

See you at the Norbury Canal & Food Festival

**April 30th - 1st May
Norbury Junction**

your support is important to us - please come!

If you are coming to the Festival, call into our display and give us a hand for an hour - it's vitally important - give your support to our efforts!

"Hosted by The Junction Inn, SNCT and the Norbury community"

ink cartridges



If any members would like to donate their empty ink cartridges to raise money for the Trust, I will collect them from any Shrewsbury Group or Trustees meeting, or alternatively they can drop them off to my address, or post them (as we will collect the stamps for money too!).

My address is:
34 Wilderley Crescent,
Meole Brace,
Shrewsbury SY3 9NZ.

Kelly Dales

Used Stamps

Member **Mal Evans** has kindly volunteered to collect used stamps to be sold in benefit of the Trust. All used stamps can help, but foreign stamps can earn even more money, so if you can collect those along with UK stamps we would be very grateful. Please note that stamps should be trimmed from the envelope leaving about a half-inch border around the stamp. Do not steam or peel them off as they are worth less without a backing or if they're damaged.

Please send any stamps to:

Mal Evans, 231 Monkmoor Road,
Shrewsbury, SY2 5SW or hand them in at
any Trust event or meeting.

Mal is always at the Shrewsbury Group
meetings, held on the last Thursday of the
month

S&N News

The quarterly newsletter of the
Shrewsbury and Newport Canals Trust

Issue 40/1 2011



*photo taken
here!*

Christmas Day, Newport Canal, Newport

© John Stevens

www.sncanal.org.uk



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The views expressed by contributors to S&News do not necessarily represent the views or policies of The Shrewsbury and Newport Canals Trust.

welcome to

S&N News

The quarterley newsletter of the Shrewsbury and Newport Canals Trust

The Trust's two big events are coming soon; the AGM at Wappenshall and the Norbury Canal and Food Festival. I hope you will be able to support these events.

The contributions made by members this quarter are much appreciated - please keep sending in your memories, articles and photographs...

... and please put thinking caps on for a new title for this publication - raised in the last issue, but still unresolved! In one response a member said "I do feel the title is the only thing that lets the magazine down. It always makes me think of sinews. I think S & N News would be fine. Or The Link?"

Now The Link is just the sort of 'snappier' name we're looking for, but unfortunately is not considered suitable as it could be too easily confused with other societies and trusts - there is a Pennine Link for the Huddersfield Canal and other schemes, such as the Fens and Milton Keynes & Bedford, have Link in their names.

Steve Bean,
Editor

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Photo Call Extra

Pictures of Norbury Junction

Dates for your Diary

Please also watch the website for updates and further details (Events page).

- **Saturdays 12 & 19 March 2011 - Work Party** at Wappenshall to ready the site for the AGM ¹
- **Thursday 17 March 7-30pm Trustees Meeting**, Newport.*
- **Saturday 26th March 2011 - AGM** at 12 noon, Wappenshall Wharf TF6 6D
- **Saturday 31st April-1st May 2011 Norbury Canal and Food Festival** Norbury Junction - urgent help needed - see page 5! ² **A family day out PLEASE GIVE US YOUR SUPPORT BY COMING ALONG TO THIS!**
- **Saturday 25 June 2011 Withington Fete** - help needed! ²
- **Sunday 10 July 2011 Upton Magna Fete** - help needed! ²

* Please contact the Secretary to confirm date and location of the Trustees meeting if you would like to attend. Members may be asked to withdraw for certain confidential items.

¹ Contact **Bernie Jones** 01743 709601 or e-mail berniejones@hotmail.com or **Julie Harris** 01952 608119 or e-mail julsharri0703@aol.com

² Help needed to man the Trust stand, if everyone gives an hour each, it makes it so much easier! Contact **Bernie Jones** 01743 709601 or e-mail: berniejones@hotmail.com

Issue 41/2 2011

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NEW Members

We welcome those new members shown here.

Helen and Stephen Ashby & family

of Preston upon the Weald Moors

Peter & Barbara Fisher

of Shrewsbury

SNCT QUIZ NIGHT

Come and join us on
Sunday 13th March

for a quiz starting at
8-30pm
all invited

if anyone can bring a raffle prize
(bottle of wine or chocolates etc.)
it all helps!

at

The Red Barn

108 Longden Road, Coleham,
Shrewsbury SY3 7HS



PHOTO CALL

"A walk in the sun on a very nice winters day some years ago". Simon J Wain

One of a number of photographs sent in by Simon to add to our growing collection. It shows the aqueduct at Forton where the road and canal cross the River Mees.

Thanks Simon.

If you have canal related photos that you think we may be intested in using please send them to the graphics team. (see page 18)

Norbury Canal & Food Festival

Plans are still underway as the magazine prepares to go to 'press', but it is hoped that there will be a full weekend of events including Wild Over Waterways, a popular event at Canal Festivals. It is hoped that the web site sncanal.org.uk will bring the latest news about the event as the Festival date approaches.

