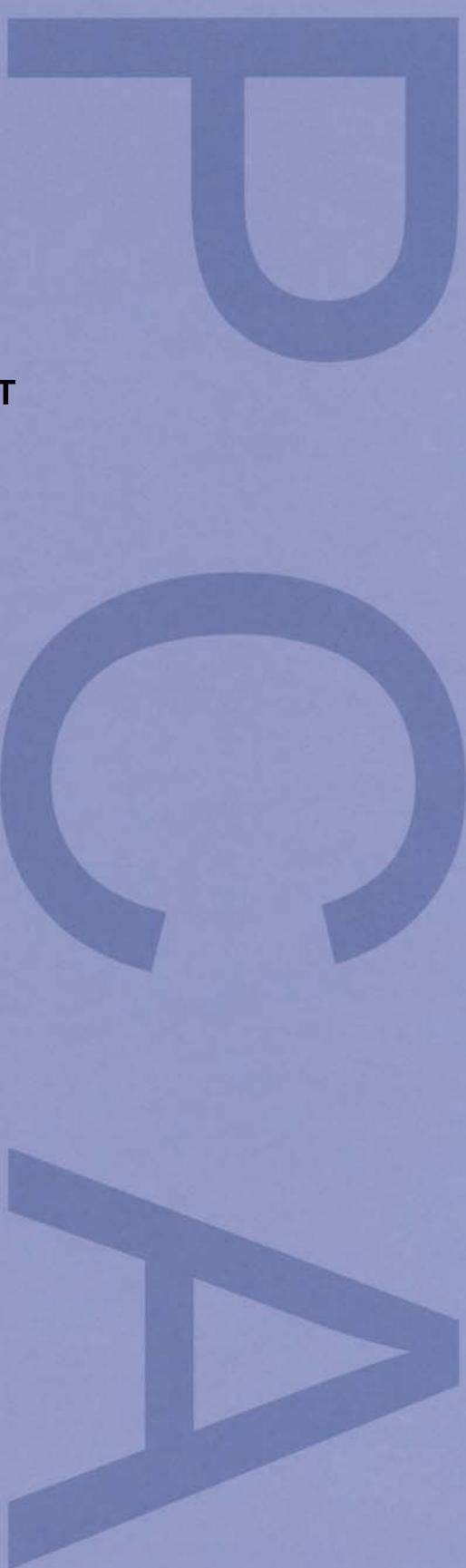


**AN ARCHAEOLOGICAL BUILDING SURVEY AT
NEWTON GARTH FARM, 1 BENTON ROAD,
EAST BOLDON, SOUTH TYNESIDE,
TYNE AND WEAR**



PRE-CONSTRUCT ARCHAEOLOGY

**An Archaeological Building Survey at Newton Garth Farm, 1 Benton Road,
East Boldon, South Tyneside, Tyne and Wear**

Central National Grid Reference: NZ 3549 6265

Site Code: NGB 03

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1. NON-TECHNICAL SUMMARY

- 1.1 This report details the results and working methods of an archaeological and historical building survey undertaken at Newton Garth Farm, 1 Benton Road, East Boldon, South Tyneside, Tyne and Wear. The site's Central National Grid Reference is NZ 3549 6265.
- 1.2 The building survey was undertaken by Pre-Construct Archaeology Limited in November 2003. The work was commissioned by Mr Peter Parry for Zorin International Limited, who intend to convert a range of agricultural buildings to residential use.
- 1.3 The site is marked as an area of archaeological interest on South Tyneside's UDP. Although much altered, the agricultural buildings date from at least the mid 19th century and, as such, are of historic interest. The purpose of the building survey was to provide a permanent record of the structures prior to conversion. In addition, through the identification early structural fabric, the survey would allow an appraisal of the impact of the development proposals upon the archaeological resource.
- 1.4 The building survey involved:
- a search and synthesis of historic maps of the area (relevant maps are included in this report);
 - an examination of the exteriors and interiors of the buildings, in order to identify any features of particular historical or architectural interest;
 - a photographic survey of the exteriors and interiors of the buildings, including details of any features of particular historical or architectural interest;
 - preparation of this report detailing the findings of the survey, and including the photographic record.
- 1.5 The findings of the survey were as follows:
- The earliest fabric recorded during the fieldwork comprised the walls of Building 1 and the lower parts of the walls of Building 2. The date of construction could not be definitely established, but was thought to be in the late 18th/early 19th century, i.e. around 1800. An earlier date, however, could not be ruled out. The buildings were certainly in existence by 1855, the date of the 1st edition of the Ordnance Survey map, and almost certainly by 1840, when they appear to be shown on a tithe map of the area.
 - The floor of Building 2 may be original, although this is not verifiable without excavation. It shares some characteristics with the late 18th century floors of the stable block at Gibside Hall, near Rowland's Gill, although it is of somewhat superior construction, and thus perhaps rather later.
 - The gin house abutting the south-east corner of the buildings, is depicted as a circular structure on early maps, and was probably, at this time, roofed but with open sides. A neighbouring farm, at Brockley Whins, also had a gin house prior to 1855, and indeed

such structures were a commonplace element of farms in the late 18th/early 19th centuries.

- It is likely that the original function of Building 1 was to house the mechanical apparatus driven by the horse gin, whilst Building 2 provided stabling for the horses.
- The roofline of Building 2 was subsequently raised around the middle of the 19th century. The roof trusses of Building 2, therefore, also date to the mid-19th century or later. The asbestos roof covering is a later alteration.
- Building 3, the northernmost of the three to be inspected, was built in the second half of the 19th century, first appearing on the 1895 edition of the Ordnance Survey map.
- The form of the gin house altered between 1895 and 1912, the formerly circular structure appearing on the 1912 edition of the Ordnance Survey map with straight north and south walls, though still with a rounded eastern end. This change of plan may relate to a change in the function of the structure.
- A number of other, minor, alterations have been made to the buildings, most notably the replacement of the roof of Building 1, likely to have been carried out when the present roof of the gin house was added.

2. INTRODUCTION

2.1 General Background

- 2.1.1 An archaeological building survey was undertaken by Pre-Construct Archaeology Limited (hereafter PCA) at Newton Garth Farm, 1 Benton Road, East Boldon, South Tyneside, Tyne and Wear (Figures 1 and 2). The fieldwork was undertaken on the 14th November 2003, in advance of a proposed conversion of a range of agricultural buildings.
- 2.1.2 The fieldwork was commissioned by Mr Peter Parry for Zorin International Limited (hereafter the Client), prior to the conversion of the buildings for residential use. The work was undertaken as a planning condition of the Local Planning Authority, South Tyneside Metropolitan Borough Council (hereafter STMBC), as the buildings are of historic interest. The main aim of the project was to provide a permanent record of the structures prior to conversion.
- 2.1.3 The work involved a search of relevant historic maps, a thorough inspection of the buildings in order to assess their nature and significance, a photographic survey of the buildings, both internally and externally, and the production of a summary report detailing the findings of the survey.
- 2.1.4 The survey was undertaken according to a specification prepared by the Tyne and Wear Archaeology Officer.¹ The survey was carried out by staff from PCA.
- 2.1.5 Four copies of this report have been produced; one for the Client, one for the Local Planning Authority, one for PCA's files, and one for deposition in the Tyne and Wear Historic Environment Record at West Chapel, Jesmond Old Cemetery, Jesmond Road, Newcastle-upon-Tyne, NE2 1NJ.

2.2 Site Location and Description

- 2.2.1 The site lies to the north-east of the former Boldon Colliery (Figure 1). Newton Garth Farm consists of ranges of buildings to the north, east and west of an open courtyard. The buildings to be converted as part of the current scheme comprise the eastern range of farm buildings, designated as Buildings 1-3 (Figure 2).
- 2.2.2 The site is bounded to the north and east by the track of the Tyne and Wear Metro system, to the west by open fields, and to the south by the River Don.
- 2.2.3 At the time of the survey, Buildings 1-3 were largely disused, and were in a state of some disrepair.

¹ Newcastle City Council, 2003.

2.3 Planning Background

- 2.3.1 Conditional consent for conversion of the eastern range of farm buildings at Newton Garth Farm into two residential properties has been granted by STMBC. The buildings are not listed, and do not lie within a Conservation Area. However, the site is identified as an 'Area of Archaeological Interest' on South Tyneside's Unitary Development Plan because 'Newton Garths' is a settlement of medieval origins. A recommendation was, therefore, made by the Archaeology Officer for Tyne and Wear that archaeological recording should be carried out prior to the implementation of the development.
- 2.3.2 Article 7 of the planning consent granted by STMBC states:
- 'Prior to any works commencing on site a comprehensive photographic record of the site and all associated buildings and structures shall be carried out by a qualified archaeologist according to a previously agreed specification and submitted to and agreed by the Local Planning Authority.'*
- 'A photographic record is required given that the site is of Medieval origin and as such it is safeguarded for its potential archaeological importance.'*
- 2.3.3 The work described in this report was commissioned by the Client to serve as a record and assessment of the buildings, in order fulfil the condition included as Article 7 of the planning consent.

2.4 Method Statement

- 2.4.1 The recording at Newton Garth Farm was undertaken on the recommendation of the Archaeology Officer for Tyne and Wear and in accordance with a specification compiled by her. The fieldwork was undertaken in accordance with the relevant standard and guidance document of the Institute of Field Archaeologists.²
- 2.4.2 The site was visited on 14th November 2003. The buildings were thoroughly investigated during this visit, and the findings provide the basis for this report.
- 2.4.3 A photographic survey of the building was also undertaken on 14th November 2003. The buildings were thoroughly recorded, as far as Health and Safety concerns allowed. The exteriors and representative samples of the interiors of the buildings were photographed using 35mm colour and monochrome print formats. The photographic record of the buildings comprises Appendices A and B to this report.
- 2.4.4 In addition, a search of relevant historic maps was undertaken at Durham County Record Office and the University of Durham, Palace Green Library, Archives and Special Collections. Tyne and Wear Archives were contacted, but held no relevant material. Copies of relevant maps were taken, where possible, scanned and scaled, and these form Appendix C to this report.
- 2.4.5 The Client supplied plan and elevation drawings of the structures and versions of these form Appendix D to this report.

² Institute of Field Archaeologists, 1999.

2.5 Archaeological and Historical Background

- 2.5.1 The Tyne and Wear Historic Environment Record was consulted to provide a baseline consideration of the site's historical and archaeological potential. Newton Garths is a settlement of medieval origin, formerly the property of the Bishop of Durham.³ The village of Newton near Boldon is first mentioned in a document of c. 1180. The earliest reference to the village as Newton Garths dates to 1604, when it was sold. By 1714, the medieval vill had been succeeded by four dispersed farms totalling 337 acres. These included a '*Garths Farm*', although map evidence suggests that this was not on the same site as the present Newton Garth Farm (see paragraph 3.1, below). The farm at the study site was known as Newton Garths Farm until at least 1941 (see paragraphs 3.5-6, below). In the fields surrounding the farm there is visible ridge-and-furrow of probable medieval date.
- 2.5.2 One notable feature of the study site is the presence of a gin house, or horse engine house, built against the eastern side of the range of buildings. The use of horses and other beasts to provide rotative power in agriculture and industry is known throughout the medieval period, although early horse mills appear to have exclusively utilised open gins. Use of horse-powered winding gins in the mining industry was described in 1556 by Agricola, although evidence for the technology in Britain is scarce until the 18th century. Horse-powered winding gins were commonplace in the British mining industry from 1700, until they were superseded by atmospheric and expansion steam engines in the latter part of the 18th century.
- 2.5.3 Farm gin houses, of the type present at Newton Garth, survive in numbers throughout England, Scotland and Wales, and at least 1300 have been recorded. Construction of gin houses is known from the second half of the 18th century. A theory has been advanced that they accompanied the spread of the threshing machine patented by Meikle in the 1770's,⁴ although other types of machinery were powered by horse gins. A large number of gin houses have been recorded in North Yorkshire⁵ and many are known to have been built in southern Scotland around the end of the 18th century. Mechanisation was quickly adopted in Durham and Northumberland, where the expansion of industry, particularly coal mining, resulted in a labour shortage in agriculture.⁶ In some cases the gin houses may have been added as an improvement to a formerly open gin. Many of the gin houses were open-sided, to facilitate the harnessing of the horses to the gin.
- 2.5.4 Construction of gin houses became less frequent from the mid-19th century, the increasing availability of portable steam power being one important factor in this decline, although depression in British agriculture in the latter half of the century was also a contributing factor.

