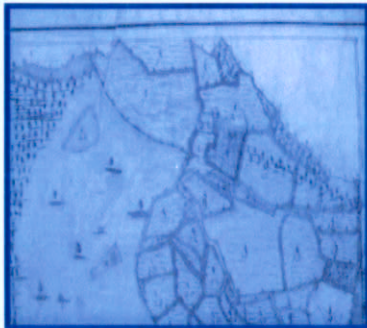


The Wilderness
Dam and Bridge
Witley Court
Worcestershire



Historic Buildings Analysis



Oxford Archaeology

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THE WILDERNESS DAM, WITLEY COURT

HISTORIC BUILDING ANALYSIS

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THE WILDERNESS DAM, WITLEY COURT

GREAT WITLEY, WORCESTERSHIRE

HISTORIC BUILDING ANALYSIS

SUMMARY

Oxford Archaeology (OA) carried out archaeological and historical analysis of the dam and bridge in the Wilderness Garden at Witley Court Worcestershire. The dam is associated with the creation of the lake in the 18th century and was later incorporated into the Wilderness Garden. In 2003 the dam was raised by c1m to conform with new regulations and as part of this work an historic bridge was rebuilt and a spillway created. The overflow of the dam is crossed by a small ornamental bridge which was demolished and rebuilt during the restoration. The main focus of OA work was recording the bridge and tagging the individual elements prior to dismantling and re-assembly. A small-scale excavation was also undertaken on the central 'bastion' of the dam to establish the nature of deposits.

1 INTRODUCTION

1.1 LOCATION AND SCOPE OF WORK

- 1.1.1 Witley Court is a Grade I listed ruined house in Worcestershire, with associated gardens, which is in the guardianship of English Heritage. The Wilderness Garden lies at the eastern side of Witley Court's publicly accessible area and it is surrounded by an area of mixed woodland and lies on the edges of a small but deep valley. The northern part of this valley is taken up by a large artificial lake and the southern part by a stream. The two halves of the Wilderness Garden are divided by a massive earth dam which retains the lake. The lake is allowed to overflow over a channel on the top of the dam, before spilling over an impressive artificial waterfall. The overflow channel is crossed by a small ornamental bridge.
- 1.1.2 To conform to new regulations it has become necessary to raise the dam by c1m and improve the water management system to cope with any possible catastrophic flooding episode. To this end a new clay bank was added to the top of the dam, a spillway was added on the north side and an existing small bridge was raised by c.1m.
- 1.1.3 Oxford Archaeology (OA) were commissioned by English Heritage (EH) to undertake a programme of archaeological recording and investigation on the Wilderness Dam and associated structures both before and during the construction work. The main element of the work was the recording of the bridge and its abutments. These were recorded by drawing, description and photography and the individual stones were also tagged by OA prior to demolition and re-building. A small-scale excavation was carried out on the projecting 'bastion' at the centre of the dam.



1.2 **ARCHAEOLOGICAL AND HISTORICAL BACKGROUND**

1.2.1 The history and archaeological background of both Witley Court House and gardens can be found in OA (2003 and 2004). This report should be used in conjunction with these earlier studies.

2 **AIMS AND OBJECTIVES**

2.1.1 The general aims are:

- Investigate the construction of the bridge
- Establish the significance and development of water features
- Produce a report and archive

2.1.2 Objectives

- Record the bridge and abutments
- Tag the fabric of the bridge prior to demolition and rebuilding
- Excavate a sample area of the ‘bastion’

3 **METHODOLOGY**

3.1 **FIELDWORK METHODS AND RECORDING**

3.1.1 *The Base Survey*

The base survey for the present programme of archaeological recording was previously commissioned by English Heritage. This survey includes elevations and plans of the bridge.

3.1.2 *The Drawn Record*

A series of annotations were made to the pre-existing survey drawings. The base survey was enhanced and archaeological detail added by hand as features and stonework became exposed.

3.1.3 *The Photographic Record*

A full black and white negative, colour print and colour slide photographic record was made by OA of all features and details. In addition, a general record of the setting was taken as were shots of work in progress.

