5401759: Essential Repair Works to a collapsed sewer, 5 Burton Street, Bath

A programme of Archaeological Monitoring and Recording





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for

Wessex Water Plc

by



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Contents

Non-technical summary	i
Introduction	1
Site location and topography	1
Methodology	3
Results	3
The finds	8
Discussion and conclusions	9
Archive	10
COAS acknowledgements	11
Bibliography	11
endices	
Appendix 1. Context summary	12
strations	
res	
Plate 2. TP1 Walls (105) (106) (107) (from E; 1m scale)	4 5 5 5 5 7 7 7 9 9
	Appendix 1. Context summary



Non-technical summary

Context One Archaeological Services (COAS) carried out a programme of archaeological monitoring and recording during urgent groundworks relating to essential repair works on a collapsed sewer at 5 Burton Street, Bath (the 'Site'), over 14 days between 15 April and 1 May 2013. The project was commissioned by Wessex Water plc under a Term Agreement with COAS.

The Site lies within the boundaries of the World Heritage site of the City of Bath. Sections of the scheduled medieval City wall survive at 50m either side of the Site as well as scheduled Roman remains on Upper Borough Walls road.

Significant archaeological features were uncovered during the works. A test pit at the southern end of Burton Street exposed three walls, one of which appears to be Roman while the other two are likely to be post-medieval. A possible Roman buttress is located within the bounds of the Roman town and shares the same alignment as the northern town boundary which is thought to have been located c. 10m to the north. Two possible post-medieval walls, one of which may relate to a building, were located c. 5m north of the medieval City wall and, as such, are extramural. A second test pit confirmed the presence of cellars at the northern end of Burton Street, extending our knowledge for the existence of Georgian cellars in this area.

Tentative interpretation is offered for the structural remains in relation to the known Roman town and medieval city boundaries, street layout and extant cellar structures. However, owing to the limited nature of the investigations the remains are best viewed as isolated sections of walling and/or buildings. With the exception of the small quantity of Roman artefacts, the finds assemblage is representative of a typical background scatter of urban material.



1. Introduction

- 1.1 Context One Archaeological Services Ltd (COAS) carried out a programme of archaeological monitoring and recording during groundworks relating to essential repair works on a collapsed sewer at 5 Burton Street, Bath (the 'Site'), over 14 days between 15 April and 1 May 2013. The project was commissioned by Wessex Water plc under a Term Agreement with COAS.
- 1.2 The monitoring programme was requested by Mr Roderick Millard (Historic Environment Officer, Bath & North East Somerset (B&NES) City Council), following a consultation request from Ms Natalie Doran (Environmental Scientist, Wessex Water) on the potential archaeological impact of the scheme. In an email to Ms Natalie Doran on 04 April 2013, Mr Millard stated:

"Although we do not have it on the HER, the Ordnance Survey records the line of the city wall (parts of which are scheduled: http://list.english-heritage.org.uk/resultsingle.aspx?uid=1007017) passing along the south side of the building, and we have records of sections of the city wall surviving within 50m to either side of the property. There are also Roman remains recorded on both sides of Upper Borough Walls, the closest of which were found at the North end of Cotswold Way (~17m South East of Burton Street).

Given the depth of the shaft, I would recommend archaeological monitoring (watching brief) to ensure that the manhole does not impact any surviving sections of the wall."

1.3 The programme of archaeological works comprised four elements: the production of a Written Scheme of Investigation (WSI) which set out the project strategy; monitoring and recording during development groundworks; post-excavation and report production; and archive deposition. The WSI was approved by Mr Millard on 04 April 2013 prior to the commencement of any Site works.

2. Site location and topography

2.1 The Site (centred on NGR ST 74984 64923) comprised two test pits located at either end of Burton Street, Bath (**Figure 1**). Burton Street itself lies in the centre of Bath, a World Heritage Site and is situated c. 192m north-west of the Roman Baths, c. 215m north-west of Bath Abbey and c. 192m west of the River Avon. The Site is largely situated on level ground at an average height of c. 37m above Ordnance Datum (aOD).



