



Porthmeor Stamps, Zennor, Cornwall

Archaeological recording of the spalling floor walling prior to works



Historic Environment Projects

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The views and recommendations expressed in this report are those of Historic Environment Projects and are presented in good faith on the basis of professional judgement and on information currently available.

Freedom of Information Act

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Cover illustration

A composite digital image of the northern section of the spalling floor walling at Porthmeor, showing its poor condition prior to works.

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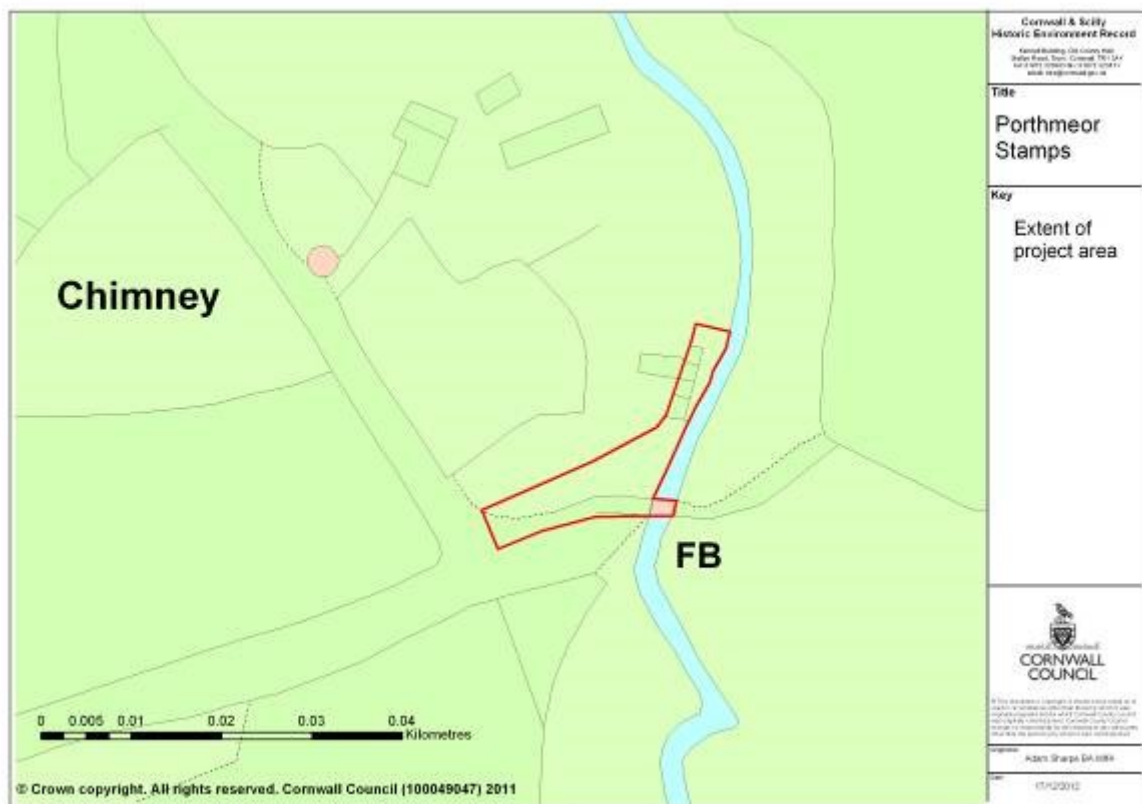
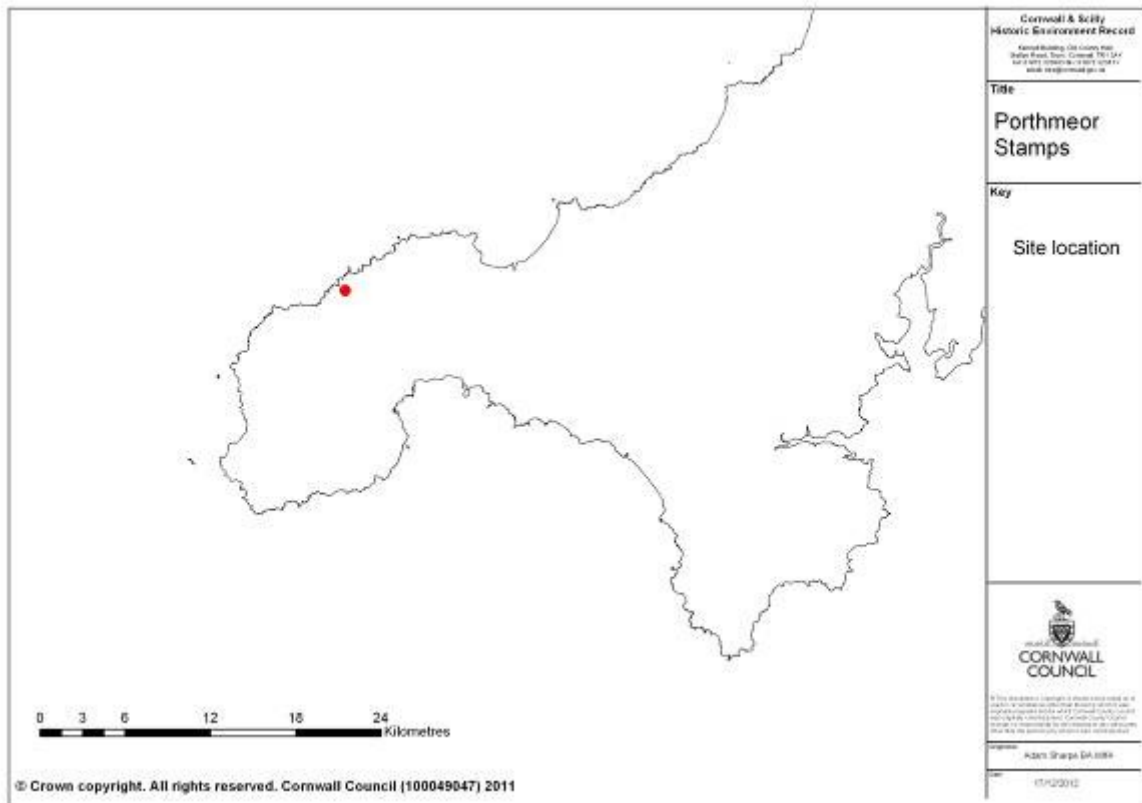
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Abbreviations

CRO	Cornwall County Record Office
EH	English Heritage
HER	Cornwall and the Isles of Scilly Historic Environment Record
HE	Historic Environment, Cornwall Council
NGR	National Grid Reference
OS	Ordnance Survey
PRN	Primary Record Number in Cornwall HER
RIC	Royal Institution of Cornwall



1 Summary

As part of the Unlocking Our Coastal Heritage project delivered through the Rural Development Agency, the South West Coast Path and the National Trust, a number of archaeological sites were selected for conservation, enhanced management and interpretation. One such site consists of the remains of a mid-19th century water-powered stamping mill and associated dressing floors adjacent to the Porthmeor Stream in Zennor, the easternmost industrial site in the St. Just Area of the Cornwall and West Devon Mining Landscapes World Heritage Site. Sections of the granite revetment work enclosing the spalling floor adjacent to the stream are in danger of collapse, which would not only degrade this exceptionally well-preserved and accessible site, but also risk damaging an adjacent ancient clapper bridge carrying the Zennor Church Path across the stream.

A scheme of works is proposed to dismantle and re-build the failing sections of walling to safeguard the site and enable continued access to it. Historic Environment Projects have been asked to provide a suitably detailed pre-works record of this part of the Porthmeor Stamps site, working to a brief supplied by the National Trust Regional Archaeologist.

The survey used a combination of direct measurement coupled with photography to record the affected stretches of walling making up the spalling floor revetment wall and the adjacent wheelpit.

The survey revealed that the majority of the walling to the spalling floor which fronts onto the nearby stream is in fair to good condition, the principal exception being the area forming the return from that flanking the Church Path and extending to roughly 2.5m downstream, the problems being most evident in the section of walling above the level of the clapper bridge carrying the path. Much of this section of walling will require rebuilding. However, a close inspection of the area at the base of the wall showed that the flash flood which swept down this stream a few years ago scoured out the stream bed and has to an extent undermined the basal courses of the wall. Underpinning of this section of the wall will also be required.

