

## A SUMMARY by JOHN BOYES

*The sequence numbers are mine as are a couple of additions (in italics) which have come to light since John wrote this - Richard*

1. In 1778, Robert Whitworth engineer to the Common Council of the City of London, pointed out the advantages of making a canal between Bishop's Stortford and Cambridge, thus via the Lee and Stort linking London with the Cam, Great Ouse and the port of King's Lynn. The Council asked him to survey a route. He proposed a line 28¼ miles long, rising through 14 locks to a tunnel at Elsenham and falling through 37 more locks to the Cam 'at the lower end of Cambridge'. He completed the survey in 1780; the following year on 26th October a public meeting was called at the Crown, Great Chesterford, to consider a proposition by the Committee of the Thames & Canal Navigation of the City of London to assess the practicability of a Bishop's Stortford - Cambridge canal. There seems to have been some confusion over who actually called the meeting; many present refused to appoint a chairman until the confusion was resolved, which apparently it was not as no action followed.

2. After a lapse of seven years the proposal was revived. Alderman Richard Clark of London chaired a more successful meeting at the Crown, which passed the proposal for looking into the possibilities of the canal by a large majority, despite the promise of opposition from, the Corporation of the Bedford Level. A year later, in 1789, a further meeting at the Crown authorised an application to Parliament for an Act to make a canal from Bishop's Stortford via Saffron Walden to the Brandon River by Wilton Ferry, with branches to Cambridge and Burwell Lode. This variation to the original plan was supported by the London Navigation Committee but drew the opposition of the Cam Conservators and of several landed gentry, including Lord Howard de Walden. But again nothing happened.

3. There was an even longer interval before the next attempt was made. Then under the supervision of John Rennie a new line was surveyed by Messrs Netlam and Francis Giles from Bishop's Stortford to the Cam at Clayhithe with a branch from Sawston to Whaddon to expedite the transport of clunch (building stone) and lime from the Burwell - Reach area. A Bill was introduced in 1811, opposed by the Bedford Level Corporation; it passed the second reading but was thrown out in committee *on 9<sup>th</sup> April*.

4. It *returned soon after in 1811 and* received the Royal Assent on 9th June 1812. There were clauses to protect Hobson's Conduit, the tolls and rights of the Conservators and the estates of several landowners, including Lord Braybrooke of Audley End. Work was not to begin until £425,250 had been raised, the total capital authorised being £870,000. There were to be three tunnels, one nearly 1¼ miles long, 52 locks on the main line and 13 on the branch. The required amount to commence work was not forthcoming.....

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5 .....and a further Act was obtained in 1814 to permit the construction of the length between the Cam and Saffron Walden and the Whaddon branch with the money that had been collected, about £121,300. But it was now too late. With no coal mines in the area

and no immediate prospect of opening up the trade in building materials to London, the scheme was dropped.

*6 A further attempt to excite interest was made by Sir George Duckett to boost trade on his proposed Hertford Union Canal*

Despite the statement by Thomas Moule in 1836 that 'The London & Cambridge Junction Canal, formed in 1814, extends from the River Cam ...to the Stort Navigation. - it doesn't, and never did.

John Boyes

p.s. Even as recently as the 1906 Canal and Inland Navigation Commission, H. R de Salis, author of Bradshaw's Navigable Rivers of England and Wales, and a director of Fellows Morton & Clayton, recommended that the Stort and the Cam should be linked to provide a through waterway from London to the Wash.

### **Waterways World**

*August 2006*

Article by Adrian Stott which was originally entitled "Not Through His Lordship's Garden!"

Blue Lines describe the Existing Navigations.

Red Line describes the London and Cambridge Canal and Branch.

# Canal to Cambridge?

London to Cambridge nearly became the third north-south waterway . . . until a wealthy Baron intervened. **ADRIAN STOTT** tells the story of a canal that never was

It is 1770. Inland navigations are the coming thing for transport. Canals are already being built to allow boats to travel between London and the Midlands, although no such journey is possible . . . yet. However, there is one remaining obvious line for a north-south waterway. It goes from London to the Fens, via Cambridge.

