



Heritage Report:

Preservation of St. Catherine's Lock on the Itchen Navigation

Polly Whyte (2011)

**Produced by the Hampshire and Isle of Wight Wildlife Trust
on behalf of the Itchen Navigation Heritage Trail Project partnership**

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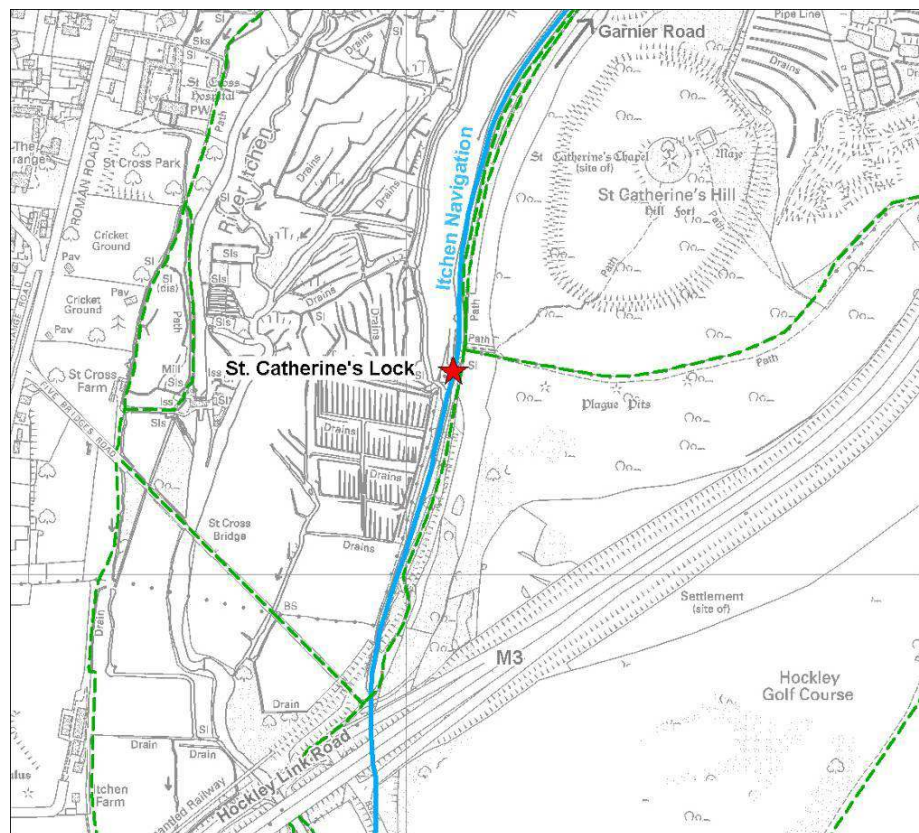
Introduction

The Itchen Navigation was completed in 1710 to carry barges loaded with coal and other goods from the seaport of Southampton to trading centre of Winchester. 15 locks and two half-locks on the 10.5 mile route helped float the barges up the Navigation. Most of the locks were 'turf sided'; there was only brickwork or stonework at the head and tail of the lock to hold the lock gates. Turf sided locks were a design used on navigations in the early 1700s. They required a large volume of water to fill due to their sloping sides. Nearly all locks on later canals had brick-lined chambers. The survival of several turf sided locks on the Itchen Navigation makes the waterway nationally important as very few others in the country survive in their near original state.

The Itchen Navigation Heritage Trail Project was led by the Hampshire and Isle of Wight Wildlife Trust from 2007 to 2012. The aim of the project was to conserve the Itchen Navigation and to repair some examples of the heritage features found along its length. The project received a grant from the Heritage Lottery Fund in October 2007. The project was also funded and supported by: Environment Agency, Winchester City Council, Eastleigh Borough Council, Natural England, Hampshire County Council, Southampton City Council and the Inland Waterways Association.

St. Catherine's Lock was the summit lock of the Itchen Navigation. A sawmill was located at the lock on the west bank. The saw mill and the lock are shown in a 19th century drawing and a photograph from the 1870s. The site of the waterwheel survives below the head of the lock. A modern brick and concrete sluice mechanism has replaced the top lock gate. Before preservation work was undertaken starting in 2009, the brickwork for the lower gate was visible but overgrown and the lock chamber was generally overgrown. Wessex Archaeology produced a heritage report on the Itchen Navigation in April 2005¹. This is available on the 'History' page of the Itchen Navigation project website: www.itchennavigation.org.uk. Wessex Archaeology (2005) describe St. Catherine's Lock as regionally significant and of the utmost importance as one of the original elements of the Itchen Navigation. Issues identified in the report are: interpretation, preservation of surviving historic remains and removal of vegetation.

