski 2016, fig 7.7.).

features fall within the definition of what Smith *et al* (1996, 170) term ‘relict’ field systems (i.e. shorter lived field systems that do not form part of the dominant ‘perpetuated’ and heavily lynched field system). Both later prehistoric and medieval elements of relict field system are identified within the wider Chysauster and Carnaquidden Farm surveys (Nowakowski and Sharpe 1986; Smith *et al* 1996, 170; Nowakowski 2016).

On the basis of the current survey, and echoing comments made by Smith *et al* (1996, 214) about the “organic unity” of the small fields surrounding the courtyard house settlement, it is suggested that they should be considered as a third, Romano-British phase of ‘relict’ field system.

The relationship between these fields (shown in green in Figures 42 and 43) and the later prehistoric field system to the north and north-east of the Guardianship area (shown in orange in Figures 41–43), is difficult to discern. The similar layout of the fields on either side of this division indicates a degree of influence, if not continuity, albeit one that the current survey has been unable to definitively establish. A possible scenario could see Houses 2, 4, 6 and 8 constructed on the lynched downslope edge of a series of pre-existing fields (see Figure 46, features (2.6), (4.2), (6.4) and (8.4)).

Given the hints of possible earlier activity evidenced at House 6a and House 8 it is unlikely that courtyard houses 1–9 are all contemporary structures. The nucleated settlement may well not represent a single planned phase of construction. It is more likely to be the result of multiple episodes of construction, alteration and abandonment spanning several generations and influenced by pre-existing structures and boundaries. At a wider scale two distinct types of courtyard house settlement can be seen in the Chysauster landscape, the nucleated settlement formed by Houses 1–9, and apparently more isolated examples including Houses 10 and 11, and several more widely dispersed examples (see Fig 15). The chronological and social relationship between these different settlement configurations remains unclear

After the courtyard houses

A number of post-medieval and twentieth-century features were recorded within the study area. Several small depressions, some with associated spoil heaps, on the central eastern edge of the Guardianship area, are identified as tinnerners’ prospection pits, for which a seventeenth to mid-eighteenth century date is suggested (Adam Sharpe pers comm). These form part of a wider landscape of tin streaming, prospection and mining to the north of the site (Nowakowski and Sharpe 1986, 26–30 and fig 6).

Two areas of presumed post-medieval quarrying were identified, also on the eastern edge of the site. These are particularly concentrated in the area between the fogou and the south-east corner of the site where a combination of quarrying and stone robbing has probably removed almost all traces of a potential further courtyard house. Several authors writing in the late nineteenth century comment on the quantity of stone that had removed from the site in the preceding decades (Blight

