

**Restoration of a section of the
Shrewsbury and Newport Canals
from**

Forton Bridge to Newport Town Wharf

Initial Development Appraisal

**Astley Associates
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1. History of the Canals

The construction of the tub boat canal network in Telford between 1768 and 1792 provided the transport network for raw materials and goods that enabled the development of the foundations of the modern industrial revolution. In 1797 this network was extended to Shrewsbury (the Shrewsbury Canal) and in 1835 a new section of canal was constructed from Wappenshall in Telford to Norbury Junction on the main line of the Shropshire Union canal in Staffordshire (the Newport Canal) to connect the local canal network to the national network. In 1944 the route was officially abandoned. (see www.sncanal.org.uk).

2. The Shrewsbury and Newport Canals Trust

In 2000 at a public meeting in Newport, the Shrewsbury and Newport Canals Trust was formed. It now has over 800 members. Since that date the Trust has worked closely with Staffordshire and Shropshire County Councils, Stafford Borough Council, Telford and Wrekin Council, Shrewsbury and Atcham Borough Council and all the parish councils along the route to develop the project.

The objectives of the Trust are:

- (1) To promote and undertake the restoration of the Shrewsbury Canal between Shrewsbury and Trench in the county of Shropshire and of the Newport branch of the Shropshire Union Canal between Wappenshall Junction and Norbury Junction in the county of Staffordshire by the original route or diversions as necessary (hereinafter together called "the Canals") to good and navigable order and to promote and undertake the maintenance and improvement of the Canals for the benefit of the public.
- (2) To promote and undertake the fullest use of the Canals by all forms of waterborne traffic and for all forms of water-related commercial, local amenity, tourist and recreational activity for the public benefit.
- (3) To promote and undertake the education of the public in the history and use of the canals and waterways and of the Shrewsbury and Newport Canals in particular.

3. The Wider Restoration Proposal

Although the Trust has the objective of the restoration of the whole length of the canals, the initial priority is the restoration of the 17 kms of canal from Norbury Junction in Staffordshire (where it connects with the national network) to Wappenshall in Telford. This restoration has four broad aims to meet the needs of the communities along the route. These are leisure, economic, conservation and education. The aims in detail are:-

Leisure

- A major new amenity and leisure facility stretching from Staffordshire to north Telford
- A wide range of leisure activities for all abilities – angling, walking, boating, cycling, painting, photography, wildlife studies etc.
- An opportunity for all to participate in volunteer projects
- A linear park providing additional opportunities for relaxation, enjoyment and interpretation of the countryside
- An inter-county green footpath from Stafford to Telford and, eventually, on to Shrewsbury.

Economic

- A major stimulus to sustainable economic regeneration of the rural area, the rural villages, the town of Newport and the north of Telford.
- Initial benefits in the form of local employment and local materials and services purchased for the reconstruction.
- A significant long-term tourism attraction for the area providing employment in boatyards, marinas, shops restaurants, accommodations etc. It will provide a major amenity in north Telford at Wappenshall to balance the Ironbridge Gorge in the south and complementing the historic links within Shropshire.

Conservation

- In the built environment of locks, wharves, canal basins, junctions, warehouses etc. which are of national importance at Wappenshall.
- In the natural environment the waterway, towpath and hedgerows will provide a wildlife corridor and sanctuary for a wide range of plants and animals.

Education

- The opportunity to study the role played by these canals in the growth of Telford as the birthplace of the Industrial Revolution. Opportunities for interpretation for the public as well as research at the proposed development of the warehouses at Wappenshall.
- An environment that provides authentic local experiences and teaching and learning resources for all ages, regarding the development and use of alternative energy sources, the canal and its history, as well as the wildlife and plants that the new environment creates.

4. Government Policy

The Government's policies for inland waterways in England and Wales are set out in "Waterways for Tomorrow" published in June 2000. The Government's aim is to promote the waterways, encouraging a modern, integrated and sustainable approach to their use. This involves conserving the waterways, while at the same time maximising the opportunities they offer for leisure and recreation, urban and rural regeneration, the environment, and for freight transport.

