

THE CANAL ROUND HOUSE AT INGLESHAM LOCK

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(adapted for the GSIA Journal by Alan Strickland)

Introduction

The subject of this study is the round house beside the lock at Inglesham on the disused Thames and Severn Canal (1,2). In June 2008 the author produced a dissertation as part of a course at the University of Leicester which described the outcome of a project "recording, analysis and interpretation of the Round House". Clearly it is not feasible to reproduce the paper in the GSIA Journal, but, by kind permission of the author, this adaptation has been produced by Alan Strickland. The present article omits much of the background information included in the paper and concentrates on the description and analysis of the building.

The round house is at the easternmost point on the canal (NGR SU 4205 1988, Figure 1). Inglesham lock served as the transition between the canal and the Thames at its highest navigable point, three-quarters of a mile south-west of Lechlade. Apart from the lock, bridge, round house and wharfage, the site includes a cottage, converted and extended from the original warehouse, standing between the lock and the Thames. The round house was originally constructed for occupation by a 'watchman', known also as 'lengthman'.

The building, built circa. 1790 and listed grade 2 - is one of five similar round houses; all but one on the eastern section of the Thames & Severn Canal. It is circular in plan, constructed of rough Cotswold stone, with three bands of dressed stone, so presenting the appearance of having four storeys. There is an entrance door with dressed stone portal on the first floor,



Figure 1. The round house from the south

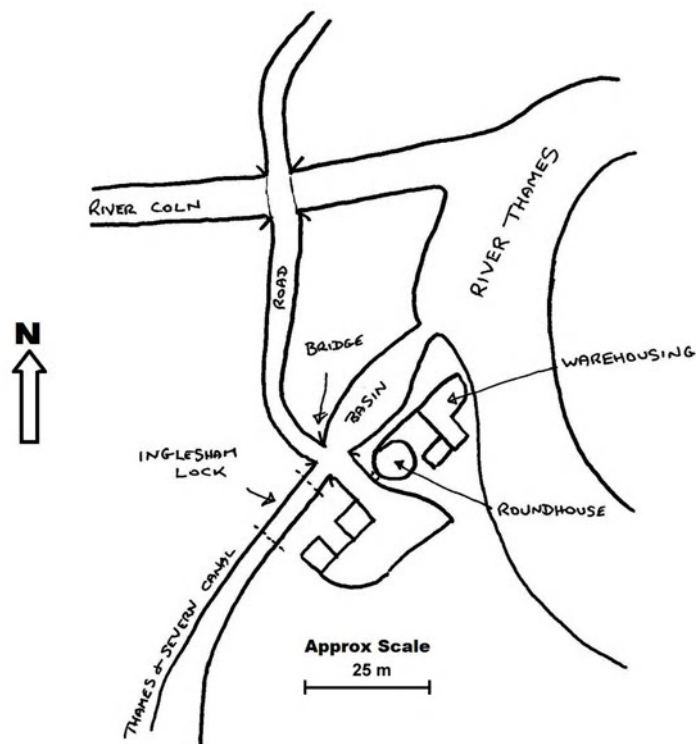


Figure 2. The location of the round house

now protected by stands of willow and other trees, records show the site was sparsely planted, and would originally have been exposed. The site includes a warehouse and a wharf, although there are substantial wharves and warehousing on the Thames at Lechlade. There is also a small landing stage facing the river which it is assumed was only intended for passenger use.

The bridge crossing the lock beside its lower gate, leads past the working front of the round house to a yard at the back beside the lower door. There is a tile-paved way alongside the lock, from behind the round house to the warehouse beyond.

Methodology

One of the aims of the project was to extend the experience and knowledge of the writer in a practical situation. Acting as a volunteer surveyor and with limited resources, the paper was produced for the CCT to provide a recording of the building together with an interpretation to assist with the long term future planning for the site.

The restoration of the Thames & Severn Canal is a heritage project of national scale, so there is a wealth of knowledge - academic and amateur - about the canals, both in terms of their fabric and as a socio-commercial enterprise. Gloucestershire Archives holds comprehensive records of the canal, which together with books about the canal by Household and Viner and extensive on-line information with prints and photographs about the Inglesham round house provided the necessary background information.

Documentary research and communication with knowledgeable contacts suggested a number of initial topics to consider:

- The form and function of the inverted conical roof and water collection system
- Any evidence within the ground floor that might offer indication of its original use

approached by a stone stairway and a wider portal at ground level to the rear. Although currently unused, it is equipped with domestic services. Recently purchased from British Waterways by a Cotswold Canals Trust (CCT) member, its future protection and place as part of the restoration of the canal now appears secure.