³ Tyne and Wear HER No. 953.

⁴ Hellen, 1972.

⁵ Harrison and Harrison, 1973.

⁶ Wade Martins, 1995.

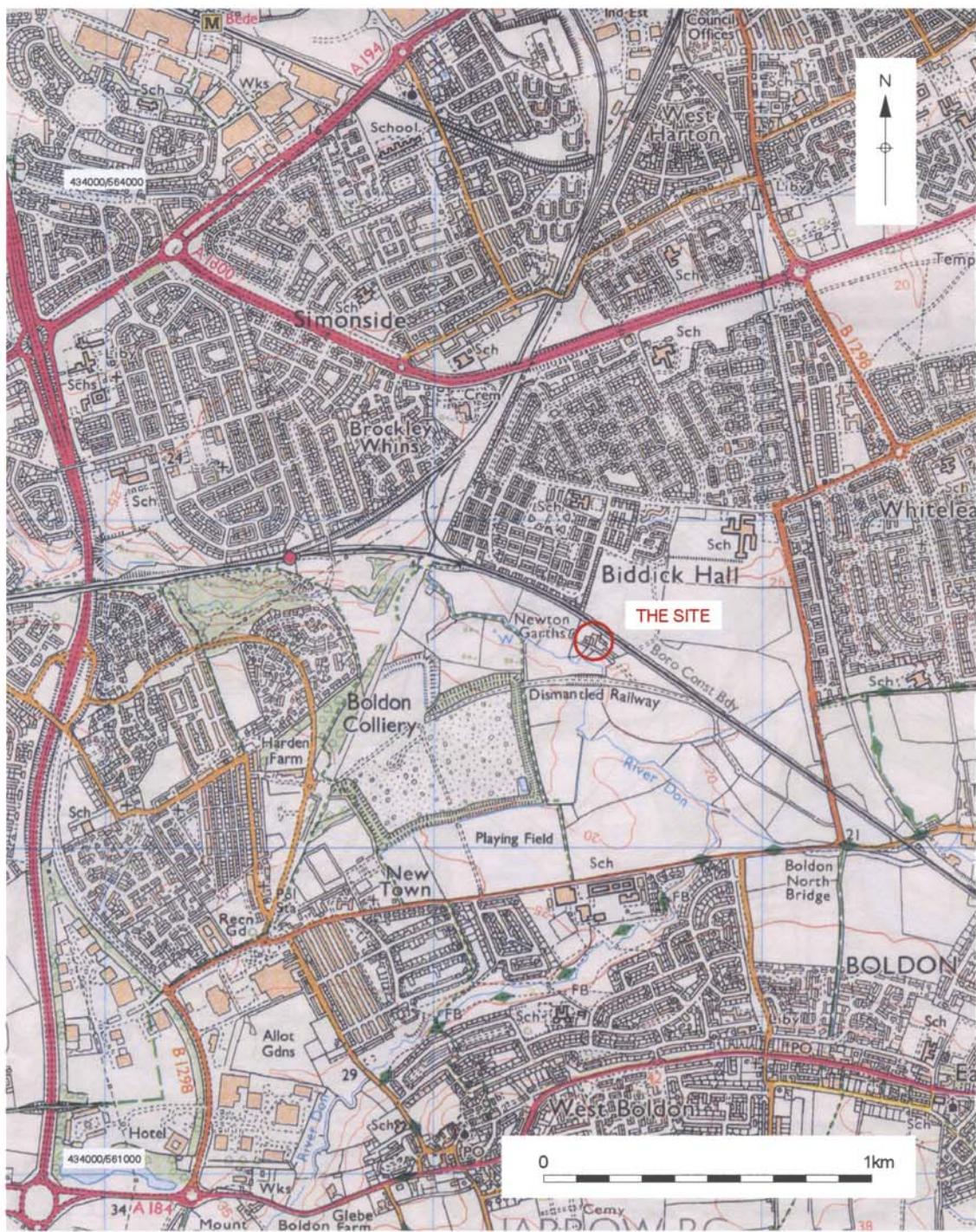


Figure 1. Site location
Scale 1:20,000

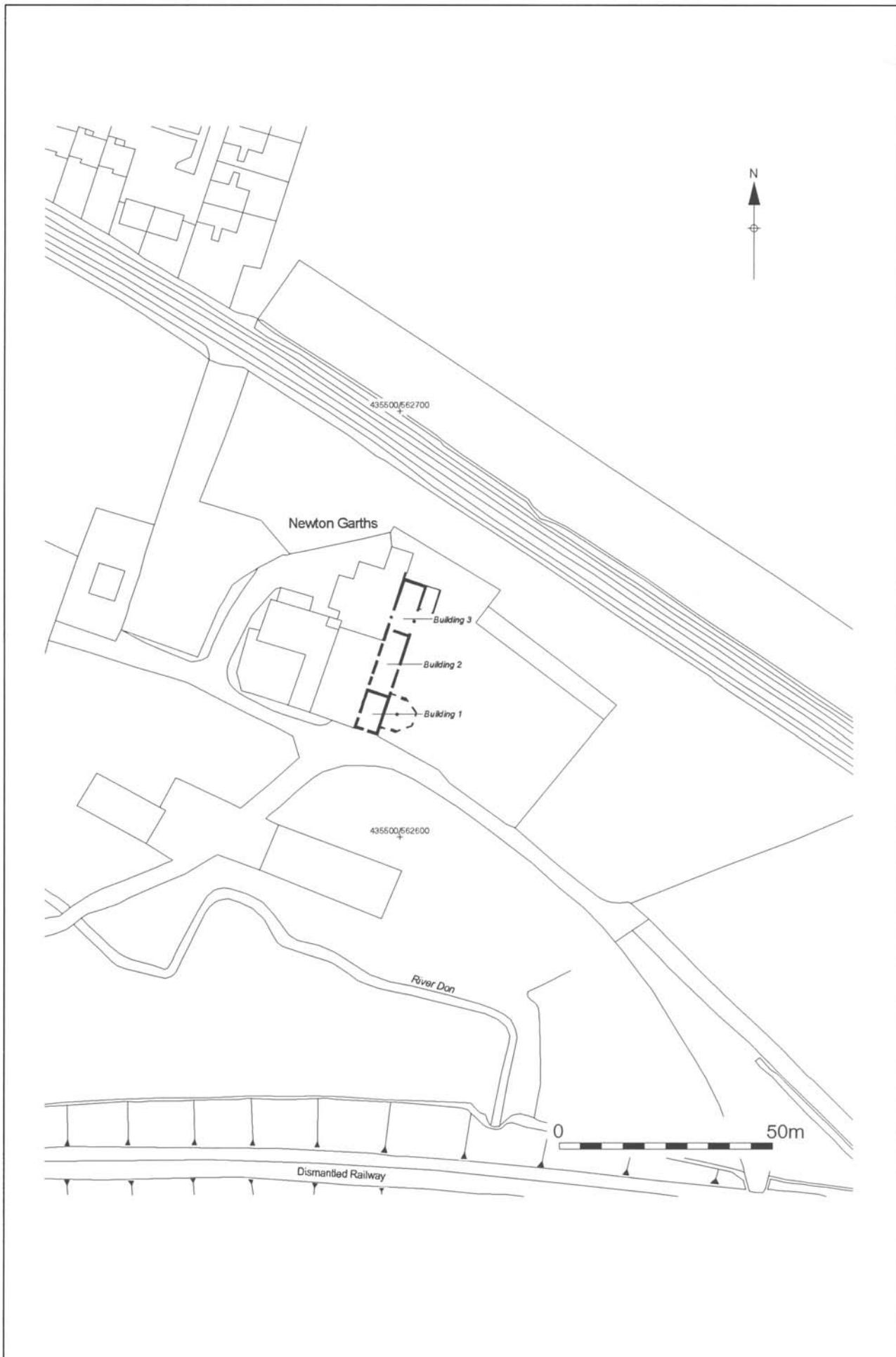


Figure 2. Detailed site location
Scale 1:1250

3. HISTORICAL MAP EVIDENCE

- 3.1 The study site is shown on tithe maps of Boldon and Whitburn, dating from 1840, although these could not be copied for inclusion in this report due to their fragmentary nature. At this time, a farm to the north-west of the study site, under the ownership of Cuthbert Ellison Esquire, is labelled as '*Newton Garths*'. The farm at the study site is shown, unlabelled, and within '*Lands in Whitburn Parish*'. It comprises three ranges of buildings around a courtyard, although the level of detail is not great. There is no representation of the gin house.
- 3.2 The 1st edition of the Ordnance Survey map of 1855 (Figure 3) demonstrates that the farm at the study site – now labelled '*Newton Garths*' - was, by the mid-19th century, in the basic form in which it survives today. Three ranges of buildings, to the north, east and west, surrounded a courtyard, open to the south. The gin house to the east of the eastern range is depicted as part of the complex of buildings, although at this date it was represented as a circular building abutting the eastern range. This representation suggests that the gin house was roofed, but probably had open sides. The map also depicts a similar structure, presumably also a horse mill, at Brockley Whins Farm, approximately 0.5km to the north-west of the study site. The buildings identified as '*Newton Garths*' on the 1840 tithe map are depicted on the 1st edition of the Ordnance Survey map as a single rectangular structure, labelled '*Site of a House*'. This suggests that by 1855 the former '*Newton Garths Farm*' was ruinous and the farm at the study site had adopted the name.
- 3.3 The Ordnance Survey 1895 edition (Figure 4) shows the eastern and western ranges of the farm little changed. The north range and the northern part of the east range, however, exhibit extensive change. The south wall of the north range has been rebuilt further to the north, and the entire north-eastern corner of the farm considerably extended northwards. This suggests a wholesale demolition and reconstruction of the north range, and it is probably during this period that the construction of Building 3 took place. The gin house is still shown as a circular building.
- 3.4 The only significant change on the Ordnance Survey 1912 edition (Figure 5) is the remodelling of the gin house. The north and south sides of the gin house are shown as straight, suggesting that in the early 20th century walls were added to the structure, engaging with the east wall of Building 1. The addition of side-walls to the gin house could be an indication of a change of function.
- 3.5 The Ordnance Survey 1941 edition (Figure 6) has the same representation of the gin house, with straight north and south walls, and a rounded east end. The gin house in its present form has a polygonal east end, suggesting that the existing walls, and possibly the roof, post-date 1941. The 1941 map also shows a further addition to the north range of the farm, referred to on the current architect's plans as Area 5, although this was not included in the survey.
- 3.6 The Ordnance Survey map sequence refers to the farm at the study site as '*Newton Garths*' rather than '*Newton Garth*', suggesting that the latter nomenclature is of recent origin.

