John O'Groats Mill,
Huna, Caithness

Archaeology & Inventory of Artefacts Report

AOC 22376

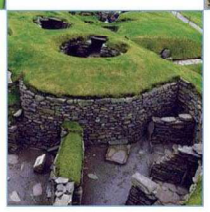
9th August 2013











AOC Archaeology Group

ARCHAEOLOGY | HERITAGE | CONSERVATION

John O'Groats Mill, Huna, Caithness

Archaeology & Inventory of Artefacts Report

On Behalf of:	Princes Regeneration Trust & North Highland Initiative
National Grid Reference (NGR):	ND 37023 73349 (centre of mill)
AOC Project No:	22376
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This document has been prepared in accordance with AOC standard operating procedures.

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Summary

AOC Archaeology Group was commissioned by the Princes Regeneration Trust in association with the North Highland Initiative to undertake the first phase of works of a much wider vision for the future of the abandoned John O'Groats Mill on the north coast of Caithness. These works, undertaken between 4th – 8th March and 14th March, included: a desk-based assessment and walkover survey of the land within the ownership of the mill owner; a detailed measured survey of the mill; a general topographic site plan of the area including the mill pond and its associated waterways; a detailed written and photographic survey of the mill, the mill cottages and the abandoned cottages to the north-west, as well as the adjacent 17th century Cromwellian Bridge; an inventory of all the moveable artefacts inside the mill and a geophysical survey on the ground surrounding the mill.

John O'Groats Mill was constructed largely in 1901, a rebuild of a much earlier threshing mill built in the 1840s, near the site of an even earlier mill thought to date from the mid-18th century, probably much earlier. It is a long held belief that there has been a mill on the site for many hundreds of years, and the area of John O'Groats certainly has a long history dating back to the post-medieval period. However, apart from some unpublished investigations dating to the 1980s, there has been no evidence to suggest that any such mills existed, hence this survey aims to pin-point, as best it can, a history and phasing to the site and its landscape in an effort to fully understand its significance. With this information, a better judgement can be made on any future uses for the site and how it can be preserved for the future.

The present mill is a large mill for its type, being three storeys in height with a large kiln to the north-east side with a huge overshot waterwheel - set in its own wheel house – powering three large millstones to the first floor. It has been left empty since 2001, and there is a multitude of artefacts within the mill which, although not of great antiquity, are all part of the picture of the history and use of the mill in its latest decades of life. The inventory turned up 246 separate entries, some of which have been grouped together as they were found, hence there are many more individual artefacts within the mill for consideration for future display or re-use. The mill pond to the south is just as interesting, lined with flagstones and stone cobbled weirs and water channels.

The geophysical survey uncovered nothing but land drains to the field adjacent to the mill to the east, although there were some anomalies to the west of the present mill which may represent what remains of an earlier 1818 mill and/or pre-1818 mill (dating to at least the mid-18th century, probably earlier).

This report has recommended that the next phase of works centre on excavations to the area to the west of the mill in conjunction with a general cleaning up of the area of the bridge in conjunction with the conservation plans of the mill. In addition, a closer examination of the artefacts within the mill has provided a general strategy for conservation and display. There is a huge scope for future community involvement in both these stages of the process, including visits, open days and oral history projects.

1 INTRODUCTION

1.1 Project background

1.1.1 AOC Archaeology Group was commissioned by the Princes Regeneration Trust and the North Highland Initiative to undertake a programme of works as part of the first stages of the project to rejuvenate and bring back into use John O'Groats Mill in the small hamlet of Huna, Caithness. These two organisations are working with the mill owner, the local community and major stakeholders to develop a project to restore the mill to create a key visitor attraction in Caithness, joining up with the huge investment and development of the harbour at nearby John O'Groats only a mile to the east. This stage of work has been possible due to a grant by Highlands and Islands Enterprise.

1.1.2 This phase of the works involved several disciplines of archaeology and included:

- A desk-based assessment and walkover survey of the mill owner's land;
- A measured survey of the mill and adjacent Cromwellian bridge;
- A topographic survey of the mill site and area, including the mill pond and its associated waterways;
- A photographic and written record of the mill, all associated mill cottages and the Cromwellian bridge;
- An inventory of artefacts within the mill, including a detailed recording sheet, labelling and photography;
- A geophysical survey of selected areas around the mill.

1.2 Site Location

1.2.1 John O'Groats Mill is centred on NGR ND 37023 73349 (Figure 1). It is located to the west of the small village of John O'Groats to the north of the main A836 from John O'Groats to Thurso. It is surrounded by open farmland.

2 OBJECTIVES

2.1 The main objective of this first stage of works was to gain a better understanding of the history and development of the mill and its landscape and to provide a basis and recommendations for possible future archaeological work such as evaluation trenches and further investigation/conservation of artefacts within the mill.

2.2 A secondary objective of the work was to provide a key focus for involving the community in the work and the project in general. AOC were pleasantly surprised that, after a relatively short commissioning time of a week and a half before the onset of the project, interest in the project created ten volunteers to help with the work.

2.3 Finally, the measured survey of the mill will provide a basis for the conservation of the building which has already been passed on to the relevant conservation architects (Simpson & Brown) and other bodies such as the RCAHMS, who have now completed a full measured survey including plans and cross-sections, of the machinery that still survives within the mill building.

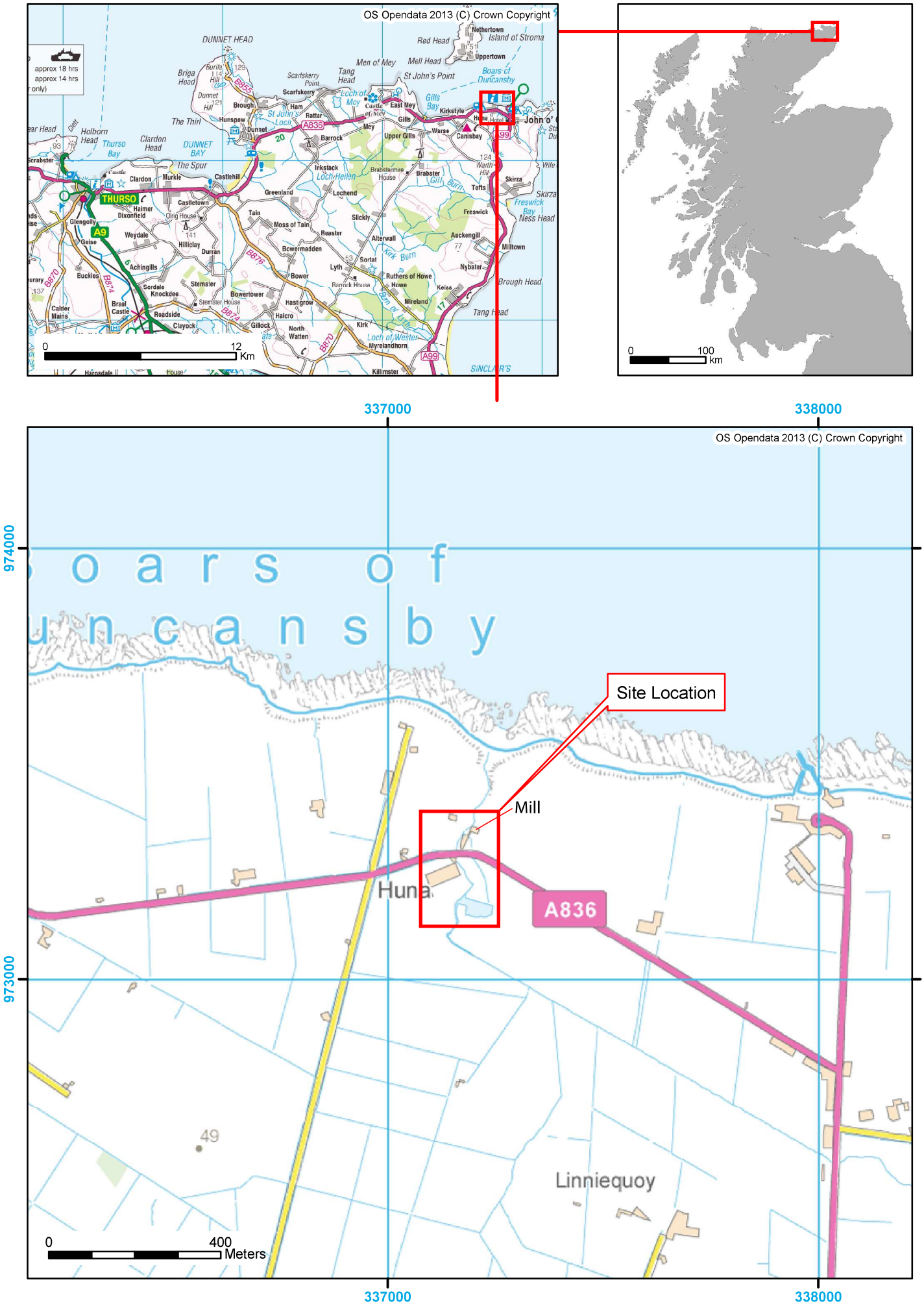


Figure 1: Site location plan

3 METHODOLOGY

3.1 Introduction

3.1.1 The following methodology is based largely on the original tender brief provided by the Princes Regeneration Trust and further established by the tender document with accompanying brief by AOC Archaeology Group. Below is a detailed breakdown of how all aspects of the project were completed.

3.2 Limitations

3.2.1 The limitations of this study have been primarily related to the speed in which it has been commissioned and undertaken. Unfortunately, this has meant that we were only afforded 2.5 days inside the mill which limited the extent of the work that we were able to undertake in terms of the inventory of artefacts. However, all artefacts within the mill were accounted for and similar items (although not all) were grouped together where separating them would have been a specifically onerous task (such as boxes full of hundreds of iron nails, screws, etc).

3.2.2 Whilst forming a very important part of the mill, the requirement to concentrate on the inventory of artefacts and the short timescales for the actual survey, little time was unfortunately available to examine the gearing and machinery in the mill on the ground floor. However, the RCAHMS undertook a detailed survey of this area of the mill in April 2013 and it is hoped that at some stage, once they are fully available, these can be added to the floor plan records to create a full and complete record of the interior of the mill.

3.2.3 Another limitation has been confusion over ownership of some of the buildings on the site, namely the abandoned cottages to the north-west of the mill. It was the original intention to undertake a full measured survey of these, although given the uncertainty of their inclusion within the land ownership of the mill owner at the time of survey, only a simple written and photographic record has been included here to provide context with the rest of the immediate historic landscape.

3.3 Desk-Based Assessment

3.3.1 A desk-based assessment was undertaken prior to the on-site survey, although this has been an ongoing process throughout the survey and during the compilation of this report. The assessment, which has amounted to a detailed archive search, was undertaken to gain a better understanding of the history and development of the mill and its landscape through largely secondary documentary sources and also to identify any potential heritage assets within the land boundary of the ownership of the mill. A background in general mill history and the Caithness area was also undertaken to place the site into its wider context.

3.3.2 Sources were consulted at:

- National Library of Scotland - general library sources, histories of Caithness, John O'Groats, historical studies, etc;
- Library of the RCAHMS (NMRS Archives);
- National Archives of Scotland;
- National Map Library of Scotland;
- Background information from the mill owner;
- Background information from the Princes Regeneration Trust/North Highland Initiative.

3.3.3 The results of the research identified during the desk-based assessment is presented in Section 4 of this report as the 'Historical Background'.

3.4 Walkover Survey

3.4.1 A walkover survey was conducted of the land within mill owner's ownership following on from identification of the heritage assets from the desk-based assessment (see above) to identify any additional heritage assets and to confirm the presence/location and condition of the known heritage assets on the site. A general walkover of the area was undertaken with general digital photography of the landscape and areas subject to the walkover. For any additional assets identified, notes and sketches were taken together with GPS positioning to locate the asset.

3.5 Main written survey

3.5.1 In additional to the general notes from the walkover survey as mentioned above, a more detailed written survey was undertaken of the main buildings, which included:

- The Mill
- The Mill Cottages (renovated)
- The Mill Cottages (abandoned)
- The Cromwellian bridge
- The Mill pond and associated waterways

3.5.2 The written record was made using AOC *pro forma* recording sheets, which included comment on condition, construction, architectural style and detail, openings, evidence for phasing and function and anything else pertinent to the historical record of the building and its history and development. These sheets have been used – together with the drawn record – to form the basis of the descriptions and discussions in Sections 5 – 7.

3.5.3 Specifically relating to the interior of the mill, each distinct room or space was given a unique identifying room number based on their floor level – ie, 0 = ground floor, 1 = first floor and 2 = second floor. Hence 0/1 is the first room on the ground floor. These are cross-referenced between the floor plans and the text.

3.6 Main photographic survey

3.6.1 To accompany the written record, a general and detailed photographic record was made of the main buildings and structures, and the interior of the mill, in black and white print and colour digital using a 35mm SLR and digital SLR respectively. A 2m or 1m scale was placed in each shot where access and health and safety allowed and a running register was made on site which has been reproduced here in Appendix 1. General shots of all the buildings/structures were made in addition to more detailed shots of specific features such as phase lines, blocked openings, doors, windows, machinery, etc.

3.7 Drawn Survey

3.7.1 Measured Survey

A measured survey was made of the site and the mill building using a 3D Trimble laser scanner, which included:

- Exterior elevations of the mill;
- Exterior elevations of the Cromwellian bridge, north and south faces;

- Ground floor and second floor plan of the kiln;
- General topographic survey, including site plan of the immediate landscape around the mill.

In addition, a detailed survey was made of the mill pond and its associated waterways using a robotic total station tied into the main control survey.

3.7.2 Drawn Record

A floor plan record and east/west section was made by hand of the mill building (all three floors) with the exception of the aforementioned kiln plans (see above). They were undertaken at a scale of 1:50 and include all wall lines, openings, blocked openings, main elements of the fixed mill structures and machinery (with the exception of the machinery and gearing cupboard on the ground floor), other features such as holes in the floors, trap doors, structural beams, etc, and anything else pertinent to the historical record. In addition, the position of the artefacts (see below) was plotted on all the floor plans and labelled.

3.8 Inventory of Artefacts

3.8.1 An inventory of the artefacts held within the mill building was undertaken to identify their quantity and extent. Each item – or group of items – was given a unique identifying number related to their floor level – ie, 0/001 onwards refers to ground floor artefacts, 1/001 onwards the first floor and 2/001 onwards the second. There are some numbers that have been unassigned due to having several volunteer teams on one floor at the same time and for fear of repeating numbers. A *pro forma* sheet was filled in identifying the condition, material, dimensions (where this could be ascertained or was not an onerous task for groups of items) and general information and interpretation. This was accompanied by a digital photograph and each artefact/group of artefacts was labelled on site. A description of each artefact(s), photograph and its position is provided in Appendix 2.

3.9 Geophysical survey

3.9.1 A geophysical survey was undertaken by Rose Geophysical Surveys and their final report on the work can be found, together with their methodology, in Appendix 3. A précis of their results has been included in the main report also.

3.10 Archiving

3.10.1 The project has been recorded in the *O*nline *Acces**S*** to the ***I***ndex of Archaeological Investigation***S*** (OASIS) site (Ref: 145661). An entry will also be submitted to Discovery and Excavation in Scotland (DES) publication for inclusion in the forthcoming 2013 volume (see Appendix 4). The original black and white photographs, together with a hard copy and a pdf digital version on CD of the report and jpgs, has also been submitted to the National Archives of Scotland held at the RCAHMS building at Salisbury Place, Edinburgh. For all archiving queries, please contact admin@aocarchaeology.com.

4 HISTORICAL BACKGROUND

4.1 Much of the main history of the mill – in the last couple of hundred years at least – comes from the former owner and operator of the mill, the late Mr Magnus Houston, who, in a chapter in 'Lest We Forget: The Parish of Canisby' (1996), recalls the background to his family's ownership of the mill. However, before moving in to the last few hundred years, it is as well to put the mill and its landscape into an even earlier historical context.

4.2 Milling first appeared in northern Scotland via the Norse with the establishment of what are known as 'click mills' or 'Norse Mills'. These took the form of a horizontal wheel placed directly over the stream attached to a rod; the water would turn the wheel and thus the rod, so as to turn the attached grinding stones above it (Bennet & Elton 1899, 12). These were more common in Scotland, Ireland and the Isle of Man than elsewhere in Britain and it is here in Scotland where they were referred to as 'Norse' mills, given the invasion of the Norse from the 9th century, and many existed in the islands with small meal mills built across streams (*ibid*, 16). These meal mills were small modest structures and would have formed a build-up in stone rubble walling to either side of the stream, built over the wheel placed in the stream. The two walls would have been connected at an upper level in the middle to form an enclosed space into which the rod would rise up, and the millstones placed on this upper floor level. Therefore, if a Norse mill were to be found at Huna, it is likely there may be some wall remains on both sides of the Burn of Duncansby. So what is the likelihood that there was a Norse mill here at Huna? Well, by the late 19th century, Bennet & Elton note that (in 1899) there were still examples of Norse mills in Shetland (Southvoe) and Orkney (the restored Dounby Mill) (Historic Scotland ud). Hence a Norse mill would not necessarily have to be 9th/10th/11th century in date, and could have been much later, as they were still being built into the post-medieval period and indeed into the 19th century. But could it be possible that a mill *does* date to this earlier period? Norse activity around the area of Huna specifically was noted in the Caithness Coastal Survey undertaken by the University of Durham in the 1980s (Batey 1984). The survey noted a burial, originally recorded in the 1930s, approximately 220m west of the former Huna Hotel, although now no trace survives. A mound was also discovered, about 30m x 30m, with traces of a drystone wall and a midden located at ND 3995 7358. Five more mounds are also recorded as being in Huna as part of the survey (*ibid*, 57 & 58) and, whilst none of these are located near the mill, suggest Norse activity in the area. A Norse or click mill may therefore have been located within these outlying settlements, but without firm archaeological evidence, this is only supposition.

4.3 It has long been held that there has been a mill at Huna for many hundreds of years, although little evidence can be seen of the earlier mills today, other than the theories put forward above. By the 14th century, Caithness was noted for its production of plenty of grain, Thurso being a major trading town with Scandinavia and the Baltic (Donaldson 1938). So there would have been plenty of grain to supply a miller. However, any evidence of an early mill building at Huna would have stood on the same site or very close by, so evidence may well have been either grubbed out or lie beneath the present building. In the 1980s, it is known that a group led by the University of Stirling, whilst cleaning up the stonework around the Cromwellian bridge, uncovered the remains of a possible wall which, at the time, was thought to be the remains of a Norse mill, or indeed a much earlier mill building (possibly taking its power from the burn as opposed to the present mill lade) (Sina Houston, pers comm). The details of the discovery, however, were never published apart from a small sentence in a self-published book, now in the possession of the present mill owner. The stones now lie against the south elevation of the mill forming a 'garden feature' (*ibid*). Another secondary source states that '…there may have been a mill from at least 1600 AD…' (Porter 1972, 209) although unfortunately this source does not state where this date comes from or from what evidence it is based.

4.4 However, before moving on to history of the mill, it is as well to keep order of the timeline of events within the landscape and identify the creation of the aforementioned Cromwellian bridge, which has been assigned a construction date of 1651. Magnus Houston noted that Cromwell, who campaigned in Scotland in 1650 – 1651, feared that the mainland would be invaded by Orkney and he sent troops north and the soldiers stationed in Canisby built the bridge so they could move quickly should there be word of attack (Houston 1996, 206). It certainly does not feature on any early maps, these being too schematic, and very little else can be located as to the original history of the bridge within the scope of this study.

4.5 100 years later, in 1750, Magnus Houston recalls from his grandfather's memoirs from 1856 (1996, 204) that the Houston family acquired the mill from John Sutherland through William Houston, one of '…three brothers…born on a croft at the burnmouth named Swartgill...' (*ibid*). The earliest maps do not show an outline of the mill buildings, although do note its presence, such as General William Roy's Military Map of Scotland dating to ca. 1747 – 55 (Figure 2). We can assume that the circled buildings (shown on Figure 2) are meant to represent the mill building, although the scale and position seems illogical to be a mill, as this is too far away from the water source. The map, however, could be a schematic representation.

4.6 Into the 19th century further maps and plans show the detail of the mill. A map dating to 1817 also exists entitled 'Map of the Lands of Duncansby including Stemster, Canisby and Caithness' (Figure 3). Magnus Houston recalled the history behind the map:

> '*…The lairds of Mey and Freswick did a deal. The mill and Newton (the new town of Duncansby) was given to the Freswick estate and in exchange Mey Estate received Stemster and Lower Stemster. The Stemster burn was also diverted at this time to give more water for the mill. This change took place to allow a site for a new mill and mill dam on the Freswick Estate. This mill was built in 1818…close behind the Cromwell bridge with the breast wheel on the east and the kiln at the other end. There was only one pair of millstones used for shelling and grinding*.' (Houston 1996, 205).

The map clearly shows a smaller mill adjacent (and to the east of) the Burn of Duncansby and with the mill lade coming southwards from the mill on its east side. This leads into an earlier mill dam to the south. John Houston's House is shown between the two. The two cottages to the north-west of the mill are also depicted and annotated as belonging to Mr John Smith.

4.7 A representation of a drawing of the mill from the south was made in 1995 from a previous drawing completed ca. 1818 (Figure 4). It shows a small double-height mill with waterwheel to the north-east gable - an undershot wheel powered by a diverted lade – and presumably the mill that succeeded the previous mill that was taken over by the Houstons 60 years before. Whether it is the one depicted in the 1817 map is unclear, although looks to be in the same position. However, it could have simply replaced an earlier building in the same position. It appears to have a thatched roof with small chimney to the north end and two small upper floor windows to the west elevation. A loading door to the east of the end gable can also be seen. Built in the sloping ground going down to the river bed, the wheel would have received a good head of water from its lade.

4.8 Further historical maps show little of the layout of the buildings – indeed, Thomson & Johnson's 1820 map (Figure 5) simply annotates 'Mill' with no buildings. It is not until the First Edition Ordnance Survey in 1877 that we see the layout of the buildings for some time, and it is clear that there have been great changes to the landscape in the first half of this century (Figure 6). Magnus Houston recalls that a new mill was constructed in 1845 with '…two pairs of millstones, one for shelling, one for grinding.' (Houston 1996, 206).

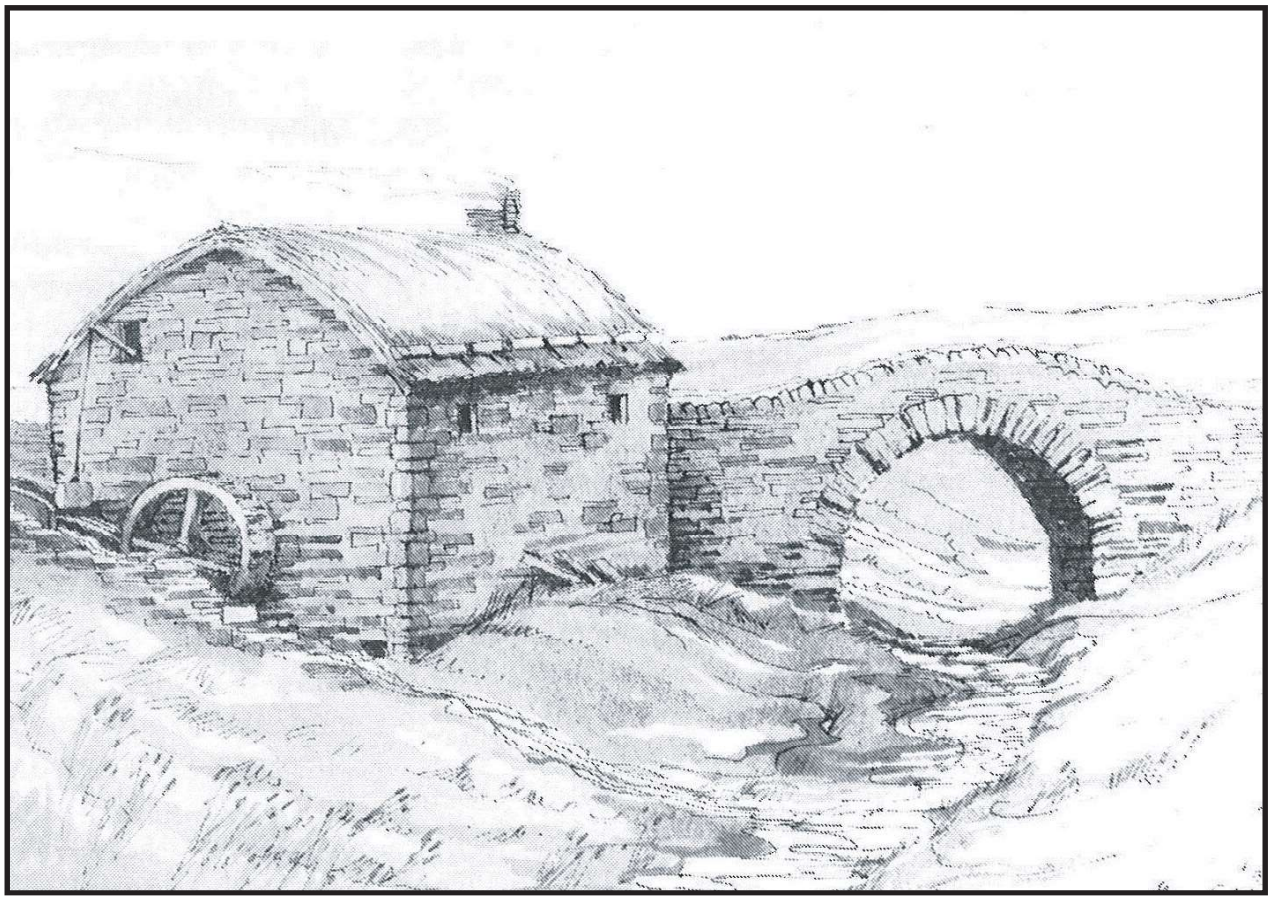
(Reproduced courtesy of the National Map Library of Scotland)

Figure 2: Extract from Roy's map, ca. 1747 - 55

(Reproduced with kind permission of the National Archives of Scotland)

Figure 3: Extract from map of the Lands of Duncansby by William Matheson, 1817

Figure 3: Extract from Adair's map, 1736

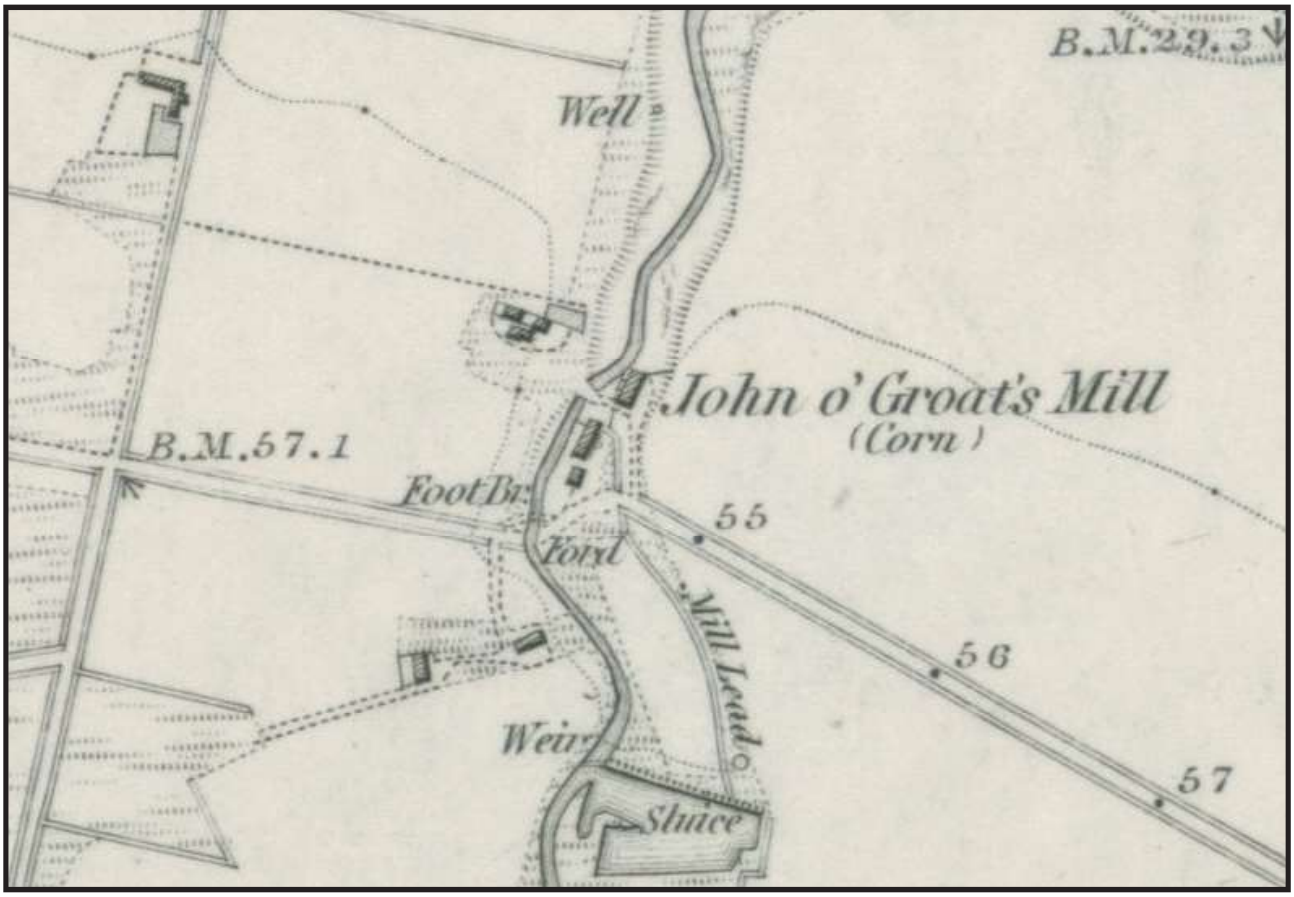


(Reproduced by kind permission of Mrs S Houston)

Figure 4: Reproduction of a sketch of the 1818 mill by Alice Calder

(Reproduced courtesy of the National Map Library of Scotland)

Figure 5: Extract from Thomson & Johnson's map, 1820



(Reproduced courtesy of the National Map Library of Scotland)

Figure 6: Extract from Ordnance Survey, 1877

This is the northernmost mill cottage which has now been converted to a holiday let, as is pointed out in Mr Houston's article. A painting by John Nicholson in 1888 shows what the mill looked like in the late 19th century and the building 'in the foreground…was the threshing mill and barn for the Ha built also c. 1845' (*ibid*) (Figure 7). This is an assumption that the large building to the far left of the painting – as it is in the foreground – was this mill, which appears to be a simple two-storey block with pitched roof, the wheel house on the west side, the upper mill lade feeding into it from the south. The 1877 map shows that the southern 'mill cottage' – now also converted to a holiday let – is also in place by the time of this map, although whether it is contemporary with the 1845 date of the construction of its neighbours to the north is unknown. As will be mentioned below, this may have been a predecessor to a later building. A word can also be said about the two small cottages to the north-west of the main mill, which are now abandoned. In this map they are shown as a slightly different layout as they are today, with the northernmost cottage forming two separate blocks with a space between abutting an enclosure seen to its east.

4.9 In 1901, this 1845 threshing mill was pulled down and replaced with a mill constructed in 1901, and the former main mill (the northernmost converted mill cottage) was then converted to the threshing mill (Beaton 1996, 58). As Mr Houston recollects, the mill was then in the ownership of Mr Houston's grandfather and he, together with his nephew Billy, gained knowledge from all the mills in Caithness to commission the construction of a much bigger and better mill (Houston 1996, 206). Mr Houston then goes into detail about the undertaking of the project, which can be précised here. The building of the mill was overseen by George Sinclair and the joinery work was completed by John Mason from Thurso. The machinery and fittings were supplied by John Bruce, who had a foundry in Wick. The 1907 Ordnance Survey map clearly shows this new mill in place, now an L-shape with the kiln to the north-east and the overshot wheel – as with the mill it succeeded – on the west side located within its own wheel house (Figure 8). The two mill cottages to the south of the main mill are also seen on this map. The north mill cottage is still in place as it appears on the 1877 map. However, the southernmost cottage looks much longer and on a different alignment and therefore may be a post-1877 construction. It was probably rebuilt after the construction of the new road given its proximity to it. The two abandoned cottages to the north-west of the mill seem to be on a slightly different alignment as the 1877 map, with the northernmost cottage now one complete building shifted slightly to the west.

4.10 In addition to the 1907 map, an undated photograph, also featuring in the 'Lest We Forget' book, shows the mill operating in the beginning of the century (Figure 9). The vents over the kiln are known to have been added later (Sina Houston, pers comm) so this photograph must date to some time after the early 1900s. The mill looks much the same as it is today – the vents over the kiln actually look to be a slightly different design so will have been replaced at some point after this, and the timber mill lades for the overshot wheels are also in place. The ground level infront of the threshing barn – the northernmost mill cottage – looks to have been substantially reduced today to accommodate its later function as a holiday let.