S&News asked Bernie Jones, one of the Festival organisers, about the event so far. "We are trying to arrange a wide variety of activities including a brass band and a food festival as well as other attractions. There is a lot of work still to do but things are starting to come together. I have been somewhat disappointed by the low response to our appeal for volunteers in the last issue of S&News but hopefully there will be more people volunteering before the day!"

So get volunteering! Those wishing to help, either at the Festival weekend or in the preparation of the event, should contact Bernie on:

01743 709601, or 07971 016322,
or berniejones@hotmail.com

Although we now have someone to organise the children's Wild Over Waterways event at the Norbury Festival, we still need volunteers to help 'man' the stand. The IWA will be providing materials and instruction packs. If you think you might be able to help then email John Myers on jma2@onetel.com and he will send you a description and write up on how to help so that you can make up your mind.

Some details on the event are also to be found on www.wow4water.net



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Shrewsbury Canal Branch?

The Secret Shropshire website includes a photograph with the narrative "This low ditch in the grounds of Attingham Park in Atcham near Shrewsbury may well be an abandoned attempt at a canal. It would probably have been built to link the Shropshire Union Canal at Berwick Wharf to Watling Street at Atcham and so connect two principle transport routes. The canal was never finished and nor was it ever properly backfilled. It survives as an earthwork feature because the ground here has never been ploughed."

I was recently asked about this 'canal' by someone from the National Trust. Although I had heard talk of it before (it would clearly have been a branch of the Shrewsbury Canal from Berwick Wharf) and had seen the ditch I had never seen any documentary evidence and had always thought that it was not a canal.

So I asked Peter Brown - there's not a lot about the canals in the area he does not know! - if knew of any evidence, one way or the other. He informed me that there is no mention of it in the minutes of the Shrewsbury Canal Company.

However, at first sight he thought there are slight hints in the minutes. He said, "When the tonnage rates were fixed in October 1796 one of the items was '2d / ton / mile - coal and limestone landed at a wharf more than 30 yards from the canal'. As far as I am aware there were no branches. At the eastern end the Shrewsbury Canal connected with the Donnington Wood and Shropshire Canals, but any coal or limestone would be coming off these, not going onto them. Why then the minute? Just in case somebody did build a branch?"

"At the same meeting it was recorded that a legal opinion had been sought which showed

that the Act does not authorise cuts exceeding _ mile length 'or which may not terminate at or near some mine or mines at one extremity and at the said canal at the other'. The opinion was sought in the context of links to coal mines. I'm not sure exactly what the words I've quoted imply, and as I haven't got a copy of the Act I can't check for myself. The only cuts that can be made are those to mines? Or, more exactly, the only cuts which can be made using the powers of the Act - most importantly, compulsory purchase - are those to mines. No doubt the Atcham cut (if there was one) would have been made with the consent of the landowner.

"However, when one looks at the levels, a branch canal to Atcham doesn't look plausible. On the Ordnance Survey 1:25,000 map the Shrewsbury Canal appears to be about 54 metres above sea level. The land falls away towards Atcham after Home Farm is reached.

According to the map which accompanies the photograph, this feature would be at about 50 metres above sea level. If Lord Berwick had wanted a canal which had any locks down from the Shrewsbury Canal, I'm certain this would have been mentioned in the minutes, if only because of the question of water supply.

"Two possibilities come to mind:

- a former road which was in use before the park was created; or
- a leat for the ironworks which was originally sited just down from here."

So, Peter concluded, the complex answer to the question 'was this a canal?' is "No".

Can anyone shed any further light on the subject?

Steve Bean

Wappenshall and the canal system

The Shrewsbury Canal was constructed under Chief Engineer Josiah Clowes originally and later Thomas Telford after Clowes' death and was opened in February 1797. In the first place the canal was envisaged to carry coal from the East Shropshire coalfield at Oakengates to Shrewsbury, and subsequently carried bricks, pig iron, dairy produce, glass, coffee, fruit, furniture, building materials, even gun powder and materials such as fluxing limestone for iron smelting from North Wales.

The canal was isolated from the main system until 1832, when the Newport Canal was opened between Wappenshall and Norbury on the Birmingham and Liverpool Canal now called the Shropshire Union Canal. It was a further two years before 'standard' barges could get to Shrewsbury because of widening of the system from Wappenshall.

The system between Wappenshall and Trench remained as originally dug, due to financial constraints and could only be used by the narrower tub boats (six foot beam).

By 1840 the Duke of Sutherland, who was the Lord of Wappenshall, built several properties around the wharf's warehouse. A Thomas Telford style wharf cottage, now called The Villa, built in 1832/33 described by the Tithe Apportionment of 1841 as a house (of the wharf manager, the octagonal front and its windows giving him views up and down the canal), office, weighing machine room and garden. Next door was The Sutherland Arms Inn, now Bridge House.

Both the wharf and The Villa are grade two listed buildings. The foundations of the weighing room are now in the grounds of Bridge House following the sale of some of the villa's plot in the early 1950's and were demolished around 1980.