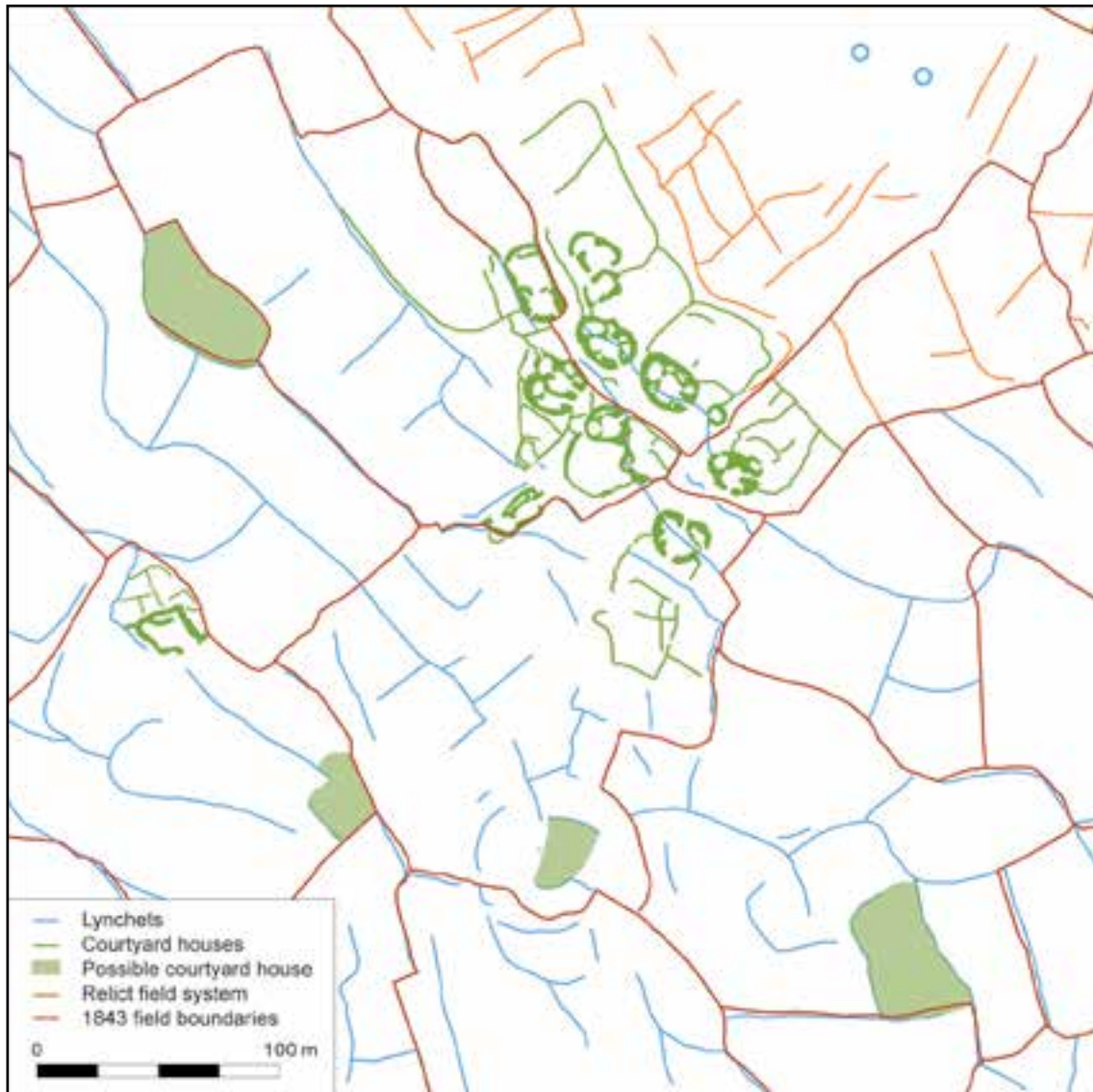


Figure 43. Mid nineteenth century field boundaries. Features outside the Guardianship area derived from Nowakowski 2016, fig 7.7. and includes information derived from © crown copyright/database right and Landmark Information Group Limited (all rights reserved 2016).

1861a, 39; Edmonds 1857, 31). Three stone hedges, presumably of post-medieval date, were removed from the site between 1928 and 1956 (Fig 43). These features which all continue beyond the Guardianship site are likely to have reused stone from the courtyard house settlement. As with many of the other stone hedges in the wider landscape, there are several hints that elements of these boundaries were constructed on top of much older lynchets. The question remains as to whether the hedged hollow way on the western site boundary is part of the post-medieval hedged landscape or, as suggested by Weatherhill (1982, fig 14), is contemporary with the courtyard village providing access to valley floor and the Rosemorran stream.

A large area of the southern field was 'improved' by the mid-nineteenth century. This involved the clearance of substantial amounts of material from earlier lynchets, and possibly other structures, into spoil heaps on the western and eastern fringes

of the southern field. This process appears to have both destroyed earlier features and to have been constrained by them. The survival of several rectilinear blocks of lynchet on the eastern fringe of the southern field suggests that this area was cleared brick-shaped field by brick-shaped field, with the eastern edge of clearance being framed by the extant corners of surviving fields. Should this clearance have been contemporary with the annotation on the 1843 tithe map it occurred at a time when the population of West Penwith was rapidly increasing due to the expansion of the mining industry (Sharpe 2016b, 239), presumably putting pressure on local farmers to increase their productivity.

The most recent features identified during the survey relate to the site's twentieth-century reincarnation as the subject of archaeological investigation and as a tourist attraction. These features include several spoil heaps from excavations in the 1920–30s, and erosion caused by footpaths cutting across the site.

RECOMMENDATIONS FOR FURTHER WORK

Despite being within both the Guardianship area and the scheduled area (Fig 5) House 10 is poorly understood. The area would benefit from being fenced, actively managed and reincorporated into the publically accessible area of the site. At the time of the current survey the western part of House 10 was inaccessible due to being heavily overgrown. In addition the eastern fringes of the House were overlapped by relatively recent spoil heaps and clearance. It is recommended that House 10 is cleared of vegetation, resurveyed at a scale of 1:500, the extent of the courtyard house accurately determined, and the extent of the Guardianship area and scheduling amended to reflect this.

The area of House 11 identified by Weatherhill (1982) is poorly understood. It is currently unscheduled and lies outside the Guardianship area. At the time of the current survey the area was heavily overgrown. It is recommended that House 11 is cleared of vegetation, surveyed at a scale of 1:500, the extent of the courtyard house accurately determined, and the extent of the scheduling, and if possible the Guardianship area, amended to reflect this.

The mid twentieth century wall forming the north-eastern boundary of the Guardianship area cuts arbitrarily across the field system/garden plots associated with Courtyard Houses 2, 4, 6 and 8 (shown in green in Fig. 42 and 43). The area to the north-east of the boundary is scheduled. It is recommended, should circumstances permit, that the Guardianship area is extended by moving the boundary wall c 25m to the north-east to include the full extent of field system/garden plots 2.6, 4.2, 6.4 and 8.4. (Fig. 46).

In addition to further targeted analytical earthwork survey and proposed changes to the extent of the Guardianship area, it is recommended that additional geophysical survey is conducted within the Guardianship area particularly in the southern field. The morphology of plough-levelled lynchets 9, 10, 11 and 12 (Fig. 45), and the potential enclosure surrounding the fogou (Fig. 41, 42 and 43) could be clarified with a combination of magnetic, earth resistance and ground penetrating radar survey. Targeted high resolution earth resistance, ground penetrating radar and electrical resistivity tomography surveys could be used to elucidate both the morphology of the fogou (Fig. 45) and potential House 12 (Fig. 46). A combination of multiple mobile probe spacings and GNSS position control for the radar survey may overcome previous problems encountered on the site (Richardson 2016).

A further research priority is to follow up Nowakowski and Gould's (2010) archive assessment with the full publication of Croft Andrew's 1930's excavations at Chysauster.

CONCLUSION

Level 3 analytical earthwork survey (English Heritage, 2007) at Chysauster has developed a fuller multi-period narrative about the site. The survey mapped a large number of previously unrecorded earthwork features within the Guardianship area and has enabled an understanding of how they relate to the stone-built structures such as the fogou and the courtyard houses. It has also made explicit the links between features inside the Guardianship area and those previously recorded in the surrounding landscape.

Prior to the current research a tension existed between two different epochs of archaeological survey and thought on the site and its surrounding landscape. The well protected Guardianship area was last surveyed in the 1950s and had been considered as a spatially discrete, single period 'site'. By contrast Chysauster's poorly protected environs have, due to external pressures, been subject to more recent investigation and considered as a multi-period landscape. It is hoped that the new survey has helped to reconnect Chysauster Guardianship site with its landscape. This work has already helped to inform new on-site interpretation and a guidebook, and will inform conservation going forward.