This route had much to recommend it. It ran between the busy waterways based on the Thames, and the extensive network around the Great Ouse and Nene. The summit between these watersheds is relatively low, and the line could be quite direct yet require few significant engineering works. Perhaps best of all, most of it was already usable, northwards to Bishop's Stortford from the

Thames via the ancient Lee and recently-completed Stort navigations, and southwards to Cambridge using the Cam from near Ely on the Great Ouse.

The London & Cambridge Junction Canal, the waterway needed between Bishop's Stortford and Cambridge, was never built. In the end the fatal problem was financial; investors with enough capital to fund construction did not come forward when needed. However, the root cause of both this and the political and engineering difficulties that led to it was the determination of an aristocrat to protect his gardens.

## The route

The L&C was to be strictly a canal, although it would have paralleled rivers closely for most of its length.

The Stort just upstream of the current head of navigation. British Waterways is considering making this length navigable for moorings. The canal would have left the river here.

It would have left the top pound of the Stort navigation at the point where the river forms part of the moat of the castle at Bishop's Stortford. Continuing up the valley on the east side of the river, it would have climbed gently at first through six locks to Stansted Mountfitchet, then more steeply up a flight of eight. The 2½-mile summit at Elsenham, 85ft above the river at Stortford, was to include a 1,370-yard tunnel, the major work on the canal as initially proposed. The headwaters of the Stort would have been dammed above the village to form three reservoirs.

North of the tunnel, the summit would have been fed by a further reservoir on the upper river Cam (Granta) near Henham, and ended with another flight of eight locks, starting the descent to Cambridge. The canal would then have continued down the Cam valley through single locks and some short flights, by Newport (with a final reservoir), Saffron Walden, Great Chesterford, and Whittlesford. Finally, it was to connect to the Cam at Cambridge, having dropped about 250ft from the summit – although several variations and branches were proposed for this part of the route over the life of the scheme.

Overall, the main line would have been about 28 miles long, with 52 locks – roughly comparable to the Worcester & Birmingham Canal.



### Into trouble

The leading proponent of the L&C was George Jackson. He had been the main undertaker of the Stort navigation, seeing it open from the Lee to Bishop's Stortford in 1769. Presumably, Jackson supported the L&C for two reasons. It would be a profitable waterway in its own right, and it would greatly increase the traffic (and thus toll receipts) on the Stort.

It is not clear whether Jackson was involved in the Thames and Canal Committee formed in the City of London, but it seems likely. In 1779, this Committee instructed engineer Robert Whitworth to draw up plans and estimates for a canal from Stortford to Cambridge, which he completed in late 1780.

Whitworth sensibly suggested the route for the L&C that seemed easiest to build. Unfortunately, he may not have realised it had a grave flaw. Its path by Saffron Walden passed through Audley End.

*"The Baron's vision definitely did not include his garden being crossed by a canal"*

This property was owned by Sir John Griffith Whitwell Bt, who was also Lord Howard de Walden and the first Baron Braybooke. A very wealthy man, he viewed his property, with its grand house, as an idyllic rural estate along the Cam. His vision of the site definitely did not include its being crossed by a canal.

His Lordship actively opposed the scheme. An idea of his



**The front garden that killed the canal – Audley End. The canal would have crossed the grass halfway between the camera and the river.**

concerns can be gained from a report of a statement at a meeting convened at Great Chesterford to discuss the canal, claiming that over £100,000, a huge sum at that time, had been spent on landscaping the grounds and that "Now 50 gardeners are at work! Twelve of them mowing every day can scarcely clear all the grass walks in a week." He felt his gardens would be ruined by the intrusion of the navigation. With his opposition, the scheme was dropped in 1781.