4. BUILDING SURVEY

4.1 Exteriors

4.1.1 *Building 1 (Plates A1-2, 5; B1-2, 5)*

- 4.1.1.1 Building 1 is of predominantly yellow, coarse-grained local sandstone construction. The random coursed masonry is roughly squared and quarry-faced. The quoins comprise larger, slightly better dressed blocks, flush with the walls. The masonry is bonded with moderately hard, brownish grey, sandy mortar, which is locally soft, where deterioration has taken place. The exterior walls of the building are limewashed, although much of the finish has flaked away. The roof is of slate. The coping of the south gable projects upwards beyond the line of the roof.
- 4.1.1.2 There are no windows, as such, in the western elevation of Building 1. Two narrow slots of irregular width provide ventilation. The vents have a splayed reveal, and thus their form is reminiscent of medieval arrow-slits. Towards the southern end of the western elevation, access to the building is provided by a stable door with a timber frame, and a timber lintel above. The uprights of the wooden frame are set into sockets in the threshold stone. The threshold shows considerable wear on the upper surface, and is broken into two pieces. The northern part of the threshold also shows signs of having been chiselled, perhaps due to a sticking replaced door. Two sandstone steps leading to the threshold display much less evidence of wear, and are thus unlikely to comprise part of the original build.
- 4.1.1.3 A substantial buttress, of hand-made brick construction, is built against the western wall of Building 1 (Plates A25, B23). The brickwork is bonded with hard, yellowish grey sandy mortar, and is laid in tumbling courses, though at a shallow angle. The buttress is straight jointed to the sandstone wall, and is clearly a later alteration to the original building.
- 4.1.1.4 The door in the southern elevation of Building 1 (Plates A24, B22) is an alteration to the original building. The jambs are of bullnose brick construction, laid in courses of three full bricks alternating with three half bats. The door is surmounted by a timber lintel. Further brickwork has been inserted on either side of the door at the level of the floor, which includes airbricks with cruciform perforations. At the top of the wall, in the south-east corner of the building, there are a number of noticeably larger and more prominent quoins. It is possible that the upper part of the south-east corner was re-built, perhaps during replacement of the roof, although evidence for a re-build was not conclusive.
- 4.1.1.5 A low structure at floor level between the central post and the eastern wall of Building 1 may indicate that the form of the gin was altered from that with an overhead horizontal beam, to the type with a bevel beneath the central bearing, and the horizontal drive shaft culverted beneath the horse track.⁷ If this is the case, it is implicit that the present floor is at a lower level than the former, probably packed earth, floor of the horse track.

⁷ Crossley, 1990; Jones, 1996.

4.1.1.6 The extension that comprises the former gin house is constructed largely from modern brick, with textured facing bricks in the exterior walls (Plates A5, 28; B5, 26). The brick comprises infill between piers at the corners of the extension. Three of the piers are of sandstone construction, including two substantial rectangular piers supporting the main transverse beam. The south-eastern pier, also of sandstone, is circular, tapering towards the top. The north-eastern pier comprises hand-made brick, employing bullnose bricks on the corners, and is probably a later replacement of a demolished stone pier. Two further brick piers, abutting the walls of the main building, are likely to be contemporary with the construction of the straight north and south walls, built between 1895 and 1912 (see paragraph 3.4, above). The sandstone piers are bonded with yellowish grey sandy mortar similar to that of the main building, suggesting that they may be contemporary with the original build of Buildings 1 and 2.

4.1.2 Building 2 (Plates A3-4, 6; B3-4, 6)

- 4.1.2.1 The lower part of the walls of Building 2 are of the same build as those of Building 1, the two having originally comprised a single long block. Building 2 is defined as a separate building because it is partitioned from Building 1 by an internal wall with no doorway. The upper parts of the walls of Building 2, beneath the eaves, comprise 13 courses of whitewashed, stretcher bonded hand-made brick, with sandstone gable springers. The brickwork is in English Garden Wall bond, with three courses of stretchers per header course. This demonstrates that the original roofline, level with that of Building 1, has been raised, probably in the first half of the 19th century, though possibly later. This alteration constitutes the second major phase in the sequence of activity relating to the range of farm buildings. The existing roof of Building 2 comprises corrugated asbestos sheeting, and post-dates the extension of the roof.
- 4.1.2.2 The eastern elevation has a single doorway giving access to the ground floor. There is a clear break where the masonry around the door has been re-built, and parts of the door jamb are of brick construction. The door is thus not an original entrance to the building, and is possibly contemporary with the reconstruction of the roof. To the north of this door, access to the first floor is gained through an entrance at first floor level, reached by a wooden ladder. This entrance is built into the brick part of the structure, and again is probably contemporary with the re-modelling of the roof. Further access to the first floor is afforded by a low doorway at the south end of the eastern wall. The top of this access is at the level of the interface between the sandstone masonry and the brick courses, although once again the entrance is likely to be an alteration made when the roofline was raised, demonstrated by the use of brick in the jambs.

- 4.1.2.3 At the north end of the eastern elevation there is a doorway, blocked with sandstone masonry. Above the blocked door, the roofline of a demolished eastern extension to Building 2 is preserved in the whitewash finish (Plates A22, B20). The roofline extends into the brick built section of the wall, demonstrating that its construction post-dates the raising of the roof. The exact form of this annexe was not evident. If it had a single-pitched roof, it is likely to post-date the blocking of the door in the north-eastern corner of Building 2, demonstrating that there was no access to the annexe from within the main building. If the roof was double-pitched, the annexe is likely to post-date the construction of Building 3. This would further suggest that both the ground and first floor entrances to Building 3 represent later alterations to the original building, post-dating the demolition of the annexe. Additional ventilation of the building is provided by a number of lengths of ceramic land drains built into the eastern wall.
- 4.1.2.4 Access to Building 2 from the west is via two stable doors in original positions. The northern door has a thick sandstone lintel and threshold. The upright of the doorframe is chamfered on the shutting side, presumably to avoid injury to livestock that could be caused by a sharp arris.
- 4.1.2.5 The windows in the western elevation are surmounted by thick sandstone lintels (Plates A26, B24). The sills are less substantial, but still comprise single slabs of yellow sandstone. Although small externally, the windows have a fairly sharply splayed reveal to allow more light into the building.
- 4.1.2.6 A single window in the north elevation is blocked at ground floor level with wire-cut brick (Plates A9, 13; B9, 13-14). At first floor level the window is partially blocked, the top part having been left unblocked to allow access from the loft of Building 2 to that of Building 3. The blocking is almost certain to have taken place when Building 3 was built in the latter part of the 19th century, making the window redundant. The existence of the window demonstrates that the northern gable end of Building 2 formed the northern limit of the range after the roofline had been raised.

4.1.3 Building 3 (Plates A7-8; B7-8)

- 4.1.3.1 Building 3 is a late northern extension of the original sandstone building represented by Buildings 1 and 2. There is a straight joint between the southern limit of the building and the brick-built section of Building 2, (Plates A27, B25) demonstrating that the construction of Building 3 post-dates the remodelling of the roof of Building 2.
- 4.1.3.2 Building 3 is of wire-cut brick construction, the brickwork again laid in English Garden Wall bond, but with five stretcher courses per header course. The building is roofed with corrugated steel sheeting on the eastern slope of the roof, and pantile on the western slope and the hipped end to the north. The main access is via a wide garage door in the eastern elevation, with a rolled steel joist serving as a lintel. Additionally, there is access from the northern range of farm buildings to the east. A single window in the eastern elevation is surmounted by a gauged brick camber arch (Plates A23, B21).

4.2 Interiors

4.2.1 *Building 1 (Plates A16-21; B16-19)*

- 4.2.1.1 Internally, the floors of the main part of Building 1 are of flat-sawn timber boards. On the ground floor there are timber posts to the west of the centre line of the building, and against the eastern wall, set into wooden sockets on the floor. The uprights, some of which are missing, define a series of stalls against the eastern wall of the building. The division of the building into stalls is likely to be a later alteration, as Building 1 would have originally contained the bulk of the mill machinery propelled by the horse gin to the east. The use of the building to accommodate livestock, therefore, probably dates to a change of use of the gin house, tentatively dated from map evidence to the period 1895-1912 (see paragraph 3.4, above).
- 4.2.1.2 The upper storey of Building 1 comprises the loft space. The floor is again of flat-sawn boards, their relatively good condition suggesting they are not original. The roof trusses and purlins also have the appearance of having been replaced. The trusses are of hammerbeam construction, with unbraced hammerbeams supporting hammerposts, which are secured to the hammerbeams and principal rafters by bolts. Collar beams are fixed to the principals by a combination of jointing and bolts (Plates A16, 32; B32). A small window in the upper part of the gable, visible only from the interior, is blocked with brick (Plate B31).
- 4.2.1.3 The eastern wall of Building 1 largely forms the western, internal wall of the gin house (Plates A19, B17). Access from the interior of the original stone building to the gin house is provided by a stable door at the southern end of the wall. A single large sandstone block serves as a step up to the threshold of the door. The timber uprights and lintel forming the frame of the door are possibly original, although the door itself is of more recent origin. Two substantial sawn-off beams are set into the wall, held in place by sandstone and timber infill around the beams. Between the two beams there is an irregularly shaped area of sandstone blocking, the upper part of which possibly indicates the point at which the horizontal shaft of the gin passed through the wall.
- 4.2.1.4 The transverse beam between the rectangular piers is supported centrally by a timber post, which occupies the former position of the pivoted post and wheel of the horse gin. A narrower post, secured to the upper edge of the transverse beam with iron cleats, continues to the roofline. On either side of the central post, the horizontal beam is pierced by two mortises aligned with the sawn-off beams set into the western wall. The transverse beam and upper roof support of the timber structure may be original, or, at least, part of the structure of the horse gin, which may have been of more than one phase. The two sawn-off beams possibly formerly provided a framework for an overhead shaft passing through the eastern wall of Building 1. The central structural post below the transverse beam is certainly a late alteration, post-dating the use of the gin mill.

4.2.2 Building 2 (Plates A11-13, 15; B11-14)

- 4.2.2.1 The floor of the lower storey of Building 2 is of well made basalt setts. To the west, they are predominantly rectangular, with areas of square setts in each of the two entrances. To the east, the floor comprises long rectangular setts laid in herringbone fashion, to facilitate drainage from the stalls (Plates A31, B29). Between the floor surfaces of the stalls and the 'corridor' to the west there is a shallow gutter running north-south, turning east to exit the building south of the southern door. The stalls are defined, as in Building 1, by posts at their western edge and against the eastern wall of the building. The posts are set in sockets carved into the basalt setts (Plate B30). Once again, many of the timber elements of the stall construction are missing.
- 4.2.2.2 On the upper storey of Building 2, the floor is again of flat-sawn floorboards, although in Building 2 there is considerably more evidence of decay and wear, and some of the boards are missing. The roof trusses (Plates A30, B28) are of kingpost construction, with diagonal braces between the kingpost and the principal rafters. The kingposts are secured to the tie-beams by iron bolts. The floor and kingpost trusses are probably contemporary with the raising of the original roofline, and are likely to pre-date the asbestos roof.

4.2.3 Building 3 (Plates A9-10, 14; B9-10, 15)

- 4.2.3.1 The ground floor of Building 3 comprises a garage/corridor to Area 4 to the south (Figure 7), with animal pens of wire-cut brick construction to the north. Floors are of concrete. The lintel above the garage door comprises a rolled steel joist; the door itself is missing. This entrance is certainly a late alteration to the building.
- 4.2.3.2 The upper storey of Building 3 was not closely investigated, as the floor was unsafe. The roof trusses are of kingpost construction with diagonal braces, similar to those in Building 2.