Chysauster was difficult to examine, comprising a complex group of earthworks, fragmented into a series of discrete inside and outside spaces by the walls of the courtyard houses, which are up to 2m tall. The detailed metre by metre examination, recording and understanding necessitated by analytical earthwork survey have proved to be an invaluable technique in this environment.

METHOD

Analytical earthwork survey

Control points and detail were surveyed using a Trimble R8 survey-grade GNSS receiver working in Real Time Kinematic (RTK) mode with points related to an R8 receiver configured as an on-site base station. The position of the base station had previously been adjusted to the National Grid Transformation OSTN02 via the Trimble VRS Now Network RTK delivery service. This uses the Ordnance Survey's GNSS correction network (OSNet) and gives a stated accuracy of 0.01–0.015m (1–1.5 cm) per point. The survey data was downloaded into Korec's Geosite software to process the field codes and the data transferred into AutoCad software for plotting out at a scale of 1:500 for graphical completion in the field. Additional archaeological detail was collected in the field using a Trimble Geo 7 mapping grade GNSS receiver also connected to OSNet with a stated accuracy of up to 0.1m (10cm) per point. Survey plans for this report were completed at a scale of 1:500 using digital drawing techniques in Adobe CS6.

Photogrammetric survey

A photogrammetric survey of the site was completed by Intelligent Mapping Solutions (2016) in January 2016 immediately prior to the analytical earthwork survey. Survey data was collected at an altitude of approximately 100m with a resultant ground resolution on 1.4cm per pixel. The georeferenced digital surface model (DSM) (Fig 52) and orthophoto (Fig 53) derived from this survey proved a valuable resource during the completion of the final survey drawings at a distance from the site. Visualisations of the DSM were created in ArcGIS 10.3 and Quick Terrain Reader v8.0.5.2. Fine detail (principally individual stones and areas of paving), were digitised from the orthophoto and DSM in AutoCAD, and added to the survey drawings. All height data referenced in this report is derived from the DSM.

Site conditions

The majority of the site had been closely mown or strimmed prior to the commencement of fieldwork. Where present the extent of small areas of vegetation obscuring earthworks and other features has been recorded. Approximately the western third of the area surrounding 'House 10' was obscured by vegetation. In this area the results of a detailed analytical earthwork survey carried out by the CAU at a scale of 1:200 (Nowakowski and Sharpe 1986, plan reference grh68-2-8-4_CarnaquiddenCourtyardHouse_1:200_1985015) have been georeferenced, redrawn and incorporated into the final survey drawings (see Fig 2 for extent of CAU data).

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Archive Materials

Ministry of Works. 1956a. Plan of Chysauster. Historic England Archive ref MP/CHY0023 and MP/CHY0024.

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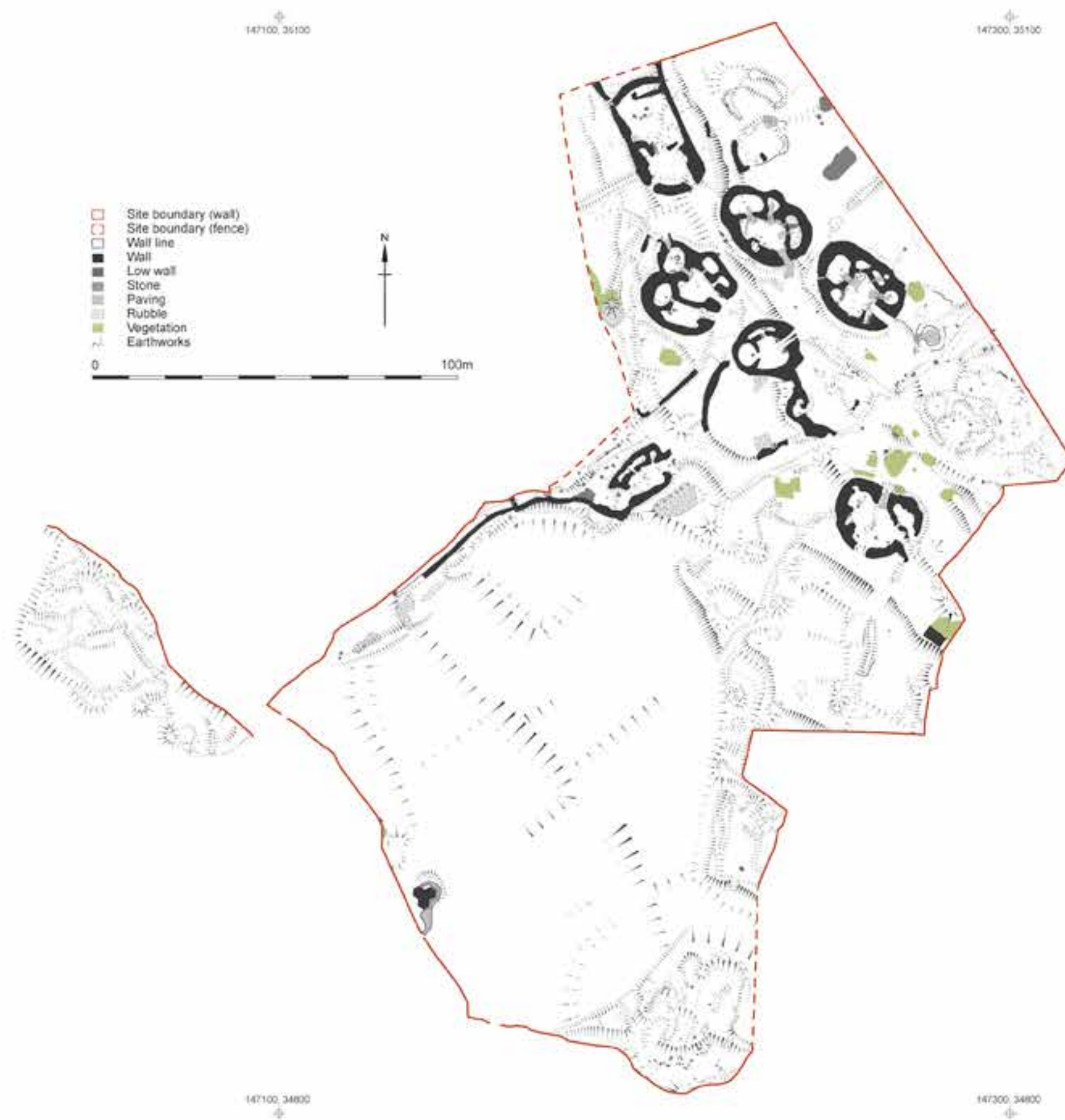


Figure 44. The survey plan shown at 1:1250, reduced from 1:500 (© Historic England).

