

ARCHAEOLOGICAL MONITORING REPORT

St Mary's Bridge, Needham Market NDM 021

A REPORT ON THE ARCHAEOLOGICAL RECORDING, 2008



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Suffolk C.C. Archaeological Service

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Front cover: Repairs to St Mary's Bridge, Needham Market, 2008

List of Contributors

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Acknowledgements

This project was funded by Suffolk County Council, Environment and Transport, Highways Management and was monitored by Will Fletcher (Suffolk County Council Archaeological Service, Conservation Division).

The survey was carried out by Jonathan Van Jennians from Suffolk County Council Archaeological Service, Field Team.

Summary

Needham Market, St Mary's Bridge (TM 0895 2554 NDM 021)

An archaeological investigation, consisting of a documentary search, survey and monitoring was undertaken as part of a programme of work to repair St Mary's Bridge, Needham Market. The current concrete bridge has stood since 1922 but beneath it, timbers and the brick-built abutments from an earlier crossing survive. The river here is a man-made channel excavated as part of the Ipswich and Stowmarket Navigation in the 18th century to by pass Hawks Mill. Documentary evidence suggests that the bridge is contemporary with the construction of the navigation and dates to c.1793.

David Gill and A.M Breen for SCCAS and SCC E&T, Highways Management. SCCAS report No. 2008/120

HER information

Planning application no.

Date of fieldwork: March and May 2008

Grid Reference: TM 0895 2554

Funding body: Suffolk County Council, E&T Highways Management

OASIS Ref: Suiffolke1-45173

Introduction

An archaeological investigation, consisting of a documentary search, survey and monitoring during groundworks was undertaken as part of a programme of work to repair St Mary's Bridge, Needham Market. The current concrete bridge has stood since 1922 but beneath it the remains of the previous crossing, in the form of the brick abutments, the stumps of timber piers and a timber revetment, can still be seen. The proposed repair was to consolidate the west side of the bank, below the bridge, by packing hessian sacks, filled with a dry concrete mix, against the revetment. The repair although designed not to damage the structure would involve part of the early structure being lost from view. The work to record the former bridge was undertaken in accordance with a brief specification issued by Will Fletcher of Suffolk County Council Archaeological Service (Appendix 2) and funded by Suffolk County Council through Environment and Transport, Highways Management. The documentary search and initial survey were carried out advance of the repairs and the monitoring of the construction work during May 2008.

The bridge is situated at TM 0895 2554 on the east side of Needham Market and carries the road to The Creetings across a 'new cut' excavated in the 18th century as part of the Gipping Navigation (Fig. 1). The 'new cut' by-passed the complex of Hawks Mill, formerly Needham Paper Mill, which is situated on the river's natural course and is an obstruction to navigation. The cut rejoins the river further upstream to allow boats to pass on up to Stowmarket. The towpath runs below the bridge on the east bank.

The river here has formed the boundary between the civil parishes of Needham Market and Creting St Mary only since 1901, prior to that the river was wholly within the parish of Creting St Mary. At the time of the survey water levels in the river were high.