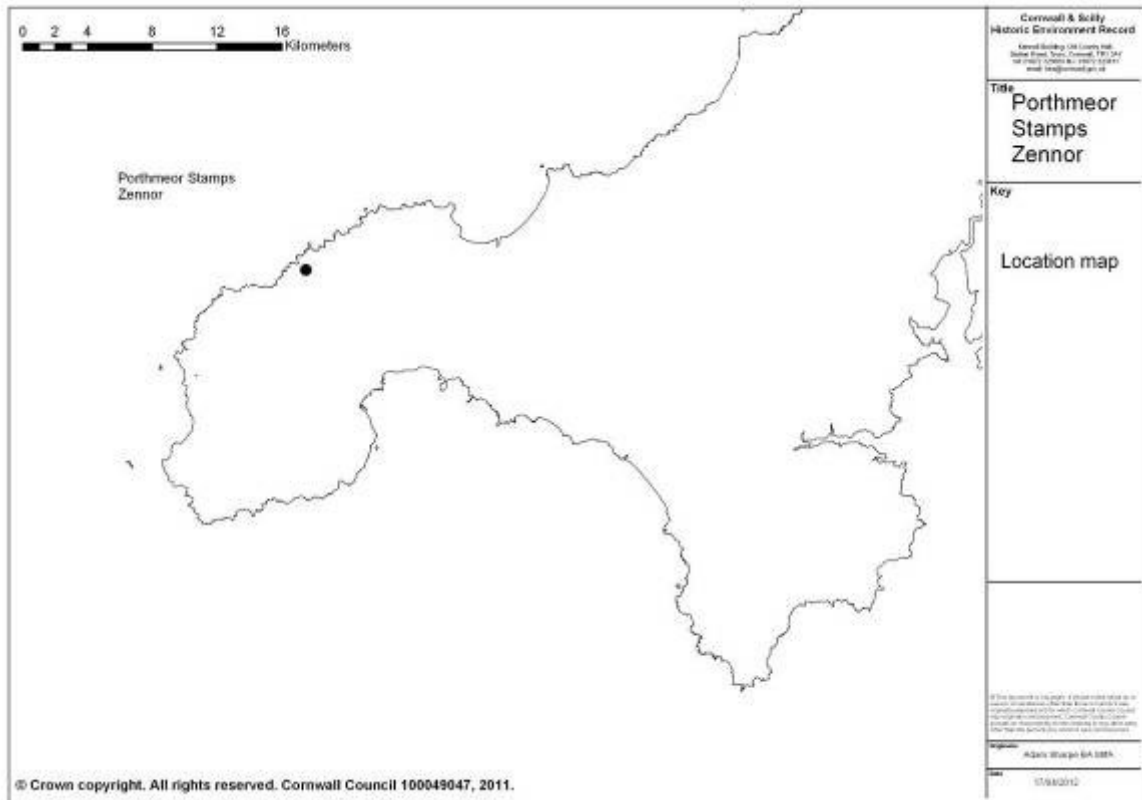


Fig 1. The location of Porthmeor Stamps, Zennor.

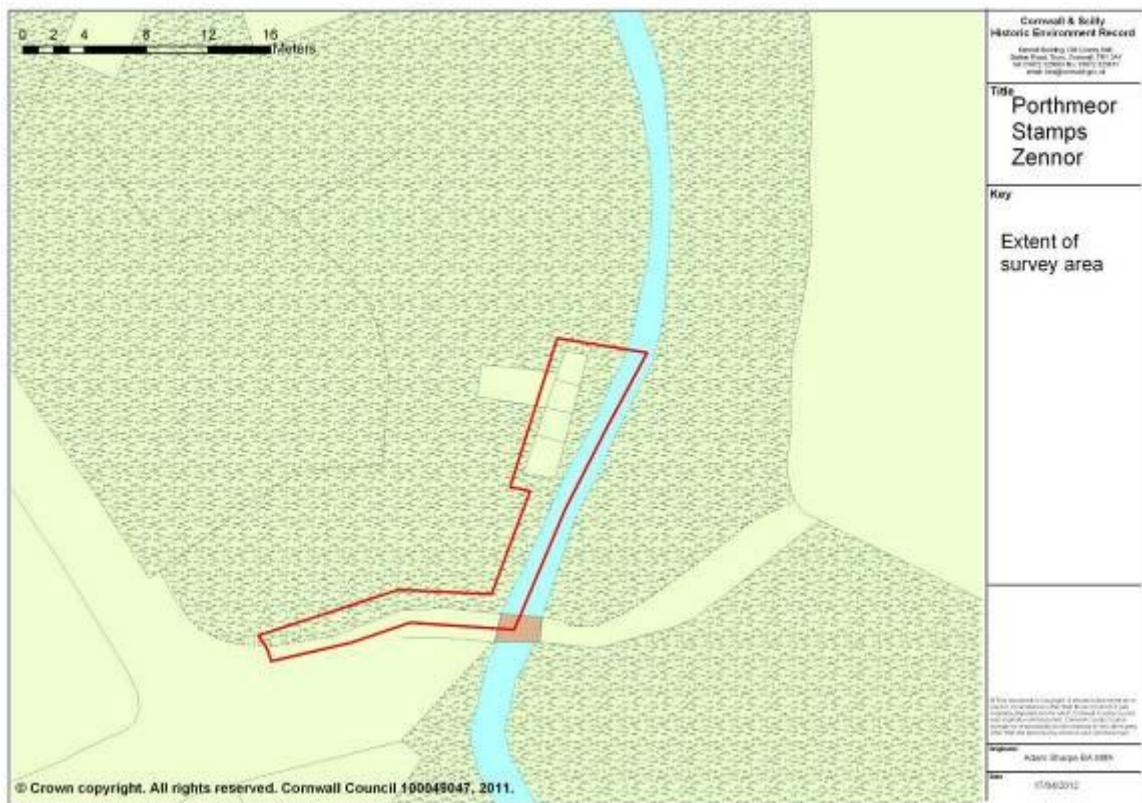


Fig 2. The extent of the survey area at Porthmeor Stamps.

2 Introduction

2.1 Project background

As part of a wider project (Unlocking the Coastal Heritage) delivered through the Rural Development Agency, the South West Coast Path and the National Trust, a number of archaeological sites have been selected in order to better conserve, enhance and manage them. One such site consists of the remains of a mid-19th century water-powered stamping mill and associated dressing floors adjacent to the Porthmeor Stream in Zennor, the easternmost industrial site in the St. Just Area of the Cornwall and West Devon Mining Landscapes World Heritage Site. Sections of the granite revetment work enclosing the spalling floor adjacent to the stream are in danger of collapse. Any collapse would not only degrade this exceptionally well-preserved and accessible site, but also risks damaging an adjacent ancient clapper bridge carrying the Zennor Church Path across the stream.

A scheme of works is proposed to dismantle and re-build the failing sections of walling to safeguard the site and enable continued access to it. Historic Environment Projects were asked to provide a suitably detailed pre-works record of this part of the Porthmeor Stamps site, working to a brief supplied by the National Trust Regional Archaeologist. It is anticipated that an archaeological watching brief will be carried out during the works programme.

2.2 Aims

The project aim is to provide a suitably detailed record of those parts of the site which are likely to be dismantled to allow the stabilisation of the spalling floors and enable their accurate reconstruction.

The project objective is to produce a report on the survey with a focus on interpretation, presentation and understanding, together with a CAD survey of the affected parts of the site.

2.3 Methods

2.3.1 Desk-based assessment

During the desk-based assessment historical databases and archives were consulted in order to obtain information about the history of the site and the structures and features that were likely to survive. The main sources consulted were as follows:

- Cornwall HER
- Images of England online listed buildings database
- Early maps and photographs (see Section 9)
- Published histories (see Section 9)

2.3.2 Fieldwork

The recording of the sections of walling proposed for conservation by re-building or by localised repair was achieved through a combination of direct measurement and rectified photography.