In 1841 the Tithe list showed that a John Tranier

was landlord of the Sutherland Arms and in addition to the main building, contained a yard, stables and garden. It appears that several other outbuildings on the plot have been removed over the years.



*The Transhipment Warehouse over an arm of the Newport Canal
Photo: © Andrew Tidy*

Subsequent purchases of the system by railway interests and business lost to both rail and road, eventually led to closure of the two canals in 1944, but some traffic continued to use the system into the '50s.

The wharf was under threat from residential development and the Trust tried to raise the capital for its purchase but were not successful.

However in June 2008 Telford and Wrekin Council, after lobbying by the Trust, stepped in and purchased the property after plans were submitted to alter the structure.

The council leased the buildings to the Trust to preserve the structure of these rare Grade Two buildings, establish offices for the Trust and produce display and education facilities for the community.

The Trust is now moving to secure Lottery Funding to renovate the buildings.

John Metcalfe

Wappenshall Repairs

Repairs have been carried out to the roof of the smaller warehouse at Wappenshall. Storms over the last couple of winters had brought down a number of slates and all the holes have now been repaired to ensure that the interior remains watertight and further damage is limited. It is hoped that these repairs will see the roof through

Letters (or emails) to the Editor



Letters to Steve Bean, 4 Arscott,
Pontesbury, Shrewsbury, SY5 0XP or
✉ news@sncanal.org.uk

More Information on maps please
Congratulations on an excellent edition of
S&N News (38/3) 24 pages for a small canal
society shows great enthusiasm.

Living about 50 miles from the canal I
particularly appreciate the maps in the
centre fold which help me locate places
mentioned in the magazine. In future I
wonder if the parts in water could be
distinguished from de-watered sections? It
would also be handy to mark where a
footpath goes along the line of the canal so
that it is clear where access is, and is not,
possible?

John Holden, Ashton-in-Makerfield

Hi John,

Thanks for your email. Sorry we didn't get it in the
last edition. I like your idea of showing more
information on our maps. We'll see what our graphics
team come up with later this year. As I said last time
we are trying to refresh our public face.

Thanks for your comments. Steve

Boating in the near future?

Hello Steve

Thanks for the latest S & News, which is
once again a good read.

Here in Long Lane, a section of the canal
has been dredged and re-watered this year,
just west of the old (demolished) Bridge 17.

The new owner has not only moved into a
S&N canal side bungalow, but also
established a fishery within its banks. He
advertises for anglers wishing to catch a
range of fish to enquire within.

I'm not into angling, but I own a small
trailer-boat, which I'm hoping one day to
launch into the S & N. Will the Trustees see
their way to making a section of the canal
navigable before too much more time passes?

To enable canal use by boats in the early
stages, temporary slipways are essential, to
permit owners of small boats (including
canoes and dinghies) easy access to the canal,
so that as isolated sections gradually become
watered, they can be put to practical (and
publicly visible) use, before full restoration
becomes a reality.

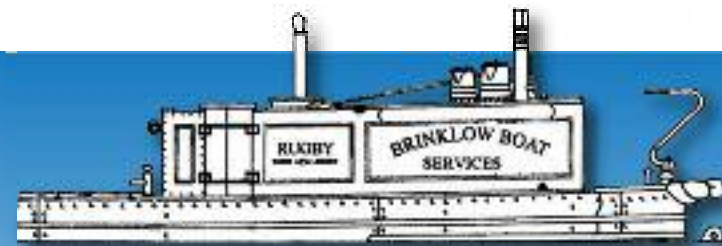
Incidentally, is it permissible to drop a rubber
dinghy or canoe into the cut at Polly's Lock
(Newport), for a quiet weekend row? The
annual 'Dinghy Dawdle' that take place each
summer in the Montgomery Canal is a huge
success, and guarantees the attention of the
local media; it even has its own Wikipedia
article! At £10 an entry, the organisers raise
valuable funds for SUCS and the Friends of
the Monty. Anyway, it's about time the
Newport swans shared their territorial waters
with others for once in a while, and got used
to boats!

Regards
Martyn Vincent

Hi Martyn, thanks for the email.

Plans have not been made yet for the details of any
use of rewatered sections, but your suggestions will
be borne in mind about slipways. I think our first
major project will be the warehouses at Wappenshall.
We will have to consult the 'powers that be' about the
use of watered sections of canal in Newport. Watch
this space!

Steve



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“They tell me arsonists always go back...”

It was the tail end of the hot summer, school
holidays, circa 1955, when half a dozen of us
young jockeys set off one sunny afternoon from our
East Shropshire village of Hadley. At 13 I was the
oldest so the Alpha Male, at least for that
afternoon. We drifted down the Trench and
eventually came to the place known to some as the
Trench Crossing or to others as Trench Lock.
Here the railway crossed over the main road and
the now disused canal went under it. The lock was
right next to the road and was obviously there to
take the canal down about 8 foot so that the tug
boats could get under that road.