The restoration of the canal is strongly supported by Government policy. In the DETR publication "Waterways for Tomorrow" the government sets out its encouragement for restoration. *"Restoring waterways to full navigation also produces many benefits. Waterway restoration over the last 40 years has revitalised key parts of the country's transport and industrial heritage, generated jobs and development and increased opportunities for leisure, recreation and tourism. The government supports this approach and looks to RDA's and local authorities to support worthwhile projects. Local Authorities can help..... by adopting appropriate policies and land use allocations in development plans."*

5. Inland Waterways Advisory Council (IWAC)

The Inland Waterways Amenity and Advisory Committee (IWAAC) was created by the Transport Act 1968 to advise the Government and British waterways about the use and development of the latter's waterways for recreation and amenity purposes. In 1993 IWAAC was asked by the Government to concentrate on providing strategic policy advice on issues such as widening the customer base, balancing the needs of conservation and greater use, and development and regeneration. On 1st April 2007, IWAAC was replaced by the Inland Waterways Advisory Council (IWAC), established by the Natural Environment and Rural Communities (NERC) Act 2006.

Relevant recent publications by IWAAC include:-

- Working Group on Conservation Management Planning (2001)
- The Inland Waterways: towards greater social inclusion (2001)
- The Benefits of Sustainable Waterways; British Waterways since 1996 (2003)
- Just Add Water; how our inland waterways can do more for rural regeneration - a practical guide. (2005)
- Inland waterway restoration & development projects in England, Wales & Scotland – third review report (December 2006)

The Third Review Report (December 2006) reported on the Shrewsbury and Newport Canals Project. It classified the restoration as a **nationally** significant project and defined the projects Key Asset as having a “**high built heritage value**” and its Key Benefits as:-

- Strategic link and/or extension to the national connected system,
- Regeneration – urban
- Regeneration – rural.

In the review of canal restoration schemes, IWAAC commented on the Shrewsbury and Newport Canals project as follows:-

*Council welcomes progress by the Trust since the last review on this **outstanding** heritage waterway. Feasibility study and detailed engineering report completed [showing that full restoration is feasible in engineering terms] and partnership being formed. Implementation issues, including water supply and wildlife, considered with care. Privately financed development initiatives expected to provide about 25% of restoration costs but success in obtaining regional/national funding will be the key. An early priority should be the conservation of the surviving heritage structures along the route. A successful restoration would be a significant addition to the national system and the waterway heritage.*

6. The Local Planning Position

The Local Development Framework

Telford and Wrekin Council has been developing its Core Strategy as part of the new Local Development Framework for the area.

The Independent Inspector produced an “Initial List of Main Matters for Examination”. Under the Spatial Distribution of Employment the Inspector identified:-

“Should reconstruction of the Shrewsbury and Newport Canals be included as a strategic proposal, given the suggestion that it might lead to over 1000 new jobs and tourism based regeneration in the north of the Borough (including Newport).”

Following the initial meetings and discussions with the Examiner, the Council have added the following paragraph to the draft Core Strategy:-

“The disused Shrewsbury and Newport Canals run through the rural area from Newport in the east to Rodington in the West. The Council recognises the potential contribution that the reinstated canal could make as a tourist/leisure attraction and supports the principle of its reinstatement which should result in

the regeneration of associated local employment in Telford, Newport and a number of rural communities across the Borough”.

Existing Local Plan Policies

The Wrekin Local Plan 1995 – 2006 (para 2.2.13) undertakes to “*identify, conserve and enhance elements of critical natural and historic capital within the District e.g. the Ironbridge Gorge World Heritage Site, Shropshire Hills AONB, SSSI’s.*” The Trust believes that the restoration of the historic canal, its buildings and structures, through the District fulfils this objective.

Policy HE12 – Retention of Traditional Features and Floorscape – *The Council will not permit development proposals that may result in the loss of, or damage to, traditional features, such as street furniture, railings, walls, kerbs and floorscapes and other landscape features which make a positive contribution to the character of the area; and, where appropriate, the Council may request that these be reinstated as part of any development proposal –*

Policy HE14 - General Duty – *The Council will use its powers, and through its functions, to ensure that listed buildings are preserved, restored and continue in beneficial use*

Policy HE16 - Alterations and Additions to Listed Buildings - *Alteration, extension and other changes to listed buildings will only be permitted if the following criteria are met:-*

(a)the essential form, character and special interest of the building are maintained and the historic interest of the building and its setting are not adversely affected

(b)its architectural features, both internal and external, are preserved intact

(c)the proposed development is of an appropriate design in terms of massing, scale form, proportion, details, colour and materials

(d)the alteration, extension or new use can be dimensioned to be in the interests of the long term survival of the building

(e)where an extension is proposed, it should be designed to complement the character of the building, being generally subservient in scale and of a suitable form, materials and detailed design

Policy HE17 - Change of use of Listed Buildings - *The Council will encourage the change of use of Listed Buildings, provided the original use is no longer viable or possible, and where the character, form, fabric and setting of the building will not be adversely affected by the user.*

As stated in the Local Plan, “*The use for which an historic building was designed will almost always be the best use for the building and this should be pursued as the first option..... However, the Council must also have regard to the aim of preserving the character and special interest of historic buildings and will resist changes of use which cause unacceptable harm to the form*

and fabric of the building. The most profitable alternative use, for example, may not be the most appropriate and less damaging uses will be encouraged.”