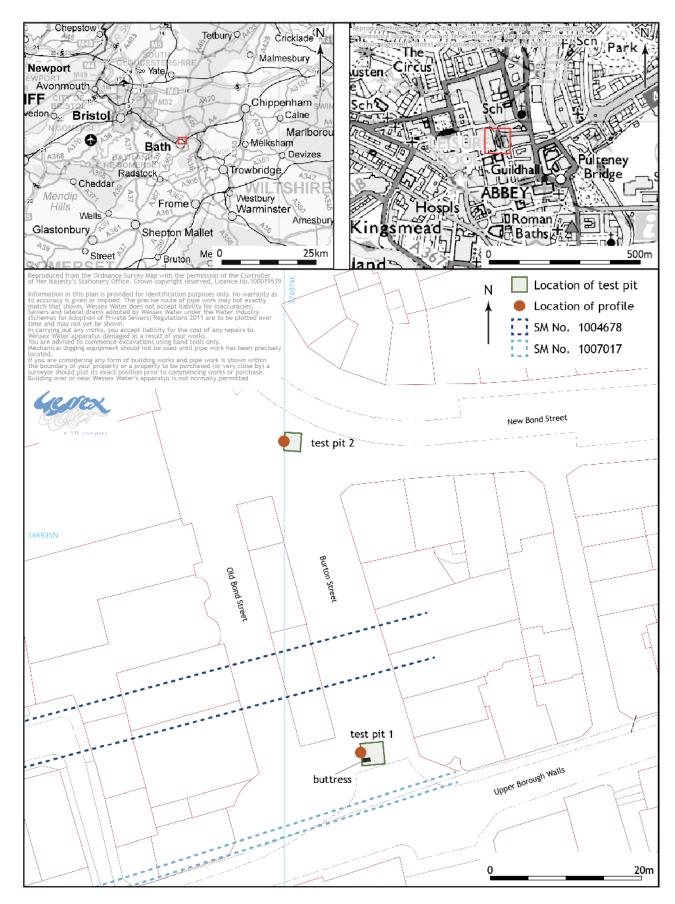


Figure 1. Site setting



3. Methodology

Development groundworks methodology

3.1 Two test pits were excavated by machine (and when required by hand) to locate and build a manhole access chamber over a collapsed sewer pipe. The first test pit (TP1) was abandoned following the discovery of significant archaeological features and a second test pit (TP2) opened at the north end of Burton Street. A tracked 360 degree machine was used with a variety of toothless buckets. TP1 measured c. 3m square and was excavated to a depth of 3m. TP2 measured c. 2.2m square and was excavated to a depth of c. 1.7m deep.

Archaeological methodology

- 3.2 Excavation of the test pits was monitored for archaeological features/deposits. It was necessary to monitor the works to ensure that any underlying archaeological features/deposits were identified and adequately recorded. The presence of cellars beneath TP2 was anticipated and this was confirmed at an early stage in the excavations. Following consultation with Mr Millard (Historic Environment Officer, B&NES City Council) it was decided that a full building recording survey would be carried out so that the cellars could be removed in order to reach the blocked sewer pipe.
- 3.3 The structural remains encountered were cordoned off to permit investigation and recording using COAS *pro-forma* masonry sheets and drawn on dimensionally stable media at scales of 1:20 (plans) and 1:10 (elevations). Stratigraphic relationships were recorded using a "Harris-Winchester matrix" diagram.
- 3.4 Profile sections of the deposit sequence above the structural remains were recorded using standard COAS *pro forma* profile sheets to illustrate the soil morphology. Each profile was recorded as a graphical representation accompanied by a brief description. A photograph including a suitable scale was also taken and the location recorded (see **Figure 1**). Any dateable material found within a deposit was collected. The frequency with which profile sections were recorded was based entirely on any variation of the deposit sequence.
- 3.5 A photographic record of the work was prepared and involved the use of digital images. This included shots of the excavated area, individual features and working shots to illustrate the nature of the archaeological operation mounted.
- 3.6 All deposits were recorded as individual contexts and ascribed a unique number. Contexts referenced in this report are presented in standard terms, e.g. (100), (203).
- 3.7 All finds collected during the course of archaeological monitoring were removed from Site for processing in preparation for assessment and archiving/discard. All finds recovered from the monitoring programme excluding metalwork, have been washed, air-dried and bagged in preparation for assessment. Finds have been retained pending any further analysis which may be required as part of any analytical report/publication work. Upon completion of this final element of the archaeological programme of works, the Site landowner will be contacted with a request to transfer the title of all retained finds to the Roman Baths Museum & Pump Room with the option of returning them to him/her as legal owners of the assemblage. The full cost for museum deposition will also presented to the landowner at this stage. Should the Site landowner wish to donate the finds to the Roman Baths Museum & Pump Room and pay for their deposition, a request will be made to the Museum to issue a discard policy on the retained finds. Once a retention strategy has been agreed, all remaining finds will be marked with a reference number (BATRM 2013.14), in preparation for deposition with the museum according to their prevailing Deposit Guidelines.