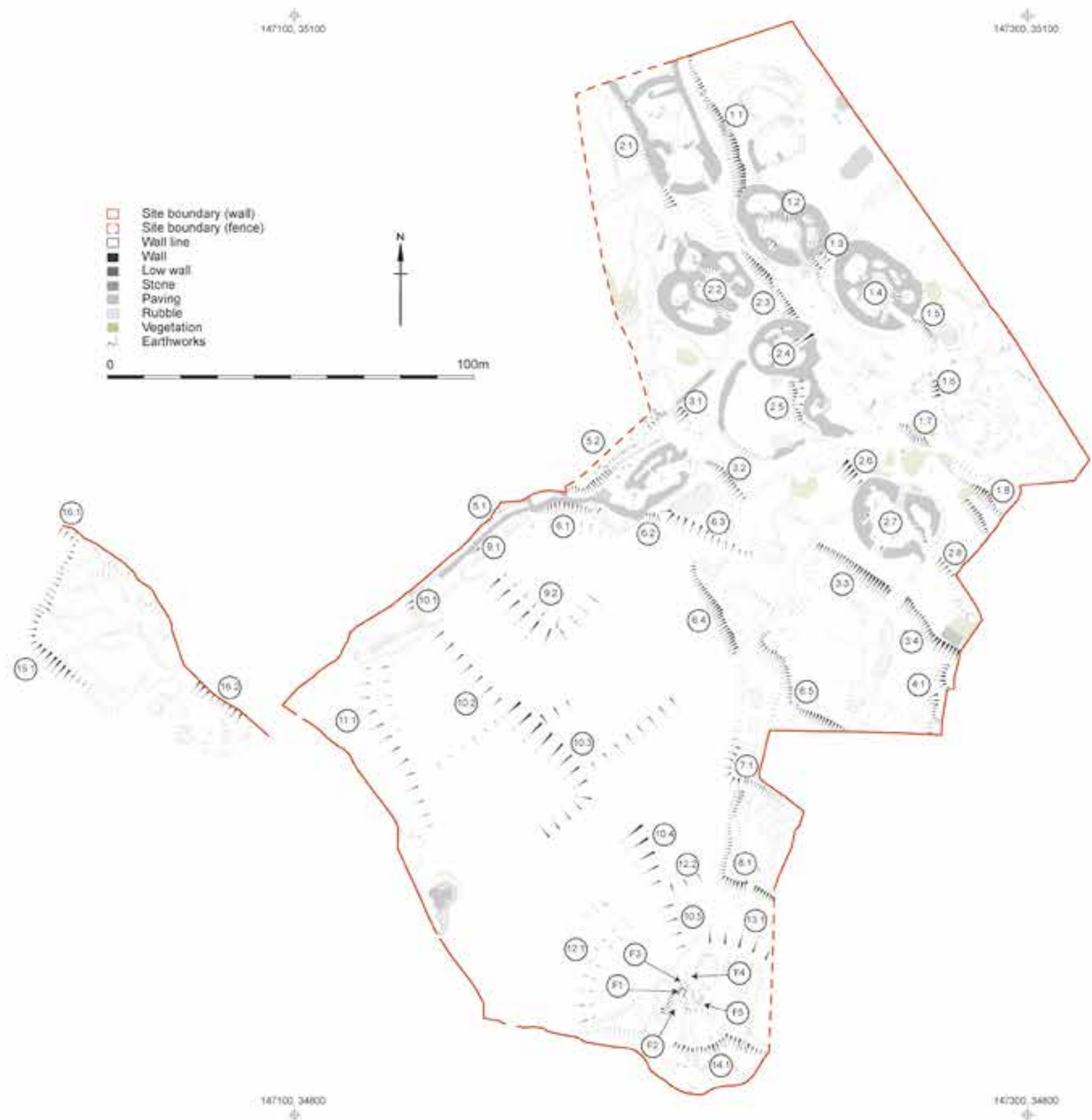


Figure 45. Lynchets and the fogou shown at 1:1250, reduced from 1:500 (© Historic England).