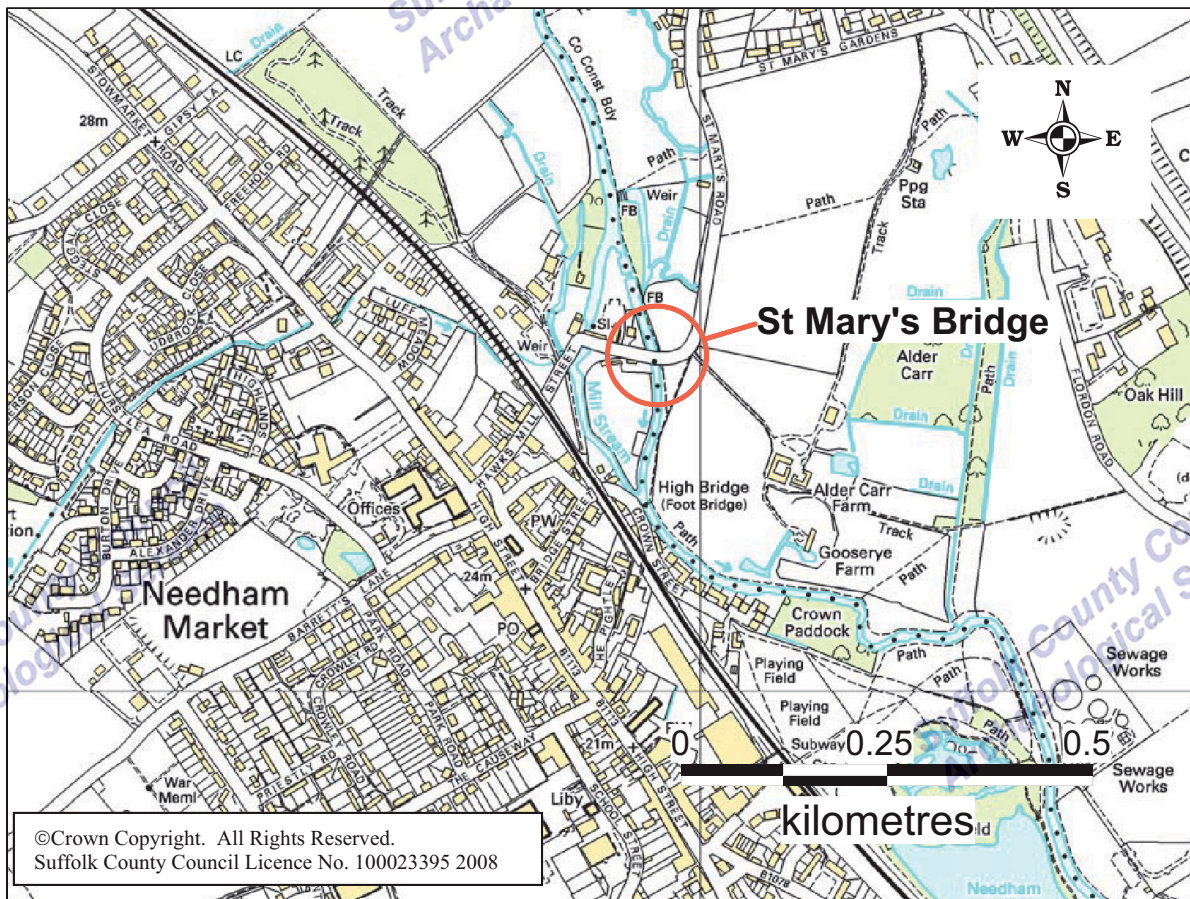


Figure 1. Site location plan



Figure 2. Timber piles of the 1790's bridge below the present concrete bridge (built 1922)

Methodology

The documentary study was completed by A.M. Breen in advance of the field work. It included a search of all relevant maps and the records of East Suffolk County Council and The Stowmarket Navigation held in Ipswich Record Office. The results of the documentary report are included in full in Appendix 1 and are summarised in the historical background.

The fieldwork was undertaken by two members of the SCCAS field team. A plan of the bridge, recording the positions of the timber piles, the line of the abutments and the bank revetments was drawn using a Total Station Theodolite and plotted against the Ordnance Survey Grid. A 1:20 scale drawing, recording the timbers forming the revetment on the west bank and the elevation of the abutment above it, was produced and high resolution digital photographs were taken. The east bank, towpath and abutment were not recorded as this had been subject to a relatively recent repair and no part of the earlier structure was visible. The site was also visited during the repair works when the west bank had been cleared of vegetation affording a better view of the timber abutment and a trench excavated in the road approaching the bridge. During this phase of work further photographs were taken but the nature of the repair work offered no further opportunity to study the earlier structure.

The survey data was processed using LisCad and converted into Mapinfo tables to produce the drawings for the report. All of the site data has been archived in the main stores of Suffolk County Council Archaeological Service at Bury St Edmunds and with the County Historic Environment Record under the parish code NDM 021. A copy of the report has also been lodged with the OASIS on-line database (ref suffolkc1 45173).

