

# BINDON MILL AND MILL HOUSE, WOOL, DORSET

## HISTORIC BUILDINGS REPORT

ANALYSIS AND ASSESSMENT OF THE  
BUILDINGS AND MILL MACHINERY

Alan Stoyel



*This report has been prepared for use on the internet, and all or most of the images within it have been down-sampled for optimised loading speeds and for downloading to print.*

*Please note that as a result of down-sampling the images, they are not of the highest quality to print from. Any person wishing to obtain a high resolution copy of this report should purchase from the English Heritage website: [www.english-heritage.org.uk](http://www.english-heritage.org.uk)*



ENGLISH HERITAGE

**BINDON MILL AND MILL HOUSE**  
**WOOL**  
**DORSET**

**ANALYSIS AND ASSESSMENT OF  
THE BUILDINGS AND MILL MACHINERY**

**Report by:** Alan Stoyel  
**Research date:** February 2006  
**Photography by:** Alan Stoyel  
**Additional Photography by:** Barry V. Jones

**NBR No** 110893

**NGR** NY 8540 8687

**ISSN** 1749-8775

Research Department Report Series No 23/2006

© English Heritage

**Comments or queries regarding the content of the report should be made to the author at:**

ENGLISH HERITAGE, KEMBLE DRIVE, SWINDON SN2 2GZ  
**Tel:** 01793 414700 **Fax:** 01793 414924

**Applications for reproduction should be made to:**

THE NATIONAL MONUMENTS RECORD  
ENGLISH HERITAGE, KEMBLE DRIVE, SWINDON SN2 2GZ  
**Tel:** 01793 414600 **Fax:** 01793 414606 e-mail: [nmrinfo@english-heritage.org.uk](mailto:nmrinfo@english-heritage.org.uk)

The National Monuments Record is the public archive of English Heritage  
[www.english-heritage.org.uk](http://www.english-heritage.org.uk)

## The Research Department Report Series

The Research Department Report Series incorporates reports from all the specialist teams within the English Heritage Research Department: Archaeological Science; Archaeological Archives; Historic Interiors Research and Conservation; Archaeological Projects; Aerial Survey and Investigation; Archaeological Survey and Investigation; Architectural Investigation; Imaging, Graphics and Survey, and the Survey of London. It replaces the former Centre for Archaeology Reports Series, the Archaeological Investigation Report Series and the Architectural Investigation Report Series.

Many of these are interim reports which make available the results of specialist investigations in advance of full publication. They are not usually subject to external refereeing, and their conclusions may sometimes have to be modified in the light of information not available at the time of the investigation. Where no final project report is available, readers are advised to consult the author before citing these reports in any publication. Opinions expressed in Research Department reports are those of the author(s) and are not necessarily those of English Heritage.

## **CONTENTS**

---

INTRODUCTION	1
INVESTIGATION BRIEF	1
SUMMARY	1
ACKNOWLEDGEMENTS AND GENERAL REMARKS	2
THE MILL	3
THE HOUSE	13
THE OUTBUILDINGS	21
THE WORKING PARTS OF THE MILL	24
THE FULLING MILL	32
ASSESSMENT OF SIGNIFICANCE	33
ENDNOTES	35
DOCUMENTS	37
PHOTOGRAPHIC SHOT LIST - ORIGINAL PRINTS	44
PHOTOGRAPHIC SHOT LIST - DIGITAL IMAGES	45



## **INTRODUCTION**

Bindon Mill lies about half a mile to the East of the village of Wool, in Dorset, to the north of the remains of Bindon Abbey. The Cistercian abbey was founded here in 1172 and was suppressed in 1539.<sup>1</sup> The mill is part of a group of buildings which form a discrete complex separated from the abbey by a prominent watercourse, but with the main, eastward-flowing River Frome immediately to the north [refer to document 1]. The proximity of the ruined abbey church indicates that the mill site formed part of the medieval abbey precinct. Now, virtually all the mill complex is disused and in deteriorating condition.

## **INVESTIGATION BRIEF**

The brief for this project was to make an appraisal of the remaining buildings of the complex, to identify their phases of construction, and to ascribe approximate dates to those phases. In addition there was a need to assess the importance of the mill and what remains of its working parts and to set out the context for them.

## **SUMMARY**

Bindon Mill stands on an ancient monastic site, although the earliest in-situ part of the extant building probably dates from the 17th century and is of re-used material, almost certainly sourced from the abbey. The building was reconstructed on a much larger scale in the late 18th century, enlarged further in the early 19th century, and finally remodelled and largely rebuilt in 1893 as a turbine-driven roller mill with ancillary millstones for animal feed. It closed in 1955, since when it has fallen into disrepair, devoid of most of its working parts. For at least the last 80 years of its useful life the mill was operated alongside a farm. This dual economy is evident from the outbuildings, most of which date from the second half of the 19th century.

The mill house was probably built circa 1700 and incorporates much re-used abbey material, this being particularly noticeable at its east end. The house was extended in the early 19th century, and again, perhaps fifty years later.

The outbuildings mostly date from the second half of the 19th century, although one incorporates a small structure of probable early-19th-century date, located just south east of the mill's east range. A late-19th-century cattle shed was also added to the east of the mill complex. Most of the buildings in the group are now in poor condition.

The mill is a good example of the successive improvements that have been carried out to an ancient water-powered site in order to maintain its economic viability. The apparent existence of 17th century fabric, re-using medieval monastic material, is

of great interest. As regards the remainder of the extended mill building, it is not exceptional, either architecturally or mechanically. Of the working parts, nothing appears to have survived the remodelling of 1893, and therefore these, too, are of limited significance. Bindon Mill and Mill House is, however, an important and historic element of the landscape, particularly with regard to its medieval origins, its relationship with the rest of the abbey complex, and its wide variety of building materials.

## **ACKNOWLEDGEMENTS AND GENERAL REMARKS**

The investigation was carried out with the assistance of Barry Jones from the English Heritage Architectural Investigation Division, using documentary material kindly provided by The Weld Estate, Lulworth and English Heritage. Apart from published sources, acknowledgement is due to Morgan Carey Architects for use of their measured drawings [document 6], to David Greenhalf for his reports on Bindon Mill (March 2005) and the Corrugated Iron Barn (December 2005), and to Smith Foster Limited for their structural survey report of September 2005. In addition, use has been made of Monument Reports issued by English Heritage, and of information compiled by Tony Yoward and lodged with the Society for the Protection of Ancient Buildings (Mills Section). The assistance provided on-site by James Weld is also appreciated. The report was desk-top published by Ursula Dugard-Craig.

The field work was carried out on 16th February 2006. Three factors have made the investigation difficult. The mill buildings are heavily ivy-covered, the earlier phases incorporate much re-used stone, and parts of the complex are inaccessible.

Because of the complexity of the site, and the number of phases involved, the buildings have been divided into three parts. These are (A) the mill, (B) the house, (C) the outbuildings. The assessment of each is considered from field evidence, followed by discussion. The working parts of the mill are also considered under a separate section.



## THE MILL

---

### Field Evidence

#### *Phase 1*

The earliest remaining phase of the mill and mill house comprises part of a former external wall, now incorporated within the southern part of the mill's east wall, and corresponding to the wall's lowest 2 metres. This remaining wall is constructed of ashlar blocks, with thin mortar, and is clearly of considerable antiquity, although probably not medieval. The wall includes a series of original and inserted openings. From south to north, the first of these is an inserted doorway, which has probably been enlarged from an original splayed window. The next opening was an original doorway, which has been infilled with brick and an inserted window. At 0.87 metres beyond the former doorway is a second original splayed window opening, now infilled with rubble. Beyond this blocked window the walling changes, losing the early characteristics and indicating disturbance caused by later rebuilding of the mill, probably in the late 18th century. The early walling is clearly built of stone similar to that of the abbey, but there



**Figure 1.**

*The east wall of the original mill, viewed from the north east. This shows the blocked main doorway with inserted window and the present doorway, probably in place of a former window (to left). [OP04323]*

are no in-situ diagnostic features attributable to the medieval period. As far as can be ascertained, the windows and door occupied simple rectangular openings, which do not point to a medieval date of construction. It is presumed, therefore, that this wall was built with material salvaged from the abbey, at sometime after 1539. However, the characteristics of the stonework also do not point to a date of construction in the 16th century. The phase-one wall does precede the adjoining house, which probably dates from circa 1700, and so a 17th-century date is suggested for phase one of the mill. The mill at this time appears to have been a simple structure of one storey, or a storey and a half, probably containing only a single pair of millstones. A building of this scale was still standing in 1773 <sup>2</sup> [refer to document 5], as discussed further below.

## *Phase 2*

The second phase of construction of the mill is tentatively ascribed to the late 18th century, and is in complete contrast to the earlier phase, both in character and scale. The mill appears to have been rebuilt to take advantage of more of the available water power, as well as improved technology, in line with the majority of watermills in this country in the late 18th and early 19th centuries. Prior to this, no evidence has been seen to suggest that the mill worked more than a single pair of millstones, or that it was more than a humble structure of 1½ storeys. This rebuilding produced a 3-storeyed building, probably containing 3 pairs of stones, all driven by a single large waterwheel. The walls were built with some material reused from the abbey, particularly in the lower parts, but they largely comprised freshly-quarried rubble stone, some of it a very dark brown iron-stone. The watercourse through the building was enlarged, and the western wall of the mill was probably moved outwards to give more space within the building – this providing more ashlar blocks for reuse. In this period, the mill did not include the present outshot adjoining the north end wall, the phase junction between these two structures marked on the eastern elevation by a vertical joint down to ground level, now concealed by a drainpipe situated approximately 0.75 metres beyond the most northerly window opening.