4.11 Very little additional information could be found about the mill throughout the 20th century other than passing mentions in the Caithness County Survey completed in 1949 where two mills are recorded in Caithness although they are not named (1949, 24). Each of the mills are said to have employed three men and indicated that the industry once thrived in Caithness, although had been in a steady decline since the 1910s as a result of the demand for oatmeal (*ibid*, 25). The 1980s Caithness Survey does not mention the mill at all. Unfortunately, there are no Ordnance Survey maps between 1907 and 1960, although little appears to have changed in the layout of the buildings by this time. The 1968 map also shows few changes. The brick lean-to to the south of the east elevation is not noted here so was built after this date, and the abandoned cottages show some changes, the southernmost now with the porch to the south elevation and the extension to the north. There is also a clear path/roadway marked leading from these cottages down to

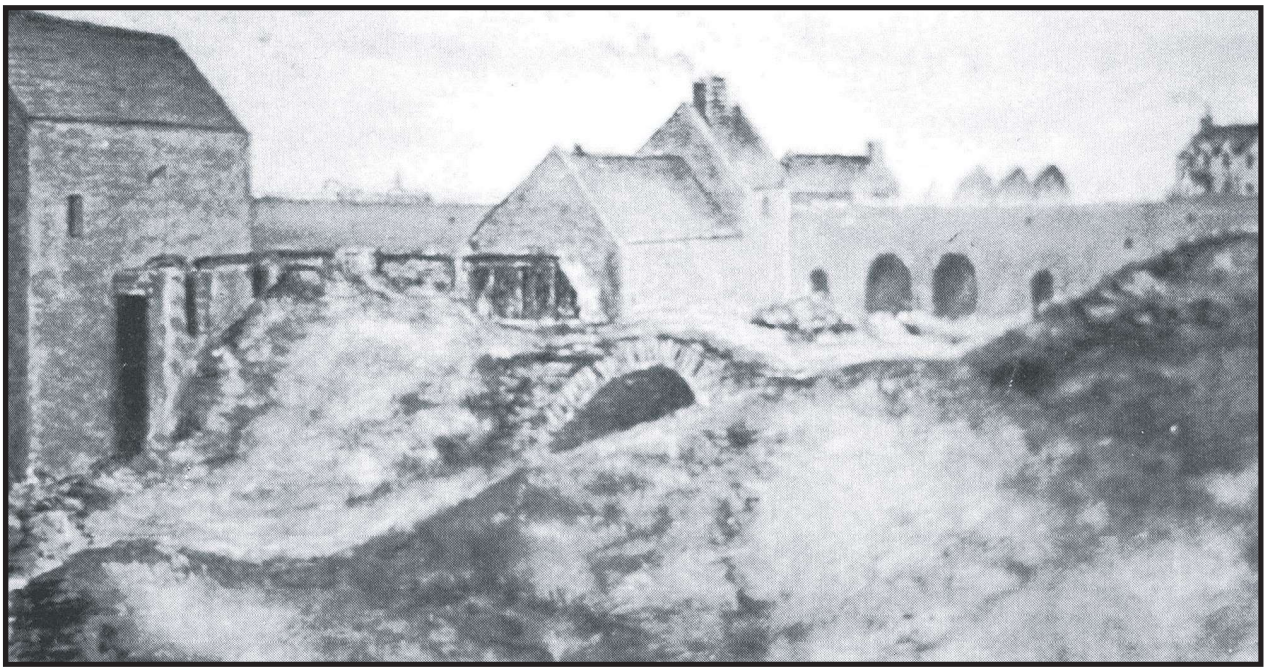
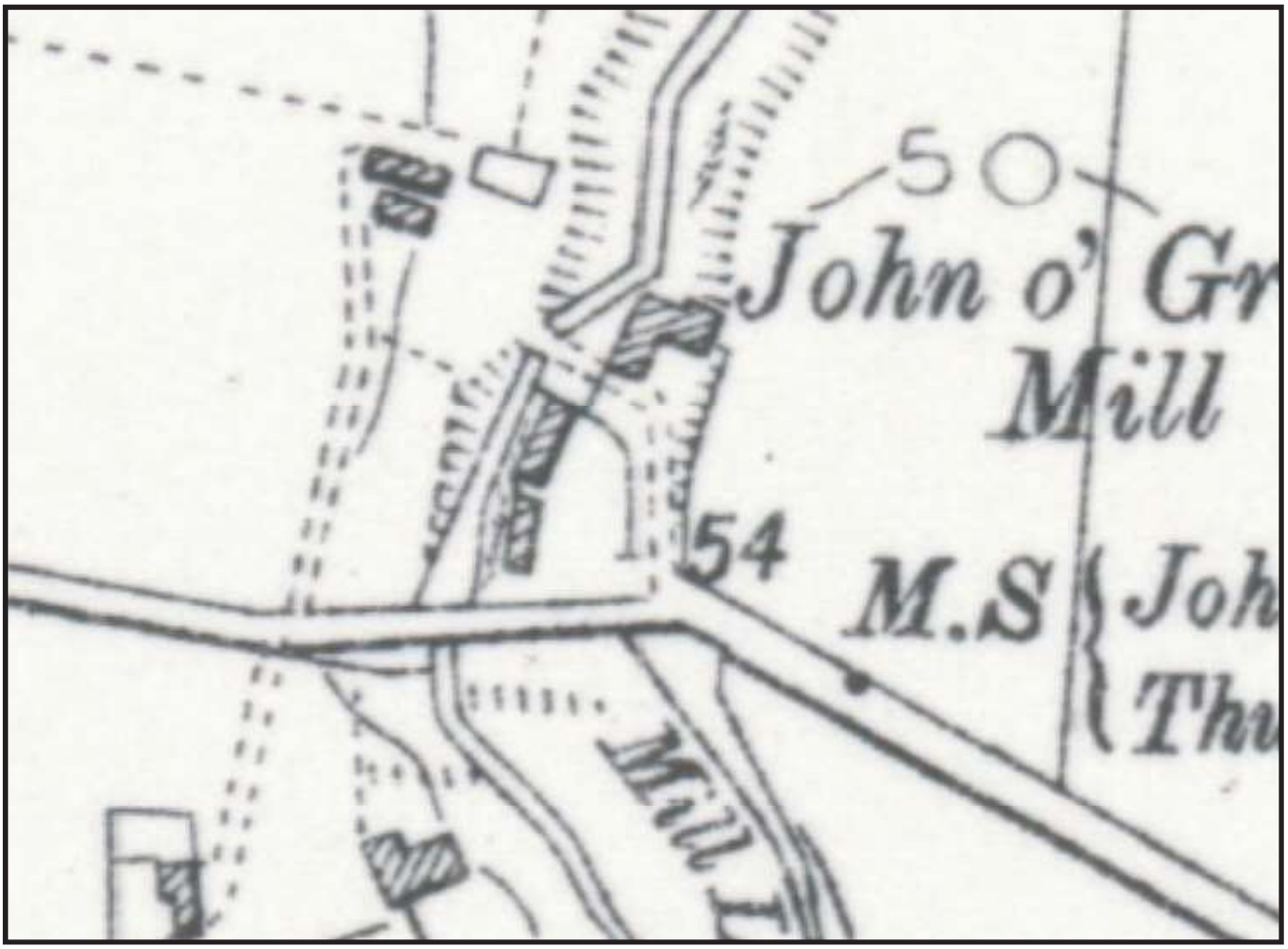


Figure 7: Copy of John Nicolson painting to the mill from the north side, after Houston (ed) 1996, p 49



(Reproduced courtesy of the National Map Library of Scotland)

Figure 8: Extract from Ordnance Survey, 1907

Figure 3: Extract from Adair's map, 1736

Figure 9: Copy of an early 20th century photograph from the south, after Houston (ed) 1996, p 204

the road. The Mill Pond is shown, although the harsh outline seen in the 1877 map have very much softened. The Mill House to the south is also shown as having major extensions.

4.12 Hence we have established that there are at least four phases of mill building alone roughly in the position of the present mill, which can be summarised thus:

- Pre-1818 mill owned by John Sutherland, taken over by the Houstons in 1750, so it is assumed this dates to before that time
- New 1818 mill built slightly to the west of the present mill against the Cromwellian bridge, a modest two-storey thatched building with an undershot wheel to the north
- 1845 – the 1818 mill was taken down and replaced with a larger two-storey threshing mill with an overshot wheel to the west; the main flour mill was what is now the northernmost 'mill cottage'
- In 1901, the 1845 threshing mill was pulled down and replaced with a much larger three-storey mill with kiln – the building that survives today

A more detailed discussion of the phasing can be found once consideration of the physical evidence has been considered, in Section 13.

5 THE MILL

5.1 Introduction

5.1.1 The mill is a 5 x 1 bay three-storey stone rubble built mill with a pitched Caithness flag roof (hipped to the west side) and weathered dressed quoins (Plates 1 – 4). The mill is deeper to the west side with a large covered wheelhouse with lean-to roof going down to the burn's edge (the Burn of Duncansby). To the east side, the building is dominated by the large kiln, defined by the raised skews to either side, slightly projecting from the main mill to the north and rising above it.

5.1.2 The following descriptions will look firstly at each elevation in turn and then look to the interior from the ground floor up to the second floor. They are best seen in conjunction with the exterior elevations, floor plans and section (Figures 10 - 19) and the accompanying plates (Plates 1- 82).

5.2 The south elevation (to the west)

5.2.1 The south elevation to the west has one bay off-set to the east with identical windows to each storey, two-over-three fixed pane windows, boarded below, although these would have originally been vertically-panelled casement hatches (Plate 5; Figure 11). To the front of the ground floor window is a small 'garden feature' set in drystone walling – reported to be the wall remains found by the bridge in the 1980s – with old millstone fragments set over it (Plate 6). An old rusted winnowing machine also sits in front of the elevation here, and the main footbridge over the timber lade is located to the west side. The small datestone to the top of the gable reads '1750 REBUILT 1901', referring to the building date (1901) and the date that the Houstons family took over the Huna mill site (Plate 7).

5.3 The east elevation (to the south)

5.3.1 This elevation features the main entrance to the mill, a two-bay three-storey elevation with a set of loading doors to the west and small windows to the east to each floor level (Plate 8; Figure 12). To the south bay, the upper loading doors have all been boarded over although are both double inward opening doors looking at what survives to the interior. The main entrance is also a vertically-panelled inward opening door with several former keyholes and a sloping canopy over fixed with iron rods (Plate 9). This would have facilitated the unloading of sacks to a cart below; we can see this in the early 20th century photograph (see Figure 8). There is no sign of a hoist mechanism to the second floor window, which rises above the pitch of the roof in a triangular head.

5.3.2 The windows to the northernmost bay here are, as is characteristic of the mill, fixed pane above with timber hatches below (Plate 10), although to the first floor it has been replaced with a one-over-one window. Additional strength has been added to the internal superstructure with a row of three small square iron building ties between the ground and first floor with another to the south end between the first and second floor (Plate 11).

5.4 The south elevation (to the east) and brick shed

5.4.1 The eastern side of the south elevation features a single bay of the mill building and then two additional bays forming the kiln (Plate 12; Figure 11). The mill side to the west has a loading door to the ground and first floor, double inward opening and vertically-panelled (Plate 13). To the second floor, a corrugated-iron shed with a pitched roof has been constructed projecting from the elevation with a chute for transporting the grain into the mill, which was originally for barley (Sina Houston, pers comm).

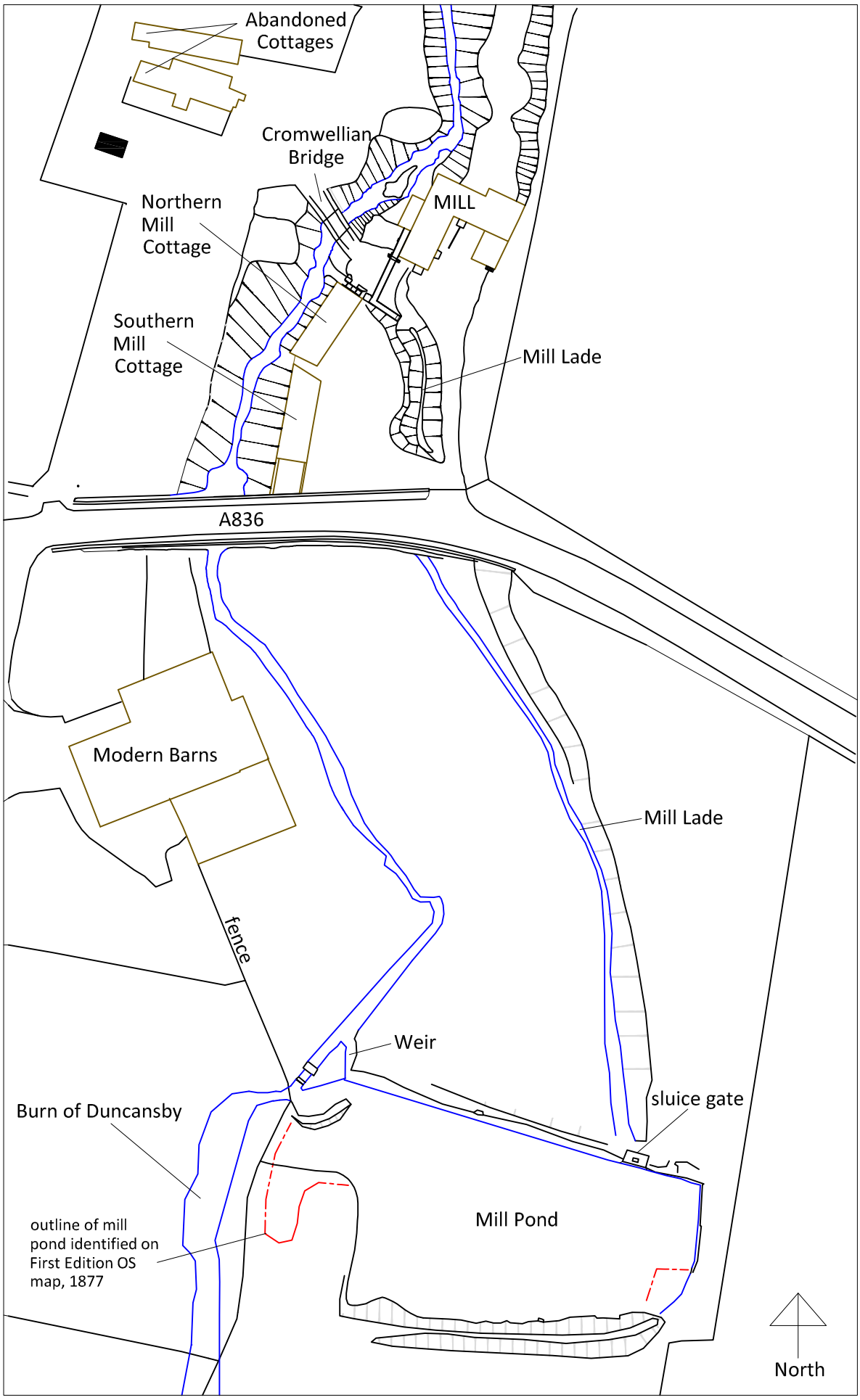
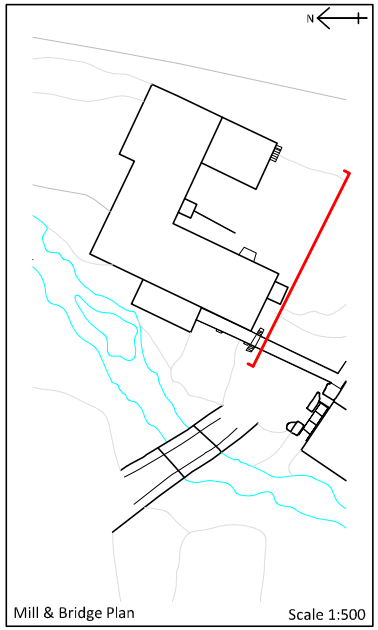
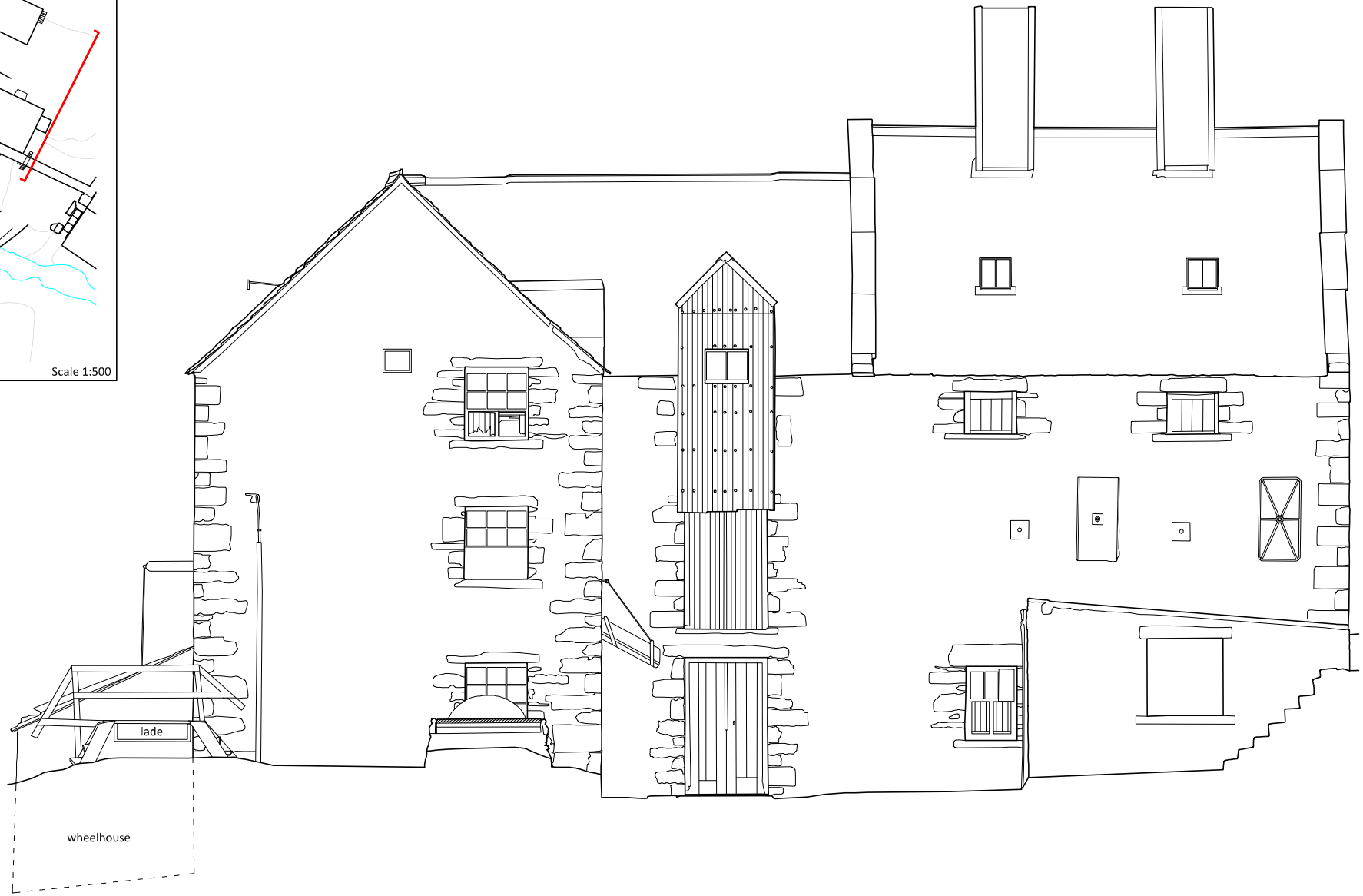


Figure 10: General site plan





1m 0 2m
Scale 1:60 at A3

Figure 11: The Mill, south elevation

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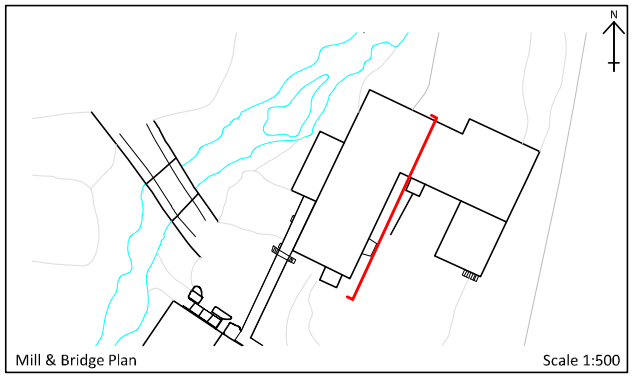

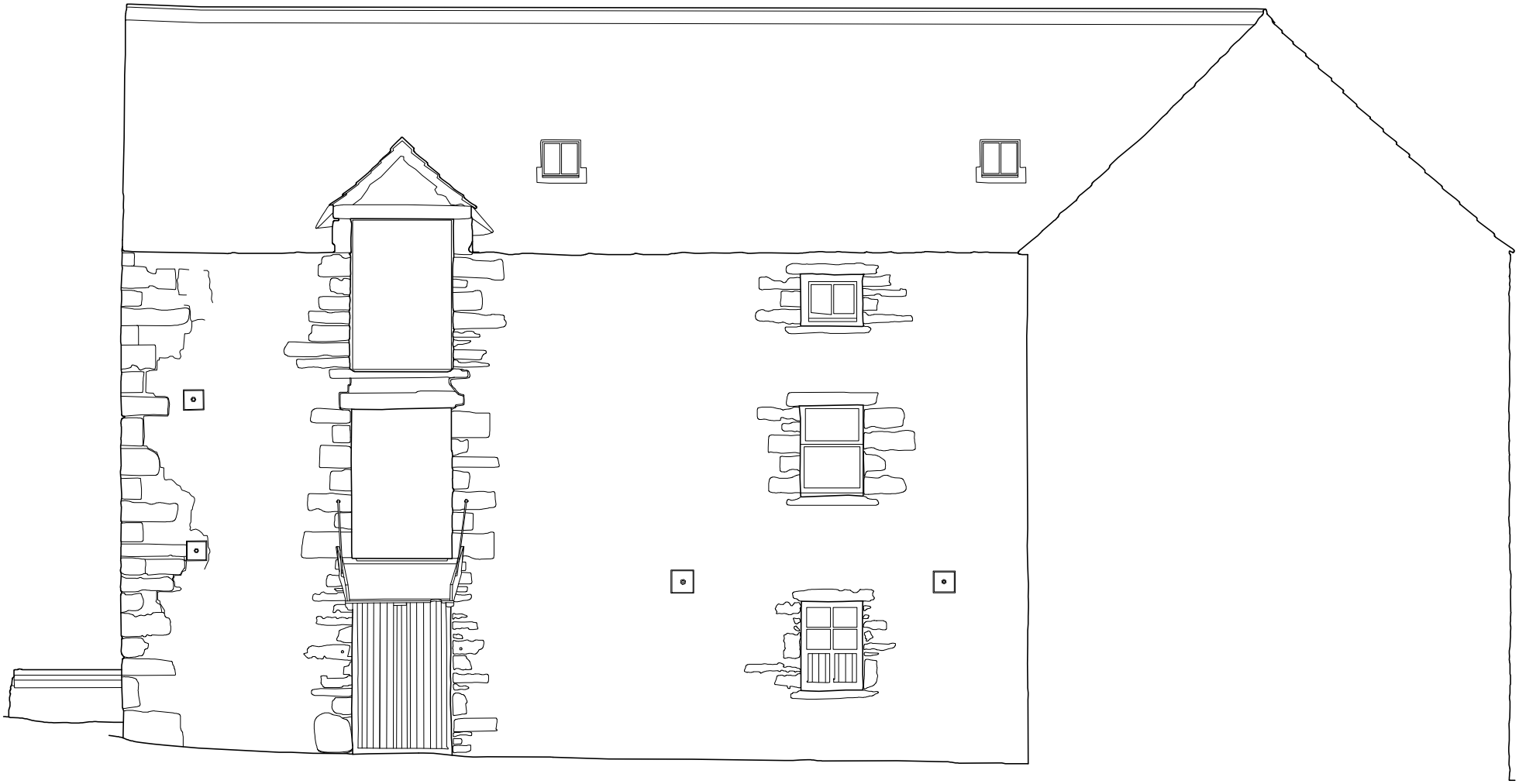

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Figure 12: The Mill, east elevation (to south side)

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5.4.2 The eastern two bays of the kiln have a single ground floor window to the west, identical in character to those on the adjacent east elevation (Plate 14). As the interior of the kiln extends all the way up to the second floor, here are no first floor openings, and only very short stout openings to each of the two bays of the drying room at second floor level with panelled shutters for ventilation. The only other major feature here is two large rectangular iron building ties securing the beams for the drying floor to the wall, with additional small square building ties. These don't appear on the early photograph (see Figure 9) so are a later addition (Plates 15 & 16).

5.4.3 Much of this elevation is obscured by the later brick shed with a lean-to roof in corrugated asbestos set in concrete (Plate 17). It has within it a multitude of old scrap and tools (this has not been included in the inventory of artefacts), so access within it was not possible.

5.5 The east gable

5.5.1 The east gable is set much higher than the rest of the mill, the ground level rising substantially to meet it, with the tall door of the drying room floor set centrally not far from the ground level (Plates 18 & 19; Figure 14). There were no other obvious features on this gable, rising to raised skews above the pitch of the roof.

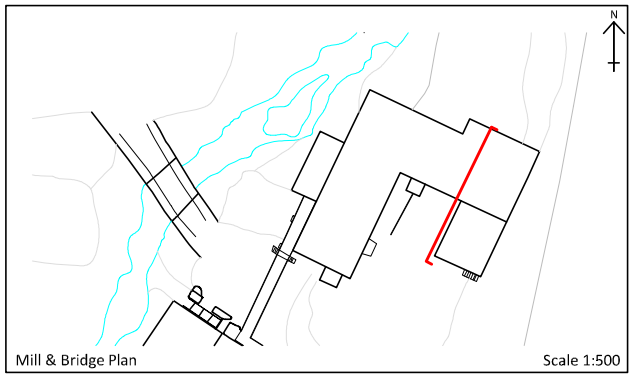
5.6 The north elevation

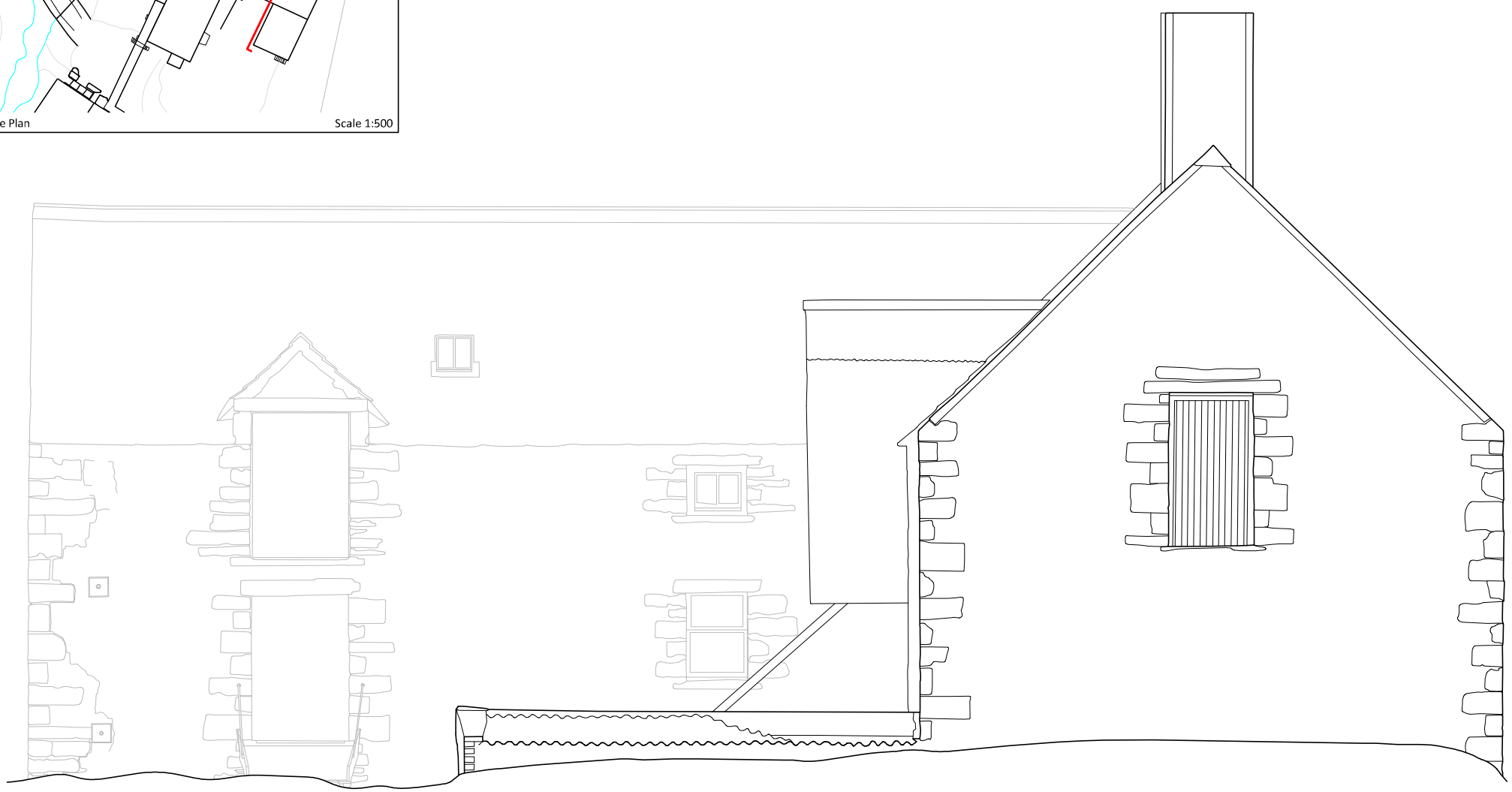
5.6.1 The north elevation is a five-bay three-storey elevation with the kiln forming the two bays to the east set slightly forward of the main mill which consists of three bays to the west (Plate 20; Figure 14). The ground slopes from the east side of the kiln to the west then levels out in the centre of the elevation before sloping down sharply to the burn's edge (Plate 21). The kiln has a window to the west side of the ground floor, fixed three-over-one pane with timber panelling below. The upper floor timber hatches are then identical to those on the opposite elevation, set just below the roof line, bottom opening and in much better condition. Large building ties and smaller square ties also feature here, matching those to the south.

5.6.2 The main three bays of the mill have windows to each floor of the two easternmost bays, the upper level slightly stouter, with some of the panelling below replaced. The western bay has a very small door, leading into the husk cupboard below, although this is blocked to the interior (Plate 22). There appears to have been some structure attached to the wall here, as black scars can be seen up to second floor level, and a small stone-blocked opening can be seen above the doorway and the stonework around has clearly been disturbed. This probably links to the outside hoist or feature relating to the husk/sids, now removed. Another interesting feature is a small stone-lined chute set low in the wall to the immediate east of the aforementioned door (Plates 23 & 24). There are two openings here, one below that appears to have been blocked-up, and another, forming the chute, above with a bearing box placed in front of the opening. This is presumably related the husk cupboard, although internally there are too many husks/sids in the room to identify any features.

5.7 The west elevation

5.7.1 The west elevation is relatively plain, a hipped roof to the north and pitched to the south, forming the main powered and working area of the mill (Plate 25; Figures 15 & 16). It is dominated by the projecting wheelhouse, which has a lean-to corrugated-iron roof with a tall rectangular opening on the west side. The house is open to the north side, so a general view of the waterwheel can be seen on this side (Plate 26). The timber lade feeds the overshot wheel to the south, resting over a crude stone buttress for additional support.





1m 0 2m
Scale 1:50 at A3

Figure 13: The Mill, east elevation (to north side)

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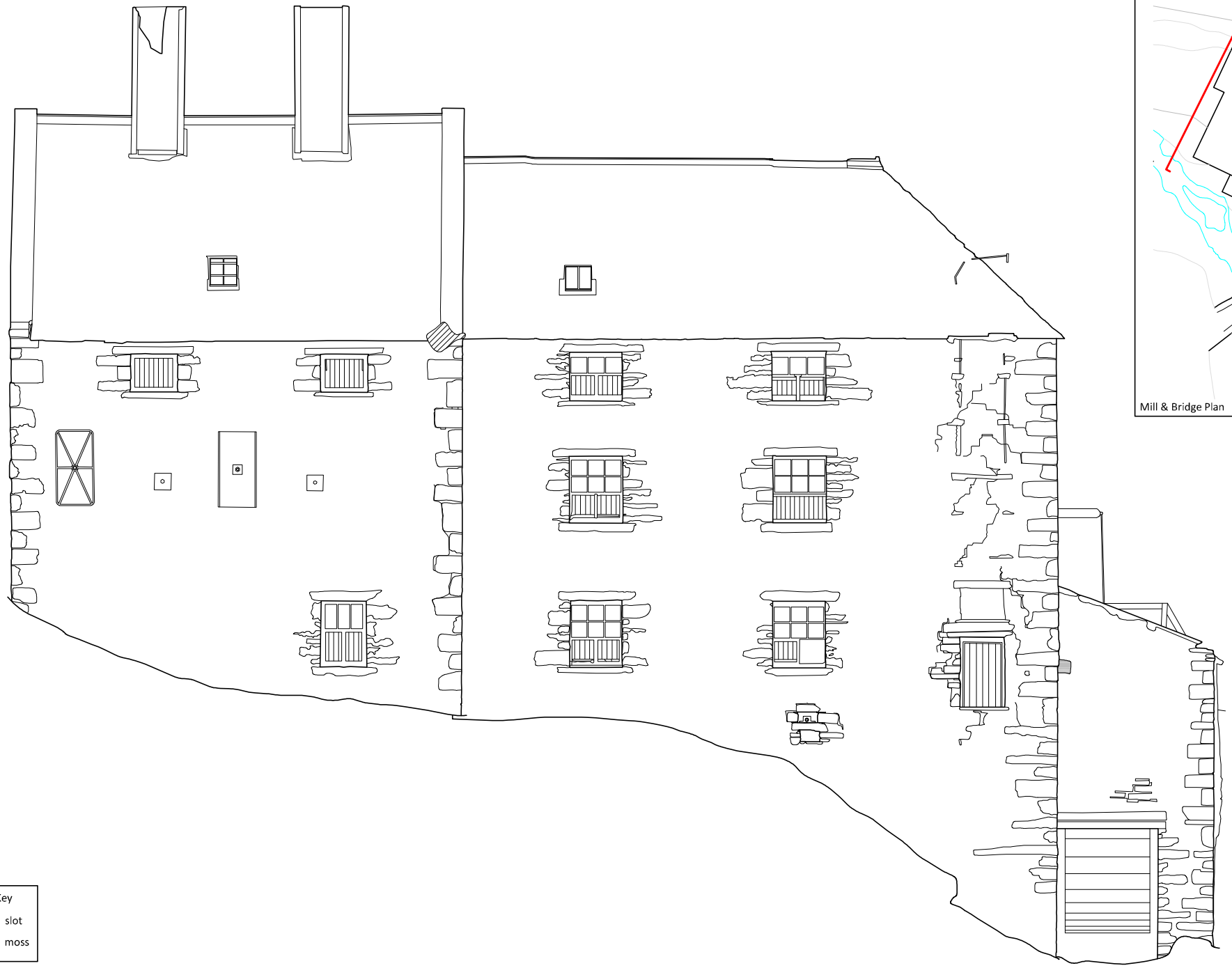

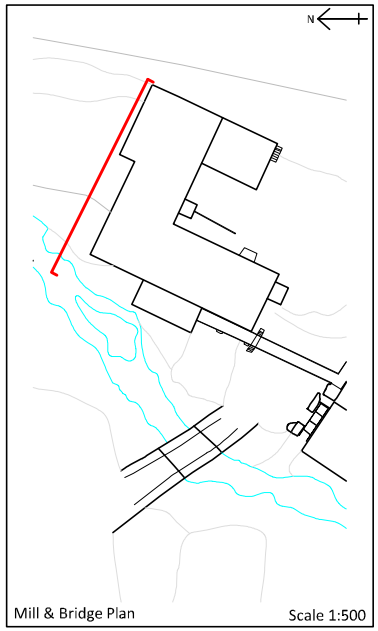

Figure 14: The Mill, north elevation

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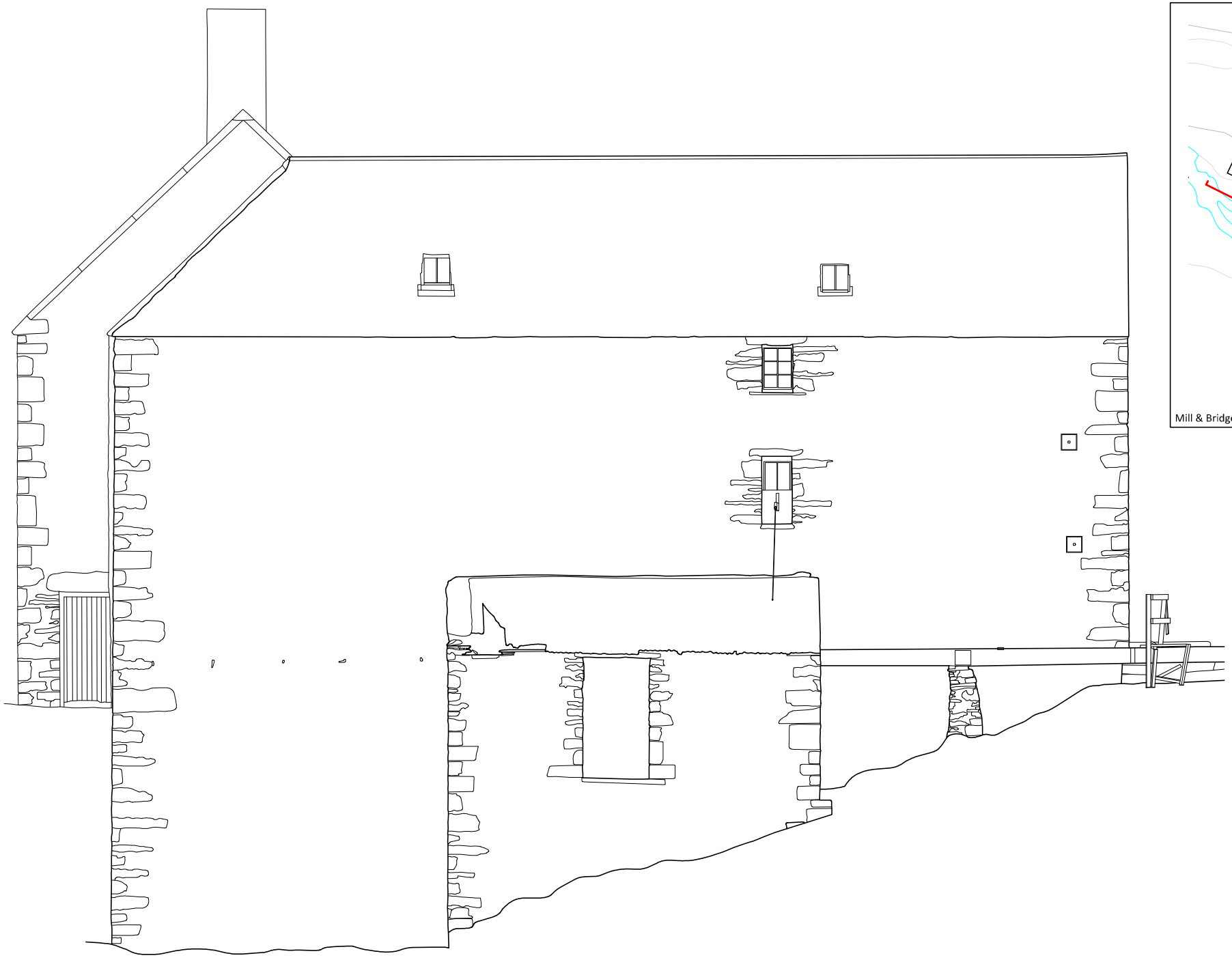

