



**Bristol and Region
Archaeological
Services**

**Archaeological Evaluation
ST CATHERINE'S PLACE,
BEDMINSTER,
BRISTOL.**

Cai Mason



Report No. 3034/2014
BHER No. 25357
OASIS: bristola1-178155



FAME
Federation of Archaeological Managers & Employers



Archaeological Evaluation
of
**ST CATHERINE'S PLACE,
BEDMINSTER,
BRISTOL.**

Centred on NGR ST 58670 71517

Prepared for **SCP Bedminster LLP**

BaRAS
St Nicholas Church,
St Nicholas Street,
Bristol, BS1 1UE.

Tel: (0117) 903 9010
email: info@baras.org.uk
www.baras.org.uk

Author & email contact: Cai Mason, cai.mason@bristol.gov.uk

Approved by: Ian Greig

Date Issued: 2nd June 2014

CONTENTS

Summary

List of Illustrations

1.	Introduction.....	1
2.	The Site.....	1
3.	Archaeological and Historical Background.....	2
4.	Aims and Methodology.....	4
5.	Results.....	5
6.	The Finds.....	10
7.	Discussion and Conclusions.....	13
8.	Bibliography and Sources Consulted.....	14
9.	Acknowledgements.....	15

Appendix 1: Policy Statement

Appendix 2: Context summary

Appendix 3: Site matrix

Appendix 4: Ceramics quantified by context

Appendix 5: Animal bone quantified by context

Appendix 6: Clay tobacco pipe quantified by context

Illustrations and Plates

Abbreviations

AD	<i>Anno Domini</i>	EHA	English Heritage Archives
aOD	Above Ordnance Datum	HER	Historic Environment Record
BaRAS	Bristol & Region Archaeological Services	IfA	Institute for Archaeologists
BC	Before Christ	Km	Kilometre
BCC	Bristol City Council	LPA	Local Planning Authority
BCL	Bristol Central Library	m	Metre
BGS	British Geological Survey	n.d.	No date
BHER	Bristol Historic Environment Record	NGR	National Grid Reference
BRO	Bristol Record Office	OASIS	Online Access to Archaeological Investigations
c	Circa	OS	Ordnance Survey
DCLG	Department for Communities & Local Government	SAM	Scheduled Monument
EH	English Heritage		

Adopted Chronology

Prehistoric	Before AD43
Roman	AD43-410
Anglo Saxon/Early Medieval	AD410-1066
Medieval	AD1066-1540
Post-medieval	AD1540-present

NOTE

Notwithstanding that Bristol and Region Archaeological Services have taken reasonable care to produce a comprehensive summary of the known and recorded archaeological evidence, no responsibility can be accepted for any omissions of fact or opinion, however caused.

June 2014.

COPYRIGHT NOTICE:-

Bristol and Region Archaeological Services retain copyright of this report under the *Copyrights, Designs and Patents Act, 1988*, and have granted a licence to SCP Bedminster LLP and their agents to use and reproduce the material contained within, once settlement of our account has been received.

Plans reproduced from the Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Bristol City Council, Licence Number LA090551, 2014.

SUMMARY

An archaeological evaluation at St Catherine's Place uncovered substantial, well-preserved, structural remains of a watermill. There has been a mill in Bedminster since at least 1086 and the discovery of residual medieval ceramics at the south-eastern end of Mill Lane provides some evidence for activity in the vicinity of the site from at least the mid-13th century onwards. It was not possible to determine when the earliest parts of the watermill were constructed but some parts of it are likely to date from the late 17th or early 18th century.

LIST OF ILLUSTRATIONS

Figures

- Figure 1 Site location plan, scale 1:1250
- Figure 2 Site plan, showing trench locations and significant structures in relation to buildings and watercourses depicted on Plumley and Ashmead's plan of 1828
- Figure 3 Plan of Trench 1, showing plate directions
- Figure 4 Section across posthole 112 and wall 101, scale 1:20
- Figure 5 Section across pit 114 and ditch 109, scale 1:20
- Figure 6 Section across ditch 109 and wall 101, scale 1:20
- Figure 7 Section across pit 116, scale 1:20
- Figure 8 Plan of Trench 2, showing plate directions
- Figure 9 Section across millpond and cutwater 267, scale 1:40
- Figure 10 Section across structures 257-61, scale 1:40

Plates

- Cover Trench 2, looking south-west
- Plate 1 Trench 1, looking north
- Plate 2 Trench 1, looking south-east, showing pit 114
- Plate 3 Trench 1, looking north-west, showing ditch 109 and posthole 112
- Plate 4 Trench 1, looking west, showing pit 116
- Plate 5 Trench 1, looking north-west, showing wall 101
- Plate 6 Trench 2, looking south-west
- Plate 7 Trench 2, looking south-west (north-east end)
- Plate 8 Trench 2, looking south-west (central area)
- Plate 9 Trench 2, looking south-west (south-west end)
- Plate 10 Trench 2, looking south (central area)
- Plate 11 Trench 2, looking south, showing detail of walls 222, 257 & 278-9
- Plate 12 Trench 2, looking north, showing detail of structures 245-6, 257, 259 & 260
- Plate 13 Trench 2, looking north, showing structures 266-71
- Plate 14 Trench 2, looking north-west, showing detail of structures 214-7 & 255
- Plate 15 Trench 2, looking east (central area)
- Plate 16 Trench 2, looking south-east, showing structures 233, 242, 229, 241, 264 & 276-7
- Plate 17 Trench 2, looking south-east, showing cobbled surface 221
- Plate 18 Trench 2, looking west, showing cobbled surface 209 & walls 210 & 255
- Plate 19 Trench 2, looking south-west, showing floors 234-5, wall 250 & drain 218
- Plate 20 Trench 2, looking north-east, showing floors 234-5, walls 250, 253 & 255 & drain 218
- Plate 21 Trench 2, looking south-east, showing floor 235, walls 250, 253 & 255 & drain 218

1. INTRODUCTION

- 1.1 This report presents the results of an archaeological evaluation carried out by Bristol and Region Archaeological Services (BaRAS) at St Catherine's Place, Bedminster, Bristol between the 1st and 16th of May 2014.
- 1.2 The evaluation was commissioned by SRC Management Ltd on behalf of SCP Bedminster LLP to support a Planning Application (13/05616/P) for the redevelopment of the shopping centre. The purpose of the evaluation is to determine the extent of survival, date and significance of any archaeological remains within the proposed development site.
- 1.3 The project archive will be deposited with Bristol Museum and Art Galleries under an accession number issued by Bristol Museum & Art Galleries. A digital copy of the report will be sent to the Bristol Historic Environment Record (BHER) and the English Heritage Archive. The project has been entered in the Bristol Historic Environment Record as: BHER 25357 and in the OASIS Online Access to the Index of Archaeological Investigations as: bristola1-178155.

2. THE SITE

- 2.1 The site (centred on NGR ST 58670 71517) comprises the south-eastern half of St Catherine's Place shopping centre, which is bounded by other parts of the shopping centre and No. 20 Mill Lane to the north, Nos. 6–18 Stafford Street to the south-west, and Dalby Avenue to the south and east.
- 2.2 The evaluation trenches were located in a tarmac car park and a concrete service yard to the south and west of the shopping centre. Ground levels range between 8.67m aOD in the southern car park to 9.48m aOD in the service yard adjacent to Mill Lane.
- 2.3 The geology of the site comprises Triassic Redcliffe Sandstone. The south-eastern edge of the site lies within the floodplain of the Malago brook; in this area the solid geology is overlain by superficial deposits of alluvium (BGS 2014).

3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

- 3.1 The site was the subject of desk-based assessment (Roper 2013), a summary of which is presented below with some additional information drawn from other primary and secondary documents.
- 3.2 The site is situated in the Bedminster district of Bristol, historically in the parish and Hundred of Bedminster, Somerset. Bedminster parish was formally incorporated into the City and County of Bristol in 1835.
- 3.3 Prehistoric and Roman remains have been uncovered along West Street, 0.5km to the south-west of the site, but there is no evidence for any activity of this date within the site boundaries.
- 3.4 The name 'Bedminster' strongly suggests that there was an early medieval Minster (a Royally endowed monastic settlement) in the parish, possibly on the site of St John the Baptist Church (La Trobe Bateman 1999, 7). St John the Baptist Church (now demolished) was situated approximately 150m to the south-west of the site. Confirmation of an early medieval presence in Bedminster was provided by the discovery of 11th-century pottery on two sites within 100m of St John the Baptist Church (*ibid*, 8).
- 3.5 Bedminster (*Beiminstre*) is recorded in the Domesday Survey (AD 1086) as a large settlement of 51 households held by the King (Williams *et al* 1992, 231). Medieval occupation in Bedminster was focussed along the principal roads through the settlement, namely West Street, East Street and North Street.
- 3.6 The Domesday Survey also records the presence of a mill in Bedminster (*ibid*), and there is reference to a Royal mill in Bedminster in a grant of permission for the construction of Trin Mills in the second half of the 12th century (Walker 1998, 6). Later documentary and cartographic sources show that there was a watermill within the site boundaries by at least 1712 (BRO 37941/3a), and there is a strong probability that this is the location of the medieval mill. The watermill is named as '*Bedminster Mill*' in the apportionment that accompanies the Bedminster tithe map of 1841, as '*Sayer's Mill*' in the Bristol Historic Environment (BHER 21177-8 & 1994M), and '*St Catherine's Mill*' in Bantock (1997, 11); the origin of the second name remains unknown; the third is derived from the nearby Hospital of St Katherine, East Street (BHER 1788M), which was founded by Robert de Berkeley (d. 1219).
- 3.7 During the English Civil War (1642–1651) much of Bedminster was destroyed by fire, reputedly started on the orders of Prince Rupert (Latimer 1970, 197). The settlement was subsequently re-built.
- 3.8 The earliest plan to show the site is the late 18th-century *Plan of the Manor of Bedminster*, which depicts two rows of buildings along either side of Mill Lane, where it crosses three channels of the Malago brook. The accompanying terrier identifies them as '*Houses and Gardens at Mill Lane*'; later plans show that at least one of the buildings was a watermill.
- 3.9 The 1827 Plan of the parish of Bedminster depicts a large complex of buildings on the south-west side of Mill Lane, which are identified in the accompanying terrier as '*mill, stables etc.*' and '*house and garden*' (plots 1049 & 1049a). The buildings on the opposite side of Mill Lane are all listed as '*houses and gardens etc.*' All of the properties within the site boundaries were owned by R. H. Davis; the occupier of the mill was Thomas Gough. Plumley and Ashmead's plan of 1828 shows the same layout as the 1827 plan, but in slightly greater detail.

