

The River Ver and Abstraction by Andy Webb, August 2024

Chapter 1: Source

We can only surmise whether our ancestors in pre-history had the knowledge and civic cohesion to be able to sink wells into the local chalk strata to provide themselves with easy access to fresh water. Perhaps this was the case for the population of the pre-Roman settlement that existed on the south-western side of King Harry Lane – the “first” St Albans. Sinking deep vertical shafts and extracting water to the surface may have been impossible at that time. More likely was that water would be transported up from the River Ver itself, at the ford at what we now know as St Michael’s Bridge.

Similarly, following the establishment of the Roman town of Verulamium, nearer the river and centred around a “Central Enclosure” of the pre-Roman Verlamion (“the place above the marsh”), these age-old subsistence water-collecting methods continued. Certainly it is notable that there is no evidence of water-wells from archaeological excavations.



Top/Settling Lake, Verulamium Park, drained and desilted, dry Summer/Autumn (2nd October 2005)

However, later in the Roman period there is evidence of the beginning of systematic abstraction from the river itself. Aerial photographs show a possible aqueduct leading from the Ver at Redbournbury, following a course towards the Chester Gate of the Roman city (now on Gorhambury Drive) and possibly on to a central point at the Monumental Arch in the administrative and civic centre of Verulamium (the area occupied today by St Michael's Church/School and Verulamium Museum).

The water conducted here would have somehow been “gathered” for individuals and water-carriers to collect and distribute to homes and workshops - a number of stone “water basins” have been

found nearby. It also appears that some of the water was siphoned into wooden pipes to provide flowing water to some of the buildings, perhaps those on a similar (or lower) contour level to the aqueduct itself - water-pipe junction collars have been discovered during excavations. From the central point/s excess water would presumably have been allowed to flow away, channelled along what is now St Michael's Street, back to the river at the ford, and that from other buildings (including latrines) conducted via more pipes to the marsh below the city wall.

Although the resident population of Verulamium was not particularly large (estimated at c.5000), at times this was swollen hugely by the religious and civic events which are now thought to have taken place at various extensive open areas associated with shrines and the Theatre. All of these people would have needed a substantial amount of fresh water to hand for drinking, food preparation and sanitary purposes, as would the various municipal buildings such as the Forum and Basilica, and the large official lodge or "Mansio" nearby used by various travelling government officials and messengers.

Ultimately, without regular maintenance and following the gradual collapse of Roman civic life, the aqueduct would have ceased to flow, and become just a memory. Later, the town moved up the hill on the other side of the river to congregate around the new Monastery of St Alban and its market. Communal wells and water-carrying were once again the norm.

Until the 19th century piped water was a rarity, and in domestic buildings only for the wealthy. During the first Elizabethan era internal plumbing was developed: elm logs, hollowed on lathes, and known since Roman times, brought water-mains to prosperous city centres, and by this period cast-metal technology meant that lead pipes for internal use could be cast. Nicholas Bacon's house at Gorhambury, begun in 1563, was extraordinary at the time in having a piped supply to many rooms, but by his son Francis's time the system had seized up and was too expensive to repair. (Queen Elizabeth I had access to one of the first flushing lavatories, at Richmond Palace.)

Back to St Albans. There was a piped-water system to the town by the 17th century:

"Water is thrown up from the river for the use of the town, every inhabitant paying for it as at London."

The capital, with its densely packed buildings and ever-increasing population (not to mention the countless visitors who swarmed into the city each day), often struggled to obtain enough water to meet demand. Simple wells into the substrata often ran dry during the summer months, and were often contaminated by surface-water run-off and by the countless cesspits. The River Thames, however, was constant and predictable in its flow of (relatively) clean water, albeit at the ebb-tide when there was less saline contamination.