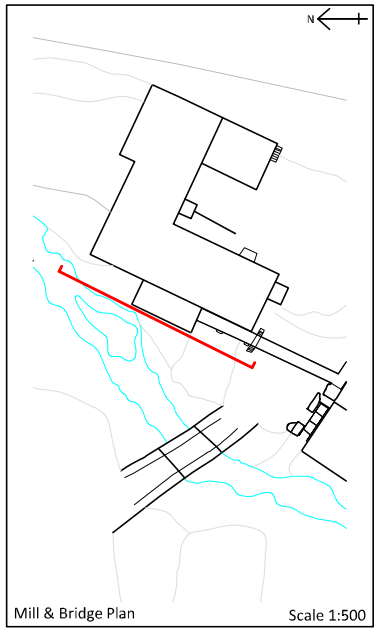

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Scale 1:60 at A3

Figure 15: The Mill, west elevation

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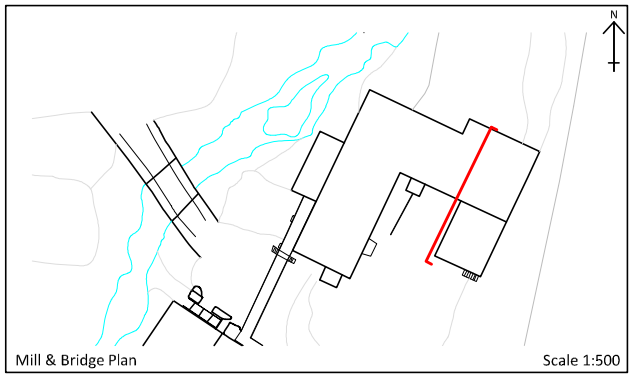

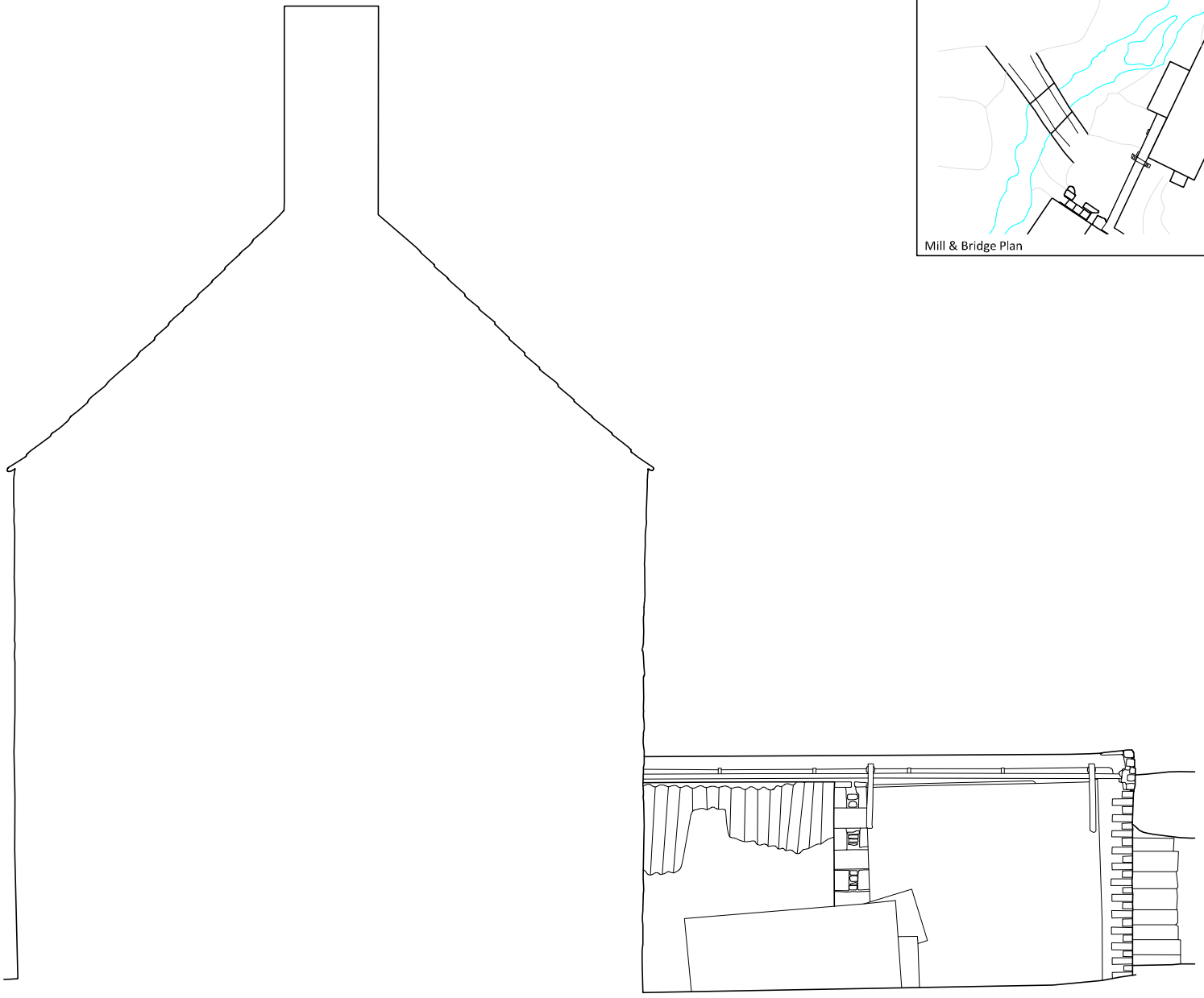

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Scale 1:50 at A3

Figure 16: The Mill, west elevation (lean-to shed)

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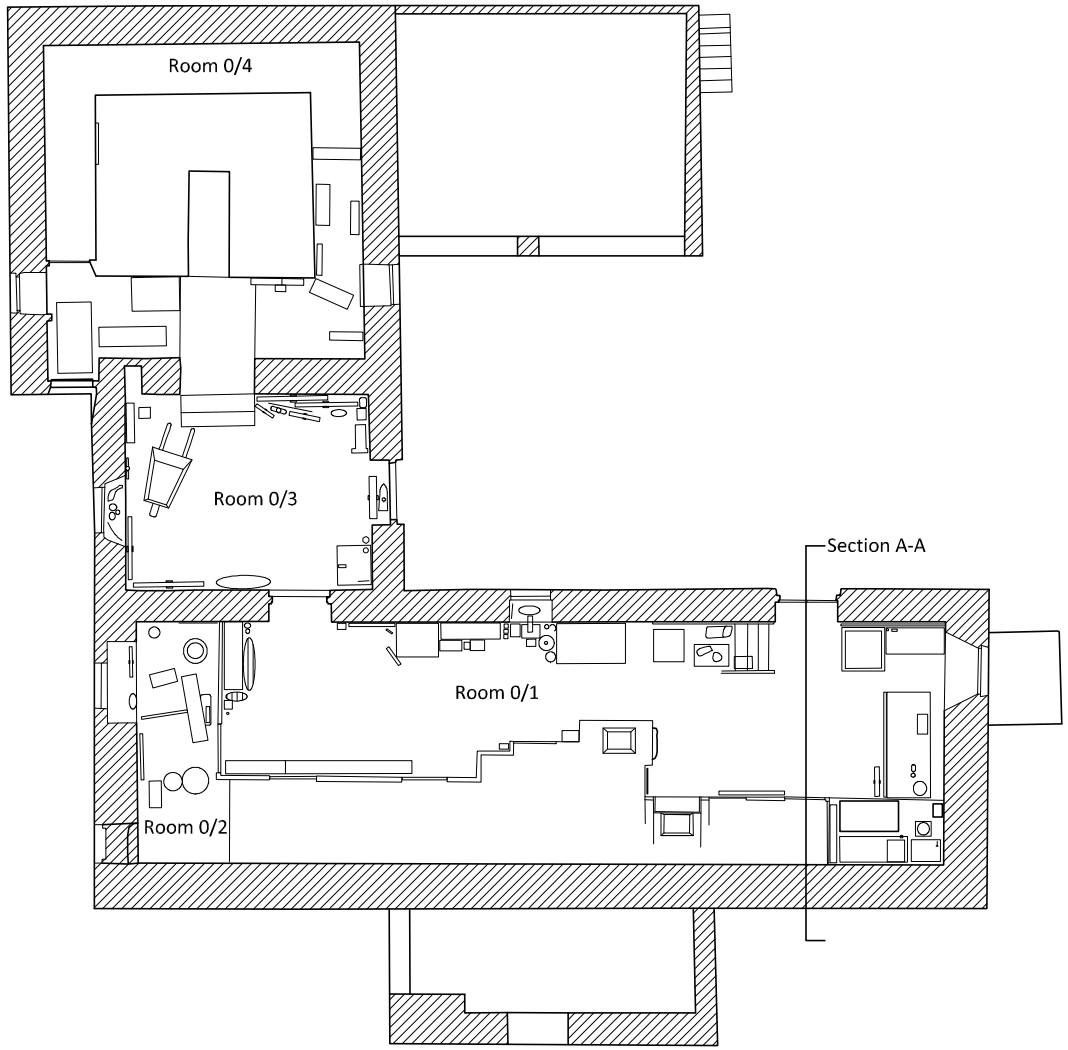


North

2.5m 0 5m

1:100 at A3

Figure 17: Ground Floor Plan

window features along the north wall, again with an inward opening hatch below a fixed pane window (Plate 48).

5.8.5 Room 0/4

This room is effectively the furnace area below the kiln, with a central roughly square stone rubble furnace with an outer 'skin' forming a corridor all the way around it approximately 0.94m in width. The furnace entrance is to the south wall opposite the main entry into the room from 0/3, built around crudely with brick, the furnace inside going right up to the base of the drying floor (Plates 49 & 50). Another square-set window, identical to the north, is located to the south wall.

There is another small window in the north wall, also square-set, although has the same arrangement as that in Room 0/3 (Plate 51). A door leading to the exterior is located to the east side on the south wall (Plate 52). There is a small west-facing door providing exterior access to the kiln (now nailed shut) and another thin door leading to the small passageway around the kiln (Plate 53 - 55). This is filled with scrap metal and also features a small iron doorway – very rusted and in poor condition, providing access to the base of the kiln, opening outwards on the east side.

5.9 The first floor

5.9.1 Room 1/1

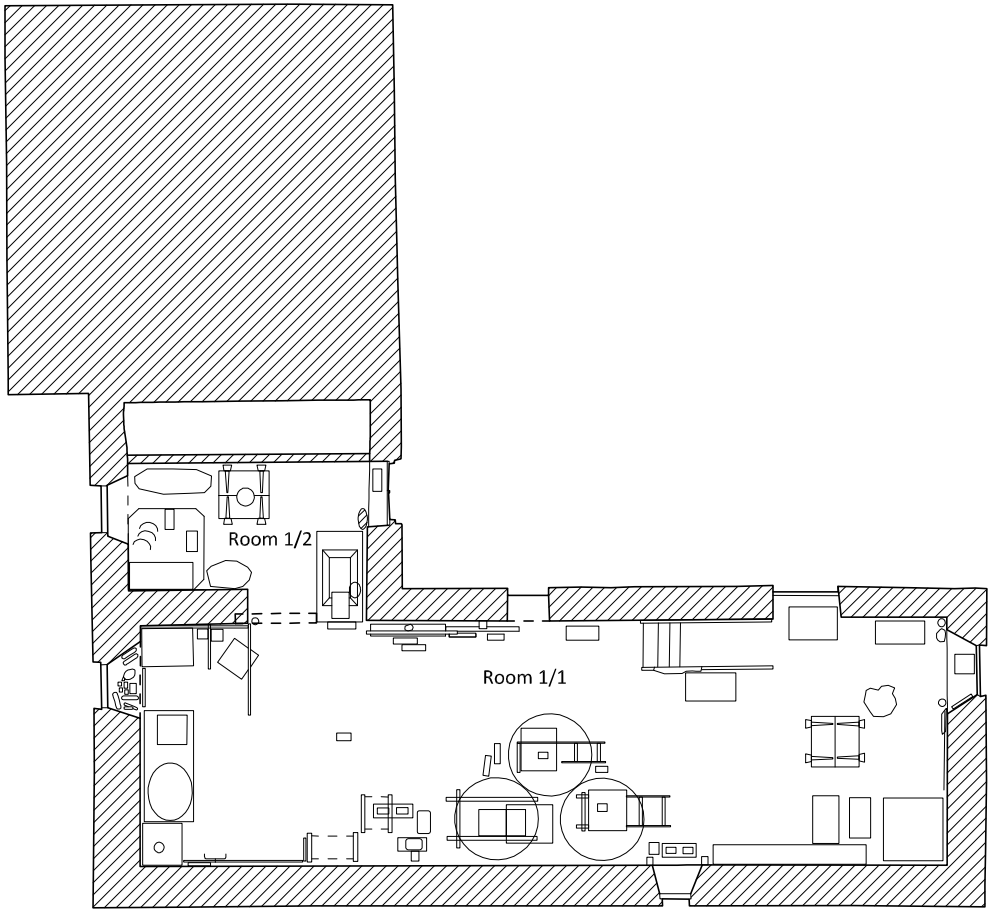
The first floor of the mill is the main working area with three large millstones along the west side with a small annexed room (Room 1/2) to the north-east into the back wall of the kiln behind (Plates 56 – 58; Figures 19 & 21). With white-washed stone rubble walls, the floor has timber floorboards with sawn timber floor beams supporting the floor above. The stair continues to the east side of the mill with the loading door behind, boarded to the exterior, a dilapidated inward-opening vertically-panelled door within (Plates 59 & 60). The splayed window in the south wall to the east side also continues from the first floor arrangement; a large chest covers the remainder of the south wall (see Plate 56).

To the north of the stair on the east wall is a window, square-set. Opposite this on the west wall is another window, seen from the exterior as located above the main wheelhouse. The bottom pane is boarded and contains a pulley system, protected to the interior within a wooden skin (Plate 61). The three millstones themselves are covered with steel tun covers on a timber footing, with voids in the centre with adjustable hoppers above with timber chutes coming through the floorboards to feed the hoppers (Plates 62). Bucket elevators also exist to the north side together with two bruisers fixed to the floor, one of which has a powered motor, the other hand driven (Plates 63 - 65). There is also a small square patch in the floor of the mill to the north side – there are more to the second floor – indicating earlier possible links with the ground floor.

On the north wall there is another splayed window to the east side with a large timber box taking up the remainder of the wall (see Plate 58); in the north-west corner is an enclosed timber panelled area which goes up to the second floor, as noted from the first floor. To the north side of the east wall is the wide opening into Room 1/2, no doorway (Plate 66).

5.9.2 Room 1/2

This small room located to the west of the kiln area and east of Room 1/1 continues the timber floorboard arrangement, although the floor beams are now north/south orientated. The room is dominated by a large dining table in the north-west corner, adjacent to another splayed window to the east of the north wall (Plate 67). The entire east wall is then timber panelled, similar to that forming the gearing cupboard on the ground floor, with small discrete spaces within. These were 'fed' by small chutes in the kiln wall to the north and south sides – the dried grain would have been discarded from the west wall of the drying floor above and deposited here in this space (Plate 68). A trap door sits in the floorboards in front of it, providing the means to move the dried sacks of grain easily to different floor levels of the mill (Plate 69).



North

2.5m 0 5m

1:100 at A3

Figure 18: First Floor Plan

5.7.2 Above the wheelhouse offset to the south are two small openings to the first and second floor. To the first floor a hoist links up to a chain from the wheelhouse through a small hole in its roof. To the second floor the window is a plain two-over-three timber-framed casement. Two square building ties also equate to those seen on the other side of the interior beams to the south side between the floor levels. There are two small skylights in the roof.

5.8 The ground floor

5.8.1 The ground floor of the mill is dominated by the internal workings of the mill in terms of the machinery and gearing and the base of the kiln and the main furnace. The following description is best seen in conjunction with the floor plan and section Figures 17 & 20 and plates (Plate 27 – 55).

5.8.2 Room 0/1

Room 0/1 has a stone-flagged floor with white-washed stone rubble walls with sawn-cut floor beams supporting the first floor floorboards (Figure 17 & 20; Plate 27). The main entrance to the ground floor, and indeed the whole of the mill, is to the south end of the east wall through the double inward-opening doors with a high-set handle and latch and a large keyhole, all on the northernmost leaf (Plate 28). A large stone at the threshold steps down into the room. To the immediate north of this is the timber stair, each tread slotted into the side struts (Plate 29). The south end of the room is a workshop and is cluttered with artefacts with a large timber hopper and desk and various tools still *in situ*; there is a splayed window to the east side (Plates 30 - 33). The west side of the room is taken up with the gearing cupboard, with thin panelling supported on square struts with thin doors set in the panelling on latches providing access into the machinery, gearing and various hoppers (Plates 34 – 38). A more thorough examination of this area will come with the detailed drawings provided by the RCAHMS; their survey is due to take place in late April 2013.

Beneath the stair and along the east wall are a number of other artefacts, a large chest and a multitude of boxes containing rusty tools, nails, screws, and other items (Plate 39). This all sits below a splayed window, a timber hatch below fixed panes (Plate 40). An inward-opening double door is located to the north end of this wall leading into Room 0/3, the small room just before the furnace Room 0/4.

The north end of the room is taken up with the husk cupboard, Room 0/2, sectioned off from the main room with the same panelling as to the gearing cupboard to the west with a small doorway. More artefacts are lying against the east side of the north wall infront of a large cabinet (Plate 41).

5.8.3 Room 0/2

This is the husk cupboard, or 'sids' cupboard, used for storing the husks discarded from the fanner/winnowing machine which was, in this case, to the west end of the south side set within the gearing cupboard. Opposite this on the west wall is a small stone-blocked recess, equating to the small doorway seen to the exterior wall (Plates 42 & 43). A small splayed window is located adjacent to this to the far north side of the room (Plate 44).

The room is presently still full of old husks/sids with a number of large artefacts also in the room.

5.8.4 Room 0/3

This small room is located between the main mill and the furnace room to the north and is accessed from Room 0/1 through a double door (Plate 45) and has a wide opening in the stone walling to the north side going down into 0/4 via two stone steps. As with 0/1 and 0/4, it has whitewashed stone rubble walls and a stone flagged floor and is dominated by the three hoppers against the north wall (Plate 46). On the south wall is the small inward opening double door (now too dilapidated to open) (Plate 47). Another splayed

To the south wall is another inward-opening double door adjacent to a timber winnowing machine/fanner from 'W A GEDDES AGENTS, WICK' (Plate 70).

5.10 The second floor

5.10.1 Room 2/1

The top floor of the mill would have been mainly used for storage as well as some grain processing (above the millstones) and continues with timber floorboards, white-washed stone rubble walls and a plain timber rafter roof with sarking boards below the flagstones (Figures 19 & 20). There are two skylights to the pitch of the east side of the roof. It consists of a large open L-shaped room with the top floor of the kiln forming the drying floor to the north-east, Room 2/2.

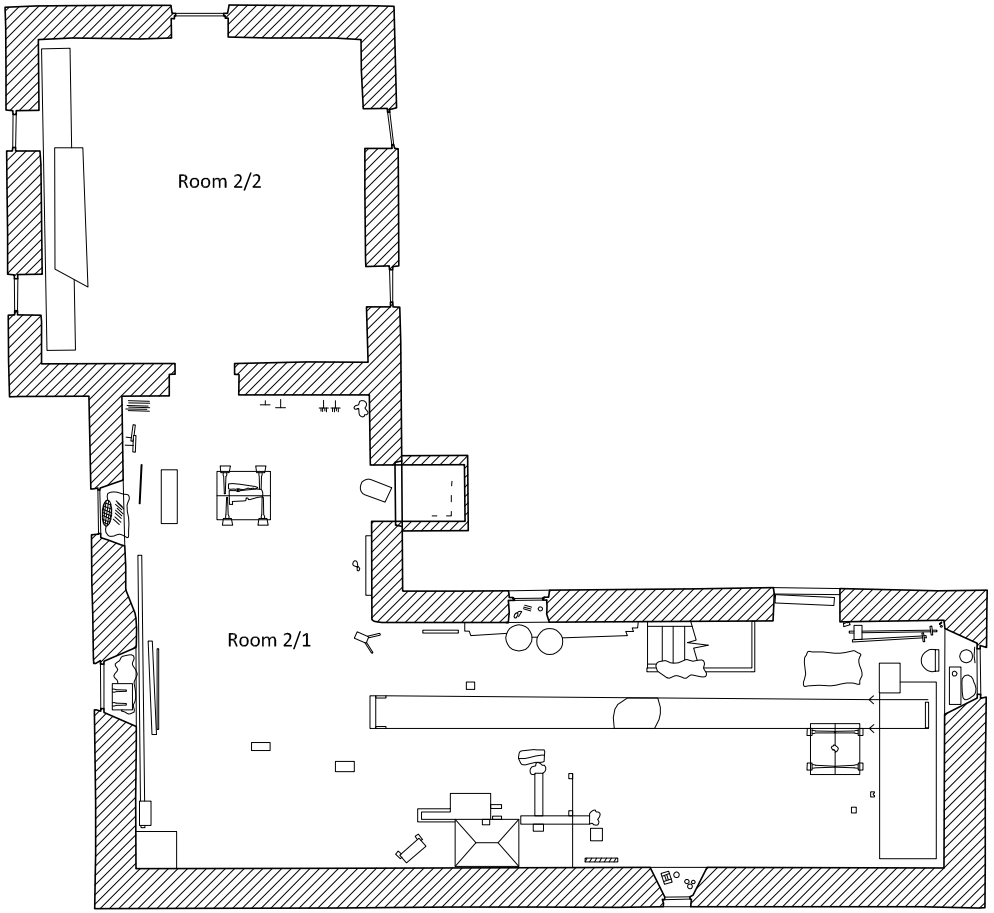
As with the floor below, the room has east/west timber floorboards, changing to north/south to the L-shaped wing to the north-east (Plates 71 - 73). That stair is located to the east wall adjacent to another loading door to the south, as with the floor below. Also as with the floor below, the splayed window is located to the east of the south wall. The rest is obscured by a large chest (Plate 74).

To the centre of the west wall, above the millstones to the first floor, are a collection of hoppers and bucket elevators associated with the processing of the grain (Plates 75 & 76). A splayed window is located to the west wall to the south of this (Plate 77). Opposite the hoppers there is another square-set window.

The north wall extends to the length of the main mill here with two stout splayed windows; to the north-west corner the enclosed areas of timber panelling continues up from the first floor and angles into the room going eastwards (Plate 78). On the east wall is the double door leading to the drying floor, Room 2/2 (Plate 79); the south wall houses the barley chute, a corrugated-iron shed built out of the wall with the motor still in place.

5.10.2 Room 2/2

The top floor of the kiln comprises the drying floor, with a large loading door to the east wall, and two openings to the north and south walls respectively (Plates 80 – 82). The stonework is obviously very blackened and charred and although no access was possible to this room (the floor is unsafe) chutes on the inside of the west wall could be identified for the deposition of the dried grain down to the first floor, into the small enclosed area to the east of Room 1/2.



North

0.5m 0 4m

Scale 1:100 at A3

Figure 19: Second Floor Plan

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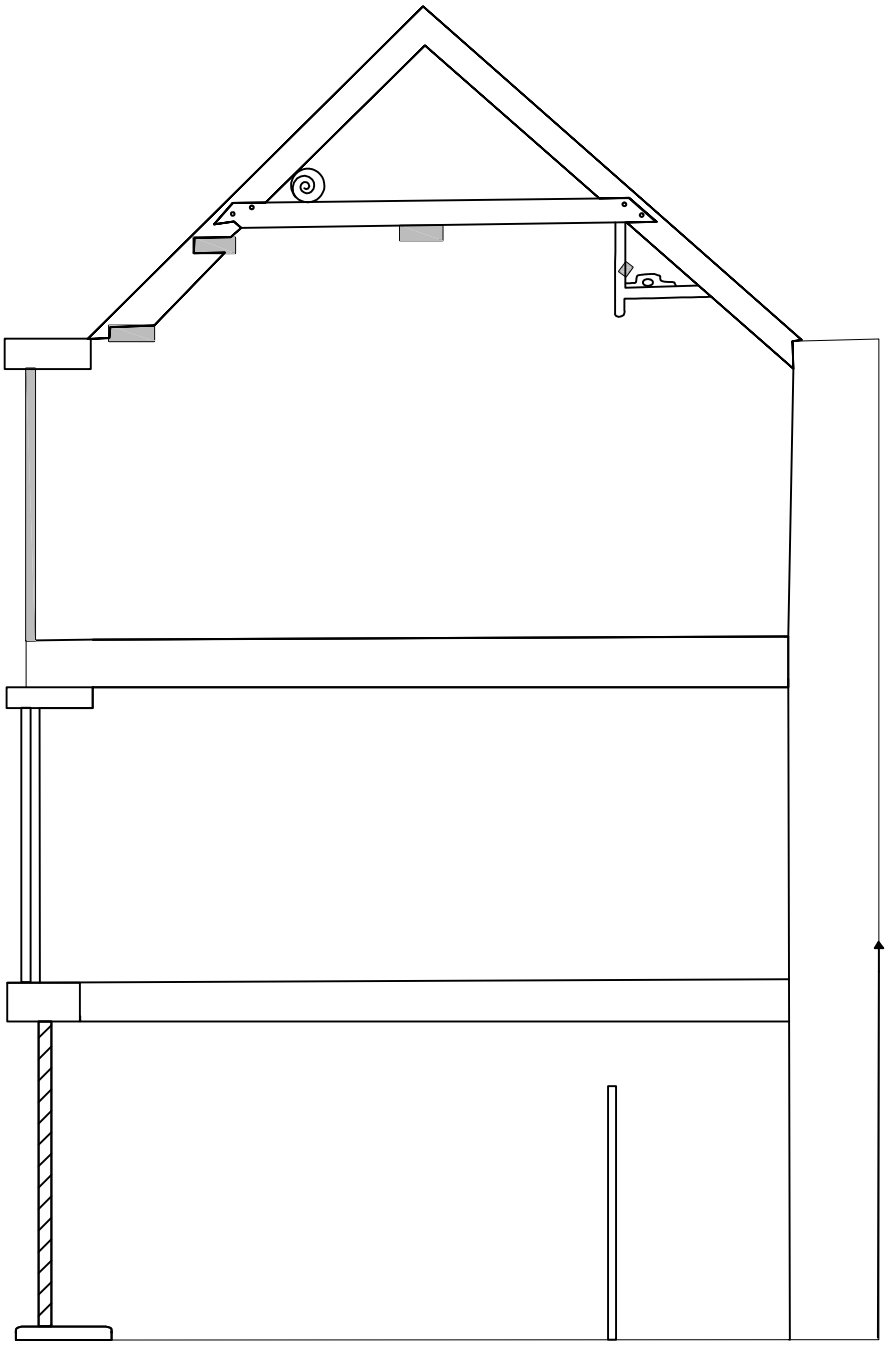

Figure 20: Section A-A (north-facing)

1m 0 2m

1:50 at A4

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6 THE MILL POND & WATERWAYS

6.1 The mill pond is located to the south of the mill, across the main road and to the east of Mill House. The exact date as to when it was established is unknown, although it first appears cartographically in the 1877 map (see Figure 10). It consists of a roughly rectangular pond, lined to the outer edge with Caithness flagstones, many of which have slumped and toppled, although the original character of it remains (Plates 83 - 87). The raised perimeter of the pond has also been eroded by cattle over the years, and small passageways at the weaker points have been broken through the mound.

6.2 The manipulation of the water supply comes from the main north/south burn to the west, called the Burn of Duncansby, which flows into the sea further north of the mill and then from the east leading to John O'Groats further to the south of the mill pond. It is diverted to the west side of the pond through a small waterway which has now been dammed (Plate 88). An outlet to the waterway is then seen to the north over a paved weir (no water now flows here due to the damming) which is also paved and neatly sided at this point (Plates 89 - 91). Two small bridges of Caithness flag cross the burn here also. A timber structure, which appears fixed to the concrete, is located further to the west of the burn on the ground, its function unclear (Plate 92).

6.3 To the east of the mill pond, on the north side, is a large underwater culvert providing access to the main mill lade (Plates 93 - 95). A large drystone structure is placed over it with a cast-iron fitting in the top, presumably relating to the sluice gate mechanism (Plates 96 & 97). The remains of a timber sluice gate is located to the north side, now rotten (Plate 98).

6.4 Moving northwards, the burn meanders, running beneath the road in a series of round-headed openings supporting the road bridge (Plate 99). The mill lade runs a much straighter course running under the road via an underground culvert, with a small stone cover on the south side (Plate 100). It reappears some 6 – 7 metres from the roadside and into the small steep-sided lade leading into the timber lades to flow over the overshot wheels (Plates 101 - 103). The grass was too overgrown to identify whether the lade here was stone lined.

6.5 The timber lades feeding the two waterwheels (the main mill and northernmost mill cottage) are mostly of timber with iron strapping. A single chute leads straight over the waterwheel to the north wheel pit of the cottage, with an off-shoot at 90 degrees leading to the larger waterwheel of the main mill on its west side (Plates 104 - 106). They are timber planked to the base and are lifted from the ground and supported by occasional stone rubble buttresses fixed to them via iron plates around the sides where the panels join (Plate 107). Occasional struts have been placed over the top. The remains of the sluice gate, which would have diverted water to one or the other mill, no longer exists apart from the only the iron hinges which are still in place (see Plate 103). Another interesting feature is a small trap door near the east end of the lade leading to the northernmost mill cottage (Plate 108). It appears to be two planks that are hinged to lift upwards.

7 THE MILL COTTAGES

7.1 The Northern Mill Cottage

7.1.1 As has been established above in Section 4, this mill was constructed in the 1840s as the main mill building with overshot wheel to the north side. Once the new 1901 mill was constructed, however, this was relegated to a threshing mill, its function until it ceased operations. It has now been converted to a holiday let and the original gearing still exists below the floorboards of the north side (S Houston, pers comm). It is a 4 x 1 bay double-height building with a pitched Caithness flag roof and raised skews. The southernmost bay is raised, although the build looks contemporary so there is an assumption that the mill was originally all built as one.

7.1.2 The main entrance is to the east elevation and, as can be seen in the archive photograph, the ground level in front of the mill has been reduced substantially (see Figure 9; Plate 109). The main three bays to the north consist of (from south to north) the main double entrance door, an upper floor loading door with a triangular head raised above the roofline, and a smaller window with holes for exterior security bars (Plate 110). To the far top left (north) of the elevation is a tiny angled opening, thought to have been used for the operation of the sluice gate (Plate 111); an iron pole may have been attached to the gate over the timber lade and to the inside attached to a mechanism whereby the rod could move the gate back and forth/up and down to control the power of the water running over the wheel. Moving to the south part of the elevation, a small stone-blocked opening can be seen near ground level (Plate 112). The southernmost bay then features a ground floor window, which was once a doorway looking at the blocking below it, with a small first floor window above.

7.1.3 The south elevation is a gable with raised skews and a tall window. A short passage separates the two buildings here (Plate 113).

7.1.4 The north elevation is taken up with the wheel pit, an overshot wheel attached to the north gable with a stone wall enclosing the waterwheel to the north (Plate 114).

7.1.5 The west elevation is relatively plain, showing the rise in the ground level from north to south (Plates 115 & 116). There are three skylights in the roof, which may have been an original feature, although the frames have been replaced in the holiday let conversion. A small window then features to the first floor of the southernmost bay, matching that to the opposite side. A small stone blocked window is also located to the north side of the ground floor, which would have once provided light to the gearing cupboard (Plate 117).

7.2 The Southern Mill Cottage

7.2.1 The date of the construction for the southern mill cottage is unclear, as a different layout of the building is seen on the 1877 as to the present arrangement seen on the 1907 map; the earlier map shows the cottage to be slightly off-set to the east and on a different alignment. Hence, if the maps are correct, this present building is much later than the northern one (ie, built some time between 1877 – 1907).

7.2.2 The cottage is a two-bay two-storey building with a pitched roof and an additional barn (now a garage) to the north with a hipped roof, all Caithness flag. The build looks contemporary between the two different sides of the building, although one large stone indicates that it may have been a former quoin, and therefore the 'garage' to the north could have been added later (Plate 118). There also seems to be slightly less weathering on the stonework of this northern block. The main entrance is to the north bay of the main

cottage with a loading door above it with a triangular head. The southernmost bay has a window to the ground floor and a stouter one to the first.

7.2.3 The north gable is plain with the hipped roof over and the south gable is the taller two-storey gable with a stone-blocked window in the ground floor; there looks to be at least two phases of blocking (Plate 119). The west elevation is relatively plain with two skylights and two stout first floor windows to the main mill and a tall rectangular window to the single-storey garage (Plate 120). Looking at the mortaring below this window, it looks to have been reduced in height and may have once been a larger opening.

7.2.4 The cottage is abutted to the south by a boundary wall forming a former cart entrance, now a garage. Dooks in the walling represent that it may have once had panelling attached on the internal side.

8 THE ABANDONED COTTAGES

8.1 The two abandoned cottages were not part of the main survey as they are outwith the ownership of the mill owner (S Houston, pers comm). However, it is prudent to put some record of them here to place the site into context as a working landscape. There are two cottages, and the NMRS records the southernmost building as being C Listed, referring to it as 'Mill Cottage' (Plate 121). The building is a three-bay single-storey building of stone rubble covered in a roughcast render. There is a projecting porch on the south side, reported to be a later addition by the listing description (and indeed, it does not appear on the 1907 map) with an east-facing door (Plate 122). There is a three-over-three timber sash window to the immediate east of this on the main south elevation. Moving round to the west gable, there is a small off-set window, frame missing, to the east side (Plate 123). The north elevation facing the other cottage (a small passage between them) has only two small windows roughly in the centre with projecting sills (Plate 124). Another later wing then projects from the east gable with a small vertically-panelled door on the north-facing side. This terminates in a chimney breast with a large concrete tank to its north side (Plate 125).

8.2 The northernmost abandoned 'cottage' is not recorded as being listed and is an open stone-rubble built three-bay single-storey barn with pitched corrugated asbestos roof. The north elevation is relatively plain with a single window to the west and stone-blocked doorway to the east (Plates 126 - 128). The east gable is plain with a large concrete tank attached. Moving round to the south elevation facing the south cottage, there are three main doorways (the doors have long since been removed, the frames remain). The western end forms a smaller annexe added on to the main building, the north gable of which is in a bad structural condition and has a dangerous crack along the south side (Plates 129 & 130). The south elevation has three doorways into rubbish-filled rooms (Plate 131).

8.3 To the south side of the southern cottage there is a small enclosure in timber with a lean-to roof, the function of which is unsure, being set so low to the ground (Plate 132). To the north-east of the cottage, there are the remains of a stone rubble enclosure, the outline of which can be seen on the 1877 Ordnance Survey map.

