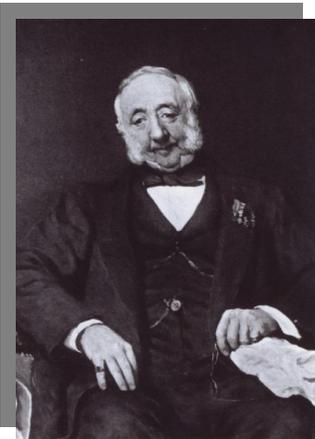


## THE NOTTINGHAM THOMAS HAWKSLEY CIVIL ENGINEERING HERITAGE LEAFLET

The Institution of Civil Engineers  
East Midlands Association

The works of Thomas Hawksley FRS, Civil Engineer 1807-1893

**His Origins** Thomas Hawksley was the greatest water engineer of the nineteenth century. He designed 150 water works for major towns in

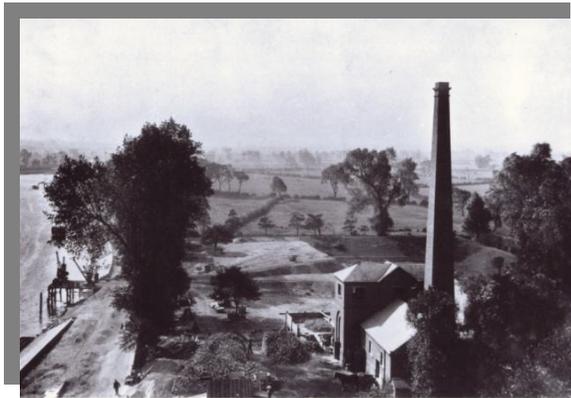


Britain and countries like Sweden, Germany and Barbados in the West Indies. When only 23 years old he was appointed as Engineer to the Trent Water Company and built its first works near Trent Bridge. (1) He was born at Arnot Hill House in Arnold which was next to one

of the largest worsted wool mills in the country owned by his father. The mill engine's cooling pond is now an ornamental lake in Arnot Hill Park, the site of Gedling Borough's offices. He left when 15 years old to train under the architect Edward Staveley but he maintained contact with the school (Nottingham High School) and provided scholarships and prizes.

### Hawksley's First Nottingham Works

**Trent Water Works (1)** located near Trent Bridge was a brilliant ground breaking engineering achievement.



Trent Works photographed about 1896 when the Victoria Embankment steps were being built.

Water was not pumped from the River Trent but drained from the ground using the sands and gravels around the river as a filter. His major achievement was to ensure that the pipes that distributed the water to the town were kept constantly under pressure so that water could be drawn from the taps day or night and contamination was kept out. This we take for granted now but earlier systems provided water only for an hour or two a day to avoid waste caused from leakage. Hawksley redesigned the taps, valves and pipe work eliminating the leakage and the availability of a constant supply of water improved standards of public health so dramatically that Nottingham escaped the 1848 cholera outbreak.

**The Nottingham Water Company** was formed in 1845 from three existing companies and Hawksley was appointed as Engineer. He next built the **Park Works (2)** in 1850 on the Ropewalk sinking a 7 feet (2.1metre) diameter borehole 250 feet (76 metres) deep into the bunter sandstone aquifer on which much of the Nottingham area sits which provides a pure and reliable source of water.



The Park Works on The Ropewalk Nottingham.

Concern that pollution was entering the wells from the nearby General Cemetery resulted in the works closure in 1891.

In 1857 Hawksley built the **Bagthorpe Works (3)** which stood on the corner of Hucknall Road and Haydn Road. Steam powered beam engines powered the pumps, which operated until the early 1960s when replaced by electric pumps. One of the engines was rebuilt at the **Wollaton Park Industrial Museum (10)** see places to visit.



Bagthorpe Pumping Station - showing the ornamental cooling ponds. Now demolished.