In the late 1570s Dutchman Peter Morris gained a patent which stated that ". . . he hath by his great labor and charge found out and learned the skill and coning to make some new kynde and manner of engynes to draw up waters higher than nature yt selfe". A preliminary agreement between Morris and the city fathers led to the installation of a water-wheel and rudimentary pistons beneath the first segment of the London Bridge. At a test-pump in 1580 the Lord Mayor, Aldermen and assembled

citizens were amazed to see a jet of water projected with such force that the plume of water sailed high and over the tower of the neighbouring St Magnus Church.

In May 1581 Morris was granted a 500-year lease of the first arch of the bridge, at a rent of ten shillings a year, to supply the city with fresh water. Subsequently the second and fourth arches were also utilised for this purpose.

“These pipes”, wrote an observer some time later, “carry the water to the top of a Turret (128ft high) neare adjoining unto the Engine and there being strayned through a close wyer grate it decendeth into the maine wooden pipe which is layd along the street and into it are grafted divers small pipes of led serving each of them to the use and service of particular persons”.

This water-supply system, augmented in 1613 by the New River, enabled the City of London, at least, to be better supplied with fresh water until (as we shall see subsequently) the beginning of the 19th century.

A century later then, and with 100 years of technological refinement, a similar piped-water system was proposed and installed on the little River Ver at St Albans, funded by capital raised from local and London shareholders. The proposer, Walter Whitfield, had close links with the Duke of Marlborough, on whose land (at the end of his garden!) the waterworks would be sited.

From *The Corporation Records of St Albans*, compiled by A.E. Gibbs (1890):

1696: Court held August 26th – Mr Whitfield and Mr Richards assigned Mr Greene’s lease of the Waterworks to the Mayor and Aldermen, and it was granted to Mr Yarnold.

1697: Court held June [?] - Ordered that Mr Yarnold appear at the next Court to produce his lease relating to the water.

Surely such a system would be fraught with maintenance and funding issues? Certainly legal and financial difficulties beset the establishment of the St Albans Waterworks at the time. But was this the only such enterprise, an isolated scheme, or were similar systems being proposed and built elsewhere in the country? With the establishment of the Bank of England in 1694 providing a financial infrastructure of shareholding, ready cash, available capital, this seems quite likely. Celia Fiennes, in one of her travelogues around England in 1694, wrote that in Chichester, Sussex “. . . there is an Engine or Mill about a mile off the town draws up salt water at one side from the sea, and fresh water from a little rivulet which descends from a hill, and so supply’s the town . . .”

The ability to cast metal or extrude plastic pipework are comparatively recent technological advances for the conduction of fluids. Prior to these products, hollowed elm logs were utilised for this purpose. Elm tree trunks, and larger straighter branches, were machined on purpose-built lathes, and made to taper slightly at one end so that they slotted together (the tapered section being “forced” into the subsequent pipe by the flow of water and sealed with pitch) to form substantial

networks to conduct fresh water. Such a method was utilised in the Middle Ages to bring fresh water to London from the River Tyburn near Westminster, several miles to the west.

This system would undoubtedly have been used for the St Albans Waterworks, located a little upstream of what is now Cottonmill Lane bridge. The log-pipes were probably laid on the surface, as sub-surface burial would have been difficult and expensive, and would have quickened the rate at which the wood would rot. Maintenance, too, would be far easier and simpler. Apparently the pipes were laid along the base of the Tonman (Town) Ditch bounding the eastern side of the town, presumably beneath the highways of Sopwell Lane and Shropshire Lane (Victoria Street), to a cistern/s in Cock Lane (now Hatfield Road – probably also on the Duke of Marlborough's land). How it was distributed from here, and to whom, is unclear. Additional research may reveal more about this subject. Certainly the system did not last long; one report has it that Sarah, Duchess of Marlborough, had the Waterworks closed down at the end of the 1720s, but why then was it still shown on the 1766 map?