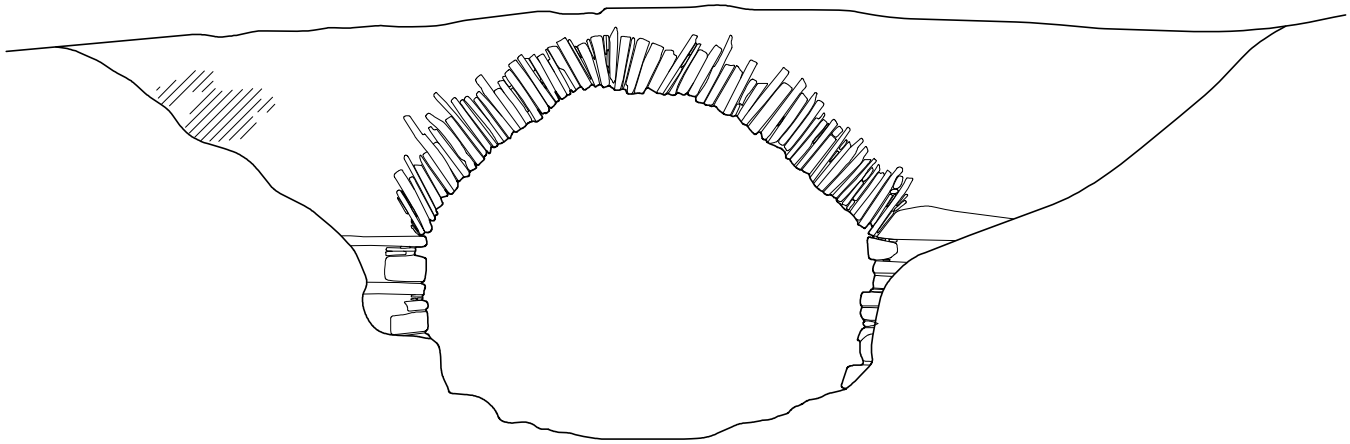


Figure 21: North Elevation

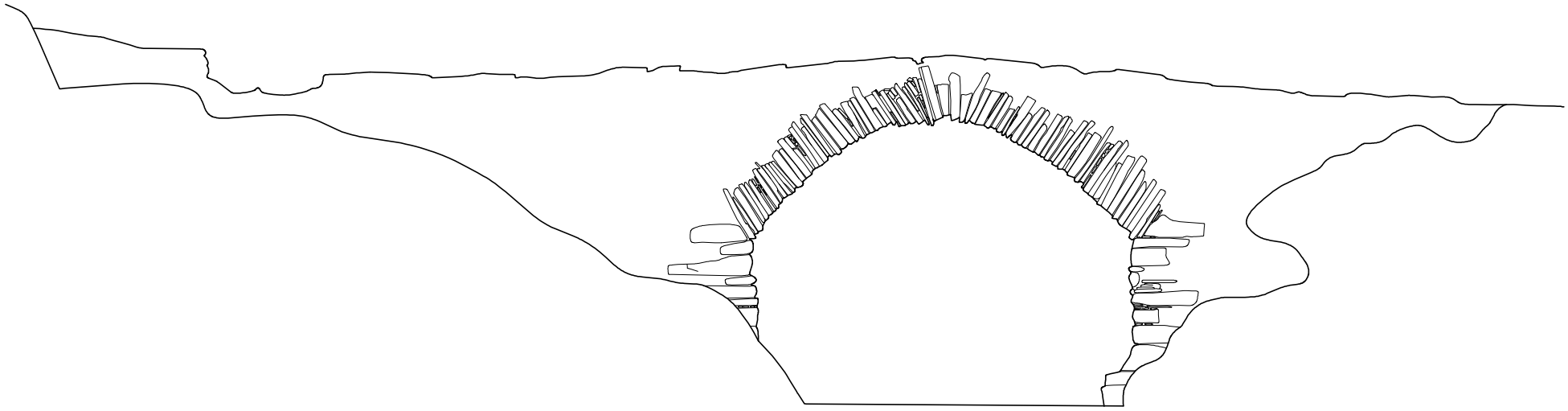
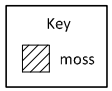


Figure 22: South elevation



Scale 1:50 at A3

AOC Archaeology Group

9 THE CROMWELLIAN BRIDGE

9.1 The Cromwellian bridge is thought to date to 1651 and is a plain single span bridge over the main burn standing over bedrock to both sides (Plates 133 – 135; Figures 21 & 22). The top of the bridge has evidence that the walls either side were a lot more substantial than they are today, with an outer wall of stones to either side and an inner core of rubble, the whole approximately 0.75m in width to both sides, flanking the main road span about 1.90m wide (Plate 136).

9.2 The voussoirs are cut from tall thin stones and have stood the test of time, although there does appear to be some evidence of slippage to the centre, where the stones have slightly slumped out of alignment with the arch.

10 THE WALKOVER SURVEY: ADDITIONAL HERITAGE ASSETS

10.1 The walkover survey identified very little in terms of additional heritage assets that could not be identified prior to the on-site works. Figure 23 outlines the main survey area and identifies the main heritage assets in each of the areas of land in the ownership of the mill owner. Many have been dealt with in the descriptions above, although there are some additional sites:

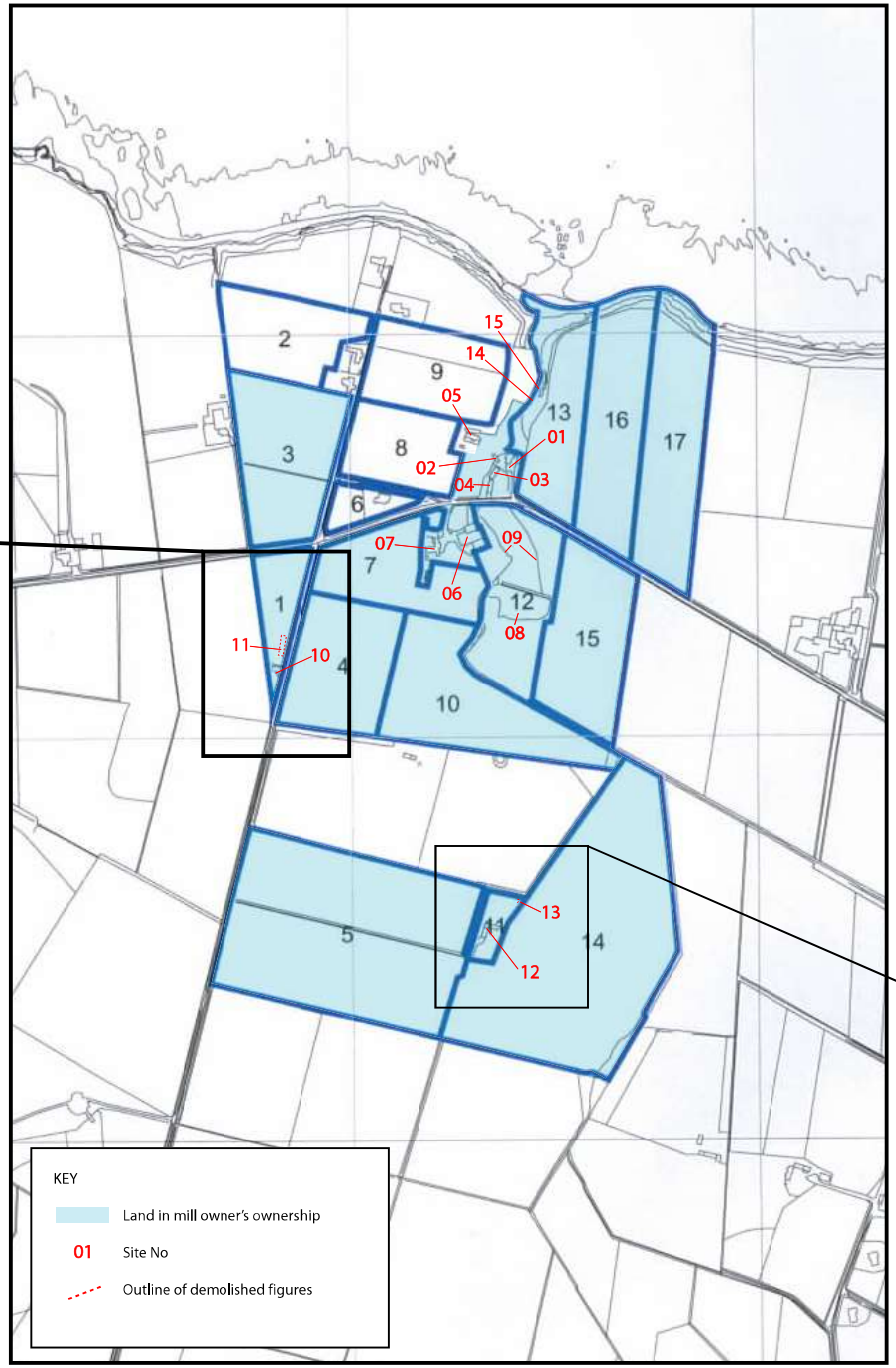
Site	NGR	Description
1	ND 37200 73350	Mill
2	ND 37180 73346	Cromwellian Bridge
3	ND 37177 73328	Northernmost mill cottage
4	ND 37173 73312	Southernmost mill cottage
5	ND 37151 73375	Abandoned cottages
6	ND 37152 73253	Former barns to the east of Mill House (demolished and replaced)
7	ND 37101 73236	Mill House
8	ND 37206 73164	Mill Pond
9	Burn: starts ND 37162 73177 at mill pond, terminates at ND 37234 73526 at Hung Bay Mill Lade: starts at ND 37235 73178 mill pond, terminates at meeting up with burn at ND 37178 73338 to the south-west of the mill	Burn and mill lade
10	ND 36908 73085	L-shaped cottage (demolished and replaced)
11	ND 36916 73105	Former linear north/south ?barn (demolished)
12	ND 37167 72763	Former steading
13	ND 37025 72796	Additional stretches of stone rubble walling to the north of site 12
14 & 15	ND 37234 73162	Two small areas of possible former walling

10.2 Sites 1 – 5, 8 & 9 have been dealt with in previous sections.

10.3 Site 7, Mill House, appears on the 1877 Ordnance Survey map as a simple north/south linear building although by the time of the 1907 map, it has an extension to the west. Today, the building is covered in a roughcast render with a smooth rendered footing course and surrounds to the openings with a pitched slate roof, raised dormers and another flat extension to the south side (Plates 137). Site 6, presumably a former outbuilding, has now been demolished and replaced with a modern shed (Plate 138).

10.4 Sites 10 refers to an L-shaped cottage to the corner of a plot of land to west of Mill House which also appears on the 1877 Ordnance Survey map. It is now referred to as Horseman's Cottage and is clearly a private residence (Plate 139). Despite being a similar layout, the present is a new build. The 1960 Ordnance

Extract from Ordnance Survey map, 1877 showing L-shaped cottage (10) demolished by 1960 (now replaced with Horseman's Cottage) and barn (11), now demolished



Extract from Ordnance Survey map, 1877 showing steading, highlighted areas survive

Figure 23: General site plan (as provided by PRT through mill owner), showing heritage assets within the site area

Survey map shows the cottage to have been removed, as does the 1968 map. Site 11 is a linear north/south barn which also appears on the 1877 map, although no sign of it could be seen on the ground to the north of Horseman's Cottage apart from some evidence of stone rubble foundations (Plate 140). The 1960 and 1968 maps show the barn to be still upstanding, so was demolished after this, perhaps when Horseman's Cottage was built.

10.5 Site 12 is an abandoned steading, appearing on the 1887 map as an enclosed steading with the gap to the east side. It now survives as a ruin – clearly formerly used as a cow byre – with only the north and west extent surviving (Plates 141 & 142). It comprises stone rubble walling with a pitched and hipped corrugated asbestos roof with very plain surrounds to the openings. It has an upper loading window in the south gable, indicating the presence of a former hay loft with a large barn door below covered in corrugated-iron sheeting. Another barn door is located on the eastern gable (Plate 143). Site 13 refers to some other remains of stone walling located to the north-east of the field in which the steading resides. These are very fragmentary and form the remains of a corner of the wall enclosing the field, possibly relating to the boundary (Plate 144).

10.6 Sites 14 and 15 refer to small areas where stone walling may have survived to the north of the mill, on the west side of the bank, at the top (Plates 145 & 146).

11 INVENTORY OF ARTEFACTS

11.1 The inventory of artefacts has successfully made a reasonable quantification on what objects are still located in the mill. However, the short time afforded in the mill at the time of survey (2.5 days) meant that some objects had to be grouped together. For example, the abundance of objects relating to the workshop in the south end of the ground floor probably numbered the hundreds, so many items were grouped where they were accumulated and/or stored. Additionally, objects of a similar nature (such as planks of wood, iron rods, collections of small tools, etc) were grouped with one number. All artefacts have been recorded in a table with a written description, a photograph and are represented on the floor plans, all in Appendix 2.

11.2 This study has not counted those items that were outside the mill, most of which are located in the small brick lean-to shed to the south-east. Broken asbestos sheeting collapsed in from the roof demanded that a thorough investigation of these was not possible at the time of survey.

11.3 There was a total of 246 artefacts/groups of artefacts identified within the building. Some items were clearly not associated with the mill and were brought in and not related to the mill's industrial activities, such as butter churns, car parts, etc. The table below has quantified the objects in relation to their *type* of artefact. Note that in terms of numbers, some grouped together items fall into different categories.

11.4 Clearly, the table below on page 28 shows that the most abundant types of artefacts are the tools relating to the work of the miller, ranging from small nuts and screws to large wheelbarrows. These items all vary in their condition, with some tools very rusted, some only surviving partially (ie, the single hammerhead) and some now without context or use (ie, horse blinkers).

11.5 The second largest type of artefact located is the working elements of the mill. These clearly mostly represented parts of the mill that had been removed to be replaced, or were 'parts in waiting' before the mill became no longer used.

11.6 The next type of artefacts that are represented include items that have been brought into the mill, although could be considered still of interest in retaining (as opposed to the obvious modern items that have been brought in for storage) such as the butter churns and the spinning wheel. The same could be said of some of the small items such as the tiny glass bottles and tins.

11.7 The structural elements of the building are also represented here, and formed parts of the building that clearly had been replaced at some point, stored in the building for want of any other place for them.

11.8 There are also some modern artefacts, which have largely been brought in for storage, including mostly furniture and doors. However, closer examination of these may be worthy to examine their true age, such as the collection of doors on the first floor, as some of these may be quite old.

11.9 Finally, some random artefacts which could not really be satisfactorily put into other categories (although further examination of their function/purpose may help here) also appear, although they are small in number.

Type of Artefact	No	Descriptions
Modern - items that have been clearly brought into the mill for storage and are fairly modern in date.	15	Concrete slabs, modern cabinet, plastic bags of galvanised items and fence post, modern sink/basin, unidentified wooden part, stack of bricks, plastic bags of fuel (peat), galvanised steel ducting, modern fold-out table, dining table, contents of large chest to the south end of the first floor, curtain rails, modern plastic sheeting.
Non mill – related items (building) - items that are not necessarily related to the operation of the mill but may be part of the building's structure and fixtures and fittings.	16	Gutter, drainage pipe, chimney pot, panes of glass, window frames, some scrap metal and sheeting (possibly once relating to structural elements or roofing), wall brackets, roof light frame, iron sheeting and timber planks relating to the dying room floor
Non-mill related items (brought in) - items that are clearly not related to the mill and its operation and have been brought into the mill for one reason or another but should not really be classed as 'modern' as they are clearly of interest.	21	Desks, doors, cabinets, timber planks, milk urn, cauldron, cylindrical tank , box and drums (all in the husk/sids cupboard), timber beams and posts, plumbing parts, red metal plate (relating to electric fencing), butter churns, mixed car parts (although appear to be quite old), wooden trunk, kitchen/bathroom cabinet, drawer unit, timber spinning wheel.
General Tools - items that are related to the mill-workers' daily maintenance and working of the mill, ranging from sack barrows to nuts and bolts to workbenches, etc.	111	There are far too many to mention here specifically – the tools range (either working/broken or partially surviving) from general workshop tools including nuts, bolts, screws, spanners, hammers, vice, drill bits, hoes, brooms, shovels, barrows, parts of former barrows, horse apparatus (in that the horse would have been a 'tool' to facilitate the miller in his work), bushels, sack trolleys, scales, weights, worktables and benches, shelving units, pry bars, crow bars, grain scoops and pans, oil cans, rope ladder, etc.
Working Elements - items that were once part of the integral machinery or gearing or other workings of the mill such as former millstones, gear shafts, sacks, etc.	77	Timber hopper, various wheels, including a possible early waterwheel and other wheels relating to gearing machinery, wheel rims, chains, hoists, sacks, bearing box moulds, large wooden chests (in that they would have been used for storage of the grain), machine parts, small ?water tank attached to the gearing cupboard wall, screens, chains, old motors, belt drives, piping, timber boarding (insofar as these would have formed part of the structural element of the machinery/gearing), cereal bruisers (second floor), winnowing machine/fanner (first floor), remains of redundant grain elevators, millstones and their spiders, drive belts, gurnels, bucket staves, spare tiles for the drying room floor.
Small items - items that may/may not be related to the workings that went on inside the mill.	6	Small wooden box (random items inside), plastic bucket (assorted wood inside), timber chocks, metallic sign/plate, glass bottles, small tins, candle holder,
Random - items that do not fit into any of the categories above.	5	Scrap metal pieces, wooden box (buried beneath husks in husk/sids cupboard), randomly shaped timber item (function unknown), rusted metal grill, assorted wooden blocks.

12 THE GEOPHYSICAL SURVEY

12.1 A geophysical survey was undertaken on specified areas of the site a week after the on-site works to identify the potential presence of earlier buildings or other archaeological remains in and around the site. The full report on the findings can be found in Appendix 3.

12.2 Figure 24 shows the areas that were surveyed which were divided into Areas A, B and C. Area A was located to the west of the burn on a relatively flat area of land right up to the east side of the abandoned cottages. Area B was located to the immediate east side of the Cromwellian bridge in an attempt to see whether there were any remains of the 1818 mill or an earlier mill. Area C was located within the open fields to the east of the mill, which was suggested by the Princes Regeneration Trust as a potential area where a car park could be located in the future.

12.3 In Area A, the data was relatively quiet, although there were some readings detected to the east of the survey area, with possibly walled areas seen at the break of the slope down to the burn.

12.4 Area B was an even smaller area of survey (a hope to find the remains of the 1818 mill) so any results would have been difficult to interpret. High resistance readings were located, although again these could be due to the slope of the surrounding ground and extant walls.

12.5 In Area C, the radiometry only exposed variations in the topsoil and subsoil and may also have been affected (to the north side) by modern building debris. It also detected the presence of field drains. Area C was also subject to gradiometry, which yielded a low response apart from against the fence abutting the boundary of the mill to the west side of the field. Two sets of parallel linear features were identified in the field, which have been interpreted as field drains.

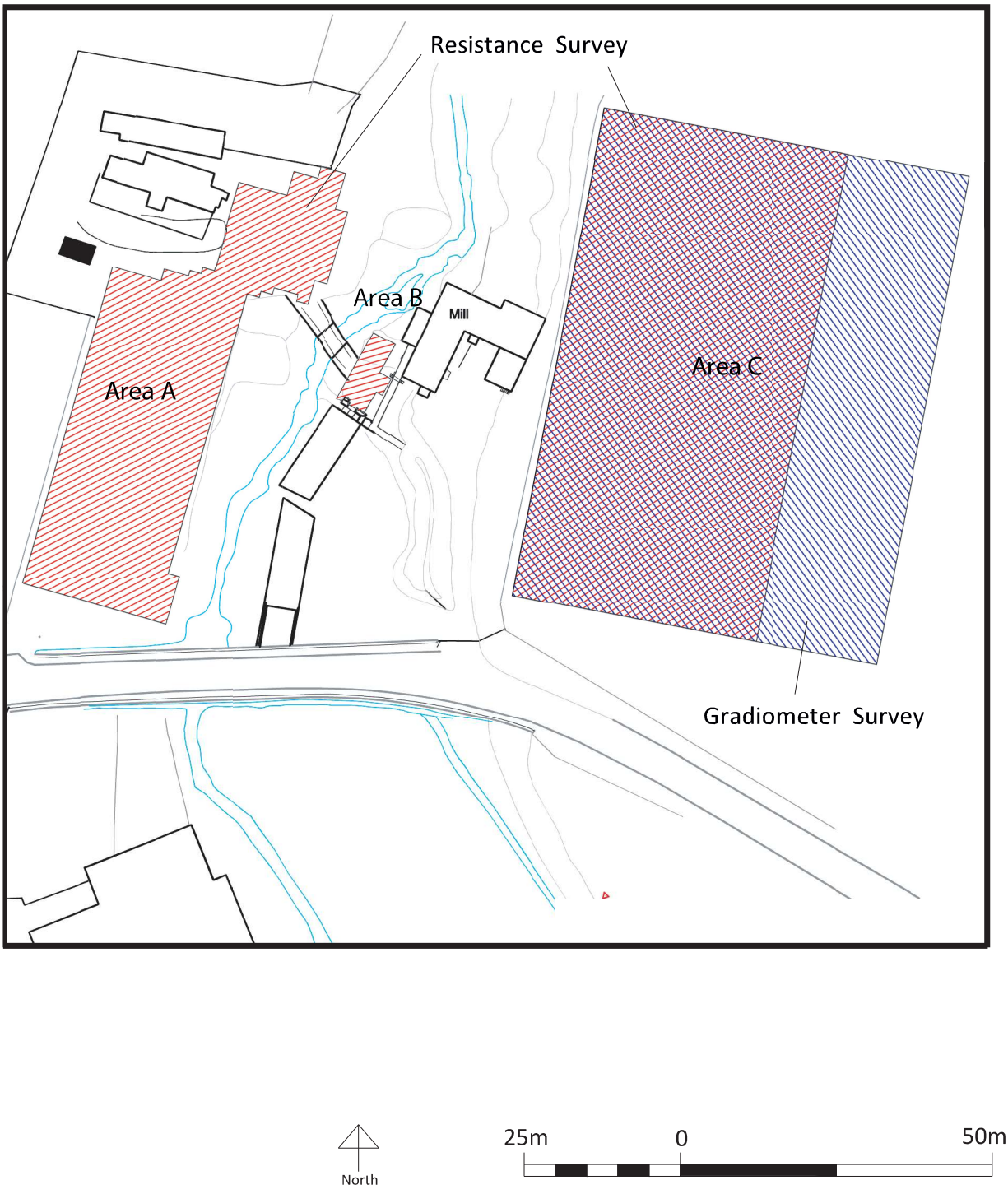


Figure 24: Site plan showing areas covered by geophysical survey (after Rose Geophysics, AOC background plan)

13 DISCUSSION

13.1 The phasing of the mill

13.1.1 It has already been established in Section 4 that there are at least four phases of mill building on the site of the present mill building, the first mill of which dates to at least 1750, probably much earlier. There is no definitive evidence – or none that has been found within the scope of this study – that an earlier mill preceded this or, in fact, that there was a 'Norse' or 'Click' mill on the site. The 1980s investigations by the University of Stirling did not publish their findings or identify why they gave them such a date; they may in fact have been turning up evidence of a much later mill.

13.1.2 Figure 25 outlines the main phases of the mill site and landscape as thus far can be determined, which can be summarised below, and refers to all the *known* phases that can be identified on the site.

Phase 1: Norse activity and later, ca. 9th – 16th century
At the present time, there is little evidence to show that there was Norse activity in area of Huna mill, although there was Norse activity and later in the immediate Huna area, which was noted in the 1980s Caithness Coastal Survey.

Phase 2: Early – Mid 17th century
Cromwell's soldiers built the bridge over the burn in 1651 according to secondary sources. It is known that Cromwell led the Scottish campaign in 1650 and 1651, which is presumed to be why these dates have been assigned. Another source also mentions that a mill was present on the site in 1600 – again, no sources could be found to confirm this.

Phase 3: Pre-1750
A mill is known to exist at this time when it was taken over by the Houstons. However, it is unknown what form this mill took and where exactly it was located, or indeed when exactly it was built, although thr 1817 plan (Figure 3) gives us a clue as to its potential location.

Phase 4: 1818
In 1818 the pre-1750 Phase 2 mill was presumably pulled down and rebuilt, located to the east of the Cromwellian bridge. Whether this is the one depicted in the 1817 map is unclear, although simply looking at the dates would suggest that this would have been the earlier mill. It would have been logical that this would have replaced the Phase 1 mill given the investment and operation of the mill lade in this position.

Phase 5: 1840s
The early-mid 19th century saw huge changes to the mill. A larger threshing mill replaced the 1818 mill and appears to have been located further to the east, on the site of the present mill. A flour mill was then also constructed to the south of this, what is now the northern mill cottage. Power for the wheels appears also to have changed from an undershot arrangement to an overshot to both mills; it is known that an overshot wheel generally creates more power than an undershot, although also requires slightly more engineering to execute and the lade was rearranged to accommodate this with a timber lade. The 1877 maps probably shows this arrangement best, with the lade angling around to the west to the north side of the northern mill cottage and also accommodating the threshing mill to the north on its west side. This huge expansion of the site may have also initiated the construction of the mill pond, or at least the enlargement of it (the mill lade presumably still in existence in the 18th century). Other sites from the walkover survey were also established in at least this phase, including Sites 10 & 11 (L-shaped cottage and barn) and Site 12, a large L-shaped steading to the south.

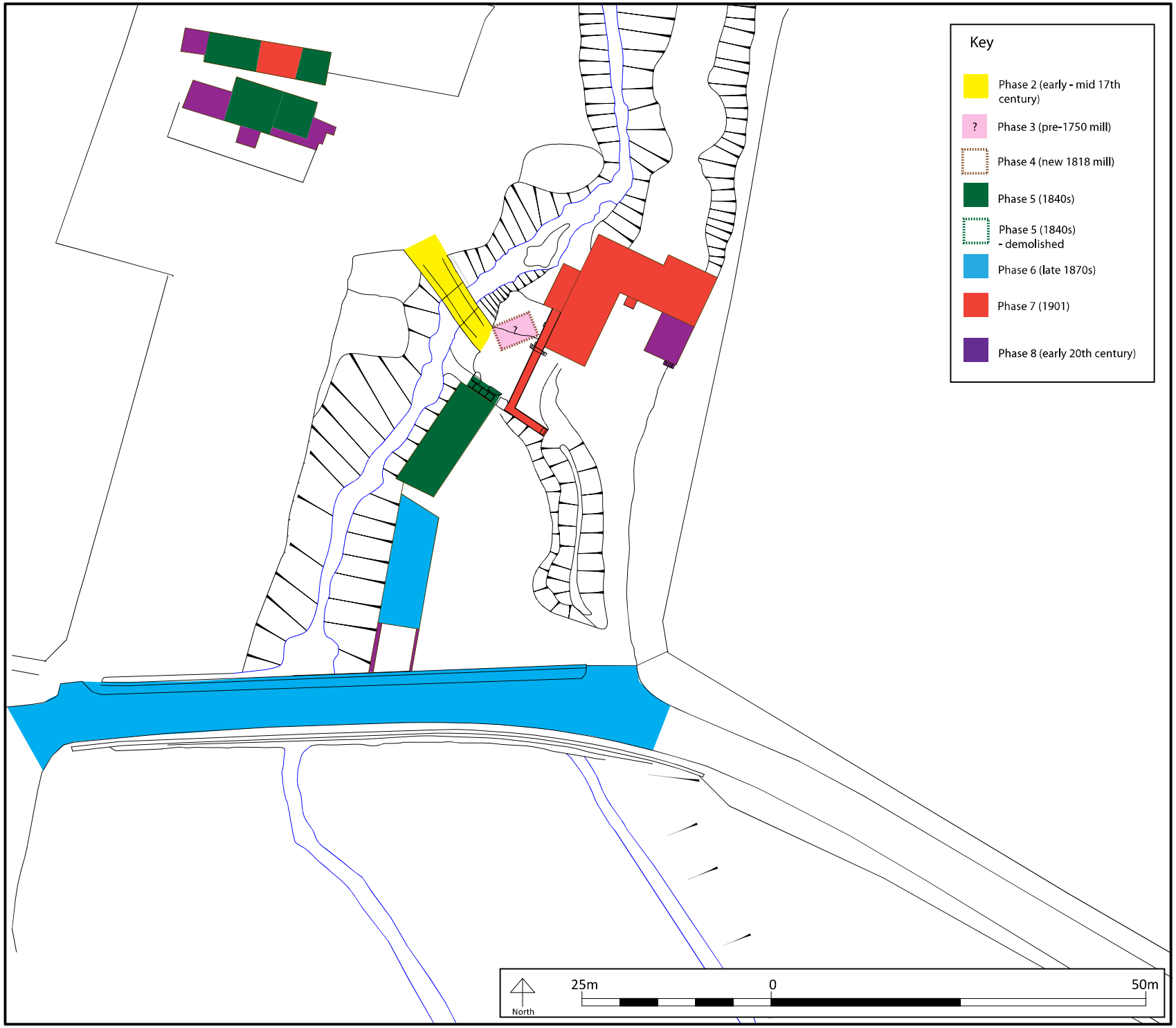


Figure 25: Phased plan of the site

Phase 6: Late 1870s

In the late 1870s, the road to the south of the site was created. Previously, as can be seen on the 1877 map (which was in fact surveyed in 1873) the road passed slightly to the south with a ford. The road created the widening of the burn at this point, which may have precipitated the rebuilding of the southern mill cottage, which has a completely different alignment and size comparing the 1877 and 1907 maps. John Nicolson's painting of the site (Figure 7) appears after the road was built with its round-headed archways forming the main road bridge over the burn.

Phase 7: 1901

1901 heralds the construction of the present mill building by the Houstons, to create a new large corn mill, relegating the former corn mill – the northern mill cottage – to a threshing mill. It is likely the timber mill lades were established at this time to fit neatly with the new arrangement. Indeed, there is a clear change in the orientation of the mill lade to the old 1840s mill to the new 1901 mill seen between the 1877 and 1907 maps. Both Mill House and its adjacent ancillary building to its east also appears to have been expanded, although it is unsure whether this took place in this phase or Phase 4.

Phase 8: Early 20th century

After the construction of the 1901 mill there were relatively few changes to the site. Both the mill, northern cottage and southern cottage appear as they do in the 1907 map with the exception of a small stretch of stone rubble walling to the south of the southern cottage forming a cart shed and later garage. The southern abandoned cottage has also been expanded to the north and south by at least 1960.

13.2 The workings of the mill

13.2.1 The character of the 1901 mill has remained much in the same arrangement today as it was when first built and it appears that the general constructional elements have remained. Of course, there will have been changes and adaptations during the 100 years of its use throughout the 20th century as technologies improved, although the essential arrangement of the workings of the mill have remained the same. The arrangement, power transmission systems and organisation of how the mill worked has been discussed in detail by others (Bennett & Elton 1973, Brown 2011, Reynolds 1970, Syson 1965, Watts 2006, Wenham 1989 and Wilson 1973), although each mill it should be said, worked in its own way, accommodating the miller's capacity and own arrangements. More knowledge about the specifics of the power transmission of John O'Groats Mill will come with the detailed drawings which will be produced by the RCAHMS in April 2013 and it is clear, given the completely enclosed gearing shed taking up the entire west wall of the ground floor, that this was a very organised mill from the outset.

13.3 The walkover survey

13.3.1 The main sites included in the walkover survey have been mentioned above in terms of phasing. Bar the main buildings associated with the mill, the mill itself, the Cromwellian bridge and the mill pond and lades, no new heritage assets of significance were identified within the land ownership of the mill owner. Site 11 (10 demolished prior to 1960) to the west of the site are now part of a private residence, the now-demolished Site 11 most probably being a barn/outbuilding. Site 12 to the south is a much larger steading range, although is fairly typical of its type, probably dating to the early 19th century. Its condition is poor, and is in a very isolated position. The two stretches of wall to the north of the abandoned cottages were extremely overgrown and more investigation of these would be needed to see whether they are anything more than field boundaries. They could well be part of a boundary wall that once existed at the top of the steep slope on this side.

13.4 The artefacts

13.4.1 General Comments

The artefacts currently stored within the mill have been classified into seven broad categories summarised in section 11.1 and referenced individually within the inventory of artefacts (Appendix 2). These categories are useful in determining what should be retained within the building, either for display or storage, or removed for discard. The artefacts can be split into a further five categories based on display/retention value:

i. items related to the working of the mill or local cottage industries which would be of public interest and are potential candidates for display;

ii. mill fittings and tools to be retained but not displayed;

iii. local interest items and tools to be retained but not displayed;

iv. internal timber fittings, cabinets and tables which could be re-used for storage of items not on display;

v. broken and/or modern items not suitable for display and limited retention value. Items which fall into the latter category are recommended for discard.

Priority for retention should be given to items identified as tools relating to the use of the mill and working elements of the mill machinery and gears, particularly intact artefacts. Fragmentary items will have a limited value and are unlikely to merit display but some, particularly components relating to the original mill machinery, may be worth retaining due to their historic association with the building.

Modern items, which include concrete slabs, modern furniture, fencing and plastic sheeting, which have been brought into the mill for storage should be removed as should most non-mill related building materials. These have no display potential and do not relate to the story of the mill.

Other non-mill related items such as wooden cabinets, timber beams and posts and plumbing also have limited potential and retention value although a small number of tools clearly relate to traditional activities such as dairying (ie, milk urn, butter churns), textile manufacture (ie, the spinning wheel) as well as general horse-harness fittings which would be worth retaining for their local history connection. Many of these items could be displayed as examples of local cottage industries that were taking place in Caithness contemporary with the use of the mill. Broken items, such as the damaged and incomplete iron cauldron, are of limited value; cauldrons were common cooking vessels in use until the late 19th century/early 20th century in some areas and the retention of this particular example is not recommended.

Many built-in wooden furnishings (such as 0/012, 0/022, 0/048, 1/023, 0/050) including large plank-built lidded crates could be retained and reconditioned to function as storage for the reserve artefact collection.

13.4.2 Object condition, conservation recommendations and display potential

The artefacts are dominated by robust cast-iron fittings and tools with smaller numbers of tinned and galvanised steel objects, brass fittings, textile sacks, leather straps and horse equipment, glass bottles and stone millstones and grinding stones. Examination of the objects confirms that they range in condition from poor to good and that a large number are fragmentary, particularly the modern, non-mill related items and general tools.

13.4.3 Iron Objects

The iron objects have favoured particularly poorly due to ambient dampness within the interior of the mill, demonstrated by the development of widespread surface corrosion noted on all examined iron objects (including modern equipment and iron strapping on wooden furniture and fixtures). In most circumstances the corrosion appears to cover the entire exposed surface of the artefact and has resulted in iron-staining transferring to non-metal surfaces of composite or closely associated objects (such as millstone 1/008). Despite the corrosion, most of the iron objects appear stable; the corrosion appears limited to the surfaces rather than penetrating to the core of object. Conservation would be recommended on items chosen for display and storage to remove surface rust. This would involve a three stage process:

i. mechanical cleaning of corroded surfaces;
ii. stabilisation of exposed surfaces using an application of tannic acid;
iii. protection of stable surfaces by the application of conservation-grade lacquer or wax.

Priority for conservation is recommended on items selected for eventual display but non-display quality iron mill equipment may also benefit from stabilisation prior to storage. The eventual function of the mill interior will obviously determine the potential for display (ie, open display, wall mounted items, within cases) but it should be borne in mind that the display conditions may affect conservation recommendations and potential.

Other metal objects including galvanised or tinned sheet metal items are less badly corroded but surface spot rusting and blistering is noted on most items, particularly those associated with bird droppings. General cleaning of the surfaces to remove dirt/droppings should be followed by selective treatment of affected areas on artefacts selected for display/retention.

