

Archaeological Investigations at Vineyards Weir, Tewkesbury, Gloucestershire



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Worcestershire Archaeology
Archive and Archaeology Service
The Hive, Sawmill Walk,
The Butts, Worcester
WR1 3PD

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Authors: Graham Arnold garnold@worcestershire.gov.uk and Michael Nicholson
mnicholson2@worcestershire.gov.uk,
Contributors: Suzi Richer, Shona Robson-Glyde and Andrew Mann
Illustrators: Laura Templeton
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Graham Arnold and Michael Nicholson

Summary

An archaeological watching brief was undertaken at Vineyards Weir, on the River Swilgate, Tewkesbury, Gloucestershire (NGR: SO 88975 32263). It was undertaken on behalf of the Environment Agency, who were undertaking a programme of works to modify the weir and banks to improve fish passage.

Vineyards Weir lies within a public open space, immediately adjacent to St. Mary's Abbey and grounds to the south of the town centre of Tewkesbury. The weir and surrounding area have been the subject of a Heritage Impact Assessment and geophysical survey. The Heritage Impact Assessment concluded that the weir could not be dated although it was noted that it does not appear on historic mapping until an Ordnance Survey edition of 1886. It was thought that there was potential for re-used medieval building stone to be incorporated as part of the weir.

The geophysical survey identified several building structures close to the Abbey, most likely monastic in origin as well a number of other anomalies of archaeological significance. These anomalies were thought likely to represent ditches, possibly robbed out wall trenches, also associated with the Abbey.

The weir structure was removed by excavator and observed from the bank. The removal of the concrete cap revealed a fabric comprising various types of sandstone block. These included squared ashlar blocks, with a vertical face, facing upstream and roughly chamfered blocks sloping down towards the water's surface, facing downstream. The interior of the weir consisted of roughly shaped blocks, some with tool marks and several with rounded edges. Both ends of the weir structure were left in situ, and the new weir placed in between.

It is concluded that the weir was constructed from re-used medieval shaped stones of high status, almost certainly related to the Abbey and possibly from buildings detected during the geophysical survey.

Further works in the form of two slots excavated into the northern bank of the river for the installation of two pre-barrages downstream of the weir was also undertaken and pollen analysis was undertaken on three samples from one of these sections. Pollen preservation and concentration was variable, but both increased with depth. The initial assessment reveals human activity was occurring within the area, with areas of disturbed ground, evidence of arable weeds such as cornflower and poppy, and the presence of either hop or hemp.

Given the degree of pollen preservation and the high numbers of anthropogenic pollen grains, in conjunction with the close proximity of St Mary's Abbey, it is recommended that further palaeoenvironmental work be undertaken in the area surrounding the floodplain should any further development work be undertaken in the area in the future.

Report

1 Background

1.1 Reasons for the project

An archaeological watching brief was undertaken at Vineyards Weir, on the River Swilgate, Tewkesbury, Gloucestershire (NGR: SO 88975 32263). It was commissioned by the Environment Agency, who were undertaking works to modify the weir and banks to improve fish passage, for which Scheduled Monument Consent (SMC) has been granted by English Heritage, as the works may impact on the Scheduled Ancient Monument (SAM 21704).

The proposed development site is considered to include heritage assets and potential heritage assets, the significance of which may be affected by the application (SAM 21702).

Prior to submission of the application a Heritage Impact Assessment (HIA) was prepared by the service (WA 2013) which identified the potential impact of the application and the need for further on-site evaluation. The HIA provides an overall picture of the weir's location within the landscape and historical record and although the study identified the weir as probable post medieval date, it was noted that the structure retains an archaeological significance in relation to the later history of a nationally important heritage asset as well as its visual contribution to the surrounding area.

A subsequent Geophysical Survey (Thomas Richardson, June 2014) was carried out and further commentary on this geophysical report (Graham Keevill July 2014) combine to provide a broad record of the potential location of significant archaeological assets within the impacted SAM area. The survey identified three robbed out buildings to the south of the Abbey.

The project conforms to a conditions stipulated in the SMC, for which a written scheme of investigation (WSI) was produced by Worcestershire Archaeology (WA 2014).

The project also conforms to the Institute for Archaeologists' *Standard and guidance for an archaeological watching brief* (IfA 2008) and *Standard and guidance for the archaeological investigation and recording of standing buildings or structures* (IfA 2012), and English Heritage's *Understanding historic buildings: A guide to good recording practice* (EH 2006).