4. Results

Soil Sequence and Geology

4.1 The observed soil and make up deposits recorded in both test pits were broadly similar in composition and depths. The uppermost levels to a depth of c. 1.0m comprise pavement slabs (100) (200) overlying reinforced concrete (101) (201) above modern bedding sand (102) (202). Between



- c.1.0m-1.5m was a mixed modern levelling deposit (103) (203) and beneath this a similar deposit (104) measuring more than 1.0m deep. Cutting through these modern layers were numerous service pipes at a variety of depths and angles.
- 4.2 No geology was observed in either test pit, where the maximum depth attained was 3.0m within TP2.

Archaeological Features Test Pit 1

- 4.3 A series of three walls were revealed in TP1 beneath modern deposit (104) comprising one wall (106) aligned west-south-west to east-north-east and two walls (105) (107) aligned north-north-west to south-south-east and abutting either side of wall (106) (Figure 2; Plate 2). Two distinct construction techniques and building materials were represented between the two differently orientated walls.
- 4.4 Wall (106) was located approximately 0.9m below the modern paving slabs and was constructed of oolitic limestone ashlar blocks varying in size from 0.2m x 0.3m x 0.2m to 0.6m x 1.0m x 0.6m (Plate 3). The wall measured 0.6m wide and was exposed to a depth of 1.0m although it continued beneath the base of the trench. The east facing elevation was an exposed face and diagonal criss-crossing chisel tool marks were visible on one ashlar block (Plates 3 & 4). The bedding joints were almost flush although some soft sandy bonding material was observed in places. A groove and hole in the upper surface of the largest stone may be indicative of an iron or lead clamp to join the stone to its neighbour, although damage to the stone (perhaps from the removal of the postulated clamp) makes this uncertain (Plate 5). The upright stone with the tooling marks may possibly have been chamfered although the angled slope may have resulted from damage (Plate 3). The north and south elevations are obscured by the two later abutting rubble walls (105) (107) (Plate 6).
- 4.5 Walls (105) (107) do not share the same alignment, with wall (107) set slightly further west than wall (105) which is approximately aligned with the southern end of wall (106). The bonding material for both walls was a hard, light grey charcoal flecked mortar which was also employed for the thick mortar cap above wall (107) (Plates 6 & 7). Both walls employed blue lias rubble which for wall (107) was coursed rubble (Plate 7). The construction of wall (105) was not determined from the small quantity of exposed masonry, although the blue lias rubble was overlain by two flat oolitic ashlar blocks which may represent paving (Plate 8).



Plate 1. Gen Site Shot TP1 (from S)



Plate 2. TP1 Walls (105) (106) (107) (from E; 1m scale)





Plate 3. TP1 Wall (106) with diagonal tool marks (from E; 0.5 m scale)



Plate 4. Close-up of diagonal tool marks on wall (106) (from E; 0.5m scale)



Plate 5. Hole and groove in surface of wall (106) (from above; 0.2m scale)



Plate 6. TP1 Walls (105) (106) (107) (from N; 0.5m scale)



Plate 7. TP1 Wall (107) (from E)



Plate 8. TP1 Wall (105 (from E; 0.2m scale)



