

GLOSSARY

Bascule Bridge – a bascule bridge is a moving bridge. It has a counterweight which balances the deck of the bridge as it lifts, like a drawbridge.

Pound Lock – canal locks (or pound locks to give them their proper name) are a way of moving boats uphill or downhill. A lock is a chamber with gates at both end that can be filled or drained to lift or lower a boat.

Stop Lock – a stop lock completely stops the flow of water from one part of a canal to the next.

Aqueduct – an aqueduct can be a pipe, ditch, tunnel or supporting structure used to carry water. On the canals, it generally refers to a bridge carrying the canal over an obstacle.

Spillway – a spillway acts like an overflow on the canal, helping prevent the canal overflowing elsewhere.

Puddle Clay – puddle clay is the natural material used to provide a waterproof lining to the canal.

Swing Bridge – a swing bridge is an opening bridge that swings horizontally to allow boats to pass. This can be from a central pivot or from one end.

Summit Pound – this is the highest point of a canal.

Bascule Bridge – a bascule bridge is a moving bridge. It has a counterweight which balances the deck of the bridge as it lifts, like a drawbridge.

Pound Lock – canal locks (or pound locks to give them their proper name) are a way of moving boats uphill or downhill. A lock is a chamber with gates at both end that can be filled or drained to lift or lower a boat.

Stop Lock – a stop lock completely stops the flow of water from one part of a canal to the next.

Aqueduct – an aqueduct can be a pipe, ditch, tunnel or supporting structure used to carry water. On the canals, it generally refers to a bridge carrying the canal over an obstacle.

Spillway – a spillway acts like an overflow on the canal, helping prevent the canal overflowing elsewhere.

Puddle Clay – puddle clay is the natural material used to provide a waterproof lining to the canal.

Swing Bridge – a swing bridge is an opening bridge that swings horizontally to allow boats to pass. This can be from a central pivot or from one end.

Summit Pound – this is the highest point of a canal.

Bascule Bridge – a bascule bridge is a moving bridge. It has a counterweight which balances the deck of the bridge as it lifts, like a drawbridge.

Pound Lock – canal locks (or pound locks to give them their proper name) are a way of moving boats uphill or downhill. A lock is a chamber with gates at both end that can be filled or drained to lift or lower a boat.



INSTITUTION OF CIVIL ENGINEERS

Glasgow's Forth & Clyde Canal Trail

THE TRAIL

Start the trail at Pinkston water sports centre and follow the canal roughly north west as it meanders to the Kelvin Aqueduct. There are several points where you can leave the canal path and return to the city centre or elsewhere by bus along Maryhill Road. There are also places to stop off for a well earned rest and a cuppa if you want to.

This trail has been produced by the Institution of Civil Engineers in partnership with Scottish Canals and can accompany a guided walk by our volunteers.

Thank you to the pupils and staff of Dunard Primary School for their help in developing the trail.

Find out more:
ice.org.uk/wice
ice.org.uk/scotland
 @ICEScotland
scotland@ice.org.uk

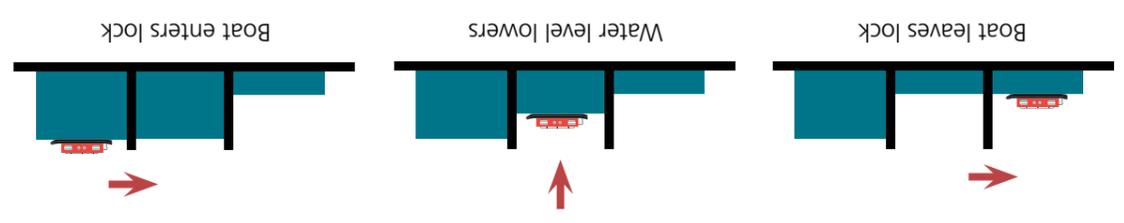
Registered charity number 210252 Registered in Scotland SC038629

So, where does the water in the canal come from?
 Like all our water, it starts as rain gathered in a reservoir. There are several reservoirs that feed into the canal and the water level is controlled by gates that let water from the reservoirs into the canals. The current hand operated gates will be replaced with a new automated system.