5. DISCUSSION

- 5.1 The earliest fabric observed during the fieldwork was the sandstone masonry in the walls of Buildings 1 and 2, as well as, in all likelihood, three of the piers of the former gin house. The floor of Building 2 is possibly also original, although this cannot be confirmed without excavation. Precise dating of the construction is problematic, as it constitutes a purely functional, vernacular farm building, the construction materials and methods of which saw no dramatic change over the course of centuries. There is some evidence that construction/re-building of farm buildings in stone in England dates largely from the 18th century onwards, increasing in concentration in the second half of that century.⁸ A number of features noted at Newton Garth, such as the courtyard layout and the provision of first floor storage, first appear in the second half of the 18th century. In the latter half of the 19th century, when the use of cheap, machine manufactured brick became commonplace, the tradition of stone construction began to decline in the north-east. Comparison with other buildings of a similar nature, for example the stable block of Gibside Hall, which shows some parallels with Building 2 in the character of the floors, also suggests a late 18th/early 19th date. An earlier date cannot, however, be ruled out.
- 5.2 The gin mill seems to be an original feature of the building, although little original fabric remains. The earliest known use of horse mills in County Durham, of which the area was formerly a part, dates to 1183, when a horse mill at Oxen-le-Flatts, near Darlington, is mentioned in the Boldon Book.⁹ This in fact constitutes the earliest reference to a horse mill in the country. Use of the horse gin (a contraction of 'horse engine') was widespread in the 18th century as a method of pumping out and ventilating mine shafts in the Durham coalfield, until made obsolete by the arrival of steam engines. The method of propulsion continued beyond this date in agricultural usage, and so the presence of the gin mill is of little use as a precise indicator of the construction date of the original farm buildings, although it broadly suggests a date range of 1750-1850.
- 5.3 The cartographic evidence, combined with an examination of the buildings, suggests that the sequence of construction was as follows:
- The earliest surviving structural remains at the study site were probably built around 1800. This corresponds to Buildings 1 and 2. Original features recorded during the survey suggest that the function of Building 1 was originally to house the machinery of, possibly, but not necessarily, a threshing machine, powered by the horse gin to the east of the building. The function of Building 2 was probably always to accommodate livestock, perhaps as a stable for the horses used to turn the gin.

⁸ For example, the archives of the Holkham estates in Norfolk show 30 farm rebuilding projects between 1790 and 1820. Wade-Martins, 1977.

⁹ Watts, 2002.

- The first major structural change to the building comprised the extension of the upper storey of Building 2, and the consequent replacement of the roof. The floor level in the northern part of the building was also raised, whilst the floor in the southern part of the upper storey remained at the original level, perhaps to enable the continued use of the original access door. The remodelling of the roof is interpreted as relating to the need for increased storage space. This does not necessarily imply a change of function. The use of hand-pressed brick in the reconstruction work suggests a date in the first half of the 19th century.
 - The construction of Building 3 constitutes the next significant structural change. Building 3 is of factory made brick construction, and thus datable to the latter half of the 19th century. The building first appears on the 1895 edition of the Ordnance Survey map, confirming a date of between 1856 and 1895 for its construction.
 - At some point after the raising of the roofline, an eastern extension to Building 2 was built. The extension, since demolished, is unlikely to have been contemporary with the roof extension, as there was no evidence that the upper part of the western end had been bonded into the brickwork of the remodelled wall of Building 2. Beyond this, it was not possible to pinpoint the construction of the annexe in the structural sequence. It does not appear on the historic maps, and may have been in existence for only a short period of time, or it may post-date 1941.
 - The present walls of the former gin house are a recent addition, post-dating a change of function of the building. Straight walls to the north and south appear to have been added between 1895 and 1912. Although Ordnance Survey maps of 1912 and 1941 both depict the eastern end of the building as curved rather than polygonal, this may be due to stylised mapping, and the present roof may date from the first half of the 20th century.
 - In addition to the major structural changes outlined above, a number of minor alterations to the fabric of the building have been undertaken, notably the replacement of roofing materials, with the probable exception of the pantile components of the roof of Building 3. In the case of Building 1, the entire roof, including the trusses, appears to be a later alteration, possibly contemporary with the present roof of the gin house.
 - A number of doorways, particularly in the eastern elevation of the range, are alterations to the original form of the buildings. It is likely that access to the buildings was originally from the courtyard only.
- 5.4 In summary, the earliest surviving part of the farm constitutes a building with attached horse gin house, of late 18th or early 19th century date, to which later additions, notably the northernmost building, have been added. Many later alterations to the fabric of the building were subsequently made, in the 19th and 20th centuries, and thus little remains in terms of original features.

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7. ACKNOWLEDGEMENTS AND CREDITS

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PCA Credits

Fieldwork: Julie Parker and Alan Telford

Report: Alan Telford

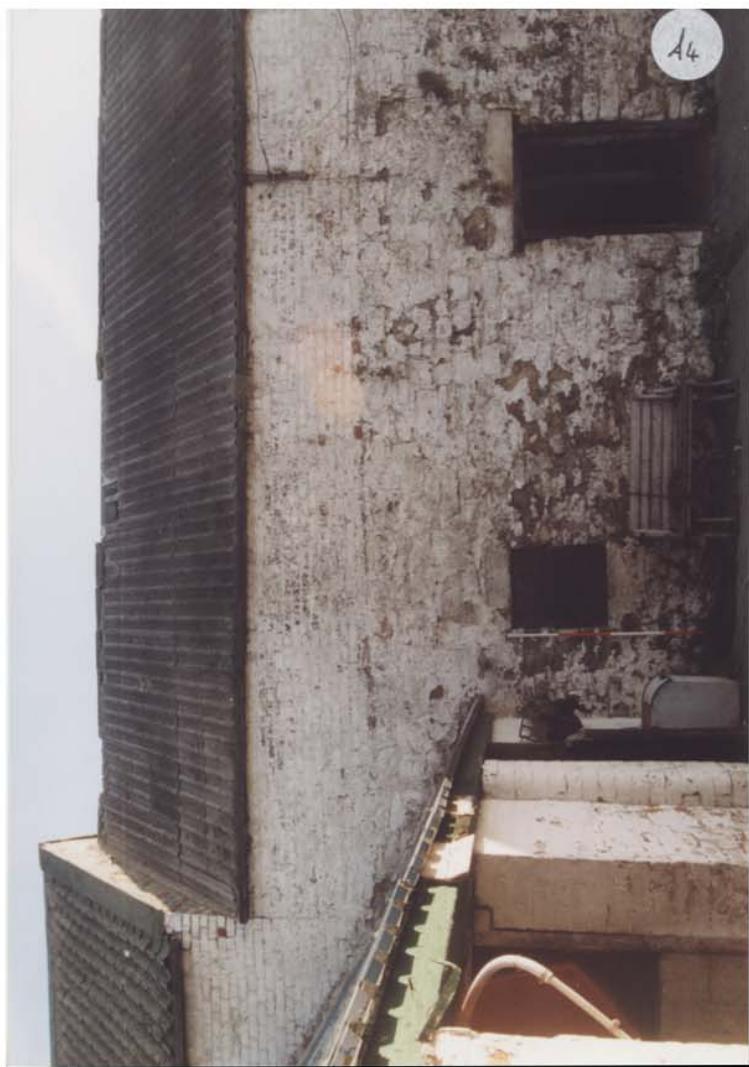
Project Management: Robin Taylor-Wilson and Jennifer Proctor (post-excavation)

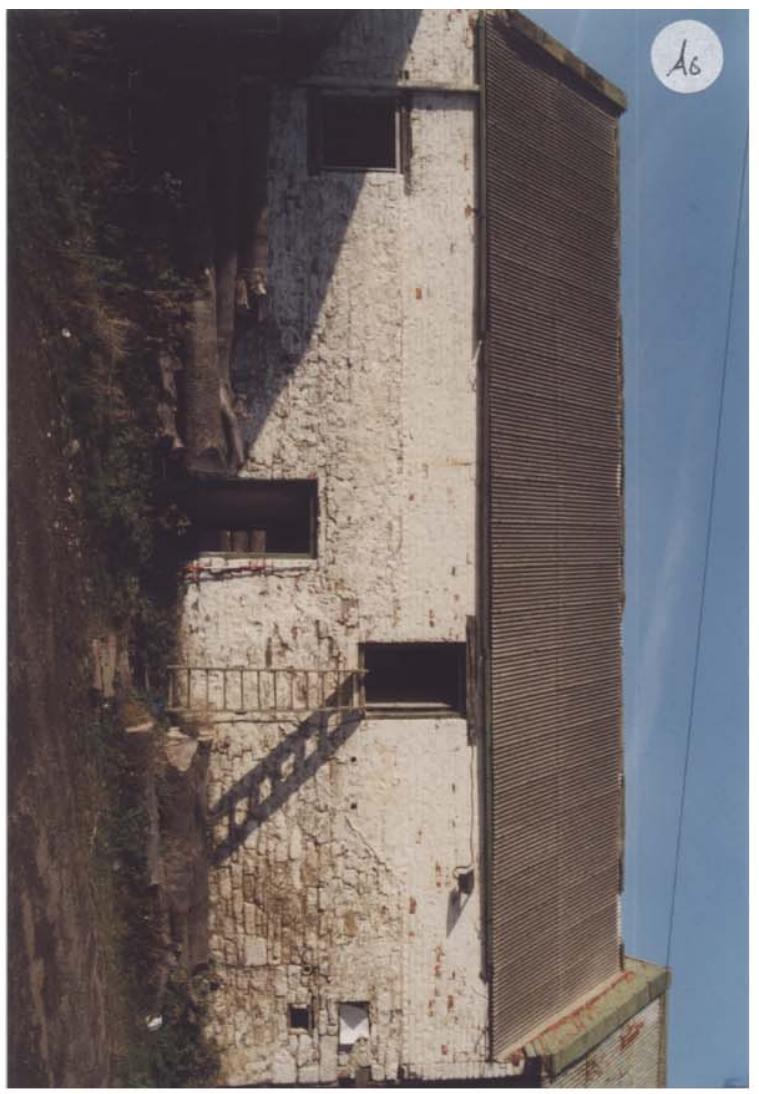
CAD: Adrian Bailey

APPENDIX A: COLOUR PLATES

CATALOGUE OF COLOUR PLATES

Plate No.	Description
A1	South facing elevation, Building 1, 2m scale
A2	West facing elevation, Building 1, 2m scale
A3	West facing elevation, Building 2, south end, 2m scale
A4	West facing elevation, Building 2, north end, 2m scale
A5	East facing elevation, Building 1, 2m scale
A6	East facing elevation, Building 2, 2m scale
A7	East facing elevation, Building 3, 2m scale
A8	North facing elevation, Building 3, 2m scale
A9	Interior Building 3, ground floor, showing north wall of Building 2, 2m scale, facing west
A10	Interior Building 3, ground floor, 2m scale, facing north-west
A11	Interior Building 2, ground floor, 2m scale, facing north
A12	Interior Building 2, ground floor, 2m scale, facing south
A13	Interior Building 2, first floor, 2m scale, facing north
A14	Interior Building 3, first floor, no scale, facing north
A15	Interior Building 2, first floor, 2m scale, facing south
A16	Interior Building 1, first floor, 2m scale, facing south
A17	Interior Building 1, ground floor, 2m scale, facing north
A18	Interior Building 1, ground floor, 2m scale, facing south
A19	East wall of Building 1 from interior of gin house, 2m scale, facing north-west
A20	Interior of gin house, 2m scale, facing south
A21	Interior of gin house, 2m scale, facing north
A22	Detail of roofline of demolished annexe, Building 2, facing west
A23	Detail of window, Building 3, facing north-west
A24	Detail of door, Building 1, facing north
A25	Detail of buttress, Building 1, facing south-east
A26	Detail of window, Building 2, facing east
A27	Detail of joint between Buildings 2 and 3, facing north-east
A28	General shot of farm buildings, facing north-west
A29	General shot of farm buildings, facing north-east
A30	Detail of roof truss, Building 2, facing north
A31	Detail of floor, Building 2, vertical
A32	Detail of roof truss, Building 1, facing south