Smaller iron tools retained for storage could be packed in conservation standard, inert, plastic boxes with silica gel for long term storage. Silica gel is used to remove any moisture from the objects as a way of reducing the development or progression of surface corrosion. Humidity indicator strips would be included in each of the boxes to ensure that the stable condition is maintained. It will be necessary for these strips to be monitored periodically by site staff to ensure that the silica gel is not exhausted. If the silica gel becomes exhausted it will need to be replaced or regenerated. This material should not be handled without protective gloves.

13.4.4 Textiles

Textiles are present in the form of rope and hessian sacks for containing grain. Many of the grain sacks are marked with the company or place of origin and are of direct historical interest to the working mill. In general, their condition appears to be stable although many are dirty and some have adhering bird droppings and paint spills. Those selected for display should be those which are undamaged and where the markings are clearly legible. All undamaged, legible sacks would merit retention due to their association with the mill. Both those intended for display and those simply to be retained as a reserve collection would merit dry cleaning to remove surface dirt and assessment by a conservator is recommended to confirm that they are free of insect infestation. There is little merit in retaining damaged/heavily stained unmarked sacks. Those selected for retention but not display should be stored in an acid free box and wrapped in acid-free paper. Periodic monitoring to ensure the textiles are free from insect infestations is recommended.

13.4.5 Stone

The stone items such as the millstones, hand-operated disc quern and grinding stone are in good condition and are stable. Iron staining from associated 'spider' fittings and general dirt is present and should be assessed on site by a conservator to determine whether this can be removed mechanically. The millstones

relate directly to the use of the mill and are obvious candidates for open display in the refurbished mill. Due to the large size and weight of these objects it will be necessary to consider how best to display such items because if they are to be retained in their current vertical position they will require mounting to ensure that they are stable to avoid any health and safety concerns.

13.4.6 Leather

Small numbers of leather objects relating to the mill machinery are present as well as horse harnesses and other horse equipment. The condition of the leather appears to be generally good but in most instances the material has dried out and is cracking. Surface cleaning would be recommended to remove any residual dust and dirt and any items selected for display should be waxed to protect and stabilise the surface. On site assessment by a conservator would be beneficial to ensure that no mould growth is present. Any leather items retained for storage would be best stored in acid-free boxes, wrapped in acid-free paper, for long term curation.

13.4.7 Timber Chests

Some of the larger *in situ* wooden chests on the first floor of the mill have pencil markings which are contemporary with the life of the mill. Careful cleaning of the wooden surfaces to reveal dust and dirt is recommended which will enhance these markings. On-site assessment by a conservator is recommended to determine whether the application of a wax or lacquer over the markings is required for their long-term preservation.

13.4.8 Drying room floor

The drying room floor (2/040) which consists of a grid layout of thin square perforated iron plates is heavily corroded and unstable and therefore it is not possible to stand on the surface (Mrs S Houston, pers comm). The condition of the iron plates is difficult to assess off-site but due to the thinness of the plates it is likely that they are brittle and have lost much of their original strength. Surface conservation could be undertaken to clean, stabilise and protect the surfaces for aesthetic value but it is recommended that a building conservator is consulted to determine the potential structural options for this feature, if it is felt that this, as an important area on the functioning of the mill, should be retained.

13.4.9 Selecting display items

In selecting items for display, many factors have to be considered both in terms of the historic significance of the object to its surrounding context and the story that it can tell about the working life of the mill. What also has to be considered, however, is the practical issues of conserving and preserving the artefact for long-term stability and what the best options are for display to maximise public engagement. Some questions that could be asked are:

i. Does the artefact relate directly to the working life of the mill either functioning as a tool, machine part or fitting? If yes, is the artefact intact and stable or are conservators needed to be involved to bring it to display standard?
ii. Does the artefact have the potential to be informative about the working life of the mill to a member of the public in its current condition and will that function be easy to understand?
iii. Does the artefact have the potential to be put back in use as an interactive display element and would this present any health and safety issues for the visitor?
iv. How will the item be displayed (on open display, in case, mounted to wall?)?
v. Are there any other safety hazards that need to be considered if on display?

Over 50 items amongst the collection have been identified as having potential for display and are listed in the table below. These focus on objects which relate directly to the use of the mill and elements of mill machinery and equipment which have the most potential for visitor recognition and interest. Amongst this group are items which have the potential to be used as *interactive* display elements or are components of mill equipment which may be able to be *re-assembled* to give a more vivid demonstration of the workings of mill during its use. Other suggested items include horse equipment which can help to illustrate aspects of grain transport from and to the mill and assist in painting a picture of how the mill contributes to grain and flour production and consumption in Scotland and beyond by highlighting the movement of stock by horse-powered vehicles.

All of the objects recommended for display require basic cleaning and individual conservation recommendations are also noted on the table below with suggestions for display. It is likely that some of the basic aspects of cleaning and repacking for storage could be assisted by local volunteers.

The artefacts within the mill were wide and varied, although were dominated, as one would expect, by the tools and working elements of the mill. Section 11 has successfully identified what types of artefacts are within the mill, and here we can discuss their significance.

Artefact Number	Short Description	Condition/conservation requirements	Display potential
0/001	Freestanding timber hopper	General surface clean of wood to remove residual dust and dirt; conservation of iron strap fittings to stabilise	Open display/in case
0/006	Iron Wheel	Fairly heavy surface corrosion; conservation required to remove rust, stabilise and protect surfaces.	Wall mounted display?
0/019	Iron weighing machine	Heavy surface corrosion; conservation required to remove rust, stabilise and protect surfaces.	Open display on plinth/in case
0/021	Wooden scoop	Condition good; general surface clean to remove dust and dirt	Open display
0/023	Weighing machine	Corroded in places; conservation required to remove rust, stabilise and protect surfaces.	Open display
0/024	Iron Weights (multiple)	Heavy surface corrosion; conservation required to remove rust, stabilise and protect surfaces.	Open display
0/029	Scales (late 20th century)	Condition good; general surface clean to remove dust and dirt	Open display
0/020	Open wooden box with 'Wick' label: general local interest	General surface clean of wood to remove residual dust and dirt	Open display - could be used to contain other display items
0/051	Timber cabinet with marked components	General surface clean. Some of the compartments appear damaged and some timbers may need to be replaced. NB: The bolts, etc, that are contained within it are in a range of conditions and are unlikely to be worth retaining.	Open display - could be used to contain other display items
0/052	Two-man saw	Iron blade is corroded; surfaces need to be cleaned, stabilised and protected	Wall mounted display/ in case?
0/060	Iron cog or gear for mill machinery	Condition good; general clean of surface, low level conservation may be required	Can this be put into use as a working display component? Or wall mounted display?
0/061	Milk urn; not mill equipment but of general local interest	Surfaces corroded; surfaces need cleaning, stabilisation and protection	Open display or in case
0/062	Waterwheel	Iron components corroded and require surface cleaning and stabilisation. Paint on wooden surfaces is chipped and damaged and would benefit from surface clean	Can this be put into use as a working display component?

0/110	Textile sack marked 'Houston' (mill owner's name)	Conservator to check for insect infestation; dry clean to remove dust/dirt	Could this be put into use as a working display component?
0/134	Horse harness attachments	Surfaces corroded; surfaces need cleaning, stabilisation and protection	Component of a small display case about the use of horses in relation to the mill?
0/136	Horse harness	Leather & brass: conservation required to stabilise both the leather and brass	Component of a small display case about the use of horses in relation to the mill?
0/137	Horse harness attachments	Surfaces corroded; surfaces need cleaning, stabilisation and protection	Component of a small display case about the use of horses in relation to the mill?
0/138	Blinkers for horses	Leather & iron: iron will need to be stabilised, leather needs to be cleaned and surfaces waxed	Component of a small display case about the use of horses in relation to the mill?
0/139, 0/140	Cart wheels	Condition good: general surface clean	Wall-mounted display
0/147	Wooden scoop	Surface clean	In case
0/154	Wooden paddle-ended tool	Condition very good; surface clean only	Wall-mounted display
0/157	Iron Anvil (general interest)	Surfaces quite badly corroded: conservation to clean, stabilise and protect required	Open display
0/165	Hand-powered Grinding wheel for sharpening metal blades	Wooden frame is in bad condition and looks unstable: on site conservation assessment is required to determine whether suitable for display	Open display - condition of object may preclude this
0/166	Timber lade with steel base	Condition good, steel component needs to be assessed	Wall mounted display
1/001	Manual cereal bruiser	Condition good, some spots of corrosion may need treatment	Open display
1/002	Powered cereal bruiser	Condition generally good but some active corrosion which will require treatment	Open display
1/005	Late 19th Century butter churner	Condition generally good but steel fittings may need spot treatment for surface corrosion	Open display
1/006	Iron weights and hanging scales	Heavy surface corrosion; conservation required to remove rust, stabilise and protect surfaces. NB: current position of the hanging scale may case logistical issues for cleaning, so could be taken down and hung back up again	Open display
1/007	Mill tools (iron): select items	Condition good; general conservation to remove surface corrosion	In case?
1/008	Millstone	Stable. Iron staining on grinding face - conservation assessment required to see if this can be removed	Open display/re-mounted in original position
1/009	Millstone	Stable. Iron staining on grinding face - conservation assessment required to see if this can be removed	Open display/re-mounted in original position
1/010	Grinding wheel	Stable. Iron staining on grinding face - conservation assessment required to see if this can be removed	Open display
1/011	Hand-operated quernstone	Stable.	In case?
1/013	Hand driven winnowing machine	Surfaces require general cleaning to remove dirt and dust. It is recommended that the detached components of this machine are reassembled	Assess to see if possible to get back to working order as interactive display element

1/019	Assorted iron tools including large callipers, pliers, bore etc associated with general mill maintenance and working	Selection of these items would be worth conserving to stabilise	In case
1/024b	Textile sack	Stable. Requires assessment for insect infestation. Dry clean to remove surface dirt	Could this be put back into working use?
1/053	Iron Pulley System	Heavy corroded. Conservation required to remove surface corrosion and stabilised	Could this be re-assemblaged in original position?
1/056	Iron Pulley System	Heavy corroded. Conservation required to remove surface corrosion and stabilised	Could this be re-assemblaged in original position?
1/064	Iron Scales	Surfaces corroded; surfaces need cleaning, stabilisation and protection	Open display
1/066	Barrow	Condition looks good - general surface clean only	Open display holding sack full of grain?
1/077	Wooden tools	Condition good - general surface clean only	In case
1/080	Iron Pulley System	Heavy corroded. Conservation required to remove surface corrosion and stabilised	Could this be re-assemblaged in original position?
2/001	Spinning wheel	Conservation assessment required: timber looks a little unstable and may not be suitable for open display. Surfaces are very dirty and require surface clean	Open display?
2/003	Wooden bushel	Conservation good: surface clean only	Could be used on display to hold other objects
2/006	Nails	Condition good: surface clean only	In case?
2/008 & 2/009	Textile sacks with markings	Condition poor to good: some contaminated with bird droppings/are damaged. Better condition examples could be dry cleaned to remove dirt and conservation assessment to confirm no insect infestation	Could this be put into use as a working display component?
2/012	Iron Sack barrow	Iron is heavily corroded: surfaces need cleaning, stabilisation and protection.	Open display holding sack full of grain?
2/014	Assorted ink bottles; relating to the mill office	Stable: surfaces may require general cleaning to remove dirt	In case
2/019	Two-person saw	Surfaces coated in bird droppings and iron blade corroded; conservation required to stabilise	Could be wall mounted
2/024	Iron Scale fittings	Surfaces corroded; surfaces need cleaning, stabilisation and protection	Could this be re-assemblaged in original position?
2/025	2 x long handled tools	Condition good. General surface cleaning and spot treatment on iron collar	Wall mounted or in case
2/040	Perforated iron tiles: drying room floor	Heavily corroded and brittle in appearance (not safe to walk on). Aesthetic conservation of the surfaces would be possible to remove corrosion but access is a problem due to instability of feature. Scaffolding may be required for access. Recommend assessment by a building conservator to determine whether it is viable to retain this feature.	See Section 13.4.8.

13.5 The geophysical survey

13.5.1 The geophysical survey did not identify anything conclusively that could be a building within the confines of the mill. The field to the east (within the scope of study at least) appeared free from any archaeological structures, restricted to land drains and appears therefore to have always been pastoral land. The areas around the mill – A and B – were quite small areas to survey, so there may have been some interference with the results. However, the results suggest that there may be remains of the 1818 mill or earlier (and possibly earlier evidence of a previous alignment of the mill lade) within the area to the immediate west of the present mill.

14 RECOMMENDATIONS

14.1 The combined survey and recording working that has been undertaken and reported on above has demonstrated the requirement for a number of ways forward for the next phases of work. These have been summarised below with ideas of how they can be implemented and what they would bring to the overall project.

14.2 Further archaeological investigations

It has been acknowledged that there may be an element of archaeological investigations associated with later phases of the project. If so, it is suggested that the areas to the west of the mill and the Cromwellian bridge be subject to further investigations such as cleaning up of the top of the stonework of the bridge to identify any original road surfaces and perhaps trial trenches to see if any further evidence of the earlier mill(s) can be found. Unfortunately, without any published record of the 1980s investigations, we cannot be sure whether any or all evidence has been removed. But our knowledge of the site history, early drawings and the geophysical results can at least give us an idea of where the original mill is likely to be located, if it has not been removed by the foundations of later mills.

14.3 The Artefacts

Section 13.4 above has comprehensively recommended specific items for display and their conservation needs, and any further recommendations with regard to the artefacts rest very much with the decision on what will ultimately be the new function of the mill – ie, what is going to be retained, or converted, or put back to use, etc. A brief estimation of the time to undertake all that is recommended in the aforementioned section above (apart from the drying floor) is two conservators (AOC has an in-house conservation department) for one week on site; there is scope for some community participation in these activities under supervision.

14.4 Oral Histories

The mill owner, Magnus Houston, has made a recording of his time working in the mill which forms one of the most valuable resources of the workings and history of the mill (P Megson, pers comm). One potential avenue for engaging the community - and also to create a valuable resource for any future display/interpretation centre in John O'Groats or the mill – is to set up an oral history programme in the parish to identify memories not only of Huna and the mill but John O'Groats in general.

A previous project was undertaken in 2010 by the Dunnet and Canisby Community Council to develop a plan for an historical exhibition and the community involvement in that project appears to have been very favourable. Clearly, some research into the stories and photographs that were shared during that project can go some way to establishing whether any more histories of the mill can come to light. Two years previously, another oral history project centred on Mallaig on the west side of the Highlands was

undertaken (Mallaig History Project 2008). The success of this project, and research into how it was achieved, can be looked into and used to see what can be achieved in John O'Groats and Huna.

14.5 Community involvement

Whatever the next phase of works, there is a huge scope for involving the community in the work and involving them in the process. Ten volunteers in total attended the on-site work as part of this survey, ranging from local people to regular community volunteers from Thurso and Wick and even Glasgow with only one and a half weeks' notice. Therefore, a longer lead in to the next phase of the project will undoubtedly bring in additional interest and practical involvement. As well as the community being actually involved in the work, be it excavation, recording or conservation work, an open day can be set up, together with potentially school or general visits with short tours. It is also recommended that the blog be retained and regularly updated to help reach a wide audience and report on activities to the local community and all stakeholders in the project.

15 CONCLUSIONS

15.1 This survey has successfully achieved an identification of the history and development of the mill and has hopefully gone a long way in understanding this important site which has survived in relatively good condition, a fine example of an early industrial process which has persevered well beyond the decline of its contemporaries. A preliminary phasing of its landscape has been established, which will hopefully be augmented with additional work by the RCAHMS to better inform the final experience of the site for the local community and tourists alike. The measured survey has also formed a benchmark for the conservation process which, once added to the RCAHMS drawings, will from comprehensive record of the mill.

16 ACKNOWLEDGEMENTS

16.1 AOC would like to thanks Mrs S Houston in allowing access to the mill and for providing a short tour and other information on the mill's history and its landscape during the on-site work.

16.2 Thanks must also go to the ten volunteers who, at short notice, helped with the survey of artefacts in the mill and also with the walkover survey, topographic survey and photographic survey. In alphabetical order: Jeri Cormack, Colin Drennan, Eric Duncan, Chris Hobson, Paul Humphries, Kenneth McElroy, Colin Manson, Pauline Megson, Robert Roy and Andi Wakeman. Thanks especially to Colin Drennan and Eric Duncan who formed part of the team for the entirety of the time that we were on site and also to Pauline Megson of the Princes Regeneration Trust for helping facilitate aspects of the recording process and assisting with the inventory of artefacts survey.

Plate 1: General view of the mill from the SSE

Plate 2: General view of the mill from the north-west

Plate 3: General view of the mill from the south-west

Plate 4: General view of the mill from the north-east

Plate 5: The mill, general view of the south gable from the SSE

Plate 6: The mill, detail of the 'garden feature' to the south gable from the south

Plate 7: The mill, detail of the 1750 – 1901 datestone to the top of the south gable, from the SSE

Plate 8: The mill, general view of the east elevation of the main mill to the south side, from the east

Plate 9: The mill, detail of the main entrance to the mill to the south bay of the east elevation, from the east

Plate 10: The mill, detail of the ground floor window in the east elevation, from the east

Plate 11: The mill, detail of the square building tie in the east elevation, from the east

Plate 12: The mill, general view of the south elevation of the main mill and kiln, from the south

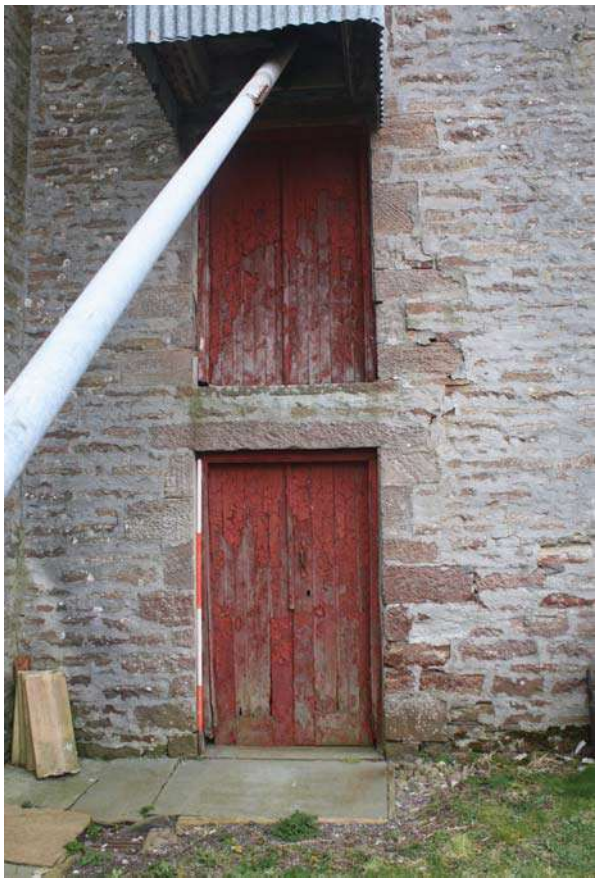


Plate 13: The mill, detail of the ground and first floor openings to the south elevation of the main mill, from the south

Plate 14: The mill, detail of the ground floor of the south elevation of the kiln from the south-west

Plate 15: The mill, general view of the upper floors of the south elevation of the kiln from the south-east

Plate 16: The mill, detail of the easternmost large rectangular building tie on the south elevation of the kiln, from the south-east

Plate 17: The mill, general view of the brick lean-to shed against the south elevation of the kiln, from the SSW

Plate 18: The mill, general view of the east elevation from the east

Plate 19: The mill, general view of the east gable of the kiln from the south-east

Plate 20: The mill, general view of the north elevation from the north

Plate 21: The mill, general view of the north elevation of the mill, from the north

Plate 22: The mill, detail of the small door in the west bay of the north elevation of the mill, from the north-east

Plate 23: The mill, general view of the north elevation of the mill, from the north-west

Plate 24: The mill, detail of the small chute and bearing block to the base of the north elevation of the mill on the west side, from the north

Plate 25: The mill, general view of the west elevation from the west

Plate 26: The mill, detail of the wheelhouse on the west elevation from the NNW

Plate 27: The mill, Room 0/1, general view of the stone flagged floor from the north-east

Plate 28: The mill, Room 0/1, detail of the main entrance in the south side of the east wall, from the west

Plate 29: The mill, Room 0/1, general view showing the stair, from the south-west

Plate 30: The mill, Room 0/1, general view looking towards the south wall showing the workshop area, from the north

Plate 31: The mill, Room 0/1, detail of the artefacts in the south-west corner, from the north-east

Plate 32: The mill, Room 0/1, detail of timber hopper to the immediate south of the main door on the east wall, from the north-west

Plate 33: The mill, Room 0/1, detail of the splayed window to the east of the south wall, from the NNW

Plate 34: The mill, Room 0/1, detail of the south end of the gearing cupboard, from the east

Plate 35: The mill, Room 0/1, detail of the south end of the gearing cupboard from the south-east

Plate 36: The mill, Room 0/1, detail of the south end of the gearing cupboard from the SSW

Plate 37: The mill, Room 0/1, detail of the north end of the gearing cupboard from the SSE

Plate 38: The mill, Room 0/1, detail of the north end of the gearing cupboard from the NEE

Plate 39: The mill, Room 0/1, general view of the east wall from the NNE

Plate 40: The mill, Room 0/1, detail of the window in the east wall from the NWW

Plate 41: The mill, Room 0/1, general view of the north end of the gearing cupboard and doorway to the husk (sids) cupboard, Room 0/2, from the south

Plate 42: The mill, Room 0/2, detail of the west side of the north wall of the husk cupboard from the south-east

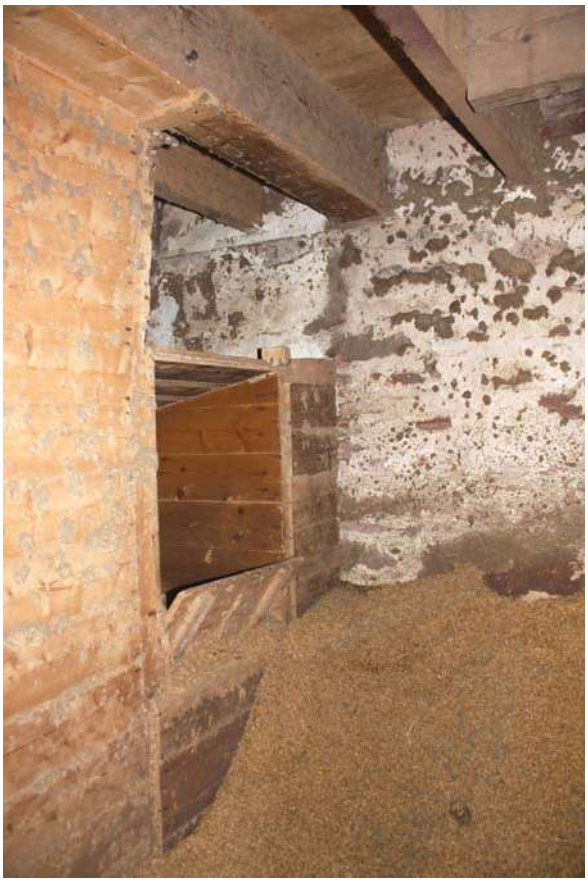


Plate 43: The mill, Room 0/2, detail of the west side of the south wall of the husk cupboard showing the timber chute from the winnowing machine within, from the north-east

Plate 44: The mill, Room 0/2, detail of the window in the north wall, from the SSW

Plate 45: The mill, Room 0/1, detail of the double doors through to Room 0/4 from the west

Plate 46: The mill, Room 0/3, general view of the timber hoppers from the SWW

Plate 47: The mill, Room 0/3, general view of the south wall from the NNW

Plate 48: The mill, Room 0/3, detail of the window on the north wall, from the south

Plate 49: The mill, Room 0/4, detail of the furnace opening in the east wall from the west

Plate 50: The mill, Room 0/4, general view of the underside of the drying floor looking up from the base of the furnace

Plate 51: The mill, Room 0/4, general view of the south wall from the NNW

Plate 52: The mill, Room 0/4, detail of the door to the west wall from the east

Plate 53: The mill, Room 0/4, detail of the small passageway to the south from the west

Plate 54: The mill, Room 0/4, detail of the small passageway to the north from the west

Plate 55: The mill, Room 0/4, detail of the small passageway to the east from the west

Plate 56: The mill, Room 1/1, general view of the south wall from the north

Plate 57: The mill, Room 1/1, general view from the south-east

Plate 58: The mill, Room 1/1, general view of the north wall from the south

Plate 59: The mill, Room 1/1, detail of the loading door to the east wall from the north-west

Plate 60: The mill, Room 1/1, detail of the stair against the east wall from the south

Plate 61: The mill, Room 1/1, detail of the window in the west wall from the east

Plate 62: The mill, Room 1/1, detail of the grinding stones from the north-east

Plate 63: The mill, Room 1/1, detail of the bruiser to the north of the grinding stones from the east

Plate 64: The mill, Room 1/1, detail of the manufacturer's mark on the wheel of the bruiser to the north of the grinding stones from the east

Plate 65: The mill, Room 1/1, detail of the second bruiser to the north, from the north

Plate 66: The mill, Room 1/1, general view of the east wall from the north-west

Plate 67: The mill, Room 1/2, general view of the north wall from the south

Plate 68: The mill, Room 1/2, general view from the west

Plate 69: The mill, Room 1/2, detail of the trap door from the NWW

Plate 70: The mill, Room 1/2, general view of the south wall from the north

Plate 71: The mill, Room 2/1, general view of the north wall from the south-west

Plate 72: The mill, Room 2/1, general view from the north-west

Plate 73: The mill, Room 2/1, general view from the south-west

Plate 74: The mill, Room 2/1, general view of the south wall from the north

Plate 75: The mill, Room 2/1, detail of the hoppers against the west wall form the north

Plate 76: The mill, Room 2/1, detail of the hoppers against the west wall from the south-east

Plate 77: The mill, Room 2/1, detail of the window in the west wall from the east

Plate 78: The mill, Room 2/1, detail of the west side of the north wall from the south

Plate 79: The mill, Room 2/1, general view of the east wall to the north-east wing, from the west

Plate 80: The mill, Room 2/2, general view from the west

Plate 81: The mill, Room 2/2, general view from the north-west

Plate 82: The mill, Room 2/2, general view from the south-west

Plate 83: The mill pond, general view from the north-east

Plate 84: The mill pond, general view form the NNE

Plate 85: The mill pond, general view from the south-east (mill in background)

Plate 86: The mill pond, general view from the SWW

Plate 87: The mill pond, detail of the upright flagstones to the north side, from the east

Plate 88: The mill pond, general view of the main burn on the south side of the mill pond, from the north

Plate 89: The mill pond, detail of the weir, from the SSE

Plate 90: The mill pond, detail of the weir, from the north-east

Plate 91: The mill pond, detail of the stone construction of the west side of the weir, from the east

Plate 92: The mill pond, detail of the timber apparatus fixed to the floor to the west side of the burn, from the west

Plate 93: The mill pond, detail of the opening to the east side of the north wall of the mill pond for the mill lade, from the north

Plate 94: The mill pond, detail of the opening to the east side of the north wall of the mill pond for the mill lade, from the south

Plate 95: The mill pond, detail of the opening to the east side of the north wall of the mill pond for the mill lade, from the east

Plate 96: The mill pond, detail of the capstone over the entrance to the mill pond on the north side, from the east

Plate 97: The mill pond, detail of the bolt fixing over the capstone over the entrance to the mill pond on the north side, from the east

Plate 98: The mill pond, detail of the remains of a timber sluice gate on the north side of the entrance to the mill pond, from the north

Plate 99: The burn, detail of the road bridge from the north

Plate 100: The mill lade, detail of the small capstone over the lead just to the south of the road, from the north-east

Plate 101: The mill lade, general view from the north

Plate 102: The mill lade, detail of the small north-facing entrance to the culvert from the north

Plate 103: The mill lade, general view from the SSE

Plate 104: The timber mill lade, general view of the southernmost east/west lade from the north-east

Plate 105: The timber mill lade, general view of the northernmost north/south lade from the SSE

Plate 106: The timber mill lade, detail of the corner between the two lades, from the north-east - note the hinges for the former sluice gate

Plate 107: The timber mill lade, general view of the southernmost east/west lade showing the stone buttresses supporting it, from the south

Plate 108: The timber mill lade, detail of the small hatch to the east side of the southernmost east/west lade, from the east

Plate 109: The northernmost mill cottage, general view from the east

Plate 110: The northernmost mill cottage, detail of the holes in the lintel of the northernmost window on the east elevation, from the east

Plate 111: The northernmost mill cottage, detail of tiny opening to the east side of the east elevation

Plate 112: The northernmost mill cottage, detail of small blocked-up window in the east elevation, from the east

Plate 113: The northernmost mill cottage, general view of the south gable from the SEE

Plate 114: The northernmost mill cottage, general view of the north gable with waterwheel and wheel pit from the north

Plate 115: The northernmost mill cottage, general view from the north-west

Plate 116: The northernmost mill cottage, general view of the west elevation from the west

Plate 117: The northernmost mill cottage, detail of the wheel pit to the north side of the west elevation from the west

Plate 118: The southernmost mill cottage, general view of the east elevation from the east

Plate 119: The southernmost mill cottage, detail of the stone-blocked window on the south elevation from the south

Plate 120: The southernmost mill cottage, general view of the west elevation from the west

Plate 121: The abandoned mill cottages, general view from the east

Plate 122: The southernmost abandoned mill cottage, detail of porch to the south elevation form the south-east

Plate 123: The southernmost abandoned mill cottage, general view of the west gable, from the west

Plate 124: The southernmost abandoned mill cottage, general view of the north elevation from the NEE

Plate 125: The southernmost abandoned mill cottage, general view of the east gable from the east

Plate 126: The northernmost abandoned mill cottage, general view from the north-west

Plate 127: The northernmost abandoned mill cottage, general view form the NNE

Plate 128: The northernmost abandoned mill cottage, detail of blocked door in the north elevation from the north

Plate 129: The northernmost abandoned mill cottage, detail of the western annexe from the south-west

Plate 130: The northernmost abandoned mill cottage, general view of the west gable from the west

Plate 131: The northernmost abandoned mill cottage, general view of the south elevation from the south-east

Plate 132: The abandoned mill cottages, detail of the small building to the south from the south-east

Plate 133: The Cromwellian bridge, general view of the north face from the north-east

Plate 134: The Cromwellian bridge, general view of the north face from the north

Plate 135: The Cromwellian bridge, general view of the south face from the SSW

Plate 136: The Cromwellian bridge, general view of the top of the bridge from the east

Plate 137: Site 7, Mill House, general view from the east

Plate 138: Site 6, Barns, general view from the NWW

Plate 139: Site 10, Horseman's Cottage, general view from the south

Plate 140: Site 11, building foundations, general view from the north

Plate 141: Site 12, steading, general view from the north-west

Plate 142: Site 12, steading, general view from the south-west

Plate 143: Site 12, steading, general view from the south-east

Plate 144: Site 13, stone walling remains, general view from the south-west

Plate 145: Site 14, stone walling remains, general view from the east

Plate 146: Site 15, stone walling remains, general view from the east

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Appendix 1: Photographic Register

Black & White Print & Colour Digital #1

No	Area	Description	From	Date
1	0/3	Detail of floor	S	5/3/2013
2	0/3	Detail of floor	NEE	5/3/2013
3	0/3	General view of artefacts to the W wall	E	5/3/2013
4	0/3	Detail of door in W wall	E	5/3/2013
5	0/3	General view of hoppers to the NE corner	SWW	5/3/2013
6 – 7	0/3	General view	SSW	5/3/2013
8	0/3	General view	SWW	5/3/2013
9	0/3	General view	N	5/3/2013
10	0/1	General view of floor to S side	N	5/3/2013
11	0/1	General view of floor to N side	S	5/3/2013
12	0/1	General view of floor to N side	N	5/3/2013
13	0/2	Detail of chute to S side to W	NEE	5/3/2013
14	0/2	General view	SE	5/3/2013
15 – 16	0/2	Detail of artefacts to E side	SW	5/3/2013
17 – 18	0/2	General view of window in N wall	SW	5/3/2013
19	0/1	General view	S	5/3/2013
20	0/1	General view of gearing cupboard to N side	NE	5/3/2013
21	0/1	Detail of Nmost E-facing door to the gearing cupboard	E	5/3/2013
22	0/1	General view of gearing cupboard to N side of room	SSE	5/3/2013
23	0/1	Detail of window in E wall	NWW	5/3/2013
24	0/1	General view of artefacts against E wall	NW	5/3/2013
25	0/1	General view of side of gearing cupboard	NNE	5/3/2013
26	0/1	General view of S-facing side of gearing cupboard	SE	5/3/2013
27	0/1	General view of S-facing side of gearing cupboard by steps	S	5/3/2013
28	0/1	Detail of artefacts in SW corner	NE	5/3/2013
29	0/1	Detail of doors and artefacts in S corner	N	5/3/2013
30	0/1	Detail of window in the S wall to the E side (no scale)	NNW	5/3/2013
31	0/1	Detail of hopper to the S of the door, E wall to the S	NW	5/3/2013
32	0/1	Detail of handle to the exterior Nmost leaf of the door in the E wall	S	5/3/2013
33	0/1	Detail of the main door to the E wall	W	5/3/2013
34	0/1	General view of the stair	SW	5/3/2013
35	0/1	General view of the gearing cupboard to the S end	E	5/3/2013
36	-	Registration	-	5/3/2013

Black & White Print & Colour Digital #2

No	Area	Description	From	Date
1 – 6	1/1	General view of the N end of the E wall	NW	6/3/2013
7 – 8	1/1	General view of the N end of the W wall	E	6/3/2013
9 – 10	1/1	General view of the N wall	S	6/3/2013
11 – 12	1/1	Detail of the millstones	SW	6/3/2013
13 – 14	1/1	Detail of the stair	S	6/3/2013
15 – 16	1/1	Detail of the millstones	SSE	6/3/2013
17 – 18	1/1	Detail to the window to the S of the W wall	E	6/3/2013
19 – 21	1/1	General view of the S end of the W wall	SE	6/3/2013
22 – 23	1/1	General view of the SE corner	NW	6/3/2013
24 – 25	1/1	General view of SW corner	NE	6/3/2013
26 – 28	1/1	General view of S wall	N	6/3/2013
29	0/4	General view of artefacts on the E wall	NW	5/3/2013
30 – 31	0/4	General view of the W side of the S wall and window	NNW	5/3/2013
32	0/4	Detail of the door in the W wall, N side (no scale)	E	5/3/2013
33	0/4	Detail of the N wall	S	5/3/2013
34	0/4	Detail of the E wall furnace opening	W	5/3/2013
35	0/3	Detail of the step to the E side	W	5/3/2013
36	-	Registration	-	5/3/2013

Black & White Print & Colour Digital #3

No	Area	Description	From	Date
1 – 2	2/2	General view	SE	6/3/2013
3 – 4	2/2		SW	6/3/2013
5 – 6	2/2		W	6/3/2013
7 – 8	2/1	General view of the E wall	SW	6/3/2013
9 – 10	2/1	General view of the SE corner	NW	6/3/2013
11 – 13	2/1	General view of the S wall	N	6/3/2013
14 – 15	2/1	Detail of window to S of the W wall	E	6/3/2013
16 – 17	2/1	General view of hoppers	SE	6/3/2013
18 – 19	2/1	General view of hoppers	NE	6/3/2013
20 – 21	2/1	General view of hoppers	N	6/3/2013
22 – 23	2/1	General view of E wall	NW	6/3/2013
24 – 25	2/1	General view of E wall to kiln	W	6/3/2013
26 – 27	2/1	General view of N wall	SSW	6/3/2013
28 – 29	2/1	General view of N wall	S	6/3/2013
30	1/2	General view of N wall	S	6/3/2013
31 – 32	1/2	General view of N wall	S	6/3/2013
33	1/2	Detail of trap door	S	6/3/2013
34	1/2	General view to S of wall of kiln	W	6/3/2013
35	1/2	General view of S wall	N	6/3/2013
36	-	Registration	-	6/3/2013

