

Cotswold Canals Restoration

Phase 1b. Saul Junction to The Ocean, Stonehouse

Project S03

Coal and Canal: The Impact of the Stroudwater Canal on the Domestic and Commercial Life of Eastington

by Stephen Mills April 2007 Issue 1

For centuries fine woollen cloth had been made in the parish of Eastington and as the industry became more mechanised, steam engines began to play an increasingly important role. These required a reliable supply of coal throughout the year, but, the often poor state of local roads frequently made this difficult. It was not until the long-awaited Stroudwater Canal eventually cut through the parish that Eastington, along with many other industrial centres along its route, finally had a reliable lifeline to the outside world. Throughout much of the canal's working life, it was the transport of coal that was to be the most important cargo, although alongside coal, large quantities of stone for building and road maintenance were also moved by water.

In its earlier days, it not only acted as a conduit for goods and commodities, but also as a provider of news and information, carried by passing boats. Its impact must have been significant, perhaps as great as when the M5 cut through the parish during the 1970s. Like the M5, it was doubtless the object of much local attention and even today, in its current non-operational form, it continues to impact on the locality and provide a focus for study and activity associated both with its past and future.

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Introduction

For several centuries, the social and industrial life of Eastington was inextricably bound up with, and dominated by, the manufacture of woollen cloth. For many generations, cloth manufacture within the village reflected similar activities taking place throughout the region as a whole, and the gradual development and ultimate mechanisation of the industry in Eastington mirrored that occurring in other towns and villages spread throughout the Stroud valleys.

The woollen mills closely distributed along the Stroud valleys relied predominantly on water power for much of their working lives. Its relatively easy availability was perhaps the most crucial factor in the industry's initial development in the area and, in some cases, it continued to play an important role well into the 20th century. Its use was both extensive and widespread, with water-powered mills varying enormously in both scale and output. Inevitably, during the 19th century, as the local industry began to contract and reorganise in the face of growing competition, steam power began to assume greater importance. However, around most of the Stroud area, its adoption was slow compared with Yorkshire and even Gloucestershire's more traditional local competitor, Wiltshire. Initially, unlike these two regions, steam power was rarely adopted as the primary source of power, often merely acting as a supplement for water power in times of shortage. Several factors help to account for the slow take-up of steam, some related to the attitudes of the Gloucestershire manufacturers themselves and others to the retarding effect caused by the high cost and difficulties associated with obtaining reliable supplies of coal in the Stroud valleys.

With the passage of time, coal assumed a greater importance and local mill owners began to rely more heavily on it as a source of power. As competition from elsewhere increased and fashions changed, profit margins began to shrink and it became imperative for owners to be in a position to run their mills around the clock. Seasonal water shortages sometimes precluded this and in many cases, the power requirements of the mill outstripped the limited capacity of its supply of water power. So, steam engines began to appear in growing numbers in the valley mills, although initially, their numbers grew very slowly. An important factor was the relative scarcity of coal in the region.

It has been well established that the often poor state of local roads hampered the development and expansion of the local cloth trade. Clothiers were generally reliant on road transport into the area and there were frequent reports (for instance in 1763) of a:

"great scarcity of coals [that were] often only available at 18s to £1 a ton, a price little short of extortionate" (1).

Once the Stroudwater Canal had been opened to Stroud, the situation began to improve and Rudder comments on the "vast increase of the consumption of coals" and the doubling of the consumption of raw materials used in the local woollen industry" (2).

In pre-canal days, coal from the Forest of Dean, the Midlands and South Wales was delivered to Framilode, on the banks of the River Severn, in Severn Trows. From here, it was carried by wagon a distance of 8-15 miles, depending on its destination, to the various valley mills. Needless to say, a variety of factors increased the uncertainty of supply, ranging from the weather to the poor state of the local roads. Land carriage from Framilode resulted in additional costs and in 1756, carrying coal to Stroud incurred charges of 7s/ton in Summer and 8s/ton in Winter, a considerable extra burden (3). Proponents of the Stroudwater Canal at the time suggested that canal carriage would reduce this to 3s 6d/ton.