Jackson was not daunted. In 1788, he proposed an alteration to the route to take the canal to the east of (ie behind) Lord Howard's house. Nevertheless, his Lordship kept objecting, now supported by the corporation of the Bedford Levels.

Yet another plan came forward in 1789, this time with John Rennie as engineer. This included not only the Audley End diversion, but also the extension of the

navigation as far as Brandon on the Little Ouse. Lord Howard was not impressed, and joined with Lords Bristol and Egremont, the Cam Conservators (who thought the canal would take water from their river), and the town and university of Cambridge, to continue his opposition. The outcome was that, although the City of London supported it, the enabling legislation failed in parliament.

However, Jackson – by now a baronet himself, as Sir George Duckett – was still in the game. In 1811, he had Rennie revise the plans to include a branch to Shefford on another tributary of the Great Ouse, the river Ivel. (This was later shortened to end at Whaddon, to save money.) He tried to obtain parliamentary approval once more, and at last he succeeded – perhaps helped by Lord Howard's death in 1797. The canal's Act passed in 1812.

Unfortunately for Sir George, the Act proved to be a hollow →

**An aqueduct was planned to take the canal over the Cam at Little Chesterford, downstream of Audley End.**



The proposed site of the Little Chesterford aqueduct today.



victory. With the estimated construction cost now enormously greater than that for the first scheme, not the least due to the diversion at Saffron Walden, he was unable to raise enough money even to start building.

### The Audley End problem

It is easy to see how Lord Howard's objections pushed up the cost estimates. As proposed by Whitworth, the canal would have passed through Audley End almost in a straight line on the west side of the river, with four of the locks needed to descend to the Cam and almost no earthworks within the estate.

The diversion would not only have lengthened the route, but also added two tunnels, and a significant cutting between them. Within this cutting, the canal would be widened to provide a

wharf to serve the town of Saffron Walden. It would also have forced the canal to cross the river twice, requiring expensive aqueducts.

Although Lord Howard obviously disliked the canal altogether, it is possible to wonder today whether his principal hostility was to being able to see it from his house. Might it have been possible to defuse his objection more cheaply by moving the locks upstream of his property and concealing the waterway through the park in a cutting, like some aquatic haha? We aren't told.

Lord Howard was by no means the only powerful landowner to oppose waterway projects. On the Grand Junction canal (now part of the Grand Union), Jessop had both to make the canal wind like an attractive river through Cassiobury Park and build an ornamental bridge, to mollify

**A map produced to promote the scheme in 1810, showing the London & Cambridge Canal in red.**


**Robert Whitworth's 1779 plan to take the canal past Audley End was revised nine years later by Ralph Walker to incorporate two tunnels and a cutting.**

the Park's owner, the Earl of Essex. Telford had to re-route the Birmingham & Liverpool Junction (now part of the Shropshire Union) over the expensive and unstable Shelmore Embankment when an easier route to Nantwich was forbidden to him. However, at least their waterways were both completed.

### The line today

The L&C would be a very welcome addition to the waterways network now. It not only passes through attractive countryside, but would bring new life to the under-used Lee, Stort, and Fens waterways. And it would provide a broad-beam north-south route.

Could it still be built? Surely any project that was feasible in the 1700s is within the capabilities of today's builders. However, there is an added problem now. The main London-Cambridge railway follows almost the same route (and the M11 motor-way is similar). Although the railway had to keep out of the navigation's way up the Lea and Stort valleys, it would be the other way round down the Cam today: Whitworth and Rennie's plans would need a lot of adjustment.

Perhaps the main opposition would come from the inheritors of those who fought the original canal proposals. The Conservators of the river Cam would be uneasy at the prospect of powered craft passing through Cambridge. And there's still Audley End. Its current owner, the National Trust, has proved unfriendly to extending the Warwickshire Avon navigation through its estate at Charlecote – just like Lord Howard on the Cam, 200 years ago. 