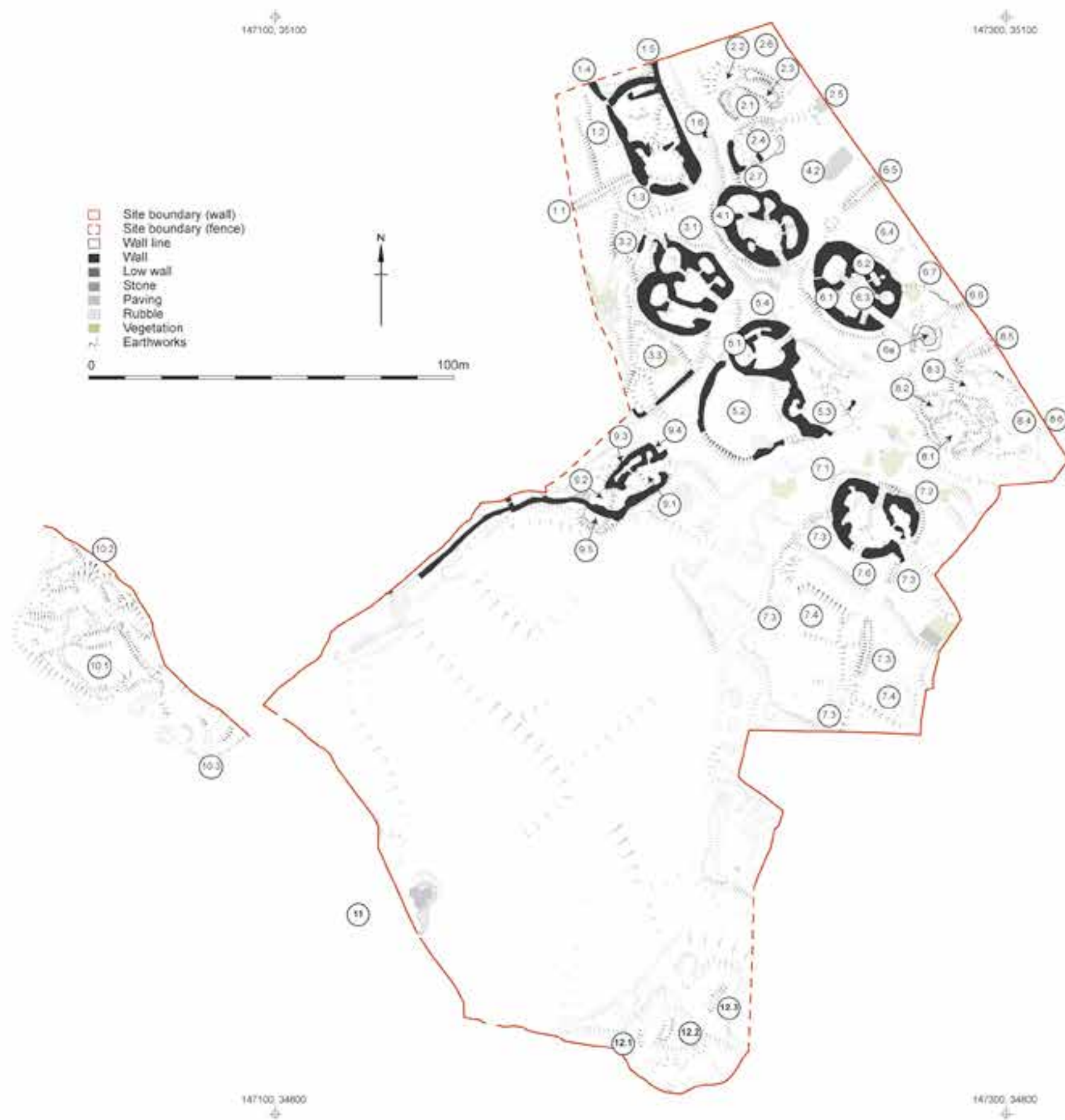


Figure 46. Courtyard Houses and associated enclosures, shown at 1:1250, reduced from 1:500 (© Historic England).