Even before the canal's eventual completion in 1779, the Stroudwater Company was advertising for a supplier to provide 10,000 tons of coal to be delivered to the various wharves (4). Even now, it was self-evident how important coal was going to be, both to the local industry and the canal company itself. From the start, the company directors, many of whom already had links with the local cloth trade, ensured that a suitable strategy was put in place. They were intent that recurring coal shortages would become a thing of the past and were convinced that the availability of such a large tonnage would reduce prices in the region and provide sufficient competition to drive down the high prices previously charged by local coal merchants, a continuing complaint of the cloth manufacturers. It was also envisaged that such large amounts of coal at competitive prices would stimulate further demand by encouraging the industry to increase its use (5). The company further encouraged its wider use through deliberate pricing policies. For instance, when the canal had reached the Bristol Road wharf, about half way to Stroud, the company declared that:



A laden coal boat approaching Pike Lock and Bridge, Eastington. The local coal merchant's yard is on the left, immediately before the bridge

"All coals sold to waggons at a price not exceeding 12s 6d/ton shall be free of wharfage, and all sold above that price shall pay one shilling per ton" (6).

House coals were invariably more expensive than engine coal hence the above was probably an attempt to boost the industrial market through a deliberate pricing strategy.

Once the Stroudwater Canal was open, mills bordering it were able to take full advantage of its proximity. Along the lower Frome, coal for Hicks' Eastington mills was unloaded into a central coal pen close to Meadow Mill, from where it was carted to the other sites. Upstream, coal for Bonds Mill was unloaded directly from boats into the mill's bunkers. Later, when the Thames & Severn Canal had been opened along the Chalford Valley, many mills were able to do likewise.

That the opening of the Stroudwater Canal would have an impact on coal prices in the region could never have seriously been in doubt. Immediately prior to its opening, coal prices in Stroud were often in the 19s to £1-2-0/ton range (7) assuming that it was available at all. By the time that the construction of the canal had reached the Chippenham Platt wharf at Eastington, coal was often available at 13s-3d to 15s/ton, and even with the addition of 3s 6d haulage costs to Stroud, this remained a step in the right direction. By the time the canal reached Ryeford Wharf near Stonehouse, Shropshire coal was selling at 13s 9d/ton, Forest of Dean at 14s 9d/ton, and best Staffordshire at 15s 3d/ton (8). Clearly, the Stroudwater Canal was having a major impact on reducing coal prices charged to local industry and perhaps more importantly, of ensuring that regular supplies were now reasonably well assured. The impact on local mills varied, depending on their location. Those in the immediate vicinity benefited most, whereas those in outlying districts still faced additional haulage costs.



Bonds Mill, Stonehouse, c1930. The close proximity of the Stroudwater Canal is clear

Case study - the impact of the Stroudwater Canal on Eastington's social and working life

The earliest attempts to provide a reliable water-based route for bringing bulk supplies of materials such as coal into the area was that of John Kemmett and his partners. They promoted and developed a scheme whereby the River Frome was selectively dredged and straightened so as to allow the passage of small boats between successive mills dotted along the river's length. At each site, boats would approach the mill via the lower pound or bypass channel. Strategically positioned counterbalanced cranes then lift boxes of cargo to a second boat in the upper pound above the weir. Cranes were located at Whitminster Mill, Fromebridge Mill, Churchend Mill in Eastington, and possibly at Bonds Mill in Stonehouse. It appears that at this point, the enterprise petered out. Although innovative, the system was inherently unsuited to the rapid, inexpensive passage of large quantities of heavy goods (such as coal) the major advantage of canal-based transport. However, Kemmett's efforts had the effect of improving the Frome's flow through Eastington, and were credited with reducing flooding and freeing-up additional farmland along its course. It was not until the long-awaited Stroudwater Canal eventually cut through the parish that Eastington, along with many other industrial centres along its route, finally had a reliable lifeline to the outside world, capable of moving large quantities of heavy, bulky cargo into and out of the village.

Commercial and industrial impact

As elsewhere in the Stroud valleys, the canal proved to be a crucial in the further development of the cloth trade in and around Eastington and although important for the export of finished goods from the local mills, it was more important for the import of materials into the area. Throughout much of the canal's working life, it was the transport of coal that was to be the most important cargo. At the time of the Stroudwater Canal's opening in 1799, water-borne transport was the most reliable and cost-effective means for moving large quantities of heavy, bulky materials. It obviated the need for long distance road transport, a slow, expensive and frequently unreliable means of moving materials such as coal from often distant pits to the end user.