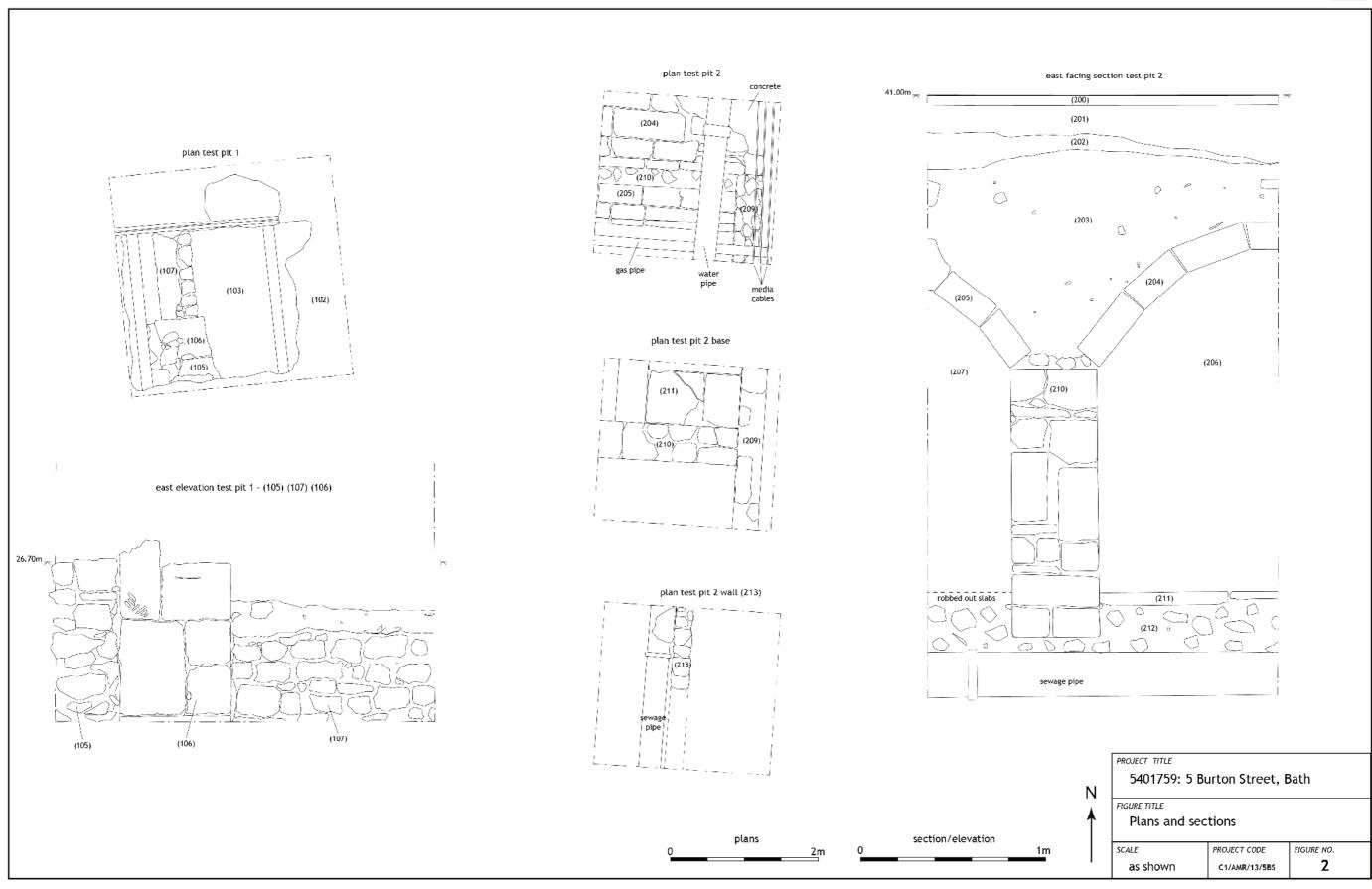


Figure 2. Plans and sections





Plate 9. TP2 Cellar vaults (204) (205) (from N; 1m scale)



Plate 10. TP2 Cellar vaults (204) (205) (from E; 1m scale)



Plate 11. TP2 Base of cellars showing walls (210) (209) and floor (211) (from W; 1m scale)



