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FOUNTAINS MILL, G2 SUMP.

REPORT ON ARCHAEOLOGICAL EXCAVATION.
 OSA REPORT No: OSA03EX01.
 MAY 2003.

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Report Summary.

REPORT NO: OSA03EX01

SITE NAME: Fountains Abbey Mill, Room G2 Sump.

COUNTY: North Yorkshire.

PARISH: Lindrick with Studley Royal & Fountains.

NATIONAL GRID REFERENCE: SE 2725 6820.

PLANNING APPLICATION No: N/A.

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PERIODS REPRESENTED: Medieval ? and Post-medieval

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1.0 Abstract.

An archaeological excavation and watching brief were undertaken to enable the insertion of a pump, to assist in the drainage of water that was accumulating within Room G1, in the northern end of Fountains Mill. The trench was 0.75m by 0.75m square at the surface and 1.00m deep.

The earliest, significant, archaeological structure was a clay, sandstone rubble and cobble foundation, which was aligned approximately north – south. Although undated this is likely to be a medieval feature, possibly representing an internal division within the original mill building.

Subsequent deposits include a layer of probably water-lain silting, indicating either the wet character of the mill's interior, or that this area was not always internal. The cobbled surface found previously during excavations for the lift pit was seen to continue into this area, but no additional dating evidence was retrieved to ascertain whether this was a medieval or later floor. The drain, which runs just inside the west wall of the mill was also found again, and was confirmed to be of 19th century date.

The wall dividing Rooms G1 and G2 was confirmed as being a fairly late insertion, as this cut through the drain, making it unusable.



Figure 1. Site Location (NGR SE 2725 6820).

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2.0 Site Location, Geology, Topography and Land Use.

Fountains Abbey is situated approximately 5km to the southwest of Ripon, to the south of the B6265. Fountains Abbey Mill is located in Mill Yard, to the west of the main Abbey complex, at National Grid Reference SE 2725 6820. It stands at between 80m and 83m Above Ordnance Datum, within a deep ghyll formed by the River Skell, from which the mill's waters are drawn, via a diversionary channel. Although the local bedrock is a coarse-grained Upper Carboniferous Laverton Sandstone, (Senior, 1989, p.230), a quarried face of which is visible to the north of the Abbey, the mill itself stands upon post-glacial clays and sands formed within the river valley. The mill is owned by the National Trust, but the site is also a guardianship monument, part of the Scheduled area and listed Grade I.

This report is concerned with limited excavation undertaken within Room G2, which is located within the northern half of the mill, against the inside of the west wall (Figure 2). This room has a brick floor and is not open to the general public, as it houses the main electrical switch equipment and is therefore only accessible to National Trust staff.

Figure 2. Trench location plan. (Scale 1:300).

3.0 Archaeological Background.

Fountains Abbey Mill was established during the late 1130s and survived in active use until 1927. From the 1960's until recently the Mill has been used as the workshop and bankershop for the stonemasons employed through the Office of Works and its successor bodies, on consolidation of the monastic ruins.

The building was first conceived as a water corn mill and expanded several times during the medieval period. Traces of the first phase water mill have been revealed and recorded during the current works process. Initially the mill had one water-wheel in the centre of the building, subsequently increased to two wheels placed side by side in the same wheel pit. The millpond extended to the west of the building, occupying a larger area than the current pond.

During the post-dissolution period the mill was managed by a tenant and subsequently the mill passed through the control of various millers. The north end the medieval building was demolished and a shorter section added of different roof shape.

During the eighteenth and nineteenth centuries the mill remained in use, but underwent repair and alteration. During the mid-nineteenth century the mill developed an additional function, as a sawmill, with the addition of a water wheel and wheelhouse at the southwest of the building. In the late 19th century the area in the centre of the building occupied by the medieval water wheels was first converted for use as a water turbine to produce DC electricity for the estate buildings at the west end of the estate. Following the demise of the milling, saw-milling and water turbine operations, the mill was used as a depot, store and workroom for the abbey stonemasons.

A conservation plan for the mill has been prepared (English Heritage & The National Trust, July 1997, Amended July 1998) which highlighted its significance and developed a policy for the retention of this significance, within a display context. This emphasised the need to avoid or minimise any non-reversible intervention, either to the fabric of the mill, or to its immediate surroundings.