2 Aims

The aims of the project were to:

- To record the weir structure and its revetment walls and establish a record of the heritage asset prior to any alterations being made
- To carry out a watching brief on groundworks to identify any features of archaeological interest within the banks of the River Swilgate including deposits with potential for information on past environments

3 Methods

3.1 Personnel

The project was undertaken by Tom Vaughan (BA, MA, AlFA); who joined Worcestershire Archaeology in 2001 and has been practicing archaeology since 1991 and Suzi Richer (BSc, MSc, PhD). Graham Arnold (BA MSc) and Michael Nicholson ((BA) produced the report. The project manager responsible for the quality of the project was Tom Rogers (BA, MSc,); Illustrations were prepared by Laura Templeton. Suzi Richer and Andrew Mann (BA, MSc) contributed the environmental analysis. Derek Hurst (BA) edited the environmental report.

3.2 Documentary research

A heritage impact assessment (HIA) was undertaken previously by Worcestershire Archaeology (WA 2013).

3.3 Fieldwork strategy

A detailed specification has been prepared by Worcestershire Archaeology (WA 2014). The site reference number will be allocated by Gloucestershire HER on deposition of this report and site archive whilst the internal site code used by Worcestershire Archaeology is P4387.

Fieldwork was undertaken between 1st and 11th September 2014.

A sandstone block constructed weir, capped with a concrete slab was removed for the purpose of modification to improve access for fish and their passage along the course of the River Swilgate. In conjunction with improved access, two slots to the west of the weir and into the northern bank of the river were excavated for the purpose of installing pre-barrages, constructed to raise the water level immediately adjacent to the weir.

Given the indurated form of the structure and close proximity to deep water, the removal of the weir was achieved using a 360° tracked excavator, under close archaeological supervision employing a toothed bucket. Both slots into the north bank were also excavated in this manner. A photographic record was made of the structure as water was drained from upstream in advance of and during demolition. All deposits were inspected on the river bank for the retrieval of artefactual material and environmental samples, as well as to determine their nature. Deposits were recorded according to standard Worcestershire Archaeology practice (WA 2012).

3.4 Structural analysis

All fieldwork records were checked and cross-referenced. Analysis was affected through a combination of structural, artefactual and ecofactual evidence, allied to the information derived from other sources.

3.5 Artefact methodology

3.5.1 Artefact recovery policy

The recovery of artefacts was undertaken in accordance with standard Worcestershire Archaeology practice (WA 2012). In the event no finds pre-dating the 19th and 20th centuries were revealed.

Carved stone blocks were photographed and recorded on site, prior to being re-incorporated into the new weir structure.

3.6 Environmental archaeology methodology,

Suzi Richer and Andrew Mann

3.6.1 Site sampling

Samples were taken according to standard Worcestershire Archaeology practice (2012).

Due to the depth of water, it was not possible to safely access the section in order to sample at the position of the notch made for second pre-barrage (SO8894532254). Instead, an intact monolith was mechanically recovered from the section, cleaned and sub-sampled (top of monolith 8.03m AOD).

All samples taken are recorded in Table 1.

Plant macrofossils

Two small grab samples were taken from the monolith at 0.19–0.24m and 0.30–0.34m, with a view to obtaining material for radiocarbon dating.

Pollen

Three samples from the top (3 cm), middle (25 cm) and bottom (45 cm) of the profile were taken.

Molluscs

Two bulk samples were taken at locations where molluscan remains were visible to the eye, at 0.19–0.24m and 0.30–0.34m, assuming these would yield the richest mollusc assemblages.

Depth (m)	AOD (m)	Description
0.03	8.00	Pollen
0.19–0.24	7.84–7.79	Molluscs
0.19–0.24	7.84–7.79	Plant macro remains
0.25	7.78	Pollen sample
0.30–0.34	7.73–7.69	Mollusc sample
0.30–0.34	7.73–7.69	Plant macro remains
0.45	7.58	Pollen sample

Table 1 Summary of samples taken

3.6.2 Processing samples and analysis

Plant macrofossils

The samples were processed by flotation using a Siraf tank. The flots were collected on a 300µm sieve and the residue retained on a 1mm mesh. This allows for the recovery of items such as small animal bones, molluscs and seeds.

The residues were scanned by eye and the abundance of each category of environmental remains estimated. A magnet was also used to test for the presence of hammer scale. The flots were scanned using a low power MEIJI stereo light microscope, and plant remains identified using modern reference collections maintained by Worcestershire Archaeology and a seed identification manual (Cappers *et al* 2006). Nomenclature for the plant remains follows the *New Flora of the British Isles*, 3rd edition (Stace 2010).