- 3.10 By the time the Bedminster Tithe map of 1841 was produced, the central tail race from the mill and the south-eastern channel of the Malago had been infilled or culverted, and a row of terraced houses (Providence Place) had been built over the former channel. The accompanying apportionment lists plots 571 and 572 (on the south side of Mill Lane) as '*Bedminster Mill*' and '*house and gardens*'. The map also shows that all of the earlier buildings along the north-east side of Mill Lane had been demolished; two new non-domestic buildings had also been built adjacent to or over the remaining open watercourses to the north of Mill Lane. The apportionment identifies the plot in which they were situated (no. 570) as '*houses, gardens and yards*'.
- 3.11 Ashmead's plan of 1854 shows a row of new terraced houses on the north-east side of Mill Lane, with non-domestic buildings to the rear. By this date the remaining two tail races had also been culverted, and a small court of four houses had been laid out on the south-west side of Mill Lane (Adjacent to modern No. 20 Mill Lane); these houses are identified on the 1885 1:500 OS plan as '*Gough's Court*'.
- 3.12 Ashmead's plan of 1874 shows essentially the same layout as the 1854 plan, but by this date much of the surrounding area had been developed as streets of terraced houses, whilst the area to the north is depicted as a large smelting works. This can be identified as Capper Pass & Son's '*Bedminster Smelting Works*'. The 1885 1:500 OS plan shows a similar layout to the 1874 plan. The mill is labelled '*Corn Mill*'.
- 3.13 By 1886-7 there are records of buildings being built along Malago Road (BRO Building plan/Volume 22/21b), which implies that the section of the Malago brook between St John's Lane and Mill Lane had been infilled by that date. The mill was demolished at a similar date, and by 1903 it had been replaced with a large open square. During the early 20th century a public urinal was erected in the centre of the square.
- 3.14 Capper Pass & Son's smelting works closed in 1963 (*Bristol Evening Post*, 21 July 2008) and by the late 1960s Dalby Avenue had been laid out and the site had been redeveloped as St Catherine's Place shopping centre.

4. AIMS AND METHODOLOGY

- 4.1 The fieldwork complied with the methodology outlined in a *Brief for Archaeological Evaluation* (Jones 2014), a *Written Scheme of Investigation* (Greig 2014) and followed the *Standard and Guidance for archaeological field evaluation* (IfA 2009). The aim of the evaluation is to make a full and accurate record (written, drawn, photographic) of the date, character, degree of survival, extent and location of archaeological deposits which might be preserved within the proposed development area.
- 4.2 The evaluation comprised two trial trenches, which exposed an area totalling 185m² at ground level. The trenches were dug using JCB-type excavator fitted with a toothless grading bucket under the direction of a BaRAS archaeologist. Toothed buckets were used to remove modern concrete obstructions. Mechanical excavation proceeded to the top of archaeological deposits, thereafter the excavated area was cleaned by hand and the archaeological features sampled, characterised and recorded.
- 4.3 The site was recorded in accordance with the BaRAS Site Recording Manual (BaRAS 2009). Archaeological features were planned at scales of 1:10 and 1:20. Sections were drawn at scales of 1:10 and 1:20. A photographic record of all features was made using 35mm monochrome and digital colour photographs.

5. RESULTS

- 5.1 Archaeological features are discussed below; detailed descriptions are provided in the context summary (**Appendix 2**). Stratigraphic relationships are shown on the site matrix (**Appendix 3**). Trench locations and significant features are shown on the site plan (**Fig. 2**).

Trench 1

- 5.2 Trench 1 (**Figs 3–7; Plates 1–5**) was located in the north-west corner of the site. The trench measured 8m N–S and 2.1m E–W. The trench was excavated to a maximum depth of 1.44m (7.32m aOD). Ground levels around the trench ranged between 8.76m and 9.09m aOD. Archaeological features were uncovered 0.38m below the present ground surface, at a height of 8.71m aOD.
- 5.3 The natural geology in trench 1 was a compact dark red sand (121), which was overlain by natural/made ground interface layer 124 and cut by undated pit 114 and posthole 112 (**Figs 4–5; Plates 2–3**). A single sherd of 11th–13th-century pottery was recovered from the fill (115) of pit 114.
- 5.4 Posthole 112 and pit 114 were both cut by post-medieval ditch 109 (**Figs 5–6; Plate 3**). This feature followed the NW – SE alignment of Mill Lane and is probably best interpreted as a roadside ditch. The ditch fills (110-1 & 120) contained late 17th–18th-century finds and a small but significant assemblage of residual medieval pottery.
- 5.5 Layer 124 was cut by a rectangular pit 116 (**Fig. 7; Plate 4**), which was backfilled with a mixture of re-deposited natural sand (117, 119, & 122-3) and a dump of grey sand and mortar (118) that contained a clay tobacco pipe dating from the period c 1690–1750.
- 5.6 Pit 116 and ditch 109 were both overlain by a levelling layer (105) that contained late 17th–19th-century pottery. Layer 105 was cut by the construction cut (108) for wall 101.
- 5.7 Wall 101 (**Fig. 6; Plate 5**) followed the same alignment as ditch 109 and was constructed with limestone blocks bonded with a soft white lime mortar. This wall may have formed the north-east wall of a building depicted on Plumley & Ashmead's plan of 1828 and/or a boundary wall separating Gough's Court from Mill Lane, which is first depicted on Ashmead's plan of 1854.
- 5.8 Wall 101 was abutted by late 19th-century wall 106, which was in turn overlain by modern demolition/levelling layer 125. Wall 106 was constructed with stone bonded with a hard black mortar.
- 5.9 A small area of 19th-century road surface (104) was uncovered in the NE corner of the trench. Surface 104 was cut by modern service trench 103. Layer 125 and trench 103 were overlain by modern concrete 100.

Trench 2

- 5.10 Trench 2 (**Figs 8–10; Plates 6–21**) was located in a car park adjacent to Dalby Avenue. The trench measured 28m NE–SW and 6m NW–SE at ground level. Ground levels around the trench ranged between 8.67m and 8.77m aOD. The trench was excavated to a maximum depth of 1.7m (7m aOD). Archaeological features were uncovered at a depth of 0.45m below the present ground surface at a height of 8.28m aOD.
- 5.11 Substantial structural remains of a post-medieval watermill were uncovered in trench 2. The following technical terminology is derived from Wessex Archaeology (2011, 19) and Neville (2003):

Backshot wheel: Waterwheel in which the incoming water is delivered to the top of the wheel via a flume, but has its flow reversed to turn the wheel in the

opposite direction to an overshot wheel; this has the advantage of harnessing the flow of the water under as well as over the wheel. Backshot wheels are also known as pitchback wheels; they are the most efficient form of waterwheel.

Bedstone: Lower millstone

Breast-shot wheel: Waterwheel in which the incoming water hits the upstream side of the wheel at approximately the same height as the axle. This type of waterwheel is more efficient than an undershot wheel, but less efficient than an overshot wheel.

Cog pit: Houses the pit wheel, which is linked to the waterwheel by an axle. The pit wheel transfers the horizontal rotation of the waterwheel to a vertical rotation of the upright shaft, via a gear known as a wallower.

Head race: Channel bringing water to the waterwheel from the millpond.

Hurst frame: A wooden internal framework that supported the upright shaft, gears and millstones. The hurst frame helped to prevent damaged to the mill building caused by vibrations of the mill machinery.

Mill leat: An artificial watercourse that channelled water towards the mill.

Mill pond: Impounded head of water upstream from the mill.

Upright shaft: Main vertical shaft that turns the milling machinery on the upper floors of the mill.

Overshot wheel: Waterwheel which is turned by water flowing over the top of the wheel. This type of wheel is more efficient than a breast-shot wheel but less efficient than a backshot wheel.

Pit wheel: A cogged wheel inside the mill that was joined to the waterwheel by a horizontal axle. The pit wheel cogs meshed with the cogs of the wallower to turn the upright shaft. Post-medieval pit wheels were often made of cast iron.

Running stone: upper millstone

Tail race: Channel for water to flow downstream from the mill.

Undershot wheel: Waterwheel which is turned by a flow of water striking paddles on the bottom of the wheel. This is the simplest and least efficient type of waterwheel.

Wallower: a small gear at the base of the upright shaft that meshes with the cogs of the pit wheel, to turn the shaft.

Wheel pit: pit in which the waterwheel is mounted

- 5.12 Due to the complexity of the post-medieval remains, there were limited opportunities to investigate the underlying deposits, as a result it has not been possible to determine with any certainty when the earliest parts of the mill were constructed. Although numerous stratigraphic relationships were recorded between the structures within the mill, the limited finds evidence precluded the creation an overall phasing for the building.

- 5.13 Truncation by late 19th–20th-century services was recorded in parts of the trench, the most significant of which were a 2m-wide sewer trench and the concrete foundations of an early 20th-century public urinal. The sewer trench is 4.5m deep and is likely to have destroyed any archaeological remains along its line. The urinal had a 5m wide by 0.5m thick foundations pad which had heavily truncated some of the internal floor surfaces in the central part of the mill. Foundations of mill survived below the level of the concrete pad.
- 5.14 The earliest deposits in trench 2 were undated layers 244 and 275 (**Fig. 9**). Layer 244 was an extensive deposit of re-deposited alluvial clay that formed a bank at least 1m thick, which defined the edge of the millpond/mill leat. Layer 244 was cut by construction cut 247 and overlain by wall 278, which was in turn abutted by wall 257. Layer 275 was a natural alluvial deposit, but it is unclear if it was deposited before or after the mill was constructed. Layer 275 was overlain by 19th-century alluvium 274.
- 5.15 Wall 278 (**Plates 8-11**) was probably contemporary with walls 213 and 222 (**Plates 7-8**), all of which were constructed with limestone rubble bonded with a pale pinkish or yellowish lime mortar. Wall 257 was constructed with limestone rubble and bonded with a reddish orange sandy mortar. Wall 257 (**Plates 8-12**) incorporated a steeply sloping stone-lined drain that flowed downhill towards the north. Wall 257 formed part of a retaining wall that probably defined the south-east side of a head race for the mill; its facing stones appear to have been removed during a later re-modelling of the head race. Wall 257 is probably broadly contemporary with walls 222 and 278. No dating evidence was recovered from any of these structures (213, 222, 257 & 278), and although the visible parts appear to be post-medieval, the possibility that they may incorporate the fabric of earlier structures cannot be discounted. Wall 286 may be contemporary with these structures. Wall 279 (**Plates 8-11**) appears to be an infilling of an opening between walls 222 and 257. This wall was constructed with limestone blocks bonded with an orangey pink lime mortar.
- 5.16 Wall 257 was abutted by retaining wall 259 (**Fig. 10; Plates 8-12**), which appears to represent a re-modelling of the head race. This structure was constructed with limestone blocks and very large yellow sandstone blocks, bonded with grey and cream coloured lime mortar. Structure 259 was abutted by wall 260.
- 5.17 Structure 246 (**Plate 12**) was constructed within cut 247 with a mixture of Pennant Sandstone and limestone blocks bonded with a grey lime mortar. The function of this feature, which appears to be a small surface, remains unknown. Structure 246 was cut by pit 248, which was filled with silty sand and gravel 249. The function of this pit remains unknown, but it appears to be associated with structure 246.
- 5.18 A clay soil layer (240) that contained occasional stone and brick fragments was recorded to the south-west of wall 222; this deposit appears to be a re-worked soil derived from bank 244. Layer 240 was similar in appearance and consistency to 225, 227 and 230, and may be of a similar date, which suggests that it is a post-medieval deposit. Its relationship with walls 222 and 245 remains unknown. Layer 240 was cut by pit 238, which probably post-dates the construction of wall 222. The fill of the pit (239) was very similar to 249; both features are post-medieval.
- 5.19 Part of the millpond/mill leat was uncovered at the south-west end of trench 2; this feature was defined by retaining wall 266, cutwater 267 (**Fig. 9**) and dam 268 (**Plates 9 & 13**). The cutwater would have divided the flow of the water into two streams; one would have flowed to the north-west of trench 2, the other would have flowed over dam 268 and along head race 261 to a waterwheel located just beyond the north-west edge of the trench. Structures 266-8 were all constructed with substantial limestone blocks bonded with a yellowish grey lime mortar. Dam 268 abutted structures 266-7, but they are likely to be contemporary. A small infilled vertical notch in the south-east side of cutwater 267 (in-filled with 285) may have been used to locate a sluice gate. It is unclear if structure 270 was part of 268 or a later addition. Infill 273 is contemporary with dam 268. Structures 269 and 271 are later, and more crudely built, additions to the earlier parts of the dam. There were traces of a reddish sandy mortar in some of the lower parts of wall 266 (visible in section); this could indicate that structures 266-8 (or some parts of them) were contemporary with wall 257, but this is by no means certain.