A13



A15



A14



A15

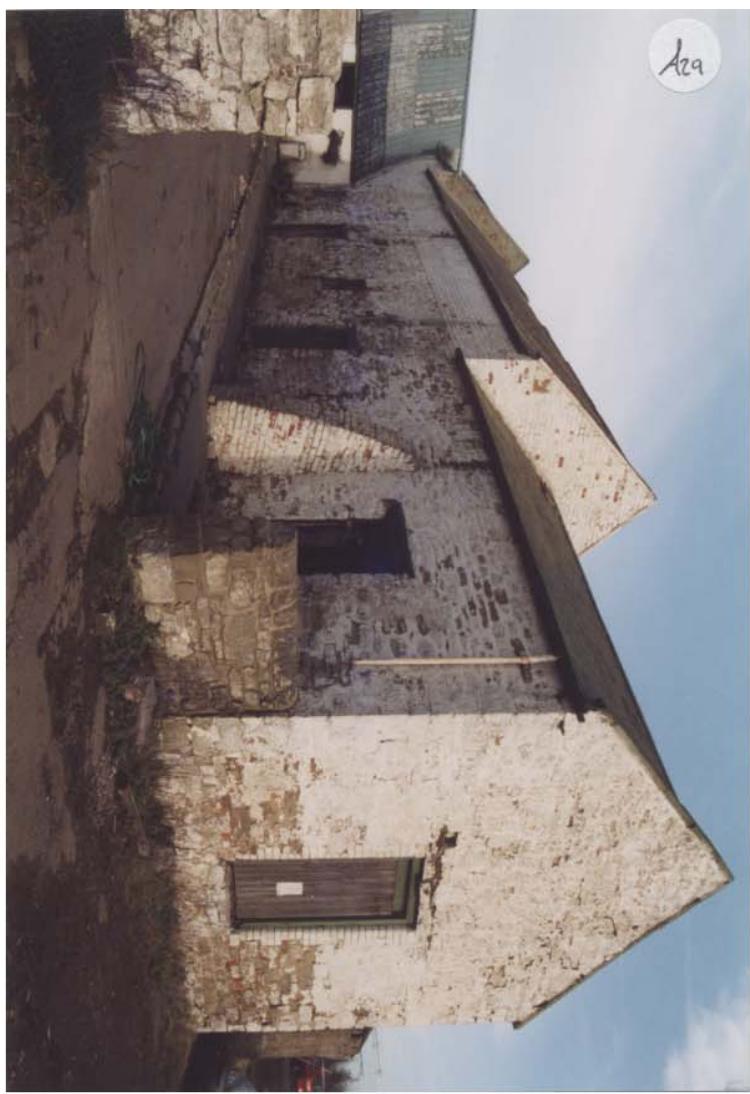


A16









A29



A30



A31



A32

APPENDIX B: MONOCHROME PLATES

CATALOGUE OF MONOCHROME PLATES

Plate No.	Description
B1	South facing elevation, Building 1, 2m scale
B2	West facing elevation, Building 1, 2m scale
B3	West facing elevation, Building 2, south end, 2m scale
B4	West facing elevation, Building 2, north end, 2m scale
B5	East facing elevation, Building 1, 2m scale
B6	East facing elevation, Building 2, 2m scale
B7	East facing elevation, Building 3, 2m scale
B8	North facing elevation, Building 3, 2m scale
B9	Interior Building 3, ground floor, showing north wall of Building 2, 2m scale, facing west
B10	Interior Building 3, ground floor, 2m scale, facing north-west
B11	Interior Building 2, ground floor, 2m scale, facing north
B12	Interior Building 2, ground floor, 2m scale, facing south
B13	Interior Building 2, first floor, 2m scale, facing north
B14	Interior Building 2, first floor, 2m scale, facing north
B15	Interior Building 3, first floor, no scale, facing north
B16	Interior Building 1, ground floor, 2m scale, facing south
B17	East wall of Building 1 from interior of gin house, 2m scale, facing north-west
B18	Interior of gin house, 2m scale, facing south
B19	Interior of gin house, 2m scale, facing north
B20	Detail of roofline of demolished annexe, Building 2, facing west
B21	Detail of window, Building 3, facing north-west
B22	Detail of door, Building 1, facing north
B23	Detail of buttress, Building 1, facing south-east
B24	Detail of window, Building 2, facing east
B25	Detail of joint between Buildings 2 and 3, facing north-east
B26	General shot of farm buildings, facing north-west
B27	General shot of farm buildings, facing north-east
B28	Detail of roof truss, Building 2, facing north
B29	Detail of floor, Building 2, vertical
B30	Detail of post-socket, Building 2, vertical
B31	Detail of blocked window, Building 1, facing south
B32	Detail of roof truss, Building 1, facing south

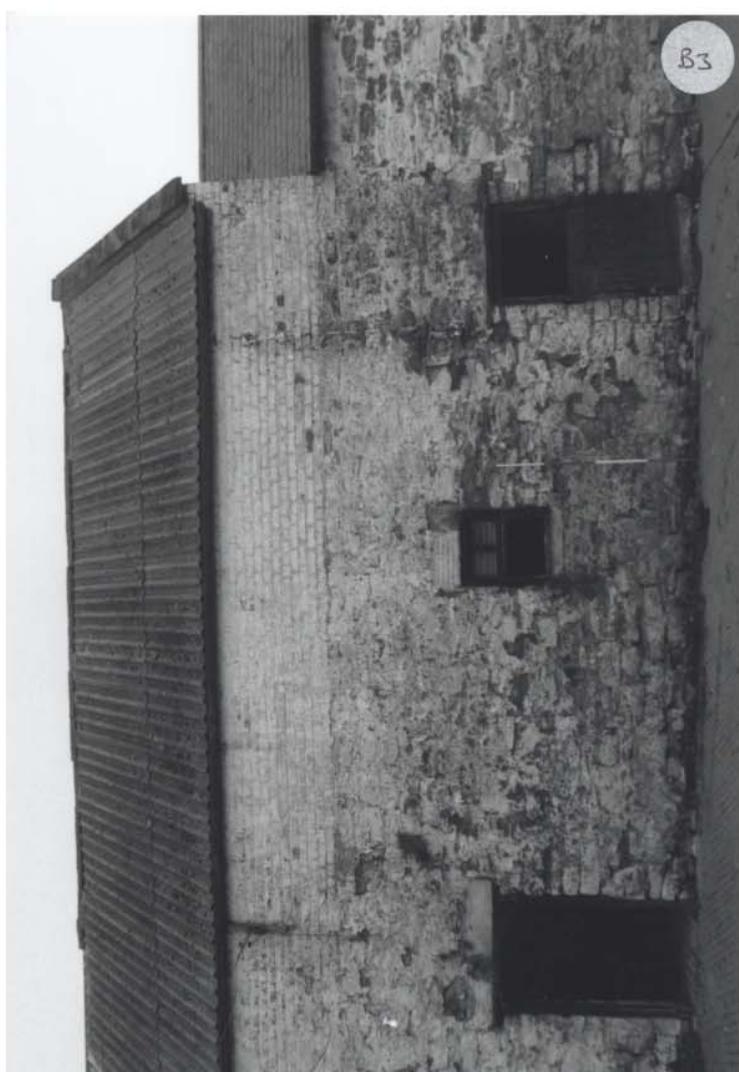
B1



B2



B3

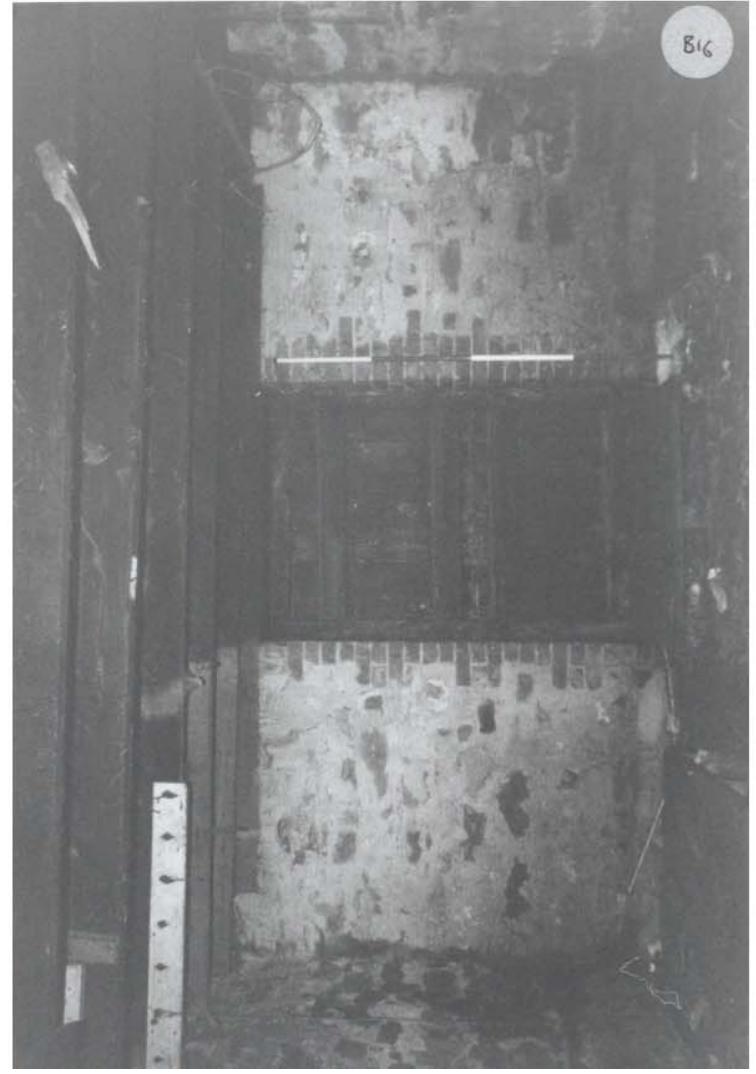
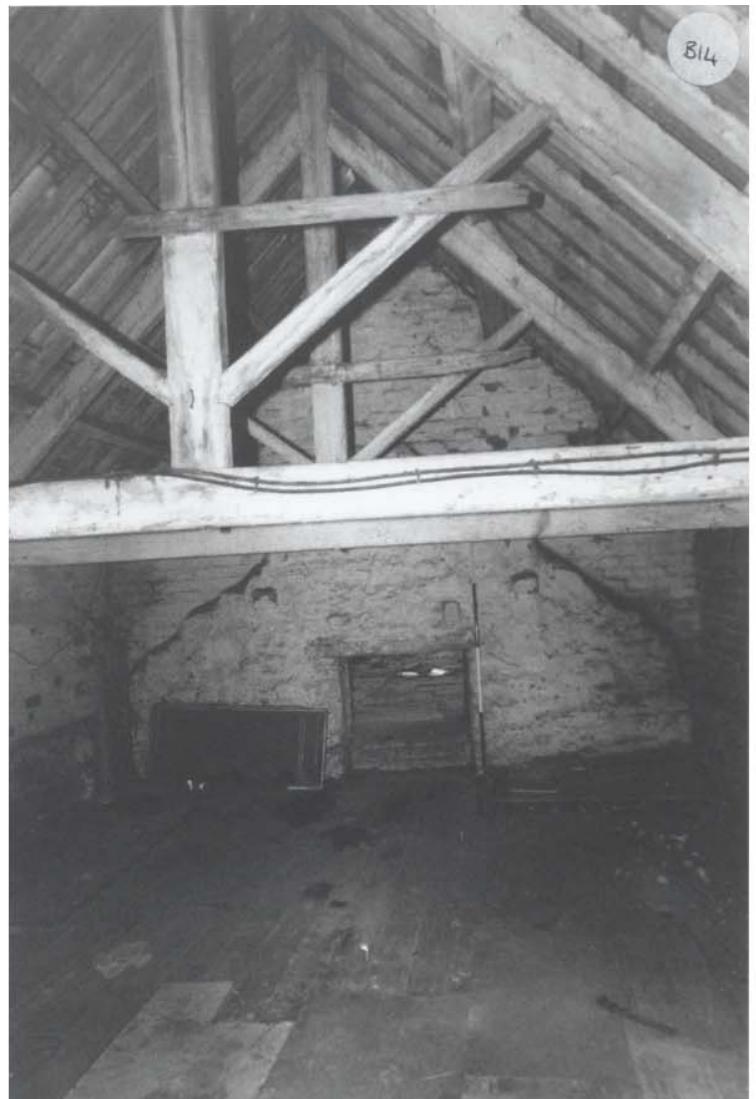


