

Pandy Farm, Gwynedd

Level 2/3 Building Record



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Pandy Farm, Gwynedd

Level 2/3 Building Record

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1 NON-TECHNICAL SUMMARY

A level 2/3 archaeological building record has been carried out on a small fulling mill at Pandy Farm, Tregarth. The precise origins of this mill are unclear, it may be traced back confidently to 1768, when it formed part of the Penrhyn Estate, however there is potential for it to be somewhat earlier than this. The structure today survives in a semi derelict state and the internal machinery is absent, however a cast iron water wheel remains at the site and the courses of several associated waterways may still be seen. Within the masonry of the building evidence of various alterations and enlargements to the structure were recorded, providing evidence of a complex history, not reflected in the historic record.

2 INTRODUCTION

Gwynedd Archaeological Trust (GAT) was asked by *Mr. Alan Bates* to undertake a building record of a former fulling mill located at Pandy Farm, Tregarth, Gwynedd (NGR SH59906763; Figure 01) in advance of the proposed development of the site. The development involves the conversion of the existing single storey rectangular structure into a holiday accommodation unit.

The building measures 5.8m wide by 13.5m long and comprises two rooms. The building is constructed from stone masonry built up from the bedrock, along with a slate roof (southern part of the building only). A redundant mill wheel that was formerly affixed to the northeast elevation is located within the building grounds.

The building record was completed as part of condition #5 of planning application C14/0051/16/LL. Gwynedd Archaeological Planning Services (GAPS) requested a Level 2/3 building record as described in *Understanding Historic Buildings: A guide to good recording practice* (English Heritage 2006), which was to be completed before any site works commence (GAPS ref. 0211je01/D1858).

A project specification for this work was produced by GAT in December 2015 (see Appendix I) and subsequently approved by GAPS (January 2016), prior to the commencement of work, in accordance with the planning condition.

This building record was completed in accordance with the following guidance:

- *Standard and Guidance for the archaeological investigation and recording of standing buildings and structures* (Chartered Institute for Archaeologists, 2014).
- *Understanding Historic Buildings: A guide to good recording practice* (English Heritage 2006)

3 METHODOLOGY

3.1 Level 2/3 building record

The building record was completed to Level 2/3 as described in *Understanding Historic Buildings: A guide to good recording practice* (English Heritage 2006). A Level 2/3 record is described as a descriptive and analytical record and includes:

- a photographic and descriptive record of the exterior and interior of the building; and
- an analysis and account of the building's origin, development and use.

The photographic record was completed on the 8th January 2016 and included general views of the building within the landscape, particularly in relation to the remaining Pandy Farm buildings. The record also included elevation photographs of the building exterior and interior, including the slate. Oblique shots are used where direct elevation shots are not practical. Any external and internal details, representing the use of the building, have been recorded.

The photographs were taken with a *Nikon D5100* fitted with a *AF-S DX Zoom-NIKKOR 18-55mm f/3.5-5.6G ED VR* lens; (4,928 × 3,264 resolution (16.2 effective megapixels)) in RAW format. A total of 66 images were taken (archive reference G2453_001 to G2453_066; cf. Appendix II for a copy of the photographic metadata table). The photographic images were archived in TIFF format in accordance with the Royal Commission on Ancient and Historic Monuments of Wales 2015 *Guidelines for digital archives*.

The descriptive record was completed on GAT pro-formas and recorded the exterior and interior of the structure in terms of building fabric, appearance and content. This included the materials used, the location, the composition and appearance of the two rooms and structural remains. Dimensions were taken for the building height, width, length and structural thickness, as well as for openings (doors, windows and apertures) and structural features (including the waterwheel). The existing plan and elevation drawing of the building (WM Design and Architecture Ltd Drawing No. AL(0)01 (Figure 02) was used for general reference. A drawn measured plan was completed by GAT at 1:50 scale (see Figure 03).

The analysis and account of the building's origin, development and use utilised the photographic and descriptive record, along with available primary and secondary sources including Ordnance Survey maps (First to Third Edition 1 mile to 25-inch County Series map sheet XII.5; published in 1889, 1900 and 1914) and estate maps from the Penrhyn Estate

(viz. Map of the Lower Part of Llandegai Parish, in Caernarvonshire, 1768 Penrhyn Estate Maps S2205 (Bangor University Library)).

Information was sourced from the following:

1. The regional Historic Environment Register ((HER), Gwynedd Archaeological Trust, Craig Beuno, Garth Road, Bangor, Gwynedd LL57 2RT) will be examined for information concerning the study area. This included an examination of the core HER and the First to Third Edition 1 mile to 25-inch County Series map; and
2. Archive data and historic maps in the regional archives at the Gwynedd Archives Service at the Caernarfon Record Office and also at the Bangor University Department of Manuscripts.

4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The mill at Pandy Farm is listed in the regional Historic Environment Record (Gwynedd Archaeological Trust, Craig Beuno, Garth Road, Bangor, Gwynedd LL57 2RT) under Primary Reference Number (PRN) 6467 and National Primary Reference Number (NPRN) 40828. It is described as a post-medieval fulling mill. The National Monuments Record (NMR) contains a short description and sketch plan of the structure, produced in 1985 (Parkinson, 1985). This structure is not listed on the *Statutory List of Buildings of Special Architectural or Historic Interest* and does not appear to have been the focus of any particular study; it is included in the gazetteer of mills for the Medieval and Post-medieval scheduling enhancement (GAT report 1042), but was not visited as part of that project.

The NMR entry for this site notes that the adjacent cottage is dated 1703, thus offering a possible date for the construction of the mill (Parkinson, 1985). First historic reference to the mill has been found on a 1768 Penrhyn Estate map, in the form of a field name; no detail of the layout of the site is given, however the use of the name Pandy indicates the presence of a fulling mill. The name Pandy comes from the Welsh word for fulling, *pan* (*borrowed* from the Latin *pannus* 'cloth'), combined with the word for house 'ty', literally fulling house (Richards in Jenkins, 1969, 351). Fulling is a finishing process in the production of woollen textiles in which the woven material is cleansed, thickened and strengthened. This process was initially undertaken by hand, or foot, the woven textiles being trodden or 'walked' in vats of water and soap; Jenkins notes that in Welsh documents dating from the medieval period to the mid nineteenth century fulling mills are described as 'walk mills', though the practice likely dates back to the Roman period (1969, p.81-2). Although the reference to walking persisted, fulling was in fact the first part of the woollen manufacturing process to be mechanised; from the 14th century onwards water powered fulling stocks are known to have been in use in Wales (Jenkins 1969). The adjacent field to the mill retains the name Cae Dentir (Parkinson, 1985), indicating the site where cloth would be put out to dry on tenter-frames following fulling.

The first detailed depiction of the mill appears on the First Edition Ordnance Survey 1 mile to 25-inch County Series map for area (Sheet XII.5; published in 1889; see Figure 2). The footprint of the structure matches that of today, however the arrangement of structures surrounding it are shown to have altered: a range of outbuildings to the east are shown to have decreased in size between the production of the first and second edition maps (see figure 2 and 3), whilst in recent years a structure to the north has been demolished. A large mill pond with a sluice gate is shown some distance to the south of the mill, from which the mill stream ran; the stream is then shown to split in two, with a course running past either gable of the structure before re-converging in a small pool to the north of the structure. This

arrangement does not appear to have altered on the second and third Edition Ordnance Survey 1 mile to 25-inch County Series map for area (Sheet XII.5; published in 1900 and 1914), though by the later 20th century the mill pond itself is absent.

The NMR entry states that the mill continued to operate until at least c.1920 (Parkinson, 1985). In 1956 Pandy Farm was sold off by the Penrhyn estate. By this date the fulling machinery had been removed, although a mill wheel remained and was used for the milling of gorse and other animal feeds as well as for powering a sharpening stone (A Bates 2016, pers. comm., 12 January). This cast iron mill wheel with pinion and gearing remain at the site; it is suggested that this is a replacement of an earlier wooden wheel (Parkinson, 1985), though the evidence for this is uncited. Over the course of the 20th century the building fell from use entirely and began to deteriorate (see Plates 01 and 02), though more recently some repairs to the masonry, roof and floor have been undertaken to consolidate the structure.

5 RESULTS

5.1 Setting

The former fulling mill at Pandy Farm lies at the southwestern edge of the farmyard facing northwest (see Plate 03). To the northeast stands a substantial farmhouse with a range of single-storey outbuildings facing it. The holding lies on a crossroads, with tracks running in from the northwest, east, south and southwest, linking the site to the roads to the north and south and to the nearby holding of T'yn y Caeau. The mill building is situated at the base of a steep rocky outcrop, from where the ground continues to drop away more gently to the north. The mill stream runs down from the south, a sluice gate once controlled the flow, diverting it to one of two courses which run down the steep face of the rocky outcrop and into two reveted channels at either gable. At present the water follows the southwestern course, though the other remains visible. The two watercourses run below the northeast/southwest running track which runs in front of the building and feed into a small pond, which in turn feeds a stream which continues northwest.