3.1.4 *The Written Record*

Written descriptions of the structure were made as part of the annotated drawings and additional notes were taken as appropriate.

4 **BACKGROUND**

4.1 **SETTING**

4.1.1 The dam, bridge and overflow waterfall which forms the principal subject of the current study lies at the east end of Witley Court’s long ornamental lake, to the north-east of the main house. This artificial lake was created in the 18th century as part of a major landscaping scheme and was designed to provide a suitable dramatic setting for the house. The dam now provides the main route of visitor access to and from the modern visitor centre and car park to the ruins of the house. The access route leads the visitor through the restored 19th-century Wilderness Garden, below the dam to the east, across the dam and up to the main drive (with



house and gardens beyond). An alternative route takes visitors beneath the dam and along the deep stream valley.

- 4.1.2 At the northern end of the dam is a bridge, spillway and partially natural waterfall which carries the stream into the garden to the east.
- 4.1.3 The restored Wilderness Garden is used extensively by the Jerwood Sculpture Park for displaying contemporary pieces within the landscape and the dam itself has been used for this purpose on a number of occasions.

4.2 HISTORICAL DEVELOPMENT

4.2.1 *Witley Court*

- 4.2.2 As detailed elsewhere OA has recently undertaken several studies of the house and gardens at Witley Court and it would not be appropriate to include here a detailed discussion of the history of the estate. However, a short summary of the development of the house would be of value.

- 4.2.3 The core of the current house was constructed in the mid 17th century by Thomas Foley on the site of a former manor house. The Foleys undertook subsequent alterations through the 18th century and also then in the early 19th century to the designs of John Nash. Larger scale additions and enlargements were then undertaken in the mid and later 19th century following the acquisition of the house and estate in 1837 by the Dudley family, who's wealth was based on a range of industrial concerns in the black country. In 1937 the house was ruined by a catastrophic fire.

4.2.4 *Area of current dam, bridge and waterfall*

- 4.2.5 The modern setting of the dam is the culmination of earlier landscape schemes dating back to at least the 18th century remodelling of the park (and house). The earliest map which clearly shows this part of the estate is the estate map of 1737 (Fig 2). This elaborate tinted map shows the early estate prior to it being converted to ornamental garden and parkland later in the century. It shows the house with its 17th-century towers, a service wing to the east and the church to the west (presumably the newly built and re-sited church of 1733). The only clearly shown gardens are a network of paths to the south of the house. On the 1737 map neither the lake, nor the dam and falls which forms the focus of the current study, is shown. However, the stream which was dammed to form the lake can be traced as a thick line running along the boundary of the woodland to the east of the map and the fields (later flooded) to the west.

- 4.2.6 The 1737 map also shows a number of water features in the wider estate including three substantial ponds or small lakes. These all lie on the more open land (parkland?) to the west of the house and at the foot of Woodbury Hill. The southernmost of these (called the Washing Pool on later maps) is very regular in shape and looks artificial (it may well be a sheepwash). To the west of the house lies a larger irregular polygonal pool, this does not appear on later maps. Just to the north however lies the large triangular pond, which survives almost unchanged to the present day.

- 4.2.7 By the mid-18th century the lake and associated Wilderness Dam in the current study had been built. This initial lake however was clearly somewhat shallower



than that surviving today and this is shown in a Nash view of c1780 and a later engraving in 'Angus's Views'. The main approach to the house was over a causeway and bridge across this shallow lake and the drive then went up a steep ramp to the forecourt of the house. The causeway was a large earthen structure with an arched bridge at the centre. Lamps on tall obelisk-like columns stood at each end and a balustrade seemingly ran along its length. The remains of the access road which went down to the lake may be found in the modern 'Events Field' (EH staff *pers comm*). Two raised areas opposite each other on either side of the lake may be the remains of the causeway.