Plate 12. TP2 Wall (213) and sewage pipe at base of trench (from S; 0.5m scale)

Test Pit 2

- 4.6 Two largely intact identical vaulted cellars were uncovered in TP2 at a depth of c.0.8m beneath the mixed modern levelling deposit (203). The full dimensions of the cellars could not be established during the investigation however within the confines of the test pit they measured 1.95m long with a width of 0.6m for the south cellar (205) and 1.0m for the north cellar (204) (Figure 2). Aligned approximately west-north-west to east-south-east, the barrel vaults (204) (205) were constructed of regularly sized Bath Stone ashlar blocks measuring on average c. 0.6m x 0.4m x 0.2m (Plates 9 & 10). These were truncated in places by the cutting through of various modern services, the stones having been dislodged and in some cases redeposited above the water pipe. The vaults sprang from two c. 0.45m-0.5m thick walls (209) (210) measuring c. 1.4m high and constructed of uneven courses of Pennant and Bath Stone bonded with a hard grey mortar (Plate 11). Wall (209) represented the eastern, back wall of both cellars whereas wall (210) was the internal partition wall between the two cellars (Plate 11). The floor of the northern cellar retained some Pennant and Bath Stone flagstones (211) measuring c.1.0m x 1.0m. This overlay a compacted stony levelling deposit (212) at a depth of 2.75m, continuing to the maximum depth of excavations at 3.0m. Both cellars had been backfilled (206) and (207).
- 4.7 The sewage pipe ran beneath the stony levelling deposit (212) and is located slightly west of the water main shown in **Figure 2** although on the same north to south alignment. A narrow wall (213) measuring c. 0.25m wide ran alongside the sewage pipe and in places directly overlay the pipe (**Plate 12**). The wall was constructed from stone rubble and bonded with soft grey charcoal flecked mortar, and may have been built to support and protect the sewer pipe from the substantial cellar structures above.



5. The finds

- 5.1 A small assemblage totalling 193 artefacts was recovered from the two test pits. With the exception of four possible Romano-British artefacts comprising two fragments of worked stone, a fragment of painted wall plaster and a piece of carved stone, the assemblage is dominated by mass produced post-medieval and modern material. This comprises pottery, ceramic building material (CBM), glass, metal objects, clay tobacco pipe fragments, animal bone and shell. The assemblage was recovered from various modern backfill and levelling deposits and is of limited value. No further work is merited beyond their discussion in this report.
- 5.2 The small pottery assemblage (76 sherds) is entirely post-medieval or modern in date. The assemblage is dominated by domestic earthernwares (including slipwares), tin glazed earthernwares and incised scraffito decorated vessels. Other fabrics observed are transfer printed whiteware and a fragment of a dark blue glazed whiteware with a heavily applied white floral decoration similar to the Capidomonte tradition from context 104.
- 5.3 Five fragments of handmade ceramic building material (CBM) were collected, all of which appear to be roof tiles.
- 5.4 A total of 25 shards of post-medieval/modern glass were recovered, the majority of which are from bottles although the bases of 2 glasses are also present. A shard of bottle glass from context 203 appears to have a mortar like substance adhered to it.
- 5.5 A single piece of twisted copper alloy wire was collected from context 212 and is thought to be the remnants of a fastener of unknown date. Two large iron rivets were recovered from the backfill (206) of the northern cellar (204).
- 5.6 The small assemblage of clay tobacco pipe fragments comprised 13 pipe stems and 4 bowl fragments. It is possible to identify one pipe maker from an impressed maker's mark on the foot of a pipe bowl from context 203. This pipe was produced by John Hunt (JOHN HVNT) and dates from c. 1660-80.
- 5.7 Fifty six fragments of animal bone and seven oyster shells were recovered. The oyster shells and all but three of the bone fragments can be related to butchery and consumption with some bone clearly displaying butcher's marks. Two fragments of bone from context 206 retained copper alloy rivets and a series of regularly spaced holes which represent the head of a brush.
- 5.8 A small piece of carved sheep or goat bone was recovered from context 104. The carving is towards the epiphyses and comprises two incised lines with an X cross in between (**Plate 13**). The carving is not sufficiently diagnostic to be able to provide a date.
- 5.9 A small piece of painted wall plaster was recovered from context 203 and is probably Roman. The fabric of the plaster is cream coloured with sparse tiny quartz fragments. A small patch of coarser grey plaster with large charcoal fragments adheres to the back and the thin white render has traces of light red paint.
- 5.9 The two fragments of architectural stonework from context 104 are of Bath Stone, one of the major types of freestone used to provide important architectural elements for Roman public buildings across the region. Its properties as a freestone made it particularly suitable for capitals, columns, bases and stylobates. The small capital comprises a square abacus at the top narrowing to a small circular base (Plate 14). The upper surface measures 105mm wide and 80mm deep while the circular base measures 50mm in diameter, the capital standing 111mm high. The flat back indicates it was positioned against a wall as opposed to forming part of a free-standing arcade (Plate 15). A round hole measuring 25mm deep and 25mm in diameter is positioned in the centre of the top surface near the back with four radiating diagonal setting-out lines still visible (Plate 16). The capital is simply carved with a groove beneath the square abacus, followed by shallow convex and concave mouldings with another groove above the base. Although the base is slightly broken the presence of some diagonal chisel marks indicate this was original and that the capital is virtually complete. Traces of white render survive with a tiny patch of pale orange paint. The small segment of a round column