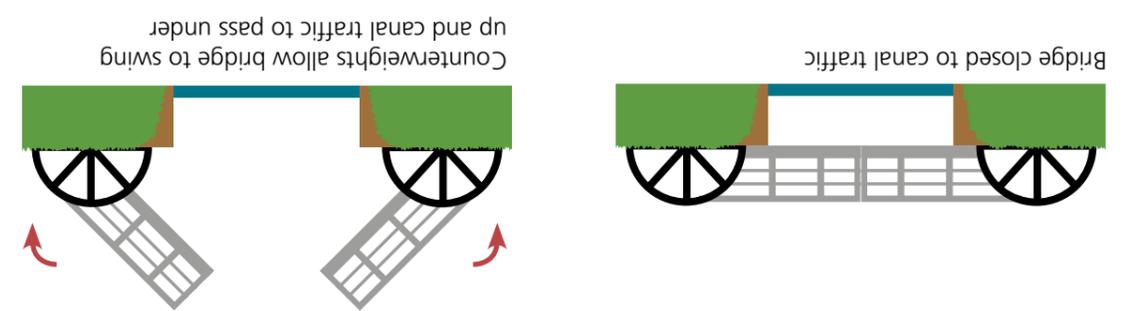
Glasgow's Smart Canal
 Or to give it its full title, the 'North Glasgow Integrated Water Management System' will allow the Forth & Clyde Smart canal will help us tackle the effects of climate – in extreme weather events engineers will be able to lower the canal to drain rainfall from the surrounding land, unlocking regeneration in areas otherwise lacking in drainage. The water level ahead of predicted heavy rain to help prevent flooding. *Now that's smart!*

Planning to walk or cycle all the way to Grangemouth?
 If you are, then it's worth knowing that if you start at Pinkston where our trail begins, it's all downhill to Grangemouth (apart from a wee climb at the Falkirk Wheel).

The Forth & Clyde Canal – 35 miles long, 40 locks and roughly 21 hours to complete by boat today. What an amazing piece of civil engineering!



POUND LOCK



BASCULE BRIDGE

Welcome to Glasgow's Forth & Clyde Canal civil engineering trail

The walk along this section of the canal will take you back in time to Glasgow's industrial heyday as well as take you into the future with planned new developments for the city's leisure & recreation. You'll learn about the engineering of the canal and see things you may never have noticed before.

Firstly, a little bit of history...

Why was the Forth & Clyde Canal built? The reason lies with merchants operating in Glasgow and Edinburgh in the mid-1700s. These traders needed a reliable way to transport their goods across the country. After much campaigning and Government lobbying, they got the go-ahead for the canal. Who was chosen to design and build this hugely important piece of infrastructure; the motorway of its day? The job was given to a civil engineer called John Smeaton. He's still famous today. Smeaton was so influential he actually invented the term 'civil engineering' to differentiate from military engineers and founded the first ever engineering society in the world (which still meets today).

Work started at Grangemouth in 1768 and proceeded as far as Stockingfield Junction (which is on this trail) when in 1775, the project ran out of money. It took the Glasgow merchants two years to raise the funds to build the branch of the canal into the city centre. By this time, John Smeaton had retired and a new engineer had to be found, so the job went to canal specialist Robert Whitworth. It took until 1785 for the funds to be raised to complete the canal to Bowling on the River Clyde (funds seized from Jacobite lands after the rebellion).

The canal as a piece of infrastructure didn't survive the birth of the railways and fell into disuse, finally closing in 1963. It re-opened in 2000 and is now flourishing with a new purpose for leisure activities. There are still civil engineers working on the canal today, building new bridges, improving access and making sure that this amazing piece of history is here for future generations to enjoy.