On the northern wall of the mill, there is a horizontal set-back of about 0.15 metres, the purpose of which is not clear. This is particularly noticeable on the western elevation, because the later northern outshot is itself set back by 0.32 metres from the wall of the main range. At this time the mill still appears to have been a simple elongated, rectangular, north-south building, this phase dictating the general form of the building, with its half-hipped northern end. The local Purbeck slates, which survive only in the lower courses, would have covered the whole roof originally.

Internally, apart from the basic structure, little seems to have survived from this phase. Unfortunately, the upper floors were only partly accessible at the time of investigation,



**Figure 2.**

*North-west corner of mill from the west, with northern outshot to left. This shows the horizontal set back in the north wall of the main mill building. [OP04324]*



**Figure 3.**

*The mill seen from the north west, showing Purbeck slates on the lower part of the roof. [DP021001]*

so that some evidence was not available, but the building appears to have been gutted and completely remodelled in, or about, 1893 as phase 4.

### *Phase 3*

The main aspect of the third phase was the addition of the eastern range to the north-south mill, to form an L-shaped building in plan. This is likely to have been carried out in the early 19th century. The construction is of rubble stone with a high percentage of iron-stone. In general, re-used ashlar blocks from the abbey are noticeably absent, and the wall thickness is considerably less than that of the walls of phase 2.



**Figure 4.**

*General view of mill and house from south, showing the eastern range of the mill (centre), the covered wagonway, and the east gable-end of the house (left). [OP04325]*

The north elevation of this range shows that only the ground floor relates to this phase, the upper floors being in contrasting brickwork identified as being part of phase 4. Unfortunately only the ground floor of this eastern range was accessible. This contains a store-room to the north, which looks as if it may once have stabled a pony. To the south are two stalls for horses. All the visible structural timber-work is of hand-sawn soft-wood. The internal wall faces contain a significant quantity of chalk rubble. It is not known what functions were performed in the upper storeys, other than grain storage, although there is evidence that power from the mill was extended into this area. No access was possible above the ground floor.



**Figure 5.**

*The east range of the mill (centre and right) from the north west, showing the phase-4 brickwork, the northern end of the wagonway and the extent of the vegetation cover. [OP04326]*



**Figure 6.**

*Stalls for horses in the east range of the mill, viewed from the south east. This shows the use of chalk blocks on the internal faces of the north and east walls. [OP04327]*

As part of phase 3, at the south-western corner of this range, where it intersects the earlier mill, the early ashlar wall (phase 1) was extended southwards by 0.49 metres, using dark stonework, to bring it in line with the remainder of the south elevation of the eastern range. The integrity of this range as a separate, third building phase is shown by the western end of its south elevation, just below the roof, where the walls form a well-built corner, projecting slightly from the later, 4th-phase brickwork of the uppermost part of the southern elevation of the mill's main block. Only the ground floor of this range was accessible, so important evidence could not be investigated. The whole roof covering of this range is likely to have been of Purbeck slates, although these are now restricted to the lower courses.



**Figure 7.**

*The east wall of the original mill, viewed from the south east. This shows the original south-east corner, of ashlar, with later stonework, to the left, added during the eastward extension of the mill. The brickwork above is part of the 1890s rebuilding. [OP04328]*

The range over-sailed where the wagons stood for loading and unloading, and a tall, wide, segmental arch of brick was constructed on the south elevation to allow for easy access.

A single-storey extension was added to the north end of the mill at around this time (see Figure 2). The extension's rubble stone-work is similar to that of the eastern addition to the mill, and so it has been included in the discussion of this phase. The

walls of this northern addition are narrower than those of the mill, and it post-dates the phase 2 reconstruction, as can be seen in the set back in plan at its western junction with the mill. On the eastern elevation, the two phases are flush, but a straight-joint, running down to ground level, separates them (as discussed under Phase 2).

#### *Phase 4*

The mill was remodelled in 1893<sup>3</sup> when traditional milling methods, employing a waterwheel driving millstones, were superseded by a turbine working a series of roller-mills. This conversion was carried out by Joseph J. Armfield of Ringwood, Hampshire, a celebrated manufacturer and installer of such plant. Also at this time the watercourse through the mill was modified.

The main range was gutted, and largely re-floored. Some of the rubble walls were repaired, such as the western elevation of the main range, but others seem to have been rebuilt in brick, as in the north and east elevations of the eastern range. Wire-cut brickwork of this phase, mostly in English-garden-wall bond, is visible in the upper



**Figure 8.**

*The north wall of north extension to the mill, from north east, showing the two phases of construction and the iron-stone and re-used ashlar masonry. [OP04329]*

part of the south and east walls of the main mill, and the upper part of the north extension. It also occurs in the upper part of the north elevation, and some of the upper part of the east elevation, of the eastern range. The roof covering was replaced at this time with Welsh slate, although some of the earlier Purbeck slates were retained, or replaced, in the lower courses. The main range of the mill has Welsh slates on the upper third and Purbeck slates below. The slates on the eastern range are Welsh, except for the bottom six courses which are of Purbeck, and the northern extension to the mill is of tiles with a single course of Purbeck slates at the eaves.

At the north end of the wagonway in the east range there is a low wooden lintel, and a brick relieving arch, over a pair of wooden gates. Above this opening the wall is all of brick. A deeply-recessed pair of sack-traps in the floor of the second floor allowed direct hoisting to that level straight off the wagon, and the visible timberwork associated with this is probably all of the fourth phase.

## Discussion

After the suppression of Bindon Abbey in 1539, some of the former abbey property was granted to Sir Thomas Poynings in 1540, including three watermills in Byndon and Wolle. In addition, a survey, apparently connected with the purchase of the estates by Humphrey Weld in 1640, refers to two mills and a tucking mill.<sup>4</sup> This suggests that there were either two early, quite separate, corn mills, or that there were two installations in a single building. In this period, only a single pair of stones is likely to have been powered by any individual waterwheel. If there had been two mills under one roof - a reference to two pairs of stones - two waterwheels would be required. (The tucking mill will be referred to later in this report.)

The earliest known illustration of the mill is on a plan of the River Frome, probably drawn in connection with a law suit of 1675-6 [refer to document 2].<sup>5</sup> This shows a low building, probably single-storeyed, extending across the River Frome from the south bank. Only one waterwheel is shown associated with this building, so it is likely that the 1640 documentary reference to two mills actually refers to Bindon Mill and a second, separate corn mill site elsewhere in the vicinity. The waterwheel is shown as internal, positioned at the north end of the building, and there is a chimney at the south end. This suggests that the building was subdivided into a mill to the north and a dwelling to the south - a commonplace arrangement in this period. The style of the building, as depicted, gives no hint of its monastic origin, and it is possible that the building was timber-framed, even during the Cistercian period of ownership. Surveys at the Dissolution of two Cistercian nunneries in Yorkshire indicated mills of very basic construction.<sup>6</sup> The depiction of the mill could be stylised in the 1675-6 illustration. However, the differences between the corn mill and the tucking mill on the other bank suggest an attempt to depict actual features of the two buildings. Whichever is the case, it is possible that the phase-one building is shown here.

An engraving of the abbey ruins, dated 1773 [refer to document 5],<sup>7</sup> shows the present mill-house, with the mill, still small in scale, behind it. The mill comprises 1½ storeys, as intimated by a dormer within the roof. The relatively large house, which was probably built sometime around 1700, had superseded the earlier dwelling and provided a comparatively substantial residence in a separate range – a marked improvement on the earlier dwelling which was merely subdivided from the working area of the mill.



The mill as depicted in 1675-6 is a single-storeyed building, also sharing milling and domestic uses, although it cannot be proven that this was the same mill building that survived to be depicted in 1773 (phase 1). By about 1700 the mill and dwelling were separate, and by 1773 there was a first floor in the mill. Significantly, the eastern elevation of the mill as depicted in the 1773 engraving correlates with the surviving wall of phase 1, in which there is a central door, with a window on each side of it. The evidence suggests that the earliest part of the present mill building, (phase 1), was erected after the dissolution of the abbey in 1539, perhaps after 1675-6, but certainly before the construction of the present house in circa 1700.

At some time after 1773 the mill was rebuilt on a larger plan, only the southern part of the eastern wall of the original structure being retained. The mill appears to have then become a 3-storeyed building of 5 bays, arranged on a north-south axis. The roof structure was inaccessible at the time of the investigation, although the positions and queen-strut form of the wooden trusses are shown in Morgan Carey's survey<sup>8</sup> of the mill. The main timbering of the mill that was visible appears to be of softwood, and is probably contemporaneous with phase 2. This is fairly early for softwood to be used to such an extent, so it was probably imported through Weymouth, or some other local port.

Shortly afterwards the mill was extended eastwards, probably incorporating an earlier outbuilding, although the inaccessibility of the upper floors precluded a proper investigation. That this range was an addition to the second phase of the north-south mill building is indicated by the small difference in height that can be seen between the two roof ridges. This is substantiated by the upward extension of the east wall of the main mill building, to support the roof of the eastern extension, shown on the Morgan Carey east-west section.<sup>9</sup> This section shows the eastern extension to be arranged in four bays. The north-south section<sup>10</sup> indicates that each wooden truss comprises a tie-beam, just below eaves level, with queen-struts and collar, and separate raking struts.

The remodelling of the mill as a turbine-driven roller mill in 1893 appears to have been directly associated with a major phase of structural rebuilding. Apart from some reconstruction of the stone-built west wall of the mill building, the phase is recognisable by being of brick. Virtually all the evidence of the internal layout of the earlier mill has been removed by this later work, including the watercourse and wheel-race area, although the north side of the earlier wheel-race still survives.