Scaled black and white photographs of the walling from its east and south were taken on a 35mm camera using fine grain B&W film. In addition, high resolution (10Mp) digital photographs were taken from the same viewpoints using a DSLR. These were

stitched together to produce composite images of the walling prior to the repair programme taking place.

2.3.3 Post-fieldwork

The finalised survey drawings were scanned and redrawn as files in AutoCad format, whilst the photographs were archived to HE standards. The project materials will be passed to the National Trust for long term archiving.

3 Location and setting

The spalling floors at Porthmeor stamps are centred at SW 43016 37137, adjacent to the Porthmeor Stream in the parish of Zennor and the tenement of Bosigran at a height of 95m OD. The BGS record the underlying bedrock as the Lands End granite, intruded during the Carboniferous and Permian periods. The soils are recorded as well-drained gritty loams of the Moretonhamstead series with occasional humose surfaces.

4 Designations

4.1 International

Porthmeor Stamps lies at the eastern edge of the St. Just Mining District Area (A1) of the Cornwall and West Devon Mining Landscapes World Heritage Site, inscribed in 2006.

4.2 National

The site lies within the Cornwall Area of Outstanding Natural Beauty. Porthmeor Stamps was proposed for scheduling in 1987, but this has not been enacted.

The Porthmeor Stamps site is a Grade II Listed Building (DCO11775, see Fig 10), the site having been added to the list on 07/09/1988.

4.3 Regional/county

Porthmeor Stamps lies within an Area of Great Historic Value (AGHV), a Heritage Coast, and an Area of Great Scientific Value (AGSV)

4.4 Local

The site is owned and managed by The National Trust, the immediately adjacent land to the west being farmed from Bosigran.

4.5 Access

Gold status path number 120/14/1 – the Zennor Church Path – runs east-west through the site immediately adjacent to the spalling floor on its south side. Gold status path number 120/22/1 runs north-south through the Porthmeor Stamps site from the road to the south down to the coast. The dressing floors form part of an area of open access land under the CROW Act 2000.

5 Site history

Grist mills were first documented in the Porthmeor Valley at the eastern end of Bosigran Tenement, Zennor, in 1337 when they were mentioned in a case before Bodmin Assizes (RIC Maclean's Transcripts p385) concerning whether the waters of a stream in Bosigran in a tenement worked by John le Archer had been diverted by Peter and Henry de Kemyl, affecting a mill called 'Kynygick' (Herring 1987, 53). A 'newly-constructed' grist mill called 'Bossegan alias Boseegan' was again mentioned in 1565, whilst 'Bossegarne Griest Mill' was mentioned in 1662. These mills all served local farmers, grinding their corn either for flour or animal feed (grist).

However, in 1687, James Edy, a 'tynner' is recorded as having re-leased all his rights to 'Bosseggan and the Mill' from John Borlase, possibly hinting at one of these mills also being used for tin dressing. The mill was again mentioned in 1714, in 1761 when William Stevens leased 'Bossegan grist mill' from the Borlases and again in 1780 in the parish tithe book, William Stevens continuing as the lessee.

The 1842 Tithe Apportionment mentioned Wheal Rose Mine, Bosigran, at the site of 'Bosigran Corn and Flour Mill' – this, however, is the only reference to a mine of this name, and the corn mill was mentioned as operating at this site in the TA .

Tin mining had certainly been carried on in the general vicinity for many centuries prior to this, however, though the first mention of tin stamps at Bosigran dates to 1678. These were associated with tin mines at Rosemergy, and would have been sited on the Porthmoina Stream. Carn Galver Mine, with which various sets of stamps at Bosigran were associated, worked somewhat intermittently during the 19th and early 20th centuries, records suggesting periods of activity between 1834 and 1840, 1851 and 1869, 1871 and 1875, and during the 1920s.

Bosigran stamps are recorded as having been refurbished in 1860 and as continuing to work, in tandem with two heads of steam-powered pneumatic stamps erected near the road, between 1871 and 1875. The site was again re-worked in the 1920s, this time powered by a diesel engine rather than by water wheels.

Both a Borlase estate map dating to 1834 and the 1842 Tithe Map (Fig 7) show three mills on the Porthmeor Stream, the southernmost of these being specifically referred to as a stamping mill. However, the majority of the structures making up the dressing floors were constructed as the result of a major redevelopment of the site carried out in 1861 to provide dressing floors suitably equipped for the needs of Carn Galva Mine. Sources consulted by Herring (1987) record a 36' diameter water wheel driving 12 heads of stamps together with two 20' diameter Borlase patent round buddles. A second water wheel and further dressing equipment were also proposed at this date, and by 1864 Spargo recorded three water wheels on site, of 25', 24' and 18' diameters.

In the re-working of the mine during the 1870s, the management evidently considered that the capacity of the water powered stamps at Bosigran was unlikely to be sufficient for their needs, and erected a steam powered stamps on site immediately adjacent to the main road. This pair of Harvey of Hayle constructed Husband's pneumatic stamps were driven by a 9"/17" cylinder compound horizontal steam engine. The water stamps seem, however, to have continued to be used in tandem with this new equipment until the closure of the mine in 1875.

Both sites were surveyed by the National Trust survey team in 1984, and a detailed plane tabled site plan for the water stamps and associated dressing floors is included in Herring 1987. In addition, following the clearance of blackthorn from the upper section of the steam stamp dressing floors by NT volunteers in early 2012, a high precision

GNSS survey was undertaken of the features revealed there as part of an HE Projects training exercise during March 2012.

Herring's survey of the site shows the spalling floor as measuring 24m x 10m in plan; a small section of its exposed granite flagstone surface was recorded in detail during conservation works to this part of the site. The adjacent wheelpit was found to measure 1.8m wide and 10.6m long. Herring notes that this would have accommodated the 25' diameter waterwheel, and that the proposed 36' diameter wheel may never have been installed. The wheelpit was recorded as being 2.6m deep internally, partly rubble-filled and lacking its axle bearing stones, suggesting that it was sold on and not scrapped. The adjacent spalling floor walling was recorded as being up to 4.5m high.

Herring also mentions some conservation works undertaken by an MSC team in 1987, including the buttressing of the spalling floor retaining wall with a pair of tubular steel struts, the consolidation of the calciner and its chimney together with the clearance of dense willow carr on the site. Herring recommended the scheduling of the site, the rebuilding of sections of revetting walling around the buddle floor, the consolidation of all three wheelpits and other ruinous structures on the site, followed by further access and presentation works, followed by regular vegetation management for access and safety reasons.

One of the buddles on the dressing floor was consolidated in 2005 as part of the St. Just Environmental Enhancement Works project (Fig 12), as this feature had suffered malicious damage in 2003, resulting in its concrete facings being badly damaged.

Prolonged heavy rain within the stream catchment area on 25th April 2009 resulted in a flash flood which swept down the valley, scouring out the valley floor down to bedrock in some areas. Despite the narrowness of the stream near Porthmeor Stamps, the spalling floor walling and the support for the adjacent footpath bridge were not significantly damaged by this incident, however.

Vegetation on and adjacent to the spalling floor wall was cut back by NT staff in the winter of 2011/12, together with saplings which had become established in the wheelpit in order to facilitate the survey in advance of the consolidation of the spalling floor.

The Bosigran Stamps site is recorded in the Cornwall and Scilly Historic Environment Record as site No MCO28030. The wheelpit at the lower end of the dressing floors is recorded as MCO28031, whilst the documented corn mills on the site are recorded as MCO27502 and MCO27504 and the documented post-medieval stamping mill as MCO28965. The National Trust HBSMR record for the site is 94497. Herring (1987, Vol 3, pp141-147) provides a detailed description of the dressing floors and a measured survey plan of its components, together with a plan of the area of the spalling floor which was exposed in 1987, but which has since grassed over.