The Site

The site (Figure 2) lies in water-meadows where the canal runs alongside the Thames for some distance and drops to river level alongside the small River Coln. The position is isolated, although less than a mile from Lechlade and may be reached by river, on foot by using a pedestrian bridge from the south bank of the Thames or by nearly two miles of narrow roads and tracks from Lechlade. Though

- Whether study of windows or other features could identify the history of changes to the building.
- Indications of phases of use to be deduced from studying fixtures or fittings

The modern extension and installation of services is of limited interest in relation to the canal era. However other topics for analysis emerged as the study progressed:

- A building anomaly relating to the front steps and its possible implications.
- A structural feature that indicated at least two changes in the stove arrangements
- A degree of doubt as to whether the building was or was not originally rendered.

The physical surveys were carried out without professional support (or access to ladders) using only basic equipment available to the volunteer, digital camera, and basic drafting equipment. A sectional snooker cue, with a fabricated extension piece, was used to help measure internal distances. Some measurements were made by adapting a set of frame-tent poles as an extendible height gauge. The same kit served to support a camera fitted with a string-operated contraption to operate the shutter - at the height necessary to take horizontal photos of windows above accessible height. The resulting views being orthogonal.

The building is nearly 10m tall. The internal layout offers few links from floor to floor so height could not be measured cumulatively, nor was it possible to measure the height of the parapet wall. For these reasons it was desirable to know the external height, both overall and from band to band, as a check on the internal measurements.

Documentary Research

Household assesses the generic round-house (3):

"The watchmen's cottages were among the most interesting buildings along the canal. Five, all built in 1790, were circular and a distinctive, probably unique, feature of the Thames & Severn Canal. Even contemporaries were moved by the oddity of these 'fanciful round buildings like towers'. There is no indication why the design was adopted; certainly it was suitable for its purpose, as excellent views up and down the canal could be had from the windows; certainly it was simple to build, having no quoins. Nor is it clear who thought of it, but there were plenty of local examples of circular buildings which would have been known to any Cotswold mason. ... They were built of stone covered with plaster and stucco. Of the three storeys, the lowest was used originally as a stable and reached only from the outside; the first floor formed the single living room, entered directly through the outer door; the upper was a bedroom. The walls are thirty inches thick and internally each room is near seventeen feet in diameter, but the curve was slightly flattened on one side to accommodate the kitchen range, the bedroom fireplace and the stairway which was inserted between inner and outer walls. Two of the round houses carry conical roofs, but the other three are roofed in a curious way; there is a high parapet from which the rafters slope downwards to the centre, where there is a leaden bowl from which a duct leads out through the parapet. At Coates the entire roof (now missing) is covered with lead, and the substantial ceiling beams at Inglesham and Marston Meysey suggest that these two also were originally roofed with the same material. Possibly the intention was to form a rainwater cistern, particularly valuable at Coates, standing as it does high on the thirsty oolitic limestone. The round-houses have their drawbacks; the accommodation is cramped; furniture passes unwillingly through the small doorways and lines the wall uneasily; water is drawn from a well; sanitation is outside. ... The disadvantages of the design must have been realised ... for in 1831 new cottages were built on a rectangular plan (so that) the round houses at Cerney Wick and Marston Meysey were no longer needed."

Viner adds observations about each of the roundhouses (4):

Chalford - "...the centrepiece of the wharf"

Coates - "...the same dimensions and internal layout, but the roof arrangement is different. Instead of the upright conical shape, the roof ...was inverted, the whole arrangement concealed behind the circular wall of the building ... the most successful way of gathering a water supply, piped off the roof into water storage at ground level. ... The ground floor began life as a stable ..."

Cerney Wick "... The stone structure remains faced with stucco ... narrow Gothic style windows and conical slate roof, are the building's (main) characteristics"

Marston Meysey "... new lease of life, its shape preserved ... the exterior finish reflects the original render ... inverted conical roof design"

Inglesham "... third inverted conical roof. Until 1996 ... had one tenant for nearly fifty years ... remained largely unmodernised. The warehouse alongside provided the same storage and security of goods in transit as similar buildings at other wharves along the canal, many in similarly isolated spots. This little group is alongside the lock and just beyond was the terminal basin ... used as a turning pound for barges."

In summarising the unique features of the group of round-houses, "clearly designed and built in a group, completed in 1790-91," Viner (5) suggests a whole study could be made as to who influenced the design and why is a round building actually as structurally simple as a rectangular one to build? Drawing attention to the fact that other buildings constructed to a more traditional rectangular design also functioned as watchmen's cottages.