- 5.20 Cutwater 267 appears to have been partially robbed when the mill was demolished. The truncated remains of the structure were covered by 19th-century alluvium 274, which suggests that the mill was demolished before the millpond was backfilled.
- 5.21 The earliest structures at the northern end of trench 2 were structures 214 and 253 (**Plates 7 & 14**). Structure 214 was constructed with limestone blocks bonded with a creamy white lime mortar. The function and date of structure 214 remains unclear, but it probably formed one side of a building and may have supported a chimney or stair. Structure 214 was abutted by structures 215-6 and walls 233 and 255. Structures 215-6 were both constructed with limestone blocks bonded with a pale pinkish brown lime mortar. Structure 216 incorporated a contemporary brick-built hearth/oven (217), which suggests that it is probably a chimney base. Structure 215 may also be a chimney base (possibly for the same chimney), but this is not certain.
- 5.22 Structure 215 was abutted by foundation/beam slot packing 229, and a sequence of clay dump layers (223-5), one of which (224) contained clay tobacco pipes dating from the period 1690–1740. Foundations 229, 241 and 276-7 (**Plates 8 & 15-16**) are contemporary structures, all of which were constructed with limestone blocks bonded with a pale grey lime mortar. These foundations incorporated two substantial beam slots that probably formed the foundations for a wooden hurst frame. The voids between 229, 241 and 276-7 were infilled with a contemporary deposit of friable mortar and stone rubble (263). Structures 260-1 and 280-3 may be contemporary with 229, 241 and 276-7, but this is not confirmed.
- 5.23 Structures 260-1 (**Fig. 10**) and 280-3 (**Plates 8-10 & 12**) represent the final remodelling of the mill head race, wheel pit and cog pit. Wall 283 was constructed with handmade red bricks. Structures 260 and 280-2 were all constructed with limestone blocks bonded with a hard pale grey lime mortar. Wall 283 probably defines the south-east side of the wheel pit, and the north-west side of the cog pit. Wall 281 defines the south-east side of the cog pit. The cog pit would have housed the pit wheel, which would have been connected to the waterwheel by an axle through wall 283.
- 5.24 Walls 233 and 264 (**Plates 7-9 & 15-16**) were both constructed with limestone rubble bonded with a pale grey lime mortar. These walls were abutted by and pre-date the construction of foundations 229, 241 and 276-7. Wall 264 was overlain by the bedding layer (220) for cobbled floor surface 221.
- 5.25 Cobbled floor 221 (**Plates 7-10, 15 & 17**) abutted wall 237 and is probably contemporary with walls 210, 237, foundations 229, 241 and 276-7 and infill deposit 263. These contexts probably represent a single major reorganisation of the central part of the mill in the late 17th–early 19th century. Walls 210 (**Plate 18**) and 237 were both constructed with limestone rubble bonded with a grey lime mortar, and were overlain by layer 203.
- 5.26 Infill deposit 263 was cut by construction cut 265 for brick structure 242 (**Plates 8 & 15-16**). The function of structure 242 remains unknown, but it appears to be associated with late 18th–19th-century stone-lined drain 218. Structure 242 was infilled with a deposit of silty sand and clinker, which was in turn overlain by demolition/road surface deposit 203.
- 5.27 The northern end of the mill was defined by wall 253 (**Plate 7, 19-21**). This structure was constructed with limestone blocks bonded with a pale pinkish grey lime mortar, and was abutted by wall 255. Wall 255 (**Plate 7**) was constructed with limestone blocks bonded with a pale pink lime mortar, and was abutted by road surface 204, cobbled floor surface 209, wall 212, and late 18th–19th-century infill deposit 236. There appears to have been an opening in wall 253 to the south of the point where it was abutted by wall 255 (wall 253 continues below 255 at a lower level). This opening was blocked by 253. This must have occurred before the external road surface (204) level was raised. There was a small ledge on the interior side of wall 255; this probably supported a sill beam or floor joist. Structure 256 (**Plate 7**), which abutted wall 255 and was abutted by floor 235, appears to be a pillar/support, which could indicate that there were openings either side of it.

- 5.28 Deposit 236 was retained by walls 250 and 254 (**Plates 7 & 19-21**), was overlain by floor 234-5 and contained ceramics dating from the period c 1770–1900. Walls 250 and 254 were both constructed with limestone blocks bonded with a pale grey lime mortar; wall 254 had handmade red brick quoins. Walls 250 and 254 probably defined the sides of a small cellar or possibly a manhole that appears to have been built in the late 18th or 19th century within an existing cellar (defined by walls 214, 253 and 255). The area defined by walls 250 and 254 was backfilled with infill deposit 284 prior to the construction of floor 234-5 and drain 218. The capstones of drain 218 were level with floor 234-5, which suggests that they are contemporary late 18th or 19th-century features.
- 5.29 Wall 255 was abutted by road surface 204 and cobbled surface 209 (**Plates 8 & 18**). Road surface 204 was by service trench 205 and stone-lined drain 206-7 (**Plate 7**); all of these features are probably 19th-century.
- 5.30 Cobbled surface 209, which abutted stone-lined well 211 (**Plates 8 & 18**), was probably an exterior surface around the well. Surface 209 and well 211 were both cut by construction trench 231 for wall 210. Well 211 was constructed with limestone blocks and red handmade bricks bonded with a grey lime mortar. The well probably truncates wall 213, but the relationship was not confirmed. It was unclear if the well abutted or was part of structure 226, but the fact that it was backfilled with deposit 263 suggests that it went out of use when foundations 229, 241 and 276-7 were constructed.
- 5.31 Structure 226 was constructed with limestone blocks bonded with a white lime mortar; the function of this structure remains unknown, but it could be related to well 211. Structure 226 was overlain by wall 212.
- 5.32 Documentary evidence suggests that the mill was probably demolished in the mid-1880s; this episode is represented by demolition dump/road surface 203, which covered all of the earlier features and was cut by late 19th – 20th century services and the foundations of an early 20th-century urinal. Layer 203 was in turn overlain by bedding layer 202, concrete 201 and tarmac surface 200.

6. THE FINDS

- 6.1 A total of 63 finds were recovered during the evaluation. The finds comprise 26 sherds of ceramic, 14 animal bones, eight fragments of clay tobacco pipe, six pieces of ceramic building material (CBM), three shards of glass, three fragments of roof slate, one lump of mortar, one iron nail and a large fragment of millstone. The finds were cleaned, identified and catalogued according to material type. The finds are all medieval or post-medieval. The clay tobacco pipe stems, mortar fragment and roof slates were discarded after assessment; all other finds will be marked with an accession number issued by Bristol Museum & Art Galleries and a context number. The finds are discussed separately by type below and quantified in **Appendices 4-6**.

Ceramics

Introduction

- 6.2 The ceramic assemblage comprises 26 sherds of pottery, 73.9% of which is post-medieval; the remaining 23.1% is medieval. The ceramics were examined with reference to the Bristol Pottery Type (BPT) Series and other published sources, using the widely accepted name codes based on the system adopted by the Museum of London (LAARC 2007). The ceramics are quantified by ware type in **Table 1** and by ware type, context and form in **Appendix 4**. Full descriptions are available in the site archive. Most of the potsherds are fairly unabraded, which suggests there has been relatively little post-depositional disturbance.

Table 1: Ceramics quantified by ware type

Ware type	Name code	Date range	Source	Quantity
Ham Green glazed ware	HG	1150 – 1250	Ham Green, North Somerset	1
Ham Green unglazed redware	HGR	1150 – 1350	Ham Green, North Somerset	3
Bath A ware	BATH A	1050 – 1350	Avon Valley	3
Bristol Redcliffe ware	BR	1250 – 1500	Bristol	2
Somerset redware	SSOM	1550 – 1900	Somerset	5
Tin-glazed ware	TGW	1640 – 1800	Mostly Bristol	1
North Devon fineware	NDFW	1650 – 1900	North Devon	1
North Devon gravel-tempered ware	NDGT	1600 – 1900	North Devon	2
Local red earthenware	-	1700 – 1900	Bristol area	4
Sugar mould	-	1650 – 1820	Bristol area	1
Creamware	CREA	1765 – 1830	Mostly Bristol	2
Pearlware	PEAR	1770 – 1900	Mostly Bristol	1
Total				26

Medieval

- 6.3 All of the medieval pottery was recovered from trench 1. With the possible exception of a single sherd of Bath A ware from pit fill 115, all of the medieval pottery was recovered as residual finds in post-medieval contexts.
- 6.4 The medieval pottery includes Bath A ware, glazed and unglazed Ham Green wares, and Bristol Redcliffe ware. The presence of glazed Ham Green ware indicates that there must have been some activity in the vicinity of the site prior to the mid-13th century, whilst the presence of Bath A ware could indicate that this activity began as early as the mid-11th century. St Catherine's Place lies 75m to the south-east of East Street and 150m to the north-east of St John the Baptist Church, both of which are likely to have been early focuses of settlement and potential sources of the pottery. However, it should be noted that most of the sherds were relatively un-abraded; this suggest that there has been relatively little post-depositional disturbance, which probably indicates that they were discarded close to where they were found.

- 6.5 Identifiable vessel forms include a Ham Green glazed ware jug with a strap handle decorated with diagonal slashed lines from pit fill 119, and a Bath A ware cookpot with an everted rim from context 111. Two Ham Green unglazed sherds from context 111 have combed decoration on the exterior; these are probably also fragments of cookpots.

Post-medieval

- 6.6 The post-medieval assemblage comprises a small quantity of wares commonly found in 17th to 19th-century contexts in Bristol, namely North Devon, Somerset, and locally produced red earthenwares, English tin-glazed ware, and mass produced whitewares (creamware & pearlware).
- 6.7 The only identifiable vessel form is a North Devon fineware colander from context 105.

Animal bone

- 6.8 The assemblage comprises 14 fragments of animal bone from two post-medieval and one medieval/post-medieval contexts. Most of the bones are heavily abraded unidentified fragments of mammal bone with butchery cut marks. All of the identifiable bones are sheep/goat. Animal bones are quantified by species and skeletal element in **Appendix 5**.

Clay tobacco pipes

- 6.9 A total of eight fragments clay tobacco pipe were collected, four of which are un-diagnostic stems. The pipe bowls were identified with reference to the Bristol tobacco pipe bowl typology (Jarrett 2013, 215-37), and other published sources (Jackson & Price 1974; Price 2011). All of the pipe bowls date from the late 17th or early 18th century; none of the bowls are marked. Clay tobacco pipes are quantified by type in **Appendix 6**.

Glass

- 6.10 The glass assemblage comprises three shards of post-medieval bottle glass. Two sherds were recovered from context 111; one is a fragment of small cylindrical aqua glass bottle, the other is a dark green free-blown wine bottle rim dating from the second half of the 17th century. A dark green bottle base recovered from context 220 can be identified as part of a free-blown 'mallet' or 'squat cylinder' wine bottle dating from the period c 1750–80.

Ceramic building material

- 6.11 The ceramic building material comprises four pieces of post-1650 pantile from context 236, a malt kiln brick from context 203 and a fragment of brick from context 120.

Other finds

- 6.12 The other finds comprise two fragments of roof slate and an iron nail from context 111, one fragment of roof slate from context 120, a lump of pinkish lime mortar from context 224, and a large fragment of millstone grit from context 221. The latter object can be identified as part of bedstone (the lower millstone) with a *quarter dress pattern* of furrows carved into its upper surface; the millstone fragment had been re-used as a cobble in floor 221. The presence of a millstone on the site confirms the cartographic evidence that the watermill was used for grinding corn.