The whole area was already showing signs of
decline and I knew it very well because it was
where I did my morning paper round. Mostly
blocks of terraced houses that had seen better days
and behind the main road was perhaps the worst
possible outlook from your front window at Forge
Row, yet another mish mash of a row of some
dozen or so workers' houses. Their view was of a

flat area about half the size of a football pitch
entirely covered with large rusting rolls of wire all
tangled together like a giant pegged rug.

There was a cottage next to the lock that was still
occupied but was a million miles away from most
peoples' idea of an idyllic canalside property. No
garden to the rear just a cinder road with giant
advertising billboards facing the busy main road.
The cinder road led up to the edge of the Trench
Pool which was the feeder for the canal that
eventually joined the Newport canal at
Wappenshall. Only a couple of years earlier a boy
from my school had drowned in the pool when he
became entangled in weeds so no-one dared go
swimming there. My friend and I were to suffer a
near miss a couple of years later when we went
swimming in the very attractive Valley Pool just a
few hundred yards away and got similarly
entangled. Kids never learn do they?

This time we just walked along the cinder path in
a dead straight line towards the 'Shropshire Arms'

pub. Better known to us locals as; 'The Blue Pig'. Behind the pub there was a small jetty in the pool and moored there was a large wooden rowing boat, the property of the Donnington Sea Scouts. From the far banks of the pool, fishing rod in hand, all summer, I had watched the efforts of the young scouts to propel this heavy lump round and round the pool and constantly wondered why there was a need for Sea Scouts locally when we were at least 70 miles from the sea? I also wondered why the hell I was fishing as I never did catch a single fish and if the pool was dragged today they would find the remains of a set of fishing tackle tied to a rock that I ceremoniously sunk there to conclude my short career as a fisherman. The pool was on our left and the canal, still full of water down below us, on our right but there were no tug boats left on it. On the far bank there was the mainly glass wall of Sommerfields factory, famous for the invention of the none sinking portable road tracks used by the army in the north African deserts but by now it was fading and several of the window panes were either broken or missing. There was lots of other dereliction on that far bank in an area that had once been a thriving industrial site.

Just before you reached the pub there was a hump back bridge over the canal just wide enough to take a car or cart and just past the pub there was a small cluster of cottages right at the foot of the Trench incline plane. The rails up the incline had long gone but the winding house, or boiler room, was still standing proudly at the top and that was our next destination. A bit of a disappointment as it was just a shell with no roof and the surrounding canal system up there was now bone dry and overgrown but ideal for a bit of adventure and we stayed there for quite some time and drifted in ever widening circles. Soon a cry went up from one of the lads and down a small valley to the right of the incline viewed from the bottom he had discovered the entrance to an obviously man made tunnel. It was probably about 6 foot wide and 6 foot high and crying out to be explored so we all walked in about 50 yards and it was going in a straight line diagonally under the incline plane towards the pool. We could not see any further so we went out again. I for one was not satisfied and wanted to go in further so one lad was sent off home to get some matches, a couple went into the nearby scrubland

to cut some sticks and the rest went to the back end of Russell's Rubber Works to find some chunks of waste rubber. These were pushed onto the sharpened ends of the sticks and lit so we could see as we went back into the tunnel which had just a slight down hill slope.

We all managed to get about 100 yards into the tunnel then a bit of panic set in as the rubber was burning too fiercely and hot chunks, still alight, were falling off the sticks. One by one there was a mad dash back to the daylight leaving me on my own with the dying remnant of my torch and I decided it was time for me to join in the panic. I reached the daylight just as my torch disintegrated and abandoned it on the grass bank and went to join the rest a few yards away to catch my breath.

One of them, with mouth wide open, pointed back to the tunnel and we all turned to see that the grass bank was now ablaze and the light wind was fanning the flames and spreading the fire. For ten minutes we tried desperately to try and beat it out with our sticks but it continued to spread rapidly. There were no houses or building near so it was never going to threaten life but when we heard the bells of the fire engine in the distance we scarpered.

They tell me that arsonists always want to go back and watch the results of their work but I can assure you that I had no such plans and never went near the place ever again and never found out what had been the original purpose of that tunnel.

Derek Gambie, Dordogne, France

I think moving to France to escape justice is a bit much! ed.

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Water Supply - the S&N canals Achilles heel

Reason for the supply problem

The recent debate that is taking place with the Norbury Community regarding the lock option versus the inclined plane option has once again brought to the forefront the technical problem of water supply. The original source of supply for the Newport Branch of the Shrewsbury & Newport Canals (S&N) was from the Shropshire Union Canal (SUC). However British Waterways (BW) have reconfirmed once again recently that no water can be supplied from that source as the SUC is now at greater risk of lack of water supply for its own operation, than first disclosed in 2003 and is predicted to get worse over the next 25 years. From the beginning when first completed the SUC experienced water supply problems, which was only solved when treated water from the Wolverhampton Sewage Works (WSW) was fed into the SUC. Now with leisure traffic being greater than previous commercial traffic it is understandable that BW are concerned and have advised the S&N Trust to investigate and provide its own source of water supply. This however has proved to be a problem as the terrain is such that the nearest sources of water from which water can be pumped, to provide the water required to operate the seventeen-lock flight down from Norbury Junction is the River Meese, which is 3.75 Kilometres from Pound No.1.