A series of archaeological investigations were carried out within and around the mill between April 2000 and May 2001 during its conversion to a site interpretation centre (for details see *On-Site Archaeology*, January 2002). Within the northernmost room, G1, this revealed a well-preserved floor, comprising reused millstones, cobbles, bricks, floor tiles, and other reused medieval masonry. This floor was preserved in-situ and kept visible to the visiting public. Further to the south, against the west wall of the mill, excavation for a new lift shaft (Trench 11) revealed that although substantial post-medieval alterations had taken place, early medieval remains, including a wall foundation, still survived.

Since the re-filling of the millpond water ingress into Room G2 has become a significant problem. An evaluation, carried out in July 2002, outside of the western wall of this part of the mill, failed to resolve the extent of this problem, (OSA, Aug. 2002).

4.0 Methodology.

Following the hand removal of the most recent brick floor by the main contractor (HPR Ltd) all excavation was undertaken by hand, in reverse chronological order down to the maximum required depth of 1.00m.

Standard *On-Site Archaeology* techniques were followed throughout the excavation. This involved the completion of a context sheet for each deposit, structure or cut encountered, along with plans and/or sections drawn to scale. Heights above Ordnance Datum (AOD) were calculated by taking levels from the adjacent brick floor, the height of which had been previously tied in with an existing Ordnance Survey benchmark. A photographic record of the deposits and features was also maintained. Where possible contexts were cross-referenced with those recorded during the excavation of Trench 11 (for the Lift Pit) during the 2000/2001 investigations (OSA00EV06, Context Nos: 1100 to 1145 inclusive).

In addition to the excavation of the trench a limited watching brief was conducted during the breaking of a hole through the wall, which divided rooms G1 and G2. This involved the limited removal of the deposits that had formed the original northern limit of excavation, together with the drilling of a 50mm hole through the wall itself. A smaller hole (32mm in diameter) was also opened through the western wall of the mill, to link the sump excavation with a recently constructed man-hole (located within OSA00EV06 Trench 31).

5.0 Results.

The earliest recorded deposit was a substantial thickness (0.18m +) of firm, light brown, sandy silty clay, containing gravel, cobbles and fragments of sandstone rubble (118). This deposit covered the entire base of the trench and continued below the deepest part of the excavation, its surface was found at 0.88m below the modern floor surface (80.41 m AOD). Unfortunately it did not contain any artefacts to assist in ascertaining a deposition date. In the northwest corner of the trench a single block of sandstone was visible in the section (119). Whilst this is likely to be simply a random block within this rubble-bearing layer, it is possible that this block forms the southern edge of an in-situ structure that lies predominantly beyond the limits of excavation.

The earliest deposit was cut by an apparently linear feature [117]. Only the west side of this cut lay within the trench, this was orientated north – south, with moderately a sloping side (approximately 45°), down to a flat base. The north, south and east boundaries of this cut all lay beyond the edges of excavation. Feature [117] contained a single fill, (116) comprising firm, dark greyish brown, silty clay, with moderate to frequent fragments of sub-angular and angular sandstone (maximum of 150mm across) and cobbles (80mm – 120mm). At its northern end the fill extended slightly beyond the western edge of the cut. This stone and clay fill formed an approximately flat surface, which presumably acted as a wall foundation (Figure 3 and Plate 1). Although undated the nature of this foundation would seem to suggest that it is medieval, as would the level at which it was encountered.

The foundation and earlier deposit were sealed by a trench-wide layer of soft greyish-brown, silty clay sand (115), containing occasional flecks of mortar and small fragments of undiagnostic tile. This deposit clearly post-dates the removal of any structure, which had originally sat on foundation (116), and appears to represent gradual silting, presumably accumulating in very wet conditions (as are well attested within the mill).

The silty deposit was sealed by a layer of compact dark yellowish brown silty clay (111) containing moderate to frequent small to medium sized rounded pebbles, with occasional flecks of mortar and small fragments of tile. The compact nature of this deposit suggests that it may have been laid down deliberately to form a floor. Alternatively it may have been the make-up layer for the overlying context, which clearly was a floor surface.

The overlying floor surface was made up of rounded cobbles (109) set within a reddish brown silty clay (Figure 4 and Plate 2). The cobbles were a maximum of 150mm in diameter and there was a marked concentration of the largest ones towards the northern edge. Further south the cobbles were smaller, generally around 100mm in diameter. The top of this surface was found at a maximum height of 79.91m AOD (0.50m below the modern floor surface). This surface is almost certainly a continuation of the cobble surface found in Trench 11 during the 2000/2001 investigations (OSA00EV06, Context 1113, the top of which was recorded at 79.85m AOD).