Building Description

The building is described in its listing as having three floors and a tall parapet wall, built of rough cast on rubble with a small brick stack. The upper floors are 5.1m in general diameter within a standard wall thickness of 0.6m.

Architectural elements are the seven walled steps to the raised entrance, the brick chimney, the down-pipe from the water collecting system in the roof, the dressed stone used around the four small pointed-arch single-light windows and the two doorways, the one, elevated and in a position to overlook both the lock and the canal approach - the other, facing away from the lock and serving the basement floor - plus the three string-courses or 'plat bands' marking internal floor levels. Architectural drawings produced as part of the project are shown in Figures 3-5.

The ground-floor extension shown on the 1980 OS map but not on that of 1960 provides WC and shower, utilities and storage (Figure 6). Of an external finish sympathetic to the round-house, and well roofed in lead, it could be retained and adapted for suitable use in any future development. The ground floor is fitted as a kitchen with sink and base units of style contemporary with the period in which the extension was built. It has a south-west-facing squint window, probably not original, offering some daylight. There is clear headroom below the floor joists, apparently original. These are supported by a single pine cross beam of full square section. This is out of style with the joists and considered to be a replacement for the original. Wall finish is lime-wash on rough stone. Above the modern central heating boiler is a timber framework fabrication supporting the fireplace above. The footprint of the chimney above requires that the wall, thicker at this point, intrudes into the generally circular floor plan. This feature extends towards the right to create a 'flat' on the wall. A narrow doorway has been cut into the extension. Modern oak stair treads cantilevered into the wall provide internal access to the room above, and the joisting has been adapted around the 'well'.