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B17



B18



B19



B20

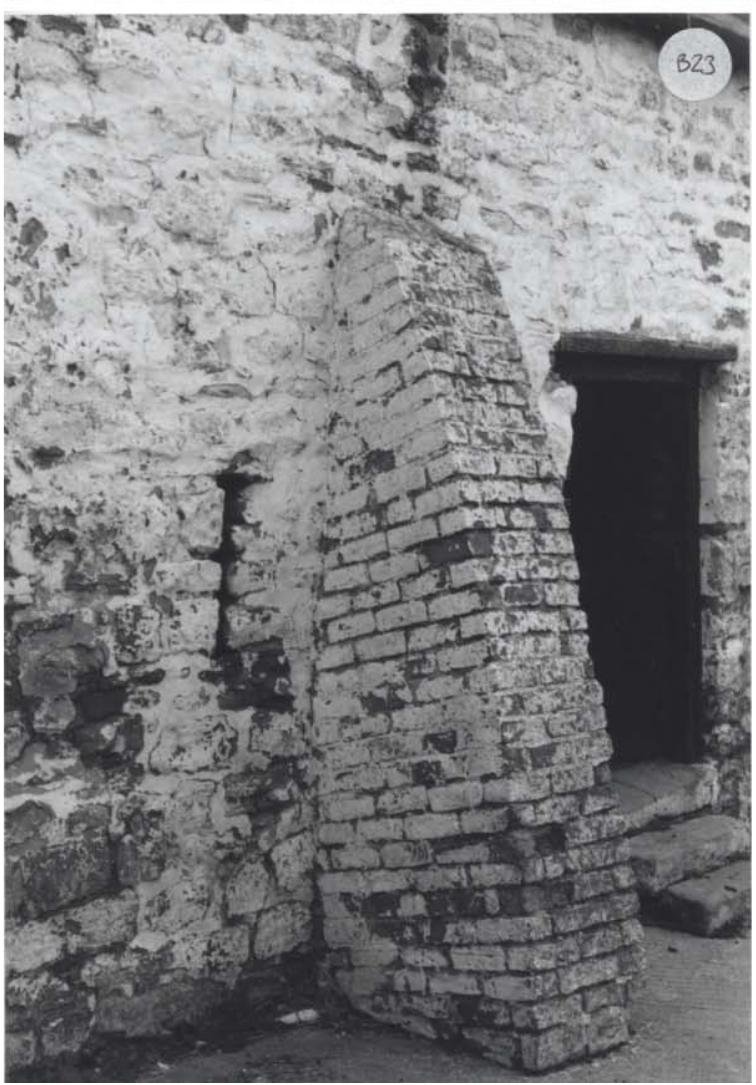




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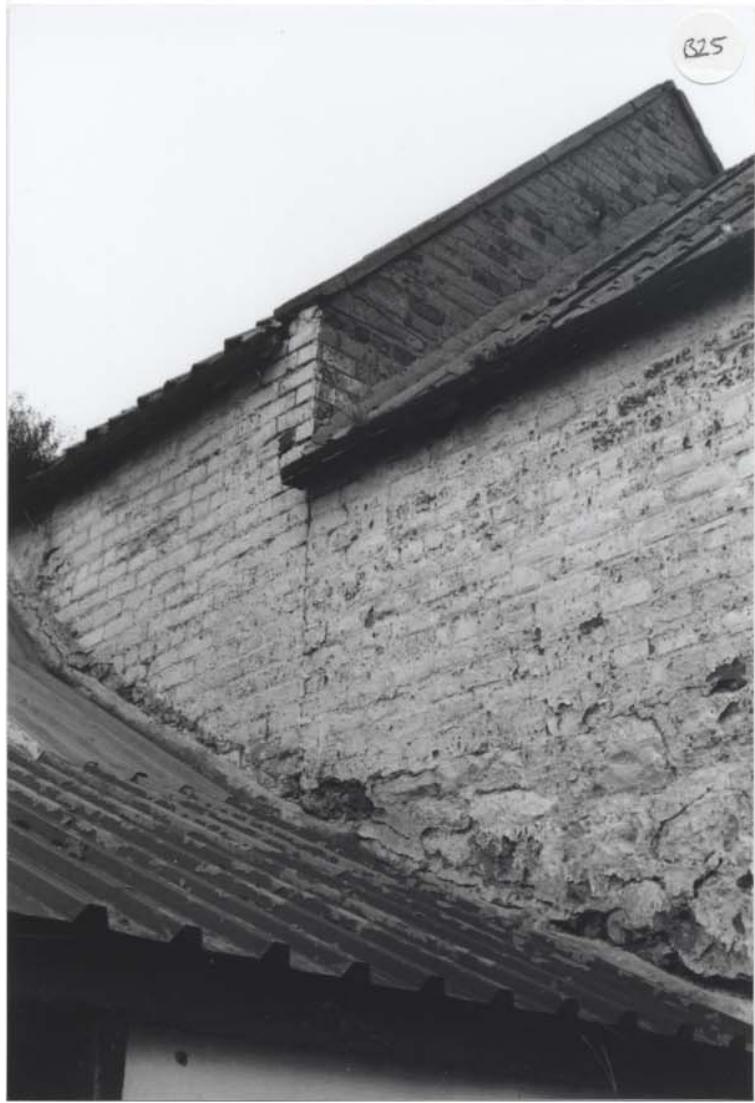
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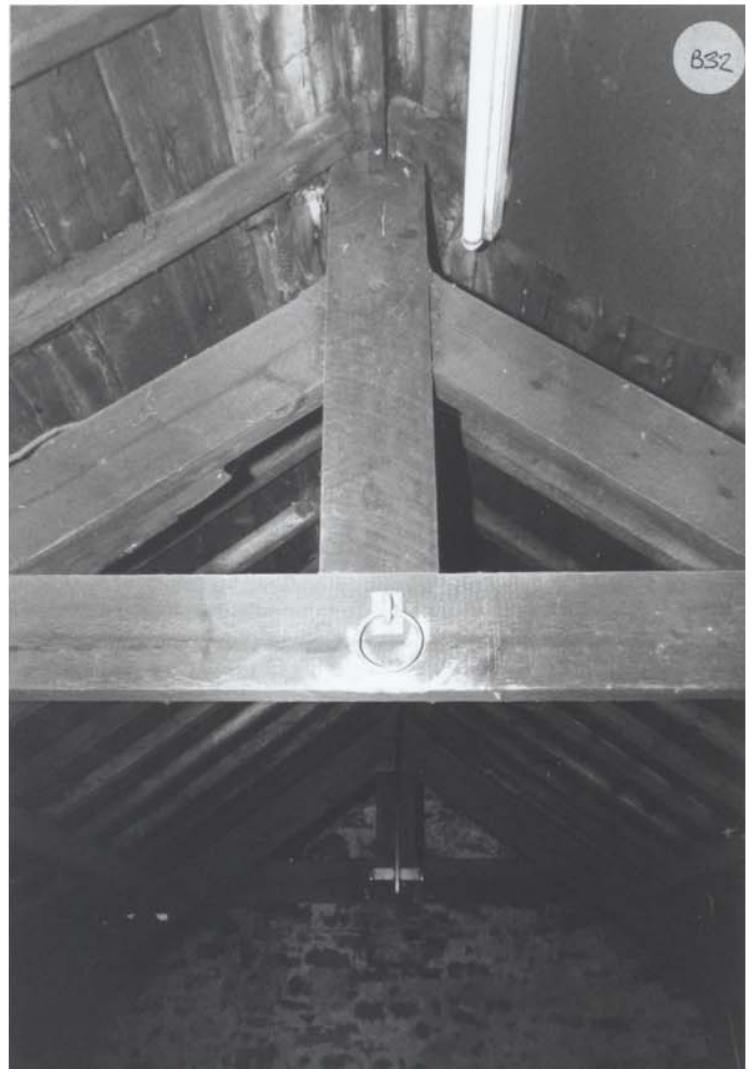