Discussion and conclusions

- 6.13 The presence of residual medieval pottery in trench 1 provides evidence for activity in or near this area. This activity may be as early as the mid-11th century, and certainly pre-dates the mid-13th century. The only context to have produced exclusively medieval pottery is pit 114, but given that this comprised a single small sherd it cannot be taken as conclusive evidence of a medieval date for this feature.
- 6.14 The finds from pit 116, ditch 109 and levelling layer 105 suggest that they were all deposited in the late 17th or 18th century. Wall 101 post-dates layer 105, and must therefore be of a similar or later date.

- 6.15 Due to the complexity of the post-medieval structural remains in trench 2, very few features or deposits were excavated; consequently the finds assemblage from this trench, which is entirely post-medieval, should not be taken as evidence for an absence of earlier features or deposits in this area. The earliest deposits that were investigated (dump layers 224 & 227) contained late 17th – early 18th-century clay tobacco pipes, and whilst these do not provide a *terminus post quem* for the construction of the mill, they do show that at least some parts of the building are likely to be of a similar date. Floor 221 overlay context 227; this indicates that it post-dates c 1680, but pre-dates the demolition of the mill in the mid-1880s.
- 6.16 Infill deposit 236 contained c 1770–1900 ceramics. This context was overlain by floor 234-5 and drain 218; this indicates that these structures were constructed between c 1770 and the mid-1880s. Infill 236 was retained by walls 250, 254, which suggest that they are likely to be of a similar date; infill 284 post-dates walls 250 & 254, and is also likely to be of a similar date.

7. DISCUSSION AND CONCLUSIONS

- 7.1 The archaeological evaluation uncovered well-preserved structural remains of a substantial post-medieval watermill in trench 2 and a post-medieval wall and cut features in trench 1. A moderate quantity of residual medieval ceramics was also recovered from trench 1, which suggests that there may be medieval remains in some parts of the site.
- 7.2 The origins of the watermill on Mill Lane (which has been variously referred to as '*Bedminster Mill*', '*St Catherine's Mill*' and '*Sayer's Mill*') remain obscure and although there are references to a Royal mill in Bedminster from 1086 onwards, the earliest firm documentary evidence for a mill in this location dates from the early 18th century. The name '*Bedminster*' suggests that the settlement may have originated around an early medieval Minster; if this were the case then the mill recorded in 1086 may well have been associated with the Minster.
- 7.3 The evaluation has provided evidence for some form of activity in the vicinity of trench 1 prior to the mid-13th century, and possibly as early as the mid-11th century. It also demonstrated that some parts of the mill were probably constructed in the late 17th or early 18th century. It was not possible to determine exactly when the earliest parts of the mill were built, but there remains a strong possibility that some of the structures in trench 2 may incorporate or overly earlier remains.
- 7.4 Trench 2 also produced evidence of a major episode of rebuilding within the central part of the mill at some point between the late 17th and 19th century, which involved the construction of new foundations for the internal machinery of the mill, and rebuilding the head race, wheel pit and cog pit. The northern part of the building also appears to have had significant internal modifications in the late 18th or 19th century.
- 7.5 Several large pieces of wood were noted in the 19th-century silting of the millpond. This demonstrates that anaerobic conditions exist in some parts of the site, and that the potential for preserved organic remains (particularly within former watercourses) should be considered as high.
- 7.6 Cartographic evidence shows that there were two tail races leaving the mill, which suggests that there were at least two waterwheels in the mill. The position of the millpond dam and head race suggests that one of the wheels was located approximately 1m to the north-west of trench 2; the other would have been further to the north-west. The south-eastern tail race appears to have been infilled or culverted between 1828 and 1841. If the tail race was infilled rather than culverted then it would imply that the south-eastern wheel went out of use between these dates.
- 7.7 The presence of a millstone fragment (re-used as a cobble) provides archaeological evidence that the mill was used to grind corn, whilst the height of the dam and head race in relation to the ground floor of the mill indicates that it was probably fitted with a breast-shot waterwheel. This type of wheel is more efficient than an undershot wheel, but less efficient than an overshot or back-shot wheel. Breast-shot wheels are common in areas with relatively flat topography, due to the difficulty in creating a sufficient head of water for the more efficient types of wheel. Breast-shot wheels sometimes replaced earlier undershot wheels as they are more efficient and the conversion process is relatively simple, due to the fact that both types rotate in the same direction. Overshot wheel which turn the opposite direction, as a result converting an undershot or breast-shot mill into an overshot mill would involve replacing much of the mill machinery
- 7.8 The evaluation has demonstrated that there are significant archaeological remains within 0.38–0.45m of the present ground surface, and that any excavations in excess of 8.71m aOD at the Mill Lane end of the site, and 8.28m aOD near Dalby Avenue are likely to have an impact on buried archaeological remains.

- 7.9 Mills were important buildings in the medieval and post-medieval landscape, as a result the remains of the post-medieval mill should be considered as a locally, possibly regionally significant heritage asset. It has not been possible to determine with any certainty if there are any earlier mill remains on the site. If however, there are remains of Royally-owned medieval mill below the post-medieval remains in trench 2 or beneath the existing buildings to the west, then they may be considered as of at least regional significance. There are over 5,000 mills listed in the Domesday Book, but to date only nine pre-conquest mills have been archaeologically excavated (English Heritage 2011, 2). If remains of an early medieval mill were uncovered on the site then they would be considered to be of national significance.

8. BIBLIOGRAPHY AND SOURCES CONSULTED

- Bantock, A., 1997, *Bedminster*, The Archive Photographs Series, Stroud: Tempus.
- BaRAS, 2009, *Site Manual*, unpublished.
- British Geological Survey, 2014, Geology of Britain Viewer, URL: http://maps.bgs.ac.uk/geologyviewer_google/googleviewer.html [21 May 2014].
- Bristol Pottery Type Series, held at The Bristol City Museum and Art Gallery, and the Offices of BaRAS.
- English Heritage, 2011, *Introduction to Heritage Assets: Mills*. URL: <http://www.english-heritage.org.uk/publications/iha-mills/mills.pdf> [29 May 2014].
- Greig, I., 2013, *Written Scheme of Investigation for an Archaeological Evaluation at St Catherine's Place, Bedminster, Bristol*, BaRAS, unpublished.
- IfA, 2009, *Standard and Guidance for Archaeological Field Evaluation*, Reading: IfA.
- Jackson, R.G. & Price, R.H., 1974, *Bristol Clay Pipes, a study of makers and their marks*, Bristol: Bristol City Museum Research Monograph No. 1.
- Jarrett, C., 2013, 'Clay tobacco pipes' in Ridgeway & Watts (eds.): *Friars, Quakers, Industry and Urbanisation, The Archaeology of the Broadmead Expansion Project Cabot Circus, Bristol 2005-2008*, CA Monograph No. 5, PCA Monograph No. 16, London & Cirencester: CAPCA.
- Jones, R.H., 2014, *Land at St Catherine's Place Shopping Centre, East Street, Bedminster, Bristol (NGR ST58679 71522), Brief for Archaeological Evaluation*, Bristol: BCC, unpublished.
- LAARC, 2007, *Post 1992 Museum of London Code Expansions Post-Roman Pottery*, URL: http://www.museumoflondonarchaeology.org.uk/NR/rdonlyres/F0118AAF-EF24-4228-A07A-39F89E6F092E/0/post92mol_post_roman.pdf [16 Dec 2013].
- Latimer, J., 1970, *Annals of Bristol, Volume 1, Sixteenth & Seventeenth Century* (reprint of 1900 edition).
- Neville, J. 2003, *Mill Machinery*, URL: <http://www.norfolkmills.co.uk/watermill-machinery.html> [30 May 2014].
- Price, R., 2011, *Bristol Pipemakers & Their Families of the 16th to 20th centuries*, unpublished draft text (copy held at BaRAS office).

Roper, S., 2013, *Archaeological Desk-based Assessment St. Catherine's Court, Bedminster, Bristol*, BaRAS Report No. 2991/2013, unpublished.

Walker, D. (ed.), 1998, *Cartulary of St Augustine's Abbey, Bristol*, Gloucestershire Record Series, 10.

Wessex Archaeology, 2011, *Buck Mill, Stoke Trister, Somerset, Archaeological Evaluation and Assessment of Results*, Report reference: 74152.01, Salisbury: Wessex Archaeology, URL: http://www.wessexarch.co.uk/system/files/74152_Buck%20Mill,%20Somerset.pdf [30 May 2014].

Williams A., Martin G.H., Tyacke S., Hallam Smith E., Holt J., Loyn H.R., 1992, *Domesday Book A Complete Translation*. Alecto Historical Editions. London: Penguin Books.

9. ACKNOWLEDGEMENTS

BaRAS would like to thank SCP Bedminster LLP for funding the archaeological work. We would also like to thank Keith Bartlett and Nick Calvert (Project Managers, SRC Management Ltd) for their assistance throughout the project, and Bob Jones (BCC Senior Archaeological Officer) for his advice. The evaluation was managed by Ian Greig (Manager, BaRAS). Plans, figures, and plates in this report were prepared by Ann Linge (Design and Production Officer, BaRAS). The archaeological fieldwork was undertaken by Cai Mason (Project Officer, BaRAS) with the assistance of Jasmine Wood and Roy Krackowicz (Site Assistants, BaRAS).

APPENDIX 1: Policy Statement

This report is the result of work carried out in the light of national and local-authority policies.

NATIONAL PLANNING POLICY (ENGLAND)

The *National Planning Policy Framework* (NPPF) for England published by the UK Government in March 2012 states that the historic environment, which includes designated and non-designated heritage assets, is an irreplaceable resource and, as such, should be taken into account by Local Planning Authorities when considering and determining planning applications. This is taken to form part of a positive strategy set out in the respective Local Plan (i.e. *Bristol Core Strategy*) to ensure the conservation and enjoyment of the historic environment. The assigned significance of heritage assets will be key factor in terms of their conservation.

Given their irreplaceable nature, any harm to, or loss of, a heritage asset, or heritage assets, should be clearly and convincingly justified as part of a planning application. As part of this, applicants are required to describe the significance of any heritage assets affected by a proposal, including any contribution made by their setting. Where a heritage asset, or assets, are to be harmed or lost as the result of a proposal, the applicant will be required to record and advance the understanding of the significance of that asset or assets, to include making the evidence arising publicly accessible, but this will be in proportion to the significance of the asset/assets in question. While the NPPF takes into account the historic environment as a whole, additional protection is afforded to designated heritage assets under current English Law. Any proposal that would result in harm or loss of a designated heritage asset is also required to be justified by the applicant in meeting strict criteria set out in the NPPF.

LOCAL POLICY

Bristol City Council Supplementary Planning Document 7 *Archaeology and Development* (SPD 7, adopted 2006) has been carried forward for use under the present *Bristol Core Strategy* (adopted 2011). SPD 7, page 4 states that:

- (i) There will be a presumption in favour of preserving any archaeological features or sites of national importance, whether scheduled or not;
- (ii) Development which could adversely affect sites, structures, landscapes or buildings of archaeological interest and their settings will require an assessment of the archaeological resource through a desk-top study, and where appropriate a field evaluation. Where there is evidence of archaeological remains, development will not be permitted except where it can be demonstrated that the archaeological features of the site will be satisfactorily preserved in situ, or a suitable strategy has been put forward to mitigate the impact of development proposals upon important archaeological remains and their settings; or, if this is not possible and the sites are not scheduled or of national importance, provision for adequately recording the site prior to destruction is made, preferably by negotiating a planning agreement to ensure that access, time and financial resources are available to allow essential recording and publication to take place.