6 Survey results

The Bosigran (Porthmeor) Stamps spalling floor forms part of an originally water-powered tin dressing floor serving Carn Galver Mine which were constructed immediately adjacent to the Porthmeor Stream. These are largely of 1860s construction, though (according to Herring 1987) probably incorporate elements of at least one much earlier grist mill, and were remodelled during the 1920s. The spalling floor, where ore carted to the site from the mine was broken up using sledge hammers on a stone flagged surface before being fed to the adjacent stamps, has an approximately rectangular plan, recorded by Herring (1987) as measuring 24m x 10m. In reality, the spalling floor seems to have been constrained by the route of the Zennor

Church Path to its south and by the course of the stream to its east. As a result, it narrows to the east, and its south eastern corner is curved. The eastern walling has been continued to the north to form the eastern wall of the wheelpit formerly containing the water wheel which originally powered the stamps.

The spalling floor walling facing the stream was constructed of large, semi-shaped pieces of local granite, much of this being locally-derived moorstone mixed with stream-rounded boulders, together with some blocks of mine waste in the upper courses. In a few places, remnant drillholes show that these stones were split/shaped using plugs and feathers. This masonry appears to have been laid either dry or in earth bedding, in rough courses, these being between 300mm and 400mm deep at the base of the wall and somewhat less in the upper parts of the wall. Given the rough shaping of the masonry, voids between these large stones are common; the presence of small packing stones where the fit between adjacent stones was particularly poor demonstrates an effort on the part of the builders to confer stability and retain the earth packing. The build style and quality changes approximately 2.25m up from the base, where the stones become slightly smaller, apparently less carefully laid in courses, and a batter of a few degrees becomes apparent. In part, this change in batter and lessening of build quality may well have contributed to the structural failure which has resulted in the requirement for the current works. Overall, the walling is up to 4.6m high (above stream level) at its southern end and 4.3m high at its northern end. This section of the spalling floor wall is 6.6m long at its head and 7.2m long at its base.

Stone movement caused by a combination of poor original build and loss of bedding soil is most apparent at the southern corner of the wall where it returns to the west. Significant voids and clearly dislodged stones are common in this area, which has the appearance of being on the verge of collapse in its upper half. The opening up of joints between stones through movement provides pathways for enhanced water ingress and the potential for further bedding soil to wash out, accelerating this process.

The wall returns to the west adjacent to the Zennor Church Path, and its head is currently 1.95m above the level of the surface of the clapper bridge. Again, this section was constructed in roughly horizontal courses between 0.2m and 0.3m deep of dry or earth-laid roughly shaped granite slabs and blocky stones; the wall has a roughly vertical face. Some stone loss has clearly taken place at its eastern end, which would originally have been 0.3m (one course) higher adjacent to the stream. Significant loss of its upper stonework is evident in two areas in the eastern half of this section of the wall, one being 2.4m long and up to 0.8m deep, and the other being 1.4m long and 0.5m deep. Topstones have also been lost in the central and western sections of the wall.

To the west, the path surface rises at an average gradient of 1 in 10, so the height of the wall reduces in this section, the path meeting the prevailing ground surface around 16.5m from the stream. The westernmost 4.0m of wall facing is entirely absent and the edge of the spalling floor is represented by a grassy slope between 0.3m and 0.6m high with some exposed tumbled stonework. It is unclear whether this section was originally faced with stone. The masonry at the western end of the faced section of the spalling floor is notably less formally coursed in this stretch.

Evidence for the repair works carried out by the NT MSC Team in 1987 takes the form of a single surviving, very rusty tubular steel strut diagonally set so as to pick up the southern end of the walling just above its midpoint. A further collapsed strut lies in the stream, having originally supported the wall a little to the north of the surviving strut. A mass concrete facing at the foot of the wall also may also date to this attempt to consolidate the wall, or may be a feature created during the 1920s reworking in order

to construct a small reservoir used to impound water to be used on the dressing floors. This facing is similar in appearance to the remains of a 0.6m high concrete dam adjacent to the southern end of the wheelpit. Whether or not this was its primary function, it is assumed that this concrete, which was originally a maximum of 0.8m high and an average of 0.6m above stream level (extending below water level by at least 0.3m), was cast against the original basal courses of the wall in part to prevent the stream from washing out the bedding material between the lower courses and undermining the spalling floor walling. The concrete seems to have been cast in at least two lifts. The lower section, whose top is 0.2m above the current stream level, seems to have been a slightly stronger mix which has resisted erosion fairly well, whilst the upper lift was evidently a significantly weaker mix which has deteriorated badly, and has been almost entirely lost in places. It is unknown whether the concrete extends down below the current stone-covered base of the stream bed, though it has been reported (by Shaun Boyns, NT Ranger for the Zennor properties) that the stream bed was lowered by the 2009 flash flood, and both the concrete and the basal courses of the wall were significantly undermined (to at least 0.5m) in places as a result.

The clapper bridge over the stream which carries the Zennor Church Path is made up of three substantial granite slabs topped with soil retained by two lines of edging stones. These slabs have been tied into the lower courses of the spalling floor walling, and are supported on barely coursed substantial pieces of roughly-shaped granite which have, in places, major voids between them. Whilst the upper faces of the bridge slabs are more or less level (though covered with the thick layer of compacted soil), the undersides are uneven, and have been packed up with smaller stones to level up their top surfaces.

The bridge and its abutment to the east form a significant choke point on the stream, narrowing its course. There is currently no evidence for instability in the abutment which is surprising given the force which must have been exerted on it by the mass of water which swept down this stream in 2009. This suggests that the abutment is considerably stronger than it appears and may well be capable of withstanding almost anything which might be thrown at it in the future. Nevertheless, it would be prudent to consider deep pointing and stone packing any significant voids in this structure to enhance its stability.

The eastern section of walling defining the eastern wall of the wheelpit is integral with that of the spalling floor wall, rises to 2.6m above the stream water level and has a more or less level upper surface at its southern end, though has clearly lost some of its stone topping to the north. Being double faced, it has not had to withstand the pressure of embanked soil like the spalling floor walling, though did have to support the weight of the water wheel, and resist the dynamic forces which the wheel would have exerted on it when in use. Both faces of the wall are vertical, and again, have been constructed of roughly shaped and coursed granite masonry. The wheelpit measures 10.6m long x 1.8m wide internally – on the large side for a Zennor wheelpit – and would have (just) accommodated the documented 32' diameter wheel. The internal walls of the wheelpit are currently 2.6m high, though, as mentioned above, the base of the wheelpit is currently infilled, probably to a depth of about 2.0m. The pit is open-ended to the north, discharging to a partly-backfilled tailrace leading northwards to the stream, the western side of which is formed by a partly-revetted earth slope forming the edge of the dressing floors, the eastern side by a low earth bank.

The rear end of the wheelpit (to the south) is battered, its lower section roughly following the curvature of the water wheel it contained, conferring additional stability and strength. Water oozes continuously from joints in the lower masonry at the back end of the wheelpit – it is uncertain whether this represents water from the stream

which is migrating under the spalling floor or is welling up from a natural spring. Either or both may be the case.

The western wall of the wheelpit is substantially more intact than the eastern wall, being of identical construction, though leans inward in its lower section at its southern end. Although some vegetation and soil still covers its upper surface, contrary to what Herring reported, one of the bearing stones does seem to have survived. Two voids within the upper section of the inner face of this wall appear to have been deliberately constructed – at least one of these is sited immediately under a former trunnion bearing stone which has been drilled through. Somewhat oddly, a socket corresponding with the southernmost of this pair of sockets in the inner face of the eastern wall is not aligned with that to the west. No equivalent for the northern socket in the western wall was found.

The interior of the wheelpit is boggy and partly infilled, probably to a depth of about 2.0m. Some of this infill material is made up of stone which has fallen from the side walls of the wheelpit. The tailrace channel from the wheelpit extends north towards the nearby stream, though is again by and large infilled. This feature is flanked on its western side by a 2.0m high earth bank with some traces of unformalised stone revetting. At its northern end the tailrace is revetted on its western side by the walling enclosing a lower section of the dressing floors which sites a pair of rectangular settling tanks.

7 Significance

The water-powered dressing floors at Porthmeor are one of the best preserved, most complete and best researched of this type of site to survive anywhere in Cornwall, are readily accessible, being on a public footpath in an area of Open Access Land. They are currently not interpreted, despite the wealth of information available in Herring's 1987 Bosigran NT property report. It is likely that they will be included as an exemplar of this site type within the forthcoming West Penwith Monograph (Historic Environment and others, forthcoming).