4.2.8 A map of 1832 made almost a century after the estate map shows the fully developed system with the enlarged lake following the old field boundaries (which in turn follow the contours) and cutting the shallow valley in two. The map shows the large lake narrowing and curving towards the earlier lake to the north-west. The dam is shown together with the 'Bastion' (a semi-circular protrusion at the centre of the dam) and the small ornamental bridge and artificial waterfall covered by the current investigation. There is now no sign of either the causeway across the lake or the roadway which served it. To the east the stream flows down from the falls towards the Lodge Pool (another later pool created by damming the stream along the line of the Worcester-Tenbury road). To the south of this lies the smaller Warford Pool dammed on its east side. A smaller rather irregular pool was also created between the Washing Pool and the house.

4.2.9 The first edition Ordnance Survey map of 1889 shows much the same landscape although the planting around the lake appears to be heavier. The lake area remains essentially unchanged to the present day, despite a long period of neglect from 1937 to the 1980s.

5 SURVEY RESULTS

5.1 THE DAM

5.1.1 The dam divides the valley in two and although it appears to be made of earth it may be sitting on top of a narrow sandstone outcrop (this is still visible in the partially natural waterfall at the north end). The dam is faced with a wall of ashlar blocks while at the rear it slopes down to the valley below. In the centre of the dam is a semi-circular feature projecting into the lake (this is referred to as the 'Bastion'). At the north end of the dam lies the overflow for the lake. This is made up of a water channel which allows the water to flow over an apron and tumble down the partially artificial waterfall beyond. A small sandstone bridge crosses this channel and gives access to the path that runs along the top of the dam.

5.1.2 The major impact on the dam itself during the construction work was the raising of the dam by c.1m along its entire length. This necessitated the placing of earth and clay over the roadway and the construction of a new path on top.

5.1.3 *The Bastion*

The so-called bastion is a semi-circular eminence which projects into the lake from roughly the centre of the dam. This feature is covered in grass and is retained by an almost entirely submerged wall made of limestone blocks of dressed ashlar. This ashlar wall is of uncertain height although it goes down for at least 2m to the



modern bed of the lake. Most of the top of the wall is covered either by soil or by vegetation although in places it can be glimpsed.

5.1.4 In places the wall is clearly capped by large chamfered stones and these appear to be the base stones of a balustrade (of a type common at Witley Court). As these are now submerged for most of the year their presence strongly indicates that the water level was formerly much lower than that seen today. This would also suggest that the good quality ashlar walling beneath was also once at least partially above water and was visible from the lake and the land around.

5.1.5 During the investigation two trenches were excavated on the bastion. These were primarily designed with the intention of ascertaining whether any structure (summerhouse, monument etc) had ever sat in the bastion. No features of any historic interest were located. A modern concrete plinth with galvanised wire set into it was the only feature located during excavation. This is very modern in origin and was constructed for the Jerwood Sculpture Park.

5.2 THE BRIDGE AND ABUTMENTS

5.2.1 The bridge sits at the east end of the dam and allows access across the narrow overflow channel. It is flanked by sandstone abutments on earth bank and crosses a stone and concrete apron beneath. Before work commenced the bridge was surrounded by iron railings and had a thick asphalt roadway crossing it.

5.2.2 The raising of the level of the dam entailed the raising of the bridge and the creation of a large concrete spillway to the north of the bridge. This meant that in the summer of 2003 the north abutment was taken down and the bridge was dismantled. The bridge surface was cleared, recorded and cleaned by OA staff and each stone was tagged with a unique number (on a secure stainless steel washer). This was to allow re-assembly after demolition. Unfortunately many of the sandstone blocks making up the bed were fragile and broke during dismantling.

5.2.3 The bridge was subsequently re-erected and the majority of stones were reused. However this unfortunately took place without archaeological monitoring or advice and the reconstructed bridge is markedly different in proportion and appearance from that recorded before demolition.

5.2.4 The original bridge was made of local red sandstone formed into a neat shallow arch with rusticated voussiors and pronounced keystones. The remains of low sandstone and tufa parapets were to be seen on either sides of the bridge. Large fragments of tufa were also noted in the stream and have clearly fallen from the parapets. The bed of the bridge was formed from neatly dressed rectangular sandstone blocks laid in a shallow arch. These were retained at each end by very large sandstone blocks set into the ground.