The *Bristol Core Strategy* (2011) retains some policies from the 1997 *Bristol Local Plan* including for the protection of the historic environment as Policy BCS22 which states that development proposals will safeguard or enhance heritage assets and the character and setting of areas of acknowledged importance including:

- Scheduled ancient monuments;
- Historic buildings both nationally and locally listed;
- Historic parks and gardens both nationally and locally listed;
- Conservation areas;
- Archaeological remains.

APPENDIX 2: Context Descriptions

Context No.	Type	Description	Provisional Date
Trench 1			
100	Layer	Concrete yard surface. 0.3m thick	Modern
101	Structure	Wall. Constructed with random un-coursed limestone rubble bonded with a soft white lime mortar with gritty white inclusions. NW–SE aligned. Over 4m long, 0.55m wide and 0.2m thick.	18th – 19th century
102	Fill	Fill of service trench 103. Soft grey, black and reddish brown, silty with common angular stone, brick, tarmac, coal, and clinker inclusions.	Modern
103	Cut	Service trench. Linear cut, over 3m long and 0.8m wide.	Modern
104	Layer	Road surface. Compact black clinker with occasional slag inclusions.	19th century
105	Layer	Levelling deposit. Firm brown sandy silt with occasional white lime mortar, brick and small angular stone inclusions. Up to 0.25m thick.	Late 17th century – 19th century
106	Structure	Wall. Constructed with random un-coursed stone rubble bonded with a hard black mortar with gritty white inclusions. NE–SW aligned. Over 0.9m long, 0.75m wide and 0.25m thick.	Late 19th century
107	Fill	Fill of construction cut 108. Friable brown silt with occasional white lime mortar, angular stones, and charcoal inclusions.	18th – 19th century
108	Cut	Construction cut for 101. Linear NW–SE aligned cut with concave sides and a flat base. Over 4m long, 0.65m wide and 0.1m deep.	18th – 19th century
109	Cut	Ditch. Linear NW–SE aligned cut with steep sides and a concave base. Over 2.5m long, 0.85m wide and 0.4m thick.	Post-medieval
110	Fill	Fill of ditch 109. Firm reddish brown silty sand up to 0.1m thick.	Post-medieval
111	Fill	Fill of ditch 109. Firm brown silty sand with occasional small angular stone inclusions, up to 0.3m thick.	Late 17th – 18th century
112	Cut	Posthole. Circular cut with steep sides and a flat base. 0.4m wide and 0.15m deep.	Undated
113	Fill	Fill of posthole 112. Firm reddish brown silty sand, 0.15m thick.	Undated
114	Cut	Pit. Sub-circular cut with concave sides and a flat base. Over 1.2m long, 0.85m wide and 0.15m deep.	Medieval – post-medieval
115	Fill	Fill of pit 114. Firm reddish brown silty sand with occasional small angular stone inclusions, 0.15m thick.	Medieval – post-medieval
116	Cut	Pit. Rectangular cut with near vertical sides and a flat base. Over 2.9m long, 1.5m wide and 1m deep.	Late 17th – 18th century
117	Fill	Fill of pit 116. Soft dark red silty sand up to 0.6m thick.	Late 17th – 18th century
118	Fill	Fill of pit 116. Soft grey silty sand with common mortar lime and coal inclusions up to 0.5m thick.	Late 17th – 18th century
119	Fill	Fill of pit 116. Soft dark reddish brown silty sand up to 0.15m thick.	Late 17th – 18th century
120	Layer	Fill of ditch 109. Limestone rubble up to 0.2m thick.	18th – 19th century
121	Layer	Natural. Compact dark red sand	Geological
122	Fill	Fill of pit 116. Soft dark reddish brown silty sand up to 0.3m thick.	Late 17th – 18th century
123	Fill	Fill of pit 116. Trample layer in base of pit. Firm brown silty sand up to 0.05m thick.	Late 17th – 18th century
124	Layer	Interface between layers 105 and 121. Firm reddish brown silty sand up to 0.15m thick.	Undated
125	Layer	Demolition/levelling deposit. Compact greyish brown sand, gravel, brick and stone rubble up to 0.2m thick.	Modern
Trench 2			
200	Layer	Tarmac car park surface. 0.05 – 0.1m thick.	Modern
201	Layer	Concrete base for 200. 0.2 – 0.3m thick.	Modern
202	Layer	Base for 201. Angular gravel, brick, tarmac and concrete rubble up to 0.1m thick.	Modern

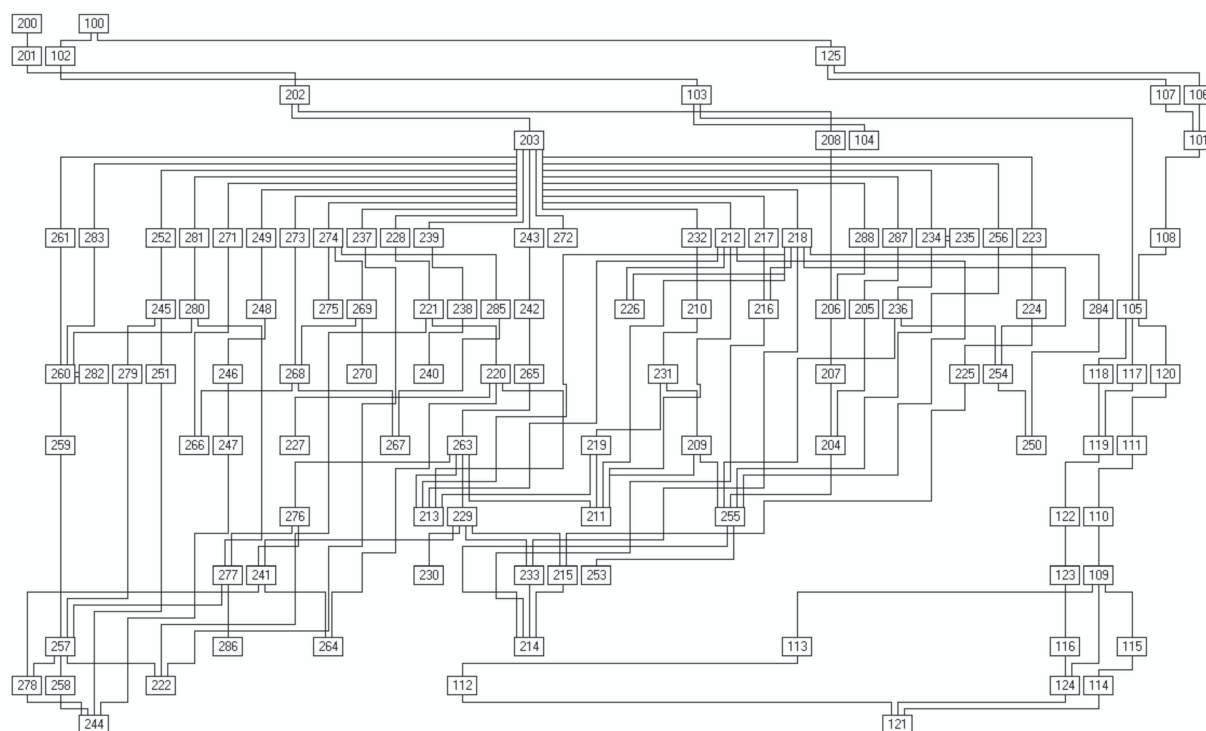
Context No.	Type	Description	Provisional Date
203	Layer	Demolition deposit and road surfacing layers. Friable brick and stone rubble covered with compacted gravel, stone rubble and clinker, 0.1 – 0.5m thick	Late 19th century
204	Layer	Road surface. Compact gravel and clinker, over 0.2m thick	19th century
205	Cut	Service trenches. N–S and NW–SE aligned linear cuts.	19th century
206	Structure	Stone-lined drain. Constructed with limestone blocks with handmade bricks (230 x 110 x 65mm) used to form a gully. SW–NE aligned. Over 7m long, 0.7m wide, with a 0.2m wide internal channel.	19th century
207	Cut	Construction cut for 206. NE–SW aligned cut with vertical sides and a flat base. Over 7m long, 0.4m wide, 0.2m deep.	19th century
208	Fill	Fill of drain 206. Firm dark grey silty clay with occasional lime mortar and stone inclusions.	19th – 20th century
209	Structure	Cobbled surface. Constructed with irregular stone cobbles bonded with a hard pale grey lime mortar with occasional small coal inclusions. 1m by 0.8m wide.	Post-medieval
210	Structure	Wall. Constructed with random un-coursed limestone blocks with occasional brick fragments, bonded with a hard lime mortar with lime and coal inclusions. NE–SW aligned 1.8m long by 0.5m wide.	Late 17th – 19th century
211	Structure	Well. Constructed with limestone blocks and brick (230 x 110 x 65mm) bonded with a soft grey lime mortar with charcoal inclusions. 1.6m by 1.3m externally by 0.9m internally.	Post-medieval
212	Structure	Wall. Constructed with random un-coursed limestone blocks with occasional brick fragments, bonded with soft grey lime mortar with lime and charcoal inclusions. NE–SW aligned 2.7m long by up to 0.9m wide. Heavily truncated.	Late 17th – 19th century
213	Structure	Wall. Constructed with random un-coursed limestone blocks with occasional brick fragments, bonded with a soft yellowish white lime mortar with lime and charcoal inclusions. NE–SW aligned 1.8m long by 0.5m wide.	Post-medieval
214	Structure	Wall and/or chimney/stair base. Constructed with random un-coursed limestone blocks, bonded with a hard creamy white lime mortar with lime and charcoal inclusions. NW–SE aligned, over 2.4m long by 1.8m wide, over 0.85m high.	Post-medieval
215	Structure	Chimney, stair or mill machinery base. Constructed with random un-coursed limestone blocks, bonded with a very pale pinkish-brown lime mortar with lime and coal/charcoal inclusions. NW–SE aligned, over 1.5m long by 0.85m wide, over 0.85m high.	Post-medieval
216	Structure	Chimney base. Constructed with random un-coursed limestone blocks, bonded with a very pale pinkish and greyish-white lime mortar with lime and coal/charcoal inclusions. NW–SE aligned, over 2m long by up to 1.2m wide, over 0.5m high.	Post-medieval
217	Structure	Hearth. Constructed with a mixture of red bricks (230 x 110 x 65mm) and yellow kiln bricks (110 x 60mm) bonded with a grey lime mortar with lime and coal/charcoal inclusions. NW–SE aligned, 0.8m by 0.8m wide.	Post-medieval
218	Structure	Stone-lined drain. Constructed with a mixture of red bricks (230 x 110 x 65mm), yellow kiln bricks (110 x 60mm) and limestone blocks, bonded with a pale grey lime mortar with lime and coal inclusions. Over 6.5m long, up to 0.7m wide externally with a 0.2m wide by 0.17m deep internal channel.	Late 18th – 19th century
219	Layer	Levelling layer. Friable grey silt, crushed mortar, and stone rubble with occasional charcoal inclusions.	Post-medieval
220	Layer	Bedding layer for 221. Compact dark brownish red silty clay with small stone inclusions.	Mid-18th – 19th century
221	Structure	Cobbled surface. Constructed with irregular stone cobbles bonded with a soft white lime mortar with occasional small charcoal inclusions. Over 3m by 2m wide and 0.2m thick.	Mid-18th – 19th century
222	Structure	Wall. Constructed with random un-coursed limestone blocks bonded with a firm white lime mortar with lime and charcoal inclusions. NE–SW aligned 1.8m long by 0.5m wide.	Post-medieval
223	Layer	Dump layer. Friable silt and crushed mortar, 0.1m thick.	Late 17th – 18th century
224	Layer	Dump layer. Firm reddish brown silty clay with crushed mortar and charcoal inclusions, 0.2m thick.	Late 17th – 18th century