Although there are those who naively think that BW will eventually relent, the reality is that it is not going to happen and the fact has to be faced and planned for. When as the Trust Engineer, this is exactly what I was doing by creating modern designs and use of modern materials, aimed at conserving future energy, reducing maintenance costs, and making the most efficient use of water from new sources, as advised by BW. There are also those who naively think historically that the S&N should be restored back to exactly how it was by using the same 1700 methods and materials. BW inherited canals throughout the network in this state, which has been the cause of all its problems. The 1700 methods and materials not being fit for present day purpose, requiring expensive rectification aimed at bank protection, reduction of water consumption, and reduction of ongoing maintenance costs, which BW have not had the financial resources to rectify and service adequately and get on top of. Therefore when embarking on a construction project such as the S&N, which is likely to take 30 to 50 years to complete and put into operation, and which is

likely to remain in operation for 200 to 300 years. Is it not common sense and imperative that the planning and decisions taken at present should not be influenced by nostalgia for the past or by the present day problems but on the vision for the long-term future? As BW have now realised and concluded that they will not take possession of restored canals in the future if not modernised in this way.

Volume of water required

The volume of boat traffic determines the volume of water required to operate the locks, which is 107,000 litres per boat passage. In addition the normal daily losses have to be taken into account, which Consultants Atkins when undertaking the Feasibility Study in 2003 established as 160 mm per day from the whole surface water area for the traditional clay lined canals throughout the network, which can be reduced to 50 mm per day if bank protection measures and a modern lining is used. Thus saving 31.25% on daily water losses that on the S&N would have to be pumped. A further loss that would have to be pumped is the constant water that leaks through the traditional lock gates for which 5% is allowed. As the Trust Engineer at the time, the dilemma was, what would the likely volume of traffic wanting to experience visiting the S&N be. The nearest example on which to take a judgment is the Llangollen Canal, which like the S&N is a branch canal off the SUC. Which according to Atkins Project Manager experiences up to 8,000 boats per season and being a branch involves 16,000 lock drops per season, which basically means it is running to the full capacity of the locks to pass boats through in daylight hours during peak periods. The average over the 245-day season being 65.31 lock drops per day and up to 94 lock drops per day at bank holiday peak periods. It was considered that the S&N has all the attributes to make it equally popular to the Llangollen and this same maximum volume of traffic would need to be designed for, to keep the seventeen-lock flight and the rest of the Newport Branch in operation. Based upon the maximum lock drops and the modern channel protection, these requirements still equate to 11.372 million litres per day to be back pumped back up from pound No.18 to pound No.1 from the nearest source available, the River Meese. Also down the Newport Branch there are the additional locks 18 to 23 and their pounds between, which will require a further 14.312 million litres a day. These locks being spread much further apart would have to be back pumped

individually. Water could be pumped from the Strine Brook into pound No.18 to supplement the water taken from the River Meese to feed locks down to lock 23 and the pounds between. However the Environment Agency (EA) will take into account existing extraction licences when deciding the volumes the S&N can extract. There is also likely to be resistance from EA with extractions from the River Meese as the Aqualate Mere and surrounding area is designated as a SSSI, NNR, and RAMSAR site. Therefore EA is very sensitive about any activity that could have detrimental effects upon it and as a result may restrict the amount of water extracted from the Meese, which runs out of the Mere approximately 750 metres distance south from the canal. In the event of the extraction from the Meese and the Strine being insufficient water would have to be pumped from other sources that run under the Shrewsbury Canal such as the River Tern. This would require the water to be pumped around the Eyton Locks No 24 & 25 and in addition all the locks on the Newport Branch up to Pound No.1. A total of twenty-five locks.

Preventing water taken from SUC

The traditional method of controlling water being taken from one canal to another is a stop-lock, which is simple and effective. Its use being to measure and charge for water taken from the higher water level supply canal to the lower water level receiving canal. To prevent water running from one to the other requires both canals to be at the same water level, which is what will be required in this case as BW does not want any water to be taken from the SUC. Accommodating a stop lock in the top pound No.1 due to its short length of 100 metres will reduce the effective pound length to 75 metres. Each time lock No.1 needs to be raised to allow a boat through 107,000 litres of water is taken from pound No.1 dropping its level by 158 mm. The bottom gate of the stop-lock having to remain closed to prevent water running out into the lowered pound No.1. 107,000 litres of water would then have to be pumped into the pound to bring it up to the SUC level before the bottom stop-lock gate can be opened, to allow a boat to move in or out without taking water from the SUC. Even with a very large powerful pump to replace the 107,000 litres within the time taken for a boat to pass through lock No.1 it will inevitably cause delay almost doubling the time to pass boats through lock No.1. This would exacerbate queuing at busy peak times with nowhere for boats to temporarily moor and wait, other than beyond the length of permanent moorings on both sides of the SUC for some distance to both the north and the south of the