Policy HE19 - Protection of the Setting of Listed Buildings - *The Council will protect or enhance the setting of Listed buildings by refusing development, which would detract from or damage their setting. Development will only be permitted when :-*

(a) is located in a way which respects the setting and form of the Listed Building and respects its relationship to surrounding buildings, features, street scene or sky line and does not otherwise impair important views of and from the building

(b) is of a high quality of design in terms of scale, massing, form, proportion, detailing and materials which is appropriate to the Listed Building and its context

(c) does not result in the loss of features, such as ancillary buildings, boundary walls, planting, hedgerows and floorscape materials that contribute to the character of the setting of the building

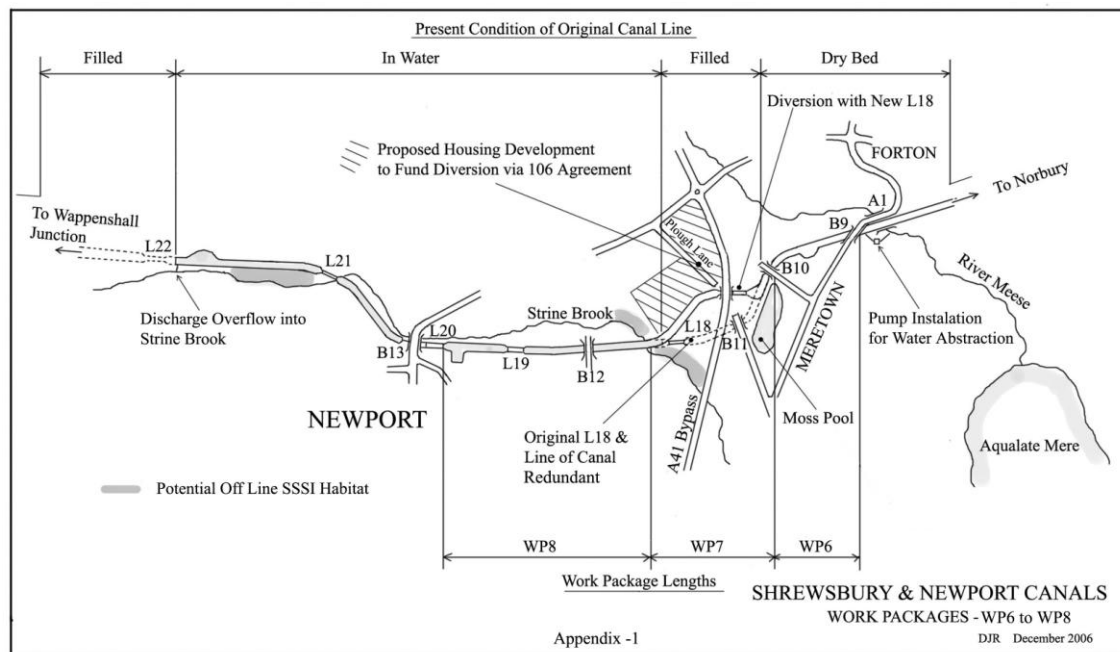
The Trust believe that their proposals for the reinstatement of the canal from Forton Bridge to Newport Town wharf, the restoration of buildings and structures along the route and the development of the wharf at Newport into a canal “hub” is entirely consistent with the emerging Core strategy and the existing Local plan.



7. Forton Bridge to Newport Town Wharf – Work Packages

As part of the restoration of the canal from Norbury Junction in Staffordshire to Wappenshall at Telford, the Trust has identified a potential initial phase in the restoration of the length from Forton Bridge to Newport town Wharf. This section has substantial economic development and tourism potential as well as the possibility of significant private sector funding.

The section covers the length of the main canal from the skew bridge at Forton to the wharf adjacent to Newport town centre. It has been subdivided into three work packages; 6, 7 and 8. The location of the three work packages are shown on the map below.



Present Situation WP 6

This work package covers the length west of Bridge B9 up to Bridge B10.