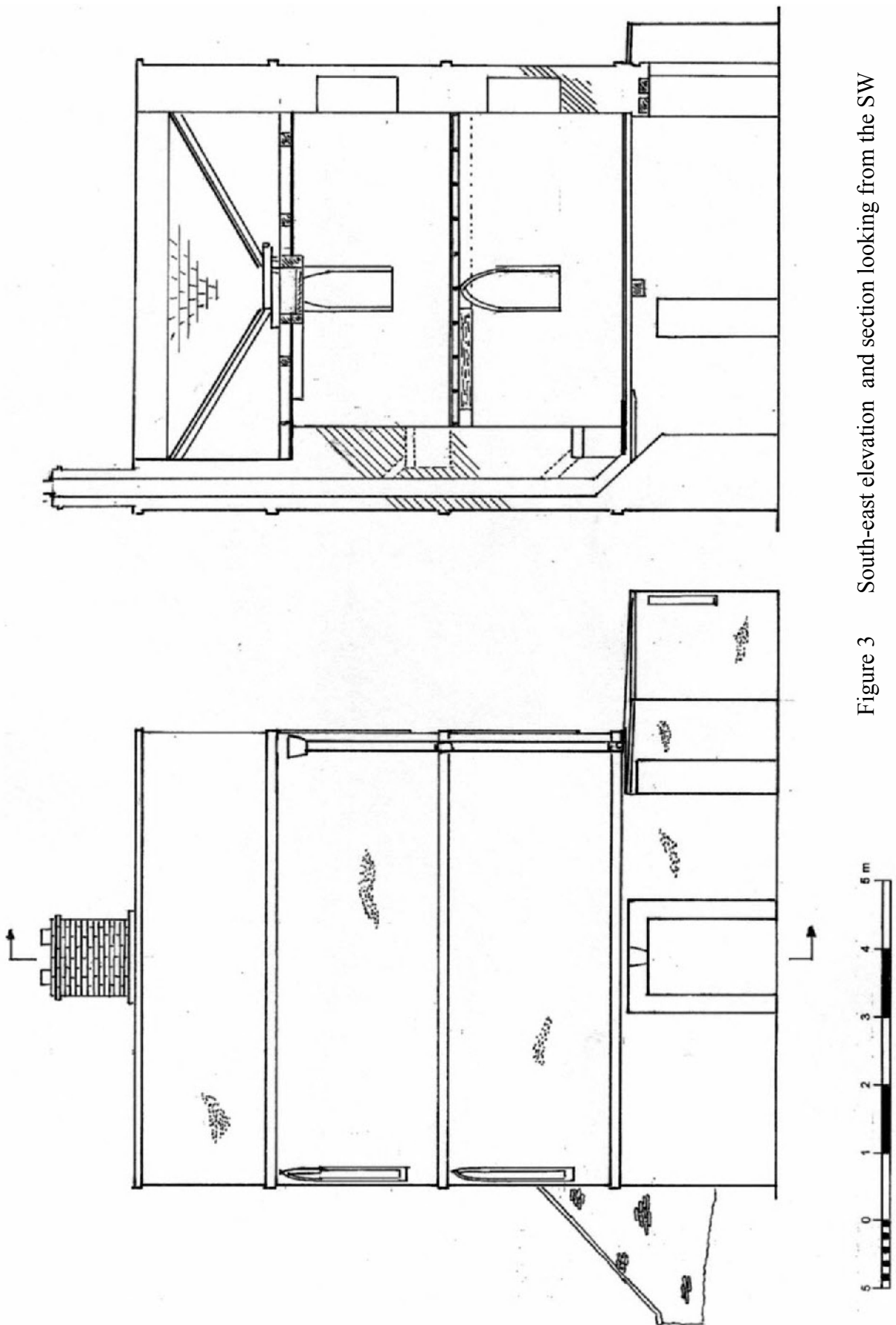


Figure 3 South-east elevation and section looking from the SW

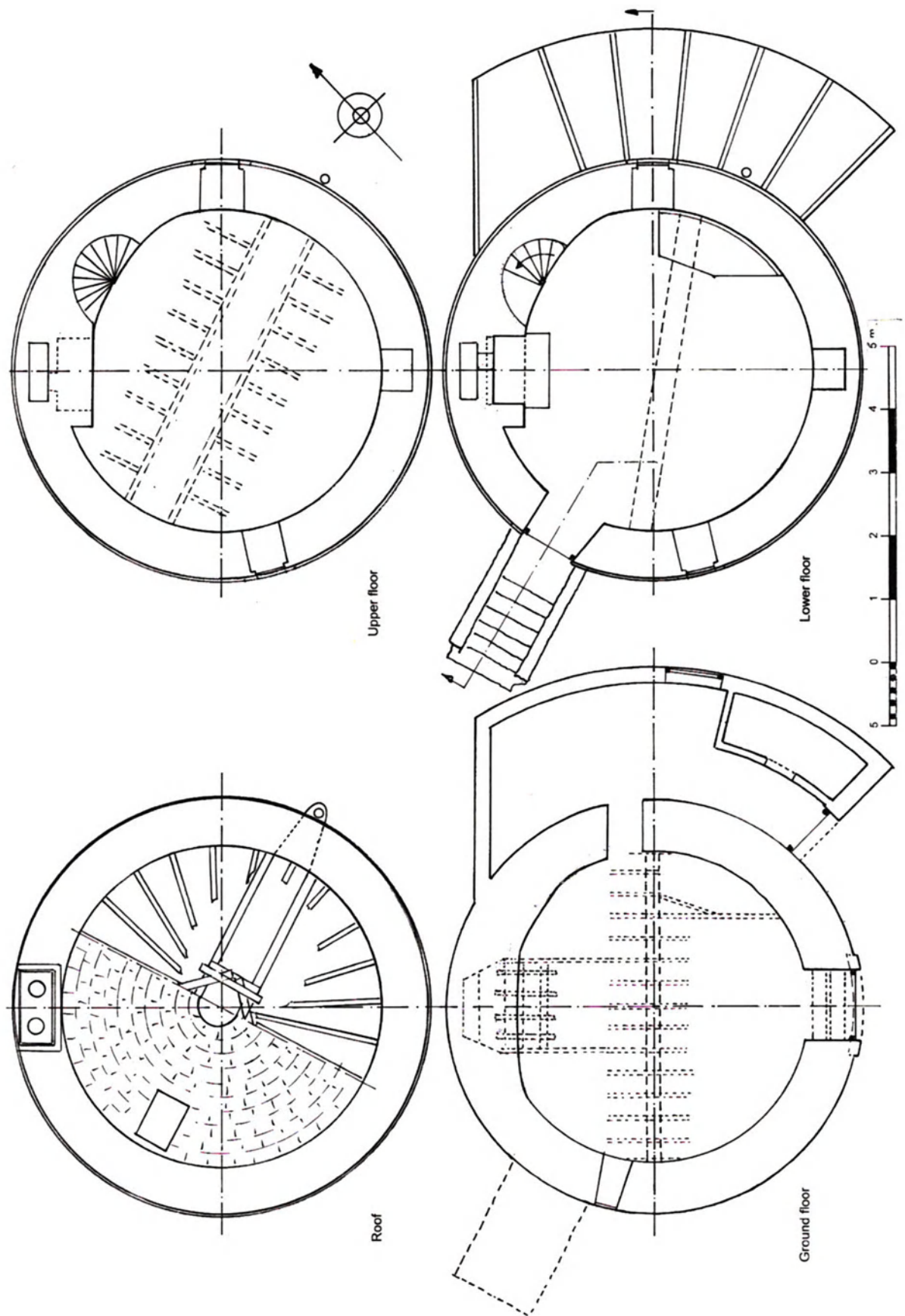


Figure 4 Plans

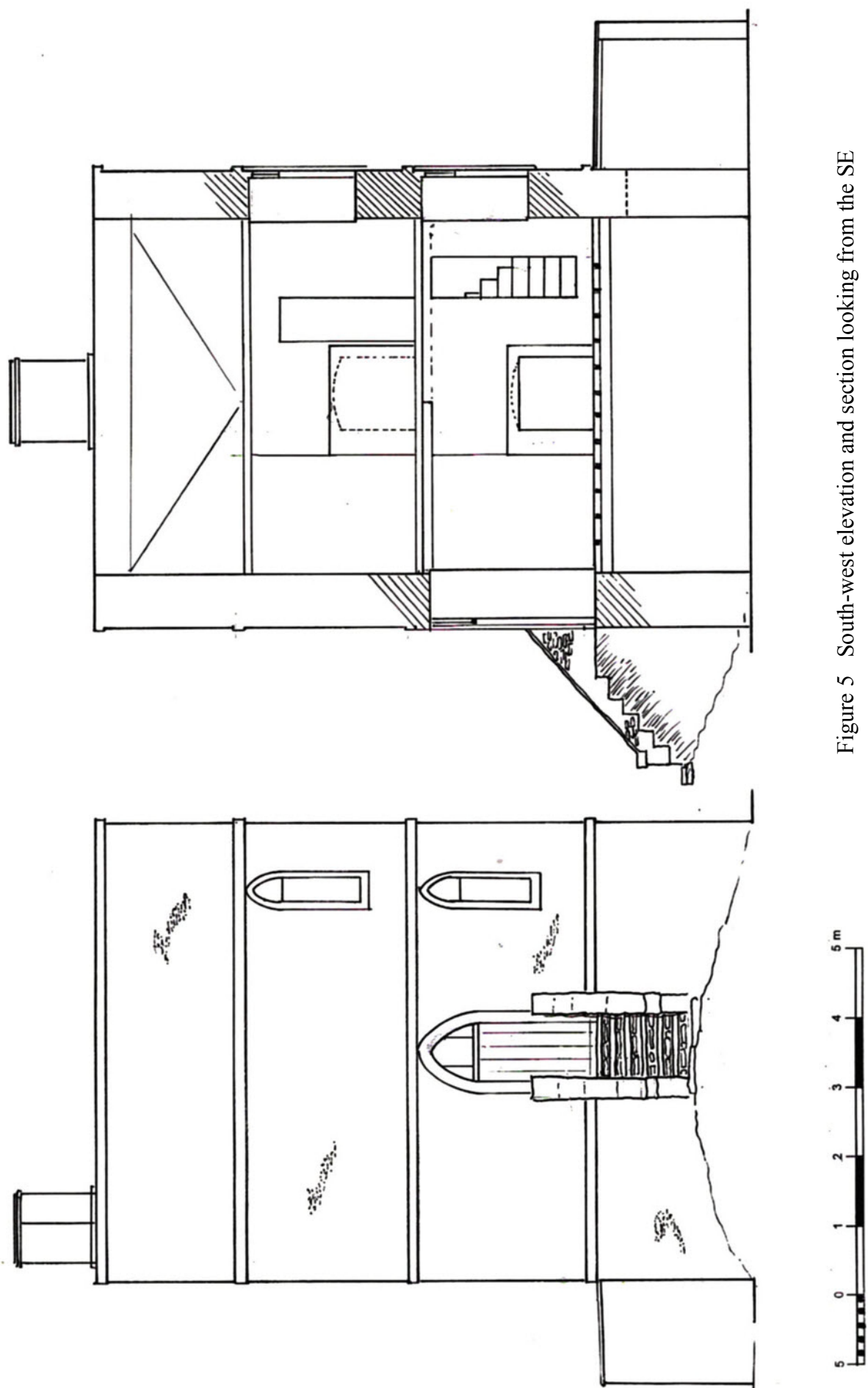


Figure 5 South-west elevation and section looking from the SE



Up seven steps, the planked front door, with fixed fanlight above, opens into the main room, larger in diameter than that below because of a reduction of 12 cm in the thickness of the wall. Vertically above the door portal below, is a cupboard built into the wall, opposite which is the fireplace, of which the back wall is of obviously modern brick (Figure 7). To the right is the entrance to a half-spiral staircase, also built into the thickness of the wall, leading to the upper floor. An arched fixed-light