5.2 Exterior

The building is rectangular in plan, measures 5.8m wide by 13.5m long and is orientated on a northeast/southwest axis. It stands to a maximum height of 4.8m at the northeast gable. The structure survives in a semi-derelict condition, though has undergone some recent renovation. The roof is double pitched and stepped, the southwestern half having been raised some 0.85m higher than the northeastern half. The lower half is clad in slates with ceramic ridge tiles and shows signs of recent repair, the roof of the other half is entirely absent, though the gables remain to near full height. A chimney is built into the southwest gable, but the chimney stack is absent.

The walls are rubble built using poorly sorted roughly hewn blocks of stone, originally bonded using lime mortar, though with areas of cement re-pointing evident in places, particularly at the northeast gable. There is some evidence of phasing within the masonry; the north-eastern half appears to be the earliest part of the building: a vertical break in the northwest elevation shows where the southwest section has been added to the original gable. This extension appears to have initially been the same height as the original section, but has subsequently been raised by some 0.85m; a horizontal break may also be seen in the masonry. There is no distinct variation to the masonry styles of the various phases, though the quoins at the southwest gable are larger than seen elsewhere. The walls of the extension are also slightly thicker, being 0.8m as opposed to 0.7m wide.

The principal elevation faces northwest and features two mismatched doorways allowing access to the two internal rooms (see Plates 01, 02 and 03). The doorway to the left (1.0m x 2.2m) features a slate lintel, whilst that to the right (1.0m x 2.0m) has a lintel of badly decayed wood. Two windows, located to the right of the doors, light the interior of the two rooms. The left hand window is set high, the opening is roughly square with a width of c. 1m and it retains the upper portion of an 8 over 8 wooden sash, with a wooden lintel above. The window opening to the right is set somewhat lower, but is of a similar size, though with a stone lintel. The window casement is entirely absent, however a photograph from the late 20th century shows it was of a slightly differing style to the first with only three lights (see Plate 01).

The northeast gable of the structure features a small (approximately 0.3m wide x 0.5m high), central, rectangular window opening at the top, which was likely always left open to aid ventilation and to allow owls access to hunt for rodents (see Plate 04). Below this a square opening (0.6m wide x 0.6m high), set 1.3m above the external ground level which until recently accommodated the drive shaft of the waterwheel. A second opening (0.6m x 0.5m) set higher and right of centre was also noted, but this does not run all the way

through the wall and the function is unclear. A reveted stone channel 1.0m wide and a maximum of 1.0m deep runs along the width of the gable (see Plate 05), which is cut into the sloping ground to form a level base, and would have housed the waterwheel (see Plate 02). This channel is now predominantly dry, however its original course may be seen running down the face of the rocky outcrop and along the crest of the hill to the south (see Plate 06).

The mill wheel is no longer attached to the building, but remains on site and survives in fair condition (see Plate 07). The wheel is cast entirely of iron, with L-shaped housings for the wooden buckets (not surviving) forming part of the cast. The main wheel is 1.84m in diameter and features four wide spokes; it is formed of two parts set 0.48m apart, separated by cast iron struts. The wheel is set onto a substantial square shaft to which is also affixed two large toothed cogs, 1.81m in diameter, one of which was likely originally housed inside the mill. No makers mark was observed on the wheel and the precise date is unclear.

The rear, southeastern elevation, is partially built into the hillside, though the ground drops away to the southwest allowing for a second doorway (1.0m x 1.9m) leading into the southwestern room (see Plates 08 and 09). This opening has a narrow slate lintel; no frame or door survive. No additional features were observed within this elevation. The southwest gable has undergone some recent repair; however the lines in the masonry showing the raising of the roof line may just be seen (see Plate 10). A possible blocked opening (c. 1.0m x 1.0m) set right of centre may also be seen, this may indicate a former position of the mill wheel. A second revetted channel runs along this elevation through which the millstream currently runs (see Plate 11).

5.3 Interior

The interior of the mill is divided into two interconnecting rooms of similar size (see Figure 5).

5.3.1 *The Northeast Room*

The northeast room occupies the earliest part of the structure; it is rectangular in plan, measures 5.9m x 4.34m and it is open to the double pitched roof, which stands to a height of 4.16m at the apex. The roof structure comprises a pair of fairly substantial perkins supported by a central tied king post truss (see Plate 13). The angled braces of this truss appear to be secured using round wooden pegs indicating a fairly early date, and the timbers generally show signs of age and wear; the central vertical brace has been reinforced using an iron strap. The north-eastern lower edge of the tie beam is chamfered, but this is not seen elsewhere; this beam also features numerous iron nails, which may indicate the location of a former screen or partition. The roof joists are of regular size and spacing and appear relatively early, however the laths to which the slates are fixed are new.

The upper portion of the walls of this room retain rough lime based render and white-wash, however this is absent from the lower sections where recent re-pointing has occurred. The southeastern wall incorporates the natural bedrock within its construction and appears very wet; a reinforcing skin of modern masonry, 0.3m thick and 0.75m high, has been built along its length. The floor is covered by a thick layer of coarse gravel, presumed modern. This room is accessed via a doorway located right of centre in the northwest elevation; the opening has a lintel of roughly hewn slate and timber, and has undergone recent repair to the masonry around the base; remnants of a simple wooden door frame survive but the door is absent. To the left of the doorway a square window is set high in the wall, containing remnants of a four light sash casement. To the right of the door two small (0.40m x 0.10m) somewhat irregular recesses are set 1.10m above the current floor level; these are likely associated with the mounting of internal milling machinery (see Plate 14).

The north-eastern gable features a stone lined opening (0.65m x 0.45m) set approximately centrally, 0.75m above the floor through which the waterwheel drive shaft once passed. Various timbers are set into the masonry around this opening, the purpose of which is unclear, though likely associated with supporting machinery. A second, fairly small doorway (0.85m x 1.75m) in the southwest gable allows access to the adjacent room. This opening has a lintel of rather rotten timber (currently supported by a prop), and the surrounding masonry shows signs of significant repair (see Plate 12).

5.3.2 *The Southwest Room*

The southwest room is rectangular in plan and measures 4.3m wide x 5.1m long and would have been open to the double pitched roof (now entirely absent). The gables stand to an approximate height of 4.8m. The walls of this room are of bare masonry, which has been recently pointed; the rock outcrop against which the building is built has been incorporated into the masonry in the eastern corner (see Plate 16). The floor is covered in a layer of coarse gravel and rubble as before. The room is accessed via doorways in the northwest and southwest elevations, whilst a third doorway in the northeast gable links this with the adjacent room. The room is rather poorly lit by a single window opening set fairly low, left of centre in the northwest elevation, no casement remains. A chimney breast, with a small square fire place (0.65m x 0.65m) has been built into the southwest gable; this may be a later addition to the structure (see Plate 15).

6 DISCUSSION

The date of the mill at Pandy Farm is unclear, the reference to a Pandy on a map of the Penrhyn Estate dated 1768 indicates a fulling mill was present by this date; whilst the 1703 date ascribed to the adjacent cottage suggests a possible date of construction for the site as a whole. The general style of the present structure is compatible with this proposed 18th century date. No mills in this vicinity appear on the gazetteer of 'Fulling Mills in Wales and the March before 1547' (Jack, 1981), and most are believed to have been established during the 16th and 17th centuries when domestic weaving saw a notable increase in this area (Jenkins, 1969 238). However Jenkins (1969 237-8) mentions a reference to a dwelling and mill at Llandegai described as Pandy dated 1427. The precise source of this information is unclear and there is no evidence that this related to this mill.

The available historic sources do not reflect any changes of use or layout to the mill at Pandy farm; certainly the footprint remains unchanged since 1889 (see Figure 2) and the name Pandy, which indicates the primary function of the mill may be traced back further still, to 1768. The fabric of the building however indicates one significant phase of expansion undertaken prior to 1989, and several further phases of alteration, the significance of which is not always clear. The extension of the structure to the northeast doubled the overall size and likely reflects an expansion to the enterprise. The Welsh woollen industry was at its most prosperous in mid and north Wales between 1800 and 1850, and it is thus likely that it was during this period that the expansion occurred (Jenkins 1969).

The blocked opening in the southwest gable and the arrangement of the mill stream and pit indicate a wheel was at one time mounted here. The removal of this wheel was followed by the addition of a fireplace to the interior of this gable and the raising of the roof; these two changes likely happened at the same time. It is unclear precisely when these changes occurred or what their significance was. It is also likely that the present cast iron wheel is not the original at the site; although water wheels were first cast from iron during the latter half of the 18th century their use was not wide spread until the early 19th century (Hawksley 2008, 16). Finally, a perforated floor tile found at the site is of a type commonly used in corn mills; this hints at a complete change of use at some early stage in the history of the building. There is no additional supporting evidence for this, however such a change of use is possible.

For a long time fulling remained the only mechanised process in the woollen industry; the carding, spinning and weaving of wool remained very much cottage industries up until the second half of the 18th century (Jenkins 1969, 82-3). The mills consequently held an important position within local communities; the appearance of the name of the mill in

several of the surrounding place names, Craig y Pandy and Waen y Pandy may be seen to reflect the significance in this area.