The features associated with the present covered wagonway appear to date from the 1893 remodelling, although an earlier wagon entry had been provided in the east

range during phase 3. Clearly there was a need to improve the loading and unloading facilities as access to the mill was restricted. The 2nd floor passed directly over the wagon entry, providing protection from adverse weather. A hoist, also powered by the turbine, worked a chain for lifting sacks of grain straight off the wagon and into the 2nd floor through double trap-doors. These recessed trap-doors remain in place, the timbers bearing score-marks from the hoisting chain. The northern end of the covered wagonway is restricted to a single storey, so clearly the wagons reversed into place and drove out forwards, as distinct from a drive-through operation.

## THE HOUSE

---

### Field Evidence

#### *Phase 1*

The major part of the house probably dates from around 1700, as evidenced by the overall form of the building, the carpentry details of the roof and the chamfered and stopped oak ceiling beams on the ground floor. This phase comprises the eastern two-thirds of the main, south-facing range, plus a bay running northwards from the east end. It is of 2½ storeys and built of stone, a significant proportion of which is almost certainly re-used ashlar from the abbey. In addition, there was probably a single-storey range adjoining the west end of the main block. The principal range has a 3-bay roof structure, each bay of about 7 feet (2.13 metres), plus a short bay of only about 3 feet (0.92 metres) at the east end. Each bay is separated by a simple truss comprising principal rafters linked by a cranked collar, all in pegged oak. A further truss, similar in every way, supports the roof of the short range running northwards from the east end. That both ranges are contemporaneous is demonstrated at the intersection of the two tie-beams in the internal angle of the two roofs. Here one tie-beam has a well-made pegged joint with the other, and the chamfers and run-out stops of each beam respect the existence of the other. At present the north-projecting bay is



**Figure 9.**

*The mill house viewed from the south west. [DP021003]*



**Figure 10.**

*Interior, second floor of house, viewed from the south east, showing roof trusses at the intersection of the phase-1 roofs. [OP04330]*



**Figure 11.**

*Interior, first floor of house, viewed from the south east, showing junction of tie-beams at intersection of the phase-1 ranges. [OP04331]*

divided from the mill by a brick partition, which is part of the mill's 4th phase and probably represents an encroachment of the mill into the north bay of the house. Therefore, this brick partition was probably originally preceded by a further truss or by a masonry wall at the north end of the north bay. The roof covering is of modern peg-tiles.

The east wall of the house exhibits two prominent features. One is a sharply-cut, chamfered course of dressed stone marking an external set-back in the wall, at a high level, approximately corresponding to the break in storey height between the ground and first floors. The reason for this set back is no longer certain, although the ledge could have marked the top of a pent-roofed extension. A pent roof is shown

in this position on the 1773 engraving.<sup>11</sup> The other feature is a low-level stone arch, set in the rubble wall, the purpose of which is open to debate, although there seems little doubt that the individual blocks have been reset in their present location. On one of the blocks "1770" has been roughly inscribed, but this date does not appear to have any significance in terms of an associated building phase (see Figure 13). The position of this inscription would fall inside the lean-to shown on the 1773 engraving.<sup>12</sup> Below the arch, at ground level, is a relatively modern, rectangular brick recess. The relationships of these features are discussed later.



**Figure 12.**

*The east gable-wall of the house and the south end of the wagonway, viewed from the south east. This shows the re-set stonework of the arch, and the chamfered stone course positioned at the set back. [OP04332]*

The eastern gable of the main range has inserted brickwork suggesting that the roof pitch has been modified twice, although the dates of these changes are not clear. The change was not of sufficient significance to warrant an alteration to the original roof trusses.

Towards the west end of the south elevation there is a straight joint marking where a western extension has been added. However the vertical division does not come down to ground level, and a horizontal break in the wall to the west of this joint shows that there was a contemporaneous single-storeyed westward continuation of the range. This was incorporated into an extension during phase 2.



**Figure 13.**

*Detail of stone arch on east wall of house, showing stone inscribed with the date 1770. [DP021005]*

Also attributable to phase 1, is a small, single-storeyed block to the north, set in the angle between the house and mill. It contains an inglenook fireplace and a domestic bread oven, indicating that it was used as a bakehouse and back kitchen.

### *Phase 2*

This phase probably dates from the early 19th century and involved the adaptation of the small, single-storeyed, phase-1 block adjoining the west end of the house. The phase-1 block was raised in height to provide two full storeys and the ground floor converted into a respectable parlour with a high ceiling. The change in phase is marked in the stonework of the south elevation, where at first-floor level there is a well-defined vertical straight joint (or contact). The change in phase between the raised block and the main range resulted in a slight difference in roof height. There are older tiles on this phase of the building and modern tiles on the earlier range to the east. Internally, the ceiling of the ground-floor parlour is considerably higher than the ceilings in the rest of the range, giving a much grander impression, and a superior staircase was inserted in the western end of the original structure. The 1st-floor room above the parlour is 27 inches (0.69 metres) higher than the rest of the range, necessitating an extra, small lateral stairway.



**Figure 14.**

*The house viewed from the south west, showing the three main phases of the house, with the washhouse and privy to the left. [OP04333]*

There is no access into the restricted loft space of this west block and so the form of the roof structure is not known. The western gable end shows that the tiled roof has been raised on at least one occasion, with brick infill.

It is probable that this phase also included the addition of a single storey, stone-rubble outshot on the north elevation of the parlour block. This contained domestic services that were probably ancillary to the back kitchen of phase 1. It was later raised in height to form a two-storeyed range (phase 3). The thickness of the northern rubble wall of the back range is considerably thinner than its phase-one equivalent further to the east.

### *Phase 3*

During this phase, which probably occurred in the late 19th century, the single-storeyed rear outshot at the western end of the house was extended upwards to provide a first floor. The latter is indicated by a diagonal straight joint, or contact line, on the west elevation, that occurs between the ground and first floors. On the north elevation, the raised walling of phase 3 is executed in brick, using English-garden-wall bond, but is in rubble stone on the western gable, to match the earlier work. The earlier lean-to, or catslide, roof was replaced by a gabled roof, parallel with the roof of the main range and parlour extension. The two roofs are separated by a central valley. The additional storey provided a bedroom and bathroom on the first floor, the floor level of which coincided with that of phase 1. The loft space is restricted and inaccessible.

At a subsequent date, probably late in the 19th or early in the 20th century, the two-storey bay window was added to the south elevation of the house, but this was not considered sufficiently extensive to constitute addressing as a separate phase.



**Figure 15.**

*The house and outbuildings viewed from the west. The change of phase in the rear range (centre) is visible to the left of the window. [DP021004]*



## Discussion

The main part of the house appears to date from about 1700, and the general appearance closely resembles the view seen in the 1773 engraving.<sup>13</sup> Despite the field evidence pointing to the short northward range being contemporaneous with the main range, the former is not visible in the engraving. Perhaps this is merely a matter of poor perspective. The appearance of the top of a second chimney, visible above the ridge to the left of the one at the east gable end, supports the suggestion of the back room with the fireplace and domestic bread oven being part of the first phase. This is substantiated by the plan of the abbey site, of about 1765-75,<sup>14</sup> [refer to document 3] and that of about 1770<sup>15</sup> [refer to document 4].

The single-storeyed block (later raised to form the parlour) to the west of the house, seen in the field evidence, is clearly shown on the engraving, and is further evidence of the accuracy of this particular illustration. The roof appears to be thatched, as distinct from what may have been Purbeck slates on the main range.

A rather enigmatic feature on the east gable wall is the horizontal set back with chamfered, cut-stone string course, approximately at first-floor level. The function of the set back may have been to carry the upper support of a pent-roof extension, as shown on the 1773 engraving,<sup>16</sup> but now removed. The coincidence of this string course with the upper edge of the pent-roof as depicted suggests that, if not an original feature, it was in place by 1773. Alternatively the chamfered cut stone might have been used to provide protection from rain-water ingress after the roof was removed. (There was some further discussion of this feature in the field evidence.)

Even more enigmatic is the low-level stone arch, set in the east-gable wall. The individual stone blocks making up the arch are chamfered and moulded, although the form of the arch itself does not conform to any particular style. It springs from a well-cut block of very dark stone at the south end, and there are straight joints running down from each side of the arch for a short distance only, so it does appear to have performed some practical function. However, the stones are set in fairly thick mortar, there is no strain-relieving structure above, and the wall thickness is considerable, so it may have framed a recess, or niche. It is highly likely that the individual blocks of stone came from the abbey, but they have every appearance of having been re-set in their present position. The feature appears to have been incorporated into the wall, possibly as an "eye-catcher", reflecting the romance of the nearby ruins. Incised into a stone forming part of the south side of the arch is the date 1770, which is almost certainly not associated with the main phase of the mill house. The inappropriate location for a meaningful carving, the roughness with which it has been executed, and the lack of apparent correlation with any of the significant phases of construction,

with the possible exception of phase 2 of the mill block, all suggest that this date has no particular relevance to the major phases of development of the building. Care has been taken in the construction of this arch, so that it is doubtful if its symmetry would be marred by a contemporary graffito of such crudeness. Despite this, in 1962-3 the date of 1770 was ascribed to the mill by Addison and Wailes,<sup>17</sup> and, in 1970, to "much of the present structure" by the R.C.H.M.E.<sup>18</sup> Below the arch, at ground level, is a small, rectangular brick niche, the purpose of which is not clear. It appears to be a relatively modern feature, and does not respect the symmetry of the arch.