St. Catherine's Lock is located at: SU 48070 27330



OS licence: 100015632

¹ Wessex Archaeology (2005). *Itchen Navigation Heritage Trail Hampshire. Heritage Report for a Conservation Management Plan*. Salisbury: Wessex Archaeology.

Aims and Objectives

The aims of the preservation work were to:

- remove vegetation that was obscuring the lock from view and causing damage to the structure
- stabilise and preserve original brickwork and stonework
- interpret the structure to help local walkers understand its significance

Methods

When the lock was examined by Itchen Navigation project staff in 2009, some of the lock gates brickwork was visible plus some brickwork where the water wheel would have sat. Scrub and small trees were cleared from around the head and tail of the lock by volunteer groups from October ~ November 2009. Volunteers also cleared away ivy, turf and soil which covered some of the brickwork. Remains of the built structure of the lock were fully revealed at the head and tail of the lock, plus brickwork and large stone pieces at the water wheel site. The brickwork at the head of the lock has been modified with the addition of the modern weir and sluice. Several large ash trees had roots growing into the brickwork of the structure. Following a tree survey by a bat expert, Primary Tree Surgeons were contracted to soft fell these trees (and herbicide treat the stumps) in late February 2010. A large cavity in the brickwork at the SE gate pier was identified as a potential bat roost. Two emergence surveys were carried out in summer 2010, but no bats were recorded emerging from the brickwork.

Mike Clerk from Hampshire County Council's Historic Environment team provided advice on preservation of the structure. SFK Consulting was contracted to produce a specification to repair and stabilise the brickwork. Earlcoate Ltd carried out the brickwork repair on St. Catherine's Lock according to the specification in Sept/Oct 2010. The following steps were taken to preserve the remains of the structure:

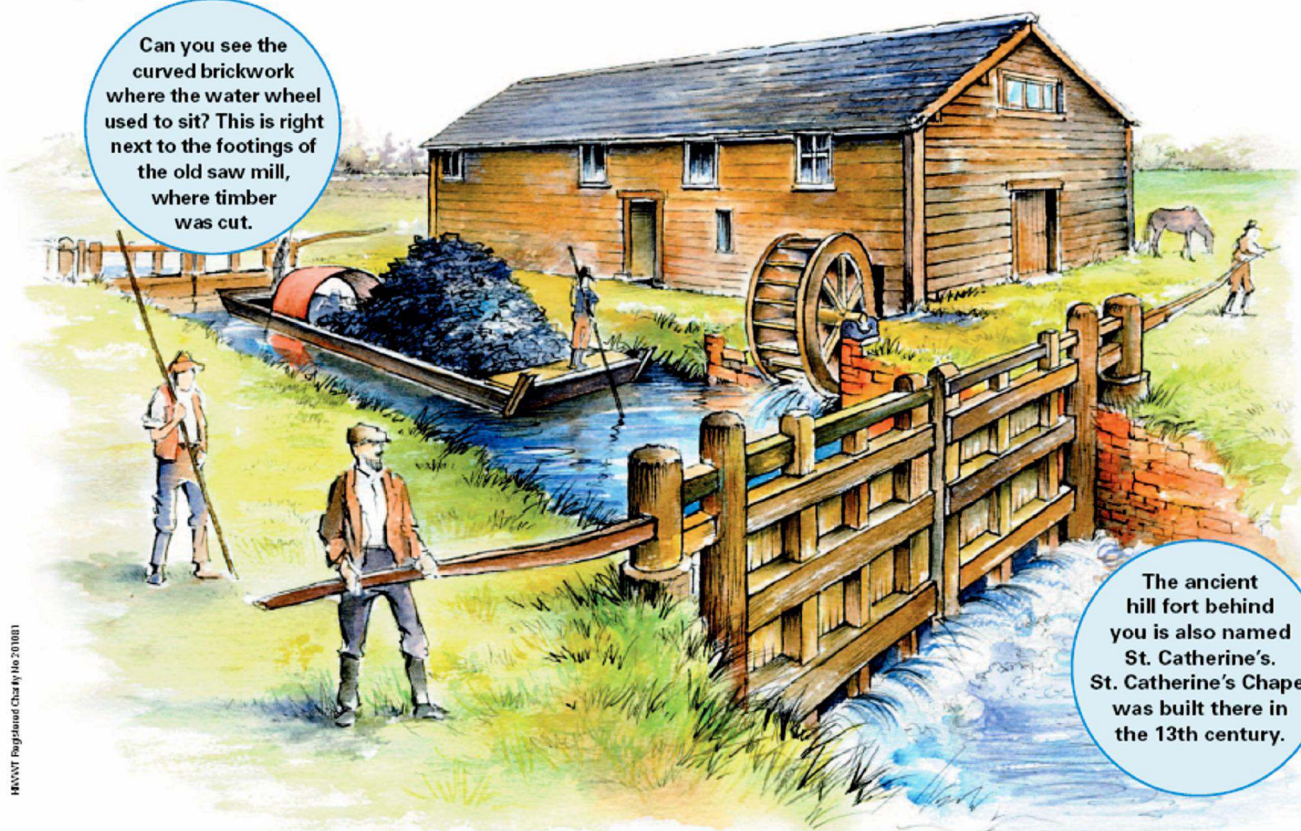
- Brickwork joints were raked out and re-pointed
- Irregular brickwork was consolidated
- Voids in the brickwork were deep pointed
- Brick coping was added to the top edge of the brickwork to shed water away from it
- Cintec anchors were installed on the NW, SE and SW gate piers.
- Three 'bat bricks' were installed in the SE gate pier to mitigate for loss of any potential bat roost sites (although gaps adjacent to the brickwork still exist as potential roosting sites).