Historical Background (Taken from the documentary search by A.M. Breen)

The Gipping Navigation

The idea of making the River Gipping navigable from Ipswich to Stowmarket was first proposed in 1719 but failed due to opposition from the merchants in Ipswich. The idea was revived seventy years later and in September 1789 a meeting was convened at the White Horse Inn in Stowmarket to 'examine plans drawn up by Isaac Lenny, a surveyor and W. Jessop, an engineer and to consider a petition to Parliament to implement them' (Paget 1988).

The Navigation was created through an act of Parliament passed in 1790. The principal benefits of the act were set out in the preamble and stated

'Whereas the making and maintaining a navigable communication from Stowupland Bridge, situate upon the River Gippen, at the town of Stowmarket, to the town and port of Ipswich in the County of Suffolk will render the conveyance of corn, hops, and other produce of the said county and parts adjacent, and of coal, timber, lime and other things, less expensive than at present,....' .

The proposal required the excavation of new cuts so that boats could circumvent the existing mills that stood on the river, and which used the current to power their machinery, and to straighten the excessive meanders of the river's natural course. The printed plan of the proposed route dated 1790 (Fig. 3) shows in red the new lengths that were to be dug as part of the navigation. With the new cut over which St Mary's bridge stands shown running to the north of Needham Paper Mill (now Hawks Mill). The second edition OS map (Fig. 4) shows the position of the new cuts and locks in similar positions to those on the proposed plan but no bridges are shown on the 1790 plan crossing either of the two channels.