measures 50mm in diameter although this splays out to 60mm. The upper and lower parts are broken however it measures 50mm high and there are no traces of tooling marks or render.





Plate 13. Carved bone (10cm scale)



Plate 15. Bath Stone capital showing flat back, upside down (10cm scale)



Plate 16. Bath Stone capital showing fixing hole and setting-out lines (10cm scale)

6. Discussion and conclusions

6.1 The test pits exposed structural remains comprising three walls in TP1 and two cellar structures in TP2, backfilled and overlain by a series of mixed modern levelling deposits underlying the modern paving. The absence of archaeological deposits limits the precise dating of the structures, although broadly speaking the walls within TP1 are likely to date to the Roman and medieval periods, whereas the cellars in TP2 are typical of the Georgian period.



- 6.2 The wall (106) discovered in TP1 represents the eastern terminal of a buttress measuring more than 1.0m in length although no adjoining wall was encountered within the test pit. The buttress shares the same alignment as the northern extent of the Roman town (Scheduled Monument 1004678), extrapolated from known remains to the west. The line of the remains is projected on **Figure 1** indicating that the buttress falls within the Roman town, c. 10m south of the northern extent. A Roman date is suggested for the buttress on the basis of construction technique and wide diagonal tooling on one block. Although tooling marks are not a reliable dating technique with stone working tools changing little until modern times, the criss-cross pattern is perhaps more characteristic of Roman stone dressing techniques as opposed to Saxon or medieval. The stone may have been re-used in a later wall however the bedding joints are almost flush with very little mortar observed within the joints. In conjunction with the large blocks employed for the wall this provides more convincing evidence of a Roman date. It is likely that the buttress relates to a substantial stone building or wall located within the Roman town and the recovery of two fragments of carved stone and one fragment of painted plaster from the test pit may support this.
- 6.3 Walls (105) (107) are clearly much later, flanking the end of the Romano-British buttress (106). The mortar employed is more typical of the medieval to post-medieval period and the walls share the same alignment as Burton Street suggesting they are relics of the current street layout. The walls relate to separate structures with the possible paving above wall (105) perhaps indicating a building as opposed to a boundary wall. Located c. 5m north of the medieval Bath city wall (Scheduled Monument 1007017), and therefore outside of the city as depicted on the John Speed map of 1611, it is concluded that the remains relate to post-medieval expansion to the north of the medieval settlement.
- 6.4 The two cellars in TP2 at the northern end of Burton Street do not coincide with any of the cellars shown on a map of old cellars covering the area. Similarly, the first edition 1886 Ordnance Survey map does not show any properties in this location indicating that they relate to earlier structures. The cellars were similar in form to Georgian cellars still extant in the locality and therefore are likely to date to this period. The orientation of the cellars is more akin to the extant properties on the eastern side of Burton Street as opposed to the closer properties on the north side of New Bond Street. This provides a glimpse into the possible street and property layout prior to 1886.
- 6.5 In conclusion, the excavation of both test pits have identified structural remains which are likely to date to the Roman, post-medieval and Georgian periods. Some tentative interpretation is offered in relation to the known Roman town and medieval City boundaries, street layout and extant cellar structures. However, owing to the limited nature of the investigations the remains are best viewed as isolated sections of walling and/ or buildings. With the exception of the small quantity of Roman artefacts, the finds assemblage is representative of a typical background scatter of urban material.