1. RAILWAY SWING BRIDGE & WHITWORTH BASCULE BRIDGE

We'll start our trail at a black & white wooden bridge known

as a Whitworth Bascule Bridge, named after the engineer who built this stretch of the canal. Across the canal you'll see a large metal railway swing bridge, which once allowed locomotives to cross the canal and get to the industries on the north bank. It's left open now to allow boats to pass.

2. SPEAKER MARTIN'S LOCK & PORT DUNDAS BASIN

Walking away from Pinkston watersports centre, we come across much more modern construction. The two new locks at Craighall Road and Speaker Martin's Lock allow the canal to pass under the modern roads and reconnect with the stretch we've just walked along. The lock gates here are hydraulically operated unlike the older hand operated locks on the canal. Now we'll cross over to the other side of the canal alongside Speirs Wharf.



3. SPEIRS LINK BRIDGE

This new bridge is built on an old stop lock which was one of several built during World War 2. These were built to



prevent flooding if the canal was ever breached by a bomb. No longer required (thankfully) the remains of the stop lock provide the foundations for the modern sliding bridge.



4. APPLECROSS BASIN

After another Whitworth Bascule Bridge we come to the 'old basin' at Applecross. If you look closely you can see the remains of another stop lock at the entrance to the basin. This was used to isolate the basin from the canal when canalmen needed to drain it for repairs



simply the canal bridge.



8. MURANO STREET BRIDGE

This modern bridge allows pedestrians to cross the canal including all those living in the student

5. CLAYPITS LOCAL NATURE RESERVE

Walking on, across the canal you can see the site of the former clay pits, where the puddle clay that lines the canal was dug from. This area is Glasgow's only inner-city Local Nature Reserve, currently being further redeveloped with new paths and

STREET BRIDGE

the canal including all those living in the student



overflow weir. If the water level in the canal gets too high it will spill over the weir and go down the spillway, a bit like the overflow in the sink in your bathroom or kitchen at home.

10. STOCKINGFIELD JUNCTION

Stockingfield Junction is where the Glasgow branch joins the main Forth & Clyde canal. East takes you to Grangemouth (eventually) and is the canal built by John Smeaton. The other way towards the West (where our trail goes) leads to Bowling on the Clyde and is the part built by Robert Whitworth. The section we've just walked along (the Glasgow Canal) is a mixture of both Smeaton's and Whitworth's work.



There's going to be a new bridge built here to connect all three branches of the canal, being designed by civil engineers in Glasgow.

We pass over the Maryhill Road Aqueduct on our way to...

11. MARYHILL LOCKS

This series of five locks raises (or lowers) the level of the canal by nearly 12m. The basins were built so several boats could pass through the locks at the same time, making the journey faster. We're nearly at the end of the trail, so onwards to...

12. KELVIN AQUEDUCT

You might not believe it today, but when the Kelvin Aqueduct opened in 1790 it was a huge tourist attraction with people coming from all over to see it. The largest aqueduct built since Roman times, it cost the equivalent of £1.3million, almost bankrupting the canal company. It's made of 4 large masonry arches and is 122m long and 23m high, carrying the canal over the River Kelvin. The materials used to build it were all local – our predecessors knew how to keep their carbon footprint small!



accommodation in Murano Street. Walking further along, we pass over the Bilsland Drive aqueduct and then under the Ruchill Street Bridge.



9. RUCHILL SPILLWAY

Can you see the stone walls that look like we're going over another bridge? This isn't a bridge but actually the Ruchill



boardwalks, and a new bridge to enhance access.

6. FIRHILL BASIN

Walking behind Firhill football stadium you can see the remains of another World War 2 stop lock at the entrance to Firhill Basin. This large basin was once used to store timber for the then nearby Western Sawmills.

7. FIRHILL ROAD BRIDGE (NOLLY BRIG)

There have been several bridges on this site since the original Whitworth Bascule Bridge. The current one allows boats to pass under Firhill Road. So why is it called the Nolly Brig? Well to understand, you need to have a Glaswegian accent! If you say 'canal' in Glaswegian, you get 'canaul' which then becomes 'canaully' and 'nolly'! Brig is a Scots word for bridge, so the Nolly Brig is