In the town itself the Abbey, and perhaps the larger inns, would have had their own wells, but for most inhabitants fresh water would have been obtained in some way from one of the three communal wells: (1) the Town Pump, in front of the Clock Tower; (2) the Blue Pump, sited where the Old Town Hall now stands; and (3) St Peter's Well, sited between the churchyard and where the war memorial now stands, at the top of St Peter's Street.

Maintenance of these structures, too, was sometimes onerous. Again, from the *Corporation Records*:

1732: Court held August 14th – St Peter's Well: leave was given to Thomas Gape Esq to have St Peter's Well cleared out for the use of the poor.

1733: February 12th – The piece of waste ground, waterspring or well in St Peter's Street leased to Mr John Gape for 99 years in consideration of £20 being being laid upon its repair and under a rent of a peppercorn.

1818: February 4th – A lease of St Peter's Well and Wellhouse was granted to Mr Silk, that the Well might be repaired at the expense of the Parish and be open for the use of the inhabitants generally.

One can see that these important civic assets sometimes fell into disrepair and needed expensive repairs. As for the Blue Pump at the other end of St Peter's Street:

1820: Court held February 8th - John Peele to be proceeded against for stealing the pipes etc. of the Blue Pump in St Peter's Parish.

It was reported that Peele stole 40lbs of copper pipe worth 20 shillings and a pump barrel worth 5 shillings - a considerable amount at that time. He was subsequently found guilty and sentenced to 12 months in the Town Gaol, then in the old Abbey Gateway.

The most important of the three communal wells was the "Town Pump", sited in front of, and slightly to the right of, the venerable Clock Tower. (The "Blue Pump" disappeared in 1829 to make way for what is now known as The Old Town Hall). Dr Joshua Webster, a medical practitioner and local historian, wrote in the mid-18th century: "The air about St Albans is remarkably clear and fine . . . the Water is no less remarkably pure and wholesome, especially their Well water which is philtered through a very thick strata of chalk . . ."

1817: Court held November 15th - Permission was given for the Town Pump to be put into repair by public subscription.

1822: December 4th - It was reported that the Town Pump had been repaired at a cost of £146 2sh.

Lord Spencer (of Holywell House) had paid for improvements at the Town Pump in 1765, and in 1786 it was improved again by the addition of a "Braithwaite" pump. The Universal Register of 1786 describes John Braithwaite as follows: "this extraordinary genius is very expert at raising water from great depths. He contrived and executed the pump or fountain at St Albans 20 miles from London about four years ago since which it has received no repairs and was never once out of order. The well is 100ft deep yet a girl of 10 years old pumps the water easily with one hand".

This boon to an everyday essential was what was subsequently repaired 30 years later. The easy-winding mechanism was contained within a circular drum, mounted on a large cast-metal frame suspended above the well itself. One of these ingenious contraptions can still be seen on Sarrat Common.

John Braithwaite was from a family of whitesmiths based in St Albans, but eventually he and his two sons moved their manufactory to London. By the late 1820s they were designing and making pumping engines and high-pressure steam engines, which would soon enough begin to be used in the delivery of fresh water.

From the *Corporation Records* again:

1870: Court held December 21st - The Council recommend the removal of the Town Pump at the corner of the Clocktower, to make room for the new fountain.

The Town Pump, and Braithwaite's winding mechanism, had been superceded by the new Waterworks, with its new well and holding tank, established at Stonecross on the northern edge of town in 1865.

For References, Source Material and Acknowledgements: see Section 6 on the website.

Former offices/HQ of St Albans Waterworks Co, Holywell Hill (built 1908), now a Nursery School



The Old Pumphouse, Stonecross





Dried-up river, Shafford Mill, late 1980s



Top/Settling Lake, Verulamium Park, drained and desilted, dry Summer/Autumn (2nd October 2005)

New
water
pipes
at
The



Cricketers, junction of Stonecross, Harpenden Road, Avenue Road, St Peter's Street, Summer 2022



Sinking of a modern borehole/well in the 21st century, near St Albans



Friars Wash Pumping Station, River Ver, August 1994