5.2.5 During clearance it was noted that a number of the rough sandstone blocks making up the parapet had dressed faces or small mouldings hidden on the side facing into the masonry. A number of the blocks in the abutments had similar treatment, it remains unknown what the origin of this worked stone is but is conceivable that it may be related to an earlier phase of the bridge.

5.2.6 *The Abutments*

The abutments were also made up of sandstone blocks (of mixed size, with those on the east bank being generally larger) although in character they were very



different from those of the bridge. The work entailed the removal and re-building of the north bank abutment wall to create the concrete spill way and raise the level of the bridge. The sandstone wall was taken down by the contractors and the pieces were stored on site for eventual re-use in the reconstructed wall.

5.2.7 The creation of the spillway involved extensive excavation immediately behind the abutment wall and this revealed no features of archaeological interest. The ground surface was shown to have been either entirely natural or the product of modern disturbance. Concrete man-hole sections connecting plastic pipes were the only archaeological features behind the wall. The abutment wall itself was made of sandstone blocks at the front but behind and underneath was a single phase substantial brick wall made of 19th (or 20th)-century brick.

5.2.8 The south abutment underwent far less disturbance than its opposite number. The southern end was already ruinous and little was standing, whilst the northern end had been restored in the recent past (it was bonded with large areas of modern cementitious mortar) and was largely unaltered.

5.2.9 *The Apron*

The apron allows the water overflowing from the lake to flow in a constant stream over the falls at an even rate. It also creates a pleasing visual effect when viewed from the bridge. The apron starts under the bridge itself where the channel rises in height. It is entirely encased in concrete which meant that analysis of the structure and materials which make up the apron could not be carried out.

5.3 **THE FALLS**

5.3.1 The water flows from the lake across the shallow apron under the bridge and then drops over the dramatic artificial falls, before tumbling onto the worn sandstone channels of the stream bed below. The falls are clearly mostly artificial and it was created as a landscape feature using the overflow of the lake. Before the recent work it was difficult to appreciate as there were few places from where it could be viewed due to vegetation and tree growth around its edges. Most of the visitors cross the garden across the bridge and from here the falls cannot be seen, and may only be experienced by its noise.

5.3.2 The falls themselves are made up of two distinct main elements: a natural sandstone waterfall at the foot of the falls, and above this an almost vertical fall made of a sheer wall of large sandstone blocks. The whole is set in a narrow defile flanked by the dam (with a retaining wall of large sandstone blocks) on the south side and on the north tall sandstone cliffs. Downstream to the east the stream takes several sharp turns cutting through the sandstone before settling into a meandering muddy banked stream to wind down the valley. Beneath the falls lies a chamber accessible through a gap in the stone face.

5.3.3 Work on the creation of the spillway involved some excavation into the cliff face at the side of the falls and the removal of several stones at the top of the falls. The work also gave an opportunity for a limited examination of the falls, the cliffs and the chamber beneath the falls.

5.3.4 *The Falls*

The falls are visible as a massive, almost sheer wall of large sandstone blocks and although it was not investigated as part of the current works it seems clear that at least some of these are reused from elsewhere (there are a number with chamfered



edges and what appear to be mouldings). The stones are laid in an irregular jumble to give the rock a natural and rusticated appearance.