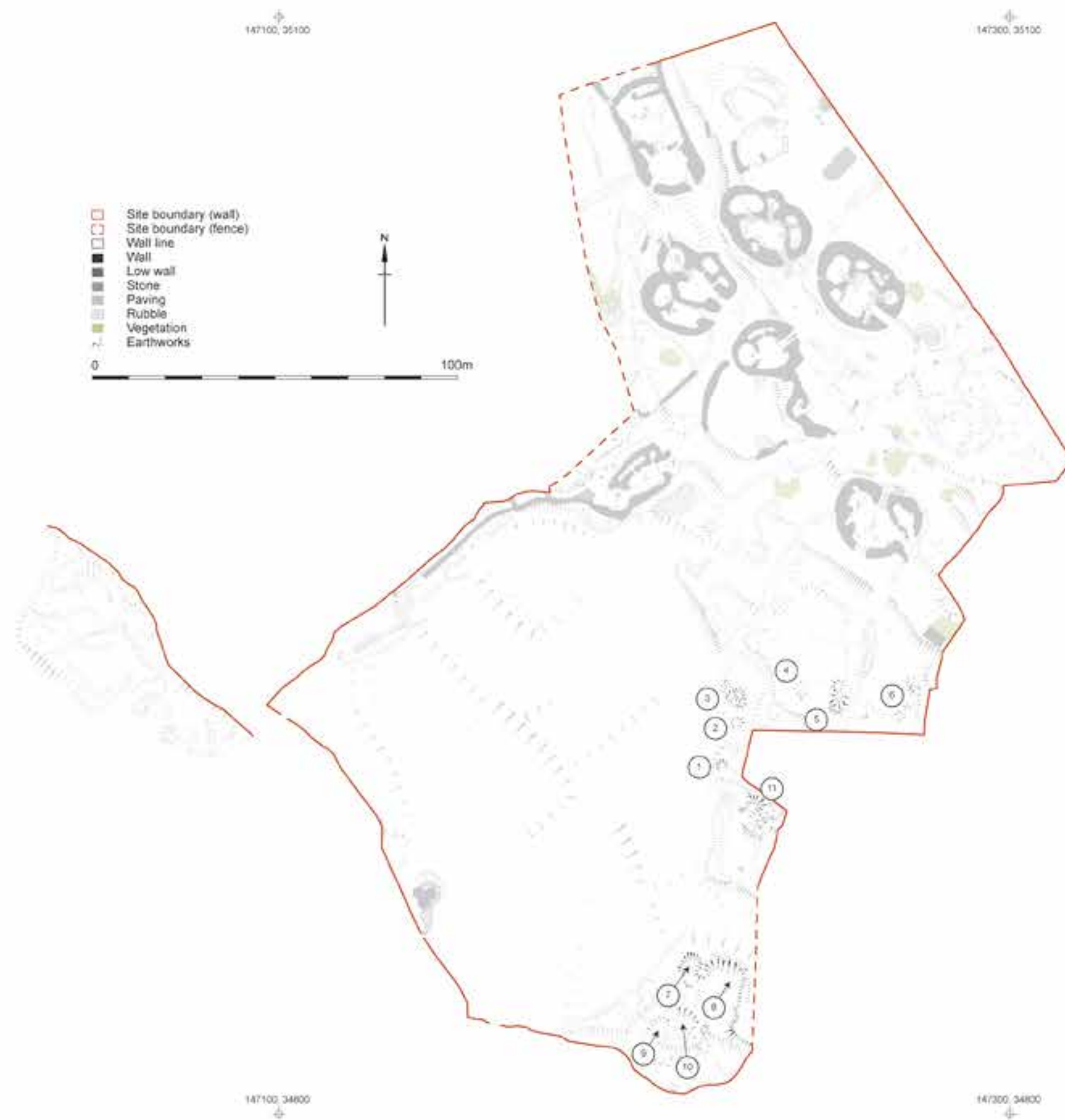


Figure 47. Prospecting pits, quarrying and stone robbing, shown at 1:1250, reduced from 1:500 (© Historic England).

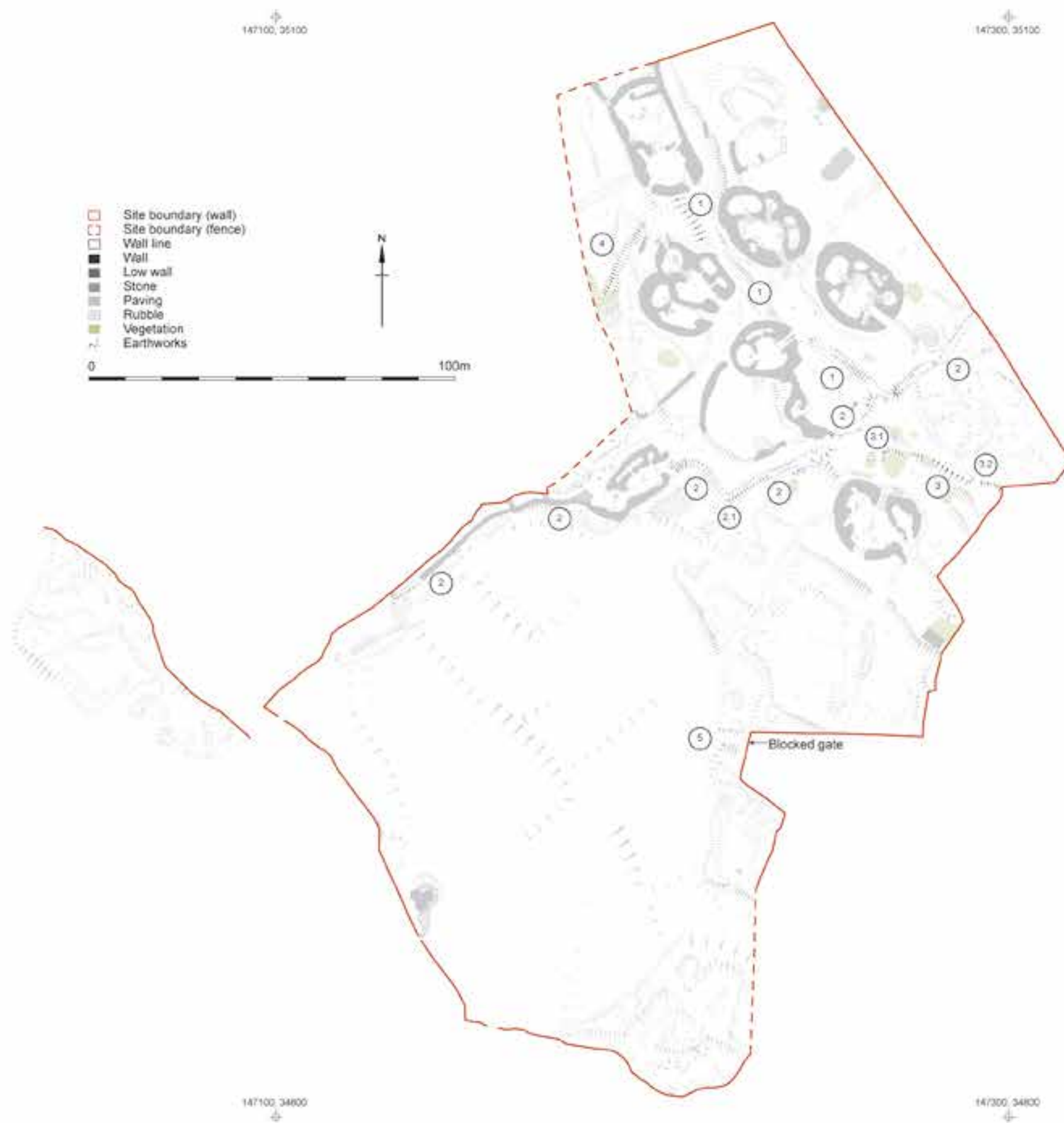


Figure 48. Removed boundaries, shown at 1:1250, reduced from 1:500 (© Historic England).