Pollen analysis

The samples were submitted to the laboratories of the Department of Geography and Environment at the University of Aberdeen for chemical preparation following standard procedures, as described by Barber (1976) and Moore *et al* (1991).

Each sample was rapidly scanned to assess the preservation and concentration of pollen grains and to gain a rapid impression of the dominant vegetation. A GS binocular polarising microscope was used at x400 magnification. Identification was aided by using the pollen reference slide collection maintained by the Service, and the pollen reference manuals by Moore *et al* (1991) and Beug (2004). Nomenclature for pollen follows Stace (2010) and Bennett (1994).

Molluscan analysis

Each of the samples was processed following the methods outlined by Evans (1972). Each sample was broken up in a bowl of warm water to separate the light organic remains from the mineral fraction and heavier residue. The water, with the light organic fraction, including any floating shells was decanted onto a stack of 2mm, 1mm and 0.5 mm sieves. The remaining residue was then covered by warm water and a small quantity of hydrogen peroxide (30 % solution) added. After the reaction had ceased the residue was then poured through a stack of 2mm, 1mm and 0.5mm sieves.

The flots and residues were scanned using a low power MEIJI stereo light microscope and mollusc remains identified using modern reference collections maintained by Worcestershire Archaeology, and reference books including Evans (1972), Kerney (1999) and Kerney and Cameron (1996). Nomenclature for the plant remains follows the Atlas of the land and Freshwater Molluscs of Britain and Ireland (Kerney 1999).

3.6.3 Discard policy

Scanned residues will be discarded 6 months after the submission of this report, unless there is a specific request to retain them.

3.7 Statement of confidence in the methods and results

The methods adopted allow a high degree of confidence that the aims of the project have been achieved, although it must be noted that it was not possible to produce measured plans and elevations of the structure prior to works, due to high water levels and surrounding overgrowth.

4 The application site

4.1 Topography, geology and archaeological context

A complete topographical, geological and archaeological evaluation of the site can be found in the Heritage Impact Assessment of the Vineyards Weir (Woodiwiss 2013) which is summarised below.

The site lies on the mudstones and siltstones of the Branscombe Mudstone Formation, part of the Mercia Mudstone Group, which are in turn overlain by alluvium (British Geological Survey 2014). The Soil Survey of England and Wales (Sheet 3, 1983) indicates that the soils of the area fall into the Wharfe category of typical brown alluvial soils that are freely draining, slightly acid and loamy. The samples came from the north bank of the River Swilgate, which lies to within a meadow forming part of the Scheduled Ancient Monument of St Mary's Abbey (SAM 21704).

Evidence of prehistoric and Roman activity has been recorded within the immediate area, including a Bronze Age enclosure (HER 4235) and Iron age deposits (HER 42151) at Holm Castle to the south east of the site. Roman remains survive in the form of a cemetery (HER 5518) to the south west and a road (Birmingham to Gloucester) located some 285m to the east of the weir (HER 8090). Although Roman remains lie within the abbey grounds, they remain sporadic and contained within the northern most area site.

The weir itself lies within a former medieval meadow and potentially close to the location of the abbey's former fish ponds, the whereabouts of which remain uncertain.

4.2 Current land-use

The site is located within an area of open public space and immediately adjacent to St Mary's Abbey and in close proximity to Tewkesbury town centre. To the south the area is used for football pitches and to the north the grounds of the Abbey.

In the Heritage Assessment the weir was described as follows:-

- The weir itself. Consists of large stone blocks four courses above a larger plinth (1-1.5m in width) on the downstream side, presumably functioning to prevent scouring of the riverbed. The downstream face has been formed by roughly breaking off stone blocks to form an incline.. A few of the blocks appear to have been more finely shaped, again suggestive of the abbey being the source. A reinforced concrete sluice (no longer functioning) has been inserted at a later date. The sluice is not shown on the postcard of 1909 but the rest if the weir structure is as present, except for a reduction of height of the weir. The southern bank also has a concrete structure, which incorporates stone blocks of the earlier weir, supporting evidence for a higher level for the original weir. The present concrete capping

and some areas of concrete to the downstream face are probably contemporary with the insertion of the weir.