- 5.3.5 This huge wall rests upon a base of bedrock which in turn slopes down creating a gentler terminal end to the falls. This sandstone bedrock continues into the chamber beneath the falls (see below) and this, along with map evidence, suggests that this is the remains of a small natural waterfall which was later enhanced by the addition of the artificial falls.
- 5.3.6 This is constructed in the same way as the falls wall itself, although it is in far poorer condition and areas have fallen away. A projecting platform (now largely destroyed) between this wall and the falls may have once been used for viewing the falls.
- 5.3.7 *The chamber beneath the falls*
Beneath the falls lies a large chamber which was not recorded as part of this project and due to health and safety concerns was only accessible for a very brief period. The following observations are based on that brief examination; The chamber is built on the solid bedrock of the old stream bed and accessed through the falls wall through a small triangular headed doorway behind the falls. At the rear of the room is a wall made up of massive sandstone blocks resting on the partly terraced bedrock. Set into this is a stone tank fed by a large bored cast iron pipe. The water from this pipe falls into the tank and when this is full it falls into the chamber and out through the small door to the falls beyond.
- 5.3.8 The chamber, with its large and complex water management system is a safety measure to prevent the shallow apron of the falls or the dam being overwhelmed particularly during periods of flood. The large pipe must have its entrance somewhere beneath the lake although its location was not apparent during the field work.
- 5.3.9 *The cliffs*
The cliff which overlooks the falls on the north side is made up of soft red sandstone, the bedding of which alternates between fine aeolian sands and coarser beds reflecting ancient episodes of flooding. There has been a suggestion that the cliff was formerly a quarry that was enlarged and converted to hold the falls. There is little to suggest this however as there are no obvious areas of drilling, pick marks or wedging (these usually survive surprisingly well in the soft local sandstones). Early map evidence also does not suggest any large quarry in this area and it is likely that the cliffs are largely natural.

6 CONCLUSIONS

- 6.1.1 The lake and dam is one of the most impressive garden features at Witley Court. One of its most interesting aspects is that so many early landscape features are fossilised in the plan of the lake and its associated pathways (see Fig 2), the possible survival of now lost garden features such as the causeway is also tantalising.
- 6.1.2 It is known that the lake was created after 1737 and before c.1750. The early lake was evidently somewhat lower than the one we see today and the front of the dam with its ashlar wall (seemingly topped by a balustrade) was visible above the south



- end of the lake. A causeway with a bridge and tall obelisks crossed the centre of the lake at its widest point.
- 6.1.3 The origin of the Wilderness Garden is also at this point unknown, but detailed historical research in the Foley and Dudley archives may reveal more information as may dendrochronological dating of fallen and felled trees. The surviving planting may be a mixture of 18th, 19th and 20th-century varieties and may even retain some trees from the earlier woodland. The large-scale planting of rhododendron and laurel is probably a 19th-century inclusion. This part of the garden is occasionally referred to today as the ‘Canadian Garden’ and the origins of this name would be well worth exploring.
- 6.1.4 What is clear about the garden’s development is that the garden was essentially an enhancement of the natural landscape. The falls seem to have been built on the site of a small natural waterfall (the stream shown on the 1737 map follows the same route and must have descended from the higher level over a small waterfall). The falls visible today may belong to the 18th-century phase or may be a later addition. By 1837 the causeway across the lake had disappeared and the house was from then on accessed along the drive either from the Stourport or the Worcester lodges. After this date the lake still formed an important part of the gardens but it was now intended to be viewed from the house rather than the house being viewed across the lake. By the late 19th century the Wilderness Garden had been created and this was essentially the amendment and enhancement of a pre-existing landscape.
- 6.1.5 The abutments of the bridge across the falls appear to be secondary additions unlike the bed of the bridge which is likely to be earlier. The construction of the bridge with its neat rusticated voussiors and its materials (soft sandstone, tufa and no brick) may suggest an 18th-century origin. The naturalistic or ‘rustic’ abutments may have been added during the 19th-century.

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- 1889 First Edition Ordnance Survey 6" mapping