As the 19th century progressed, coal grew in importance for the cloth mills in the area. It was used to heat buildings, warm dye vats but perhaps most importantly, raise steam for the growing number of steam engines being installed. The woollen mills of Eastington were some of the first in the area to benefit from the introduction of steam power. This was a result of their ownership and subsequent expansion by the wealthy local clothier family headed by Henry Hicks, later Lord of the Manor of Eastington. The Hicks family came to be connected intimately with Eastington, a village with a tradition of woollen cloth manufacture dating back many centuries.

The parish of Eastington sprawls quite widely and, apart from its hub at Alkerton, essentially comprises a number of hamlets, the inhabitants of which were, historically, employed largely in agriculture or working in the local cloth trade. The parish once played host to three cloth mills within its boundaries, although these were often worked in conjunction with two others in neighbouring Leonard Stanley (Beards Mill) and

Stonehouse (Bonds Mill). The power for all of these came from harnessing several branches of the River Frome that wend their way towards the Vale and their eventual outfall into the Severn. At its peak in the 19th century, Eastington itself became a thriving mini mill town, with virtually all of its social and industrial life inextricably bound up with the cloth trade. Much of Eastington's development during the first half of the century occurred as a result of the influence of the Hicks family who, for more than a generation, dominated virtually every aspect of village life.

At a time when much of the local cloth industry still remained firmly wedded to the use of water power, Henry Hicks, along with a handful of other mill owners in the region, took the still bold move of investing in steam power. This process began in 1818 with the installation of an engine of modest power at Bonds Mill, just over the boundary in Stonehouse parish, at the time, leased to Hicks. The period c1810-1830 was a period of great activity for Hicks, as he continued to build up his business and update and enlarge his manufacturing sites. By 1820, he had been joined in the business by his two sons, James Phillimore and Henry Purnell Hicks, and "H. Hicks & Sons" were adding steam engines to their three Eastington mills. They also continued to operate Bonds Mill. In 1822 they installed a 24hp Boulton & Watt engine (of 5ft stroke) at "Churching [Churchend] dye mills". Historically, like many others, the Eastington mills had sometimes suffered from a lack of water and as a result, work sometimes could not start until the afternoon or later. The addition of steam power helped remove this problem. Hicks went on to install steam engines in four local mills under his control at various times (Table 1).

Table 1 Steam engines installed by Henry Hicks

Location	Date of installation	Horse power	Engine type
Bonds Mill	1818	10	Independent
Millend Mill	1821	14	Independent
Churchend Mill	1822	24	Beam
Meadow Mill	1826	30	Beam

Apart from a programme of expansion for his existing mills, c1810, Hicks built a completely new mill in the meadows below the confluence of the two arms of the Frome than run through the parish. This was aptly named Meadow Mills and was, as his other mills had been, initially water powered.

Thus, coal became crucially important in ensuring that, when necessary, Hicks was able to operate his mills using steam power around the clock. However, early steam engines were not without their drawbacks. During the 18th century, the appearance of the steam engine had created a whole new market for coal, with major industrial consumers taking increasing tonnages. The market increased substantially after Watt's adaptation (in 1781) of the steam engine to rotary motion, resulting in many new uses, particularly in the country's textile mills (9). Coal consumption of these early engines, was high and of the 2500 engines in operation in the country before 1800, the average coal consumption was 20lbs per horse power per hour. As engines were increasingly refined, so their efficiency

increased and coal consumption fell; by 1856, this averaged out for the various Boulton & Watt-type engines at ~12lbs. The development of a market for "engine coal" had been of considerable benefit to many collieries, as engines were generally fired on small coal that had hitherto been largely valueless to mine owners. The various Hicks engines were relatively early and doubtless their coal consumption was comparatively high. Clearly, coal was not available locally and all supplies were imported into the area, eventually coming from South Wales, the Forest of Dean and the Midlands. In this respect, the opening of the Stroudwater Canal was of great benefit to the Eastington mills and coal for Hicks' mills was unloaded at a coal wharf below Pike Bridge. As a valuable commodity, it was then stored in a coal pen near Meadow Mill where it was protected by high stone walls and locked doors, prior to transport to Meadow, Churchend and Millend Mills as required (10).