## THE OUTBUILDINGS

---

### Field Evidence

#### *Phase 1*

The earliest surviving outbuilding is probably the northern end of the long, single-storeyed block to the south east of the mill. The lower portion of the western part of the north wall of this building is of rubble stone that is similar in character to the eastern extension of the mill building, (phase 3 of the mill) containing much iron-stone. The original wall is low, and only extends for 2.50 metres eastwards to a 1.85 metre-wide blocked doorway followed by a 0.42 metre pillar. Above and to the east is later stonework of phase 2.

#### *Phase 2*

The remainder of the range running south from the south-east corner of the extended mill appears to be of mid-to-late-19th-century date, although only the northern end of the range was accessible. It is single-storeyed, mostly of mixed rubble with brick details, and with a hipped slate roof. Much chalk rubble is visible on the few internal walls that were accessible, at the north end. A brick cross-wall, in header bond, is in



**Figure 16.**

*Outbuildings from south west, showing southern end of range running south from south-east corner of the east range of the mill, and the cattle shed to the right. [OP04334]*

line with the most northerly truss. This wall appears to have acted merely as a solid partition, separating areas of different function. The truss consists of a hand-sawn kingpost with expanded foot bolted to the tie-beam and supporting two raking struts. The range has a very small, later, eastern extension at its southern end.

A short distance south-west of the southern end of this range there used to stand a small 2-storeyed cottage of rubble with brick quoins and details, its southern end adjoining another arm of the river. This building features on various postcards but it has been demolished and the site cleared.

Adjoining the headrace to the mill, north of the house, is a small, single storey wash-house. It is of rubble, with a coped tiled roof and a short chimney, and is flanked by brick additions of phase 3. The building contains a fireplace and the housing for a copper.

### *Phase 3*

This phase appears to be the equivalent of phase 3 of the house and phase 4 of the mill. The construction is of brick and the date is of the late 19th century. To this phase is ascribed the two small, single-storeyed, buildings flanking the wash-house, on the south bank of the mill head-race. The one to the east appears to have been a coal store, and the one to the west is a privy, still with its two-holed wooden seat.

### *Phase 4*

A short distance to the east of the mill is part of an east-west, single-storeyed brick building which was a cattle-shed. This is derelict, and appears to be of a slightly later date than the other brick buildings, probably dating from around 1900. It seems to have been extended eastwards later in the 20th century, but this part has been demolished.

Immediately east of the mill is a large, two-storeyed corrugated-iron shed which is also tentatively dated to about 1900. The interior is inaccessible, but the open-fronted earth-floored ground floor can be seen to be of open plan, with brick pillars formerly supporting the first floor, and a single-storey brick cavity-wall along the south side. Clearly the first floor was to provide extra storage, and the area below is presumed to have housed vehicles and other items. This building has been the subject of a historical survey by David Greenhalf.<sup>19</sup>

## **Discussion**

The earliest surviving outbuilding probably dates back to the early 19th century and comprises the northern end of the long, single-storeyed block to the south east of the



**Figure 17.**

*The corrugated-iron shed, with cattle shed beyond. Viewed from the north west. [DP021002]*

mill. This was probably a small building, roughly contemporaneous with the eastern extension of the mill, but detached from it. In the second half of the 19th century it was incorporated into a much more extensive range extending south. The necessity for this range implies some diversification away from milling, as a mill would not be expected to require so much ground-floor storage. At a similar time the wash-house was built, north of the house, to cope with the extra demands from the increasing accommodation, with the coal store and privy being added to it in the late 19th century.

By about 1900 the diversification was extended by the construction of the cattle-shed to the east, closely followed by the corrugated-iron shed. While the first floor of the corrugated-iron shed was probably acting as a further store for the mill, the ground floor clearly was not. The location and orientation of the shed, and the awkward access between it and the mill, give the impression that it was of mixed use. It is significant that the other building to be erected, more or less contemporaneously, was the cattle-shed to the east.

## THE WORKING PARTS OF THE MILL

---

Only the ground floor was accessible at the time of investigation. The first floor was viewed from a ladder positioned at three locations within the mill. Any information from above this level is taken from the Morgan Carey scale drawings.<sup>20</sup> The second floor provides a tall space extending vertically into the roof, and continuing for some distance below eaves level. This is a constructional feature, typical of corn mills, to give increased storage capacity for corn bins at a high level.



**Figure 18.**

*Interior, ground floor of mill, viewed from the south, showing the concrete-lined pit in the foreground, with the later, cast-iron column, and the drives from the turbine in the far (north west) corner. [OP04335]*

The first floor was once the stone floor, containing the millstones. During the 1890s remodelling, the millstones would have been replaced by roller-mills, which have been removed subsequently. The number and positions of the roller mills could not be determined. Some machines were presumably installed in the eastern extension, but their distribution and former functions could not be investigated due to access restrictions. At this level, there is a surviving, long, secondary, lay-shaft carrying a series of belt-wheels along the east side, driven off the primary lay-shaft belt-wheel on the ground floor, and a tertiary lay-shaft at the south end. There are the vertical wooden trunkings for a couple of elevators<sup>21</sup> towards the north end, with some wooden aspirator ducting<sup>22</sup> above, a spare composition runner millstone, with fragments of another in the north-west corner, and a couple of machines in the north-east corner [see Figure 22]. Inaccessibility precluded an examination of these, although the more westerly of the two machines appears to be an oats roller, for crushing, or bruising oats for animal feed.<sup>23</sup>



**Figure 19**

*Interior, first floor of mill, from north, showing elevator casing in the foreground and lay-shaft with belt wheels along the east wall (right). [OP04336]*



**Figure 20.**  
*Interior, first floor of mill, from south east, showing elevator casing, aspirator trunking above, and a millstone in the background. To right is the doorway into the north extension. [OP04337]*



**Figure 21.**  
*Interior, first floor of mill from east south east, showing composition runner-stone with fragments of another lying on the floor. [OP04338]*



**Figure 22.**  
*Interior, first floor of mill, from south, showing machines in the north-east corner. The oats crusher is to the left. [OP04339]*



**Figure 23.**  
*Interior, first floor of mill, from east, showing the oats crusher in the north-east corner. [OP04340]*



The turbine, which is still in place, is a double, horizontal, 30 horse-power,<sup>24</sup> "British Empire"<sup>25</sup> type, produced by Joseph J. Armfield of Ringwood, Hampshire. His name appears as a cast inscription on the primary gear-wheel on the turbine shaft, and on the two original cast-iron columns supporting the first floor. The firm of Armfield was well-known, both for water turbines and milling installations and equipment, from about 1877 until 1949.



**Figure 24.**

*Interior, ground floor of mill, viewed from the north east, showing drives from turbine, belt wheels for millstones (top) belt-wheel for roller-mills (left) and control gear for turbine (right). [OP04341]*

The apparatus on the north side of the turbine comprises the control gear, and its design is diagnostic of an Armfield installation. It operates the valves around the perimeter of the horizontal turbine and thus starts, stops, and controls the turbine's speed and power. All that can be seen of the turbine above the water level is its three-armed frame and the 4-inch diameter (102 millimetres) vertical drive-shaft.

The concrete-lined pit now forming a basement to much of the ground floor was probably a sump into which grain could be deposited on arrival, before it was lifted by elevator to where it was required. In each end-wall of the pit there is a bearing for a lay-shaft, 2¼ inches (57 millimetres) in diameter. The pit appears to be a later

insertion into the remodelled building, probably carried out in the 20th century to deal with bulk transport. A double-length cast-iron column supporting the first floor has had to be added, with the lower part within the pit. That this is not contemporaneous with the other columns is suggested by a different pattern to the moulding on the capital, and the absence of Joseph Armfield's name. That it has replaced a previous, shorter column is indicated by the chamfers with run-out stops which respect its position on the main transverse beam it supports. This beam, in contrast to the others seen in the mill, is of oak with chamfers, suggesting it may be a survivor from the phase-2 mill, but, if this is so, its cross-section is small in proportion to its span.

The use for the turbine was clearly twofold. The primary purpose was to power the roller-mills that were being installed for the up-to-date production of white flour. For this use there is, on the vertical drive-shaft, a large upward-facing, cast-iron mortise bevel wheel engaging a smaller cast-iron bevel wheel on a southward-running 3-inch diameter (76 millimetres) lay-shaft. These gears double the speed of rotation (by a ratio of 61: 31). Also on this lay-shaft is a cast-iron belt-wheel, 4 feet 2 inches (1.207 metres) in diameter by 7 inches (178 millimetres) wide, which transmitted the power



**Figure 25.**

*Interior, ground floor of northern extension of mill, viewed from the north east. This shows the wooden hurst-frame with millstones above. The belt-wheel on the stone-spindle was formerly driven by a belt passing through the hole in the wall to the left. [OP04342]*

to secondary lay-shafts on the first floor, and thus to the roller-mills on the same floor. A small, second, iron belt-wheel, 17½ inches (0.438 metres) in diameter by 4½ inches (114 millimetres) wide, would have powered other, more slow-moving machinery.

The secondary use of the turbine was to power two pairs of millstones in the mill's northern extension. This was achieved by the pair of large horizontal iron belt-wheels at the top of the main, vertical drive-shaft. These formerly drove belts passing through four specially-cut holes in the wall to pulleys below the millstones. The upper wheel and belt was connected to the upstream pair of stones, and the lower wheel and belt to those downstream. The belt pinion on the 2¾ inches (60 millimetres) square millstone spindle of the downstream pair is 21¼ inches (0.552 metres) in diameter

by 7 inches (178 millimetres) wide. The upstream spindle and belt-wheel are both missing. The differences in diameter between the belt-wheels of each drive would have speeded up the rotation by a factor of just over 3 times. Assuming the millstones were working at about 120 revolutions per minute, the turbine would have revolved at approximately 38½ revolutions per minute. The rotation direction of both turbine and millstones appears to have been clockwise.