**Bestwood Pumping Station (8)** was his next works built in 1874. This magnificent building is now the Lakeside Restaurant and Health Club.



Bestwood Pumping Station. The tower is the chimney for the boilers made ornate to satisfy the Duke of St Albans on whose land it was built.

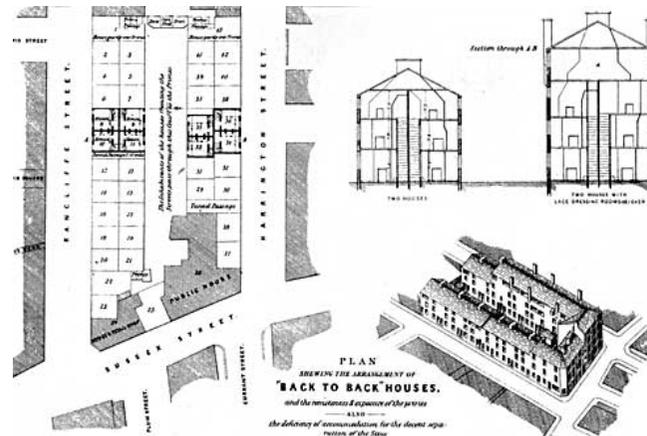
**Service Reservoirs** Service reservoirs are built in the distant parts of a town and are filled up overnight providing water during daytime peak usage. Some that Hawksley built are still in use. (see table)

Name	Ref	Location	Notes
Mapperley 1859	6	Woodborough Road	In use
Belle Vue 1871	4	Woodborough Road	In use
Redhill 1871	5	Mansfield Road	In use
Papplewick 1879	9	Papplewick	unused

**Papplewick Pumping Station (9)** Hawksley did much of the planning work and design for the pumping station and after the water company was bought by the Nottingham Corporation its engineer Marriott Ogle Tarbotton completed the works. Hawksley continued his successful partnership with his son Charles in London.

**The Gas Engineer** Hawksley was not only a civil engineer but was a gas engineer, building **Basford, Eastcroft and Radford Gasworks** in Nottingham as well as numerous works for towns all over the country.

**Hawksley the Social Reformer** He achieved national fame when in 1844 he was a Commissioner's witness at a public inquiry into the state of Public Health in Towns. In the face of opposition from some of his fellow engineers he argued forcibly for social reform and the provision of a constant supply of water for all. He took on the Nottingham Town Council and the slum landlords through a parliamentary enclosure bill that allowed common land to be used to replace the cramped squalid back to back slums with decent houses.



The picture is taken from his report to the Commissioners and it shows the area around Glasshouse Street near the Victoria Centre.

**National Works** He was employed by many major towns and cities in England building The Rivington Pike Scheme and the Vyrnwy Dam for Liverpool Corporation which are still in use. He built dams and waterworks for Sheffield, Leeds, Newark, Leicester, Lincoln, Wolverhampton and Sunderland, He was President of the Institutions of Civil, Mechanical and Gas Engineers and was elected to the Royal Society.

## Places to Visit:

**Papplewick Pumping Station (map ref 9)** This works is typical of the time and owes much to Hawksley's input and influence. Visitors can see the engines on steam on certain days and can visit and explore the inside of Hawksley's 1879 service reservoir. Leaflets are available at the Tourist Centre: Contact 0115 9632938 or see the website: [www.papplewickpumpingstation.org.uk](http://www.papplewickpumpingstation.org.uk)

**Wollaton Park Industrial Museum (map ref 10)** The engine taken from the 1857 Bagthorpe Works is on steam on certain days and the museum has many interesting machinery from the last 150 years. Leaflets are available at the Tourist Centre.

**Park Works Pumping Station (map ref 2)** is not open to the public but the pump house can be seen from The Ropewalk in Nottingham.

**Bestwood Pumping Station (map ref 8)** is now the Lakeside Restaurant and Health Club and meals can be booked in a building that has been beautifully restored.