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B24





APPENDIX C: HISTORICAL MAPS

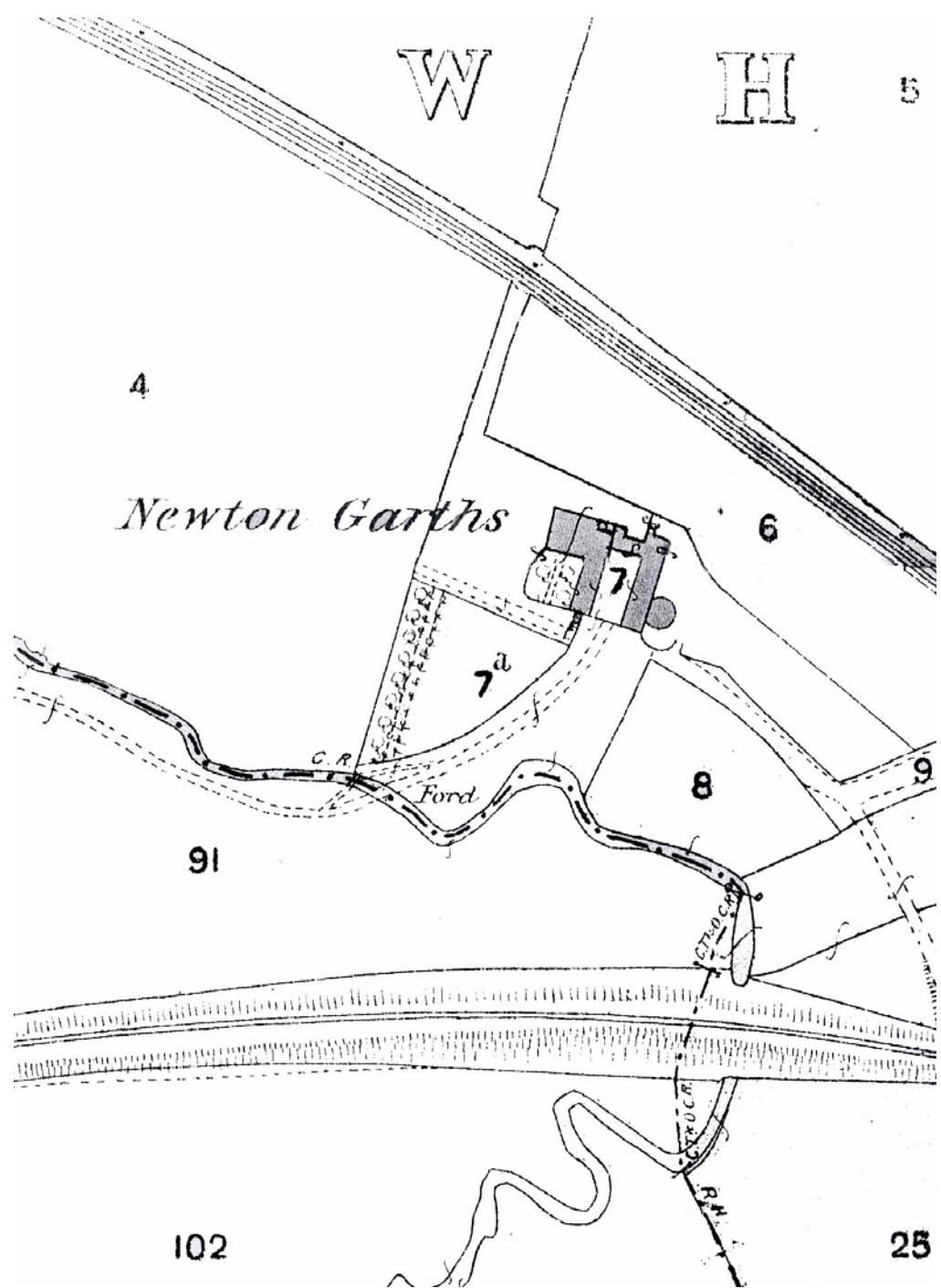


Figure 3. Ordnance Survey 1855

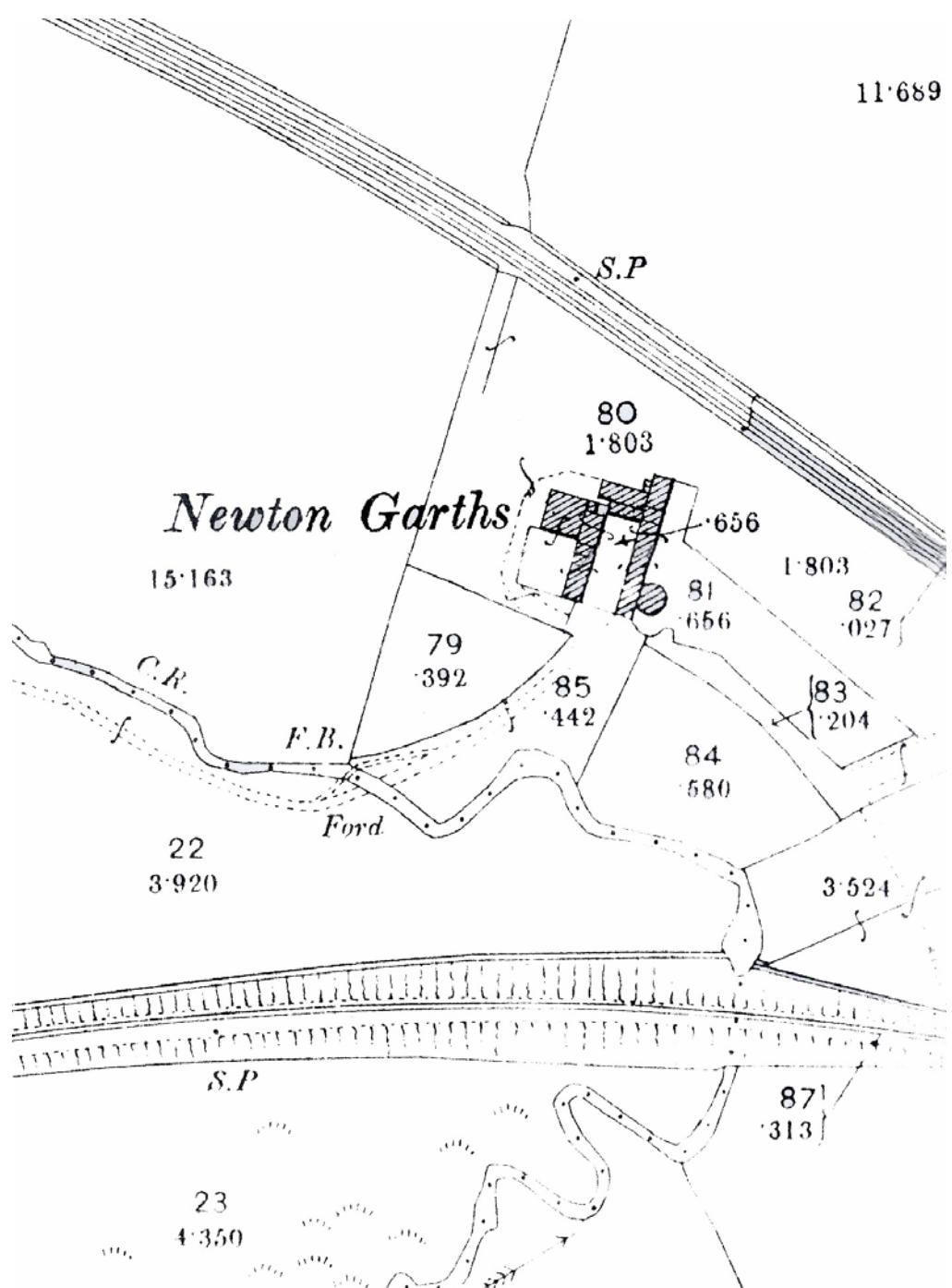


Figure 4. Ordnance Survey 1895

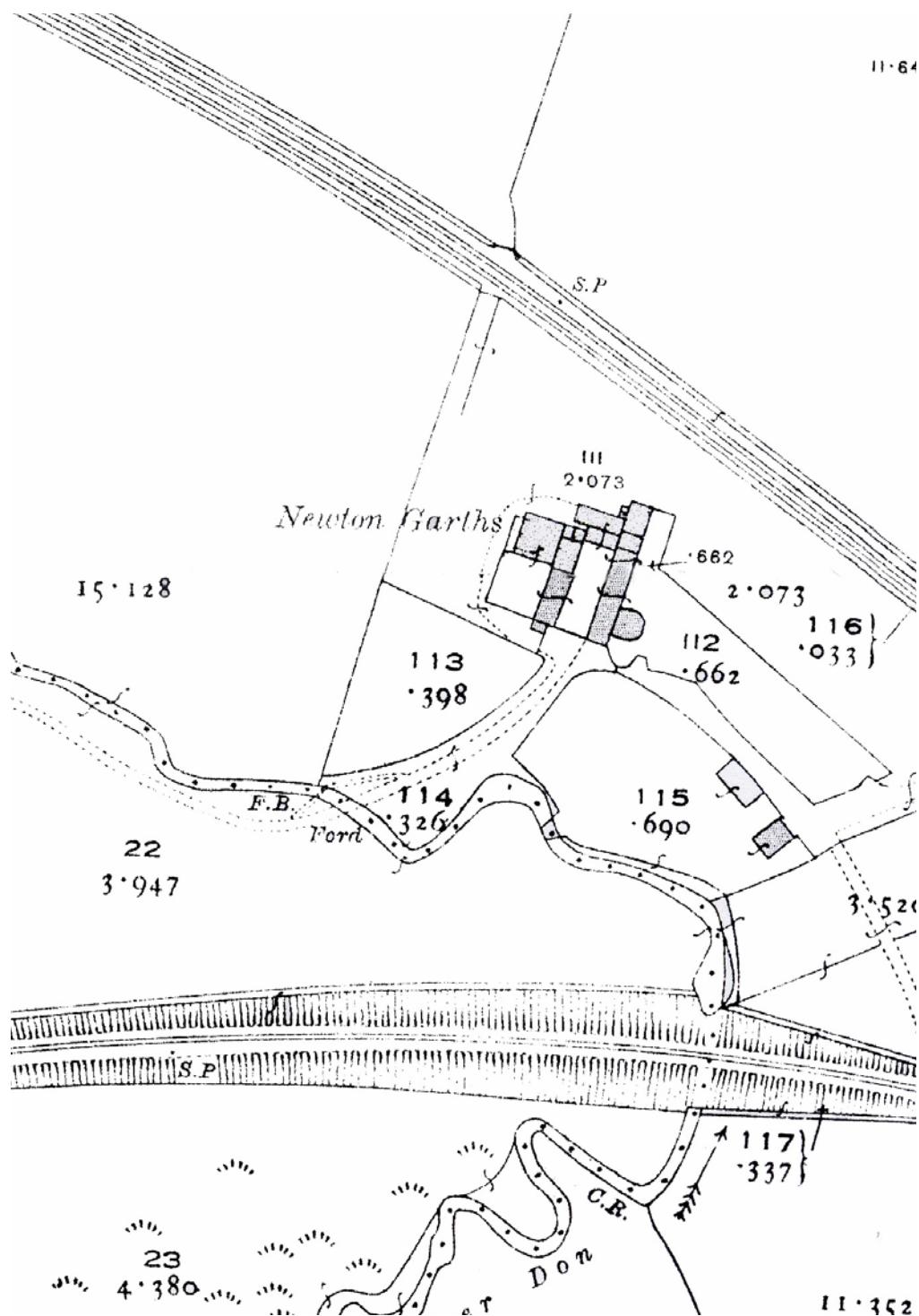


Figure 5. Ordnance Survey 1912

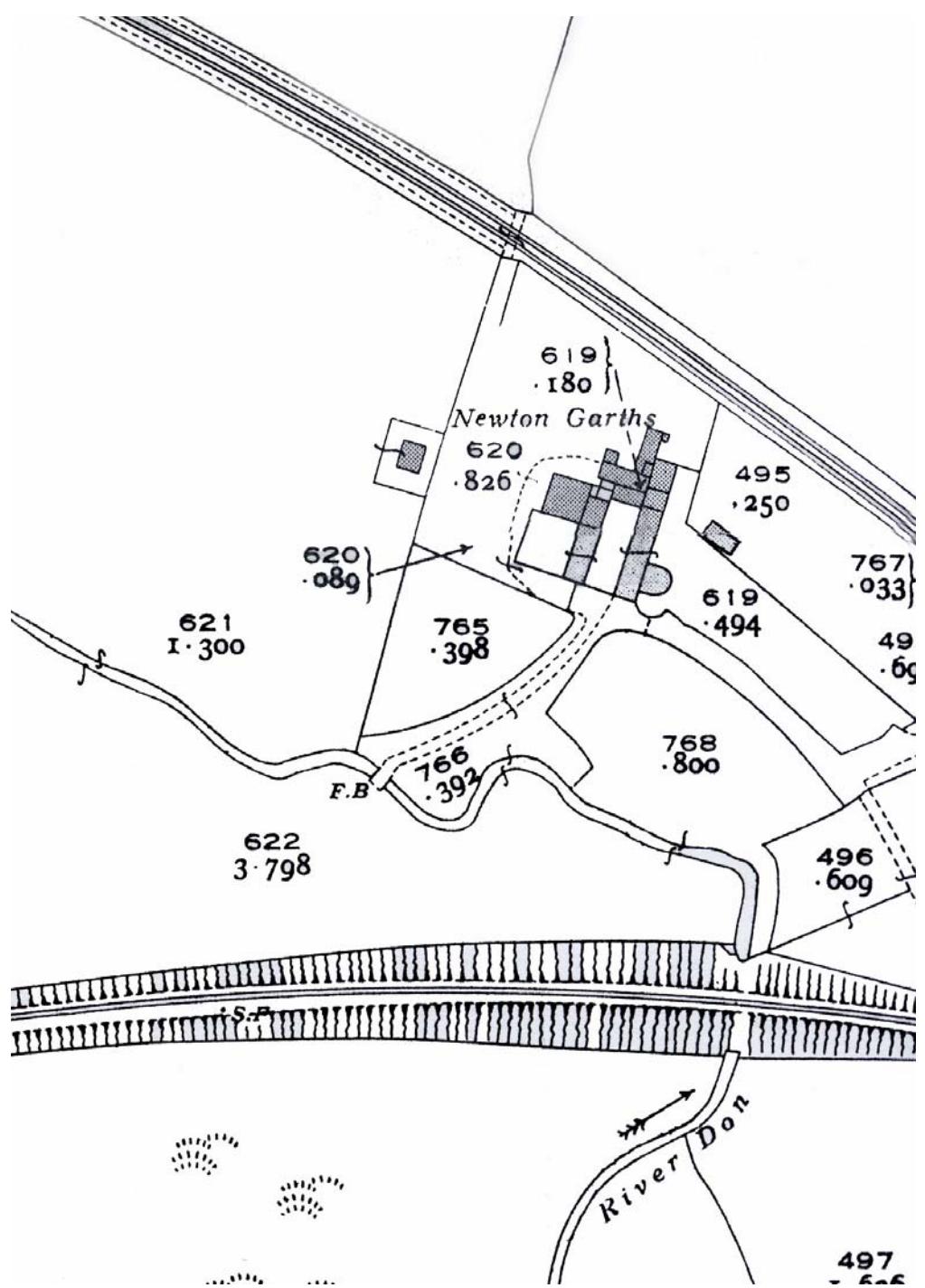