As the development of the textile industry progressed some fulling mills expanded into factories, incorporating carding, spinning and weaving machinery, such as at Brynker Mill at Garndolbenmaen, converted in the 1830's (Davidson 1987, 3). Such expansion does not appear to have occurred at this site, certainly it seems unlikely that any occurred within the mill building itself, though some of the other structures on the site may have been used for this purpose. It is more likely however that this site was used in conjunction with the nearby Ty'n y Caeae, which reportedly held various carding machinery and looms (A Bates 2016, pers. comm., 12 January). It is however probable that the dyeing of cloth was undertaken on site in addition to fulling, the NMR entry includes an interview with the then owner's wife (Mrs Idwall Williams) whose grandparents worked at the mill and recalled urine being collected from the surrounding houses for both these purposes (Parkinson, 1985). Study of the Penrhyn estate papers might shed more light on the history and usage of the mill.

The date at which this mill ceased to function as a fulling mill is unclear, however it is likely to have fallen from use during the earlier part of the 20th century. In the period immediately following the First World War, a number of Caernarfonshire mills are known to have closed and post 1945 only 4 continued to operate (Jenkins 1969, 242).

7 SOURCES CONSULTED

7.1 Primary Sources

A Map of the Lower Part of Llandegai Parish, in Caernarvonshire, 1768 Penrhyn Estate Maps S2205 (Bangor University Library)

Ordnance Survey First to Third Edition 1 mile to 25-inch County Series map for area (Sheet XII.5; published in 1889, 1900 and 1914)

Parkinson, A. J. , 1985 NMR Record Card

7.2 Secondary Sources

Chartered Institute for Archaeologists, 2014. *Standard and Guidance for the archaeological investigation and recording of standing buildings and structures.*

Davidson, A , 1987 An Anglesey Fulling Mill of the Eighteenth and Nineteenth Centuries, *Melin 3*

English Heritage, 2006 *Understanding Historic Buildings: A guide to good recording practice.*

Evans, R, & Burnett, A, 2012 *Medieval and Post-medieval scheduling enhancement: Mill sites in Meirionnydd* (GAT report 1042)

Gwynedd Archaeological Planning Services correspondence dated 11/02/14; ref. 0211je01/D1858).

Hawksley, J, 2008 *The Power and the Glory of Waterwheels*

Jenkins, J G, 1969 *The Welsh Woollen Industry*

Planning Application C14/0051/16/LL

Royal Commission on Ancient and Historic Monuments of Wales 2015 *Guidelines for digital archives*

Syson, L, 1980 *The Watermills of Britain*

WM Design and Architecture Ltd Drawing No. AL(0)01

<http://www.coflein.gov.uk>

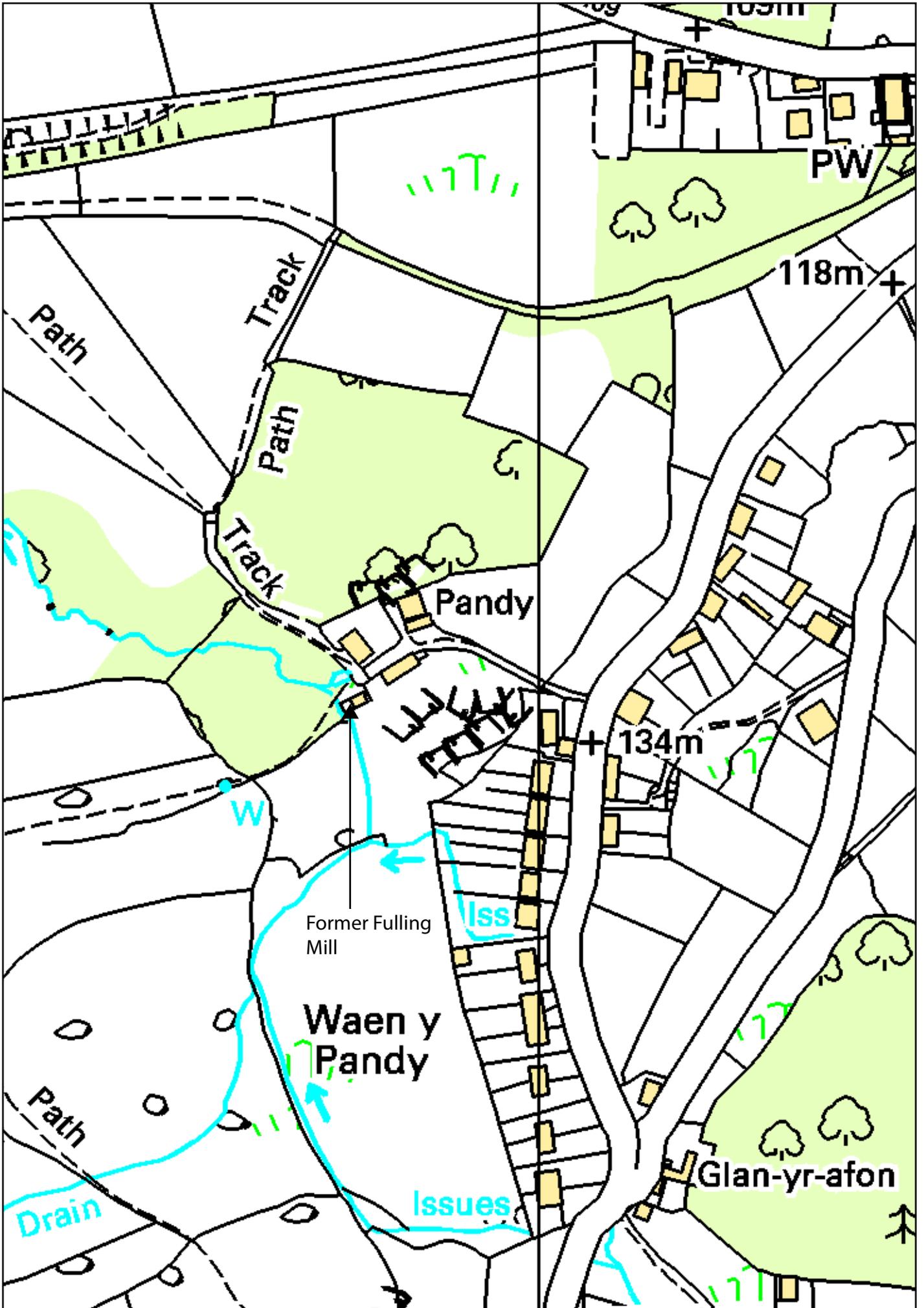
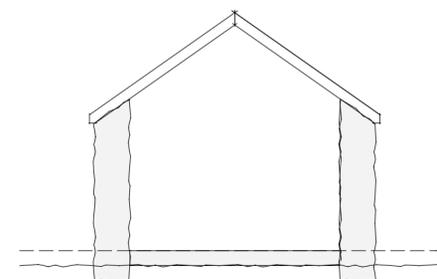
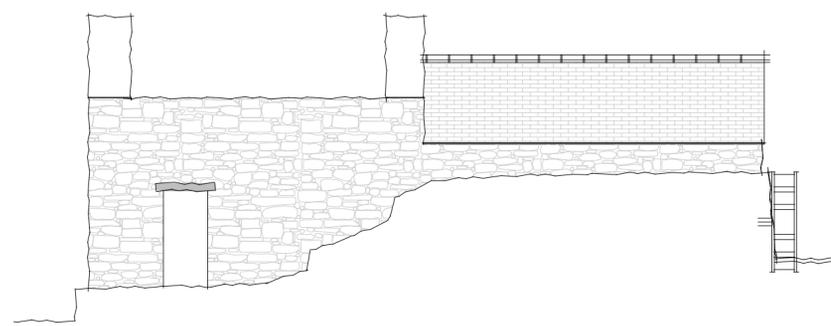
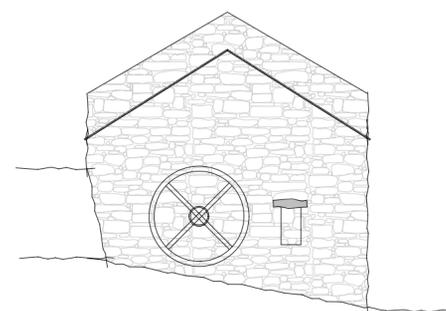
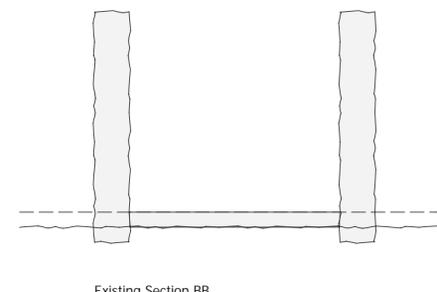
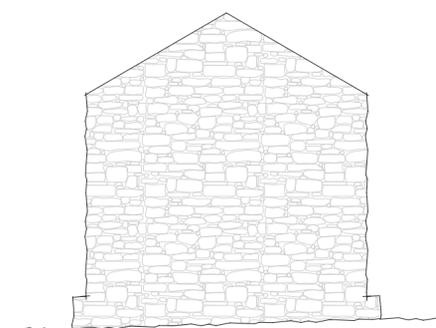
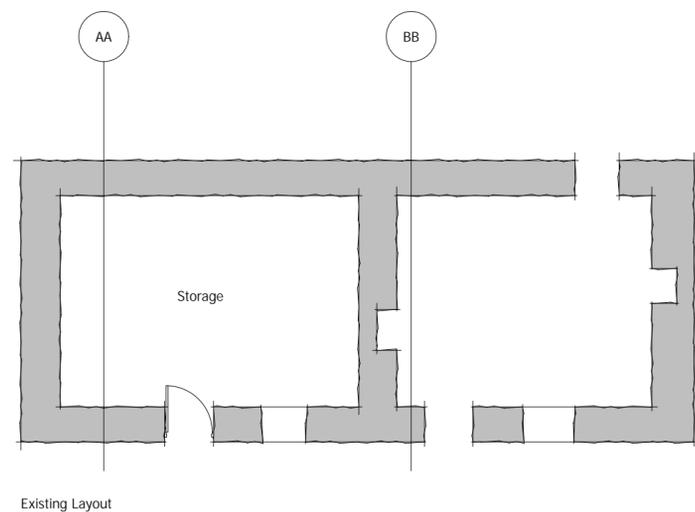


Figure 01: Location Map (based on 1:10000 Ordnance Survey County Series map sheets SH56 & SH66. Scale: 1:1250@A4. Crown Copyright. All Rights Reserved. License number AL100020895.