▲
Figure 6 Ground floor extension

Figure 7 Lower Floor: Fireplace and stairs ►

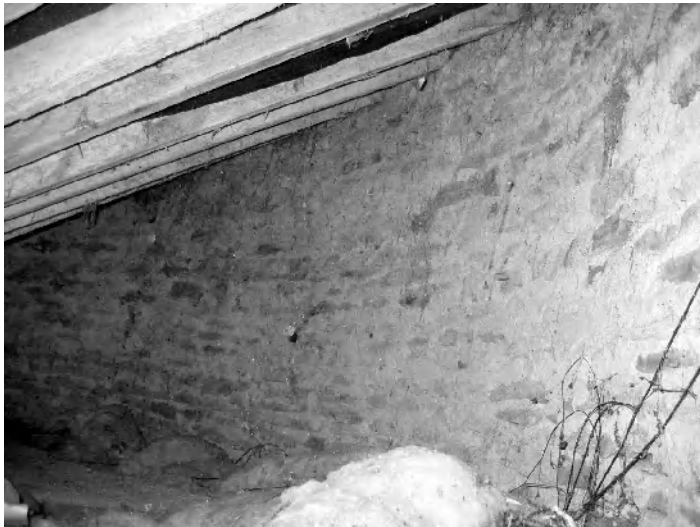


Figure 8 Lower Floor:
Support beam
▼



window on the eastern side overlooks what was a wharf in front of the warehouse and the turning basin on the Thames beyond.

The position of the opening casement on the other side is to the left of the symmetrical position, apparently to provide sufficient mass between it and the door to support the single beam supporting the ceiling, which is as a consequence offset (Figure 8). As below it appears to be a replacement, bearing the carved initials MN. The pine floorboards



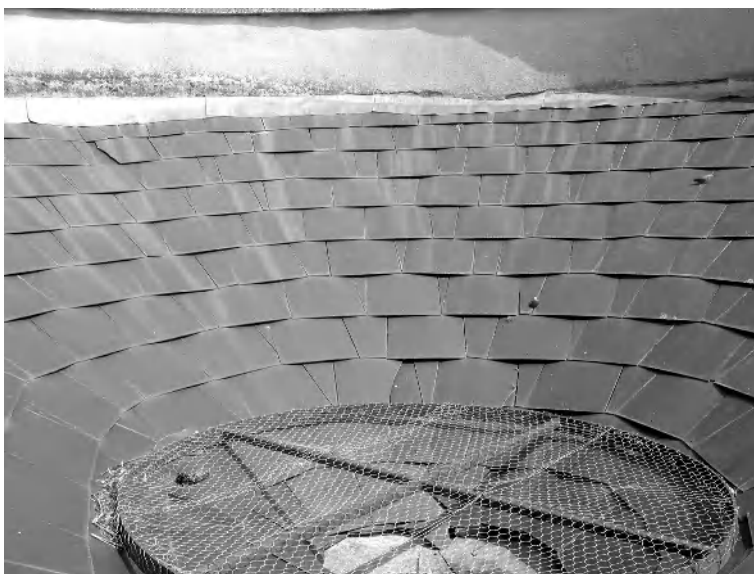
▲ Figure 9 Space beneath conical roof

eleven stairs, slightly wider at the top than bottom, are surprisingly easy to climb and descend. Instead of a single beam, there is a box section protruding below the plastered ceiling, being the underside of the water conduit from the rain-water collection system above. Both rooms are finished in whitewashed smooth lime plaster.

There is an access hatch in the ceiling, apparently built in recent times, to the space below the inverted conical roof (Figure 9). This collects rainwater and



▲ Figure 10 Timbers supporting roof



▲ Figure 11 Roof surface

are machine planed and probably date from the 1970's refurbishment.

The upper floor is identical in plan to that below, with a cupboard and two opening casement windows in similar positions. Being a bedroom it seems likely that it has a fire grate, but that could not be determined as a floor-standing cupboard is currently bolted to the chimney breast.

The half-spiral staircase is fitted within a plastered re-entrant in the thickness of the wall forming a half-cylinder of just 0.7m radius. The

channels it from its centre to the cast-iron hopper and down-pipe on the face of the building opposite to the front door. A modern glass roof-light permits access to the exterior towards the top of the westward side of the inverted cone. Apart from some timbers around the new access hatches, the supporting timbers appear original (Figure 10).

The roof surface (Figure 11) has been rebuilt with synthetic slates



Figure 12 Steps up to entrance

but an area of lead surrounding the centre orifice suggests that the entire original lining was in all probability lead.

