

Crossness pumping station and its restoration.

Brief History

Opened in 1865, the Beam Engine house at Crossness houses four rotative beam engines named after the main members of the Victorian Royal Family, Victoria, Prince Consort, Albert-Edward and Alexandra. Originally single cylinder engines from the James Watt Co. in Birmingham, they were all substantially upgraded to 3 cylinder engines in 1895-1901 by the Benjamin Goodfellow Co from Hyde in Cheshire. At this time a front addition was built onto the engine house. This addition housed two triple expansion engines, there to help with the pumping whilst the beam engines were upgraded.

The beam engines were seeing very little use by the 1930's due to the majority of the pumping being done by more efficient engines and pumps housed in other buildings. When the 1895 triple expansion engines were removed in the late 1940's and subsequently replaced with diesel engines driving very efficient centrifugal pumps, the beam engines days were all but numbered. The beam engine house was abandoned completely by the mid 1950's.

Early days

The fate of the 1865 building came into question in the early 1980's when Thames water were taking stock of their concerns and looking at possibly demolishing the building. Thanks to the actions of the Greater London Industrial Archaeological Society (GLIAS) the engine house attained a grade 1 listing and its immediate survival was assured. At the same time the auxiliary buildings (fitting shop and Valve house) were given grade 2 listed status. From this a group of enthusiasts decided to try and secure the long term survival of the historic building and its spectacular interior. When planning the restoration it was decided to restore Prince Consort first. This decision came about because it was believed that Prince Consort was the last engine used, during the local floods of 1952, and therefore possibly in the best condition out of the four.

Given the complexity of restoring such a great machine and the fact that the Engine house had fallen into a terribly decayed state, the task that lay ahead was an incredibly difficult one fraught with many problems.

The engine house had been locked up in the mid 1950s, the windows were boarded up and the only life it had seen were those of pigeons and scrap metal thieves, who had systematically removed most of the brass from on and around the engines. So the Trust began with access to the unlit engine house via one end door. Their workshop was a small wooden hut outside and their toolkit was minimal. Apart from removing over 30 years worth of dust and bird mess, the first real problem was one of bureaucracy when Thames Water, seeing the then 'Crossness Engines Preservation Society', as a health and safety issue, stepped in and banned them from site.

After months of negotiations with Thames Water, solicitors, GLIAS and others, and largely due to the experience and determination of John Ridley, The Crossness Engines Trust was formed, access was granted and work could continue.

The work began slowly at first, but as time went by the momentum picked up. Thames Water, now seeing the Trust as a serious, responsible and capable group of volunteers, arranged a 99 year lease on the Crossness Engine and boiler houses with a peppercorn rent. After short while Thames Water

abandoned the workshop for a new purpose built machine shop and the 1865 workshop was handed over to the trust, complete with some old but fully functioning machine tools. Work on Prince Consort could now go ahead at full steam.

The problems faced were many. Firstly, the issue of undoing large nuts that hadn't moved in years. Then there was the problem of physically removing parts, although the 47 ton beam and 52 ton flywheel were left mostly in place, there were still parts weighing many tons that had to be removed. Then of course there were the damaged, stolen and unusable parts that needed replacing.

Slowly but surely, the Trust grew. Not only in number but in experience, tools and ingenuity.

Jigs were made to facilitate removal of some parts, lifting equipment was acquired and gradually Prince Consort was dismantled. Parts were lovingly cleaned and polished over many hours. Other parts were stripped and painted. Some equipment had to be hired, like the Jacks needed to apply almost 100 tons of pressure to separate a piston from its rod.

Casting were made to replace the 100 or so brass oil pots and many meters of steam pipe and countless valves were replaced with new.

Finally after 18 years work, in 2002, Prince Consort was put back in steam and was started by HRH The Prince of Wales.

The Victoria years

After the elation of completing Prince Consort, efforts were focused in other directions. A team of volunteers were in charge of the running and maintenance of the engine, but others turned their attention to the grounds and the building. A library was growing and many interesting artifacts and historical archive material were being gathered. The Trust had grown and changed like an evolving entity, and as a result it was now much bigger than ever imagined. In the background efforts were being made to secure Lottery funding for an exhibition detailing the cholera epidemic and the Great Stink of 1858, but on the surface work continued to improve all aspects of the site.

Then in 2008, and led by John Ridley a fresh team of volunteers started work on Victoria. The new goal for the Trust was now completion of one half, not just one quarter of the engine house.

Of course, some of the volunteers involved with the restoration of Prince Consort were no longer with the Trust and others were too old to get physically involved but were there to give vital help on the way things were removed. Although the tools and equipment used previously were available to the team, Victoria was going to require just as much time, care and patience as Prince Consort to restore. There were going to be no shortcuts.