FIGURE 02

WM Design and Architecture Ltd Drawing No. AL(0)01



Rev	Date	Details	Initial

DESIGN AND ARCHITECTURE LIMITED

+44 (0) 1248 717230
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Project Title Proposed Outbuilding Alterations
Location Maes Y Pandy, Dob, Tregarth
Client Mr Bates
Drawing Title Existing Plan and Elevations

Scale 1:100
Paper Size A2
Date Thursday, January 23, 2014
Issue Type Planning (Revised)
Drawn By PJ

Drawing Details	Job No.	Drawing No.	Revisions
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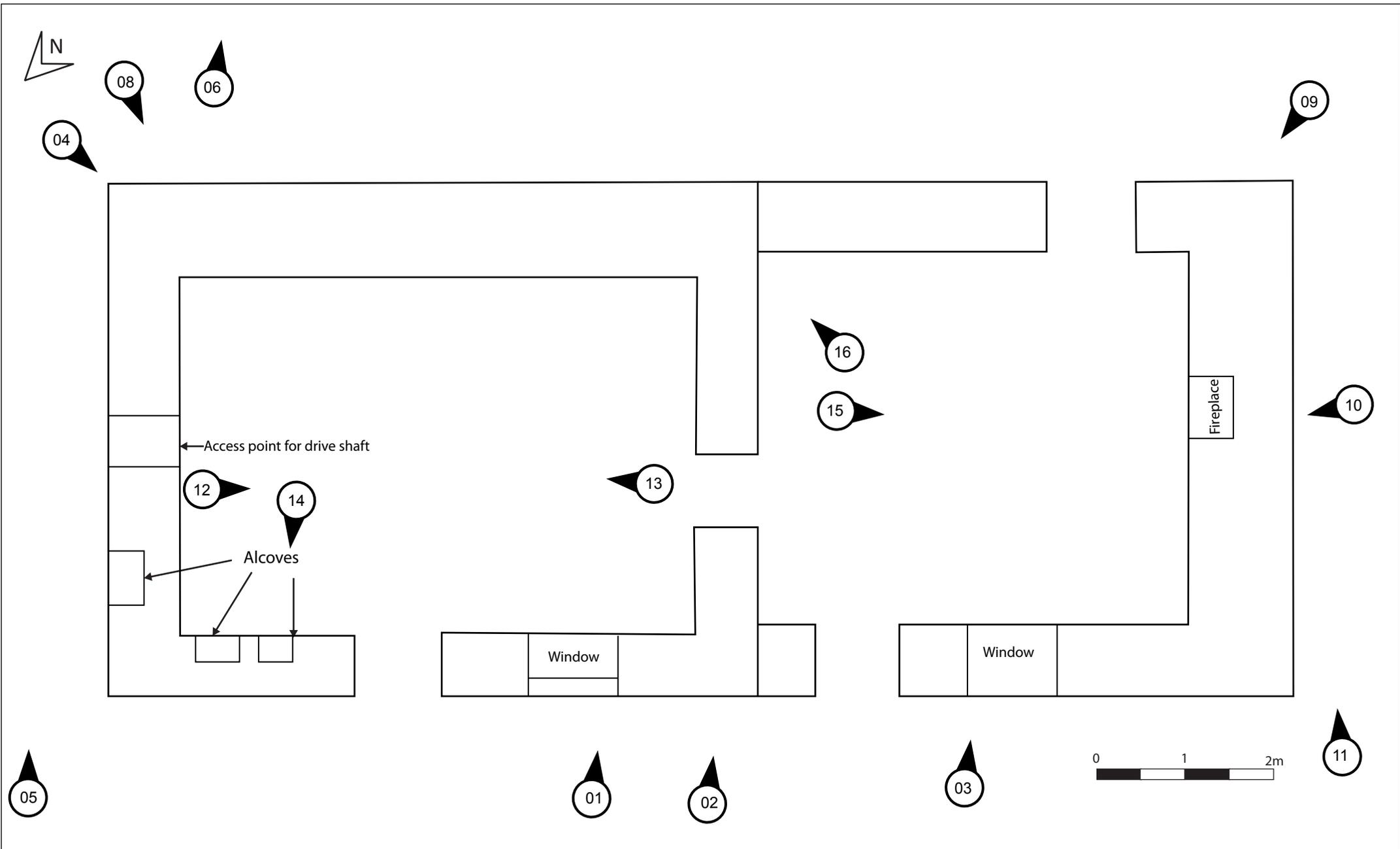


Figure 03: Floor plan of the fulling mill at Pandy Farm (Scale: 1:50@A4)

01 plate number and direction

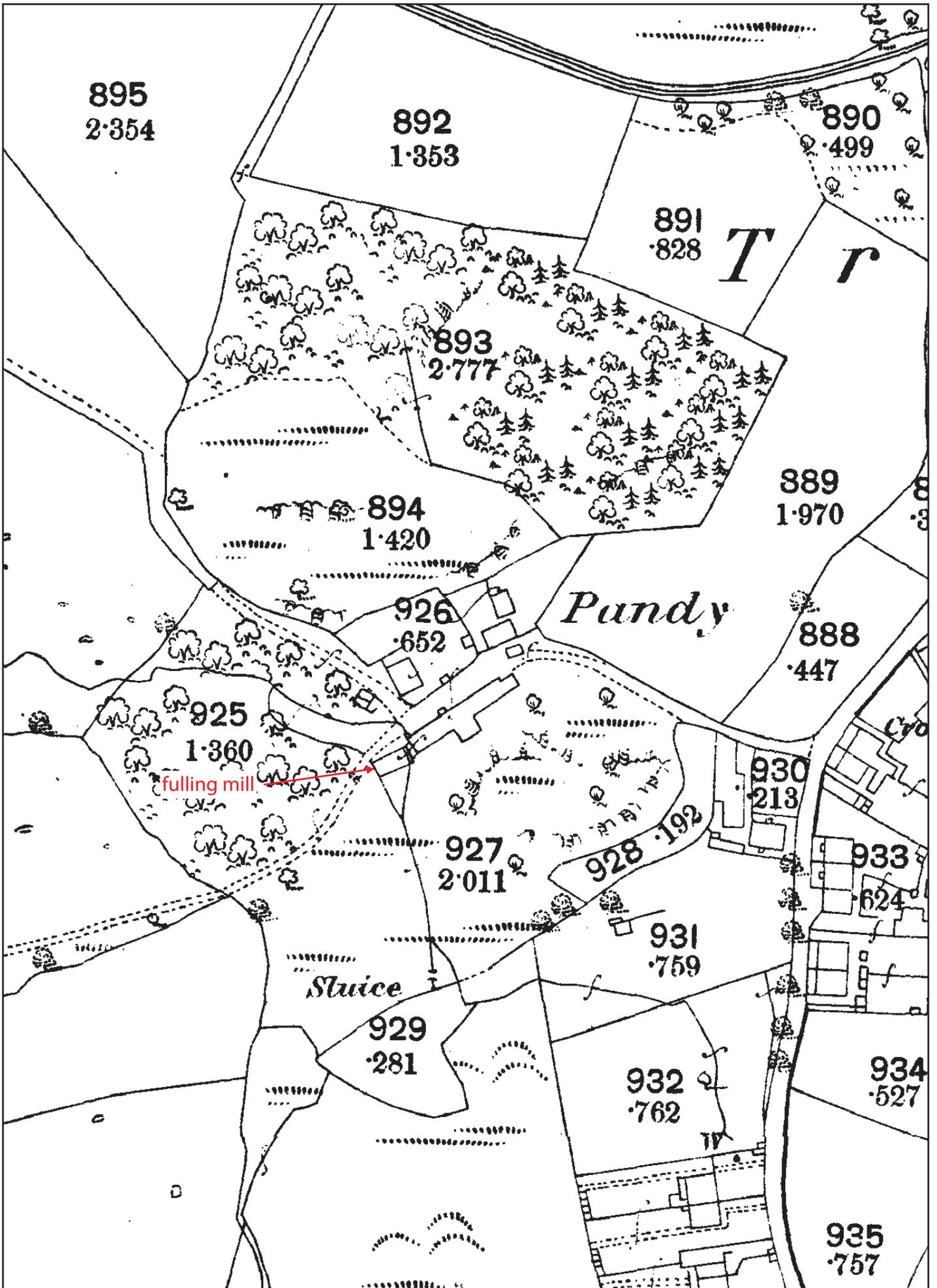


Figure 04: Reproduction of the First Edition 1-inch to 25-mile Caernarfonshire County Series Map Sheet XX.5 (1889). Scale: 1:1500@A4