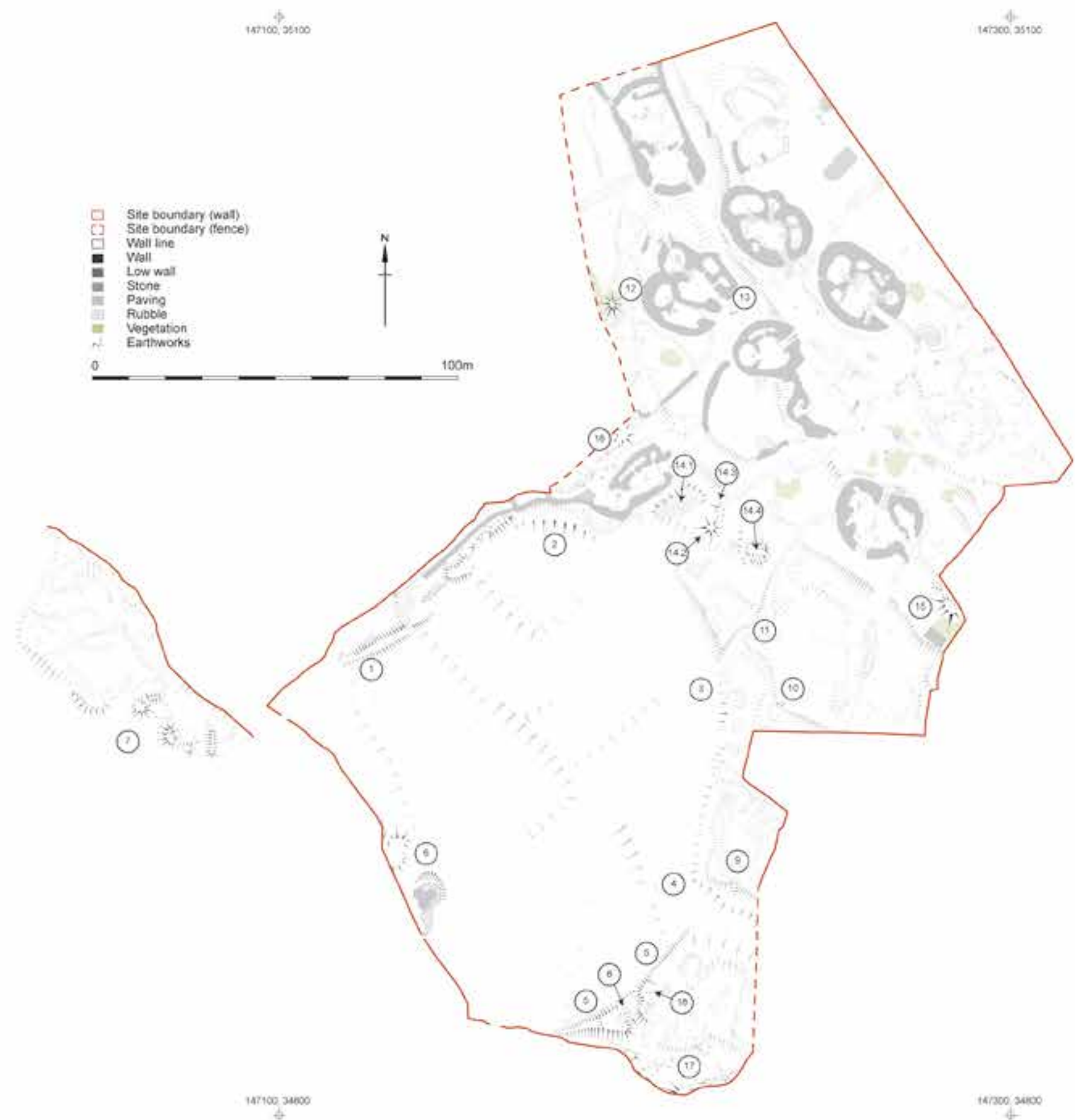


Figure 49. Clearance, spoil heaps and twentieth century features, shown at 1:1250, reduced from 1:500 (© Historic England).