Black & White Print & Colour Digital #4

No	Area	Description	From	Date
1	Mill - East Elevation	Detail of door to Smost bay	E	8/3/2013
2 - 3	Mill - East Elevation	General view	E	8/3/2013
4 – 5	Mill – South Elevation to W	Detail of stone walling to 'garden feature'	S	8/3/2013
6 – 7	Mill – South Elevation to W	General view	SSE	8/3/2013
8 – 9	Mill lade	General view	SE	8/3/2013
10 – 11	Mill lade	General view	NNE	8/3/2013
12 – 13	Mill lade	Detail of corner of lade	NE	8/3/2013
14 – 15	Mill lade	Detail of wooden hatch	E	8/3/2013
16 – 17	Mill lade	General view	NE	8/3/2013
18 – 19	Mill lade	General view of earthwork to S of mill	NNE	8/3/2013
20 – 21	Mill	General view	SSE	8/3/2013
22 – 23	Mill lade	Detail of stonework to culvert at N end	N	8/3/2013
24 – 25	Mill lade	General view	S	8/3/2013
26 – 27	Northern Mill Cottage – East Elevation	Detail of holes for bars on window in N most bay	NEE	8/3/2013
28 – 29	Mill lade	General view	S	8/3/2013
30 – 31	Northern Mill Cottage – East Elevation	Detail of stone-blocked window	E	8/3/2013
32 – 33	Northern Mill Cottage – East Elevation	Detail of openings	E	8/3/2013
34 – 35	Northern Mill Cottage – East Elevation	General view	E	8/3/2013
36	-	Registration	-	8/3/2013

Black & White Print & Colour Digital #5

No	Area	Description	From	Date
1	Mill – North Elevation	Detail of small doorway on Wmost bay	NE	8/3/2013
2 – 3	Mill – North Elevation	Detail of small bearing block and chute to W side	N	8/3/2013
4 – 5	Abandoned Mill Cottages	General view	NEE	8/3/2013
6 – 7	Cromwellian Bridge	General view	N	8/3/2013
8 – 9	Mill – North Elevation	General view of main mill	N	8/3/2013
10 – 11	Mill – North Elevation	General view	N	8/3/2013
12 – 13	Mill – North Elevation	General view of Kiln	N	8/3/2013
14 – 15	Mill – East Gable	General view	SE	8/3/2013
16 - 17	Mill – South Elevation & East Gable	General view	SE	8/3/2013
18 - 19	Mill – South Elevation to E	Detail of building ties to kiln	SSE	8/3/2013
20 - 21	Mill – South Elevation to E	General view	SE	8/3/2013
22 - 23	Mill – South Elevation to E	Detail of the ground floor	SW	8/3/2013
24 – 25	Mill – South Elevation to E	Detail of the ground floor doorway	S	8/3/2013
26 – 27	Mill – South Elevation to E	General view	S	8/3/2013
28 – 29	Mill – East Elevation	Detail of window to N side	E	8/3/2013
30 - 31	Mill – East Elevation	Detail of building tie to S side	E	8/3/2013
32 – 33	Lean-to brick shed	General view	SW	8/3/2013
34 – 35	Mill – South Gable	Detail of datestone	SE	8/3/2013
36	-	Registration	-	

Black & White Print & Colour Digital #6

No	Area	Description	From	Date
1	Northern Mill Cottage – South Gable	General view	E	8/3/2013
2 – 3	Cromwellian Bridge	General view	SSW	8/3/2013
4 – 5	Southern Mill Cottage - West Elevation	Detail of Nmost window	W	8/3/2013
6 – 7	Southern Mill Cottage - West Elevation	General view	W	8/3/2013
8 – 9	Mill and Cromwellian Bridge	General view	SW	8/3/2013
10 – 11	Northern Mill Cottage – West Elevation	General view of the wheel pit	W	8/3/2013
12 – 13	Northern Mill Cottage – West Elevation	General view	W	8/3/2013
14 – 15	Mill	General view	NW	8/3/2013
16 – 17	Mill – North Elevation	General view of W side looking up from water's edge	NW	8/3/2013
18 – 19	Cromwellian Bridge	General view	N	8/3/2013
20 – 21	Mill – West Elevation	Detail of main wheel house	N	8/3/2013
22 – 23	Mill – West Elevation	Detail of main wheel house	NNW	8/3/2013
24 – 25	Mill Cottages	General view, standing on W side of Cromwellian Bridge	N	8/3/2013
26 – 27	Mill – West Elevation	General view	W	8/3/2013
28 – 29	Cromwellian Bridge	General view	NE	8/3/2013
30 – 31	Cromwellian Bridge	Detail of top of bridge	E	8/3/2013
32 – 33	Northern Mill Cottage	Detail of the N gable and waterwheel	N	8/3/2013
34 – 35	Mill – North Elevation	Detail of W-facing door into ground floor of kiln (Room 0/4)	W	8/3/2013
36	-	Registration	-	8/3/2013

Black & White Print & Colour Digital #7

No	Area	Description	From	Date
1 - 3	Weir	General view	NE	8/3/2013
4 – 5	Weir	General view	S	8/3/2013
6 – 7	Mill Pond	Detail of culvert entrance between the mill pond and the mill lade	S	8/3/2013
8 – 9	Mill Pond	General view	SE	8/3/2013
10 – 11	Mill Pond	Detail of the flagstones to the N extent	E	8/3/2013
12 – 13	Mill	General view from the mill pond	S	8/3/2013
14 – 15	Mill pond	General view	NEE	8/3/2013
16 – 17	Mill pond	General view	NE	8/3/2013
18 – 19	Mill pond	Detail of fixing to top of stone over culvert	W (top)	8/3/2013
20 – 21	Mill pond	Detail of top stone over culvert between mill lade and pond	W	8/3/2013
22 – 23	Mill pond	Area of the sluice gate to the mill lade to the east of the pond	N	8/3/2013
24 – 25	Mill lade	Detail of the small stone culvert top located just to the south of the road	N	8/3/2013
26 – 27	Waterways	General view looking from the road	NW	8/3/2013
28 – 29	Waterways	General view looking from the road	N	8/3/2013
30 – 31	Southern Mill Cottage	General view	NNE	8/3/2013
32 – 33	Southern Mill Cottage – South Gable	Detail of stone-blocked window	S	8/3/2013
34 – 35	Southern Mill Cottage - East Elevation	General view	E	8/3/2013
36	-	Registration	-	8/3/2013

Black & White Print & Colour Digital #8

No	Area	Description	From	Date
1	Mill	General view	NEE	8/3/2013
2 – 5	Mill	General view	NEE	8/3/2013
6 – 7	Mill	General view	E	8/3/2013
8 – 9	Mill	General view	SE	8/3/2013
10 – 11	Mill	General view in its setting	SWW	8/3/2013
12 – 13	Mill	General view in its setting	SWW	8/3/2013
14 – 15	Mill Pond	General view	W	8/3/2013
16 – 17	Mill Pond	General view	SW	8/3/2013
18 – 19	Mill Pond	General view	SWW	8/3/2013
20 – 21	Burn	General view	NE	8/3/2013
22 – 23	-	Detail of timber fixing to ground to the W of the main burn	W	8/3/2013
24 - 25	Mill Pond	General view	NW	8/3/2013
26 – 27	Burn	Detail of footbridge	NE	8/3/2013
28 – 29	Burn/Weir	General view	N	8/3/2013
30 – 31	Burn/Weir	General view	S	8/3/2013
32 – 33	Burn/Weir	Detail of the W side	SE	8/3/2013
34 – 35	Burn/Weir	General view of the N side	SE	8/3/2013
36	-	Registration	-	8/3/2013

Appendix 2: Inventory of Artefacts

No	Room	Description	Type of Artefact
0/001	0/1	Freestanding timber hopper	Working Element
0/002	0/1	Wall-mounted box to south of east wall and assorted tools and items hanging on the wall and round about	General Tools
0/003	0/1	Drill-bit trim in a small tin box	General Tools
0/004	0/1	Wolseley oil can	General Tools
0/005	0/1	Desk and door to south end of room - door leaning against the north side of desk	General Tools/non mill-related item (brought in)
0/006	0/1	Metal wheel, ten spokes, 0.64m in diameter	Working element
0/007	0/1	2 concrete slabs up against the south side of the gearing cupboard	Modern
0/008	0/1	Approx. 30 lengths of timber posts/planks to south side of gearing cupboard	Random
0/009	0/1	Modern cabinet	Modern
0/010	0/1	Wooden box resting on the modern cabinet 0/009	General Tools
0/011	0/1	Garden hoe	General Tools
0/012	0/1	Wooden cabinet in the south-west corner - says 'J MACINNIS' on door	Non mill-related item (brought in)
0/013	0/1	Chimney pot	Non mill-related item (building)
0/014	0/1	13 Timber planks	Non mill-related item (brought in)
0/015	0/1	Small worktable/bench	General Tools
0/016	0/1	Garden fork	General Tools
0/017	0/1	Small wooden box on desk 0/005, contains assorted pipework and a small wooden ball	Small Items
0/018	0/1	Plastic bucket with assorted wood inside it	Small Items
0/019	0/1	Rusted iron weighing machine with counterweight (size '14') - manufacturer's mark: 'D + J THOMPSON MANUFACTURERS BROUGHTON MARKET EDINBURGH'	General Tools
0/020	0/1	Metal scoop with wooden handle	General Tools
0/021	0/1	Shaped wooden feature, possible scoop	General Tools
0/022	0/1	Small wooden table	General Tools
0/023	0/1	Scales 'W + T AVERY'	General Tools
0/024	0/1	10 assorted rusted iron weights	General Tools
0/025	0/1	Small wooden table	General Tools
0/026	0/1	Goffering iron	General Tools
0/027	0/1	Assorted hand tools (rusty)	General Tools
0/028	0/1	Shaped wooden leg with hole within it, attached to south side of large timber chest	General Tools
0/029	0/1	White painted scales	General Tools
0/030	0/1	Small pan	General Tools
0/031	0/1	Small grain scoop	General Tools
0/032	0/1	Half bearing case mould	Working Element
0/033	0/1	7 small wooden chocks, shaped	Small Items
0/034	0/1	Plastic bag full of galvanised fence stretchers	Modern
0/035	0/1	Electric fence post	Modern
0/036	0/1	Metal gutter	Modern
0/037	0/1	Assorted iron chains	Working Element
0/038	0/1	Assortment of rusty metal parts on lower east windowsill	General Tools
0/039	0/1	Iron vice set on lower east windowsill	General Tools
0/040	0/1	5 small panes of glass on lower east windowsill	Non mill-related item

			(building)
0/041	0/1	Small wooden box containing assorted ironmongery - says 'BRITISH PRODUCE GROWN IN GUERNSEY' on the side	General Tools
0/042	0/1	Possible lamp shade	Non mill-related item (building)
0/043	0/1	Wooden box containing assorted ironmongery	General Tools
0/044	0/1	Wooden box containing three paint tins containing iron nails and hooks	General Tools
0/045	0/1	Iron pronged tool	General Tools
0/046	0/1	Iron pinch bar	General Tools
0/047	0/1	Iron pry bar	General Tools
0/048	0/1	Large wooden chest located along the east wall	Working Element
0/049	0/1	Contents of wooden chest 0/048, including a pedestal drill, a wooden first aid box and a battery for an electric fence	Working Element/non mill-related (brought in)
0/050	0/1	Six wooden boxes, assorted ironmongery within	General Tools
0/051	0/1	Wooden cabinet with assorted ironmongery within, including many bolts and pins of various sizes	General Tools
0/052	0/1	Large two-man saw	General Tools
0/053	0/1	Shelving unit with large metal fixings with metal plate on top stacked with metal straps and fixings	General Tools
0/054	0/1	Small round pot containing metal fixings	Small Items
0/055	0/1	Wooden sack barrow with metal wheels	Working Element
0/056	0/1	Large metal item, possibly a machine part	Working Element
0/057	0/1	Eight metal tools, including two crow bars	General Tools
0/058	0/1	Two metal drive shafts	Working Element
0/059	0/1	Small hand saw with timber handle	General Tools
0/060	0/2	Large wheel, possible part of the former gearing that has been replaced, 0.85m in diameter containing eight 'spokes', one of which is missing	Working Element
0/061	0/2	Milk urn with handles	Non mill-related item (brought in)
0/062	0/2	Possible former ?waterwheel, 1.23m in diameter with a rim 0.23m in width with buckets and paddles	Working Element
0/063	0/2	Cauldron, badly corroded, only two of its three feet remain, 0.43m in height and 0.44m in width	Non mill-related item (brought in)
0/064	0/2	Length of drainage pipe	Modern
0/065	0/2	Cylindrical drum or tank, ?steel, open at one end	Non mill-related item
0/066	0/2	Scrap sheet metal, partially buried in husks (sids) bent and rusted at the edges	Random
0/067	0/2	Approx. 20 slates stacked in south-east corner, partially covered by husks (sids)	Non mill-related item (building)
0/068	0/2	Wooden box, partially buried under husks (sids) and beneath the other artefacts with a small opening at the top	Random
0/069	0/2	Rusted metal drum	Random
0/070	0/2	Wheel, 0.6m in diameter and 0/.09m in width (rim) with 10 spokes	Working Element
0/071	0/2	Possible blinkers for a horse in leather and brass on top of sink 0/072	Non mill-related item
0/072	0/2	Porcelain sink/basin	Modern
0/073	0/2	?unidentified shaped wood part 0.55m in length	Random
0/074 – 0/099		Unassigned	
0/100	0/1	Ten large timber beams and planks	Non mill-related item (building)
0/101	0/1	Six wooden posts	Non mill-related item

			(building)
0/102	0/1	Wooden trunking part, possible part of bucket elevator system	Working Element
0/103	0/1	Long brush, timber handle	General Tools
0/104	0/1	Large wooden cabinet, four-shelf unit on its side on the north-east corner located behind planks 0/100	General Tools
0/105	0/1	Metal tank attached to timber partition attached to wall of gearing cupboard - ?lead with small tap, sides bolted together	Working Element
0/106	0/1	Wooden open-topped box with handles	General Tools
0/107	0/1	Screen with wooden frame and six panels, 1.10m in length and 0.54m in width	Working Element
0/108	0/1	Wooden panel, 1.25m in length and 0.84m in width and 0.10m in depth - at one time was a possible hatch but now used as a pallet	Working Element
0/109	0/1	Metal feature hung from floor beam to south side above hoper 0/001, for turning a valve? 0.4m in length	General Tools
0/110	0/1	Sack mailed to a chute from the gearing cupboard to the south side - has the name HOUSTON on it	Working Element
0/111	0/1	Metal strap with looped end 0.30m in length hanging from the floor beam	General Tools
0/112	0/4	Timber window frame located to rear (north) of ground floor kiln area	Non mill-related item (building)
0/113	0/4	General scrap metal located to rear (north) of ground floor kiln area)	Non mill-related item (?building)
0/114	0/4	Remains of wheel located to rear (north) of ground floor kiln area)	Working Element
0/115	0/4	General iron sheeting (scrap) and L-shaped steel bar	Non mill-related item (?building)
0/116	0/1	Plumbing parts located below the table in the south end of Room 0/1	Non mill-related item (brought in)
0/117	0/1	Small chest against the south end of the east wall	General Tools
0/118	0/1	Assorted tools in the south-east corner	General Tools
0/119	0/1	General assorted objects located to the windowsill of the south wall	General Tools
0/120	0/1	Old chain on windowsill, south wall	Working Element
0/121	0/1	Jar of small ?galvanised fixings	Modern
0/122	0/1	Small tins (Strepsils and Vaseline)	Random
0/123	0/1	Plastic box full of assorted items including bunch of screws and bolts	General Tools
0/124	0/1	Old motor	Working Element
0/125	0/1	Bucket with rusted metal tin can inside it	Random
0/126	0/1	Chain	Working Element
0/127	0/1	Series of hanging pipes and belts hanging in front of the window in the south wall	Working Element
0/128	0/1	Hanging chain fixing adjacent to 0/127	Working Element
0/129	0/4	Wheel rim located on south wall windowsill	Working element
0/130	0/3	Selection of three items: a jug, oiling can and small feature (?possibly attached to a pipe)	General Tools
0/131	0/3	Small shaped wooden paddle 0.68m in length and 0.12m in width at one end with a through-hole at the other	General Tools
0/132	0/3	Metallic sign/plate which reads 'MANCHESTER BIRMINGHAM' and looks to be the manufacturers logo but it is damaged and snapped about halfway down - length of remaining 0.52m	Small Items
0/133	0/3	Wheelbarrow 1.90m in length and 0.765m in width; depth of trough 0.3m	General Tools
0/134	0/3	Three workhorse attachments to go over horse's shoulders when pulling plough	General Tools

0/135	0/3	Two wall brackets, fairly good condition 0.26m in length 0.155m in width, 0.025m in depth	Non mill-related item (building)
0/136	0/3	Blinkers for horses	General Tools
0/137	0/3	Horse apparatus, looks to be some sort of brace to go on the horse's back	General Tools
0/138	0/3	Pair of leather belt fastenings	General Tools
0/139	0/3	Two small wheels on opposites sides of the room - wooden spokes with outer iron rim and iron centres	Working Elements
0/140	0/3	cart wheel, wooden spokes with outer iron rim and iron centre	General Tools
0/141	0/3	Single cylinder engine (possibly diesel)	Working Elements
0/142	0/3	Wheel from a wheelbarrow	General Tools
0/143	0/3	Small box containing assorted bolts, brackets and an engine silencer	General Tools
0/144	0/3	Oil containers manufactured by Smiths Motor Accessories and Esso	General Tools
0/145	0/3	Full container, contents unknown	General Tools
0/146	0/3	Wooden frame with glass panel, glass intact 0.30m in length, 0.2m in width and 0.1m in depth	Non mill-related item (building)
0/147	0/3	Small wooden scoop 0.55m in length and 0.15m in width	General Tools
0/148	0/3	Red metal plate with WOLSLEY ELECTRIC FENCER , looks like a covering for a tool (can't locate tool)	Random
0/149	0/3	21 steel bars, each rod is 0.8m in length x 0.08m in diameter	General Tools
0/150	0/3	various metal items, including a file with missing handle, loophole with threaded end with bolts and washers attached, metal wire tensioner, chain (very poor condition), rusted grate	General Tools
0/151	0/3	Large flat hoop, 0.6m in diameter 0.04m in width and 0.01m thick	General Tools
0/152	0/3	Stack of bricks in corner, some marked with THISTLE	Modern
0/153	0/3	Composite wooden board (possible part of gearing cupboard walls?) 0.75m in length, 0.66m in width at the bottom and 0.88m in width at the top - 0.03m thick	Working Element
0/154	0/3	Pole with paddle end, tool of possible scooping, tapping and lifting	General Tools
0/155	0/3	Tyred wheel (recorder thinks from a Model T Ford!) 0.80m in diameter with a steel rim, wooden wheel spokes and a break drum	Non mill-related item (brought in)
0/156	0/3	Workbench, timber	General Tools
0/157	0/3	Small anvil	General Tools
0/158	0/3	Small block of wood with circle indentations	General Tools
0/159	0/3	Small 5 Ilb weight with round handle	General Tools
0/160	0/4	Eight pieces of galvanised steel ducting	Non mill-related item (building) / Modern
0/161	0/4	Rope ladder	General Tools
0/162	0/4	Large wheel for a belt drive 0.78m in diameter, rim 0.26m in width	Working Element
0/163	0/4	Two spoked wheels, the first 0.62m in diameter with 12 timber spokes with a steel rim	General Tools
0/164	0/4	Roof light window frame 1m in length and 0.60m in width comprising cast-iron and glass	Non mill-related item (building)
0/165	0/4	Hand-powered grinding wheel set in a timber frame	General Tools
0/166	0/4	Small section of timber lade with a steel base	Working Element
0/167	0/4	Rusted cast-iron bar (fire bar) used for furnace operations	General Tools
0/168	0/4	Two small 'fire' tools, including flat-ended poker and round-ended poker	General Tools
0/169	0/4	Fire door/damper 0.75m in width, corroded to base with two handles on the outer side	General Tools
0/170	0/4	Small motor 'Fina Industries Ltd' - appears to be something similar to a winnowing machine/fanner to separate wheat from chaff using blown air - machine-powered with a large fan on the back and a motor attached to a belt drive with an adjuster	General Tools

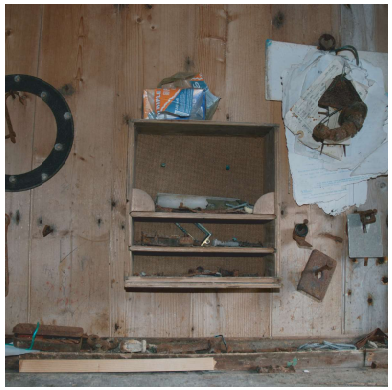
0/171	0/4	Bags of fuel for kiln, including 8 bags of coke and 7 bags of peat	Modern
1/001	1/1	Manual cereal bruiser	Working Element
1/002	1/1	Powered cereal bruiser with a flat belt drive from a motor attached to the floor (from Higgs Motors Birmingham)	Working Element
1/003	1/1	Pronged tool with 0.74m in length for the handle with prongs 0.34m in length and 0.46m in width	General Tools
1/004	1/1	Grain elevator belt, three with buckets and ten plain belts, various widths and lengths	Working Element
1/005	1/1	Two butter churns, the same type: 1/005a is located within the large timber chest along the north wall and 1/005b is further to the east. A timber frame mounts a barrel-like churn with blue and red painted metal fittings on the barrel	Non mill-related item (brought in)
1/006	1/1	Four weights located on the north windowsill with handles, quite rusted - 56 Ilb, 7Ilb, 28 Ilbs and last one is too rusted to see the weight. This also includes a set of hanging scales from the floor beam in front of the windowsill with a '34' painted on it - traces of black and red paint on it	General Tools
1/007	1/1	Six assorted millstone dressings tools, including an iron cutting/incising tool with a wooden handle and other objects that look to be broken/partial versions of this	General Tools
1/008	1/1	Millstone 1.3m in diameter and 0.19m in thickness although it curves out to be 0.25m in the centre	Working Element
1/009	1/1	Millstone 1.36m in diameter, 0.08m in thickness, 0.15m thick to the centre, with sandstone backing	Working Element
1/010	1/1	Top millstone for a hand quern 0.50m in diameter and 0.05m thick at its widest part in the centre with a small 0.08m hole to the centre	Working Element
1/011	1/1	Collection of mixed tools on the northern windowsill including three traps, four nuts and bolts and three square nails	General Tools
1/012	1/1	Spider to drive the millstone lying infront of the used millstones 1/008 and 1/009. Full width 0.09m to centre. 0.30m from the outer spoke to the centre of the interior hole which is 0.055m in diameter	Working Elements
1/013	1/1	Hand driven winnowing machine in timber (0/13a) with manufacturer's mark painted on - W & A Geddes Agents Wick' on the north-facing side at the top. Two chutes present but not attached - some tools also sitting over the top of the machine (0/13b)	Working Elements
1/014	1/1	Timber mallet 0.44m in length, head 0.33m in width with steel rivets and steel bands to the ends of the head	General Tools
1/015	1/2	Cylindrical timber block 0.25m in length and 0.33m in diameter with steel band located over trap door	General Tools
1/016	1/2	Assorted objects to north-east area of eastern window including: a – three semi-circular meshes b – wheel and fixings on windowsill c – bike chain d – brackets e – press f – wheel (4 spokes) g – gear wheel	Working Element(s)
1/017	1/2	Mixed car parts including wheel, radiator, gear box, engine block, water pump, filters, etc and headlamps. Recorder thinks they may be from a Model T Ford!	Non mill-related items (brought in)
1/018	1/1	Timber scoop, handle missing with metal (?steel) bands	Working Element

1/019	1/1	Assorted tools, including two open-ended spanners, one adjustable spanner, two pinch bars, one pair of calipers, one pair of dividers, one hand axe, one block hammer, one screwdriver, one square pin spanner, one hedging tool, one wooden bar with metal hoop (for linking two cart horses? - 1m in length), one net-mending tool, one shaped wooden pinch bar and one cylindrical weight (possibly 28Ilbs).	General Tools
1/020	1/1	Formica-topped table on north-east corner of room with fold-out flap and painted pale blue	Modern
1/021	1/1	Two wooden square tubes/chutes - 0.95m and 1.3m in length respectively - former parts of bucket elevators with metal brackets and hinges at one end and a shaped 'shutter' 0.16m in width	Working Elements
1/022	1/1	Assorted items in the rafters including an iron chain and pipe/tubing	Working Elements
1/023	1/1	Gurnel/large timber chest for storage of processed grain in the north-west corner and 2.15m in length with tallies and notes in pencil on the east-facing side. Hinged flaps to the south (front).	Working Elements
1/024	1/1	15 grain sacks being used to cover the cereal bruisers - mostly small with no markings, but one or two have markings	Working Elements
1/025	1/2	Dining Table	Modern
1/026	1/2	Similar to 0/018 – related to winnowing machine 0/013	Working Element
1/027	-	Unassigned	-
1/028	1/1	Planking against west wall	Working element
1/029	1/1	Door, located behind table 1/020 leaning against east wall	Modern
1/030	1/1	Chest in SW corner	Working Element
1/031	1/1	Contents of chest 0/030 in south-west corner, including a wicker basket and furniture (still covered in its plastic sheeting	Modern
1/032 – 1/049	-	Unassigned	
1/050	1/1	Wooden trunk with handle on the lid and metal handle to either side with a metal corner piece. Inside is a wooden toilet seat and sacking. On top of the lid are markings for the previous owner	Non mill-related item (brought in)
1/051	1/1	Kitchen/bathroom cabinet with marble-effect worktop with back upright and wooden legs on wheels. Top lifts off, but nothing is inside	Non mill-related item (brought in)
1/052	1/1	Four iron pinch bars from 1.06m - 1.772m in length	General Tools
1/053	1/1	Pulley and chains in the south-east corner - narrow chain over pulley wheel with a thicker chain attached to a gear wheel	Working Elements
1/054	1/1	Assorted objects piled onto the south windowsill, including a broken glass pane, sacking, a metal can, planks, et, with a sheet of ply draining board in front leaning against the wall	Random / non mill-related items (building – glass pane)
1/055	1/1	Drawer unit with two drawers with lock (not locked though)	Non mil-related item (brought in)
1/056	1/1	Chain pulley, similar to 1/053 but smaller; pulley wheel is 0.20m in diameter, gear wheel is 0.18m in diameter	Working Element
1/057	1/1	Leather belt or strap with string length coiled and attached hanging on pipe	Working Elements
1/058	1/1	Sack hanging on pipe, writing faded but reads 'MILLER FRENCH'	Working Elements
1/059	1/1	Large thin metal hoop (?for going round a tun cover) 1.280m in diameter and 0.04m in width	Working Elements
1/060	1/1	Six rusted iron blades with 24 teeth per blade	General Tools
1/061	1/1	Wooden shaft with holes at either end and metal straps to the sides where the holes are in length	General Tools
1/062	1/1	An electric 'Newman' motor (15hp) to power electric hoist	Working Element
1/063	1/1	Eight wooden panelled doors of various sizes, now piled against the west wall to the south of the room - one has a (broken) glass panel	Non mill-related item (brought in)

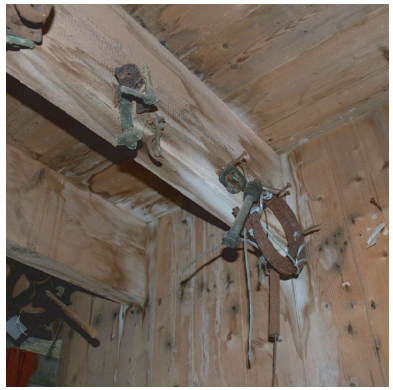
1/064	1/1	Set of scales by W + T AVERY, name stamped on the upright shaft	General Tools
1/065	1/1	Grain sack with HOUSTON and CRABSTER painted on it	Working Element
1/066	1/1	Sack trolley 1.25m in height	General Tools
1/067	1/1	Set of three canvas and metal belts 0.045m, 0.05m and 0.07m wide	Working Elements
1/068	1/1	Screens and cowling in metal, rusted, screens 0.32m x 0.42m with cowling 0.2m² at the base and 0.25m in height	Working Elements
1/069	1/1	Bucket staves 0.3m in length	Working Elements
1/070	1/1	?Steel drive chain	Working Element
1/071	-	Unassigned	-
1/072	1/1	Woodworking tool (recorder describes it as a 'sash cramp') main body of it 1.25m in length with a 0.40m length screw fixing (no photo)	General Tools
1/073	1/1	Assorted straps and belts (no photo)	Working Elements
1/074	1/1	Small metal objects both 0.15m in width and 0.08m in depth - possibly hanging dampers for a flue?	?Working Element
1/075	1/1	Large screen - wooden frame with a wire mesh screen 0.71m in length and 0.16m in width	Working Element
1/076	1/1	Two large curtain rails resting up in the floor beams with machine-turned ends and rings	Modern
1/077	1/1	Two small timber handled 'belaying' pins 0.46m in length and 0.23m in length respectively	General Tools
1/078	1/1	Assorted items including a timber bearing block, a belt stick, half a timber bearing block, a wire brush, bearing block pair (wood), a role of steel wire mesh and 5 tins (no photo)	General Tools / Working Elements (bearing block)
1/079	1/1	Gear wheel with pawl 0.1m in diameter	Working Element
1/080	1/1	Pulley Block	General Tools
2/001	2/1	Timber spinning wheel	Non mill-related item (brought in)
2/002	2/1	Metal screen with a wooden frame	Working Element
2/003	2/1	Bushel - licensed stamp inside on the bottom plate and on the outside - 2 stamps on inside 'Cockerel Stamp' and 'Fighting Cock'	Working Element
2/004	2/1	Bushel - similar to 2/003, but no stamp, painted blue	Working Element
2/005	2/1	Oil can - labelled 'BP Energy'	General Tools
2/006	2/1	Three iron spikes, 0.185m in length	General Tools
2/007	2/1	Head of a small claw hammer	General Tools
2/008	2/1	Large hessian sack (contaminated with bird droppings)	Working Element
2/009	2/1	Collection of large hessian sacks	Working Element
2/010	2/1	Large saw blade	General Tools
2/011	2/1	Two drive shafts, one fitted with one pulley and two gear wheels, the other with a gear wheel	Working Element
2/012	2/1	Sack barrow	General Tools
2/013	2/1	Assorted items on south wall windowsill including a rusted metal grill, some drying floor tiles, bucket with assorted wooden blocks, modern plastic sheeting, a metal band (?wheel rim)	Various – Working Element (tiles), Random (bucket/grill) and Modern (sheeting)
2/014	2/1	Three empty small glass bottles with raised manufacturer's marks on east wall windowsill	Random
2/015	2/1	Two small weights on east wall windowsill, one 56 llb, the other unreadable	General Tools
2/016	2/1	Two timber frames screens	Working Elements
2/017	2/1	Wooden rectangular sack stand, used presently to cover hole in the floor	General Tools

2/018	2/1	Sack barrow in a wooden frame with worn hubs on both wheels	General Tools
2/019	2/1	Large two-person saw 2.11m in length	General Tools
2/020	2/1	Small two-person saw 1.70m in length	General Tools
2/021	2/1	?Lead and iron hinged cover 0.59m in length. 0.40m in width	Working Element
2/022	2/1	Two brooms	General Tools
2/023	2/1	Two shovels	General Tools
2/024	2/1	Set of iron scales	General Tools
2/025	2/1	Two long-handles tools for spreading the grain across the drying floor	General Tools
2/026	2/1	Long iron chain	Working Element
2/027	2/1	Auger, assists the movement of grain through chute	Working Element
2/028	2/1	Three rubber machine belts	Working Element
2/029	2/1	Large ladder, approx 9.5m in length suspended over the cross beams	General Tools
2/030	2/1	Rolls of canvas with leather belts	Working Element
2/031	2/1	Four metal screens with timber frames and wire mesh 1.55m in length and 0.64m in height	Working Element
2/032	2/1	Shaped timber piece with pegs	General Tools
2/033	2/1	Nine rusted metal drying floor panels lying in the far north-east corner, part of the former drying room floor	General Tools
2/034	2/1	Grain sack on north wall windowsill below hatch 2/021	Working Element
2/035	2/1	Small yellow-painted sieve located below sack 2/034 on north wall windowsill	Random/?General Tools
2/036	2/1	Half a bearing block mould hanging from ceiling attached to drive shaft to counterbalance machinery operations	General Tools
2/037	2/1	Small weight hanging from ceiling attached to drive shaft to counterbalance machinery operations	General Tools
2/038	2/2	?Iron sheeting leaning against north wall	Non mill-related (building)
2/039	2/2	Timber planks located over the drying room floor and also stacked against the north wall	Non mill-related (building)
2/040	2/2	Drying Room floor	Working Element

0/001



0/002



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0/004

0/005

0/006

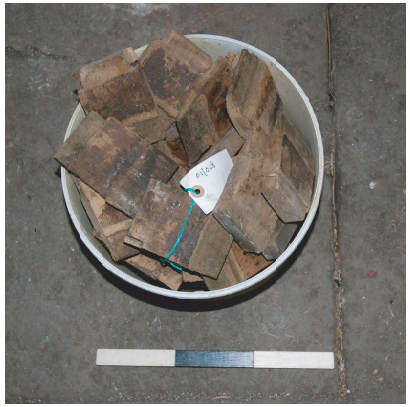
0/007

0/008 (wood) & 0/009 (modern cabinet behind)

0/010 (wooden box) & 0/011 (hoe)

0/012 (turquoise cabinet), 0/013 (chimney pot), 0/014 (timber planks), 0/015 (small worktable below chimney pot) & 0/016 (garden fork)

0/017



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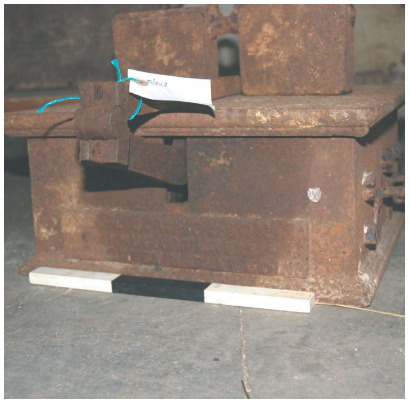


0/019

0/020

0/21 (small wooden scoop) & 0/22 (small wooden table)

0/23 (weighing machine) & 0/24 (weights)

0/025

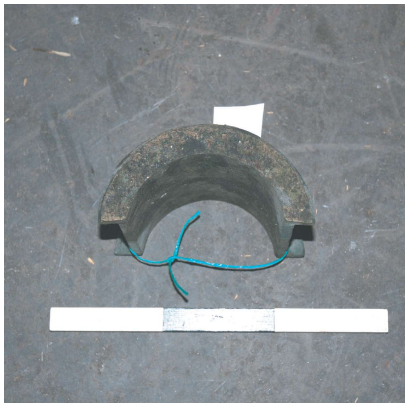
0/026

0/027

0/028

0/029

0/030 & 0/031



0/032

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0/034

0/037

0/038

0/039 (vice), 0/035 (electric fence post) &
0/036 (piece of gutter)

0/040

0/041

0/042

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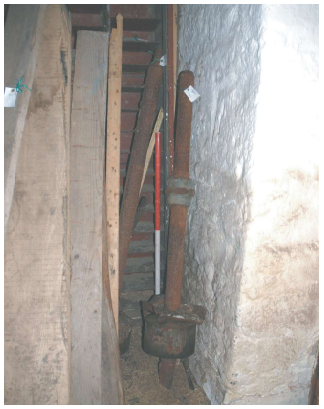

0/058

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0/061 (urn) & 0/073 (shaped timber feature)

0/062

0/063

0/064 (length of drainage pipe) & 0/066 (scrap sheet metal)

0/065

0/067

0/068

0/069 (rusted drum) & 0/070 (wheel)