The parapet coping, the flashing and rendering above the new roof slates are recent work . Dead foliage in the roof-space is the residue of the creeper cover shown in a 2002 photo, which therefore pre-dates the re-roofing.

The inward face of the brick chimney stack was apparently re-pointed when the work was done. The outward pointing is patchy but the comfortable blend of the bricks suggests that the stack has not been rebuilt.

Discussion and Analysis

It is asserted that round-houses were finished in stucco. It is difficult to determine absolutely that this is so. Early photographs available are sufficiently grainy so that it is not possible to determine wall finish with any assurance. At Inglesham, the old rough cast stucco, of which some ten percent has been patched, is in mixed condition, substantial areas having lost adherence to the base.

The top storey at Inglesham round house appears to be of coursed rubble limestone, that is likely to be the same as the build of the wall structure beneath the external rendering. It is apparent that pointing with lime plaster would be a quite adequate finish for the external walls - some of the other round-houses today stand unrendered. This poses the question whether they were rendered originally, as suggested in the literature, and if so why?

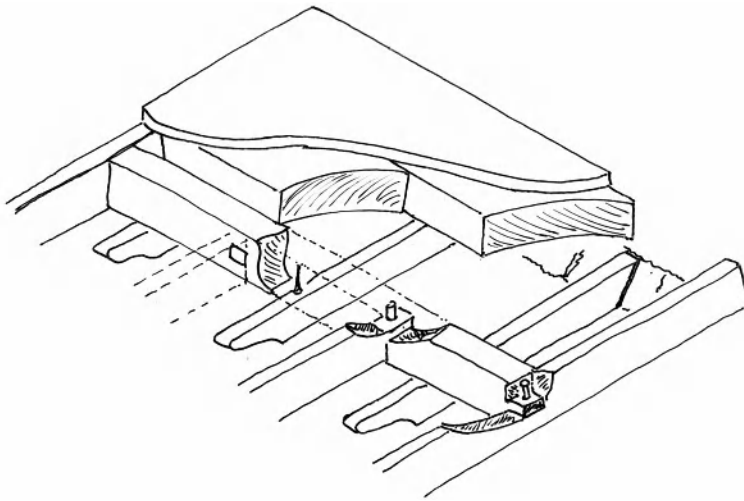


Figure 13 Grate Support Frame

The steps to the entrance (Figure 12) also raise questions relating to this dilemma. The mass of the stone staircase is falling away from the face of the building, there being no bonding between the two. The coping of the side walls of the steps is of rough stone where one might expect a dressed parapet to match the door surround had they been part of the original design. The conclusion might be drawn that the steps are later. A painting of 1793 shows steps, clearly those that exist today: had they been built with the tower, would they not have been rendered to match the walls?

It seems possible that the original building was not planned with the present staircase as an integral part and that the stairs were added shortly after the building was completed, possibly built by a different contractor. It is a moot point whether that was the reason they were not rendered, whether they were sufficiently 'separate' for difference in finish to be unimportant, or perhaps that they were left unrendered because at that stage the round-house itself was not rendered. For some reason the steps are also not symmetrical to the face of the building.

Documentary research suggests that the ground floor of a round-house was not used for habitation, it would be damp and there is no fireplace. Chalford is described as having "a square headed doorway below, formerly providing a stable entrance". Watchmen would have had to store their tools and equipment needed for the maintenance of their 'length' of the canal. It is likely that horses would have been used for heavy work such as dredging or reed cutting, so the ground floor could have been used for storage, stabling or both. The building provides no evidence either way. There are no fittings related to the room's use as a workplace before its present domestic role. Stalls or mangers, for instance, would have been dismantled and removed. The floor-joists, which show every indication of being original, were inspected for holes where hanging brackets for tack or tools etc might have been fitted, but none are apparent.

The second interesting feature of this room is easier to interpret. The joists are all of a type and appear original - except two. The replacements run only from the central support beam and abut on the left- and right- hand sides of the reinforcing framework which supports the fire-place above.

This ingenious piece of coarse structural engineering (Figure 13) was evidently contrived to provide support for the relatively modern apron in front of the fire. That could have been provided when the present stove was installed, which was certainly since the last war. The surround could however have been extended to accommodate an earlier change of stove and so considerably pre-date the installation of the present one.