- The northern revetment wall. This is perpendicular to the line of the weir. It has two builds of stone blocks, one consisting of smaller blocks and one of larger. It is possible that these builds represent two phases of construction, an earlier one of large blocks and a repair of smaller blocks. This could mean that the wall has medieval origins. Alternatively they are of one phase with two different sizes of blocks available to the builders, much more likely if the wall is post-Dissolution in date. It would seem possible that the blocks are reused, presumably from former abbey buildings. The river prevented close inspection of this wall, a shrub has clearly dislodged some of the large blocks.
- The southern revetment wall. This continues the line of the weir. It is of yellow, presumably Cotswold limestone, and appears to be different in form to the northern revetment wall. Again it would seem possible that the blocks are reused, presumably from former abbey buildings.

5 Structural analysis

The trenches and features recorded are shown in figures 1 and 2. The results of the structural analysis for the demolition of the weir and slots one and two are presented in Appendix 1.

5.1.1 Phase 1: Natural deposits

Two slots (1 and 2; Fig 2) were excavated by machine into the northern bank of the river. This revealed a sequence of alluvial deposits, accumulated within a large body of water and free from organic inclusions.

5.1.2 Phase 2: Medieval/Post medieval

The weir measuring 2.00m in width was excavated by machine (Fig 2) This revealed a structure made from sandstone blocks of various shapes and sizes, measuring up to 0.25mx0.29mx0.70m in size and set in a hard yellow/pink mortar.

The eastern face (upstream) comprised of squared ashlar blocks on stretcher creating a vertical face of four courses against the flow of the river. Although each stone appears expertly worked, the form of the eastern side was roughly constructed from stone of varying shapes and sizes, an indication of probable re-use. No defined silt layers were noted against the vertical face of the weir; just rough stone rubble, bricks and modern debris (metal shopping trolley).

The western side (downstream) was made up of roughly chamfered blocks, sloping down into the water for approximately 1m. These stone, unlike the eastern face, were generally not dressed but rather more crudely shaped. Evidence of tooling/chisel marks on some of the sandstone blocks were observed during removal.

The core of the structure was also found to be formed from worked blocks of sandstone. Some of these blocks showed evidence of re-use. They were not squared like the blocks of the exterior but, showed signs of medieval carving. Stones recovered from the core included fragments of columns with signs of roll moulding. Stone jambs were also noted, stones with identifiable incised right-angles, used to line windows and doors, most likely for the installation of glass panes.

5.1.3 Phase 3: modern deposits

Two concrete additions to the weir structure were recorded. They both appeared 20th century in origin and take the form of a capping stone across the weir and walls for a sluice constructed at the north end of the weir which included steel reinforcing bars. Both of these later insertions were bedded directly upon the sandstone blocks of the weir.

6 Environmental analysis,

Suzi Richer and Andrew Mann

6.1 Dating, by Suzi Richer

No suitable material was identified for radiocarbon dating in of the samples taken for plant macrofossil analysis. In light of the lack of suitable plant remains for radiocarbon dating, any future work should also make provision for the dating of molluscs. There are inherent problems with the dating of molluscs, primarily the fresh water reservoir effect, which is poorly understood. To mitigate this, a modern molluscan sample from the same environment should also be sent for radiocarbon dating. The advantage of this technique is that any offset will be identified in the modern sample, which can in turn be applied to the radiocarbon measurement from the archaeological sample.

However, despite the lack of radiocarbon dates, some basic biostratigraphical information is available from the pollen evidence. The presence of *Centurea cyanus* (corn flower) pollen in the top sample (3cm) is likely to be indicative that the top of the profile dates to at least the medieval period. This is based on Greig's (1982) observation that *Centaurea cyanus* first appears in the pollen record, and by inference, in the British vegetation, from the 12th century onwards.

6.2 Plant macrofossils

No suitable plant remains were found for radiocarbon dating.

6.3 Pollen assessment, by Suzi Richer

The results of the pollen analysis are summarised in Table 2.

Sample	Context	Pollen present	Pollen abundance	Pollen preservation	Observed taxa
3cm	<2> Alluvial	Y	Low	Good to variable	<i>Ranunculus acris</i> -type, Poaceae, Chenopodiaceae, <i>Centaurea cyanus</i> , Papaver , <i>Achillea</i> -type, microcharcoal
25cm	<2> Alluvial	Y	Med	Good to variable	<i>Diphasiastrum</i> , Papaver , Chenopodiaceae, Poaceae, <i>Alnus</i> , <i>Papaver</i> , <i>Achillea</i> -type, Ranunculaceae, microcharcoal
45cm	<2> Alluvial	Y	Med-high	Good	Papaver, Cichorium intybus -type, Alnus , Poaceae, Corylus , Betula, Chenopodiaceae, Salix, Ranunculaceae, Poaceae, Cannabaceae , <i>Radiola linoides</i> , <i>Diphasiastrum</i> , Apiaceae, Cyperaceae, <i>Polygonum</i>