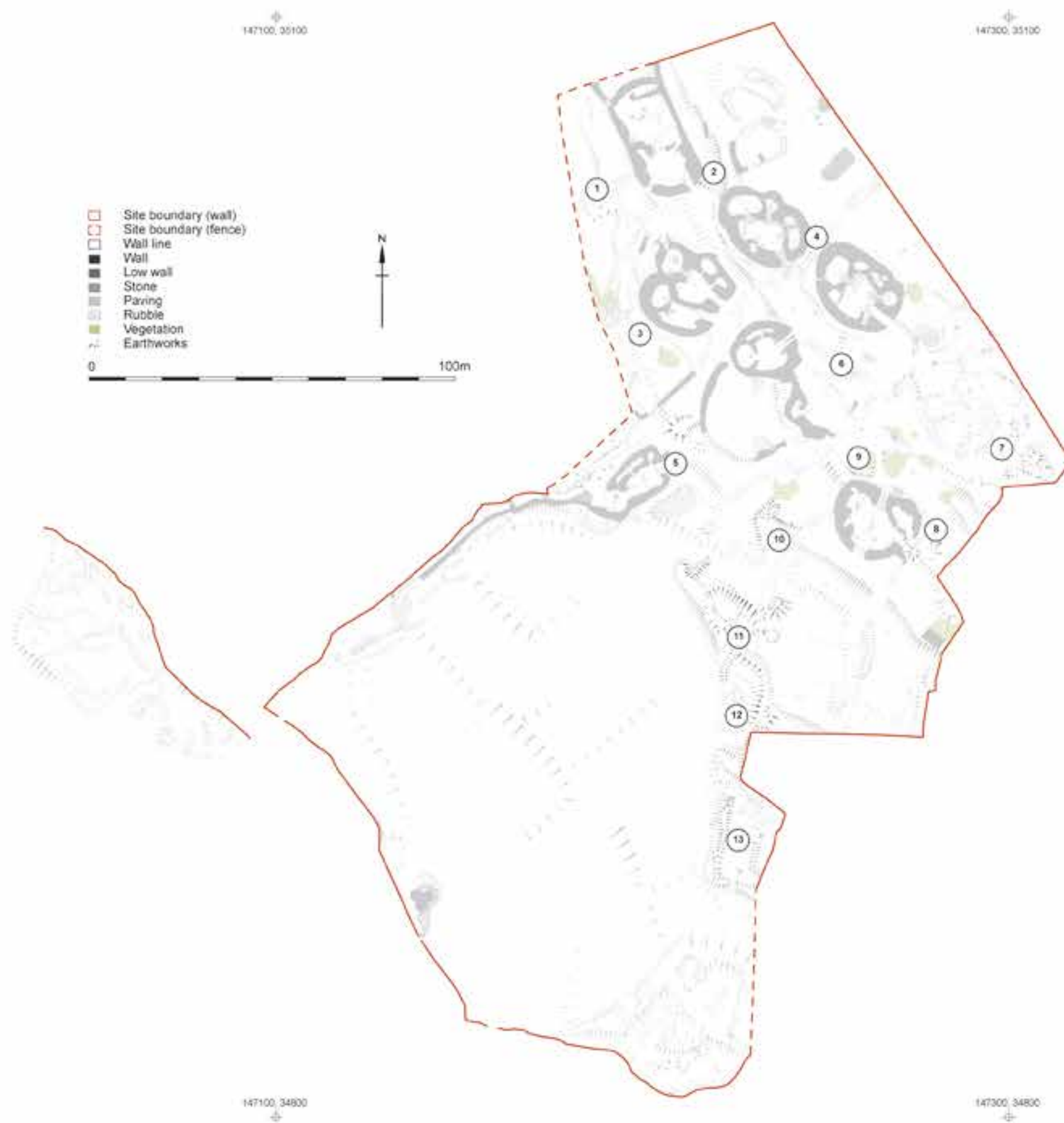


Figure 50. Unphased features, shown at 1:1250, reduced from 1:500 (© Historic England).

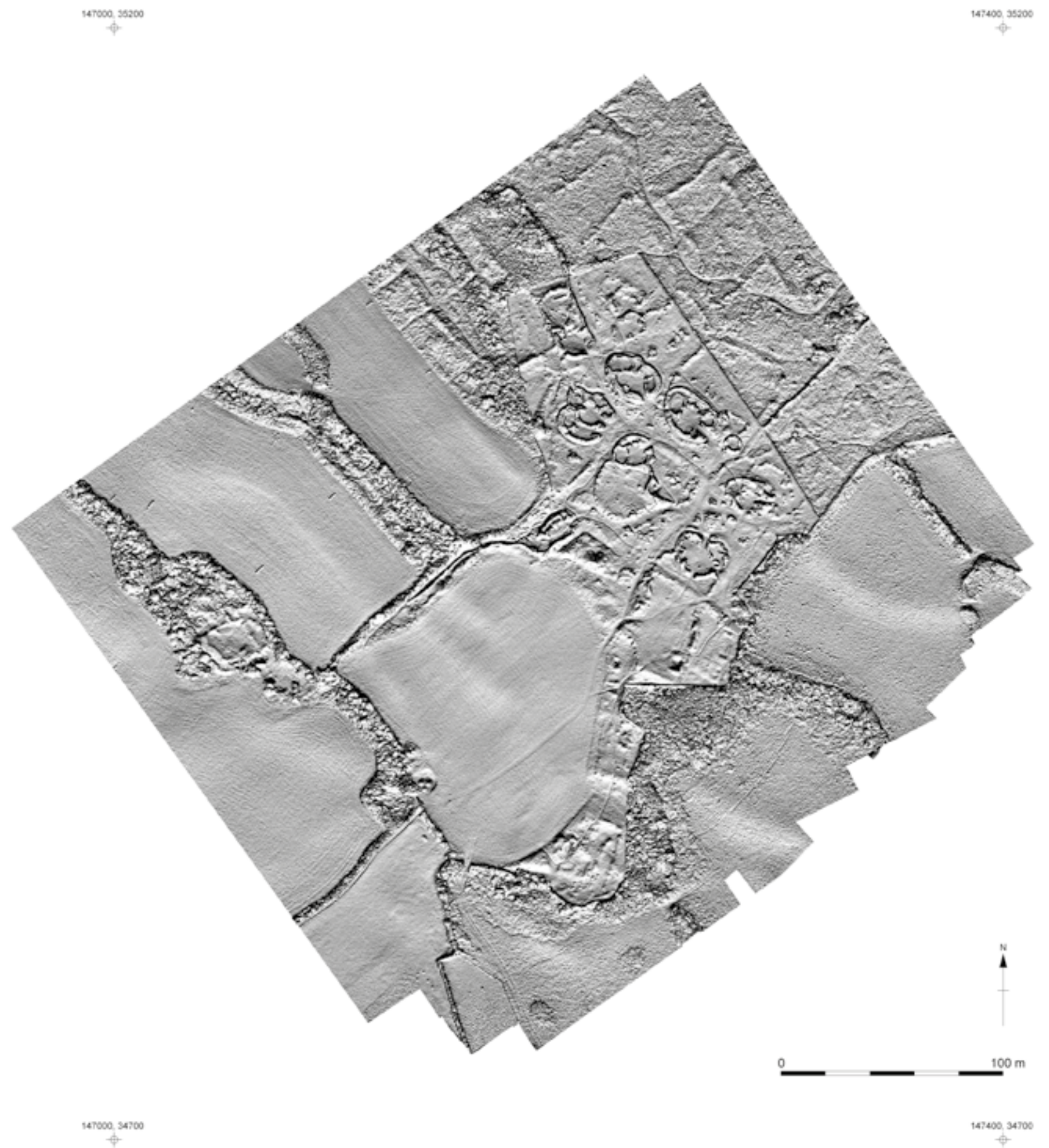


Figure 52. Hill shade of digital surface model derived from Intelligent Mapping Solutions (2016) photogrammetric data © Historic England. Shown at 1: 2000



Figure 53. Orthophoto Intelligent Mapping Solutions (2016) photogrammetric data © Historic England. Shown at 1: 2000



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