The need to use millstones as well as roller-mills is an indication that the mill was producing animal foods in addition to white flour. The millstones were composition stones, artificially produced, of 4 feet (approximately 1.22 metres) diameter, and the bedstone of each pair is still in place. They lack the wooden stone furniture, but still possess a fine iron stone-crane. That the product from these millstones was not for human consumption is indicated by the fact that composition stones were used instead of French burrs, and that a worm (or Archimedean screw) combined the meal from both pairs of stones to fill a common sack. The two pairs of stones stand on a shared wooden hurst-frame. Typical of the 1890s are the composition stones themselves, and the softwood hurst-frame with its various details such as the tentering gear<sup>26</sup> and the crook-string controls.<sup>27</sup> It is of interest that the hurst-frame was constructed of wood, and not cast-iron, at such a late date.



**Figure 26.**

*Interior, first floor of northern extension of mill, viewed from the north east. Shows the two pairs of composite millstones and the stone-crane. The casing of an elevator lies against the far wall. [OP04343]*

There is little evidence to indicate what preceded the turbine, because of the scale of rebuilding that accompanied the remodelling of the mill. The re-flooring has removed all the evidence for the mechanical arrangements of the 2nd phase. However, the waterwheel would have been of the low-breast type, relying on the large volume of water available, but with a restricted head. The race in which the turbine is installed is 8 feet (2.44 metres) wide, but the south side of it appears to have been rebuilt, so it is not possible to ascertain the precise width of the former waterwheel. The former wheelshaft was located in line with the doorway into the north extension, and the inclined

recesses for two generations of penstock<sup>28</sup> are still visible in the north wall of the former wheel-race. The waterwheel was 15-16 feet (4.57-4.88 metres) in diameter, driving machinery on the south side. From the scale of the mill, the size of the waterwheel and the potential power from the River Frome, three pairs of millstones are likely to have been driven. It is significant that three pairs of 4-foot French burr stones were advertised for sale in 1894 as the miller had no further use for them,<sup>29</sup> and this dates the remodelling of the mill. French stones were specifically for the production of white flour, but the millstones to be installed here subsequently were composition stones, designed primarily for grinding animal food. However one French stone still stands, in poor condition, outside the south-east corner of the corrugated-iron shed.



**Figure 27.**

*Interior, ground floor of mill. North wall of wheel-race, from south east, showing two inclined rebates in wall defining two generations of penstock, which controlled water supply to the former waterwheel. [OP04344]*

Set in the floor of the covered wagonway are three complete millstones, as well as several blocks from broken-up French burr stones. The three stones are all 4 feet 0 inches (1.22 metres) in diameter, and the rotation direction was clockwise – as would be expected for the late 18th century if the gearing layout was a standard two-step drive. One of these stones is a French burr, but the other two are Peak stones, quarried from the Peak District of Derbyshire and Yorkshire. This shows that the mill was producing both flour and animal foods at that time.



**Figure 28.**

*Abandoned millstones set in the floor at the north end of the covered wagonway. Viewed from the south east. The two nearer examples are Peak stones and the third is a French burr. [OP04345]*

Despite the drastic remodelling of the mill in the 1890s, it appears that, from the last quarter of the 19th century, economics were dictating the necessity of a dual economy for the Bindon Mill complex. It is significant that, in 1875<sup>30</sup> and 1881,<sup>31</sup> the tenant here was both miller and farmer. Even after the installation of the roller-mills, the then miller in 1898 announced his intention to devote his energies to farming alone.<sup>32</sup> For so great an investment to have been made at this time in a rural mill served only by a minor road is remarkable. The economics of production and transport, in the face of enormous competition from very large mills, located where grain could be imported cheaply and the products sent out by major road and rail connections, would have been an uphill struggle. Bindon Mill managed to keep going until 1955, when, after a particularly bad period of trading, the three brothers concerned were involved in a shooting incident there that left only one of them alive, and he badly injured.<sup>33</sup> By 1963 the mill was described as derelict by Addison and Wailes.<sup>34</sup>

## THE FULLING MILL

---

A "tucking" mill<sup>35</sup> is referred to at Bindon in 1640,<sup>36</sup> and a "Tucken mill" is shown on the plan of the River Frome,<sup>37</sup> thought to have been drawn in 1675-6, located at the north end of the by-pass sluices, to the north-west of the corn mill. A lease of 1708 mentions one fulling mill in operation and one demolished, but no such mill appears in leases after 1714, and, by 1740, any fulling mill had been completely abandoned.<sup>38</sup> However, a plan of the grounds of Bindon Abbey [see document 3], prepared for Edward Weld (d.1775), shows a small mill, drawn in elevation, on the north side of the river immediately to the north west of Bindon Mill. This conforms to the position of the mill shown on the 1675-76 drawing.

On the 1675-6 plan the building is shown with a chimney, suggesting that it is part industrial and part domestic, and a waterwheel is depicted clearly at the south end, immediately adjacent to the bypass sluices. Not only would this be a very logical location for a secondary water-powered installation, but there is some slight field evidence to substantiate the wheel's likely position.

The ashlar wall along the north bank of the river above the bypass sluices runs eastwards, but, immediately upstream of them, it bends sharply south-eastwards for a few feet to connect with the north end of the sluice-frame. Such a wall would normally be expected to run to the end of the sluices in a straight line or to curve, at most, by a gentle angle. Just a few feet downstream of the sluices there is a similar set back to the ashlar wall, but this time the sharp angle is developed into a run-out, curving gently downstream, to rejoin the original eastward alignment of the north bank. This "necking-in" of the bank is of the order of 4 feet (1.2m.), which would be of the right order of width to have accommodated a race for a waterwheel. This appears to conform to the position of the second mill shown on the plan of the grounds of Bindon Abbey prepared for Edward Weld, referred to above.

## **ASSESSMENT OF SIGNIFICANCE**

The mill is a good example of the successive improvements that have been carried out to an ancient water-powered site in order to maintain its economic viability. Phase 1 probably dates from the 17th century, re-using medieval monastic material, and is therefore of considerable interest. Monastic mill sites are relatively common, although rarely does anything survive above ground. The best remaining examples in England are Fountains Abbey Mill, Yorkshire, and Abbotsbury Abbey Mill, Dorset, the medieval buildings of both being virtually complete. At Bindon, however, the evidence suggests that the only monastic connections are the reuse of both the site and the blocks of stone.

The state of detailed knowledge of mills in Dorset is insufficient for any assessment to be made of the relative importance of fabric of likely 17th-century date in the county. However several sites in Dorset do contain similar sections of walling that are likely to be approximately contemporaneous with phase 1 at Bindon Mill.

Phases 2 and 3 of Bindon Mill represent a period of rebuilding which affected the majority of English watermills in the late 18th and early 19th centuries. This was a period of agricultural prosperity and technological advance, and many examples of such mill buildings survive. Dorset is quite rich in these, and a significant number still retain their working parts. This is a county in which rural corn mills have continued to remain competitive for longer than in other southern counties – as is evidenced by the late date at which Bindon Mill closed.

For a water-powered corn mill in such a rural situation to have been converted to roller milling is unusual. Certainly it was in a good corn growing area, but it was not well served either by road or rail. Furthermore, by 1893, when the remodelling took place, there was a country-wide system already established whereby bulk cargoes of corn were being imported, particularly from North America. Milling was being carried out close to docks, and the products were then distributed by good road and rail facilities. Not only was there economy of scale, but the new flours, produced from the harder foreign wheats, were more suited to breadmaking. Within Dorset in particular there would have been fierce competition, and yet the cost of the remodelling of Bindon Mill must have been considerable. The entrepreneurial spirit shown here was remarkable, but it is doubtful if the mill could have seen much of a profit. Only two other water-powered roller mills are known to have existed in Dorset.

The hurst-frame in the north extension, also dating from 1893, is an example of a very late phase in stone-milling technology, and yet was still made of wood. It is of

functional construction and not of outstanding quality. Of the millstones it supports, the eastern one is badly cracked and the one to the west is in a dangerously unstable condition. The stone crane is a good example of a piece of equipment which has been lost from many mills. The turbine is of a standard type by a prolific maker, and is thus not of exceptional interest in itself. A great number were installed in low-head situations such as this, particularly in Hampshire and Dorset, and it is estimated that perhaps as many as 20 turbines still exist in this county. It is worth pointing out, however, that the turbine would be capable of being repaired to working condition, and could prove a considerable economic asset for whatever future the building is given. As regards the remainder of the extended mill building, it is not exceptional, either architecturally or mechanically. Of the working parts, nothing seems to have survived the remodelling of 1893, and therefore these, too, are of limited significance. Bindon Mill and Mill House is, however, an important element in the local landscape, particularly with regard to its relationship with the rest of the abbey complex.