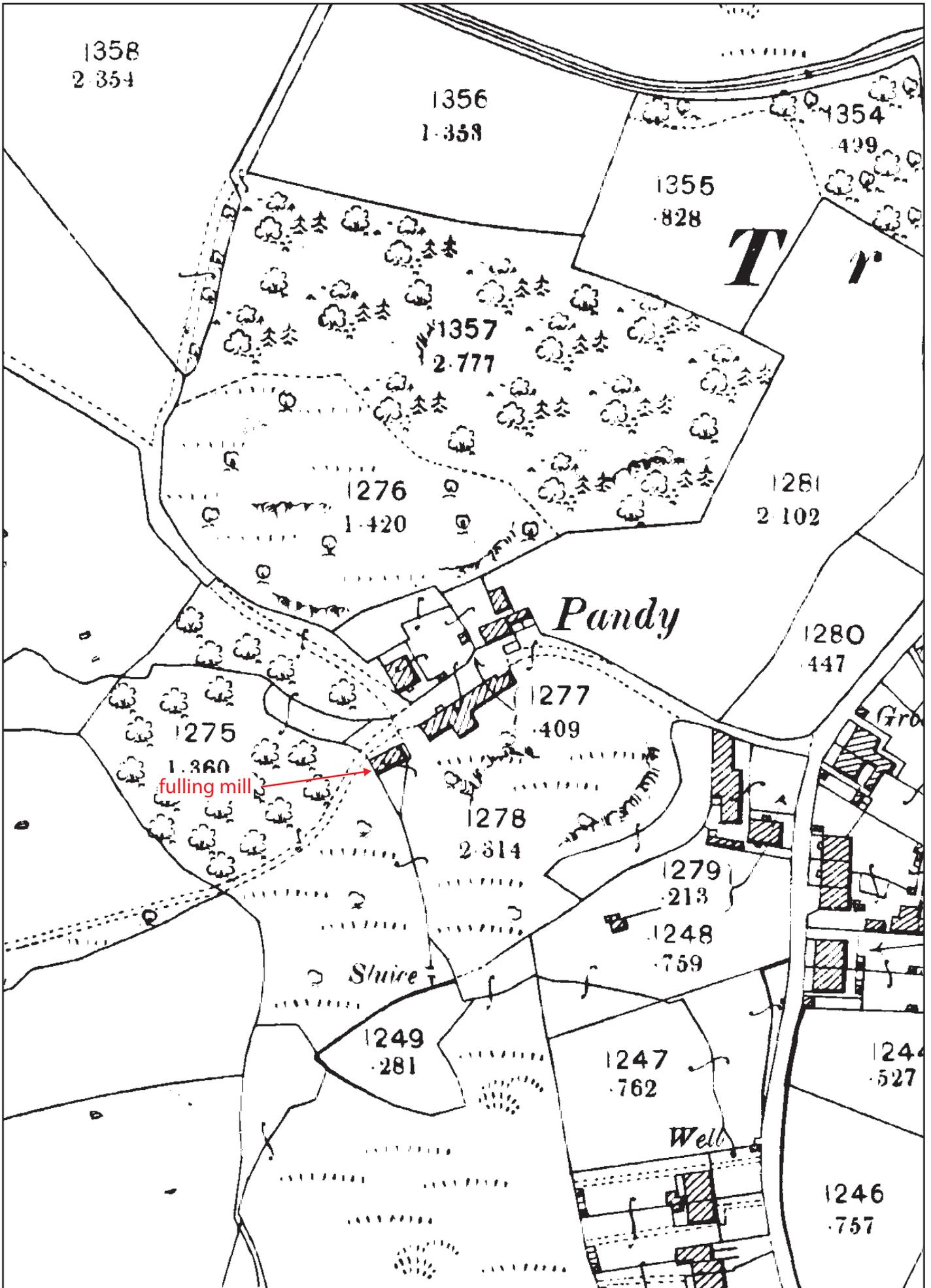


Figure 05: Reproduction of the Second Edition 1-inch to 25-mile Caernarfonshire County Series Map Sheet XX.5 (1900). Scale: 1:1500@A4

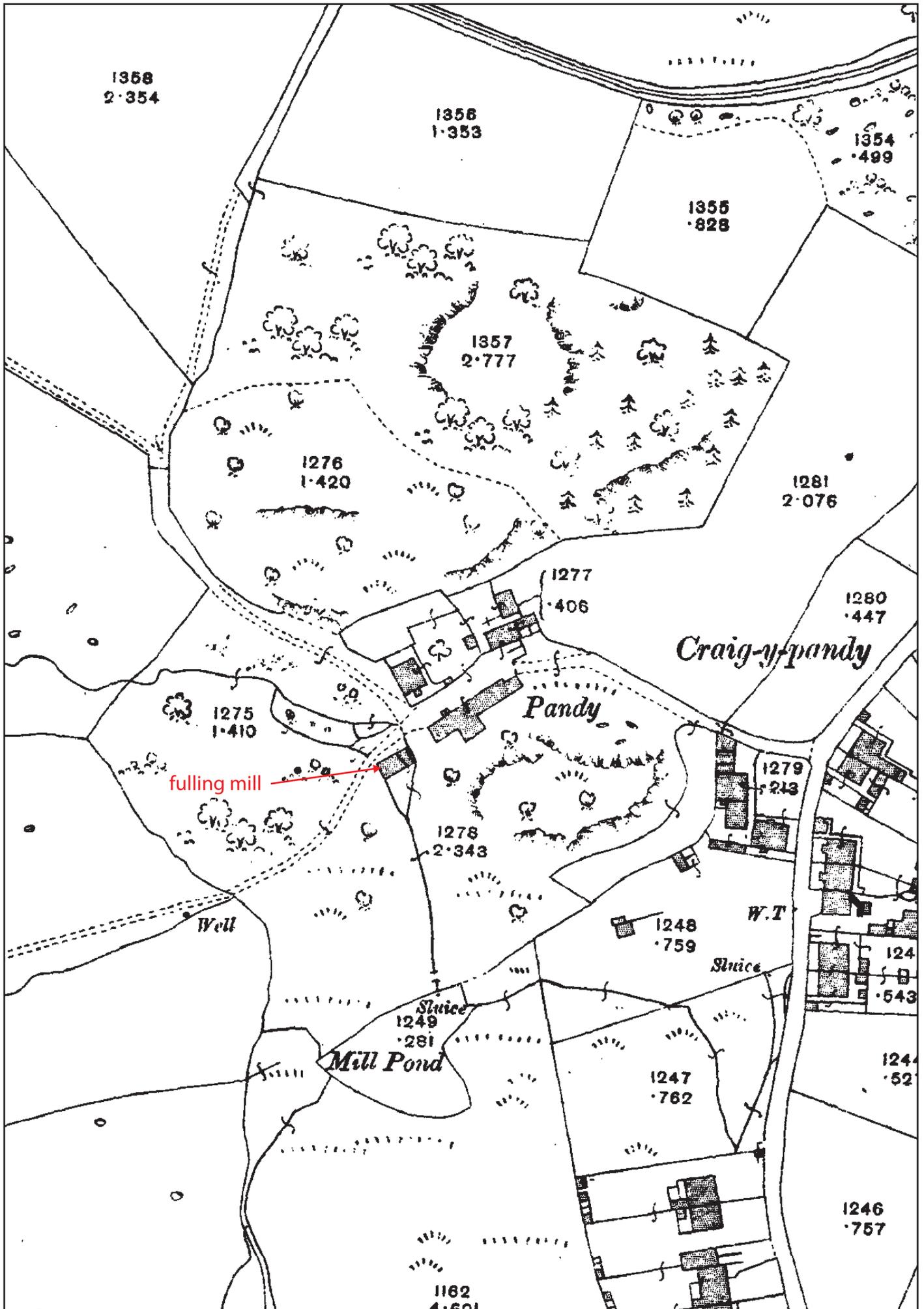


Figure 06: Reproduction of the Third Edition 1-inch to 25-mile Caernarfonshire County Series Map Sheet XX.5 (1914). Scale: 1:1500@A4



Plate 01: Northwest-facing elevation - photograph taken in 1972 (Source: Mr. Alan Bates)



Plate 02: Northwest-facing elevation - sketch completed in 1992; note the presence of the water wheel (Source: Mr. Alan Bates)



Plate 03: Principle elevation (Scale: 1 x 1.0m).



