

RAPID APPRAISAL OF ENGINEERING IMPACT

(for Bristol Water)

Avon Street

St Philip's

Bristol

NGR: ST 5961 7283 – ST 5967 7281

JOB N^o: BA1308BWASSP



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Report specification

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Executive Summary

This Rapid Appraisal of available archaeological and historical sources concerning the route of a proposed mains renewal scheme by Bristol Water, stretching for 70m along Avon Street in central Bristol, has reached the following conclusions regarding the extent and significance of the archaeological resource within the area in question.

- There is a lack of recorded evidence for any archaeological sites or events in the area of Avon Street prior to the 17th century. It appears that the study area lay within a tract of marshland known as St Philip's Marsh, which remained undeveloped ground used for agricultural or horticultural purposes before the early stages of the 18th century.
- The potential for encountering evidence of prehistoric, Roman or medieval archaeology has been assessed as **Low**, reflecting the paucity of evidence within the archaeological record for occupation features or deposits assigned to these periods.
- There is, however, significant evidence for post-medieval (mainly industrial) activity in the vicinity. By the early 1740s, both sides of Cheese Lane (modern Avon Street) were heavily built up with a mixture of commercial premises, warehouses and artisan dwellings. Cartographic records provide evidence for the presence of a brickyard, distillery, glassworks and a school located at least partially within the radius of the search, and the few archaeological investigations that have taken place have discovered quantities of waste products from the industries, particularly from the glassworks.
- In the wider area of Avon Street, other businesses, such as a major soap works and an iron foundry, also existed (the structure housing the former being a Grade II listed building).
- Owing to the location of the site in the vicinity of the river Avon, there is potential for waterlogged deposits containing palaeoenvironmental remains to be encountered; however, these are likely to be sealed by substantial deposits of made ground associated with post-medieval buildings and subsequent modern demolition/landscaping activity.

Conclusion and Recommendations:

There is **Moderate** potential for encountering archaeological evidence of post-medieval building and industrial activity (such as from the glass and brick production) in the locality of the pipeline route. However, any extant remains are likely to have been heavily truncated by modern road construction work and service trenching.

It appears unlikely that any significant earlier features or deposits would be uncovered.

Due to the limited extent and shallow depth of the proposed groundworks (and the likelihood of encountering significant deposits of made ground of post-medieval/modern date), it is probable that no significant archaeology will be revealed in this particular area.

On this basis, Border Archaeology consequently recommends that no archaeological observation of groundworks is necessary; however, this will be subject to consultation with Bob Jones, City Archaeologist, Bristol City Council.



1. Introduction

The route of the proposed water mains scheme extends along the N side of Avon Street, in the St Philip's area of central Bristol (NGR: ST 5961 7283 – ST 5967 7281). The section of pipeline runs for 70m, approximately 110m to the NE of Temple Bridge (*fig. 1*). Much of the route stretches along the course of the road adjoining the southern edge of an area of hardstanding used as a car park, and finishes just beyond the junction to the road named Providence Place.

The proposed engineering methodology consists of sliplining (requiring the excavation of small access pits approximately 1m deep) for the installation of a 90mm diameter pipe.

This Rapid Appraisal constitutes a rapid trawl of archaeological databases and other readily available sources of historical and archaeological information (where deemed appropriate) to identify whether a proposal has a potential archaeological dimension requiring further clarification.

The following sources were consulted in the preparation of this Rapid Appraisal:

Evaluation and study of archaeological databases

A search was made of the Bristol Historic Environment Record for any sites of archaeological or historic interest within a 100m corridor (50m on either side of the pipeline route).

Evaluation and study of secondary sources

Secondary sources relating to the study area were consulted, including the *Transactions of the Bristol and Gloucestershire Archaeological Society*, in addition to reports concerning archaeological work carried out in the area.

Evaluation and study of cartographic and other pictorial evidence

Several map sources were consulted, including John Rocque's 1742 map of Bristol, the Ashmead maps of 1828, 1855 and 1874, and historic OS maps, in order to collect information regarding the existence and location of historic sites within the study area. Digital copies of these maps were accessed using Bristol City Council's website <http://maps.bristol.gov.uk/knowyourplace/>, and <http://www.old-maps.co.uk>. Aerial photographs from 1946 and 2012 were also consulted.