Context No.	Type	Description	Provisional Date
225	Layer	Dump layer. Firm pinkish brown silty clay with rare charcoal inclusions, 0.2m thick.	Post-medieval
226	Structure	Wall or base of unidentified structure. Constructed with random un-coursed limestone blocks bonded with a firm white lime mortar with lime and charcoal inclusions. NE–SW aligned 1.2m long by over 0.2m wide.	Post-medieval
227	Layer	Dump layer. Firm brown silty clay with rare brick inclusions, 0.2m thick.	Late 17th – 18th century
228	Layer	Trample layer. Friable dark grey silty sand with occasional red mortar inclusions. Up to 0.1m thick.	Mid-18th – 19th century
229	Structure	Stone foundation/packing around beam slot. Constructed with random un-coursed limestone blocks bonded with a firm white lime mortar with lime and charcoal inclusions. NE–SW aligned, 1.2m long by over 0.2m wide.	Late 17th – 19th century
230	Layer	Dump layer. Firm brown silty clay with small angular stone, brick and lime mortar inclusions.	Post-medieval
231	Cut	Construction cut for wall 210. Linear cut with steep vertical sides. NE–SW aligned, 2m long by 0.6m wide.	Late 17th – 19th century
232	Fill	Fill of construction cut 231. Friable red silty sand and brick rubble with small angular stone inclusions.	Late 17th – 19th century
233	Structure	Wall. Constructed with random coursed limestone blocks bonded with a soft pale grey lime mortar with lime and charcoal inclusions. NE–SW aligned, 2.4m long, 0.7–0.8m wide, by over 0.3m thick.	Post-medieval
234	Structure	Flagstone floor. Constructed with Pennant Sandstone slabs (up to 0.45 x 0.55 x 0.05m thick). Over 1.1m by 0.65m wide.	Late 18th – 19th century
235	Structure	Flagstone floor. Constructed with Pennant Sandstone and Bath Stone ashlar slabs (0.3 x 0.25 x 0.05m thick). 0.95m by 0.6m wide.	Late 18th – 19th century
236	Layer	Infill deposit. Friable dark brown and black silty sand with occasional small angular stone inclusions	Late 18th – 19th century
237	Structure	Wall. Constructed with limestone blocks bonded with a firm yellowish lime mortar. NW–SE aligned, over 0.4m long, over 0.09m wide by over 0.15m thick.	Post-medieval
238	Cut	Pit or posthole. Semi-circular cut adjacent to wall 222. 0.6m by 0.45m wide.	Post-medieval
239	Fill	Fill of pit/posthole 238. Friable dark greyish black silty sand and clinker with small angular stone inclusions.	Post-medieval
240	Layer	Dump layer. Compact dark orangey brown clay with occasional angular stone, mortar and red brick inclusions.	Post-medieval
241	Structure	Foundation for mill machinery. Constructed with random un-coursed limestone blocks bonded with a firm pale grey lime mortar. NE–SW aligned, 3.1m long, over 0.42m wide by over 1m thick.	Late 17th – 19th century
242	Structure	Rectangular structure. Constructed with red bricks (230 x 110 x 60mm) and angular limestone blocks bonded with a firm yellowish grey lime mortar. NE–SW aligned, 0.5m by 0.55m wide by 0.15m thick with 0.11–0.24m thick walls.	Late 17th – 19th century
243	Fill	Infill of structure 242. Friable black silty sand and clinker with occasional small angular stone inclusions. 0.15m thick.	Late 17th – 19th century
244	Layer	Millpond dam. Compact redeposited natural orangey brown clay. Over 5.5m by over 2m wide and over 1m thick.	Undated
245	Structure	Wall. Constructed with limestone blocks bonded with a white lime mortar with charcoal and lime inclusions. NE–SW aligned, 2.3m long, 0.5m wide by over 0.31m thick.	Post-medieval
246	Structure	Rectangular structure. Constructed with large Pennant Sandstone and limestone blocks bonded with grey lime mortar. NE–SW aligned, 0.9 by 0.5m wide by 0.2m thick.	Post-medieval
247	Cut	Construction cut for structure 246. Rectangular cut with steep straight sides. NW–SE aligned, 0.9 by 0.5m wide by 0.2m thick.	Post-medieval
248	Cut	Pit. Rectangular cut. NE–SW aligned, 0.8 by 0.55m wide by 0.2m thick.	Post-medieval
249	Fill	Pit fill. Friable black silty sand with gravel, angular stone and clinker inclusions.	Post-medieval

Context No.	Type	Description	Provisional Date
250	Structure	Wall. Constructed with limestone blocks bonded with a pale grey lime mortar with dark (coal/charcoal) and lime inclusions. NE–SW aligned, over 1.4m long, 0.4–0.45m wide by over 0.5m thick.	Late 18th – 19th century
251	Cut	Construction cut for wall 245. Rectangular cut. NE–SW aligned, 2.4m long by 1.25m wide.	Post-medieval
252	Fill	Fill of construction cut 251. Friable red silty sand with angular stone inclusions.	Post-medieval
253	Structure	Wall. Constructed with limestone blocks bonded with a pale pinkish grey lime mortar with dark (coal/charcoal) and lime inclusions. NW–SE and N–S aligned, over 2m long, 0.6m wide by over 0.5m thick.	Post-medieval
254	Structure	Wall. Constructed with limestone blocks and red bricks (110 x 70mm) bonded with a pale grey lime mortar with dark (coal/charcoal) and lime inclusions. NW–SE aligned, over 1.4m long, 0.65m wide by over 0.5m thick.	Late 18th – 19th century
255	Structure	Wall. Constructed with limestone blocks and occasional red brick fragments bonded with a pale pink lime mortar with sparse dark (coal/charcoal) and lime inclusions. N–S, NW–SE & SE–NW aligned, 4.5m long, 0.65m wide by over 0.5m thick.	Post-medieval
256	Structure	Wall. Constructed with limestone blocks bonded with a pale grey lime mortar with dark (coal/charcoal) and lime inclusions. NE–SW aligned, over 0.55m long, 0.37m wide by over 0.2m thick.	Post-medieval
257	Structure	Retaining wall incorporating stone-lined drain. Constructed with limestone blocks bonded with a soft reddish orange mortar with lime inclusions. NE–SW aligned, 4.1m long, 1.2m wide by over 0.6m thick.	Post-medieval?
258	Cut	Construction cut for structure 257. Linear cut with steep sides, over 2.2m long by over 0.6m deep.	Post-medieval?
259	Structure	Retaining wall. Constructed with limestone and large yellow sandstone blocks bonded with a hard grey and cream coloured lime mortar with charcoal and lime inclusions. NE–SW aligned, 4m long, 1m wide by over 0.3m thick.	Post-medieval
260	Structure	Wall defining edge of head race. Constructed with limestone blocks bonded with a hard grey and cream coloured lime mortar with charcoal and lime inclusions. NE–SW aligned, over 3.5m long, 0.4–0.6m wide by over 0.35m thick.	Late 17th – 19th century
261	Structure	Lining of head race. Constructed with stone bonded with a soft grey and mortar with charcoal and lime inclusions. NE–SW aligned, over 2.5m long, and over 0.3m wide.	Late 17th – 19th century
262		Number not used	
263	Layer	Infill deposit. Friable to firm pinkish white and yellow lime mortar fragments with angular stone inclusions. 4m by 3m wide, over 0.8m thick.	Late 17th – 19th century
264	Structure	Wall. Constructed with limestone blocks bonded with a pale grey lime mortar with dark (coal/charcoal) and lime inclusions. NE–SW aligned, 1.6m long, 0.7m wide by over 0.2m thick.	Post-medieval
265	Cut	Construction cut for structure 242. NE–SW aligned, 0.5m by 0.55m wide by 0.15m deep rectangular cut with vertical sides and flat base.	Late 17th – 19th century
266	Structure	Retaining wall. Constructed with limestone blocks bonded with a pale reddish pink mortar with lime inclusions in the lower and E edge of the wall with yellowish grey lime mortar with sparse charcoal and dark gritty inclusions in the rest of the structure. N–S aligned, over 2.6m long, 1.5m wide by over 1m thick.	Post-medieval?
267	Structure	Cutwater. Constructed with limestone blocks bonded with a yellowish grey lime mortar with sparse charcoal and dark gritty inclusions. NE–SW aligned, over 5.1m long, by over 1.7m wide and over 0.8m thick.	Post-medieval?
268	Structure	Millpond dam. Constructed with limestone blocks bonded with a pale grey lime mortar with coal inclusions. NW–SE aligned, 2.2m long, by 2.1m wide and over 0.4m thick.	Post-medieval
269	Structure	Addition to millpond dam. Constructed with limestone blocks bonded with a soft pale grey lime mortar with coal inclusions. NW–SE aligned, 3.2m long, by 0.75m wide and 0.5m thick.	Post-medieval

Context No.	Type	Description	Provisional Date
270	Structure	Lower 'step' of millpond dam. Constructed with limestone blocks bonded with a soft grey lime mortar with lime and coal inclusions. NW–SE aligned, 2.2m long, by 2.1m wide and over 0.4m thick.	Post-medieval
271	Structure	Addition to millpond dam. Constructed with limestone blocks bonded with a soft pale grey lime mortar with coal inclusions. 0.4m by 0.4m wide and 0.2m thick.	Post-medieval
272	Layer	Dump layer. Firm dark grey silty sand with common mortar and small angular stone inclusions.	Post-medieval
273	Layer	Infill deposit of dam 268. Firm dark grey silty clay with stone inclusions. 1m by 0.7m wide.	Post-medieval
274	Layer	Alluvial fill of millpond. Soft dark grey clay with sparse wood, brick, bone, ceramic and glass inclusions. Extensive layer, 1.2m thick.	19th century
275	Layer	Alluvium. Soft reddish brown clay.	Undated
276	Structure	Foundation for mill machinery. Constructed with random un-coursed limestone blocks bonded with a firm pale grey lime mortar. NW–SE aligned, 1m long by 0.48m wide.	Late 17th – 19th century
277	Structure	Foundation for mill machinery. Constructed with random un-coursed limestone blocks bonded with a firm pale grey lime mortar. NE–SW aligned, 3m long by 0.5m wide.	Late 17th – 19th century
278	Structure	Wall. Constructed with random un-coursed limestone blocks bonded with a pale pink lime mortar. NE–SW aligned, 1m long by 0.85m wide.	Post-medieval?
279	Structure	Blocking of an opening in wall 222. Constructed with random un-coursed limestone blocks bonded with an orangey pink lime mortar. NW–SE aligned, 1.05m long by 0.6m wide by 0.5 high.	Post-medieval?
280	Structure	Wall/foundation for mill machinery and end of cog pit. Constructed with random un-coursed limestone blocks bonded with a hard pale grey lime mortar with coal and occasional brick inclusions. NE–SW aligned, 1.2m long by 1m wide.	Late 17th – 19th century
281	Structure	Wall/foundation for mill machinery and side of cog pit. Constructed with random un-coursed limestone blocks bonded with a hard pale grey lime mortar with coal and occasional brick inclusions. NE–SW aligned, Over 2.5m long by 0.5m wide.	Late 17th – 19th century
282	Structure	Wall defining edge of head race and/or wheel pit. Constructed with random un-coursed limestone blocks bonded with a hard pale grey lime mortar with coal and occasional brick inclusions. NE–SW aligned, Over 1m long by 0.5m high.	Late 17th – 19th century
283	Structure	Wall defining edge of wheel pit and cog pit. Constructed with handmade bricks (230 x 65–70mm) bonded with a hard pale grey lime mortar with coal and lime inclusions. NE–SW aligned, Over 1.5m long by over 0.6m high.	Late 17th – 19th century
284	Layer	Infill deposit. Friable reddish grey silty sand and crushed mortar with occasional mortar and angular stone inclusions. Over 1m by over 0.5m wide.	Late 18th – 19th century
285	Structure	Infill of slot in cutwater 276. Constructed with limestone blocks bonded with a pale grey lime mortar with black (coal/charcoal) and lime inclusions. 0.2m by 0.2m wide by over 0.5m high.	Post-medieval
286	Structure	Wall. Constructed with random un-coursed limestone blocks bonded with a pale grey lime mortar. NW–SE aligned, over 0.15m long by 0.7m wide.	Post-medieval?
287	Fill	Fill of service cut 205. Compact black clinker and silty sand with occasional angular stone and brick inclusions.	19th century
288	Fill	Fill construction cut 208. Compact black clinker and silty sand with occasional angular stone and brick inclusions.	19th century