Plate 04: Oblique view of northeast gable (Scale: 1 x 1.0m)

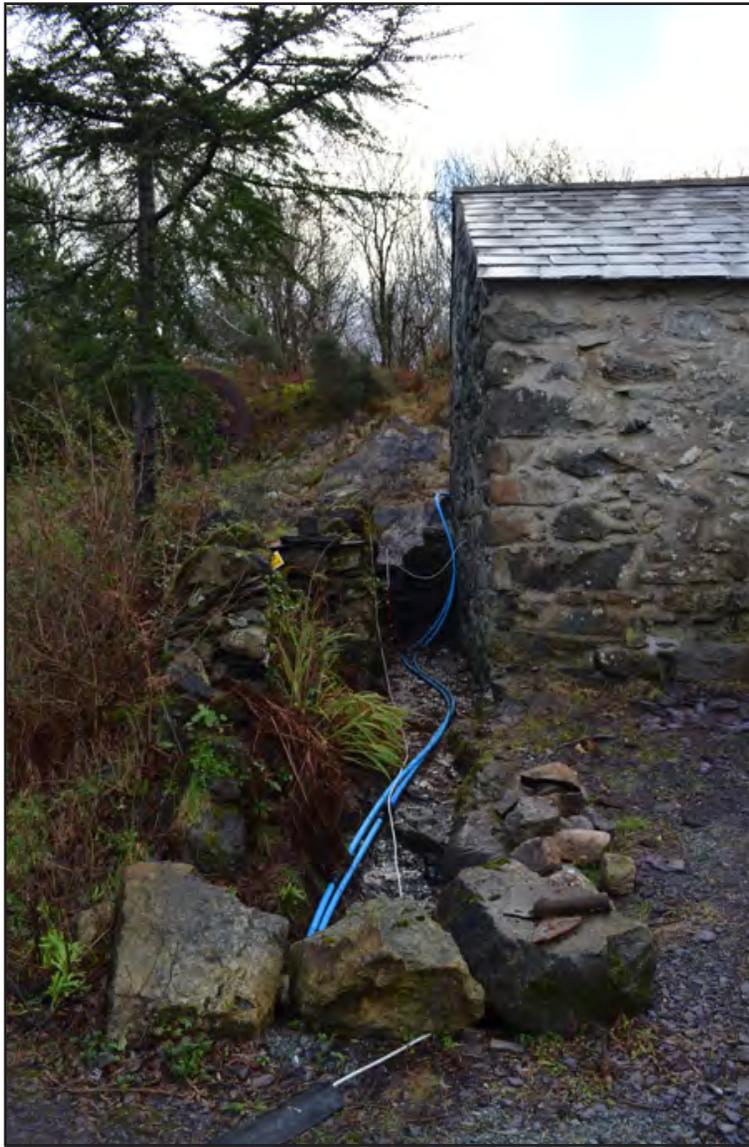


Plate 05: View from the southeast of the former mill stream (now dry)



Plate 06: Dry course of mill stream to the southeast of the mill (Scale: 1 x 1.0m)



Plate 07: Mill wheel (no longer in situ); (Scale: 1 x 1.0m).



Plate 08: Oblique shot of southeast-facing elevation (Scale: 1 x 1.0m)



Plate 09: General view from the south (Scale: 1 x 1.0m)



Plate 10: Southwest elevation (Scale: 1 x 1.0m)



Plate 11: View from the southeast of the mill stream (Scale: 1 x 1.0m)



Plate 12: Northeast room - central roof



Plate 13: Northeast room – southwest-facing internal elevation (Scale: 1 x 1.0m)



Plate 14: Northeast room - southeast-facing internal elevation (Scale: 1 x 1.0m)



Plate 15: Southwest room - internal elevation: fireplace in the gable wall (Scale: 1 x 1.0m)



Plate 16: Southwest room - internal elevation: bedrock built into the east corner (Scale: 1 x 1.0m)

8 APPENDIX I

8.1 Reproduction of Gwynedd Archaeological Trust project design for Level 2/3 building record

PANDY FARM, TREGARTH, GWYNEDD (G2453)

PROJECT SPECIFICATION FOR A LEVEL 2/3
BUILDING RECORD

Prepared for

Mr. Alan Bates

December 2015

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

Approvals Table				
	Role	Printed Name	Signature	Date
Originated by	Document Author			
Reviewed by	Document Reviewer			
Approved by	Principal Archaeologist			

Revision History			
Rev No.	Summary of Changes	Ref Section	Purpose of Issue
1	Edits to recording methodology; report submission timeframe included; text error correction	4 & 5	GAPS approval

PANDY FARM, TREGARTH, GWYNEDD

PROJECT SPECIFICATION FOR A LEVEL 2/3 BUILDING RECORD

Prepared for *Mr. Alan Bates*, December 2015

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 WM Design and Architecture Ltd Drawing No. AL(0)0114

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) has been asked by *Mr. Alan Bates* to prepare a project specification for a building record of a former fulling mill located in Tregarth, Gwynedd (NGR SH59906763; Figure 01). The development involves the conversion of an existing single storey rectangular shaped building into a holiday accommodation unit.

The building measures 13m long and 6m wide and comprises two rooms. The building is constructed from stone masonry built up from the bedrock, along with a slate roof (southern part of the building only); a redundant mill wheel is affixed to the southwestern elevation.

The building record will be completed as part of condition #5 of planning application C14/0051/16/LL. Gwynedd Archaeological Planning Services (GAPS) have requested a Level 2/3 building record as described in *Understanding Historic Buildings: A guide to good recording practice* (English Heritage 2006), which is to be completed before any site works commence (GAPS ref. 0211je01/D1858). Planning Condition #5 also requires that this project specification is approved by GAPS prior to the start of the building record. The subsequent report will also need to be approved by GAPS prior to final issue.

The building record will be completed in accordance with the following guidance:

- *Standard and Guidance for the archaeological investigation and recording of standing buildings and structures* (Chartered Institute for Archaeologists, 2014).
- *Understanding Historic Buildings: A guide to good recording practice* (English Heritage 2006)

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The building is listed in the regional Historic Environment Record (Gwynedd Archaeological Trust, Craig Beuno, Garth Road, Bangor, Gwynedd LL57 2RT) as Primary Reference Number 6767 and National Primary Reference Number 40828. The building is identified as an 18th century fulling mill. Fulling was a finishing process in the production of textiles in which the material was cleansed, thickened and strengthened through washing to remove dirt and grease and kneading with wooden hammers. The machinery was operated by cams on the shaft of a waterwheel. The waterwheel is still attached to the southwestern elevation of the building and was feed by a sluiced water source from the south and southeast; the internal machinery is no longer present. The building is named "Pandy", which is Welsh for a fulling mill (pannu is Welsh for fulling). The First to Third Edition Ordnance Survey 1 mile to 25-inch County Series map for area (Sheet XII.5; published in 1889, 1900 and 1914) locates the building within a small complex comprising multiple detached structures, now no longer extant or modified in size.

3 METHODOLOGY

3.1 Level 2/3 building record

The building record will be completed to Level 2/3 as described in *Understanding Historic Buildings: A guide to good recording practice* (English Heritage 2006). A Level 2/3 record is described as a descriptive and analytical record and will include:

- a photographic and descriptive record of the exterior and interior of the building; and
- an analysis and account of the building's origin, development and use.

The photographic record will include general views of the building within the landscape, particularly in relation to the remaining Pandy Farm buildings. The record will also include elevation photographs of the building exterior and interior, including the slate roof, where visible. Oblique shots will be used where direct elevation shots are not practical. Any external and internal details, representing the use of the building, will be recorded, as well as detailed shots of the waterwheel. The photographs will be taken with a *Nikon D5100* fitted with a *AF-S DX Zoom-NIKKOR 18-55mm f/3.5-5.6G ED VR* lens; the maximum image resolution will be 4,928 × 3,264 (16.2 effective megapixels). *Nikon Speedlight SB-700* remote controlled flashes may also be used to assist with internal photographs. The photographs will be taken in RAW format and a photographic metadata table will be completed and included in the report; photographic images will be archived in TIFF format in accordance with the Royal Commission on Ancient and Historic Monuments of Wales 2015 *Guidelines for digital archives*.

The descriptive record will be completed on GAT pro-formas and record the exterior and interior of the structure in terms of building fabric, appearance and content. This will include the materials used, the location, the composition and appearance of the two rooms and any structural remains. Dimensions will be included for the building height, width, length and structural thickness, as well as for any openings (doors, windows and apertures) and structural features (including the waterwheel). The existing plan and elevation drawing of the building (WM Design and Architecture Ltd Drawing No. AL(0)01 (Figure 02) will be used for general reference. A drawn measured plan will be completed by GAT at 1:50 scale that will also be used to indicate location and orientation of the photographic images taken.

The analysis and account of the building's origin, development and use will utilise the photographic and descriptive record, along with available primary and secondary sources including Ordnance Survey maps and estate maps from the Penrhyn Estate. Information will be sourced from the following:

1. The regional Historic Environment Register (HER, Gwynedd Archaeological Trust, Craig Beuno, Garth Road, Bangor, Gwynedd LL57 2RT) will be examined for information concerning the study area. This will include an examination of the core HER, the 1:2500 County Series Ordnance Survey maps and any secondary information held; and
2. Archive data and historic maps, e.g. Penrhyn Estate maps, will be consulted in the regional archives at the Gwynedd Archives Service at the Caernarfon Record Office and also at the Bangor University Department of Manuscripts.