Soils and Geology

The entire study area is classed as unsurveyed in the Soil Survey of England and Wales (SSEW, 1983); however, previous geotechnical investigations in Avon Street have established that the ground conditions consist of made ground overlying estuarine alluvium, comprising alluvial silts and clays, which overlies Triassic sandstones, siltstones and mudstones (Lloyd-Sweet, 2007, 23).

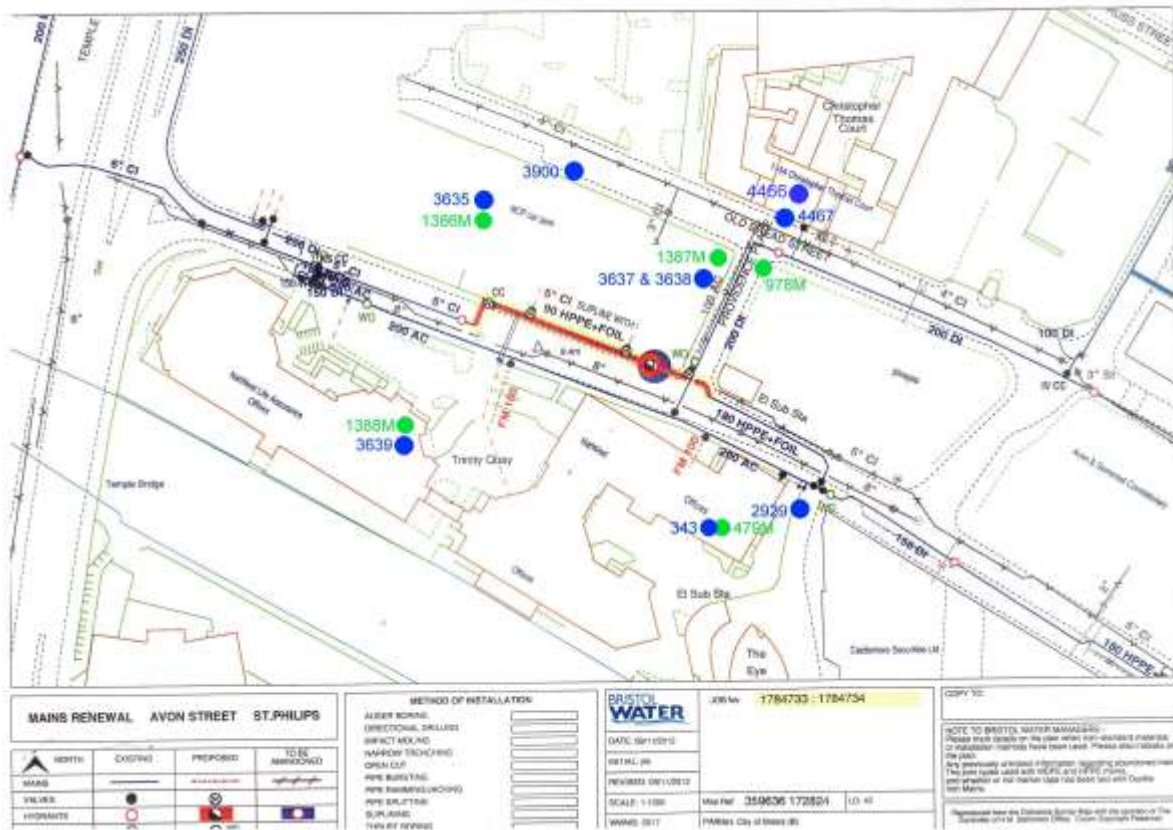


Fig. 1: Plan showing route of proposed water mains scheme on Avon Street, Bristol, with the locations plotted of the monuments (green) and events (blue) as listed by the Bristol HER (Reproduced by courtesy of Bristol Water).