## ENDNOTES

---

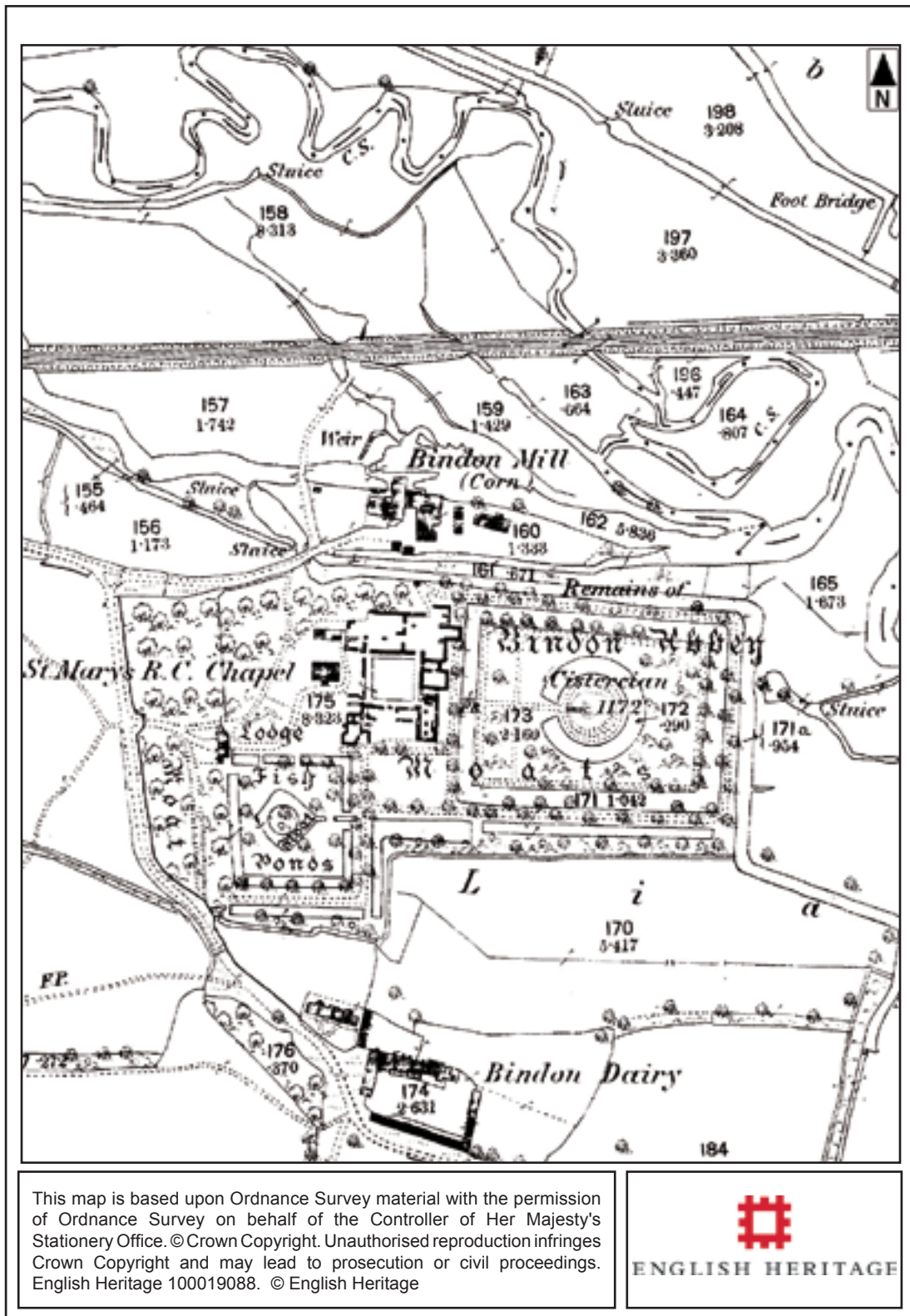
- 1 Royal Commission on Historical Monuments (England), *An Inventory of Historical Monuments in the County of Dorset*, Vol.2, South-East, Part 2, 404.
- 2 S. East View of Bindon Abbey belonging to E. Weld Esq., 1773, Hutchins, *History of Dorset*.
- 3 Greenhalf, D 2005. *Bindon Mill*, 2.
- 4 Berkeley, J 2005. *Lulworth and the Welds* (per. Greenhalf, D 2005. *Bindon Mill*, 1).
- 5 Dorset County Record Office D/WLC P45, (in Dewar, H.S.L., "The Windmills, Watermills and Horse-mills of Dorset", *Proc. Dorset Nat. Hist. & Archaeol. Soc.*, Vol.82 [for 1960], p.122).
- 6 Bond, James, *Monastic Landscapes*, 2004, p.318.
- 7 Hutchins, *History of Dorset*.
- 8 Section A-A, survey drawing 0447.23B and section B-B drawing 0447.24A by Morgan Carey Architects (for Lulworth Castle Farms), May 2005.
- 9 Section B-B, survey drawing 0447.24A by Morgan Carey Architects (for Lulworth Castle Farms), May 2005.
- 10 Section C-C, survey drawing 0447.40A by Morgan Carey Architects (for Lulworth Castle Farms), May 2005.
- 11 S. East View of Bindon Abbey belonging to E<sup>D</sup>. Weld Esq., 1773, Hutchins, *History of Dorset*.
- 12 S. East View of Bindon Abbey belonging to E<sup>D</sup>. Weld Esq., 1773, Hutchins, *History of Dorset*.
- 13 S. East View of Bindon Abbey belonging to E<sup>D</sup>. Weld Esq., 1773, Hutchins, *History of Dorset*.
- 14 Royal Commission on Historical Monuments (England), unpublished survey notes to *An Inventory of Historical Monuments in the County of Dorset*, Vol.2, South-East, Part 2. Plan of Bindon Abby (sic) near Wareham (etc.), 1765-75.
- 15 Ground Plan of Bindon Abbey, c.1770, Hutchins, *History of Dorset*.
- 16 S. East View of Bindon Abbey belonging to E. Weld Esq., 1773, Hutchins, *History of Dorset*.
- 17 Addison, J & Wailes, R 1962-3. Dorset Watermills, in *Trans. of Newcomen Society*, Vol.XXXV, 211.
- 18 Royal Commission on Historical Monuments (England), *An Inventory of Historical Monuments in the County of Dorset*, Vol.2 , South-East, Part 2, 406.
- 19 Greenhalf, D 2005. *Bindon Mill Historic Survey. Corrugated Iron Barn*.
- 20 Existing 2nd-floor plan, survey drawing 0447.44A, Aug. 2005; Section A-A, 0447.23B, May 2005; and Section B-B, 0447.24A, May 2005 by Morgan Carey Architects (for Lulworth Castle to the Farms).

- 21 For lifting grain or similar material from one level to another. Elevators consist of pairs of vertical trunking, through which ran an endless powered belt with metal cups fixed to its outer side. The belt ran over a wheel at top and bottom, lifting full cups in one set of trunking and returning empty ones in the adjacent one.
- 22 Wooden ducting, connected to a suction fan, by which flour dust was formerly extracted.
- 23 This might be described as an oats crusher – and therefore could be the “oak” crusher referred to by David Greenhalf ( *Bindon Mill*, 2005, 2) as featuring in the 1925 sale catalogue in the Weld Estate files.
- 24 Greenhalf, D 2005. *Bindon Mill*, 2.
- 25 From Armfield records (per Tony Yoward).
- 26 The tentering gear is the mechanism controlling the distance between the bedstone and the runner-stone, and thus the fineness of the grinding. These examples have a hand-wheel, operating a couple of bevel gears – a late 19th-century arrangement. By this means the end of the bridge-tree (the horizontal beam on which the millstone spindle pivots) is raised or lowered. Since the lower stone is fixed, raising the bridge-tree causes the spindle, and the runner stone which is hanging on it, to rise, thus increasing the gap between the stones.
- 27 The crook string is under tension, holding the shoe, which shakes the grain into the eye of the runner stone, at a particular angle. Increasing the tension decreases the angle of the shoe, thus reducing the amount of grain fed to the stones. These controls in this example are of a very late 19th-century type, the ironwork incorporating a small hand-wheel.
- 28 The penstock is the sluice-gate immediately upstream of the waterwheel, controlling the volume of water to the wheel. The penstock of a low-breast waterwheel is generally at anything up to about 45 degrees from the vertical in order to release the water as close to the wheel as possible, thus maximising on the released pressure.
- 29 *The Miller*, 18 June 1894 (per Tony Yoward).
- 30 Kelly's Directory, 1875 (per Tony Yoward).
- 31 Census return 1881 (per Tony Yoward).
- 32 *The Miller*, 4 April 1898 (per Tony Yoward).
- 33 *Dorset Daily Echo*, 17 June, 1955 (per Tony Yoward).
- 34 Addison, J & Wailes, R 1962-3. Dorset Watermills, *Trans. of Newcomen Society*, Vol. XXXV, 211.
- 35 A tucking mill is synonymous with a fulling mill.
- 36 Berkeley, Joan, “Lulworth and the Welds” (per. Greenhalf, D 2005. *Bindon Mill*, 1).
- 37 Dorset County record Office D/WLC P45 (in Dewar, H.S.L., “The Windmills, Watermills and Horse-mills of Dorset”, *Proc. Dorset Nat. Hist. & Archaeol. Soc.* Vol.82 [for 1960], p.122).
- 38 Greenhalf, D 2005. *Bindon Mill*, 2 (per. Mr. J. Willetts and Dorset County Record Office).

## DOCUMENTS

---

- 1 Ordnance Survey (1st edition) 25 inch to 1 mile, Dorset, sheet 49.6.
- 2 Plan of part of River Frome, showing corn mill and fulling mill, 1675-6 (Dorset History Centre, reference D/WLC P45).
- 3 Plan of Bindon Abby (sic), 1765-1775 (RCHME unpublished survey notes to *An Inventory of Historical Monuments in the County of Dorset*, Vol.2, South-East, Part 2. National Monuments Record, Swindon).
- 4 Plan of Bindon Abbey, c.1770 (Hutchins, *History of Dorset*).
- 5 *S. East View of BINDON ABBEY belonging to E<sup>D</sup> WELD ESQ<sup>R</sup>* (Hutchins, *History of Dorset*).
- 6 Ground-floor plan of complex, August 2005. (Morgan Carey Architects).