The Level 2/3 photographic, descriptive and analytical record will be completed in early January 2016; the results will be prepared a report that will include the following

1. A non-technical summary
2. Introduction
3. Results of the photographic, descriptive and analytical record
4. Conclusions
5. Sources
6. Approved Project specification (Appendix I)
7. Photographic index (Appendix II)
8. Location plan (Figure 01)
9. Elevation and Plan, with direction of plates (Figure 02 – based on WM Design and Architecture Ltd Drawing No. AL(0)01)
10. Historic Mapping
11. Plates selected from the photographic record

A draft copy of the report will be sent to Gwynedd Archaeological Planning Services and Mr. Alan Bates within one month of completing the record on site. Once approved, a copy of the report will be submitted immediately to Gwynedd Archaeological Planning Services and Mr. Alan Bates and to the Historic Environment Record located at the Gwynedd Archaeological Trust. Submission of digital information to the Royal Commission on the Ancient and Historical Monuments of Wales will be undertaken in accordance with the RCAHMW

Guidelines for Digital Archives Version 1 (2015). Digital information will include the photographic archive and associated metadata.

4 PERSONNEL

The project will be managed by John Roberts, Principal Archaeologist GAT Contracts Section. The building record will be completed by a team of project archaeologists who will have responsibility for completing the site recording, maintaining the site archive, liaising with GAPS and Mr. Alan Bates and submitting the draft report and final report. The project manager will be responsible for reviewing and approving the report prior to submission.

5 HEALTH AND SAFETY

The GAT project archaeologists will be CSCS certified. A site specific risk assessment will be prepared prior to the start of fieldwork and the project archaeologists will be issued with required personal safety equipment.

6 INSURANCE

Public Liability

Limit of Indemnity- £5,000,000 any one event in respect of Public Liability

INSURER Aviva Insurance Limited

POLICY TYPE Public Liability

POLICY NUMBER 24765101CHC/000405

EXPIRY DATE 22/06/2016

Employers Liability

Limit of Indemnity- £10,000,000 any one occurrence.

The cover has been issued on the insurers standard policy form and is subject to their usual terms and conditions. A copy of the policy wording is available on request.

INSURER Aviva Insurance Limited

POLICY TYPE Employers Liability

POLICY NUMBER 24765101CHC/000405

EXPIRY DATE 22/06/2016

Professional Indemnity

Limit of Indemnity- £5,000,000 in respect of each and every claim

INSURER Hiscox Insurance Company Limited

POLICY TYPE Professional Indemnity

POLICY NUMBER

HU PI 9129989/1208

EXPIRY DATE 23/07/2016

7 SOURCES CONSULTED

Chartered Institute for Archaeologists, 2014. *Standard and Guidance for the archaeological investigation and recording of standing buildings and structures.*

English Heritage, 2006. *Understanding Historic Buildings: A guide to good recording practice.*

Gwynedd Archaeological Planning Services correspondence dated 11/02/14; ref. 0211je01/D1858).

Ordnance Survey First to Third Edition 1 mile to 25-inch County Series map for area (Sheet XII.5; published in 1889, 1900 and 1914)

Planning Application C14/0051/16/LL

Royal Commission on Ancient and Historic Monuments of Wales 2015 *Guidelines for digital archives*

WM Design and Architecture Ltd Drawing No. AL(0)01

FIGURE 01

Location Map

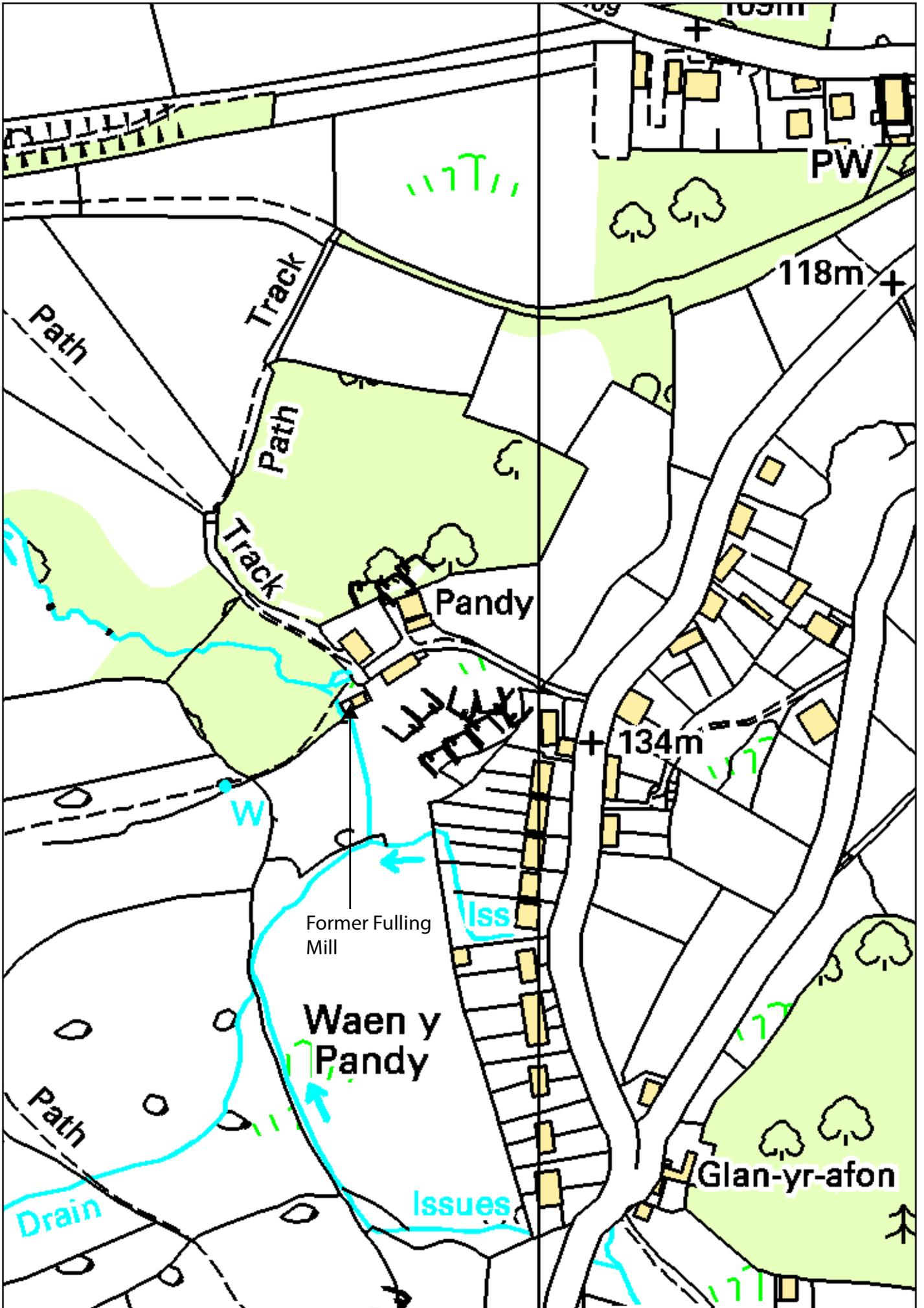
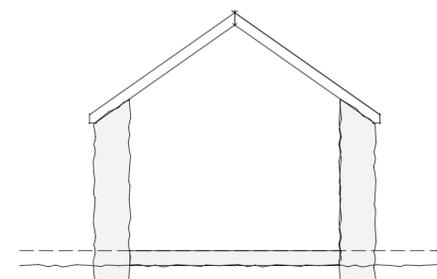
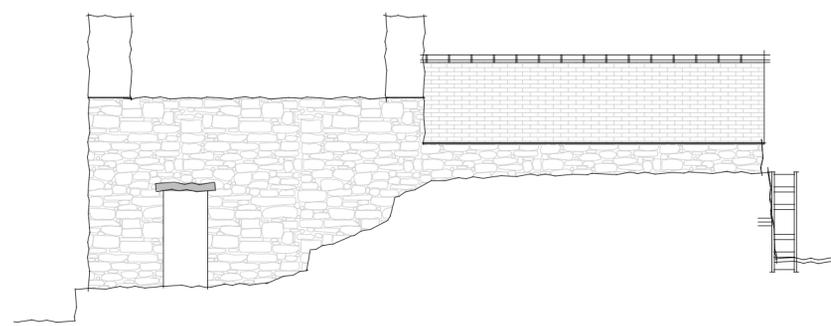
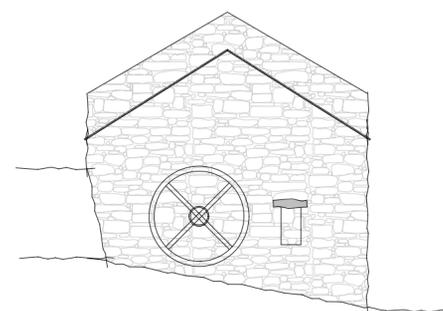
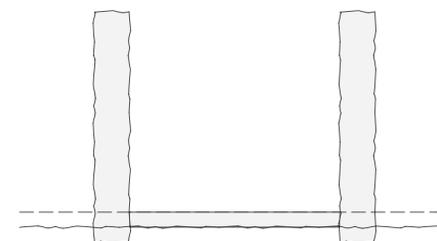
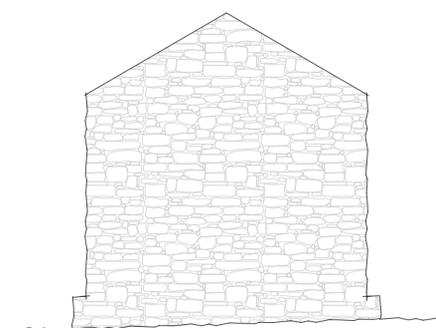
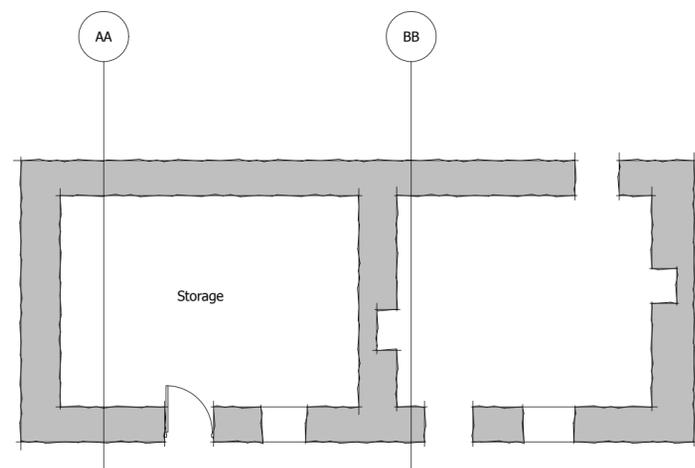