8 Recommendations

As noted by Hunter's 2011 condition survey report, ivy and gorse long ago became established in the voids between the stonework of the spalling floor walling, particularly in its upper courses, where there is more earth and far less voiding. Some of these roots became substantial and contributed to dislodging the masonry, providing conditions where further vegetation could become established and thrive. Whilst the majority of this vegetation has recently been cut back, the cut roots will need to be stump treated to prevent future regrowth. Vegetation and soil should also be removed from the head of the western wheelpit wall to reveal at present hidden features, including the locations of the trunnion for the waterwheel and stamps axles. Consideration could also be given to excavating at least some of the boggy fills from the tailrace to assist in the drainage of the interior of the wheelpit and better define the tailrace as an archaeological feature. Brambles and other scrub should also be regularly cut back around the wheelpit, and between the wheelpit and the stream to allow public access to this area.

Whilst the wheelpit walling is essentially stable and does not require conservation works such as pointing at this stage, sections of the spalling floor walling, particularly at its southern end, will require major works which will, of necessity, entail their dismantling

and reconstruction. The present survey should be used to guide this work, though it is recommended that any stones to be removed and replaced should be numbered and photographed in advance of the work taking place. Some stones forming the top course of the wall near its centre have been lost, and should be reinstated, as should those forming the top courses of the wall flanking the Church Path near its eastern end, and those lost or dislodged at its western end.

Much of the original walling revetting the spalling floor seems to have been earth-laid, and it is recommended that, if a decision is taken to re-set the walling in a lime concrete or mortar to enhance its stability, this should be kept well back from the wall facing so that the current open-jointed appearance and authenticity is retained. Contrary to the recommendations in the structural survey (Hunter 2011) it is recommended that voids between the stones are not packed with stone or slate, as often quite substantial spaces between adjacent stones are a feature of this walling and of other drystone or earth-laid walls constructed of granite boulders in West Penwith. In the case of the walling at Porthmeor Stamps, these also assist in allowing any water which finds its way down behind the wall to drain away, reducing pressure on its rear face.

The mass concrete at the base of the wall has, as mentioned above, been undermined by the flash flood, and water appears to be making its way underneath it, and under the wall stones, potentially continuing to wash out earth fills and contributing to ongoing destabilisation. The existing concrete will need to be broken away and replaced; the replacement concrete will probably need to be securely pinned into bedrock using stainless steel reinforcing bars and grouted into the basal courses of the wall.

The works needed to safely dismantle the failing facing stones will also include the temporary excavation and stockpiling of the soil backing them. It is likely that this will entail the lifting of the flagstones which make up the surface of the spalling floor. This surface is currently rendered invisible by the soil and grass which covers it; at an early stage of the works these stones should be revealed through de-turfing and archaeologically recorded. Once again, any stones to be temporarily removed should be photographed and marked up so that they can be re-set in their original locations on the completion of the works.

The opportunity should also be taken to examine the eastern abutment of the adjacent clapper bridge to determine whether its structural stability was significantly affected by the 2009 flash flood, and whether measures need to be taken to address this.

9 References

9.1 Primary sources

Gascoyne, J. 1699, *Map of Cornwall*

Gascoyne, 1699, *The Lanhydrock Atlas*

Martyn, T. 1746, *Map of Cornwall*

Norden, J. 1726, *Map of Cornwall*

Ordnance Survey 1809, *1st Edition 1" to the mile mapping*

Ordnance Survey, c1880. *25 Inch Map* First Edition (licensed digital copy at HE)

Ordnance Survey, c1907. *25 Inch Map* Second Edition (licensed digital copy at HE)

Ordnance Survey, 2012. *Mastermap Digital Mapping*

Tithe Map and Apportionment, c1840. *Parish of Zennor* (digital copy available from CRO)

9.2 Reports and publications

Herring P. 1987, *The National Trust Archaeological Survey: Porthmeor, Zennor*, four volumes, CAU reports 1987R012-R015

Hunter, C. 2011, *Structural survey of Porthmeor stamps and wheelpit for the National Trust*, Scott and Company report DNS/JEC7317

9.3 Websites

<http://www.heritagegateway.org.uk/gateway/> English Heritage's online database of Sites and Monuments Records, and Listed Buildings

10 Project archive

The HE project number is **2012019**

The project's documentary, photographic and drawn archive is currently housed at the offices of Historic Environment, Cornwall Council, Kennall Building, Old County Hall, Station Road, Truro, TR1 3AY. The contents of this archive are as listed below:

1. A project file containing site records and notes, project correspondence and administration.
2. Electronic drawings stored in the directory R:\Historic Environment (CAD)\CAD Archive\Sites P-Q\Porthmeor Stamps recording 2012019
3. Black and white photographs will be added to the National Trust archive
4. Digital photographs stored in the directory R:\Historic Environment (Images)\SITES.M-P\Porthmeor Stamps recording 2012019
5. English Heritage/ADS OASIS online reference: cornwall2-123579
6. This report text is held in digital form as: Historic Environment\Projects\Sites\Sites P\Porthmeor stamps recording 2012019

This archive will be transferred to the National Trust on completion of the project, as set out in the brief.

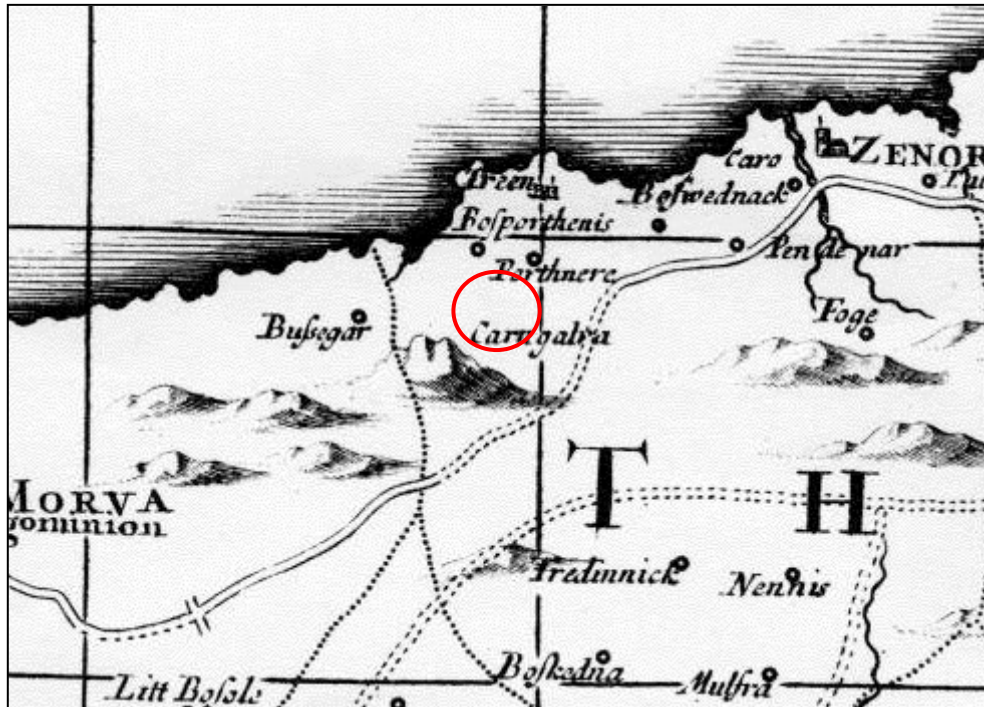


Fig 3. An extract from Joel Gascoyne's 1699 map of Cornwall showing the location of Porthmeor Stamps.



Fig 4. Norden's 1724 map of Cornwall (mapped circa 1600), showing the location of Porthmeor. The crosses surrounded by dots are Norden's symbol for active mines.