An interpretation panel was installed by Hampshire & Isle of Wight Wildlife Trust in January 2011. The panel (see image on following page) shows an artist's illustration of how the lock and mill would have looked when the Navigation was in use by barges.



Where was Catherine's wheel?

Can you see the curved brickwork where the water wheel used to sit? This is right next to the footings of the old saw mill, where timber was cut.



The ancient hill fort behind you is also named St. Catherine's. St. Catherine's Chapel was built there in the 13th century.

Water powered saws

This is St. Catherine's Lock. Very close to where you are standing there used to be a mill where logs were sawn into lengths of timber 160 years ago. The saw that cut the timber was powered by the water flowing through this channel, which is called the Itchen Navigation.

Bringing coal to the bishop

The water wheel sat in an old lock chamber. When the mill wasn't running, the lock was filled with water to carry 20 metre long barges up the Navigation from Southampton to Winchester. The barges transported coal to the Bishop of Winchester's clergy and to the Winchester College kitchens. You are currently standing on the old towpath, which runs the entire length of the waterway.

Doing a 'pothouser'

Much fun was had here too. Boys from Winchester College called the lock First Pot. The Navigation was a favourite place for swimming. Adventurous young lads would run down the sloping roof of the mill to do a 'pothouser', just clearing the mill wheel and splashing into the water below.

The Itchen Navigation Heritage Trail Project is conserving this wonderful waterway. The project is supported by:



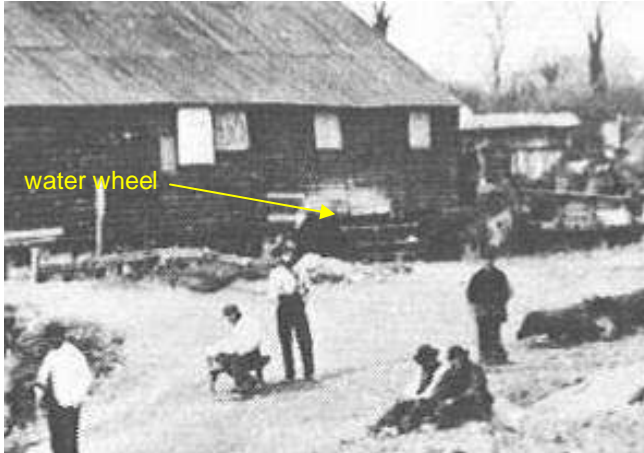
www.hwt.org.uk

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Discussion

Clearing vegetation away from the water wheel sat, revealed a large curved area of brickwork and two large pieces of stone. The stones each have a t-shaped cut out of them, which suggests they were axel stones which supported the water wheel. The stones are no longer in their original position due to collapse of the brickwork which would have supported them. The brickwork is curved in a direction that shows that the water wheel would have sat perpendicular to the lock chamber. Close examination of 1870s photograph does show the water wheel sitting perpendicular to the lock. This is thought to be unusual as water wheels at mills elsewhere sit in the same direction as the water flow in the main channel. A rectangular brick chamber sits behind the curved brickwork. It is possible that water was ducted from above the head of the lock to a pond which overflowed to power the water wheel. The height of the curved water wheel brickwork suggests that the water wheel and the lock could not have been used at the same time.