The bed as been in a dry condition for a number of years and is now infested with trees and scrub, there has also been erosion of the towpath and bank sides down into the bed.

The whole of the Meretown area is designated as a preservation area and it has been necessary to obtain the local authority's permission to remove the trees and scrub to allow this length to be restored. 112 trees ranging from 100mm diameter and above have been marked for removal and the positions identified on a map for consideration by Stafford Borough Council, who have subsequently granted permission to remove the trees identified.

Prior to closure, the canal was neglected for a number of years and there is a compacted layer of silt lying on the original clay puddle. In addition the large tree roots will have inflicted considerable damage to the clay puddle lining.

Present Situation – WP 7

This work package covers the length from Bridge B10 to the end of the diversion on the west side of the A 41 bypass.

The original line of the canal in this work package will be redundant to requirements as the water level required at the crossing with the A41 bypass is only 300mm below the level of the road.

Level surveys conducted by the Trust Engineers have established the feasibility of creating a detour to the north where the road rises to a higher level. This gain in road height plus the transfer of the drop in water level at the original lock L18 (on the town side of the road) to the opposite “east” side of the A41 - by building a new lock L18 that side - obtains the necessary clearance under the road for navigation. Based upon the levels data a detailed general arrangement design has been produced by the Trust Engineer and the costs estimated by a local civil engineering construction company.

The original bed and lock L18, other than a short length of dry bed adjacent east of the lock, was already filled prior to the construction of the bypass. Between bridges B10 and B11 the land has been returned to grazing and the owner has indicated that this length was used as a general dumping ground and assorted rubbish went into filling the bed. The central portion of the original line on which the bypass is now located was originally owned by Newport Urban District Council. Bridge B10 is still required for access to land on the north side. Bridge B11 is redundant but will remain in place as a heritage feature.

Present Situation – WP 8

This length which includes the town wharf (plus the length to the west of lock L20 not included in this package) was originally acquired by Newport UDC and was cleaned up and re-watered as an amenity feature for the town. It was transferred to Wrekin Council in 1974.

There is evidence that the towpath and opposite bank have sunk along a section at the eastern end and along a section at the western end. In addition, the owner of the land bordering the canal on the north side has indicated that some water seepage is occurring at points along this package length. Considerable silt is evident the present depth of water varying between 400 and 700mm along the length, the original depth would have been 1500mm, which indicates the volume of silt to be removed to allow navigation. Approximately six meters east of lock L19, a 300mm foul water main crosses the bed and at this stage it is not known at what depth it is set.

Severn Trent Water has been contacted and two letters have been sent requesting help and information. The response to telephone contact has also been uncooperative and disinterested. If it is established that the drain is set at a depth that will not allow navigation, modifications will be required.

At Lock L19 the gates have replaced by concrete dams at each end and the chamber filled. There is a concreted section in the middle of the lock that serves as a footpath. The top level is set a few millimetres below the upper pound water level with a pipe running through the centre footpath section, this allows water to trickle through the channel to keep the lower pound supplied.

Water losses for the whole length in water are replenished from the Strine Brook via a pump situated at the eastern end with excess water being spilled off back into it at the western end.

This whole length in water is subject to a SSSI and English Nature (EN) will not permit work to be carried out without their approval. Discussions have taken place and before any works are permitted, an equivalent "off line" habitat has to be created and established. This could involve two or more growing seasons after initial creation, therefore it has to be the first priority, unless English Nature is prepared to allow work to progress in a phased way that will not inflict any damage on the aquatic plant life concerned.

If this proves feasible and acceptable, the use of the planned trip boat could also go ahead on an agreed operational basis prior to the off line habitat reaching acceptable maturity, e.g. speed restricted and or number of trips limited. This is a solution that has been applied on the Montgomery Canal.

8. Engineering and other Construction Issues

Construction Requirements – WP 6

The first requirement is to remove the trees and scrub followed by the removal of the silt layer and tree roots, which will require the use of heavy equipment. Once this is done an assessment can be made of the state and suitability of the original clay puddle for reuse as a water retention lining, if proved unsuitable a modern lining material will be required. The land adjacent to the canal in the same ownership is limited in area and utilised as grazing paddocks. It is unlikely, therefore, that the owner would agree to the silt being spread on his land, which would necessitate its removal to a land fill site.