Towards the eastern side of the trench a timber post (110) had been driven through the cobble surface (this post is visible on both Plates 1 and 2). This post was a maximum of 550mm long, with a rectangular profile, 90mm x 57mm. The top of the post was poorly preserved, with none of the original external shape surviving, but the base was well preserved and had clearly been deliberately sharpened to a gradual point. Presumably this post formed part of an internal structure, but in isolation it is not possible to ascertain what form this originally took.

The timber post and cobble surface were sealed by a layer of soft reddish brown silty clay (107), containing moderate fragments of sandstone, pebbles, flecks of mortar and occasional flecks of charcoal. This deposit also contained two fragments of lead window came and an iron nail. This deposit is likely to be a dump, presumably to raise the ground level within this area of the mill. It may be a continuation of context 1110 found in Trench 11, as it occupies a similar stratigraphic position and contains similar inclusions although it varies in colour.

The western part of deposit (107) had been truncated by the north south aligned, linear, construction cut [114] (same as 1112) for stone built drain. This was initially filled with a layer of compact brownish yellow, gritty sandy clay (113) containing frequent small (30mm-90mm) fragments of sandstone rubble. This deposit presumably acted as a levelling or lining layer within the cut, for the construction of the drain (same as 1117), and contained a sherd of late 18th to 19th century pottery. The drain itself (108 same as 1101) was constructed using predominantly small blocks of sandstone rubble, although occasional cobbles and fragments of roof tile were also present. The whole was bonded with a compact, white, lime mortar. The drain was capped with large rectangular slabs, up to 350mm long and 70mm thick (see Figure 4 and Plate 2). An internal fill (112) of loose, reddish brown, sandy silt, was excavated from the drain, but unfortunately it contained no artefactual material.

The top of the drain was sealed by a thin layer of friable reddish brown, silty clay (120) containing moderate small fragments of sandstone together with occasional pebbles, flecks of charcoal and mortar. This thin, discontinuous, deposit was only properly recognised in section following the removal of the drain and earlier deposits.

The eastern part of the trench was sealed by a layer of loose, brownish yellow, sand containing frequent, sub-angular fragments of sandstone rubble and moderate flecks of mortar (106), which clearly post-dated the drain. Whilst this deposit is almost certainly derived from the demolition, it may have been re-used as a make-up layer within this part of the mill. The rubble layer was covered by a thin deposit of compact grey brown, sandy silt (105) containing very frequent fragments of plaster and mortar with occasional small fragments of brick. Once again much of this deposit has clearly been generated through demolition, but its compacted nature suggests that it has been lain down deliberately to form a floor. It was sealed by a possible occupation deposit of soft to friable, reddish brown, sandy silt with occasional flecks of charcoal and mortar (103).

The occupation deposit and earlier layers down to the top of the drain, had been truncated in the western half of the trench, by a steep sided, sub-rectangular cut [104]. The southern edge of this cut was only just within the edge of excavation, while the feature extended beyond the

north and west edges. The cut had been dug down to the top of the drain capping stones, through which a hole had then been cut. The base of the cut and the drain had then been filled with concrete, with the remainder of the cut being backfilled with mottled, sandy clay silt and rubble (102). A thin layer of loose, yellow sand (101) was present over the top of this backfill, but not within the remaining area of the trench. The entire trench was then sealed by the most recent brick floor (100). Although this floor had been lifted prior to the commencement of the excavation discussions with HPR Ltd staff indicated that those within the western half were much looser than over the rest of the trench. This, coupled with the presence of the yellow sand in this area, suggests that the brick floor had previously been partially lifted and then re-laid. This was presumably undertaken to allow the excavation of trench [104] and the insertion of concrete into drain (108). The surface of the modern floor was at 80.41m AOD. The recorded sections of this trench are reproduced as Figures 5 to 8, with general views of the sequence shown on Plates 3 and 4.

During the watching brief following the full excavation of the trench it was possible to record the stratigraphic relationships between the sequence of deposits excavated, and the wall (121) that formed the northern limit of Room G2 (and divided it from Room G1). It was clear that the construction of the wall post-dated the use of the drain (108), although not necessarily the formation of silting fill (112). The earliest deposit, which certainly post-dated the construction of the wall, was the loose rubble dump (106) and indeed this rubble may have been derived from the construction process (see Fig 9 and Plate 5).