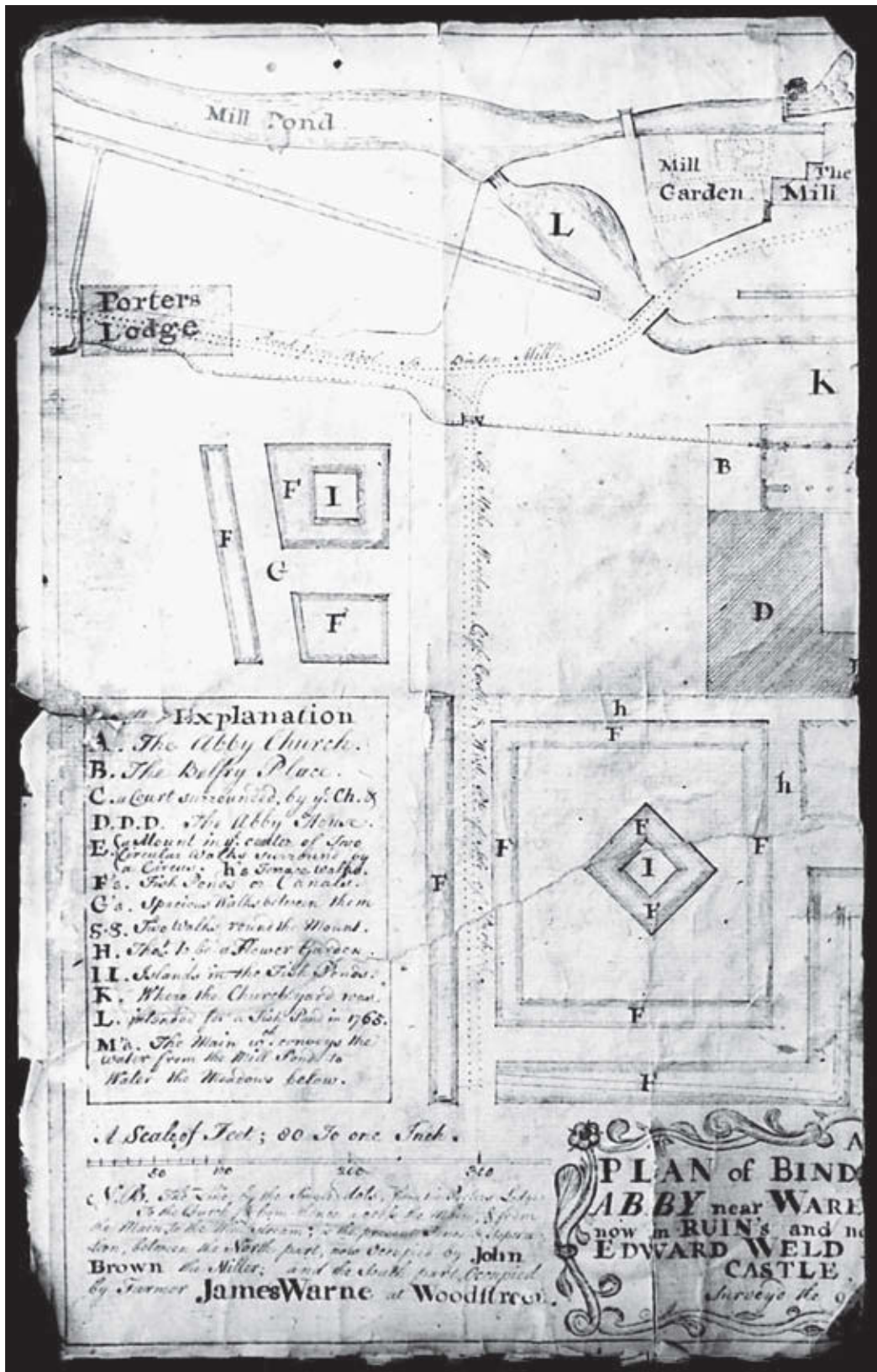
**Document 1.**

Ordnance Survey (1st edition) 25 inch to 1 mile, Dorset, Sheet 49.6. (Not to scale)



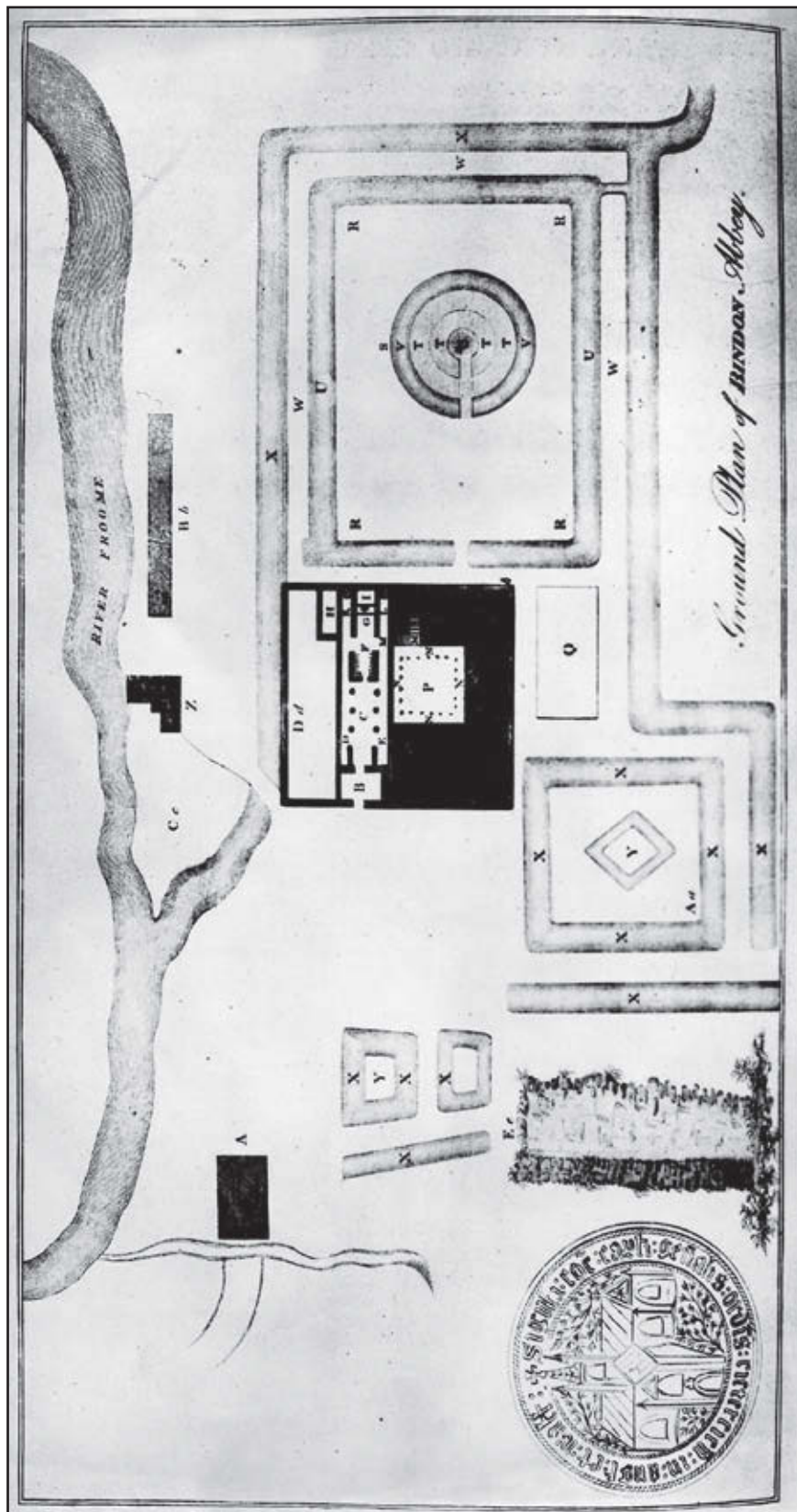
**Document 2.**

*Plan of part of the River Frome, probably drawn in connection with a law suit of 1675-6. Detail showing Bindon Mill (right) and adjacent tucking mill. Reproduced by kind permission of the Dorset History Centre, Dorchester. Document reference D/WLC P45.*



Document 3.

Plan of Bindon Abby(sic) 1765-1775. (RCHME unpublished survey notes to An Inventory of Historical Monuments in the County of Dorset, Vol.2, South-East, Part 2.)