SUMMARY OF SITE DETAILS

Site name: Witley Court, Wilderness Garden

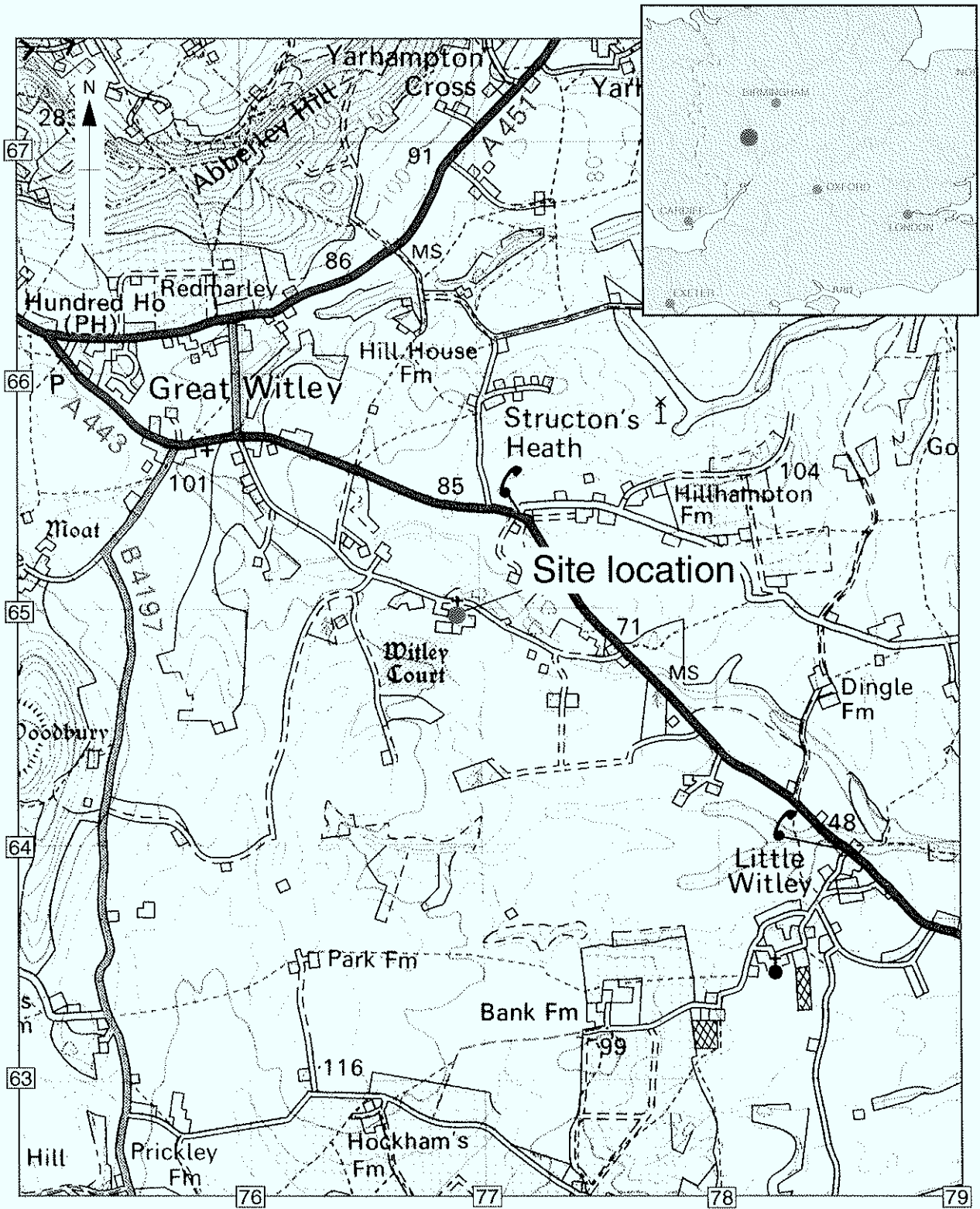
Site code: WOWC03

Type of evaluation: Building Analysis

Date and duration of project: June-Aug 2003

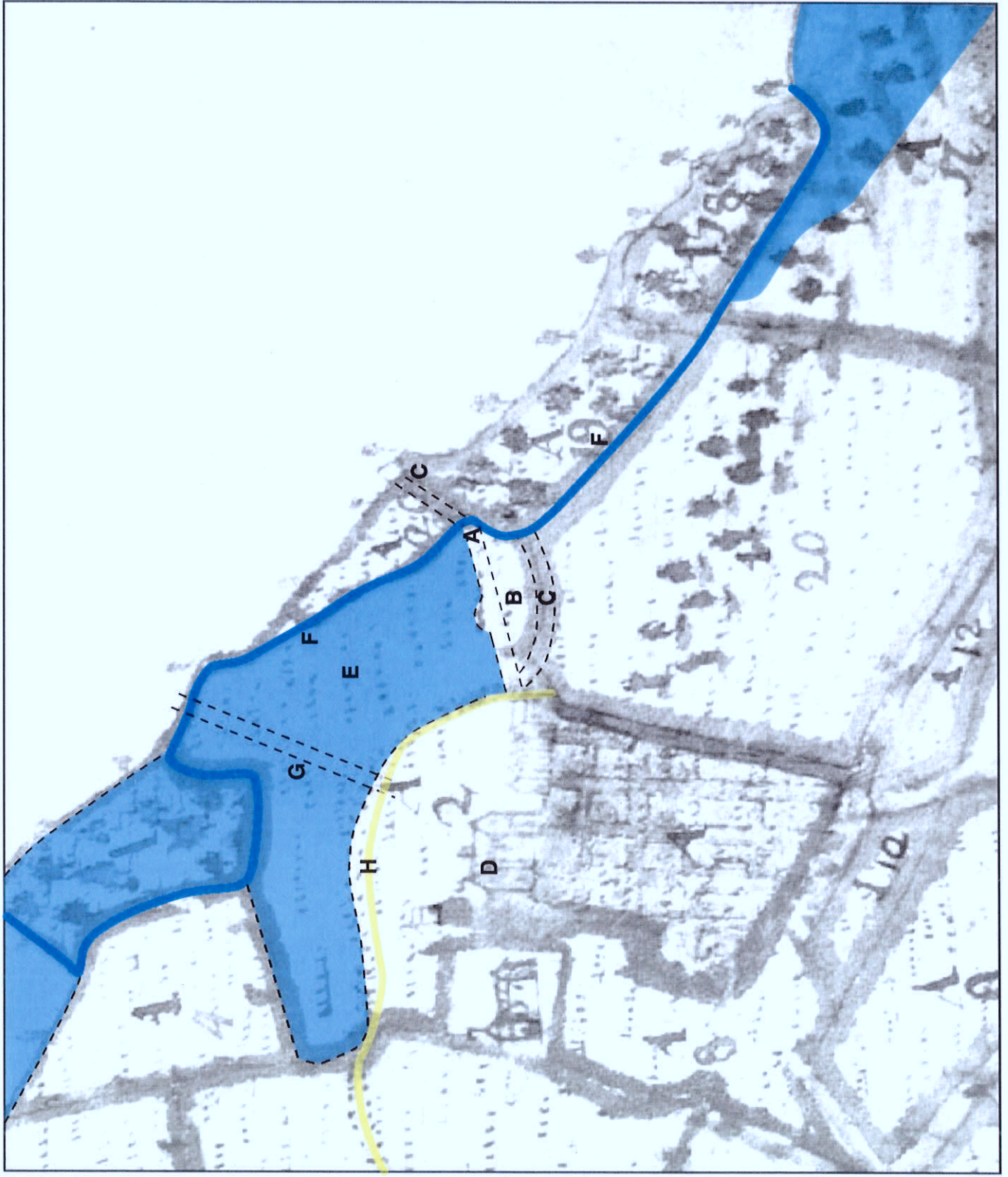
Summary of results: Oxford Archaeology (OA) carried out archaeological and historical analysis of the dam and bridge in the Wilderness Garden at Witley Court Worcestershire. The dam is associated with the creation of the lake in the eighteenth century and was later incorporated into the 19th-century Wilderness Garden. The overflow of the dam is crossed by a small ornamental bridge which was demolished and rebuilt during the restoration. The main focus of OA work was recording the bridge and tagging the individual elements prior to dismantling and re-assembly. A small-scale excavation was also undertaken on the central 'Bastion' of the dam to establish the nature of deposits.

Location of archive: The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES.