Table 2 Summary of the mollusc assemblages, taxa in **bold** are dominant in the sample

Preservation

Pollen was preserved in all three samples; however the abundance of pollen improved with depth. The upper and mid samples (3cm and 25cm) exhibited good-poor preservation, with some grains showing signs of mechanical damage. In particular, some grains were crumpled suggesting either drying out or that the sediment had been compacted and water extruded (Delcourt and Delcourt 1980). The abundance and preservation of pollen was best in the lowest sample, perhaps indicating that this had remained waterlogged and had not been subject to same drying or compaction as the upper samples.

Vegetation information

The samples were only quickly scanned, which means that only tentative observations can be made concerning the vegetational history of the site. The alluvial nature of the deposit could suggest that the pollen is regional in nature; however, the generally good condition of the pollen would suggest that it has not travelled very far and is likely to be local in origin.

Overall, the taxa present across the sequence are indicative of a highly anthropogenic environment. Pollen from *Papaver* and *Centaurea Cyanus* was present in the upper sample (3cm), both are weeds of arable land, suggesting that cultivated/fallow fields were situated close by. In contrast, the high levels of Cannabaceae, suggests that either hop or hemp crops were growing or being processed locally. Cannabaceae is notoriously difficult to differentiate, however, based on the size of the grains observed and the pore protrusion (after Mercuri *et al.* 2002) the pollen is likely to be from hops (*Humulus lupulus*).

The remaining pollen is indicative of a waterside environment (alder and willow) with meadows close by indicated by the presence of pollen from grasses (Poaceae), meadow buttercup (*Ranunculus acris*-type) and dandelion (*Cichorium intybus*-type). Some disturbed areas of ground are indicated by the presence of Chenopodiaceae in the middle sample.

6.3.1 Molluscan analysis, by Andy Mann

Samples 19-24 cm and 30-34 cm both produced a small mollusc assemblage, each containing less than 30 molluscs (Table 1). Both assemblages were also of low species diversity, each containing less than four different species.

SAMPLE	1	2
DEPTH	19-24cm	30-34cm
VALVATIDAE		
Valvata Cristata	+	
Valvata Piscinalis		+
BITHYNIIDAE		
Bithynia Tentaculata	+	+
PLANORBIDAE		
Anisus Leucostoma	+	+
SPHAERIIDAE		
Pisidium sp		+

Table 3: Summary of the mollusc assemblages (+=occasional, ++=moderate, +++=abundant)

Both samples were dominated by *Bithynia Tentaculata*, *Valvata Cristata* and *Valvata Piscinalis* species that inhabit slow or still moving bodies of water which is well oxygenated and richly vegetated. *Anisus Leucostoma* was also relatively common within each sample suggesting that the water level may have seasonally dropped, exposing the rivers banks.

No terrestrial species were present in either of the samples.

6.3.2 Recommendations

No further work is recommended on this sequence due to fact that obtaining a reliable chronology for the sequence has not been possible.

However, if further work is carried out in the area in the future, a programme of palaeoenvironmental work should be undertaken due to the highly anthropogenic nature of the pollen assemblage, and the close proximity of the site to the Scheduled Ancient Monument of St Mary's Abbey (SAM 21704).

In particular, pollen and plant macroremain analyses should be undertaken. Obtaining material suitable for radiocarbon dating is a necessity and is best carried out through bulk sampling for plant

macroremains, these remains may also provide more detail on the nature of land-use in the area. Obtaining a datable monolith or core on which to undertake further pollen analysis, is also recommended based on the highly anthropogenic nature of the results of this assessment. Given the poor species diversity and the low numbers encountered in some of the samples it is not suggested to undertake full counts on these assemblages..

7 Synthesis

The watching brief demonstrated that the weir was, and remains, constructed, in part, from shaped building stones of probable medieval origin. The stones were set in a 'best fit' arrangement re-using previously shaped stones including a column shaft and jamb stones, to create the weir. The mortar in which the stones were set, hard pink/beige cement with white lime fragments, is typical for the late 19th Century (pers. comm. Shona Robson-Glyde, Worcestershire Archaeology Historic Buildings Archaeologist) and this fits with cartographic evidence for the construction of the weir which does not appear on maps prior to 1886. .