APPENDIX 3: Site matrix



APPENDIX 4: Ceramics quantified by context

Context	No.	Bristol Pottery type (BPT)	Fabric	Form	Date range
105	1	96	SSOM	-	1550 - 1900
	1	108	NDFW	Colander	1650 - 1900
	1	112	NDGT	-	1600 - 1900
111	3	32	HGR	-	1150 - 1350
	1	46	BATHA	-	1050 - 1350
	1	46	BATHA	Jar	1050 - 1350
	2	72	BR	-	1275 - 1500
	1	96	SSOM	-	1550 - 1900
115	1	46	BATHA		1050 - 1350
119	1	26	HG	Jug	1150 - 1250
220	1	99	TGW	-	1640 - 1800
	1	112	NDGT	-	1600 - 1900
224	3	96	SSOM		1550 - 1900
227	1	264	Local red earthenware	-	1700 - 1900
	1	310	sugar mould	-	1650 - 1820
236	3	264	Local red earthenware	-	1700 - 1900
	2	326	CREA	-	1765 - 1830
	1	349	PEAR	-	1780 - 1900
Total	26				

APPENDIX 5: Animal bone quantified by context

Context	No.	Description
111	1	Distal end of Sheep/goat metatarsal with un-fused epiphysis
	1	Sheep/goat atlas
	10	Unidentified medium mammal bones, most with butchery cut marks
115	1	Sheep/goat tooth
118	1	Sheep/goat mandible
Total	14	

APPENDIX 6: Clay tobacco pipes quantified by context

Context	No.	Bowl type	Description
111	1	-	Stem
118	1	-	Spurred bowl fragment 1690 - 1750
224	1	-	Stem
	1	BRST 9	Heeled bowl 1660 - 1690
	1	BRST 15	Spurred bowl 1690 - 1740
227	1	-	Stem
	1	BRST 12	Spurred bowl 1680 - 1710
236	1	-	Stem
Total	8		

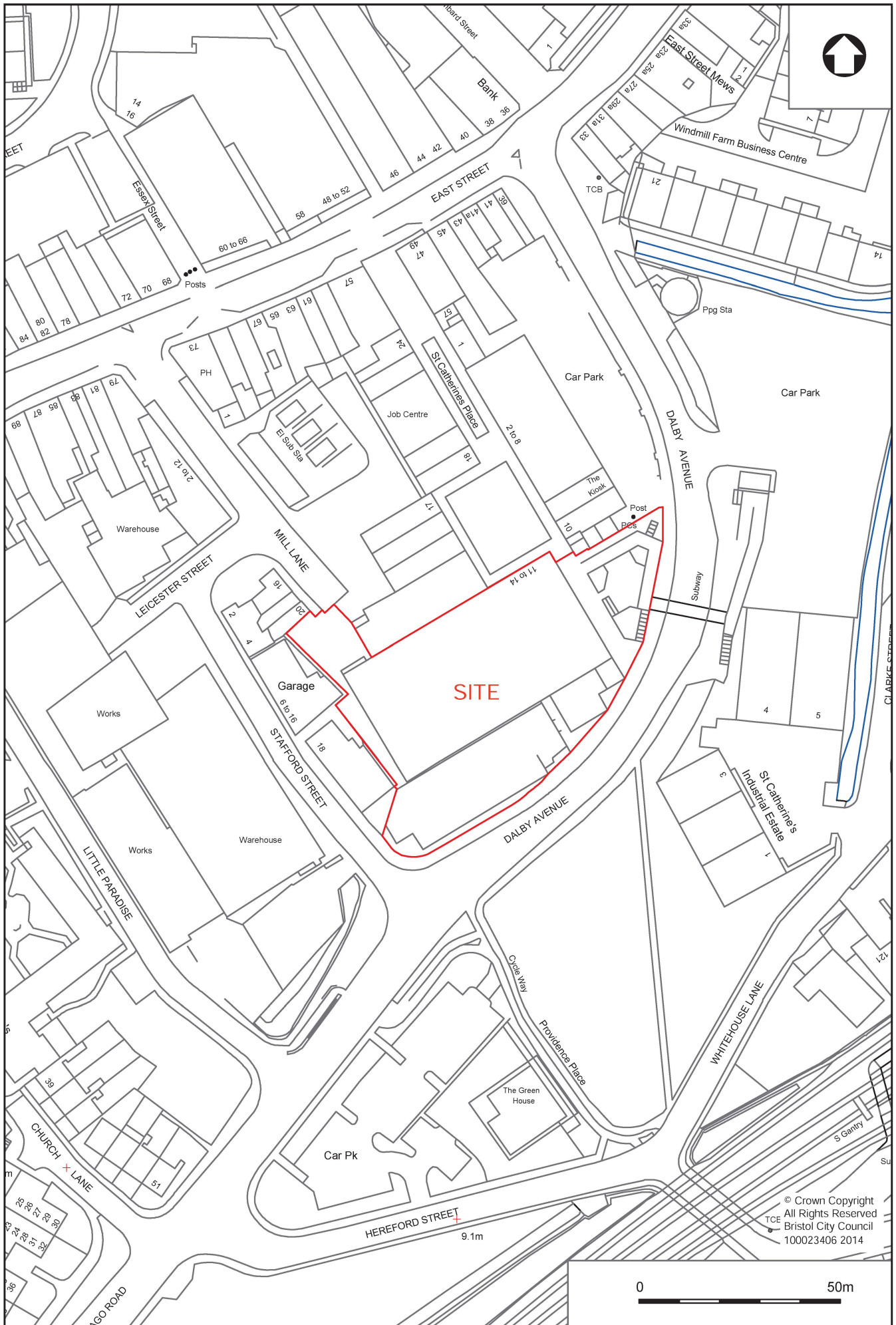


Fig.1 Site location plan, scale 1:1500



Fig.2 Site plan, showing trench locations and significant structures in relation to buildings and watercourses depicted on Plumley and Ashmead's plan of 1828

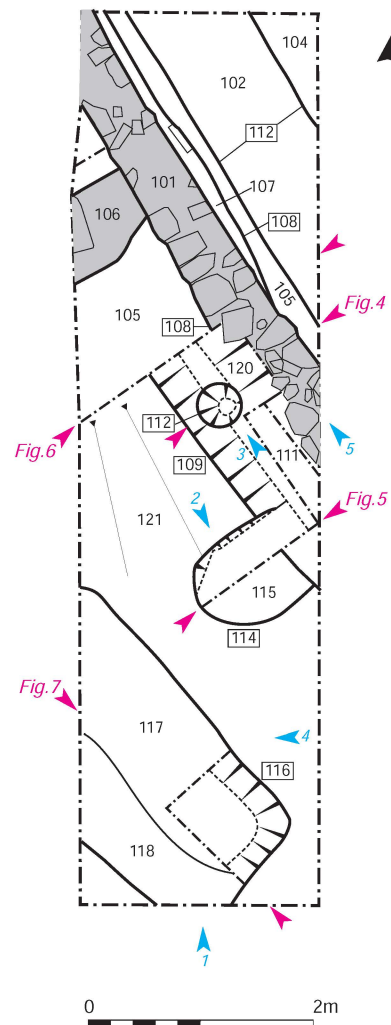


Fig.3 Plan of Trench 1, showing plate directions (in blue)