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Figure 1: Site location



- A** Site of later falls
 - B** Site of later dam
 - C** Field boundaries on 1737 map
(Survives today as paths)
 - D** The House
 - E** Site of later lake
 - F** Stream course on 1737 map (approximate)
 - G** Approximate position of later causeway
 - H** Roadway on 1737 map
- Site of Lakes
 Lakes/ponds in 1737

Figure 2: 1737 Estate Map with superimposed later water features

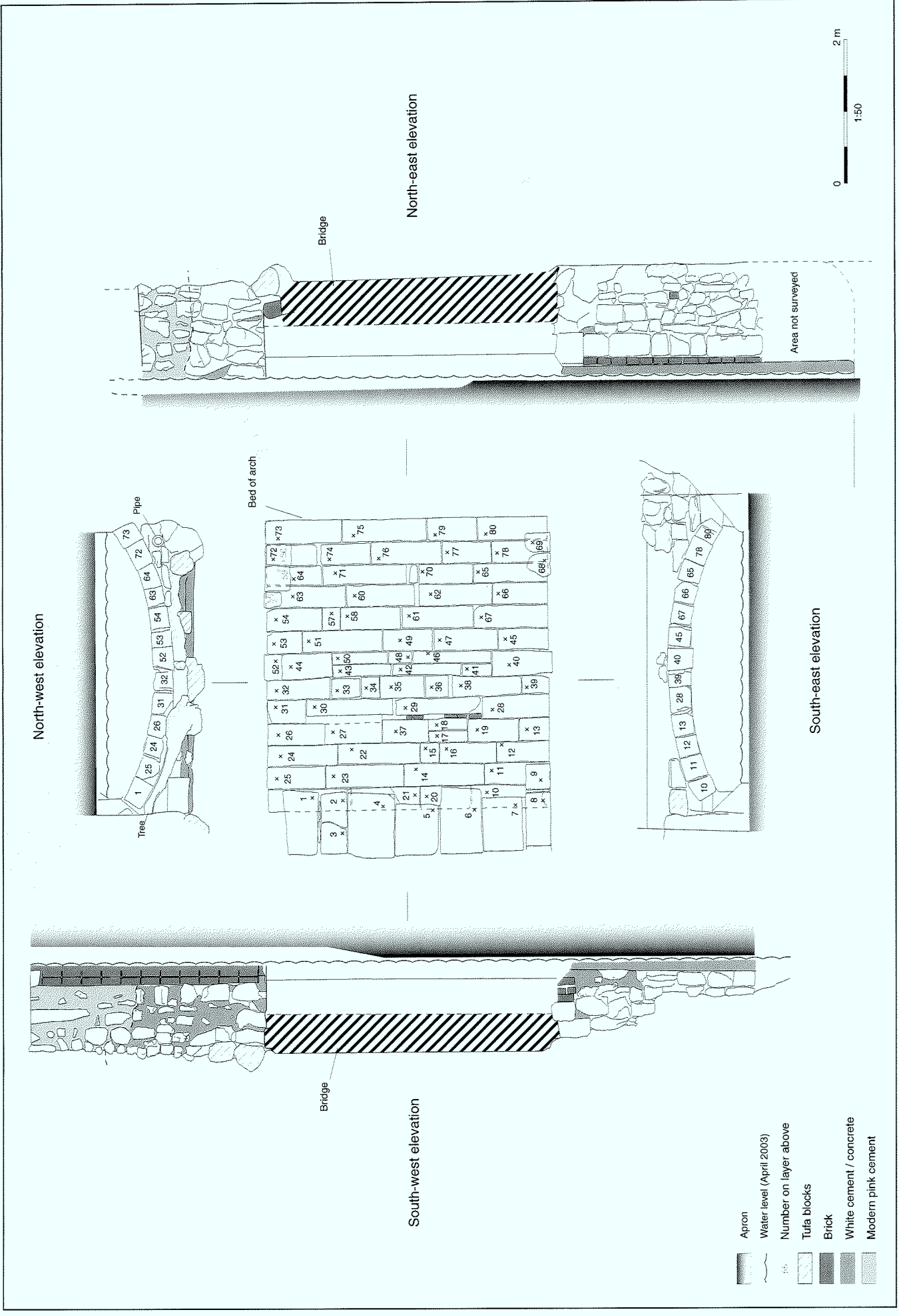


Figure 3: The Wilderness Bridge, Witley Court, Worcestershire, April 2003



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