<u>HER Record No.</u>	<u>NGR</u>	<u>Description</u>
479M	ST 59708 72778	Phoenix Bottle Works (West Cone) – Glass furnace/cone, to the SW of Avon Street. Part of Phoenix Bottle Works in 1828. Archaeologically excavated in 1988-9.
978M	ST 59677 72852	Brickyard, Old Bread Street. Recorded on Rocque’s 1742 map. No firmly defined boundary for yard.
1386M	ST 59617 72858	Bristol Distilling Company Ltd. Storehouses, S side of Old Bread Street, close to distillery itself on south of Cheese Lane/modern Avon Street. Noted on 1st Ed. OS map.
1387M	ST 59666 72845	School, Old Bread Street (S side). On 1st Ed. OS map of 1883, noted as being ‘for boys and girls’.
1388M	ST 59593 72806	Bristol Distilling Company Ltd. Located on S side of Cheese Lane/modern Avon Street. Noted on 1st Ed. OS map of 1883. Comprised offices, machine shop, spirit stores, boilers, storehouses (1386M) and cooperage.
343	ST 59710 72760	1988-9 archaeological excavation on site of Powell and Ricketts glass works on southern Avon Street revealed the remains of two factories (Hoopers’ and Soapboilers, later Powell and Ricketts). Included evidence of glass cones/furnaces, annealing ovens and annealing arch..

2929	ST 59700 72768	Rocque's plan of Bristol (1742) depicts two glasshouses to the S of Cheese Lane/modern Avon Street.
3635	ST 59617 72857	1st Ed. OS map (1883) records buildings of Bristol distillery (the storehouses) on S side of Old Bread Street.
3637	ST 59666 72846	1st Ed. OS map (1883) records a boys' home at No. 4 Broad Plain.
3638	ST 59666 72846	1st Ed. OS map (1883) records school (boys and girls) on S side of Old Bread Street, on W side of Providence Place.
3639	ST 59593 72806	1st Ed. OS map (1883) records buildings of Bristol distillery to S of Cheese Lane/modern Avon Street.
3900	ST 59636 72868	Archaeological evaluation (2002) (6 trenches) of car parks to N and S of Old Bread Street revealed structural features and deposits dated to 17th century onwards. Most features and deposits date to 19th century, but SW section of site was large amount of 20th century ground. Evidence for basements along S of Old Bread Street and N Avon Street. Overall archaeological stratified deposits well preserved.
4466		Watching brief undertaken between August 2007 and April 2008 at Old Bread Street revealed structural foundations of 1860s soapworks building as well as footings of earlier building possibly recorded on Ashmead's plan of 1828
4467	ST 59687 72859	Programme of archaeological building recording in 2008 (including phased floor plans, elevations and photographic recording) at Old Bread Street, focussing on the 1882-3 extension of former soap works buildings.
25020	ST 59685 72867	1999 desk-based assessment of former Bristol Hardware Building (Old Bread Street). Research identified that the site remained undeveloped pasture land until the brickyard (shown on Rocque's map of 1742) constructed. Residential buildings and gardens on site between 1828 and 1870.

Table 1: Monuments and events listed in the Bristol HER in the vicinity of the pipeline route.

2. Summary Assessment

The route of the proposed water mains scheme extends for approximately 70m along the N side of Avon Street in the St Philip's area of Bristol, terminating just beyond the road junction onto the road known as Providence Place.

Prehistoric

A search of the Bristol Historic Environment Record yielded no known evidence for archaeology relating to the prehistoric period in the area of Avon Street.

Roman

Consultation of the Bristol Historic Environment Record relating to Bristol contained no known evidence for any archaeology relating to the Roman period in the immediate locality of Avon Street.

Medieval

Consultation of the Bristol Historic Environment Record yielded no actual recorded evidence for archaeological remains of medieval date within the vicinity of Avon Street. The area of St Philip's Marsh lay to the E of the town, beyond what is thought to have been the extent of the medieval settlement of Bristol (Ponsford *et al.*, 1989, 244). A map by Smith, dating to 1568, shows the area devoid of any development and it appears that the area remained in use primarily as undeveloped marsh and pasture until the late 17th / early 18th century.

Post-Medieval

The majority of archaeological evidence for this area dates from the post-medieval period. Archaeological investigation in St Philip's Marsh, within which Avon Street is located, is very limited and therefore has not been able to contribute greatly to the understanding of the area's topography and development. Based on the available evidence and Millerd's maps of 1673 and 1715, it seems that the character of the area was still primarily agricultural at the start of the 18th century, with documentary sources suggesting a scattering of buildings (although it is not clear whether these were for agricultural or domestic purposes), and the initial focus of industrialisation being on the banks of the river Avon. Agricultural or horticultural use was typical for much of the land on the fringes of the city at this time and Avon Street (then called Cheese Lane) was no exception; there are references to remaining gardens backing on to the lane in 1740 (Brett, 2005, 198).