Figure 6. Ordnance Survey 1941

APPENDIX D: ARCHITECT'S DRAWINGS

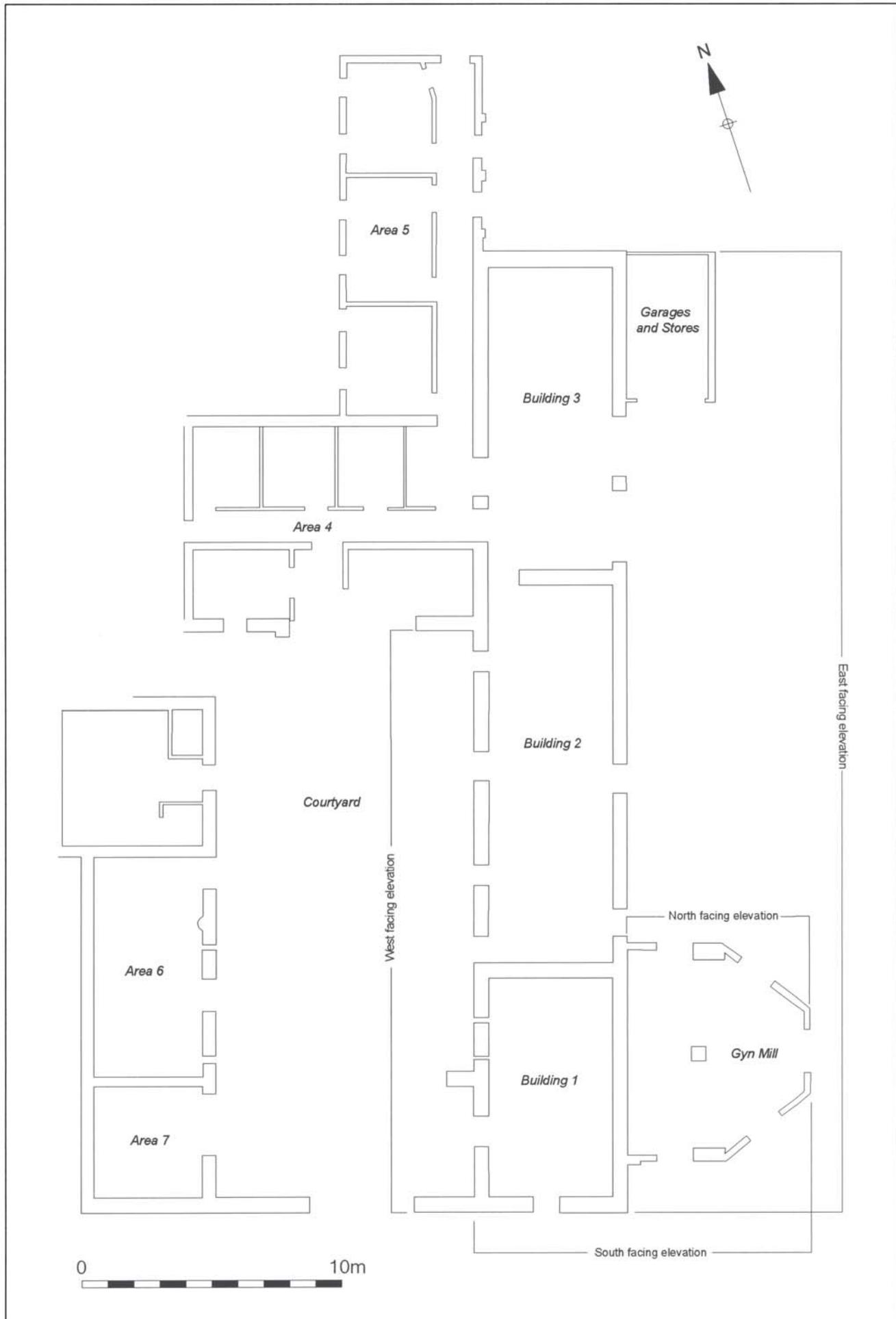


Figure 7. Existing ground floor plan
Scale 1:200

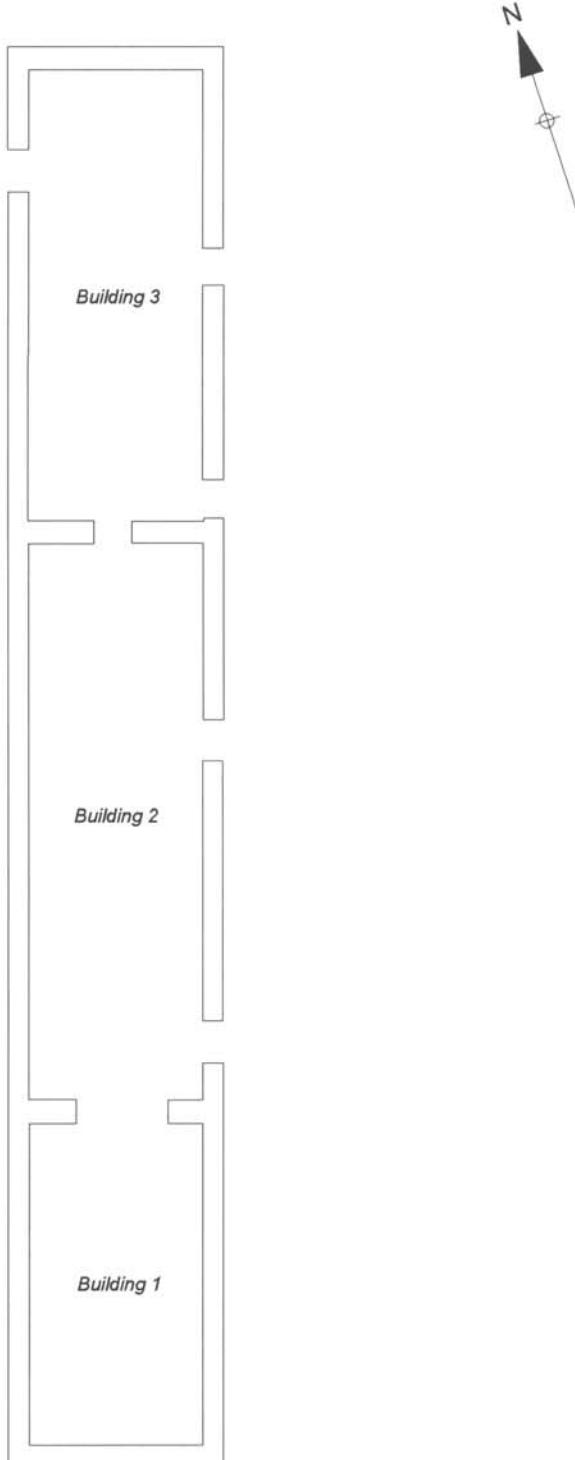


Figure 8. Existing first floor plan
Scale 1:200

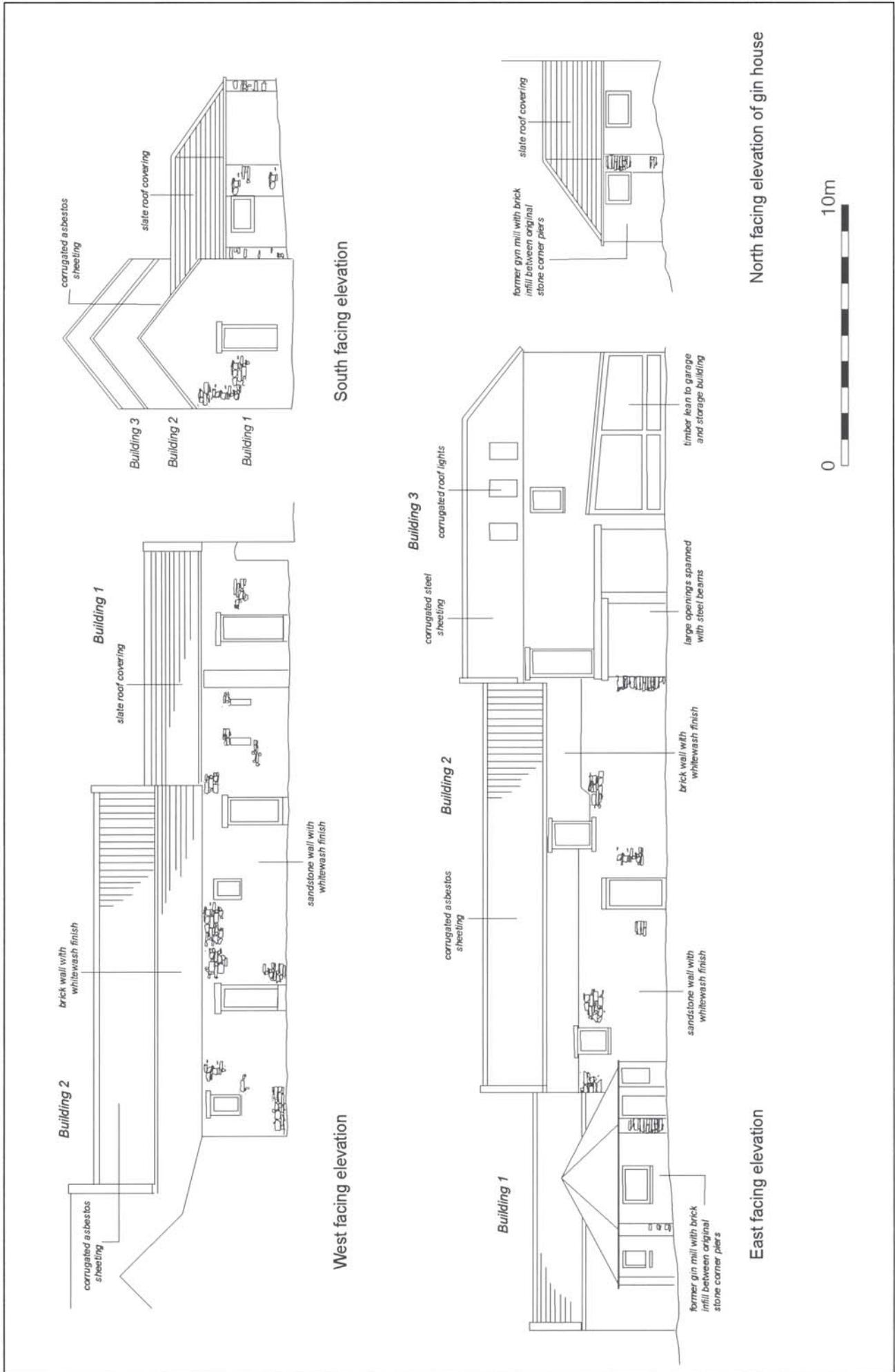


Figure 9. Elevations
Scale 1:200

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