0/071 (tack, sack underneath) & 0/072 (sink underneath it, not easily accessible)

0/100

0/101

0/102

0/103

0/104 (cabinet behind wood)

0/105

0/0106

0/107

0/108

0/109

0/110

0/111

0/112 (window frame to rear) & 0/113 (scrap metal)

0/114

0/115

0/116

0/117

0/118

0/119

0/120 (chain) & 0/121 (glass jar)

0/122

0/123 (box), 0/124 (?motor), 0/125 (bucket)
& 0/126 (chain)

0/127 (hanging pipe) & 0/128 (hanging iron chain
& fittings)

0/129

0/130

0/131

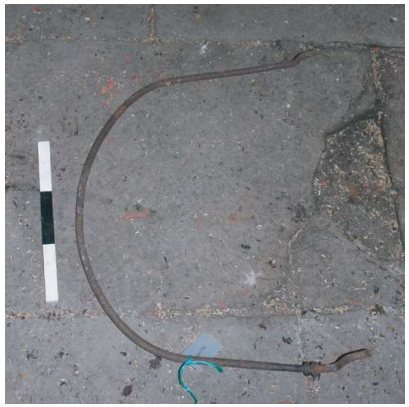
0/132

0/133

0/134

0/135

0/136



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0/160

0/161 (rope ladder) & 162 (wheel)

0/163

0/164

0/165

0/166

0/168

0/169

0/170

0/171

1/001

1/002

1/003 (tool) & 1/028 (behind)

1/004

1/005a

1/005a

1/005b

1/005b

1/006

1/006

1/007

1/007

1/008 (millstone) & 1/012 (spiders)

1/009 (millstone), 1/010 (grinding wheel) & 1/019b (iron tools)

1/011

1/013

1/013b

1/014

1/015

1/016a

1/016b

1/016c

1/016d

0/016e

1/016f

0/016g (below)

1/016c- g

1/017

1/017 (wheel)

1/018

1/019a

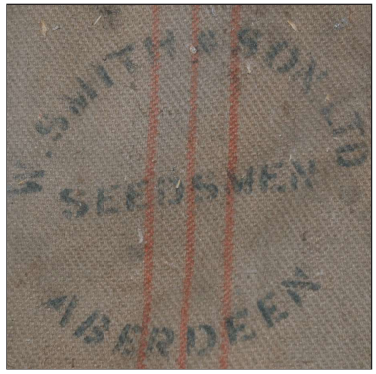
1/020 (table) & 1/029 (door behind)

1/021

1/022

1/023

1/024a



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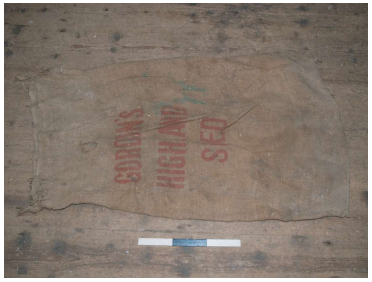


1/024c

1/025

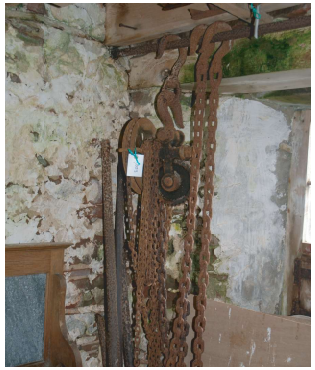
1/026

1/030 (chest) & 1/031 (contents), 1/063 (doors) & 1/062 (motors)

1/030 (chest) & 1/031 (contents)

1/050

1/051

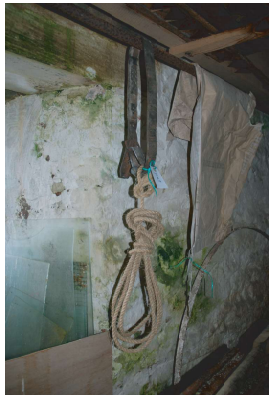


1/052 (pinch bars) & 1/053 (chains and pulley system)

1/054a

1/055 (drawer) & 1/054b (glass panes) behind

1/056



1/057 (belt & rope) & 1/058 (sack)

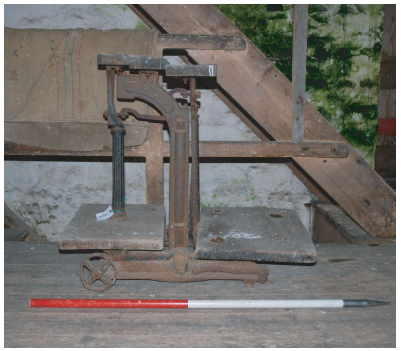
1/059

1/060

1/061

1/062

1/063



1/064 (scales) & 1/065 (sack over banister behind)

1/066

1/067

1/068

1/069 (bucket staves) & 1/070 (chain)

1/073

1/075

1/076

1/077

1/080

2/001

2/002

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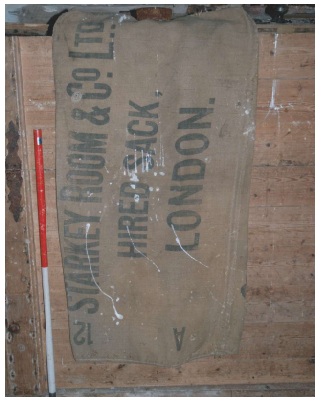
2/007

2/008 (top sack) & 2/009 (remaining sacks below it)



2/008

2/009

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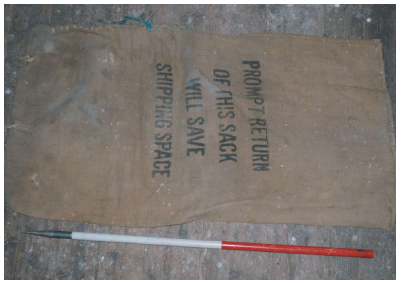

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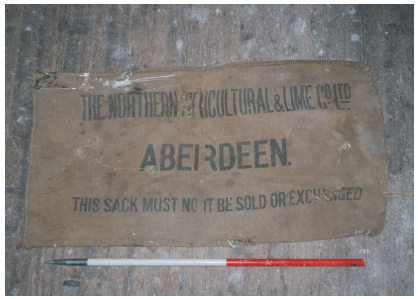

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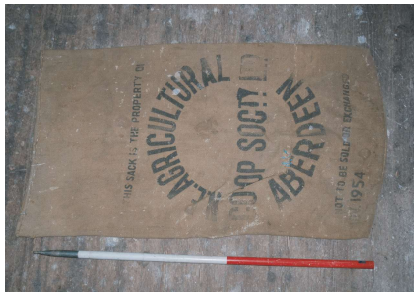

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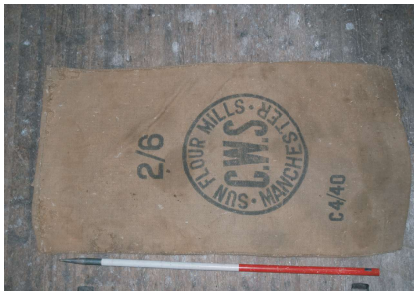

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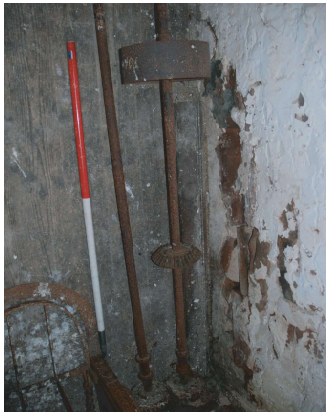

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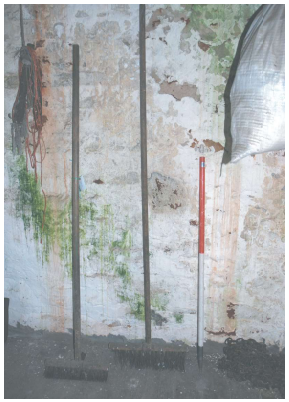

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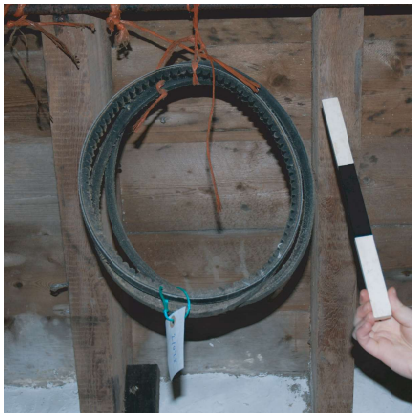

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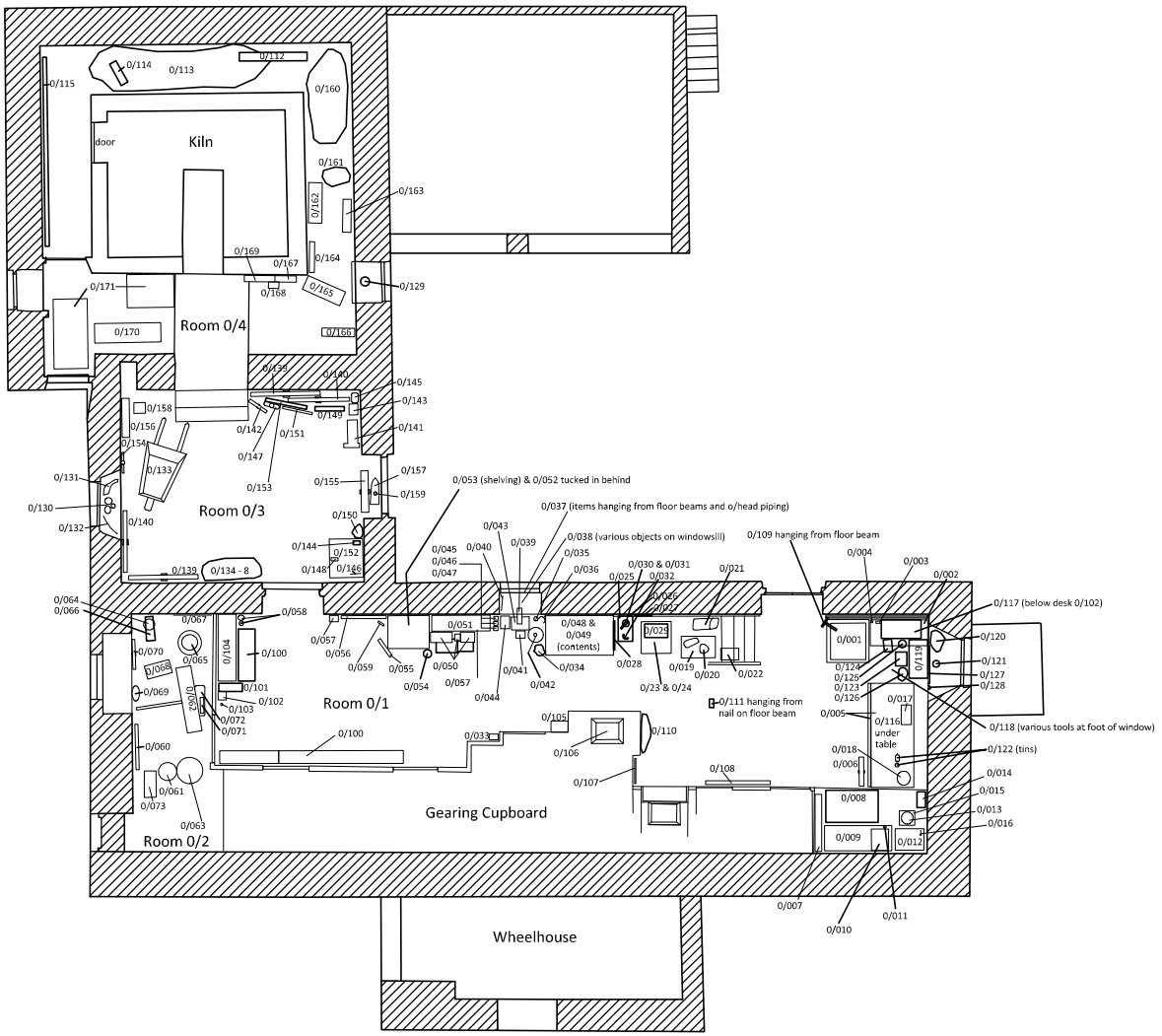
2/038 (corrugated sheeting) & 2/039 (timber planks)

2/040

2/040

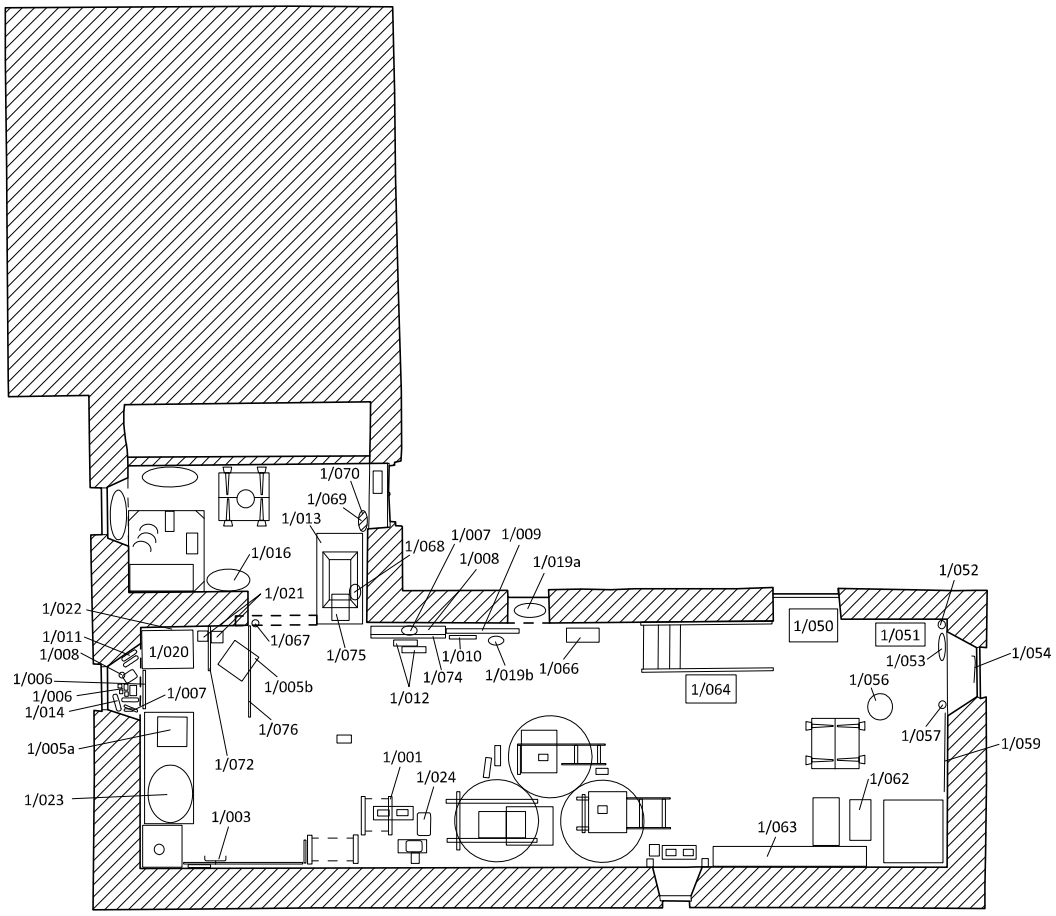


2.5m 0 5m

1:100 at A3

Ground Floor Plan

AOC Archaeology Group



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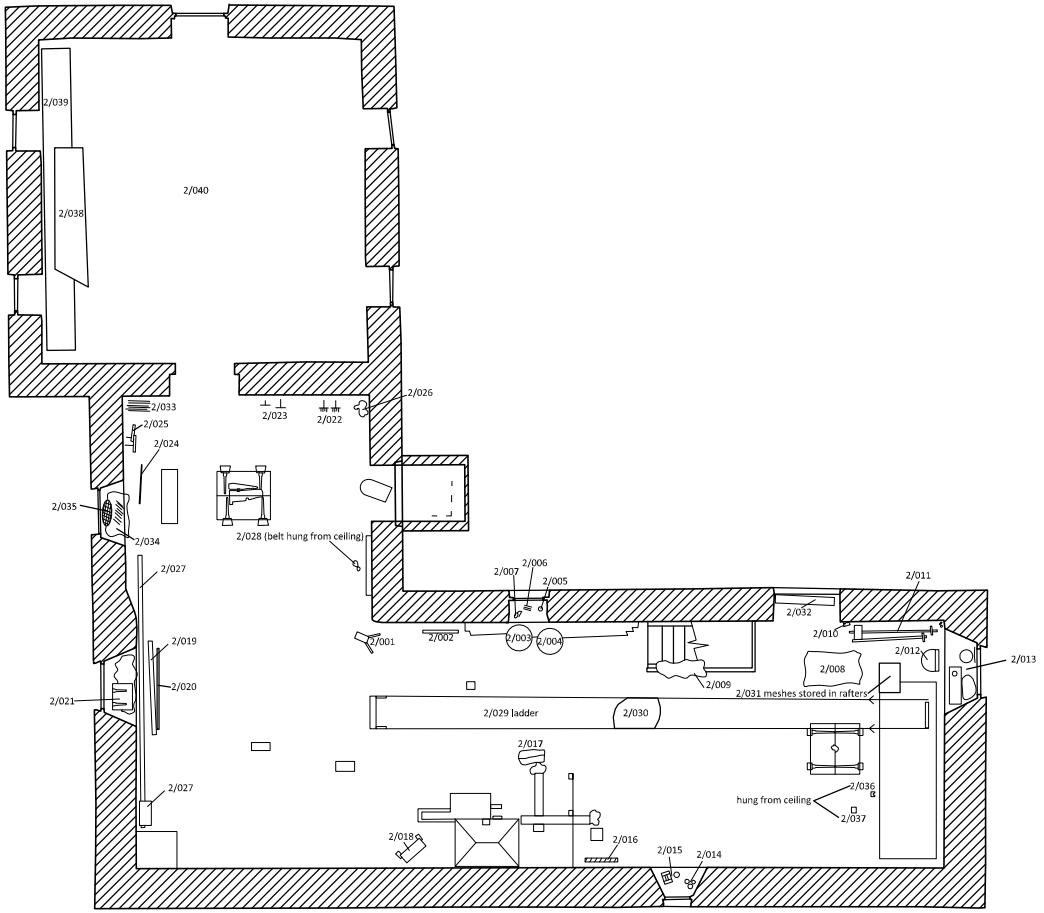
1:100 at A3

First Floor Plan

AOC Archaeology Group



0.5m 0 4m

Scale 1:100 at A3

Second Floor Plan

AOC Archaeology Group

Appendix 3: Geophysics Survey Report

Geophysical Survey Report
John O'Groats Mill, Caithness
RGC1377/JGM

Project Number AOC_22376

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Specialising in Archaeological Survey and Consultancy

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Executive Summary

Geophysical survey was requested as part of a wider archaeological evaluation of John O'Groat's Mill, Caithness and the surrounding area. Following the walkover and DBA two areas were selected for survey. Available areas surrounding the Mill were investigated using resistance survey. Gradiometer survey was not carried out over these areas due to the large amount of ferrous material within and adjacent to the survey area. Although the walkover survey did not identify any potential sites in the three pasture fields to the east of the Mill, geophysical survey was undertaken in the area adjacent to the Mill to assist with possible future developments at the site.

Interpretation of the results of the resistance survey in the areas within the Mill complex (Areas A & B) are complicated by the limited areas available for survey, making it difficult to place anomalies within a wider context. However, survey has identified some responses of potential interest including possible structures and mill races. Survey within the pasture field to the east has not detected any archaeologically significant anomalies, with the data being dominated by responses from drainage features and agricultural activity.

Survey:	John O'Groats Mill, Caithness
Client:	AOC Archaeology Group
Date of Survey:	14th March 2013
Survey Personnel:	Dr S M Ovenden and A S Wilson
Report Author:	Dr S M Ovenden
Date of Draft Report:	18th March 2013

1. Introduction

1.1 Geophysical survey was requested as part of a wider archaeological evaluation of John O'Groat's Mill, Caithness and the surrounding area. The general area is rich in archaeological sites including burial cairns, chambered cairns, souterrains, brochs and standing stones.

1.2 The original proposal requested six 20m by 20m (0.24ha) grids of gradiometer and resistance survey. The location of the survey areas was to be based on a Desk Based Assessment (DBA) and a walkover survey carried out as part of a wider evaluation.

1.3 Following the walkover and DBA two areas were selected for survey. Available areas surrounding the Mill were investigated using resistance survey with the equivalent of approximately four 20m by 20m grids being surveyed, together with a partial grid immediately adjacent to the mill, as indicated on Figure 1. Unfortunately steep slopes and vegetation limited the areas suitable for survey. Gradiometer survey was not carried out over these areas due to the large amount of ferrous material within and adjacent to the survey area.

1.4 Although the walkover survey did not identify any potential sites in the three pasture fields to the east of the Mill, geophysical survey was undertaken in the area adjacent to the Mill to assist with possible future developments at the site. As indicated on Figure 1 a further eight grids (0.32ha) of resistance survey and twelve grids (0.48ha) of gradiometry were undertaken.

2. Methodology

2.1 Prior to data collection a series of 20m grids were established across the site. The survey grid was tied-in to hard features depicted on plans provided using a Trimble Total Station.

Resistance Survey

2.2 Structural remains and graves can respond well to geophysical survey techniques. The most commonly used technique on such sites is area resistance survey. Resistance survey is ideally suited to locating walls, foundations, paths, and occasionally burials.

2.3 Earth resistance surveys measure variations in the moisture content of the earth’s subsurface by passing a small electrical current through the subsurface. Features such as foundations/walls and paths will show as high resistance anomalies, while features such as

ditches, pits and robber trenches with their humic fill will usually result in a low resistance response.

2.4 Resistance survey was carried out using a Geoscan RM85 resistance meter. For this survey a standard twin probe configuration was used with a mobile probe separation of 0.5m providing a depth resolution of approximately 0.75m. Data was collected at 1m by 1m intervals.

2.5 The data was processed with Geoscan Research Geoplot 3.00 software, using a standard range of corrections and processing algorithms. Raw, interpolated and high pass filtered data have been included in the report. Interpolating data has the effect of smoothing the data image by interpolating the data in the X and Y direction resulting in the appearance of a 0.5m by 0.5m sample interval. Running a high pass filter on the data effectively removes background trends within the data thereby enhancing more discrete anomalies. The data have been displayed at a variety of levels, in an attempt to pull out more subtle anomalies. In area resistance survey the data values themselves are not significant but rather the changes relative to the background level of response are. In some of the figures the data are plotted at absolute values in ohms (Ω) to try to pull out different anomalies. In other plots the statistics of the full data range are used and the data are plotted at plus/minus one or two standard deviations (SD).

Gradiometer Survey

2.6 Gradiometer survey was undertaken using a Bartington Grad601-2 gradiometer. The gradiometer comprises two fluxgate sensors mounted 1m apart on a vertical axis. Each sensor measures the earth's magnetic field, in nanoTesla (nT), and the instrument records the difference between the observed readings for each sensor. As a result the instrument is able to record subtle changes or anomalies in the earth's magnetic field caused by material in the top metre or so of the earth's surface. Data was collected at 0.25m intervals along traverses 1m apart within the series of 20m grids, which were later merged together.

2.7 The data were processed with Geoscan Research Geoplot 3.00 software, using a standard range of corrections and processing algorithms. These include setting the data mean to zero and destagger of the data. The edited data are displayed as XY traces and grey-scale images. Interpolated data are displayed as grey-scale images. In these images the data have been interpolated in the Y direction to create a 'square dataset' which has the overall effect of smoothing the data.

3. Results of Survey: Areas A & B

Anomaly letters referred to below are shown on the accompanying interpretation diagrams

Area A (Figures 2, 3, 6 - 9)

3.1 The data from this area is general quiet. Relatively well-defined areas of high resistance readings (A) have been recorded along the eastern edge of the survey area. Given the narrow survey width interpretation of these variations is cautious. In addition, the majority of the eastern limit of the survey is delineated by a sharp change in slope. In some areas walling can be seen within this slope thought to be associated with another mill building known to have existed immediately to the east of this survey area. It is possible that the areas of high resistance (A) are simply due to this material or perhaps features associated with the mill i.e. the mill race.

3.2 Suggestions of linear anomalies (B) are apparent within the data. These may indicate stone drains, or potential remnants of structures associated with the walling visible adjacent to the eastern limit of the survey area.

3.3 Within the north of the survey area a broad zone (C) of high resistance readings has been recorded. This area is undulating and again close to a sharp change is slope leading down to the burn. It is not clear if these high readings are due to natural variations in the subsoil or are indicative of potential structural remains associated with the 1818 mill. When viewing the high pass filtered data (Figure 8) well defined low resistance linear responses are visible which may be significant.

3.4 In the west of the survey area well-defined low resistance trends are apparent in the data. It seems likely that (D) is due to a service trench/track-way associated with the now abandoned cottages to the north. However, it could be associated with an in-filled mill race or similar feature. The other trend (E) appears to be an extension of a field boundary to the west suggesting it may indicate a former field division. However, it may possibly be some feature associated with the 1818 mill i.e. a mill race running down slope to the mill.

Area B (Figures 2, 3, 10)

3.5 Survey of this area was requested with the hope of identifying wall foundations. However, the data from this very small survey area is difficult to interpret.

3.6 Although high resistance readings are apparent around the edge of the survey area it is not possible to determine if these are due to potential wall footings or simply due to adjacent slopes and extant walls.

4. Results of Survey: Area C

Anomaly numbers and letters referred to below are shown on the accompanying interpretation diagrams

4.1 Gradiometer Survey (Figures 4, 5, 11 - 13)

4.1.1 Gradiometer survey of this field indicates a very low level of magnetic response, although zones of increased response (1) are evident along the western edge of the survey area adjacent to the wire fence and in particular the Mill itself.

4.1.2 Isolated ferrous anomalies have been noted throughout the survey area and are most likely due to modern debris in the topsoil

4.1.3 Two sets of parallel linear trends (2) are visible within the data. The arrangement and nature of these anomalies suggest field drains.

4.1.4 Very weak parallel trends (3) aligned north-south are likely to be due to agricultural activity.

4.2 Resistance Survey (Figures 2, 3, 14 - 17)

4.2.1 Although the data appears to show a great deal of variation, statistically there is little range in the data.

4.2.2 Broad areas of high resistance (F) are visible in the north of the survey area. While this may be significant, it seems likely to reflect natural variations in the topsoil and subsoil. However, modern building rubble was noted immediately to the west of the survey area suggesting some of this response may be due to modern material, although if that was the case one would expect an associated higher magnetic response within the gradiometer data.

4.2.3 Parallel trends (G) are visible in the data which correspond with those seen in the gradiometer data (3) and are indicative of past agricultural processes.

4.2.4 Faint suggestions of linear trends (H) in the north of the area appear to correspond with the trends (2) detected in the gradiometer survey and support an interpretation of possible field drains.

5. Conclusions

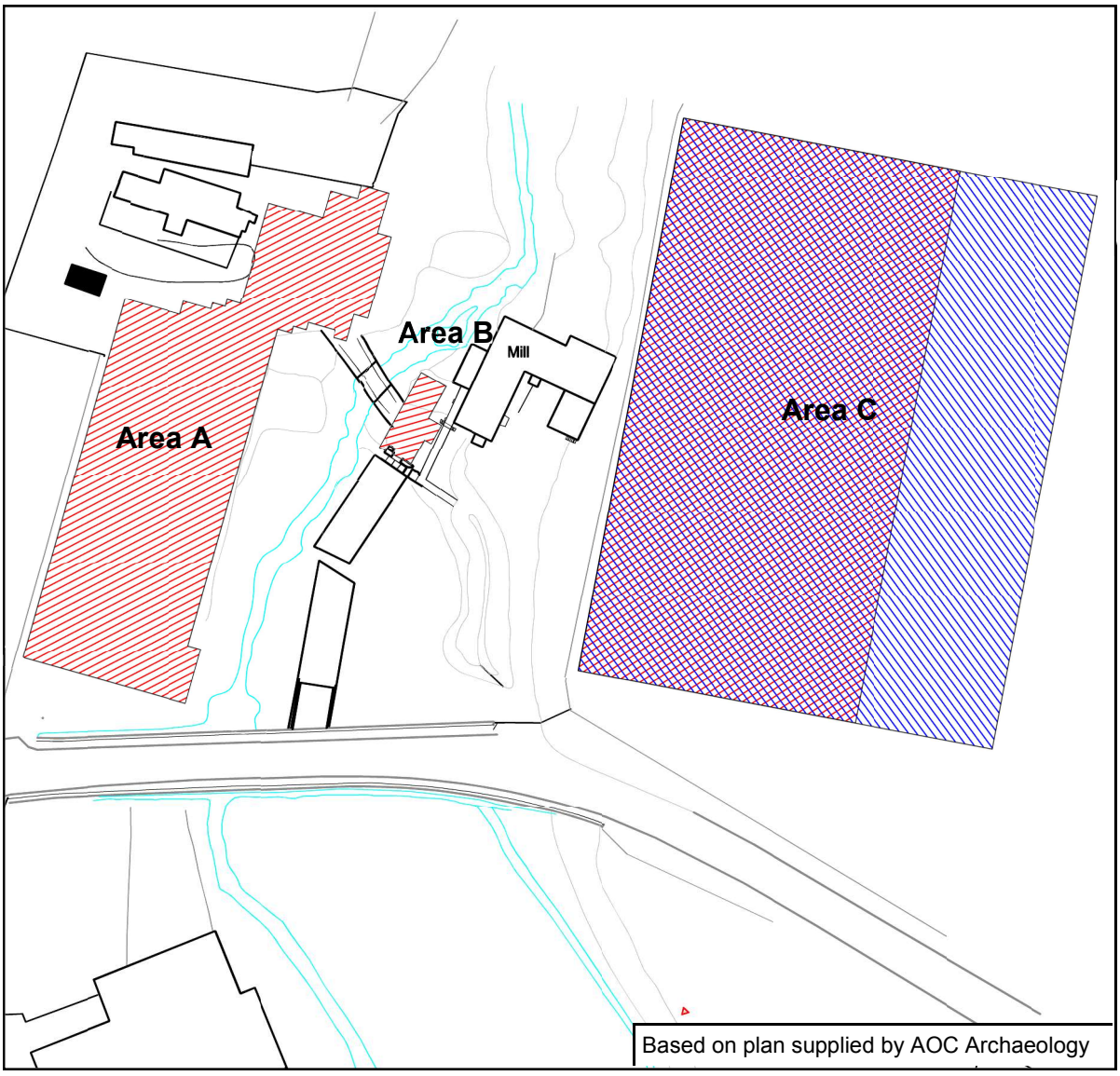
5.1 Interpretation of the results of the resistance survey in the areas within the Mill complex (Areas A & B) are complicated by the limited survey size, making it difficult to place anomalies within a wider context. However, survey has identified some responses of potential interest including possible structures and mill races.

5.2 Survey within the pasture field to the east has not detected any archaeologically significant anomalies, with the data being dominated by responses from drainage features and agricultural activity.