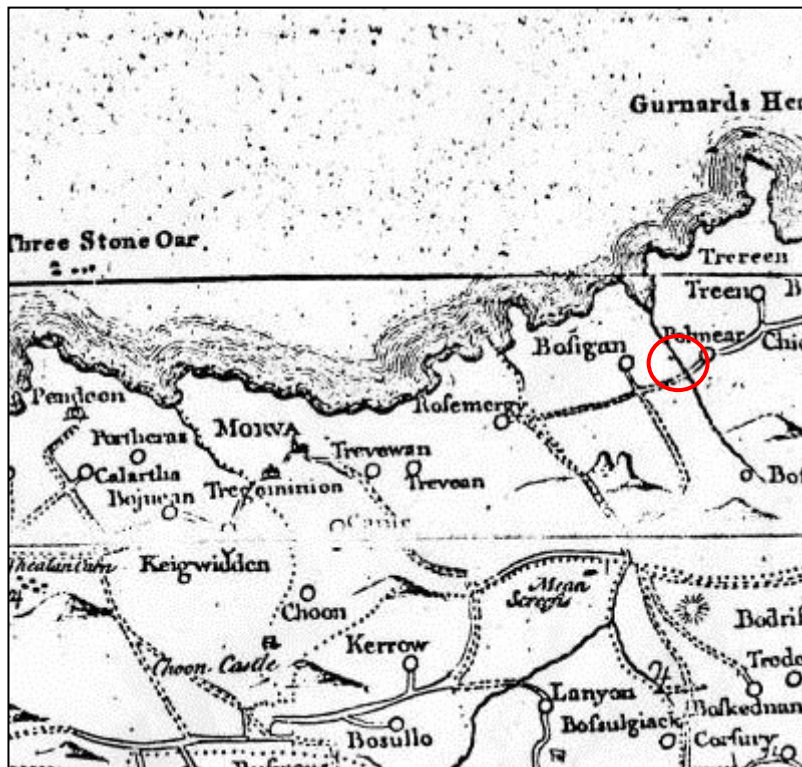


Fig 5. An extract from Martyn's 1746 map of Cornwall, showing the location of Porthmeor Stamps.



Fig 6. An extract from the 1809 Ordnance Survey 1st Edition 1" to the mile mapping, which omits the documented mills on the Porthmeor Stream.

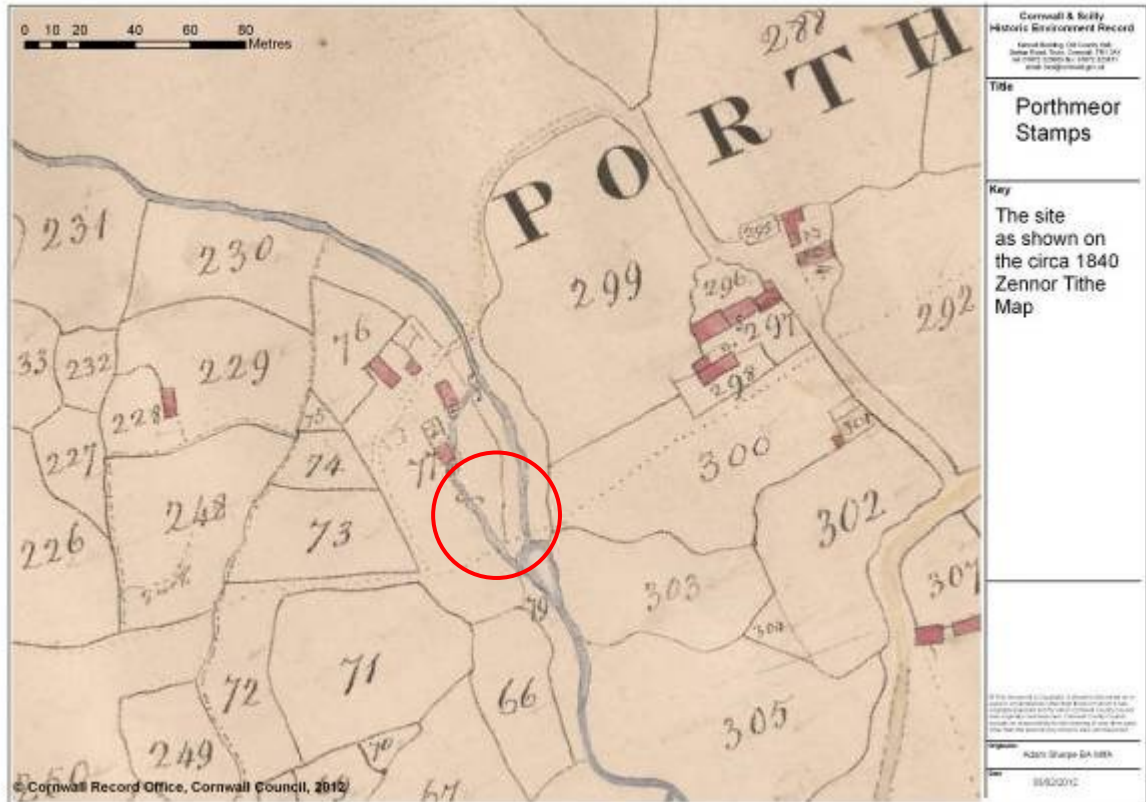


Fig 7. An extract from the 1840 Zennor Tithe Map, showing the arrangement of mills predating the construction of Porthmeor Stamps in the 1860s.

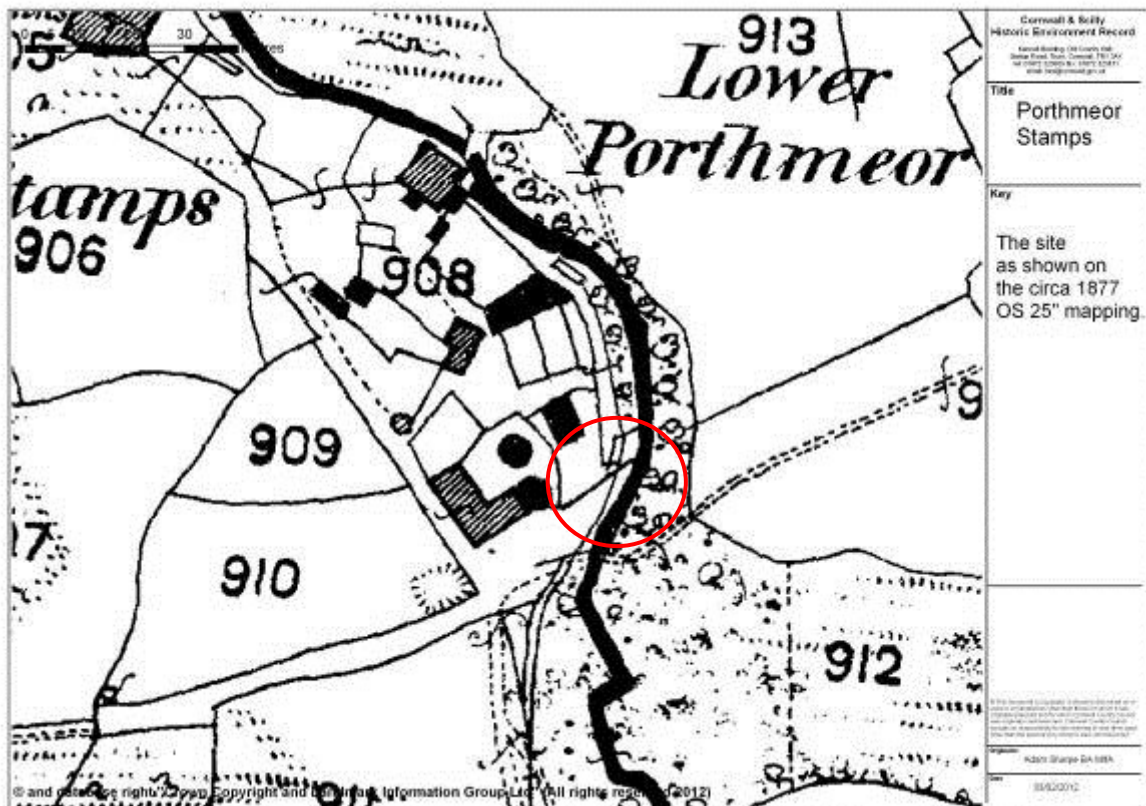


Fig 8. An extract from the circa 1877 1st Edition OS 25" to a mile mapping showing the layout of the Porthmeor Stamps site at that date.