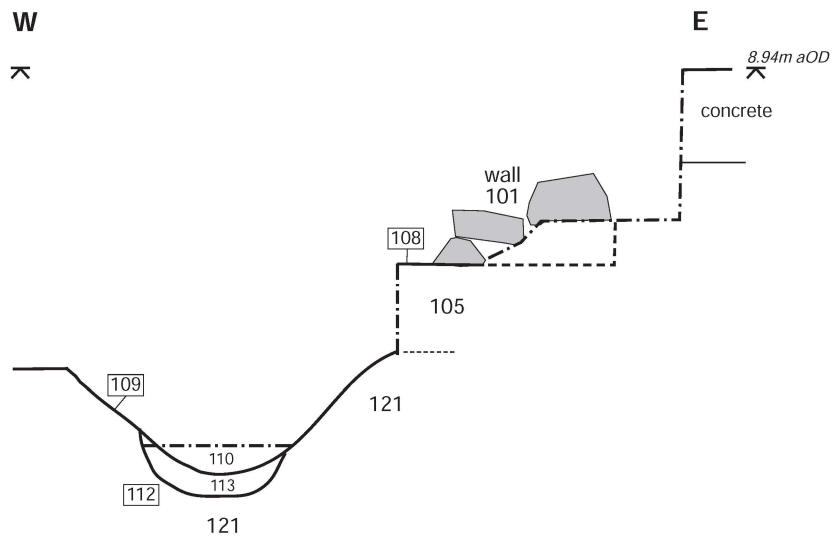


Fig.4 Section across posthole 112 and wall 101, scale 1:20

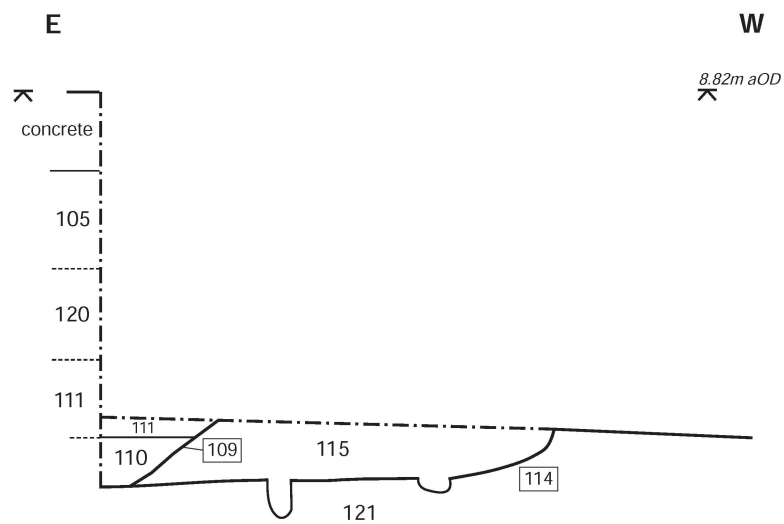


Fig.5 Section across pit 114 and ditch 109, scale 1:20

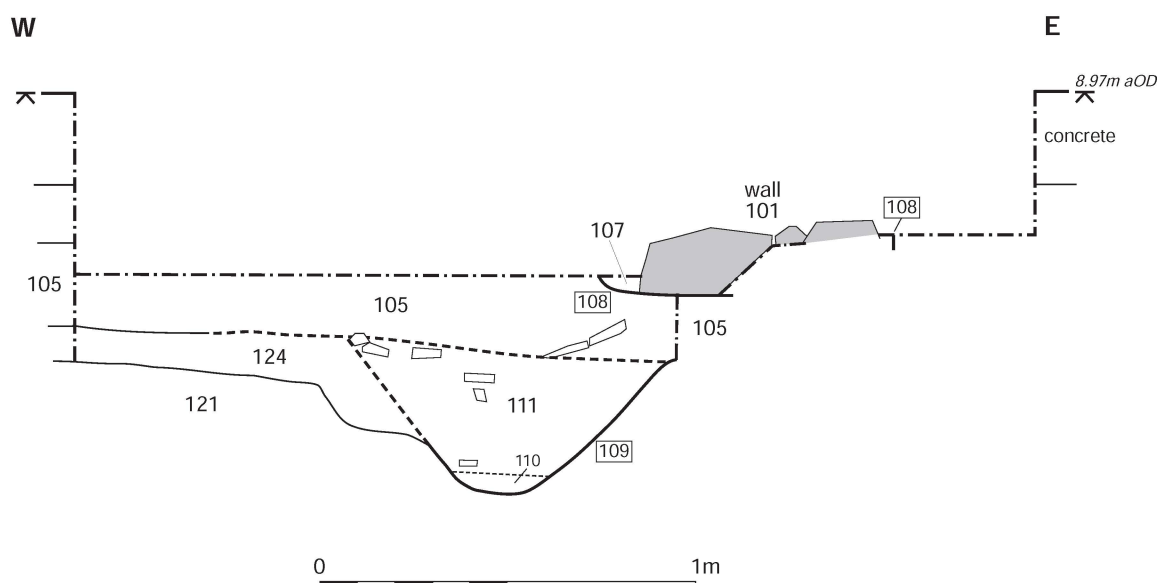


Fig.6 Section across ditch 109 and wall 101, scale 1:20

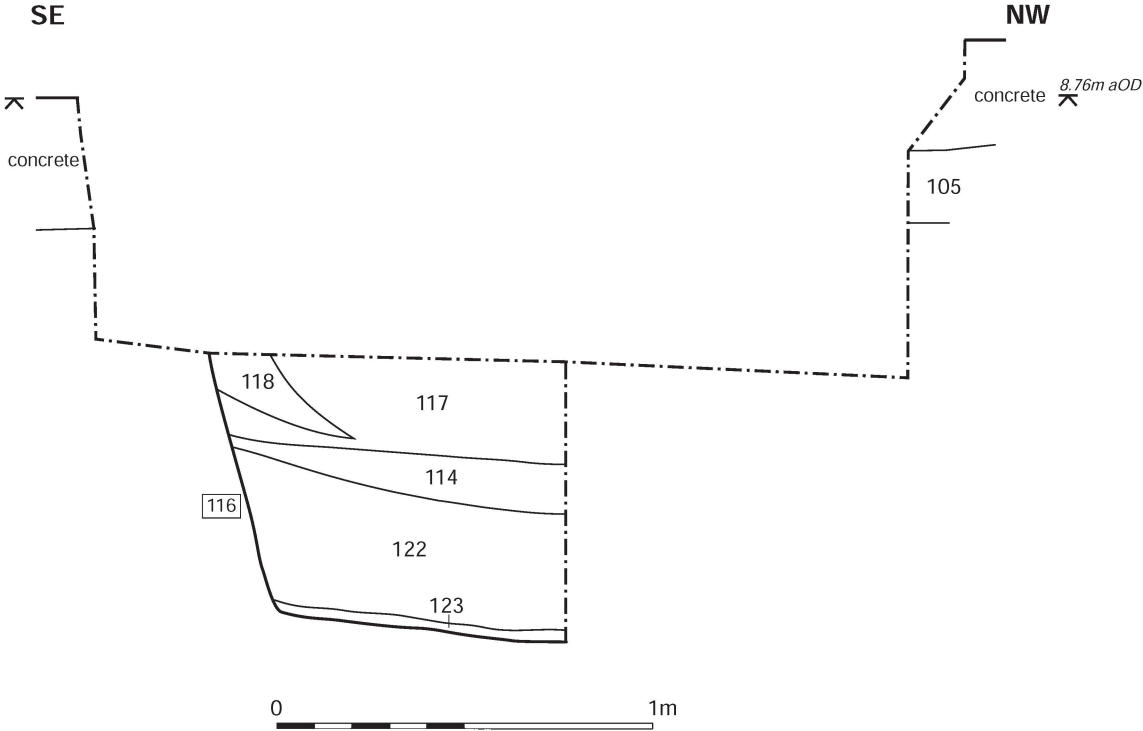


Fig.7 Section across pit 116, scale 1:20

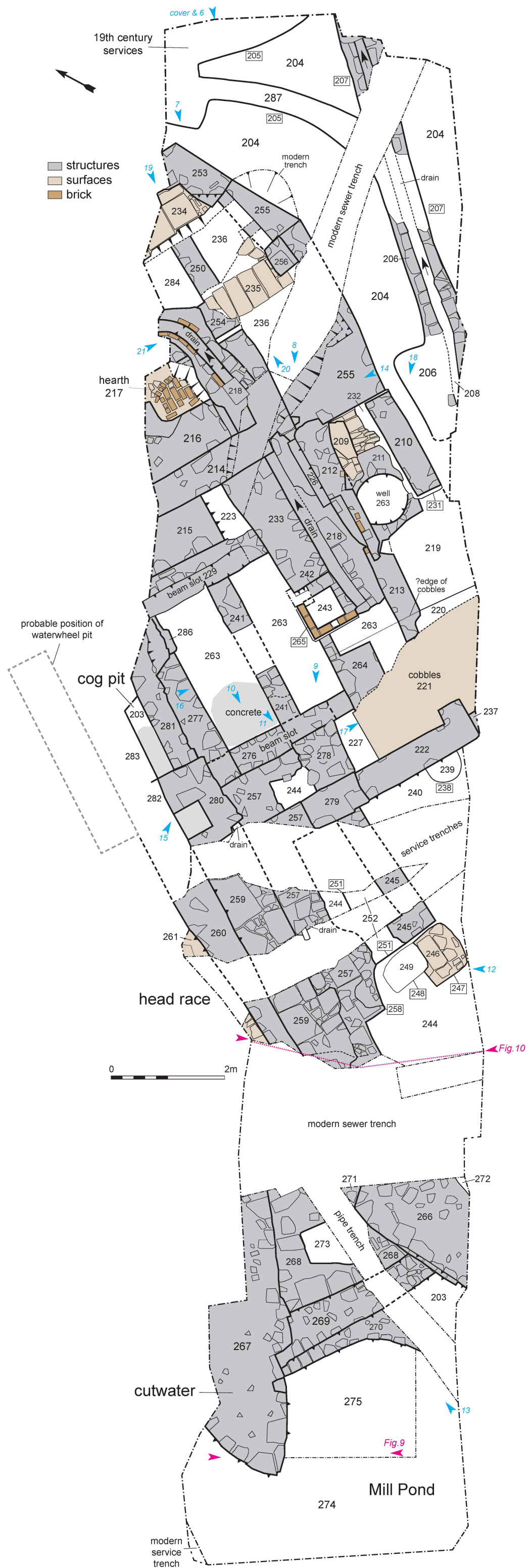


Fig.8 Plan of Trench 2, showing plate directions

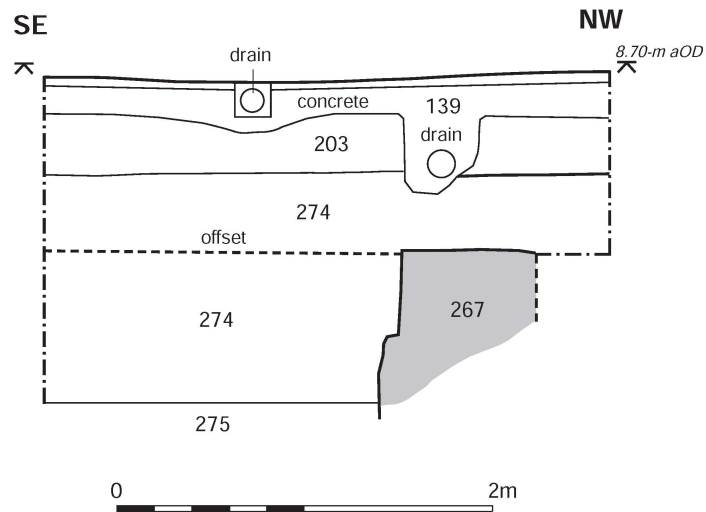


Fig.9 Section across millpond and cutwater 267, scale 1:40

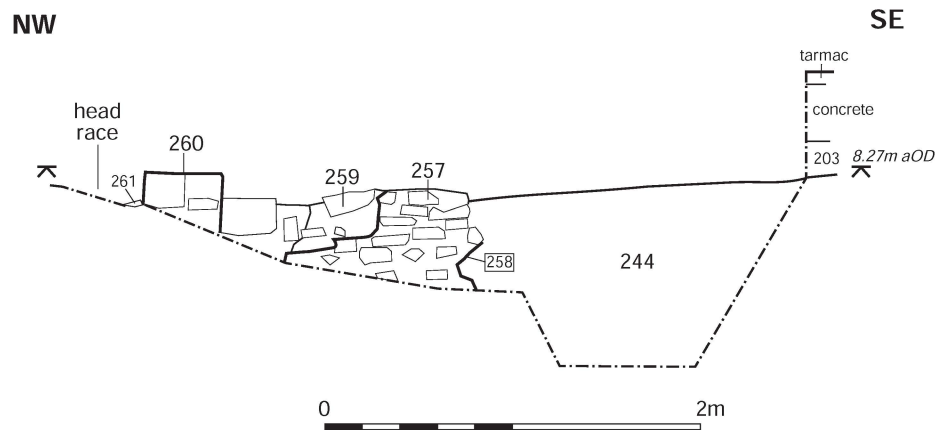


Fig.10 Section across structures 257-61, scale 1:40



Plate 1 Trench 1, looking north



Plate 2 Trench 1, looking south-east, showing pit 114



Plate 3 Trench 1, looking north-west, showing ditch 109 and posthole 112



Plate 4 Trench 1, looking west, showing pit 116



Plate 5 Trench 1, looking north-west, showing wall 101



Plate 6 Trench 2, looking south-west



Plate 7 Trench 2, looking south-west (north-east end)



Plate 8 Trench 2, looking south-west (central area)



Plate 9 Trench 2, looking south-west (south-west end)



Plate 10 Trench 2, looking south (central area)



Plate 11 Trench 2, looking south, showing detail of walls 222, 257 & 278-9



Plate 12 Trench 2, looking north, showing detail of structures 245-6, 257, 259 & 260



Plate 13 Trench 2, looking north, showing structures 266-71



Plate 14 Trench 2, looking north-west, showing detail of structures 214-7 & 255



Plate 15 Trench 2, looking east (central area)



Plate 16 Trench 2, looking south-east, showing structures 233, 242, 229, 241, 264 & 276-7



Plate 17 Trench 2, looking south-east, showing cobbled surface 221



Plate 18 Trench 2, looking west, showing cobbled surface 209 & walls 210 & 255



Plate 19 Trench 2, looking south-west, showing floors 234-5, wall 250 & drain 218



Plate 20 Trench 2, looking north-east, showing floors 234-5, walls 250, 253 & 255 & drain 218



Plate 21 Trench 2, looking south-east, showing floor 235, walls 250, 253 & 255 & drain 218