Figure 01: Location Map (based on 1:10000 Ordnance Survey County Series map sheets SH56 & SH66. Scale: 1:1250@A4. Crown Copyright. All Rights Reserved. License number AL100020895.

FIGURE 02

WM Design and Architecture Ltd Drawing No. AL(0)01



Rev	Date	Details	Initial

WM DESIGN AND ARCHITECTURE LIMITED.

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Project Title Proposed Outbuilding Alterations
Location Maes Y Pandy, Dob, Tregarth
Client Mr Bates
Drawing Title Existing Plan and Elevations

Scale 1:100
Paper Size A2
Date Thursday, January 23, 2014
Issue Type Planning (Revised)
Drawn By PJ

Drawing Details	Job No.	Drawing No.	Revisions
	SH1240	AL(0)01	

9 APPENDIX II

9.1 Photographic Metadata

File reference	Project name	PRN		View from	Scale (s)	Date	Originating person	Originating organisation	plate
G2453_001	Pandy Farm	6467	Principal elevation	NW	1x1m	08/01/2016	Jess Davidson	GAT	03
G2453_002	Pandy Farm	6467	Principal elevation	N	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_003	Pandy Farm	6467	Southwest elevation	SW	1x1m	08/01/2016	Jess Davidson	GAT	10
G2453_004	Pandy Farm	6467	Southwest elevation	S	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_005	Pandy Farm	6467	Southeast elevation - northeast half	SE	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_006	Pandy Farm	6467	Southeast elevation	E	-	08/01/2016	Jess Davidson	GAT	08
G2453_007	Pandy Farm	6467	Jelly Fungus (Witches butter)	-	-	08/01/2016	Jess Davidson	GAT	
G2453_008	Pandy Farm	6467	General view	S	1x1m	08/01/2016	Jess Davidson	GAT	09
G2453_009	Pandy Farm	6467	Southeast elevation - southwest half	SE	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_010	Pandy Farm	6467	Southeast elevation - southwest half	SE	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_011	Pandy Farm	6467	Southeast elevation - southwest half	SE	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_012	Pandy Farm	6467	Mill stream	E	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_013	Pandy Farm	6467	Mill stream	SE	1x1m	08/01/2016	Jess Davidson	GAT	11
G2453_014	Pandy Farm	6467	Former mill stream (dry)	SE	1x1m	08/01/2016	Jess Davidson	GAT	05
G2453_015	Pandy Farm	6467	Former mill stream (dry)	SE	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_016	Pandy Farm	6467	Northeast gable	NE	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_017	Pandy Farm	6467	Northeast gable	E	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_018	Pandy Farm	6467	Northeast gable	E	1x1m	08/01/2016	Jess Davidson	GAT	04
G2453_019	Pandy Farm	6467	General view of Pandy Farm, with the southeast elevation of the mill bottom left of shot.	S	-	08/01/2016	Jess Davidson	GAT	
G2453_020	Pandy Farm	6467	Mill wheel (no longer in situ)	NW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_021	Pandy Farm	6467	Mill wheel (no longer in situ)	NW	1x1m	08/01/2016	Jess Davidson	GAT	07

File reference	Project name	PRN		View from	Scale (s)	Date	Originating person	Originating organisation	plate
G2453_022	Pandy Farm	6467	Mill wheel (no longer in situ)	NW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_023	Pandy Farm	6467	Mill wheel (no longer in situ)	NW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_024	Pandy Farm	6467	Mill wheel (no longer in situ)	NW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_025	Pandy Farm	6467	Mill wheel (no longer in situ)	NW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_026	Pandy Farm	6467	Mill wheel (no longer in situ)	NW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_027	Pandy Farm	6467	General view of Pandy Farm	W	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_028	Pandy Farm	6467	General view of Pandy Farm	NW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_029	Pandy Farm	6467	Daldinia concentrica (King Alfred's Cakes)	-	-	08/01/2016	Jess Davidson	GAT	
G2453_030	Pandy Farm	6467	General view of Pandy Farm	SW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_031	Pandy Farm	6467	General view of mill building	W	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_032	Pandy Farm	6467	General view of Pandy Farm	SW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_033	Pandy Farm	6467	Fireplace in the SW gable wall in the SW room	NE	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_034	Pandy Farm	6467	Fireplace in the SW gable wall in the SW room	NE	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_035	Pandy Farm	6467	Fireplace in the SW gable wall in the SW room	N	1x1m	08/01/2016	Jess Davidson	GAT	15
G2453_036	Pandy Farm	6467	Bedrock built into the E corner of the SW room	W	1x1m	08/01/2016	Jess Davidson	GAT	16
G2453_037	Pandy Farm	6467	Bedrock built into the E corner of the SW room	W	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_038	Pandy Farm	6467	SE wall of the SW room	NW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_039	Pandy Farm	6467	NE wall of the SW room	SW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_040	Pandy Farm	6467	NE wall of the SW room	SW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_041	Pandy Farm	6467	NE wall of the SW room	S	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_042	Pandy Farm	6467	NW wall of the SW room	S	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_043	Pandy Farm	6467	NW wall of the SW room	S	1x1m	08/01/2016	Jess Davidson	GAT	

File reference	Project name	PRN		View from	Scale (s)	Date	Originating person	Originating organisation	plate
G2453_044	Pandy Farm	6467	NW wall of the SW room	S	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_045	Pandy Farm	6467	NW wall of the SW room	SE	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_046	Pandy Farm	6467	NE wall of the NE room	SW	1x1m	08/01/2016	Jess Davidson	GAT	13
G2453_047	Pandy Farm	6467	NE wall of the NE room	SW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_048	Pandy Farm	6467	Central roof truss in the NE room	SW	-	08/01/2016	Jess Davidson	GAT	
G2453_049	Pandy Farm	6467	Central roof truss in the NE room	SW	-	08/01/2016	Jess Davidson	GAT	12
G2453_050	Pandy Farm	6467	SW wall of the NE room	NE	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_051	Pandy Farm	6467	NW wall of the NE room (SW side)	SE	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_052	Pandy Farm	6467	NW wall of the NE room	S	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_053	Pandy Farm	6467	NW wall of the NE room	SE	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_054	Pandy Farm	6467	NW wall of the NE room (NE side)	SE	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_055	Pandy Farm	6467	NW wall of the NE room (NE side)	SE	1x1m	08/01/2016	Jess Davidson	GAT	14
G2453_056	Pandy Farm	6467	SE wall of the NE room	N	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_057	Pandy Farm	6467	SE wall of the NE room	W	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_058	Pandy Farm	6467	NE wall of the NE room	SW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_059	Pandy Farm	6467	NE wall of the NE room	SW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_060	Pandy Farm	6467	NW elevation (SW side)	NW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_061	Pandy Farm	6467	Mill stream at the SW gable	NW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_062	Pandy Farm	6467	Mill stream at the NE gable	W	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_063	Pandy Farm	6467	Dry course of mill stream to the SE of the mill	NW	1x1m	08/01/2016	Jess Davidson	GAT	06
G2453_064	Pandy Farm	6467	NW elevation	NW	1x1m	08/01/2016	Jess Davidson	GAT	
G2453_065	Pandy Farm	6467	NW elevation	NW	1x1m	08/01/2016	Jess Davidson	GAT	

File reference	Project name	PRN		View from	Scale (s)	Date	Originating person	Originating organisation	plate
G2453_066	Pandy Farm	6467	NW elevation	NW	1x1m	08/01/2016	Jess Davidson	GAT	



Gwynedd Archaeological Trust
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