**Before we go on to the documents, let's just look at Mr Priestley's accurate description of the canal.....**

**The "Historical Account of the Navigable Rivers, Canals, and Railways, of Great Britain" by Joseph Priestley, was published in April 1831. It was recently republished as "Priestley's Navigable Rivers and Canals"**

#### LONDON AND CAMBRIDGE JUNCTION CANAL

52 George III Cap. 141, Royal Assent 9th June 1812

54 George III Cap. 168, Royal Assent 20th June, 1814

As far back as the year 1778 Mr. Whitworth pointed out to the Common Council of the City of London the public advantage which would accrue by making a canal from Bishop's Stortford to Cambridge; and that body gave him orders as their engineer, to make a survey of the country between those places, which he did in the years 1779 and 1780. He reported this line to be very practicable; the length whereof by his survey was twenty-eight miles and a quarter with a rise from Bishop's Stortford to the head level at Elsenham of 84 feet and a fall from thence to the River Cam at the low end of Cambridge of 141 feet 2 inches. This scheme has lain dormant till the present proprietors saw the great advantage the public would derive by accomplishing an easy communication between the metropolis and the various towns and districts in the line of this projected canal down to Lynn and the Isle of Ely; and for the purpose of putting into execution so important a work, they applied and obtained an act in 1812 under the title of *An Act for making and maintaining a navigable Canal, with Aqueducts, Feeders and Reservoirs, from the Stort Navigation at or near Bishop's Stortford, in the county of Hertford, to join the River Cam, near Clayhithe Sluice, in the county of Cambridge, with a navigable Branch or Cut from the said Canal at Sawston to Whaddon, in the county of Cambridge*" by which certain subscribers were incorporated as "The Company of Proprietors of the London and Cambridge Junction Canal," and empowered to complete a navigable canal from Sir George Duckett's Canal, called the Stort Navigation, at or near Bishop's Stortford, through the parishes and hamlets of Bishop's Stortford, Hockerill, Birchanger, Stansted, Mount Fitchet, Ugley, Newport, Saffron Walden, Littlebury, Little Chesterford and Great Chesterford, Hinxton, Ickleton, Duxford, Whittlesford, Great Shelford, Trumpington, Cherry Hinton, Fen Ditton and Horningsea, to join the Cam below Clayhithe Sluice, in the parish of Horningsea aforesaid; and to make a branch or cut with proper aqueducts and other works, from the said canal at Great Shelford to Whaddon; and to make necessary works for supplying the said canal and branch with water. The company may also construct railways and inclined planes, should the same appear more advantageous, in any part of the line; but the proprietors are not to make any works within the park of Lord Braybrook, at Audley End, nor to take water from streams flowing into the same; nor to erect buildings between the park walls and the banks of the Canal. There are also similar clauses respecting the estates of Shortgrove, Elsenham Hall, Elsenham Leys, and many others, the property of gentlemen living near the intended line. The streams, which feed that valuable conduit in the market place of Cambridge feed that

valuable conduit in the market place of Cambridge, called Hobson's Conduit, from which great part of the town and University obtain water, are by this act to be kept from injury or diminution. For completing the undertaking, the proprietors are empowered to raise £570,000 in shares of £100 each; and should this prove insufficient they may raise an additional sum of £300,000, either amongst themselves, or by the creation of new shares, or by mortgage, or by promissory notes; but no proceeding is to take place before £425,450 shall have been actually subscribed. For defraying the necessary expenses and paying interest the company may demand the following rates.

#### LONDON AND CAMBRIDGE JUNCTION CANAL. TONNAGE RATES

For all Goods, Wares. Merchandize and all other Matters or Things whatsoever .....  
..... 3d. Ton per Mile

Fractions of a Mile to be taken as a whole Mile and Vessels haying on Boards a less lading than Twenty Tons, shall pay for Twenty Tons.

