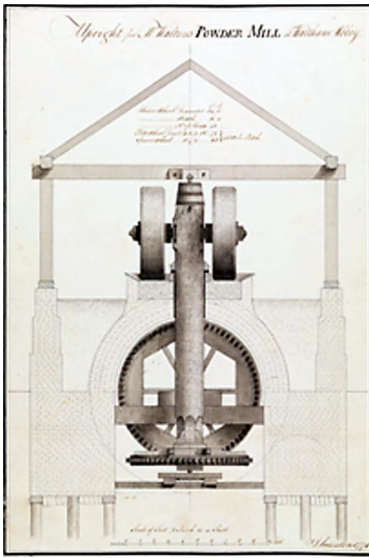


# John Smeaton

Next year will be the three hundredth anniversary of the birth of John Smeaton (8th June 1724 – 28th October 1792). He was a civil engineer responsible for the design of bridges, canals, harbours and lighthouses. He designed the third Eddystone Lighthouse (1755–59), shown in the background of this portrait of him.



He was also an accomplished mechanical engineer, designing, amongst other things, gunpowder mills. It is in the context of the design of both canals and gunpowder mills that he had an association with the Royal Gunpowder Mills. This was during the period that the Mills were owned by the Walton family. In 1757 John Walton, one of ten children of William and Philippa Walton, founders of the Walton dynasty, died and brothers Thomas & Bouchier Walton inherited the factory. In 1767 John Smeaton was engaged by Bouchier Walton to design improved mills. This resulted in what was to become the benchmark for all the following gunpowder mills at Waltham Abbey and elsewhere. This drawing by Smeaton dated 1771 shows the design.



At the same time (1767) a survey of the River Lea was carried out by John Smeaton. His report recommended that a number of new 'cuts' (navigation channels) be made in the River Lea at Limehouse, Hackney, Edmonton and Waltham Abbey and that the existing flash locks be replaced by new mitre gate locks. These improvements would allow traffic to flow efficiently from Hertford to Bow. In 1768 a navigation canal was built in order that boats could by-pass the winding River Lea and by 1771 eleven miles of new cuts and twelve new locks had been constructed.

As part of his studies John Smeaton assessed the effect that these canal works would have on the operation of Bouchier Walton's Mills. He observed that one canal gate was not only out of repair but materially defective as it could not be shut down properly and thereby a great quantity of water would go down the old barge river, to the detriment of the Mills. He recommended various engineering works that would mitigate the adverse effect of the new canal on the water-powered incorporating Mills at Waltham Abbey.

Turning to the 20th century, the Historic England research records note that excavations at the Explosives Research and Development Establishment were undertaken in 1971. These revealed workings dating from the early 1700's, including brick structures that were subsequently part of Smeaton's Mill. Pictures of these excavations are in the Waltham Abbey Special Collection, which is easily accessed via the Royal Gunpowder Mills website. The specific entry in the collection is WASC 1479. Now I only joined ERDE in 1972, so I was not present at these excavations, but several colleagues in the Friends Association were, and they confirm their location. There is another excavation photograph in the archive at WAI-142-01 dated 1st September 1973. Photographs of this and the two 1971 pictures are shown below:



**1971**



**1971**



**1973**

Bearing in mind the remarkable similarity between the pictures attributed to 1971 and 1973 there must be some doubt about the dating accuracy, but the pictures are clearly from the early 1970s. If any of our readers can shed light on these excavations, it would be good to hear from them.

Turning now to the present century, in 2005 a further archaeological dig was instigated by the Waltham Abbey Historical Society. Leading lights in this were Peter Huggins and Ted Ayres, also Dennis Ashby from the Friends. Their work is shown in the pictures below which were taken by Brian Clements on 22nd July 2005.



This work is referenced in the March 2006 issue of Touchpaper. The location of these works is just to the west of the boardwalk from Hoppit Road (the site entrance road) to A200 (Walton House) , A201, A202 (Saltpetre and Mixing Houses) & A203 (the Lecture theatre, etc.).

The picture below from 2018 shows their condition much as now, a bit more overgrown but essentially the same as thirteen years earlier.



So the memory of John Smeaton very much lingers on at the Mills. Given the close association between John Smeaton and the Royal Gunpowder Mills, his 300th anniversary on 8 June 2024 may be worthy of some celebration.

**Geoff Hooper**