List of Figures

JOHN O'GROATS MILL

Location of Survey Areas



Resistance Survey

Gradiometer Survey

N

0m 50m

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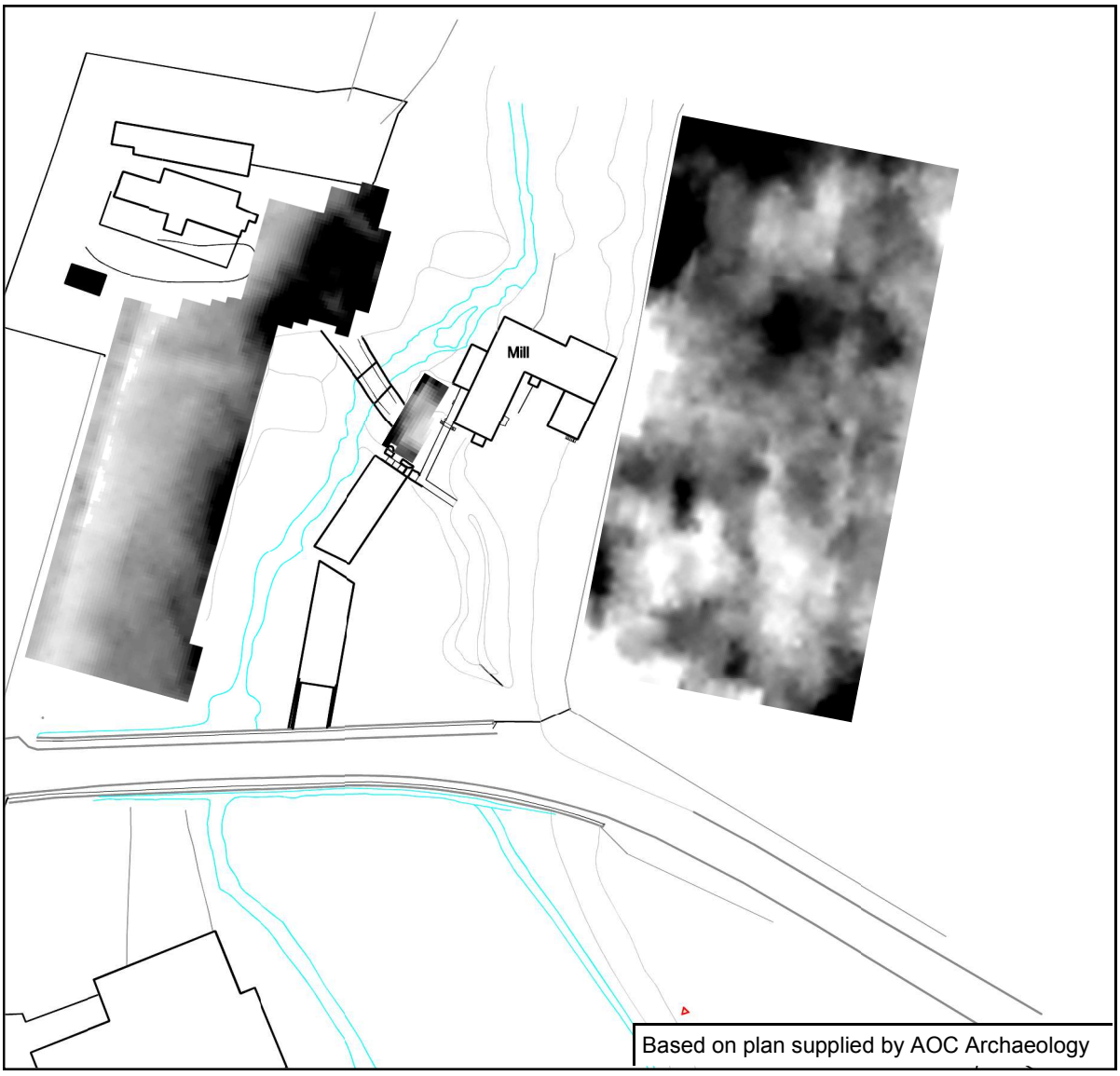
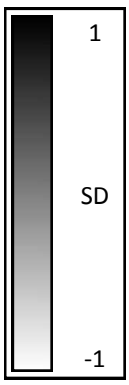
Figure 1

JOHN O'GROATS MILL

Resistance Survey

Summary Greyscale





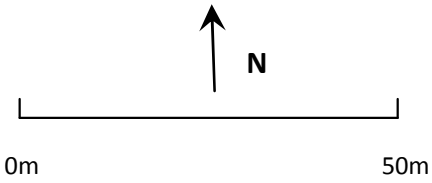


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Figure 2

JOHN O'GROATS MILL
Resistance Survey
Summary Interpretation

High Resistance: ?Archaeology

High Resistance: ?Natural

High Resistance: Trend

Low Resistance ?Trend

N

0m 50m

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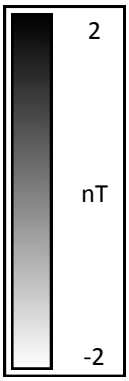
Figure 3

JOHN O'GROATS MILL

Gradiometer Survey

Summary Greyscale



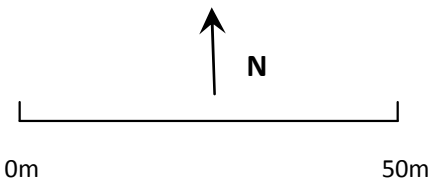


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Figure 4

JOHN O'GROATS MILL
Gradiometer Survey
Summary Interpretation

Magnetic Disturbance

?Drainage

Ferrous

Plough Trends

N

0m 50m

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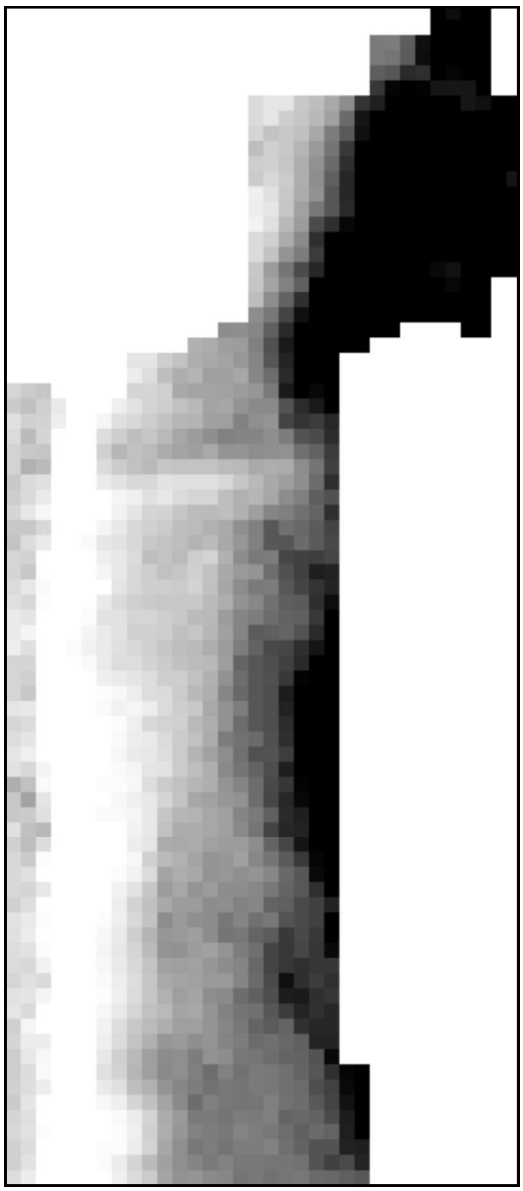
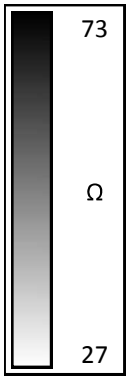
Figure 5

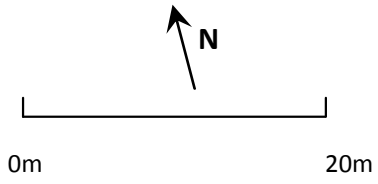
JOHN O'GROATS MILL

Area A

Resistance Survey: Raw Data



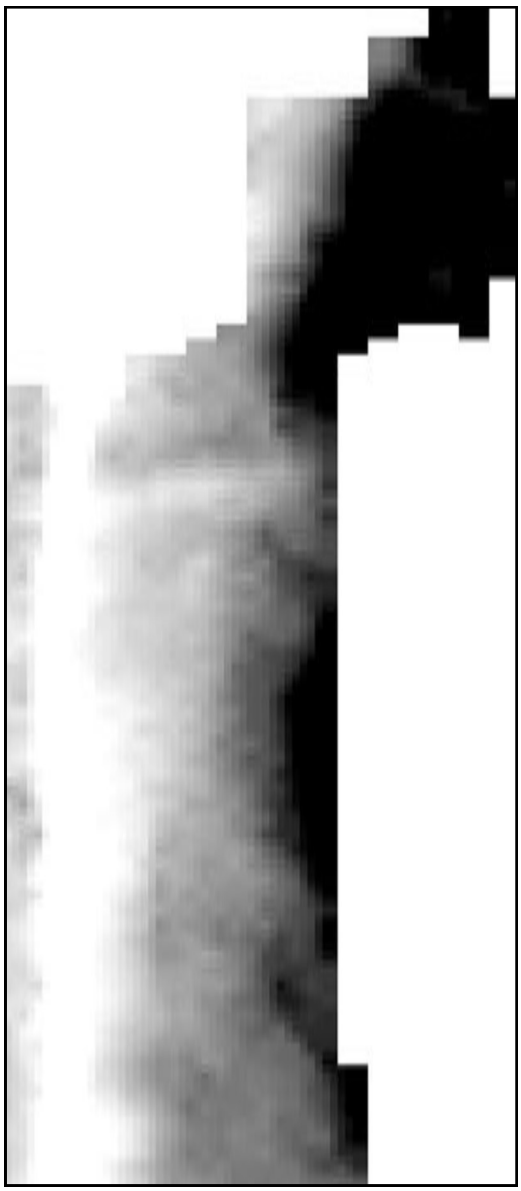


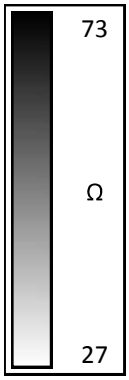


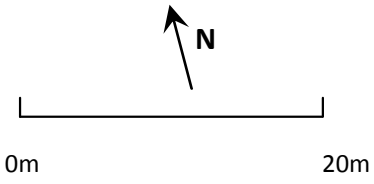
JOHN O'GROATS MILL

Area A

Resistance Survey: Interpolated Data



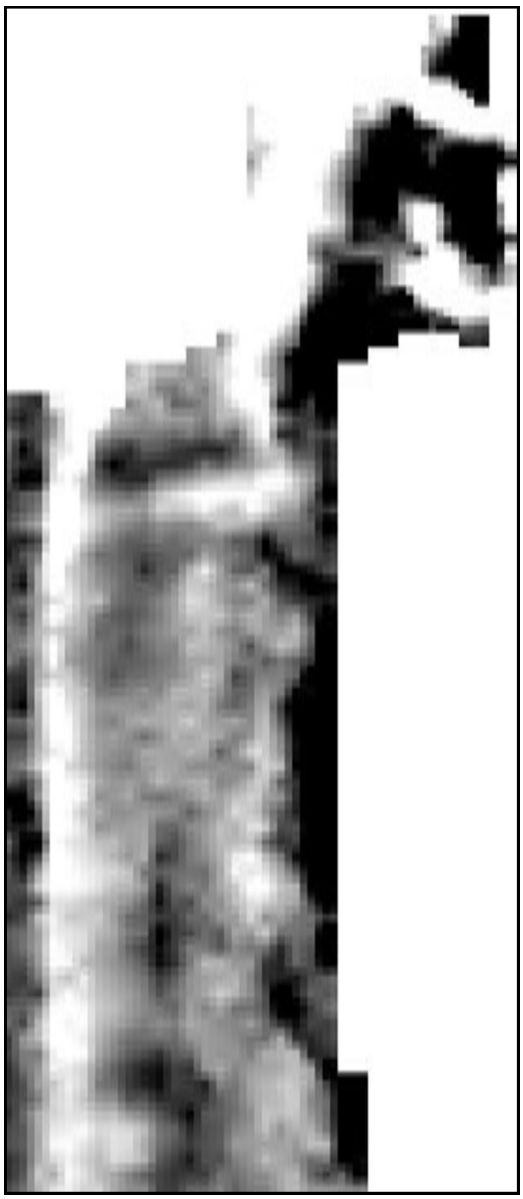


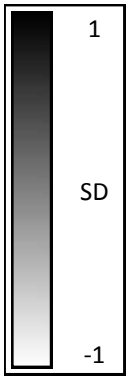


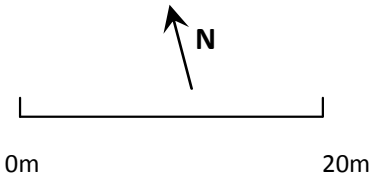
JOHN O'GROATS MILL

Area A

Resistance Survey: High Pass Filtered Data



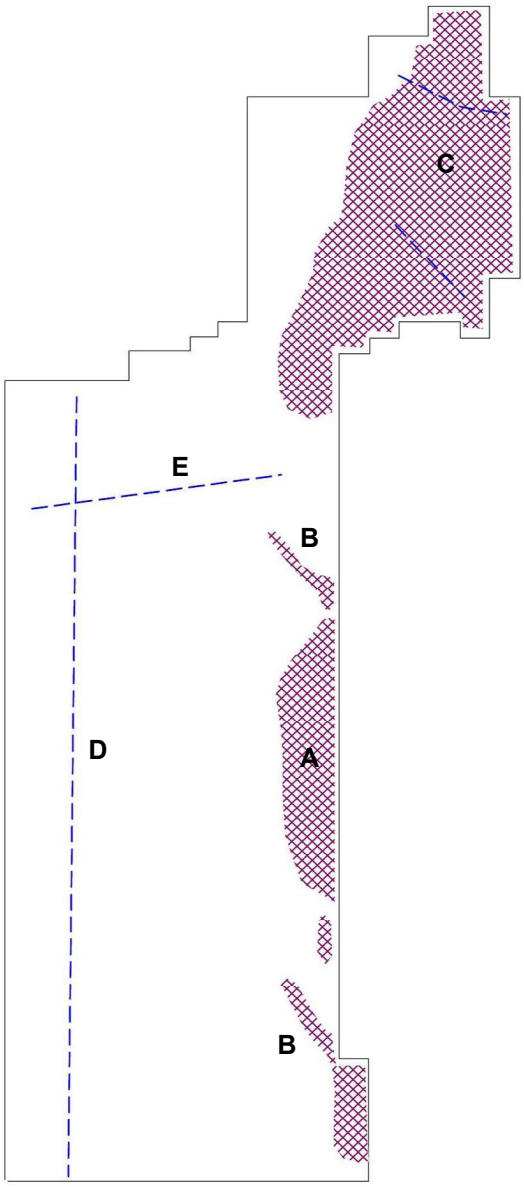




JOHN O'GROATS MILL

Area A

Resistance Survey: Interpretation



High Resistance: ?Archaeology

High Resistance: Trend

Low Resistance Trend

N

0m 20m

Rose Geophysical Consultants

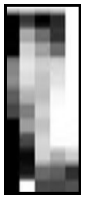
Figure 9

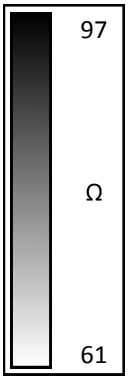
JOHN O'GROATS MILL

Area B

Resistance Survey

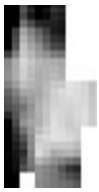
Raw Data



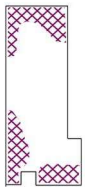


Interpolated Data

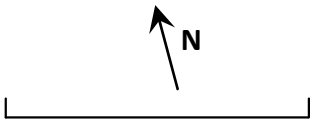
High Pass Filtered Data



Interpretation



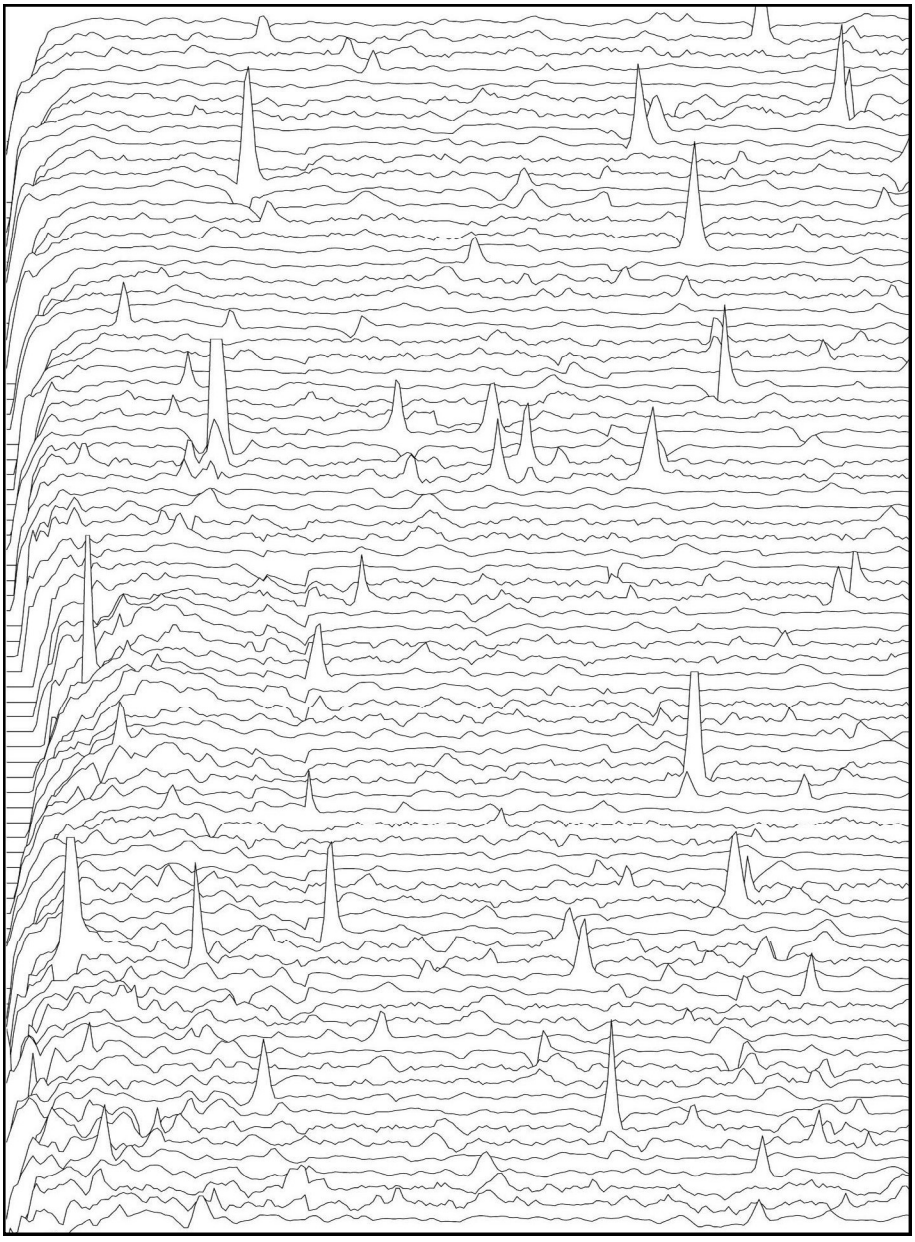
High Resistance:
?Archaeology



JOHN O'GROATS MILL

Area C

Gradiometer Survey: Raw Data



20 nT

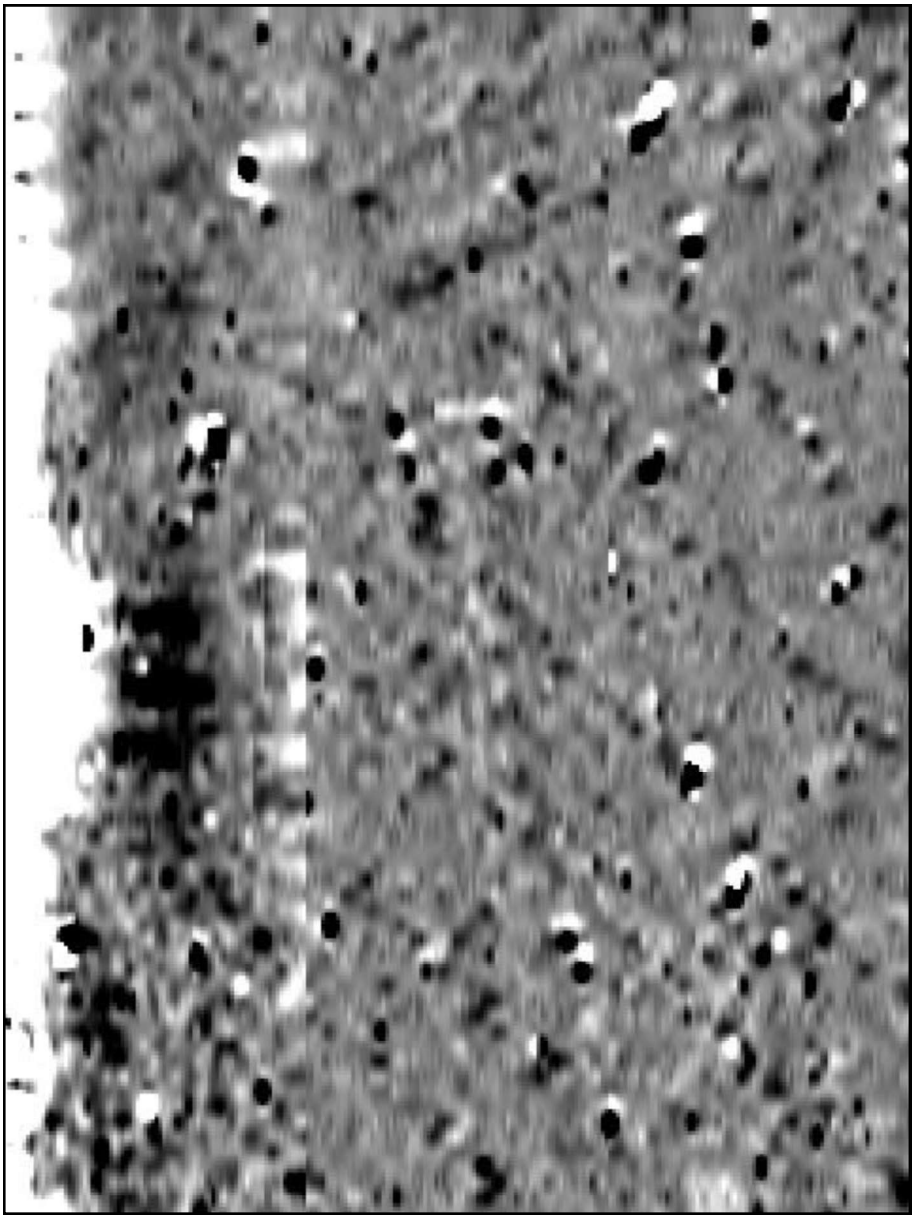
N

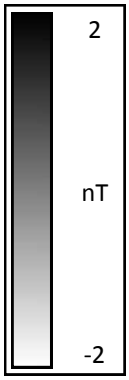
0m 20m

JOHN O'GROATS MILL

Area C

Gradiometer Survey: Interpolated Data





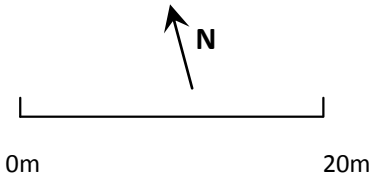


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Figure 12

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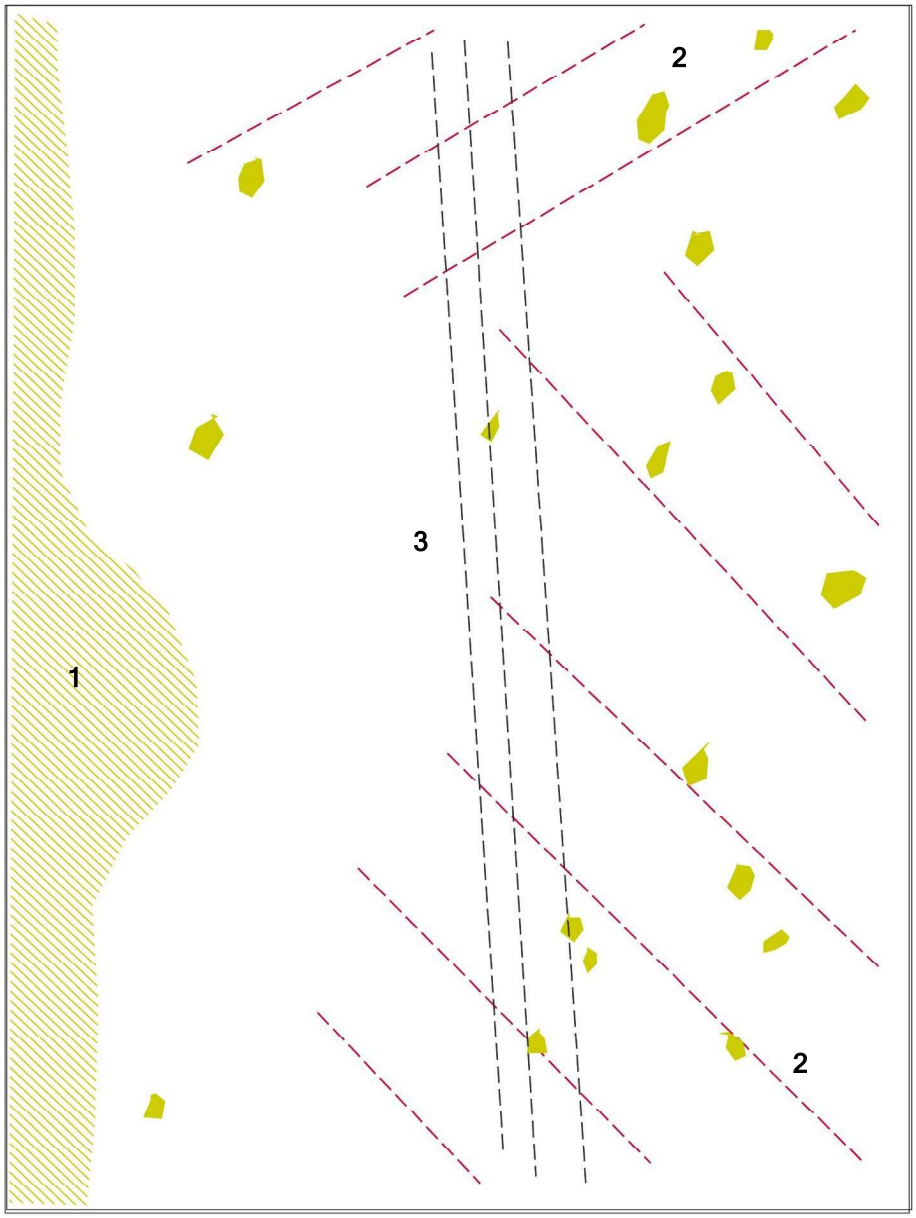
Area C

Gradiometer Survey: Interpretation



Magnetic Disturbance

?Drainage

Ferrous

Plough Trends

N

0m

20m

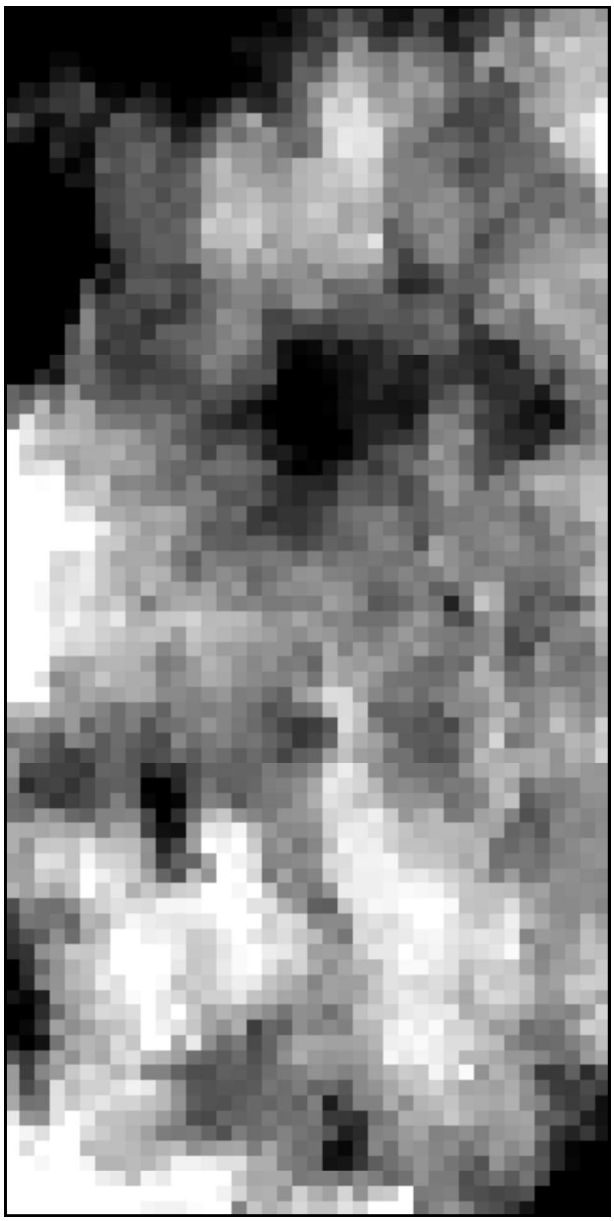
Rose Geophysical Consultants

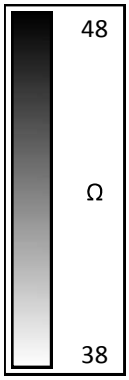
Figure 13

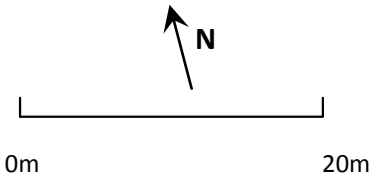
JOHN O'GROATS MILL

Area C

Resistance Survey: Raw Data



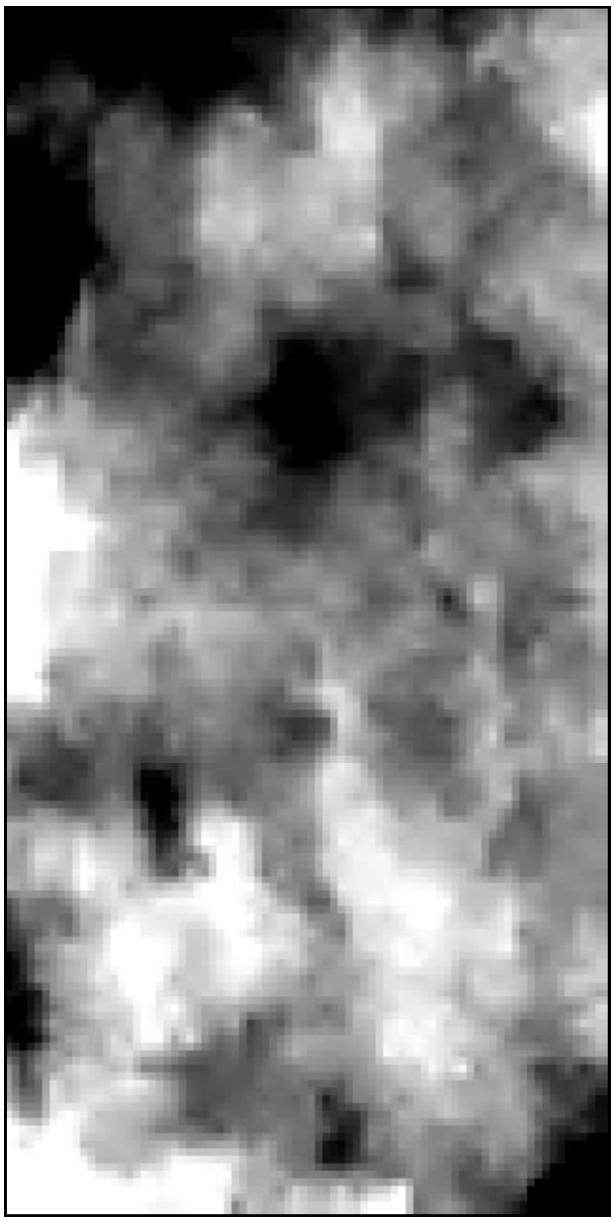


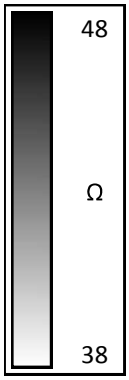


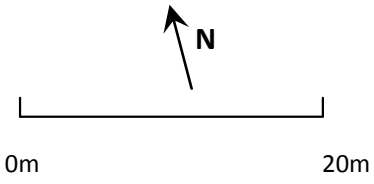
JOHN O'GROATS MILL

Area C

Resistance Survey: Interpolated Data



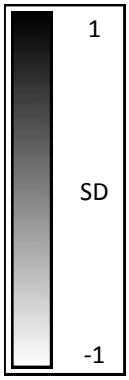


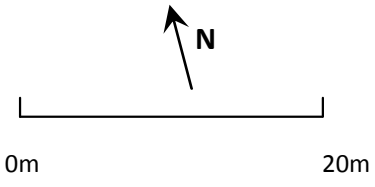


JOHN O'GROATS MILL

Area C

Resistance Survey: High Pass Filtered Data

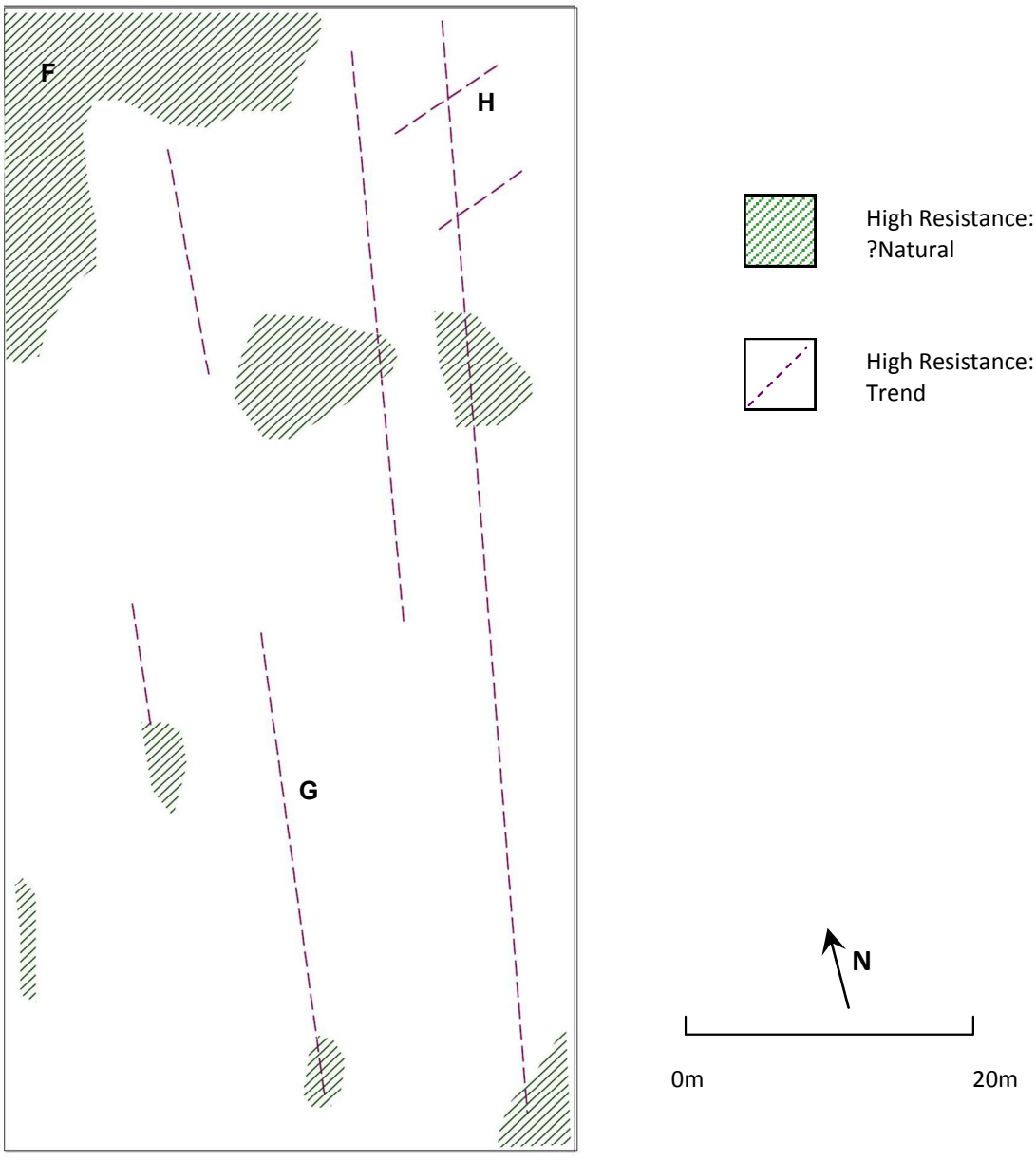




JOHN O'GROATS MILL

Area C

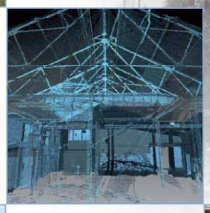
Resistance Survey: Interpretation



Appendix 4: Discovery & Excavation in Scotland (DES) Entry

LOCAL AUTHORITY:	Highlands Council
PROJECT TITLE/SITE NAME	John O'Groats Mill
PROJECT CODE:	AOC 22376
PARISH:	Canisby
NAME OF CONTRIBUTOR:	Diana Sproat
NAME OF ORGANISATION:	AOC Archaeology Group
TYPE(S) OF PROJECT:	Historic Building Recording, Desk-Based Assessment, Walkover Survey & Geophysical Survey
NMRS NO(S):	ND37SE 44
SITE/MONUMENT TYPE(S):	Mill, Mill Cottages, Cromwellian bridge, Mill pond and waterways
SIGNIFICANT FINDS:	None.
NGR (2 letters, 6 figures)	ND 37023 73349 (centre of mill)
START DATE (this season)	4th March 2013
END DATE (this season)	14th March 2013
PREVIOUS WORK (incl. *DES* ref.)	None.
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	AOC Archaeology Group was commissioned by the Princes Regeneration Trust in association with the North Highland Initiative to undertake the first phase of works as part of a much wider vision for the future of the abandoned John O'Groats mill on the north coast of Caithness. These works, undertaken between 4th – 8th and 14th March, included a desk-based assessment and walkover survey of the land within the ownership of the mill, a detailed measured survey of the mill, a general topographic site plan of the area including the mill pond and its associated waterways, a detailed written photographic survey of the mill, the mill cottages and the abandoned cottages to the north-west, as well as the adjacent 17th century Cromwellian Bridge, an inventory of all the moveable artefacts inside the mill and a geophysical survey on the ground surrounding the mill. John O'Groats Mill was constructed largely in 1901, a rebuild of a much earlier threshing mill, thought to date from the mid-18th century, probably earlier. It is a long held belief that there has been a mill on or near this site for many hundreds of years, and the area of John O'Groats certainly has a long history dating back to the post-medieval period. However, apart from some unpublished investigations dating to the 1980s, there has been no evidence to suggest that any such mills existed, hence this survey aims to pin-point, as best it can, a history and phasing to the site and its landscape in an effort to fully understand its significance. With this information, a better judgement can be made on any future uses within the building and how it can be preserved for the future. The present mill is a large mill for its type, being three storeys in height with a large kiln to the north-east side, a huge overshot waterwheel - set in its own wheel house – powering three large millstones to the first floor. It has been left empty since 2001, and there is a multitude of artefacts within the mill including tools, equipment, former millstones, winnowing machines, etc, which, although not of great antiquity, are all part of the picture of the history and use of the mill in its latest decades of life. The inventory turned up 213 separate entries, some of which have been grouped together as they were found, hence there are many more individual artefacts within the mill for consideration for future display or re-use. The mill pond to the south is just as interesting, lined with flagstones and stone cobbled weirs and water channels.
PROPOSED FUTURE WORK:	None.
CAPTION(S) FOR ILLUSTRS:	None.
SPONSOR OR FUNDING BODY:	National Trust for Scotland
ADDRESS OF MAIN CONTRIBUTOR:	AOC Archaeology Group, Edgefield Road Industrial Estate, Edgefield Road, Loanhead, Midlothian, EH20 9SY
EMAIL ADDRESS:	edinburgh@aocarchaeology.com
ARCHIVE LOCATION: (intended/deposited)	Archive to be deposited in NMRS






AOC Archaeology Group

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