**Document 4.**

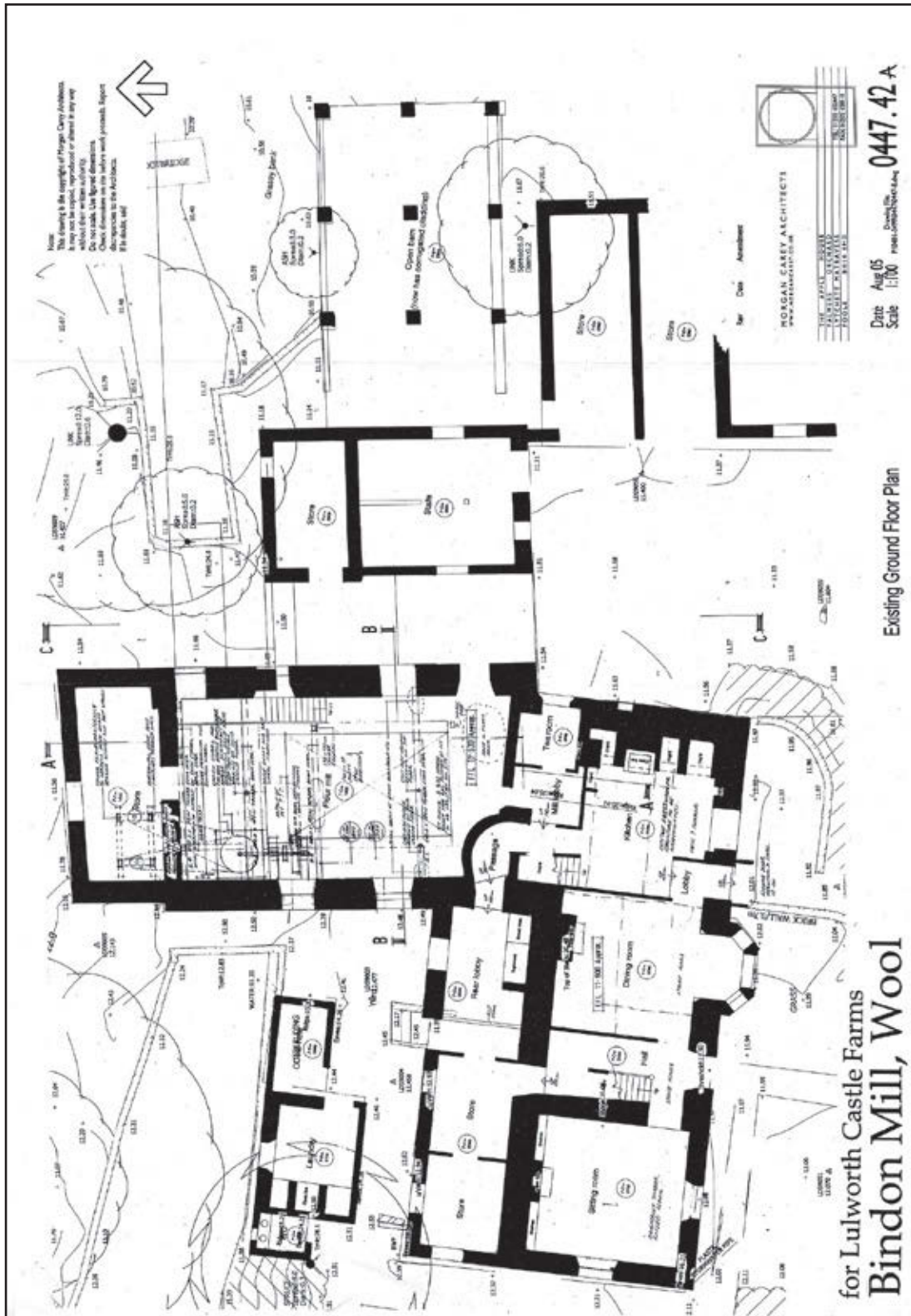
*Plan of Bindon Abbey c.1770. (Hutchins, History of Dorset)*



**Document 5.**

*S. East View of BINDON ABBEY belonging to E<sup>d</sup> WELD ESQ<sup>r</sup>* (Hutchins, *History of Dorset*)





**Document 6.**  
 Ground-floor plan of complex, August 2005. (Morgan Carey Architects.)

<b>PHOTOGRAPHIC SHOT LIST - ORIGINAL PRINTS</b>		
<b>IMAGE No</b>	<b>CAPTION</b>	<b>COPYRIGHT</b>
OP04323	The east wall of the original mill, viewed from the north east. This shows the blocked main doorway with inserted window and the present doorway, probably in place of a former window (to left).	Alan Stoyel
OP04324	North-west corner of the main mill building from the west, with northern outshot to left. this shows the horizontal set back in the north wall of the mill.	Alan Stoyel
OP04325	General view of mill and house from south, showing the eastern range of the mill (centre), the covered waggonway, and the east gable-end of the house (left).	Alan Stoyel
OP04326	The east range of the mill (centre and right) from the north west, showing the phase-4 brickwork, the northern end of the wagonway, and the extent of the vegetation cover.	Alan Stoyel
OP04327	Stalls for horses in the east range of the mill, viewed from the south east. This shows the use of chalk blocks on the internal faces of the north and east walls.	Alan Stoyel
OP04328	The east wall of the original mill,viewed from the south east. This shows the original south-east corner, of ashlar, with later stonework, to the left, added during the eastward extension of the mill. The brickwork above is part of the 1890s rebuilding.	Alan Stoyel
OP04329	The north wall of north extension to the mill, from north east, showing the two phases of construction and the iron-stone and re-used ashlar masonry.	Alan Stoyel
OP04330	Interior, second floor of house, viewed from the south east, showing roof trusses at the intersection of the phase-1 roofs.	Alan Stoyel
OP04331	Interior, first floor of house, viewed from the south east, showing junction of tie-beams at intersection of the phase-1 ranges.	Alan Stoyel
OP04332	The east gable-wall of the house and the south end of the waggonway, viewed from the south east. This shows the re-set stonework of the arch, and the chamfered stone course positioned at the set back.	Alan Stoyel
OP04333	The house viewed from the south west, showing the three main phases of the house, with the washhouse and privy to the left.	Alan Stoyel
OP04334	Outbuildings from the south west, showing southern end of range running south from south-east corner of the east range of the mill, and the cattle shed to the right.	Alan Stoyel
OP04335	Interior, ground floor of mill, viewed from the south, showing the concrete-lined pit in the foreground, with the later, cast-iron column, and the drives from the turbine in the far (north west) corner.	Alan Stoyel
OP04336	Interior, first floor of mill, from north, showing elevator casing in the foreground and lay-shaft with belt wheels along the east wall (right).	Alan Stoyel
OP04337	Interior, first floor of mill, from south east, showing elevator casing, aspirator trunking above, and a millstone in the background. To right is the doorway into the north extension.	Alan Stoyel
OP04338	Interior, first floor of mill from east south east, showing composition runner-stone with fragments of another lying on the floor.	Alan Stoyel
OP04339	Interior, first floor of mill, from south, showing machines in the north-east corner. The oat crusher is to the left.	Alan Stoyel
OP04340	Interior, first floor of mill, from east, showing the oats crusher in the north-east corner.	Alan Stoyel
OP04341	Interior, ground floor of mill, viewed from the north east, showing drives from turbine, belt wheels for millstones (top) belt-wheel for roller-mills (left) and control gear for turbine (right).	Alan Stoyel
OP04342	Interior, ground floor of northern extension of mill, viewed from the north east. This shows the wooden hurst-frame with millstones above. The belt-wheel on the stone-spindle was formerly driven by a belt passing through the hole in the wall to the left.	Alan Stoyel

<b>PHOTOGRAPHIC SHOT LIST - ORIGINAL PRINTS</b>		
OP04343	Interior, first floor of northern extension of mill, viewed from the north east. Shows the two pairs of composite millstones and the stone-crane. The casing of an elevator lies against the far wall.	Alan Stoyel
OP04344	Interior, ground floor of mill. North wall of wheel-race, from south east, showing two inclined rebates in wall defining two generations of penstock, which controlled water supply to the former waterwheel.	Alan Stoyel
OP04345	Abandoned millstones set in the floor at the north end of the covered wagonway. Viewed from the south east. The two nearer examples are Peak stones and the third is a French burr.	Alan Stoyel
OP04346	Cart entry and east wall of mill showing extent of vegetation cover. Viewed from north east.	Alan Stoyel

English Heritage has full permission to use all Photographs identified as copyright Alan Stoyel.

<b>PHOTOGRAPHIC SHOT LIST - DIGITAL IMAGES</b>		
IMAGE No	CAPTION	COPYRIGHT
DP021001	The mill seen from the north west, showing Purbeck slates on the lower part of the roof.	English Heritage
DP021002	The corrugated-iron shed, with the cattle shed beyond. Viewed from the north west.	English Heritage
DP021003	The mill house viewed from the south west.	English Heritage
DP021004	The house and outbuildings viewed from the west. The change of phase in the rear range (centre) is visible to the left of the window.	English Heritage
DP021005	Detail of stone arch on east wall of house, showing stone inscribed with the date 1770.	English Heritage



*This report has been prepared for use on the internet, and all or most of the images within it have been down-sampled for optimised loading speeds and for downloading to print.*

*Please note that as a result of down-sampling the images, they are not of the highest quality to print from. Any person wishing to obtain a high resolution copy of this report should purchase from the English Heritage website: [www.english-heritage.org.uk](http://www.english-heritage.org.uk)*



## **ENGLISH HERITAGE RESEARCH DEPARTMENT**

*English Heritage undertakes and commissions research into the historic environment, and the issues that affect its condition and survival, in order to provide the understanding necessary for informed policy and decision making, for sustainable management, and to promote the widest access, appreciation and enjoyment of our heritage.*

*The Research Department provides English Heritage with this capacity in the fields of buildings history, archaeology, and landscape history. It brings together seven teams with complementary investigative and analytical skills to provide integrated research expertise across the range of the historic environment. These are:*

- \* Aerial Survey and Investigation*
- \* Archaeological Projects (excavation)*
- \* Archaeological Science*
- \* Archaeological Survey and Investigation (landscape analysis)*
- \* Architectural Investigation*
- \* Imaging, Graphics and Survey (including measured and metric survey, and photography)*
- \* Survey of London*

*The Research Department undertakes a wide range of investigative and analytical projects, and provides quality assurance and management support for externally-commissioned research. We aim for innovative work of the highest quality which will set agendas and standards for the historic environment sector. In support of this, and to build capacity and promote best practice in the sector, we also publish guidance and provide advice and training. We support outreach and education activities and build these in to our projects and programmes wherever possible.*

*We make the results of our work available through the Research Department Report Series, and through journal publications and monographs. Our publication Research News, which appears three times a year, aims to keep our partners within and outside English Heritage up-to-date with our projects and activities. A full list of Research Department Reports, with abstracts and information on how to obtain copies, may be found on [www.english-heritage.org.uk/researchreports](http://www.english-heritage.org.uk/researchreports)*

*For further information visit [www.english-heritage.org.uk](http://www.english-heritage.org.uk)*