blind entrance junction to the Newport Branch. A stop-lock keeper would need to be in permanent attendance to ensure that the correct sequence of gate openings took place. Also in view of the distance to the queuing areas, warnings to moor and wait there would be required with an attendant at both the north and south ends using walkie-talkies to control boats being called in by the stop-lock keeper. In view of the distance it would be very difficult to achieve perfect conveyor flow and further delays would be inevitable. The whole scenario being in danger of sliding into Chaos. To help the situation the stop-lock gates and the paddles and gates on lock No.1 could be motorised and computer controlled together with water level gauges, boat presence monitors, and the pump all automatically computer controlled to ensure the correct sequence and water balance levels were maintained. However the queuing problem would still exist and be more difficult to automatically control. Possibly a tall control tower could be built at the junction with sight of all the activities north south and west, with digital signs controlled from the tower at the queuing areas to give instructions to stop or call boats in, based upon first come first served.

There is no doubt that at present the combined sources of water from brooks and rivers that run under the S&N along its route would be sufficient to provide water necessary to match the peak requirements to operate the S&N but it comes at a very high price. Firstly for the pumping installation costs and secondly and more importantly the forever ongoing pumping energy costs. Various suggestions have been made some most outlandish on how these costs could be reduced but on careful investigation and analysis have proved not to be technically feasible or economically viable. The most fundamental problem that has to be faced is the effect of global warming. For instance in the initial documentation prepared for the Shropshire Local Development Framework (LDF) it stated that forward planning was taking into account that during dry periods the River Severn could be virtually running dry by 2080. This may be exaggerated but last year the early dry spell, which was not even noticed as a dry spell by the general public at the time and became hardly credible later when being asked to preserve water as a result. At the time when normally the Belvide Reservoir would be near its top level I went to see the effect of this generally unnoticed dry spell. From the top tidemark on the stone retaining wall to the water level I estimated it as 5 metres. Based upon map contours and spot levels this indicated that the reservoir water level was desperately close to canal level when there would be no head

to feed water into the canal. These swing in extremes of weather, from exceptionally dry and not necessarily hot at the time, to exceptionally wet weather causing flooding looks to be the pattern of events into the future as global warming continues to take hold. In view of this, there needs to be some radical outside of the box thinking on the part of the technically trained trustees as it is a totally new phenomenon with no past experience to give guidance and answers. The first thing that comes to mind is to create more reservoir capacity. But where can they be built? For reservoirs to work they require the appropriate terrain with adequate catchment areas to fill and keep topped up. Along the route of the S&N there are water sources that could feed reservoirs but not at a level that could avoid having to pump the water from the reservoirs up into the canal. There are those none technically minded that take the view that too much emphasis has been put on the technical aspects. The simple answer to that is, would they be happy for a builder to start digging out the foundations for their new house before the site is investigated and level surveyed and initial plans and material specifications created. I think not. Until this process is gone through with concept design and specifications established there is no start that can be made. Any start made until this process is complete would be completely wasted effort and wasted funds. Also without it no tenders can be obtained, without which no finite costs can be established to go forward for funding. These are problems that can only be solved and planned for by professionally qualified engineers with help from the technically experienced. The problem is that the none technical, particularly politically motivated, often think they know better, particularly when it does not fit with their unscrutinised unanalysed personal opinions.

Future economic sustainability

- Lock option

Funding providers for community beneficial projects scrutinise submissions for funding on the basis of four criteria: feasibility, viability, do ability, and ultimately future sustainability. The latter being the most important on the basis that it is only worth spending the capital if the project can be shown to be sustainable into the future and is not likely to fail in its purpose. Without the technical plans in place to define the project and justify the funding requested in a submission it would be rejected out of hand. In the past when large funds were available the scrutiny process was a bit lax and there are many examples where projects have not realised expectations. In the

present economic climate scrutiny will become more onerous and only projects that can clearly define the four criteria in professionally established factual terms will get accepted. It is the relationship between revenue income and revenue outgoings that determine sustainability. The pumping cost is revenue outgoing with no ability to raise additional revenue income. Atkins based the economic case for the S&N on the following data. The capital expenditure of reinstating the whole route would be £86 million and when up and running it would achieve for the local economy £4 million per annum. These capital and revenue figures did not take into account the Inclined Plane alternative to the locks. Although separate costs were provided for the cost of the pumping facilities and contaminated spoil that would have to be sent to landfill sites, these costs were not included in the £86 million figure. When added in it brought the cost up to near on £95 million, the £4 million revenue remaining the same. These additional costs were not included in the financial analysis. However by the use of sophisticated financial modelling Atkins justified the case for restoration. In simple terms the £4 million revenue gives a 4.21% annual return on the £95 million capital expenditure.