Water wheel in 1870s photograph



Curved brickwork at water wheel site in 2009



Water wheel axel stone in 2009



Brick chamber behind water wheel site in 2009

Gaps in the brickwork at the tail of the lock correspond where bridge supports would have sat for the bridge shown in the 1870s photograph. The brickwork at the SW gate pier extends in a curve towards the west, showing that the channel where all the water flow currently heads existed when the brickwork was constructed.



SW gate pier brickwork in 2010



Bridge in 1870s photograph

Historical images of St. Catherine's Lock

Photograph of St. Catherine's Lock, waterwheel and timber mill c.1870



Further historical images of St. Catherine's Lock and sawmill can be found in the [Itchen Navigation image gallery](#). The web article 'St. Catherine's Lock to the Winchester Wharves' found on the [Itchen Navigation history page](#) explores the history of this area of the Itchen Navigation.

Photographic documentation

Lock chamber before vegetation clearance by Polly Whyte (Oct 2009)



SW gate pier before vegetation clearance by Polly Whyte (Oct 2009)



SE gate pier before vegetation clearance by Polly Whyte (Oct 2009)



SE gate pier after vegetation clearance by Polly Whyte (Nov 2009)



Water wheel site after vegetation clearance by Polly Whyte (Nov 2009)



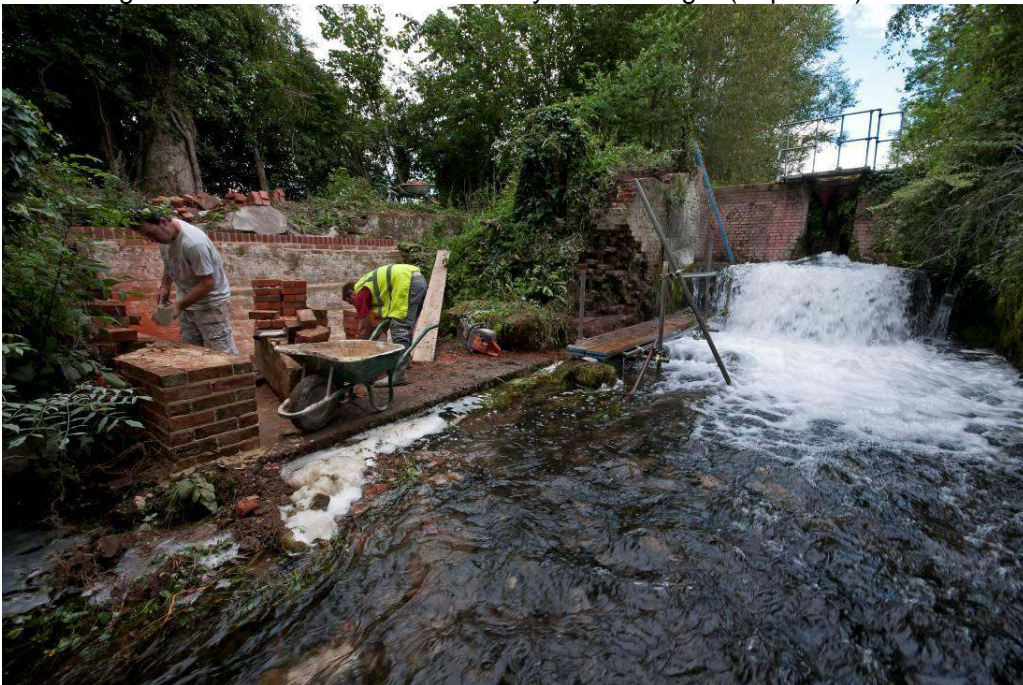
North end of lock after vegetation clearance and tree work by Dennis Bright (Mar 2010)



Lock chamber after vegetation clearance and tree work by Dennis Bright (Mar 2010)



Preserving the water wheel site brickwork by Dennis Bright (Sep 2010)



Repaired brickwork at water wheel site and NW gate pier by Polly Whyte (Oct 2010)



New coping brickwork at SW gate pier by Polly Whyte (Oct 2010)



Repaired brickwork at SE gate pier by Polly Whyte (Oct 2010)



Interpretation panel by Polly Whyte (Jan 2011)



References

Course, E (1983). *The Itchen Navigation*. Southampton: Southampton University Industrial Archaeology Group.

Wessex Archaeology (2005). *Itchen Navigation Heritage Trail Hampshire. Heritage Report for a Conservation Management Plan*. Salisbury: Wessex Archaeology.