These stones show signs of a high medieval profile, undoubtedly monastic in origin. It is probable that they were re-used from various outbuildings that are known to have existed in the precinct between the Abbey cloister and the Swilgate (Graham Keevill, pers comm.), the remains of which have been tentatively located by a geophysical survey conducted by StrataScan. Larger worked pieces of stone, high in status, within the abbey grounds are rare, however, smaller, cruder, pieces of worked stone still reside in the abbey grounds to the present day and may explain how stone from such structures may be used in such a late construction. No footings for an earlier built structure were observed during the works.

Within the northern banks of the river, two slots were excavated for the construction of Pre-barrages; these were inaccessible for close inspection of the deposits revealed on health and safety grounds due to the depth of the water. A more thorough evaluation of the deposits was undertaken on the on the river bank. This revealed a grey clay deposit observed within slots 1 (102) and 2 (201), not fully bottomed by the excavation and partially obscured by the river level. The lack of organic material suggests the general level of surrounding vegetation during deposition was relatively low. A possible explanation would be that the clay formed in relatively large body of water, with the bankside some distance from the current location of the two slots. Another explanation is that the water was deliberately kept clear, a maintained fish pond for example, which are known to have existed in the general location of the weir.

Although it has not been possible to securely date the section from which the environmental samples have been taken, the pollen spectra suggest that they are likely to be historic in date. The pollen and molluscan assemblages have both illustrated different aspects of the local vegetation around the site. The molluscs have shown that still or slow moving water was present on the site, and that water levels have fluctuated. This is consistent with the preservation of the pollen within the upper samples – these exhibited signs of deterioration due to the drying out of the pollen grains. Despite signs of slight deterioration, the pollen has provided a good indication of land-use history in the area, although no pollen evidence for vines was seen during this quick assessment. However, it appears that initially hop growing was occurring within a wider meadow landscape. The samples from the top of the profile indicate that arable agriculture took over at a later date.

8 Publication summary

Worcestershire Archaeology has a professional obligation to publish the results of archaeological projects within a reasonable period of time. To this end, Worcestershire Archaeology intends to use this summary as the basis for publication through local or regional journals. The client is requested to consider the content of this section as being acceptable for such publication.

An archaeological watching brief was undertaken at Vineyards Weir, on the River Swilgate, Tewkesbury, Gloucestershire (NGR: SO 88975 32263). It was undertaken on behalf of the Environment Agency, who were undertaking a programme of works to modify the weir and banks to improve fish passage.

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Given the degree of pollen preservation and the high numbers of anthropogenic pollen grains, in conjunction with the close proximity of St Mary's Abbey, it is recommended that further palaeoenvironmental work be undertaken in the area surrounding the floodplain should any further development work be undertaken in the area in the future.