Future economic sustainability

- Incline plane option

The Inland Waterway Advisory Council (IWAC) has championed the potential of canals to enable regeneration in areas along their routes that will attract tourism, which government has reflected in its guidelines to planning authorities to implement. Tourism is now a very important revenue earning industry for the country, which cannot be disputed and local authorities are obliged to take it into account. This guidance has informed the strategies that I have focused on in planning for the future of the S&N, but at the same time with a sympathetic attitude to what local communities along the route may want. Being prepared to engage in discussions to accommodate with changes, providing they are technically and economically viable and feasible, and are not detrimental to the future sustainability of the S&N or the aims that the Trust Board was formed to achieve. In planning the project from a resident's perspective I have virtually doubled the project budget cost in anticipation of accommodating and mitigating possible objections to aspects that would be valid. Of course one cannot please all of the people and many objections inevitably pop up that are difficult to validate as relevant to the situation and do not stand up to objective scrutiny.

Economic advantages

Considering the annual revenue returns. £6.552 million to £7.96 million predicted in the consultation study and £4 million predicted by Atkins for the whole route.

- Inclined Plane option, return on capital expenditure of £23 million equals 28.45% to 34.58% respectively.
- Capital expenditure difference between the two options, £23 - £12.9 = £10.1 million, extra capital required for Inclined Plane option.
- Return on the extra capital of £10.1 million, = 64.87% to 78.812% respectively.
- Inclined Plane option, whole route capital cost, £95 + £10.1 = £105.1 million. Return on capital equals 10.04% to 11.38% respectively. This includes the Atkins £4 million revenue figure.
- Lock option, whole route capital cost, £95 million. Return on capital equals 4.21%. This is based on the Atkins £4 million revenue figure, as the Inclined Plane revenue does not apply.
- This equates to a 2.5 to 3.0 fold increase in return on capital for the whole route with the Inclined Plane option compared with the Lock option.

Assume a worst scenario that all capital costs increase by ten percent and all revenue costs reduce by 50% as follows:-

- Inclined Plane option, return on capital expenditure of £23 x 1.1 = £25.3 million, equals 12.949% to 15.731% respectively.
 - Inclined Plane option, whole route capital cost, £105.1 x 1.1 = 115.61 million. Return on capital equals 4.564% to 5.172% respectively.
- This includes the Atkins £4 x 0.5 = £2 million revenue return figure.

This is still a better return than the 4.21% for the Lock Option, which in the same circumstances would only achieve 1.894% return. The revenue generated by the Inclined Plane will more than compensate for the pumping of the remaining 13 locks and will ensure a sustainable future for the S&N.

Technical advantages

- No water is taken from the SUC the same volume of water taken down in the tanks being brought back up.
- It is possible to run water by gravity from the Wood Brook into the bottom canal level, which is not possible with the lock option. Thus having a source of water not requiring pumping.

- Back pumping of the first twelve redundant locks is avoided.
- Tanks can accommodate two 72 foot boats or a combination of smaller boats at a time. With the one tank descending and the other tank ascending at the same time with the boats in the tanks.

On a personal note

Over the last nine years as Trust Engineer and Project Manager I have devoted my retirement on a full time basis establishing the problems the S&N faces and how best to deal with them. Planning, designing, mathematically calculating, scrutinising, and analysing all potential options in order to establish factual advantages and disadvantages before making a commitment on the factual best options. Totally focused on all aspects of what is good, bad, or indifferent that is going on, which is likely to affect the S&N at present or more so in the future. Listening to what the people in the know have to say and asking and taking advice as necessary. There is nothing unusual in all this as it is what professionally qualified engineers are trained and expected to do, personal factually unsubstantiated opinion being a no no. Usually the Chief Engineer has a team of trained engineering technicians to assist with all the detailed tasks, detailed design and investigations etc, which unfortunately for the vast majority of the time I have not had the advantage of, thus the nine years duration. One man can only do so much in a day. All this time and effort has been focused on one thing, establishing the S&N on a firm foundation to move forwards for funding, completion, and a sustainable successful future into the next few centuries. Unfortunately as in life in general there are those who would prefer to dismantle the foundations to replace with flimsy foundations based upon factually unsubstantiated opinion that would not stand up to the above described professional scrutiny and analysis process. Rather than build on these foundations that have gone through the process of being factually proven sound.

Steve Jones, who I recommended to take my place, is a professionally qualified engineer with good experience and common sense, which is a prerequisite for all good engineers. So my advice to the Trust is to curb the opinionated and let him get on with the job and accept his advice without opinionated resistance, which I have had to suffer on many occasions. I am still a member and am prepared to help Steve with any information he requires and wish him and the Trust the best of luck in the endeavours.

Dennis J. Rogers. CEng. MIMechE., 14th January 2011

A mystery solved?

The Shrewsbury Canal's guillotine gates

Josiah Clowes was 58 years old when in 1793 he was appointed engineer of the Shrewsbury Canal. He had spent much of his adult life working on canals, having started as a contractor on the Trent & Mersey. He had been resident engineer of the Thames & Severn Canal until its completion in 1789; after that he completed Dudley Tunnel, surveyed the Hereford & Gloucester Canal, advised the Birmingham & Worcester Canal, and was engineer for the Stratford-upon-Avon and Dudley Number 2 Canals. Why then did this experienced and conservative engineer decide to have guillotine gates at all the locks of the Shrewsbury Canal?