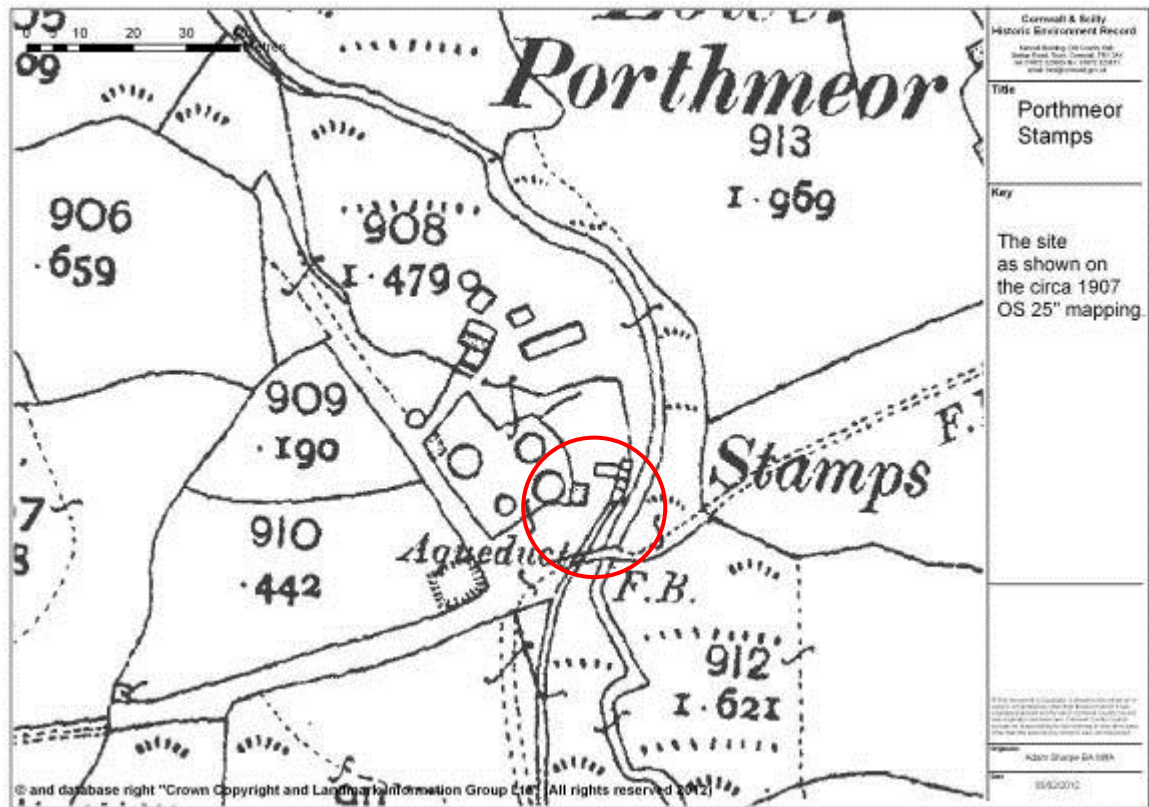


Fig 9. An extract from the circa 1907 2nd Edition of the OS 25" to a mile mapping. Although the site had evidently become disused by this date, substantial changes from the 1877 layout are evident.

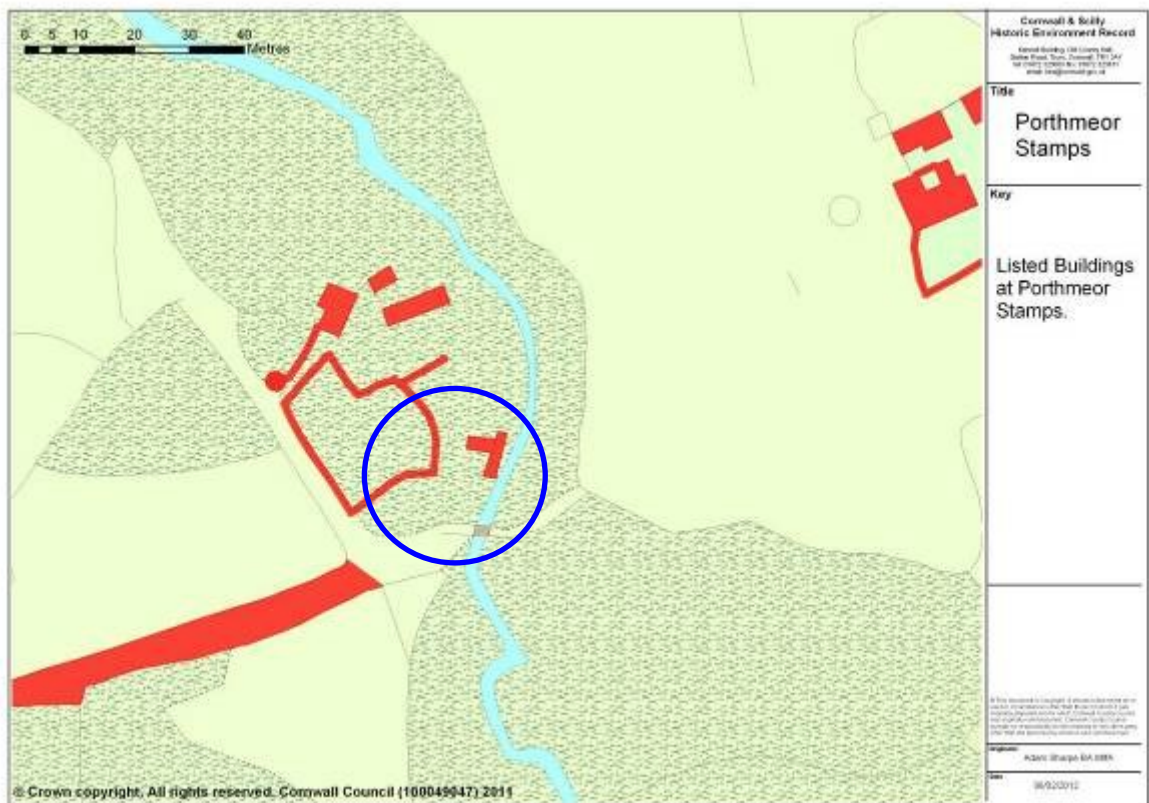


Fig 10. Modern OS mapping showing the Listed Buildings on the site.



Fig 11. A 2005 Cornwall County Council aerial photograph of Porthmeor Stamps, showing the scrub which had grown up over much of the site. The wheelpit and spalling floor are just right of centre in this image within the red circle.



Fig 12. A view over the Porthmeor Stamps dressing floor in 2005 during the conservation of one of its buddles.