9 Acknowledgements

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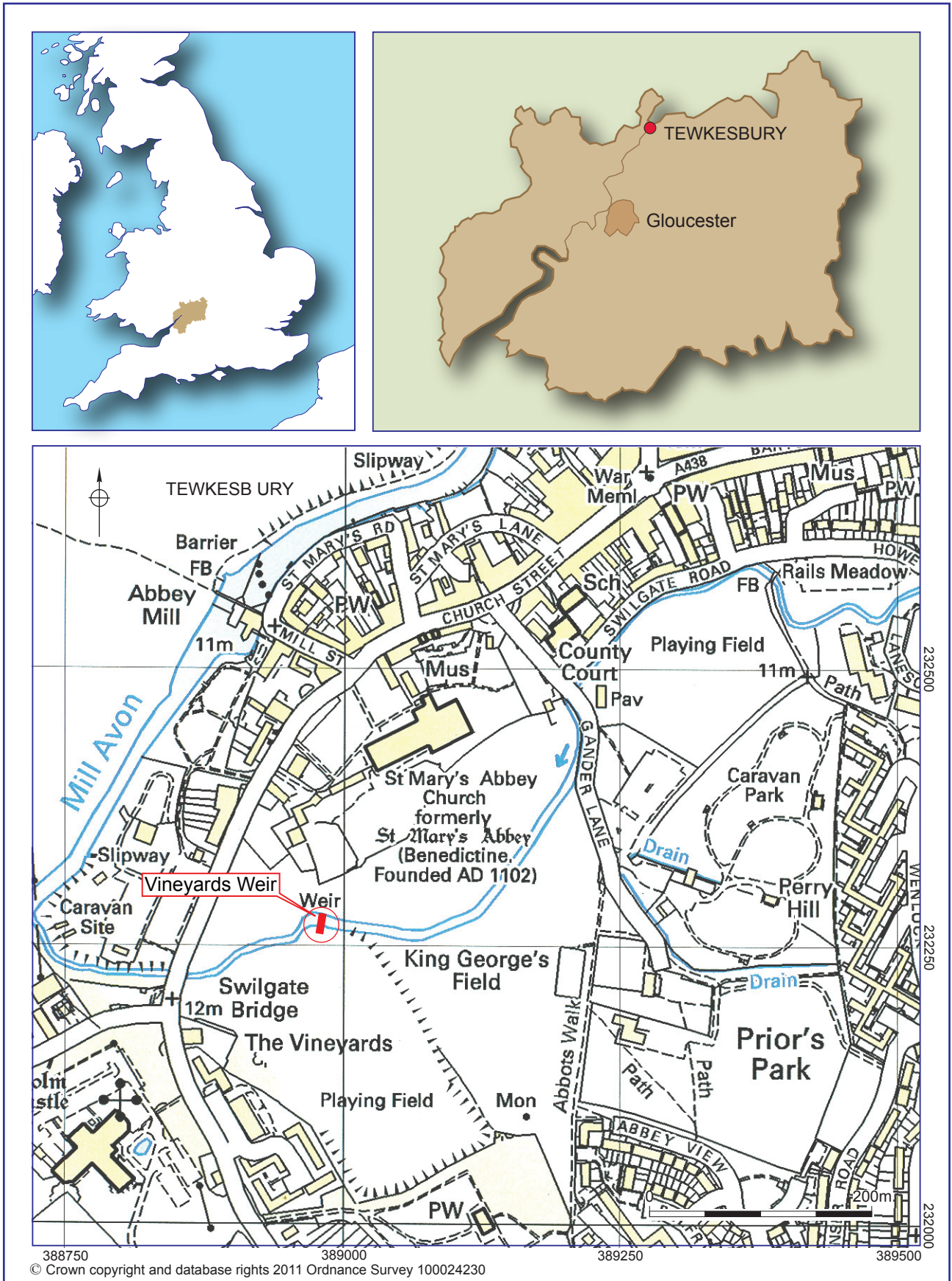
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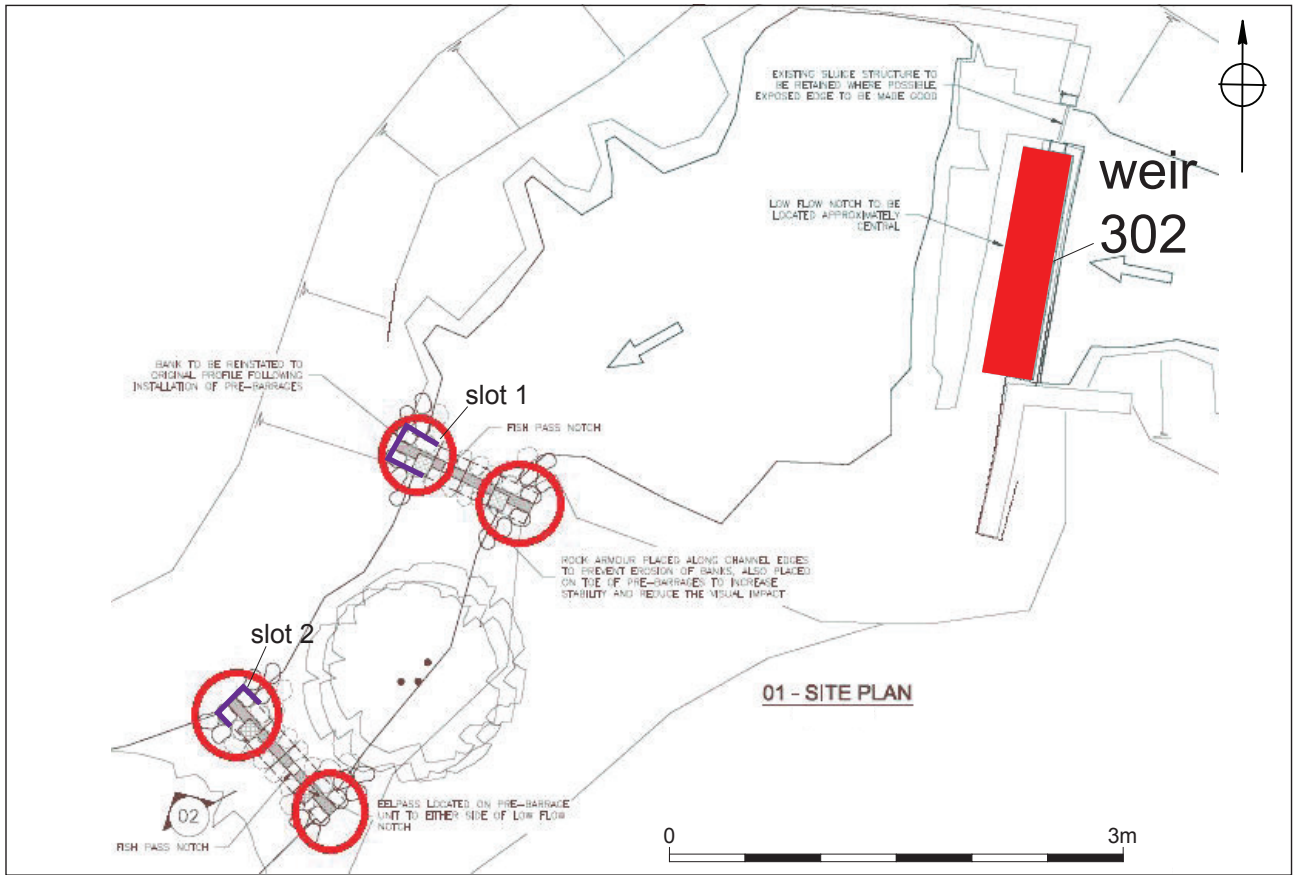
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Figures