The proprietors of the canal, lords of manors or others may erect wharfs and warehouses on the line; and for the accommodation thus afforded, rates shall be paid according to agreement between the company and the owners of goods. Owners and occupiers of land may convey corn and grain and manure, the actual produce of their lands, on the levels of the canal, free from tolls, provided they pass no lock; and they may carry back manure for their lands tonnage free.

In the year 1814 a second act was obtained, under the title of “*An Act to alter and amend as Act made in the Fifty-second of his present Majesty, for making a Canal from the Stort Navigation, at or near Bishop's Stortford, to the River Cam.*” By this act it appears that the sum of £425,250 had not been subscribed, therefore the works were not commenced; but as an amount had been raised, nearly sufficient for making the part between Clayhithe Sluice and Saffron Walden, it is provided by this second act, that the clause, insisting on the amount above stated, should be repealed, and this part of the work, with the cut from the canal from Sawston to Great Shelford, should be commenced; but that part between Saffron Walden and the Stort Navigation shall not be commenced before three-fourths of the estimate for the whole work is subscribed. By this act also fifteen additional subscribers are to be elected into the committee, as directors, at the next general assembly of the company.

Commencing at the level of the Bishop's Stortford Canal, there is a rise of 72 feet to the summit of this canal, by twelve locks of 6 feet each, bringing the work to the west end of the summit level, near to the large tunnel, which is a mile and three hundred and forty yards in length. The distance from the commencement to the summit level has four of these locks in the first mile and a half; there is then a level of six furlongs and eight chains; in the remaining space of one mile and two furlongs there are the remaining eight locks; the summit level is four miles six furlongs and two chains long, and from it there are ten locks descending to the east a distance of three miles, six furlongs and three chains to a second tunnel four hundred and eighteen yards in length. At thirteen miles, three furlongs and one chain from the Bishop's Stortford Canal is a third tunnel seven

hundred and four yards long, and the canal locks down by twenty-two locks in twelve miles, four furlongs and six chains from the west end of this third tunnel; at the distance of eight miles, six furlongs and seven chains from which the branch to Whaddon commences; this is near to Shelford Magna, whence to the entrance into the Cam at Clayhithe Sluice there are eight locks in a distance of ten miles, one furlong and nine chains, making a total fall of 165 feet 9 inches. The Whaddon Branch has thirteen locks.

The dimensions of the canal and branch are 5 feet in depth, 24 feet breadth at the bottom and 44 feet at the top; the summit level is the same breadth at the bottom, but 6 feet deep and 48 feet at the surface. The estimate for the mainline was £543,838, including reservoirs, feeders and steam engines; of this sum £121,300 was subscribed at first in shares of £100 each. The estimate for the Whaddon Branch, including an aqueduct over the Grant or Granta River, was £44,848. The line was surveyed and laid down in 1811 by Messrs. Netlam and Francis Giles, under the direction of Mr. Rennie. The completion of this canal will be found highly advantageous to the agricultural counties of Cambridge, Norfolk, Suffolk, Essex and Hertford, and very beneficial to the metropolis.

**And three rather less accurate reports, similar to Thomas Moule's cartographic claim....**

**All courtesy of Google**

**The Imperial Cyclopædia [based on The Penny Cyclopædia of the Society for the diffusion of useful knowledge], 1850, p.697**

“There are navigable cuts from the Ouse to Soham and Reche, and a canal running nearly north and south (the London and Cambridge Junction Canal) connecting the Cam below Cambridge with the Stort (at Bishop Stortford) and the Lea, ...”

**The English Cyclopaedia: a new dictionary of Universal Knowledge (Volume 6) by Charles Knight, 1854**

“.... and Cambridge Junction Canal connecting the Cam below Cambridge with the Stort (at Bishop Stortford) and the Lea, ...”

**The English Cyclopaedia: Geography by Charles Knight, 1866**

“There are navigable cuts from the Ouse to Soham and Reche, and a canal running nearly north and south (the London and Cambridge Junction Canal) connecting the Cam below Cambridge with the Stort (at Bishop Stortford) and the Lea, ...”