Although the St Philip's Marsh area appears to have been used for pasture and horticulture before industrial activity in the area began, it is clear that Avon Street (although then known as Cheese Lane) had already been laid out by the late 17th century. Millerd's plan dating to 1673 shows the area to the N of the street as undeveloped meadow and the later Millerd map of 1715 depicts a cone-shaped structure in the same area, which may be representative of an early brick kiln. This could be an early structure relating to the brickyard shown on Rocque's 1742 map of Bristol.

There still, however, appears to be a limited number of historically important sites situated within 50m on either side of the proposed pipeline route on Avon Street. Cartographic sources (dating from 1742 to the present) provide evidence for a large distillery, glassworks, a brickyard, a public house and a school lying at least partially within the search area in question here, albeit at different stages of the period. Towards the periphery of this search area, several further sites existed, including soap



works and the Atlas works, in addition to smaller sites such as a smithy and public house on Old Bread Street. An iron foundry dating to the mid-1800s and fuel works and oil stores from c.1900, were also located in the vicinity of Avon Street, although lying to the W of the area under consideration here.

The production of glass was a large industry in Bristol, with window and bottle glass being the main output, although drinking vessels made from clear or lead glass were also produced. The development of glass production in the city appears, from archaeological evidence, to have increased rapidly towards the end of the 17th century (Brett, 2005, 156) and the area of St Philip's Marsh seems to have followed this trend. Rocque's 1742 map illustrates that the area was already fairly heavily built up with commercial premises by this time (showing the rapid development that had taken place since the earlier Millerd maps) and shows the presence of glassworks, including three large coal-fired furnaces, situated adjacent to the northern riverbank. The two western furnaces were originally known as Soapboiler's glasshouses and are thought to have been in operation in the years between 1715 and c.1824 (Lloyd-Sweet, 2007, 14). The earlier of these seems to have been constructed by a soap-making business which built a furnace to produce bottles using the leftover residue from their soap production, with the second furnace, built for the manufacture of crown glass, being in use by 1742. Both these furnaces are shown on the 1828 Ashmead map as having belonged to the Phoenix Bottle Works (the third to Cookson's Bottle Works).

The westernmost of the glass furnaces was the subject of archaeological excavation in 1988-9 (HER No. 479M; HER Event No. 343). Finds include what is thought to have been part of the regenerative furnaces dating from the 1860s, several annealing ovens and an annealing arch, in addition to large amounts of glass-bottle waste, plaster moulds, crucibles, cullet and stamped brick. According to Rocque's 1742 map, there was a dumping-ground belonging to the glassworks immediately adjacent to the northernmost cone, seemingly on the site of the early brick kiln depicted on Millerd's 1673 map (Lloyd-Sweet, 2007, 14), and an excavation in 2002 comprising six trenches in the car parks to the N and S of Old Bread Street discovered substantial amounts of glass cullet from the factory (HER Event No. 343).

Rocque's map also shows the existence of a large brickyard to the N of Avon Street (which was the largest industrial site in the St Philip's area during the 18th century), the produce from which was at this time a relatively new and high-status building material. Although the boundary of the brickyard is unclear, the site clearly comprised of brickfields and a probable clay pit known as 'Brick Yard Pool', in addition to the brickyard itself to the E. Rocque's map depicts two buildings adjoining Cheese Lane, perhaps used for the drying of bricks before they were fired, although it is unclear whether these structures were definitely connected to the brickyard.