I think there is a simple answer — he didn't! The Act for the canal was passed in June 1793. The decision to offer Clowes the job of engineer was made in August but he didn't accept until December. However, the contract for constructing the canal from Trench to just short of the River Tern near Longdon was made in July, and this is the section which included all eleven locks. In November it was reported that it was hoped that the canal would be navigable to Long Lane by January. For this to be so, the locks must have been well under way to completion. This wasn't the only contract to have been made before Clowes was appointed: the price for making the inclined plane had been negotiated and the rails and engine ordered.

Before the Act was applied for it was usual for a consulting engineer to advise about the route and any special problems such as water supplies, tunnels and aqueducts. This hadn't happened here. The plans had been drawn up by George Young, a land surveyor from Worcester. In 1786 he had surveyed the river Severn from Worcester to Coalbrookdale following a report by William Jessop, and in 1788 he prepared the plan and section for the application to Parliament for the Shropshire Canal. In all probability he merely did the physical survey and mapping.

So who made the engineering decisions? The obvious person is William Reynolds, a member of the Shrewsbury Canal Committee, and the most innovative of the east Shropshire ironmasters. In 1787–8 he had financed and built two short canals, the Wombridge and Ketley Canals, the latter including the country's first successful inclined plane for boats, made to his design. He then went on to do the survey

for the Shropshire Canal from Wrockwardine Wood to the River Severn at Coalport, over ten miles long including its branch, which had three inclined planes. He also oversaw its construction.

It seems natural that he would have decided the route of the Shrewsbury Canal and its main engineering features, such as the inclined plane at Trench. The most important aspect where he would not have had any experience was the construction of the major aqueducts needed at Longdon and Rodington.

So what about the locks? There weren't any on the Wombridge, Ketley or Shropshire canals. The Ketley inclined plane made use of guillotine gates at the top, the others did not. My belief is that Reynolds thought about locks from first principles. These were locks for tub-boats, so he made the locks a little over 80ft long, to accommodate four boats. He realised that if he put in an intermediate gate just over 20ft from the top sill, you could pass one boat without wasting water. Tony Clayton, writing in S&News issue 31 (3/2008), stated that he had seen traces of grooves in the brickwork of locks 4 (Hadley Park), 6 (Shuck's), 10 (Eyton Village) and 11 (Eyton Lower) in just this position. This intermediate gate would have to be a guillotine, if the lock was not going to be unnecessarily extended, so it would be natural to use that method at the bottom too.

I feel we have not given enough credit to William Reynolds in connection with the Shrewsbury Canal. I believe he decided the line, and devised the inclined plane and the locks. The only important design aspects for which he was not responsible were the original aqueducts and the tunnel — though it was he who advised having a towpath through it, which had never been done before for such a long tunnel. And in my opinion the design of the iron aqueduct at Longdon-on-Tern owes more to Reynolds than to Telford, though of course the latter bore the responsibility for approving it.

Peter Brown

Later note:

Some time after I had written this article I had cause to look at the Shrewsbury Canal's entry in Joseph Priestley's *Historical Account of the Navigable Rivers, Canals and Railways throughout Great Britain*, published in 1831. This states: 'Mr Thomas Telford and Mr William Reynolds were the engineers of this canal.'

NORBURY JUNCTION

The Trust would like to thank Mike Jones, for allowing us to use his late father, David's photographs. Also Andrew Tidy and Tony Burton for access to their extensive collections.

A brief history of the Junction

In the 1840's the wharf was busy with men loading milk for Cadbury's at Knighton and grain, unloading lime for fertilizer on the fields. What now forms the café was the warehouse and the attached building, the wharfinger's office. The site also contained the Canal Company workshops built shortly after the Birmingham and Liverpool Canal (now Shropshire Union) opened in 1835. It contained a steam powered carpenter's workshop and a blacksmith's forge. The Newport Canal left the B&L at this point dropping 100 feet through 17 locks and remained in operation till it closed in 1944. A dry dock now operates on the site of lock number one, the start of the Newport Canal, and boats moor in the short waterway.

Keep sending us your photographs for our growing library.
 By post: John Stevens, 11 Roe Deer Green, Newport, Shropshire TF10 7JQ
 or by email: graphics@sncanal.org.uk



Norbury Wharf, 1968 with the photographer's boat 'Yorknought' in the foreground © Andrew Tidy



Norbury Wharf BWB Workshops, early 1950s © Mike Jones



< Norbury Wharf today © John Stevens



Lock one, Newport Canal. Converted into a dry dock is actually the start of the Newport Canal. Photograph taken in 1959 from the collection of © Tony Clayton.



The beginning of the Newport Canal in the early 1950's showing the degeneration of the system after a few years of abandonment. © David Jones



Workshops at Norbury Wharf, early 1950s © Mike Jones



Looking up the Newport Canal towards the converted lock one from under Towpath Bridge (No. 1) today. © Andrew Tidy

Main photo: Norbury Wharf, early 1950s © Mike Jones