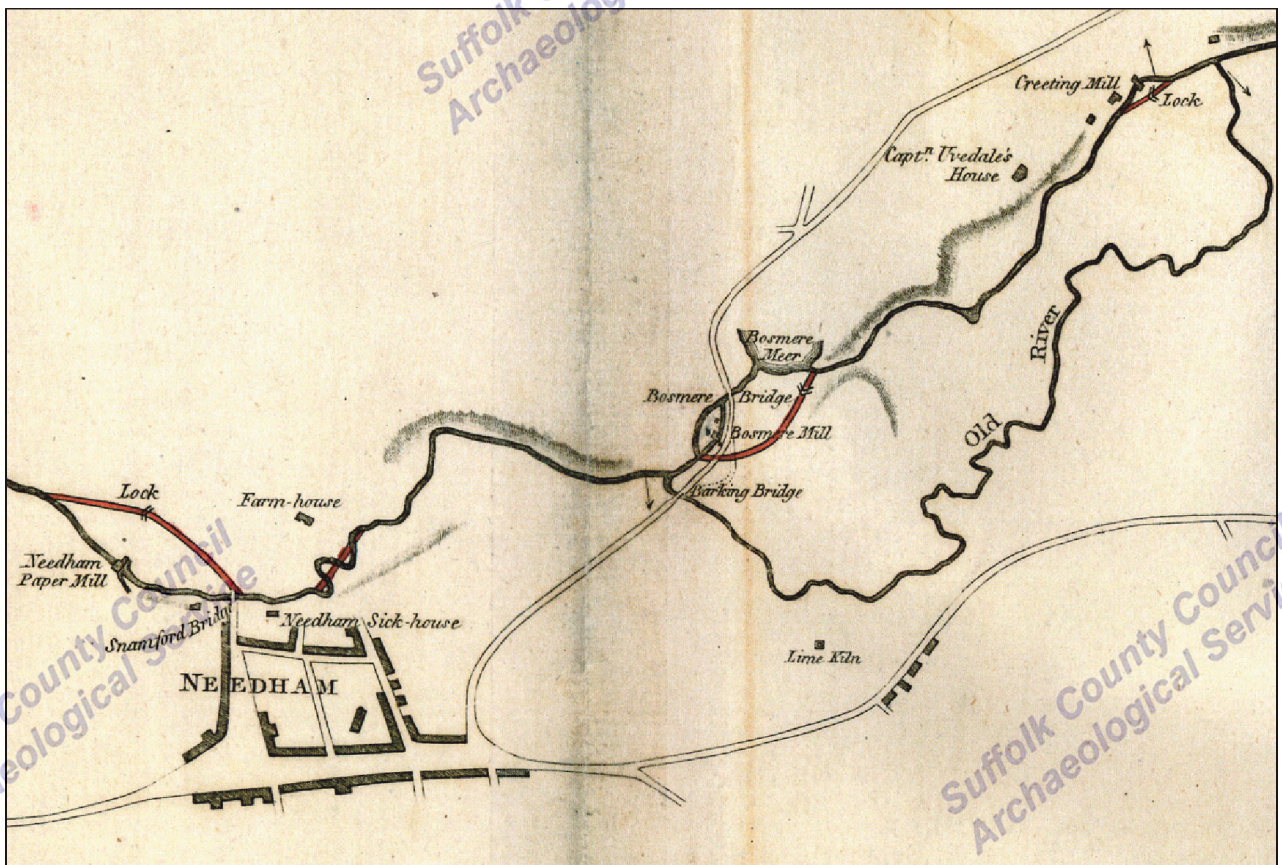


Figure 3. Map of the proposed Ipswich and Stowmarket Navigation 1790

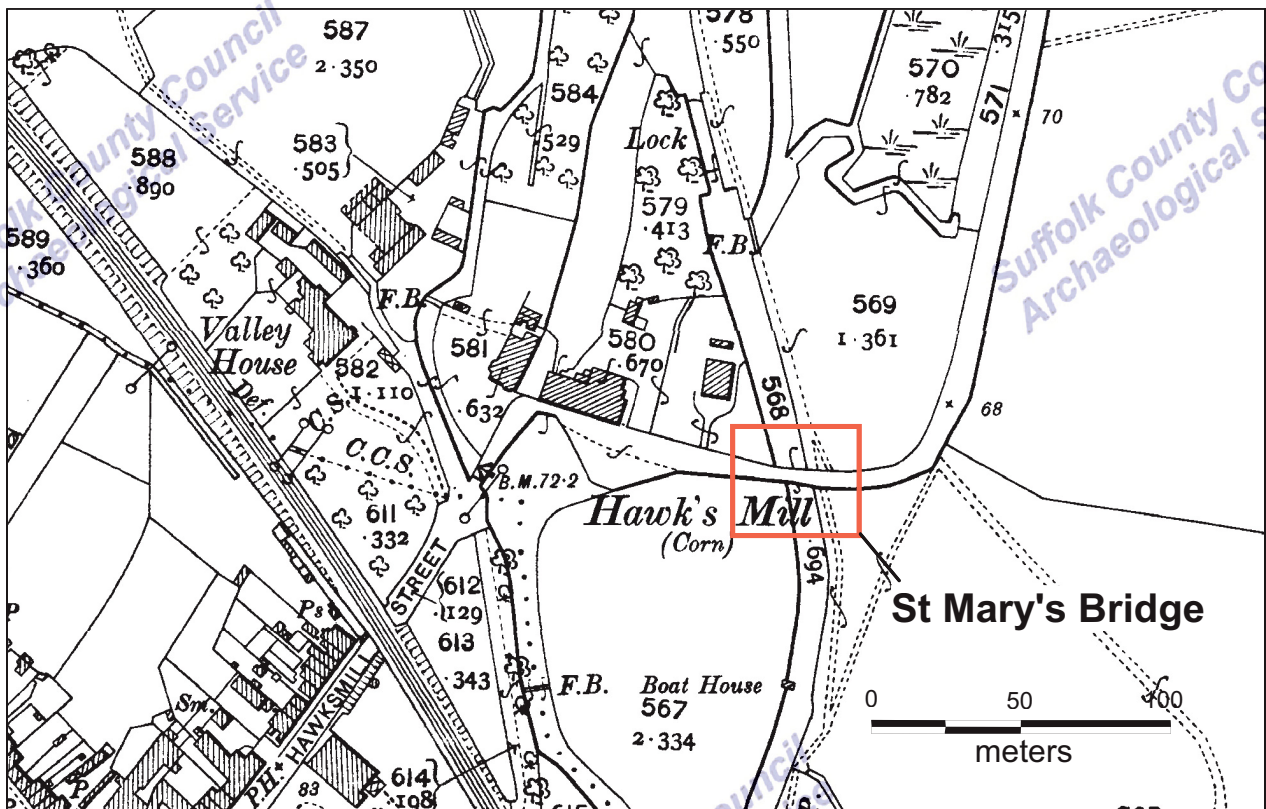


Figure 4. Ordnance Survey 2nd edition 1904

The Ipswich and Bury Railway took over the lease of the navigation in 1846, the effect of which was practically to close the river for commercial navigation purposes apart for the transport of manure and artificial manure from Bramford to Ipswich. Also from this date the County had taken over from the former turnpike trusts the repairs to the highways.