The cross-timber is mortised into the two replacement joists. The two heavier timbers appear to be lengths of railway sleeper. Their weight and that of the fireplace above is supported by the spurs below, which rest at the wall end on a slope forming part of the original wall. This sloping



Figure 14 Window (lower floor, east elevation)

feature may relate to the provision of draft for the chimney above. At the open end the spurs are bolted upwards into the cross-timber. Two factors suggest that this assembly is of some age. The mortise and tenon joints were clearly cut by hand and are then locked by dowels which are also hand-cut. The weight-bearing spurs hang from their supporting member, held there by what appear to be wrought metal pegs, possibly having a slight spiral form to help adhesion, as they are operating in tension. This form of fixing device is considered likely to date from c1900. The conclusion is drawn that the apron hearth was extended around the turn of the twentieth century to accommodate a changed form of fire or stove between the original, probably a small range, and the current one. There might of course have been more changes than that.

The roof structure and water collection arrangements are of particular interest, being no doubt common to the two other round-houses built away from other inhabited buildings and therefore needing their own water supply. The recently fitted roof-light made it possible to photograph the roof

exterior, which is not directly visible from below. The environment of the roof-space is not good, carpeted with dusty insulating fibre so recording was limited to photographic form. The support structure is original with the exception of the new access. The weight is supported by two cross-beams supporting the outflow channel. On this is built an octagonal structure of short beams onto which are laid the timbers forming the inverted cone form of the roof.

Evidence remains of the lead-work at the bottom of the funnel leading into the conduit below and from there to the external hopper and down-pipe. It seems inconceivable that the whole inverted cone was not lead lined. It is noticeable that the conduit is a couple of inches deep in water. This could be caused by a blockage of the outflow, but that appeared unlikely. It is more probably intentional in order to keep the sheets of lead lining the conduit cool, thereby minimising chance of fracture by expansion and contraction between night and day temperatures. There is no indication that the system was ever intended to provide a cistern at roof level.

The four windows are small pointed-arch single lights with plain stone surrounds (Figure 14). The upper door aperture is in similar style. These and the three stone bands between floors are all of the same variety of dressed stone.

The lower portal is of consistent section but rectangular. This set provides the building with an elegant 'presence'. All windows have modern float glass but the frames of the one fixed and three opening lights are old, each having the horizontal iron bars used for the ties to support leaded lights.

The pointed arch fixed light above each casement is leaded direct into the stone of the arch. Otherwise these features appear to offer little towards better understanding of the successive phases in the life of the building.

Conclusions

Acknowledging that the main structure was not built in phases, nor did its use change significantly over two hundred years, it is pleasing to have found some features of academic interest. The separateness of the stairway - physical and stylistic - poses the possibility that it was in fact erected after, although within some three years of, the main structure. It also calls into question the general supposition that the round-houses were stuccoed from day one, without proving the matter either way. Study of the face of the building behind the block of steps would further illuminate the matter, but this might be invasive of the fabric. A typological study of all five round-houses and other working buildings of circular plan might determine the duration of the form as a favoured building style and the reasons it was first adopted and then discarded. Other examples of circular plan buildings are the recently-restored wool-drying stove at Painswick (6), and the 'wool-drying tower' at Frogmarsh, Woodchester, which is now residential accommodation (7,8).

The frame supporting the fire apron suggests multi-stage development of the stove arrangements. It was not possible to measure the flues etc. but the drawn plans suggest the original fireplace was deeper than at present.

From the study of this building it did not prove possible to substantiate - nor to deny - the reasonable assertion that the ground floor of round-houses was used for stabling. This might be provable from the suggested typological study. It seems certain however that the cistern for the collection of rainwater would not have been at roof level.

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Reference Sources

Gloucestershire Society for Industrial Archaeology Journals - Various Articles.
Household, H, *The Thames & Severn Canal*, David & Charles, Newton Abbot, 1969.
Morris, R K, *The Archaeology of Buildings*, Tempus, Stroud, 2000.
Swallow P, Dallas R, Jackson S, and Watt D, *Measurement and Recording of Historic Buildings*, Donhead, Shaftesbury, 2004.
Viner, D, *The Thames & Severn Canal History & Guide*. Tempus, Stroud, 2002.

References

- (1) Household, *op cit*.
- (2) Viner, *op. cit*.
- (3) Household, *op. cit*. pp. 80-81
- (4) Viner, *op. cit*.
- (5) *ibid.* p. 112
- (6) Haine, C.E., *Wool drying stoves along the Painswick stream*, Gloucestershire Society for Industrial Archaeology Journal (GSIAJ) for 1981, pp. 30-31.
- (7) Crawford, G.N., *The Woodchester Roundhouse*, GSIAJ for 1982, pp 41-42.
- (8) Wilson, R., *Circular wool drying towers*, GSIAJ for 1989, pp. 32-35.