Location of Vineyards Weir

Figure 1



Location of weir and slots 1 and 2

Figure 2

Plates



Plate 1: The weir [302] looking east.



Plate 2: The weir [302] looking northwest.



Plate 3: The weir [302] partially removed, looking northwest.



Plate 4: The weir, cross section, looking north.



Plate 5: Part of window jamb (scale with 0.20m divisions).



Plate 6: Part of door or window jamb (scale with 0.20m divisions).



Plate 7: Socket on moulded stone (scale with 0.20m divisions).



Plate 8: Moulded stone (scale with 0.20m divisions).



Plate 9: Moulded stone (scale with 0.20m divisions).



Plate 10: Slot 1 looking north.



Plate 11: Slot 1 looking northwest.



Plate 12: Slot 1 on completion of excavation, looking northwest.



Plate 13: A representative sample of grey clay alluvial deposit (102) and (201) removed by machine.



Plate 14: Slot 2 Looking Northwest.

Appendix 1 Slot descriptions

Slot 1

Maximum dimensions: Length: 0.6m Width: 2m Depth: 1m+

Main deposit description

Context	Classification	Description
100	Alluvium	Brown silty clay, moderately compact with rare small rounded stones and occasional root disturbance.
101	Alluvium	Mid orange silty clay, with rare small rounded stones, moderately compact.
102	Alluvium	Light grey silty clay, moderately compact with rare small rounded stones, rare charcoal and plant remains and rare small mollusc inclusions.

Slot 2

Maximum dimensions: Length: 0.5m Width: 2m Depth: 1m+

Main deposit description

Context	Classification	Description
200	Alluvium	Brown silty clay, moderately compact with rare small rounded stones and occasional root disturbance.
201	Alluvium	Light grey silty clay, moderately compact with rare small rounded stones, rare charcoal and frequent wood inclusions.

Slot 3

Maximum dimensions: Length: 0.5m Width: 2m Depth: 1m+

Main deposit description

Context	Classification	Description
300	Concrete	Concrete capping placed directly upon weir [302].
301	Concrete	Steel rod reinforced concrete wall for a sluice constructed at the North end of weir [302]
302	Sandstone weir	Sandstone constructed weir across the river Swilgate. Made from worked sandstone blocks, some of which are re-used and had previously performed a different function. The blocks measured up to 0.25m x 0.29m x 0.70m in size.

Appendix 2 Technical information

The archive (WA project number: P4387)

The archive consists of:

- 3 Field progress reports AS2
- 2 Photographic records AS3
- 136 Digital photographs
- 1 CD-Rom/DVDs
- 1 Copy of this report (bound hard copy)

The project archive is intended to be placed at:

Cheltenham Art Gallery and Museum
Clarence Street
Cheltenham
Gloucestershire
GL50 3JT

Tel. Cheltenham (01242) 237431

Fax Cheltenham (01242) 262334