Research for a desk-based assessment undertaken in 1999 (HER Event No. 25020) of the former Bristol Hardware Building on Old Bread Street concluded that, prior to the existence of the brickyard as depicted by Rocque, the site consisted only of undeveloped pasture. By the time of Ashmead's 1828 map, the yard appears to have been replaced by residential buildings and gardens until the large Soap Works expanded southwards to front Old Bread Street prior to the 1874 plan. These Soap Works buildings (now a warehouse) were given Grade II Listed status in 1966. An archaeological watching brief undertaken on the site of the former Christopher Thomas Soap Works building on the N side of Old Bread Street in 2007-8 revealed evidence of the foundations of the rear of the soapworks, built in the 1860s, together with the footings of an earlier building possibly identifiable with a structure marked in this location on Plumley and Ashmead's map of 1828. All the structural remains appeared to truncate a mixed layer of clay and rubble overlying the natural red mudstone that was recorded at a depth of 1.7m below the existing ground surface (Corcos, 2008).



Cartographic evidence also shows that, by 1828, a distillery (belonging to Bristol Distilling Company Ltd.) stood to the S of Avon Street, the storehouses of which were situated across the road in the area between Cheese lane and Old Bread Street. According to the Goad Fire Insurance Plan of 1896, the distillery also owned a cooperage to the east of these storehouses. The offices and machine shop belonging to the business will have fronted onto Avon Street, with the boilers and spirit stores located further back, closer to the riverbank (HER No. 1388M). By 1951-2, the site of the former distillery buildings to the S of Avon Street had been occupied by a yeast factory.

Ashmead's map of 1855 shows the location of a school to the N of Avon Street adjacent to the junction between Old Bread Street and Providence Place. The school was built for the area's expanding population in the late 19th century (Brett, 2005, 199) and is depicted on the OS 1st edition 1:500 plan of Bristol dated 1885. According to the OS 1st edition map, there was also an adjacent boys' home at No. 4 Broad Plain. The school and its immediate environs were damaged by bombing in 1940, a map of the area dated 1951-2 marks the building directly adjacent the school as a ruin.

Based on analysis of aerial photographs and OS mapping ranging in date from 1946 to 2012, it is clear that the character of the area has changed greatly during this time. The glassworks had been demolished by 1946 and much of the terraced housing in the area of Old Bread Street was cleared between 1955 and 1970 (Lloyd-Sweet, 2007, 21).

There does not appear, from an RAF photograph of the study area dated 1946, to have been any substantial damage due to wartime bombing in the immediate study area. However, many of the buildings present on both the 1946 aerial photograph and the County Series 1:2500 map of 1951-2 appear to have been demolished by the late 20th century. An aerial photograph of the study area dated 2012 shows the area between Avon Street and Old Bread Street as completely devoid of buildings. However it is worth noting that the Grade II listed buildings constructed for the Soap Works on the N side of Old Bread Street are still in existence.

3. References

Bristol City Historic Environment Record.

Brett, J. R., 2005, *Bristol Urban Archaeological Assessment*, English Heritage.

Corcus, N., 2008, *Archaeological Watching Brief of land at The Old Soapworks Building, Old Bread Street, St Philip's, Bristol*, BaRAS Report 1823/2008

Lloyd-Sweet, R., 2007, 'Appendix 12.1 Archaeological Assessment' in *The Waterfront Temple Quay, Bristol: Environmental Survey, Vol. 1, Technical Assessment*.

Ponsford, M. *et al.*, 1989, 'Archaeology in Bristol 1986-89', *Transactions of the Bristol and Gloucestershire Archaeological Society*, Vol. 107, 243-251.

SSEW, 1983: *Soil Survey of England and Wales*, Silsoe.

Cartography

Digital copies of historic maps were consulted using Bristol City Council's website <http://maps.bristol.gov.uk/knowyourplace/>, and <http://old-maps.co.uk>. All other maps were consulted using the collections at Bristol Record Office.

William Smith's Map of Bristol – 1568.

James Millerd's Plan of Bristol – 1673.

James Millerd's Plan of Bristol – 1715.

John Rocque's Plan of Bristol - 1742.

Plumley and Ashmead's Plan of Bristol – 1828.

Ashmead's Plan of Bristol – 1855.

OS 1st edition 1:500 plan of Bristol – 1885

OS 1st edition 25 inch map - 1886

Goad Fire Insurance Plan – 1896.

OS 2nd edition 25 inch map - 1903

OS provisional edition 25 inch map – 1951-2

Aerial Photography

Vertical aerial photographs dated 1946, 1971, 1999 and 2012 were consulted.