The restoration of this length could be undertaken by the Waterways Recovery Group (WRG) volunteers assisted by the Trust volunteers. The landowner, however, would prefer to have the work carried out as one event rather than be spread over a period of time, which would require contractors

to be used. A meeting with the landowner has taken place with a WRG representative together with Trust representatives when he expressed this preference. In view of this a programme will have to be established with WRG to undertake the work to a time scale acceptable to the landowner. Because of lack of Trust funds the WRG has been reluctant in the past to commit to a programme with the Trust. The WRG plan their programme of work for the following year in November of the previous year i.e. 2007 programme's will therefore already be planned and in place.

Estimated Costs (based upon voluntary labour) – WP 6

1. If clay puddle lining is satisfactory and silt residue can be spread on adjacent land	£8,000
2. Additional cost of modern lining if required	£225,000
3. Removal of silt residue to landfill site	£35,000

	<u>£268,000</u>

Construction Requirements - WP 7

This package involves the construction of a new lock L 18 on the east side of the A 41 bypass, the diversion of the canal onto a new route including the construction of a box tunnel crossing under the A 41 bypass.

As can be seen in Appendix 2, the diversion will run through a deep cutting for most part of its length. Although it is understood that the material to be extracted is mainly sand and gravel, sandstone could be present at the lower levels. In view of this preliminary borehole investigations will need to be carried out. The amount of material to be removed from the cutting can be calculated, but the acceptable method of disposal is uncertain at this stage. If it is required to go to land fill it would involve a cost of about £500,000.

The basic structure of the box tunnel entrance retaining walls will be plain concrete which will not be in keeping with the traditional heritage features of the canal. An additional cost has been included to brick face the plain structure and cap with sandstone blocks.

Estimated Costs (based upon provisional tender estimate) – WP 7

It is anticipated that this package will be funded by the proposed canal side housing development via a 106 agreement. (See Appendix -3)

1. A 41 crossing - basic concrete structure and channel work	£1,200,000
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2. Brick face with sandstone capping to external concrete	£40,000
3. Transport spoil to landfill site	£500,000

	<u>£1,740,000</u>

Construction Requirements – WP 8

The key issue on this length is the construction of off line reserves to replace the current SSSI.

Suitable areas on which to create the offline habitat has been identified. All these areas are adjacent to the Strine Brook, from which water can be supplied, and are abandoned for any useful purpose, being overgrown by weeds and scrub.

Once the SSSI has been settled to the Environment Agency's satisfaction the package length will need to be dewatered to allow the diversion to be connected and the necessary refurbishment work to commence. This will involve:

1. silt being removed and the clay puddle lining inspected and repaired as necessary and the towpath and opposite bank raised in the sunken areas to the east and west.
2. Lock L19 fill material and the concrete dams and footpath section will need to be removed to allow the state of the lock structure to be identified, e.g. as there been any movement of the walls inwards or outwards or any bulging or concavity of the walls. Until this is identified the full extent of the lock restoration work cannot be established. A footbridge over the lock will be required to replace the present arrangement. In view of its urban location the footbridge required over lock L19 would need to be of a pleasing design emulating traditional canal style.
3. The gravity foul water main could prove to be a major problem if alterations prove to be necessary to allow navigation over it and will undoubtedly prove to be expensive. The solution, if proved necessary, would be to lower the pipe under the canal bed. Because foul water containing solid matter is involved a pump would be required to force the contents through in order to prevent blockages occurring at the lower pipe level. Such a solution would have to be approved by STW.

Other than the possible alteration of the foul water main none of the work involved is beyond the capabilities of the WRG, but the extended time scale to

carry out the work and the confined space in which to do it may render it unacceptable. Access and working space is limited to the towpath, which fortunately is wide enough to allow machinery to travel. However it is a well-used amenity and to extend the disruption the work will create over a long period of time, involving closure of the towpath while the work takes place, would undoubtedly be unacceptable to the town community.

On-site discussions with a WRG representative, regarding the restoration of lock L19, indicated that they would require twelve months to restore it. In view of this situation and in order to limit the period of disruption it is logical to appoint contractors who can carry out the work within a short time period. The only access onto the towpath at either end is not ideal but is feasible. At the western end it is via the town wharf car park and the concreted access section across the centre of the town lock L20, and at the eastern end it is off the A41 bypass. Summerhouse Bridge B12 is a barrier for construction machinery moving through.