Despite its important role, coal was not the only bulky material brought in by canal as imports of stone for a variety of purposes were also regular cargoes. In the first quarter of the 19th century, a significant period of rebuilding and enlarging of local cloth mills was undertaken. At the time, the region's woollen industry began to contract into a smaller number of much larger, increasingly mechanised mills. In Eastington, Hicks was busy with all of his mills. In 1818, at the **Millend** site, he demolished his small fulling mill and replaced it with a substantial stone-built structure. Stone for the mill's construction came from the Brimscombe quarry and was brought to the Eastington stone wharf along the Canal. From here, it was carted to Millend. The new mill was of five storeys, each floor being approximately 70 x 37ft. Unusually, the mill's builder is known, being a Mr Blackwell of Brimscombe who probably also operated the quarry there (11).

Hicks was also making huge changes to his **Churchend Mill** where a number of new buildings were added, a new water course cut, and the site generally enlarged. Several of the new structures were stone built, again, supplies coming via the canal. When steam power was subsequently added to the site, the engine house was also stone-built. Apart from stone, the canal doubtless also carried other building materials such as timber, used extensively in mill construction at the time. When Hicks added **Meadow Mill** to his little empire, building materials also came via the canal and were moved to the site by means of a tramway built expressly for the purpose.

Stone for Beards Mill, in Leonard Stanley, but sometimes run in conjunction with the Eastington mills, was also brought by canal. It is known that during the first quarter of the 19th century, stone was brought in for the construction of a new, more fashionable front to the mill owner's house. The work was carried out by Joshua Parsons, a stone mason from Portsmouth who was living in Eastington at the time. The stone possibly originated from the Brimscombe quarry. Further upstream, between 1812-13, large quantities of building materials for the enormous and innovative Stanley Mill were also carried along the canal. This included cast iron components for the mills supporting skeleton that extended through all five floors.

Other building materials took the form of bricks. Some were produced locally and moved via the canal. Some of the local soils were suitable for brick making and to some extent,

this activity had been encouraged by the construction and opening of the canal. For instance, in 1840, a piece of land near Bond's Mill and another at Haywardsend were producing bricks from kilns on the respective sites (12).

For many years, the canal remained a valuable lifeline, moving bulky goods in and out of Eastington. Even the coming of the railway to the area did not kill off trade, and the canal continued moving bulky cargoes such as coal and stone for several generations, materials that were vitally important for local domestic and commercial life.

Local employment

The arrival of the canal appears to have had little direct impact on employment in the parish, although doubtless some local men were employed as labourers or in other unskilled roles. At the time, employment in Eastington was split largely between agriculture and the local cloth mills, and doubtless, some men were lured away from the grind of agricultural labouring. Indirectly, in the ensuing years, the canal's opening undoubtedly had an impact, if only through helping to ensure that the local mills were no longer entirely at the mercy of the River Frome, but could now rely on steam power when required. This minimised problems of water shortages stopping production, along with the inevitable lay-offs.

The canal company set up its dry dock and repair shop just below Pike Bridge and although skilled artisans were doubtless brought in by the company, some local workers were probably employed at the site. In 1953, Keys describes this site thus:

The dry dock stood between the canal, from which it was filled, and the Oldbury Brook, diverted by the building of the canal, into which it emptied, both by gravity. A high roof covered with wooden shingles gave ample clearance for vessels, shipwrights and repairing gear. A clock turret rose above the upstream gable, and the large clock face gave the time unofficially to passengers over Pike Bridge and officially to the lock keeper in his house, telling him when to affix and remove the nearest lock gate the padlock that immobilized shipping during the hours of darkness. Near the dry dock stood the forge and carpenters shop, burnt out some thirty years ago. The dock was last used some 50 years ago and only the site remains (13).

Similarly, lock keepers and lengthmen lived locally, hence contributed towards the daily life and economy of the village.