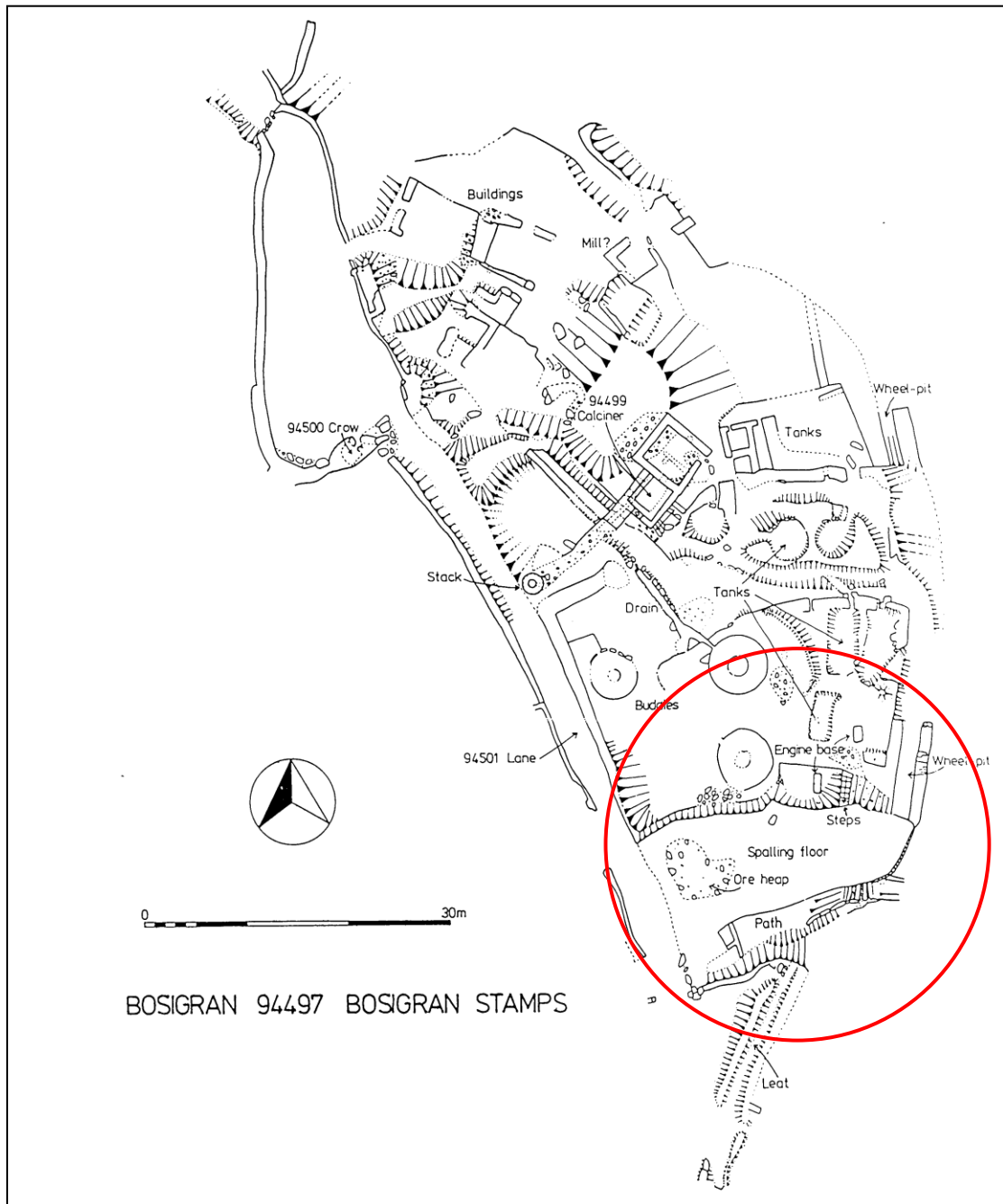


Fig 13. The 1984 survey of Porthmeor or Bosigran Stamps reproduced from Herring 1987, Fig 36. The survey area is within the red circle.



Fig 14. A composite image of the revetment walling to the spalling floor from the north-east showing the Penwith type stile on the Church Path (left) and the steel prop installed in 1987.



Fig 15. A composite image of the walling of the spalling floor (left) and wheelpit (right) from the east prior to vegetation removal in the winter of 2011/12.



Fig 16. Looking west along the Church Path, showing the West Penwith stile and the poor condition of the corner of the spalling floor walling at this point.



Fig 17. Looking south along the course of the stream showing the masonry buttress for the Church Path bridge and the tubular steel struts installed in the 1980s (one has now fallen into the stream).



Fig 18. Looking east down the Zennor Church Path, with the spalling floor on its northern side.



Fig 19. Looking across the stream to the wheelpit walling prior to the clearance of some of the obscuring vegetation. The concrete dam is just left of centre at the base of the wall.



Fig 20. The spalling floor and wheelpit walling from the east following the removal of some of the obscuring vegetation by NT volunteer Rangers.



Fig 21. The interior of the wheelpit from the north following vegetation clearance.



Fig 22. An overview of the wheelpit looking back towards the spalling floor. One of the stamps hold down bolts survives just to the rear of the location of the waterwheel axle.



Fig 23. The lower section of the spalling floor wall adjacent to the bridge, showing the more open jointed and partly dislodged masonry in the upper part of the wall, the surviving steel strut, and the band of mass concrete along the foot of the wall.

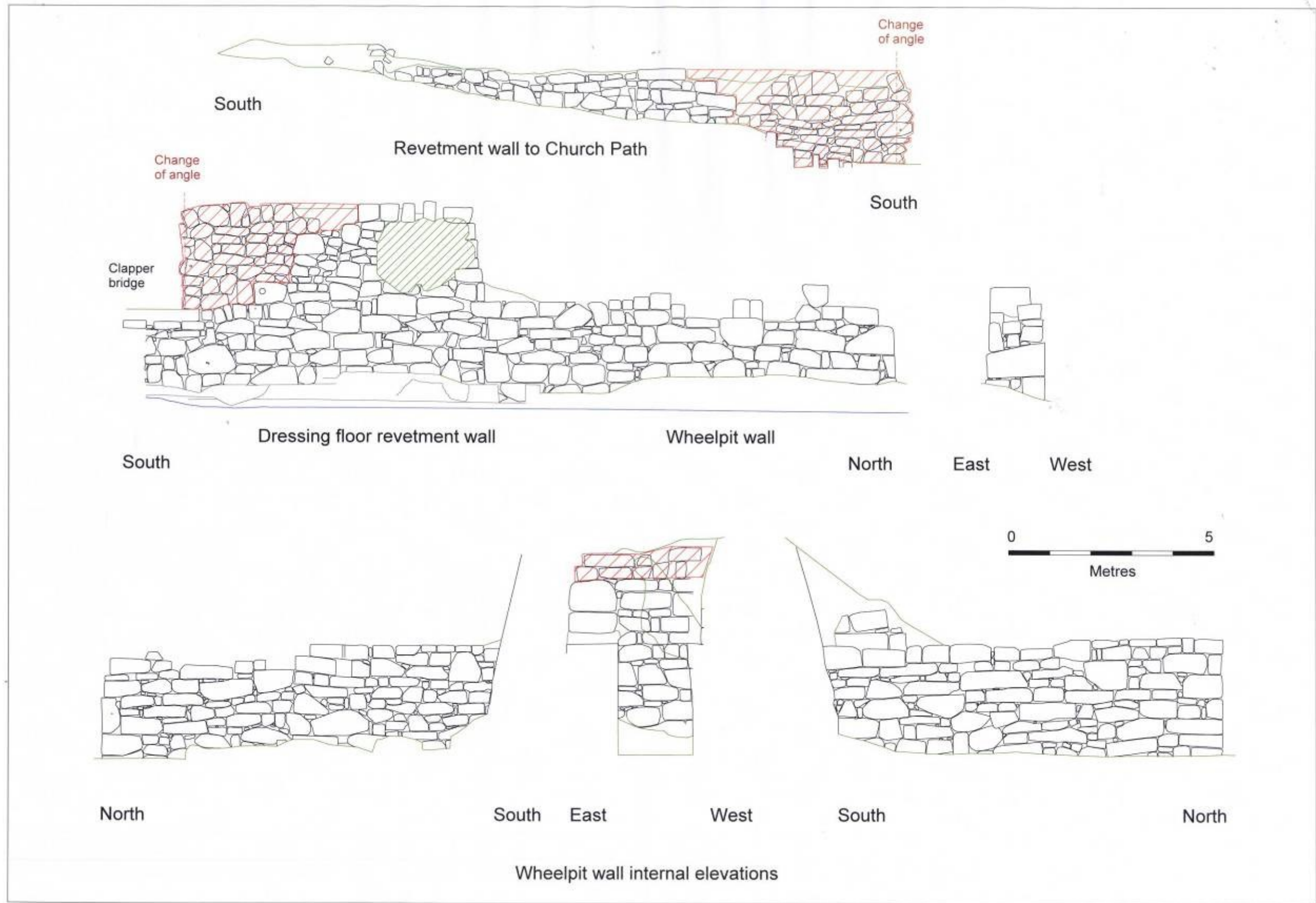


Fig 24. The 2012 survey of the Porthmeor spalling floor and wheelpit elevations. Red hatching indicates areas likely to require rebuilding, green hatching indicates areas where recording was difficult or impossible due to residual ivy cover. Grey indicates the mass concrete cast up against the base of the wall, whilst blue indicates stream level.