7. Archive

7.1 The project archive is currently held by COAS and consists of the following:

Item	Number	Format	
Profile record sheets	2	Paper	
Masonry record sheets	9	Paper	
Photographic register	6	Paper	
Sketch plans	2	Paper	
Day record sheets	4	Paper	
Digital images	236	.JPG	
A3 scale drawings	3	Permatrace	
A4 scale drawings	3	Permatrace	

- 7.2 The paper archive has been scanned as a single file in .PDF format and will form part of the physical Site archive to be deposited with Roman Baths Museum & Pump Room.
- 7.3 Copies of this report will be deposited with the client and included as part of the Somerset Historic



Environment Record.

8. COAS acknowledgements

8.1 We would like to thank the following for their contribution to the successful completion of this project:

Natalie Doran, Environmental Scientist, Wessex Water Rodrick Millard, Historic Environment Officer, Bath & North East Somerset (B&NES) City Council Richard Sermon, Senior Archaeological Officer, Bath & North East Somerset (B&NES) City Council Timothy Coldwell, Wessex Water Derek Rowe, Bath & North East Somerset Council

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Appendix 1: Context summary

CONTEXT NO.	PERIOD	TYPE	DESCRIPTION	EARLIER THAN	CONTEMP. WITH	LATER THAN	LENGTH	WIDTH/ DIAMETER	THICKNESS/ DEPTH
100	Modern	Layer	Pavement slabs	-	-	101	-	-	0.05m
101	Modern	Layer	Tarmac	100	-	102	-	-	0.05m
102	Modern	Layer	Reinforced concrete	101	-	103	-	-	0.35m
103	Modern	Layer	Yellow sand	102	=	104	-	-	0.15m
104	Modern	Layer	Mixed backfill	103	-	105,106, 107	-		Min 1m
105	Post Med	Wall	Lias stone wall	104	107	106	-	0.5m	Min 0.88m
106	Roman	Wall	Bath Stone ashlar wall terminal	105, 107			c.1m	0.55m	Min 0.95m
107	Med-Post Med	Wall	Lias stone wall	104	105	106	-	0.5m	Min 0.65m
200	Modern	Layer	Pavement slabs	-	-	201	-	-	0.05m
201	Modern	Layer	Reinforced concrete	200	-	202	-	-	Max 0.3m
202	Modern	Layer	Yellow sand	201	=	203	-	-	Max 0.2m
203	Modern	Layer	Mixed backfill	202	=	204	-	-	Max 1.15m
204	Georgian	Vault	Northern vault	203	205	209, 210	-	Min 1m	0.7m
205	Georgian	Vault	Southern vault	203	204	209, 210	-	Min 0.6m	0.55m
206	Modern	Layer	Mixed backfill within northern cellar	-	=	204	-	-	1.85m
207	Modern	Layer	Mixed backfill within southern cellar	-	-	205	-	-	1.65m
208	Modern	Layer	Yellow sand	203	-	205	-	-	0.25m
209	Georgian	Wall	Back wall of both cellars	-	204,205,2 10,211	-	-	0.45m	1.20m
210	Georgian	Wall	Central partition wall of both cellars	-	204,205,2 09,211	-	-	0.5m	1.45m
211	Georgian	Surface	Bath Stone and Pennant Stone surface	-	204,205,2 09,210	209, 210, 212	-	-	0.12m
212	Post Med	Layer	Compacted stoney levelling deposit	211	-	213	-	-	0.25m
213	Post Med	Wall	Narrow wall alongside sewer pipe	212	-	-	-	0.25m	Min 0.3m