The import of coal into the village proved important not only for the mill owner, but also for the villagers who came to rely on this as an important source of domestic fuel. Immediately below Pike Bridge, the village coal wharf was established. The wharf house was built by the canal company for Samuel Smith in 1779. In later years, the wharf and coal business was operated by the Griffin family, then for many years by Zacchius Whiting who was eventually followed by a Mr Beard who also operated canal boats. From here, coal was distributed to the village and surrounding area and for much of the 19th century, most of Eastington's coal was bought by the village 'coal club' at

preferential rates. The wharf house also later managed to achieve a degree of notoriety, as for part of its life, it apparently doubled as a cider house, much frequented by passing boatmen. The canalside New Inn a short way upstream at New Town probably initially functioned in a similar manner.

Apart from coal, the other bulky cargo brought in for many years via the canal was roadstone, used for maintaining the main roads through the parish. Initially, it appears that traditional local limestone was used for this purpose, but later, 'hard foreign stone' displaced soft limestone. It was unloaded at the stone wharf, 50 yards above Pike Lock. Road mending certainly employed a number of labourers from within the village.

Although few local men appear to have been employed on canal boats, a number of boatmen certainly ended their days within the village. For instance, in 1881, the residents of the Union Workhouse in Eastington included a number of former watermen that included:

- James Banks, 69 years, Blind. From Moreton Vallence (sic).
- Robert Hyett, 68 years, Waterman. From Westbury.
- William Smith, 70 years. Waterman. From Saul (14)

Concluding comments

For several generations, the Stroudwater Canal provided an important lifeline to the outside world. Its presence had a significant impact on the commercial and social life of the parish, forming the first reliable transport link that allowed the effective import of materials for local industry and to a lesser extent, a mechanism for moving its products to their end-users. In its earlier days, it not only acted as a conduit for goods and commodities, but also as a provider of news and information, carried by passing boats. It was doubtless the subject of much attention during its working life and even today, in its current non-operational form, continues to impact on the locality and provide a focus for study and activity associated both with its past and future.

Abbreviations:

GRO Gloucester Record Office (Gloucestershire Archive)
GSIA Gloucestershire Society for Industrial Archaeology

References

- 1 Gloucester Journal, 3 January 1763.
- 2 Rudder S, A New History of Gloucestershire. Cirencester, 1779: 712.
- 3 Handford M, The Stroudwater Canal. Reprint. Gloucester, 1979: 81.
- 4 Gloucester Journal, 6 January 1777.

- 5 Handford, 1979: 279.
- 6 GRO. D1180 1/1. Stroudwater Canal Committee minutes. 3 December 1776.
- 7 Gloucester Journal, 17 August 1778.
- 8 Gloucester Journal, 31 May 1779.
- 9 Flinn M W, The History of the British Coal Industry 1700-1830. ii Oxford, 1984: 246.
- 10 Keys A E, A History of Eastington near Stonehouse in Gloucestershire, Stroud News & Journal, 1964 reprint
- 11 Mills S J, Millend Mill - the past and the future. GSIA Journal 2000.
- 12 Victoria County History, 1972; Stonehouse: Economic history, A History of the County of Gloucester: Volume 10: Westbury and Whitstone Hundreds (1972), pp. 276-84.
- 13 Keys; 111
- 14 1881 Census: Residents of Union Workhouse, Eastington, Gloucester

Further notes on sources

Steam engines installed by Hicks family:

A useful list of engines supplied to Gloucestershire is available in GSIA Journal 1991, written by Nicholas Kingsley. Further specific data from order books, letter books and mills site evaluations was kindly provided by Birmingham Library Services, Boulton & Watt Collection, to whom the present writer is indebted.

Further information on mills worked by the Hicks family and their successors is presented in articles by the present writer in GSIA Journals for 1991 (Beards Mill), 1999 (Fromebridge Mills) and 2000 (Millend Mill).

Eastington Temperance Parish Magazine, published locally from the 1880s (?) up to the early part of the 20th century.

A rich source of information was unearthed in a bound set of the Eastington Magazine (in private hands), a publication produced by the local Temperance Society during the latter part of the 19th century. This included many articles referring to events dating back to the beginning of the 19th century and provided a fascinating insight into the working life of many of the villagers of the period.