Estimated Costs - (based upon contract labour) – WP 8

1. Lock L19 refurbishment based upon no major structural problems	£50,000
3. Provision and fitting of new gates	£70,000
4. Refurbishment of towpath and make good access damage	£25,000
5. Remove and transport silt to landfill	£100,000
6. Construct off line SSSI habitat - 8250sq metres only	£250,000
7. Carry out alterations to foul water main - Severn Trent	£75,000
8. Footbridge over lock L19	£12,000

	<u>£582,000</u>

9. Estimated Total Capital Costs

Total Cost Summary

Work Package WP6	up to £233,000
Work Package WP7	up to £1,740,000
Work Package WP 8	up to £582,000
Water Balance	£14,500

TOTALS: - Landfill ----- £635,000 Construction ---- £1,969,500

	£
Total Construction Cost -----	1,969,500
Design & Project Management 10% -----	96,950
Preliminary Costs 1% -----	19,695
Spoil Transported to Landfill Cost -----	635,000
Total Cost less Contingency -----	2,821,145
Contingency 5% -----	141,055
Total	£2,962,200
VAT	518,385
	<u>£3,480,585</u>

10. Water Balance

Water Balance – Abstraction and Discharge

Present Situation

A water balance study has been carried out by the Trust engineer for the whole 41 Kilometre length of the canal. The conclusions of the report indicated that the project would proceed at various locations along the route based upon the progress pattern of land assembly, planning approval, funding availability, and that interim arrangements would be required for abstraction and discharges at the various locations as the project progressed.

The present arrangement for abstraction and storm water discharge for the existing work package WP8 pound length plus the extension of this pound up to the new lock L18 would be adequate. The upper pound from the new lock L18 to bridge B9 will need its losses and water required to operate the locks abstracted from the River Meese. To cater for the additional discharge volume the present discharge facility into the Strine Brook will need to be assessed and possibly enlarged. Also the same will apply to the present flow capacity through locks L20 and L21. A licence to abstract water from the Meese will be required and possibly planning permission for the pump installation.

Landowner Requirements

It is understood that the land on which the abstraction pump will need to be sited is owned by Aqualate Estates, who have not yet been formally contacted.

Construction Requirements

At the maximum design rainfall rate per hour the discharge volume into the Strine Brook over an hour period would be 891,000 litres. This compares to 1,854,000 Litres under the same rainfall when the whole canal is complete, although the main discharge point will then be located further down stream near to lock L23.

The abstraction volume required from the Meese to replace losses from evaporation, transpiration, and leakage(based upon the maximum design loss rate per day) would be 890,000 litres per day. This compares to 1,875,000 under the same conditions when the canal is complete. In addition the water to operate the locks will also be abstracted from the Meese. Based upon five boat trips a day (interim project) during high peak summer periods, run at two hourly intervals, the volume require would be 1,412,400 litres a day. This compares to 5,296,000 litres per day during the summer peak when the canal is complete. As can be seen the ultimate abstraction from the Meese will be much greater when the canal is completed, therefore the

installation for the pump needs to be sized for this capacity although a smaller pump could be connected at this temporary stage.

Estimated Costs

1. Pumping installation -----	£10,000
1. Smaller temporary pump -----	£1,500
2. Modifications to discharge facilities -----	£3,000

	<u>£14,500</u>

11. Land Ownership

Landownership Requirements – WP 6

The landowner (Mr J Perks) is keen to have this length restored and put back in water and at one stage indicated that he would donate the land if this was done. Prior to the new water abstraction rules coming into force, he did have a permit to abstract water from the small watercourse running adjacent to the north side of the canal and he was advised to apply to retain this under the new rules. He has confirmed his willingness to negotiate.

Landownership Requirements – WP 7

The land required for the diversion involves three separate plots owned by Miss J Vardon, Mr C H Day and Mr T Nicholls respectively. The plot of land between bridges B10 and B11 is Miss J Vardon. The plot of land to the east of the A41 bypass and north of the original canal line, plus the small wedge of land between the bypass and Plough Lane on the west side is Mr C H Day. The plot of land west of Plough Lane and north of the original canal line is Mr T Nicholls. All the land involved is utilised for grazing cattle and horses.

All three owners are in support but the owner of the first plot has limited land on which to meet the grazing required to run her National Foaling Bank business and has stated that she would require the area of land taken for the canal to be replaced by an equivalent area. She also owns the adjacent Moss Pool and is keen to utilise it for boat moorings once the canal is back in navigation.

Mr Nicholls and Mr Day have confirmed their willingness to negotiate. Confirmation is awaited from Miss Vardon.

Landownership Requirements – WP 8

The land owners on this length and for the off line nature reserves are Mr T Nicholls and Telford and Wrekin Council. Ownership of the canal in this length, previously held by Newport UDC passed to Wrekin Council when the Newport UD services were transferred to Wrekin Council.