Bridges over the Gipping Navigation

Not all bridges in the county were built under instructions of the County Councils (established in 1888) or by their predecessors the County Quarter Sessions, and a series of contemporary and similarly styled bridges were erected as part of the construction of the navigation (Fig. 5). A legal dispute arose between 1890–97 over the maintenance of several of the bridges after a request to the Trustees of the Ipswich and Stowmarket Navigation from the then East Suffolk County Council to repair the bridges at Sproughton and Bramford. The case concerned the liabilities for the repair of these bridges and others, including St Mary's Bridge. A case file was prepared and was referred to arbitration (see documentary report Appendix 1).

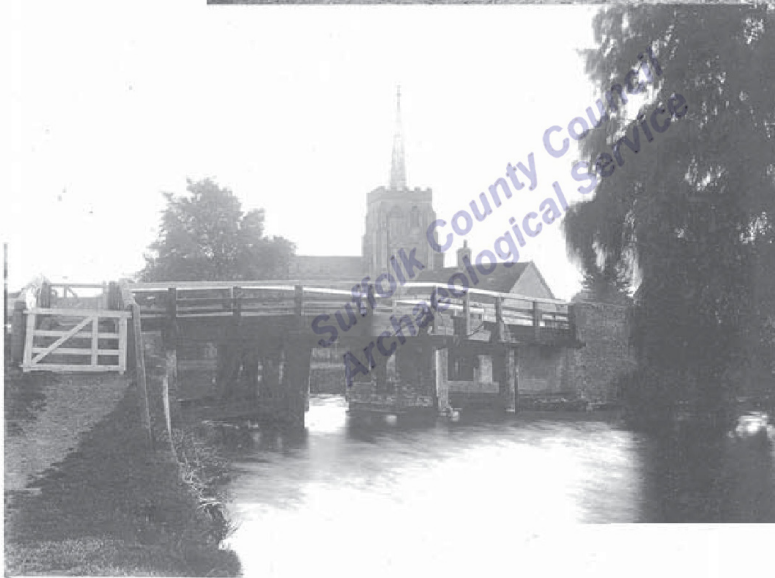
Solicitors acting for East Suffolk County Council examined the Records of the Court Quarter Session from 1794 to 1856 and instructed the council that

'the Trustees repair all the Bridges over the Navigation except Claydon & Handford Bridges. It is understood that the trustees will admit that they have always repaired the bridges in question as also the other bridges now repaired by them. They are all similar in character (Fig. 5) & there is a strong presumption that they were either built or rebuilt when the Navigation was made, viz, about 1792 i. e. previously to 1803'.

However the arbitrator deemed it was the responsibility of the council to carry out repairs as he (mistakenly) believed that St Mary's Bridge carried the public highway. The use of the St Marys's Bridge had increased after an earlier County road bridge (Snamford Bridge in the centre Needham) was moved and realigned which reduced its use. It was the case that even though the position of Snamford Bridge had moved if it had been a road bridge before 1803 the responsibilities for repairs still rested with the council.

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Figure 5. Bridges over the Gipping Navigation, taken as part of the legal dispute 1890-97
(From the top the bridges at Stowupland, Bramford and Sproughton)

The Rebuilding of St Mary's Bridge 1922

The present bridge was built by Messrs George Munday & Sons Ltd. on behalf of The East Suffolk County Council in 1922. In the contract the bridge is named as

'Needham Market Bridge in the Parish of Creeting St Mary' and it was ordered that 'the old bridge shall be taken down and reconstructed in accordance with the specifications conditions plans sections and drawings which have been prepared by Henry Miller surveyor to the County Council and the Considère Construction Company Ltd' (see Appendix 1 for fuller specification).

The new bridge was to carry a 'load of 25 tons on four wheels with a factor of safety of one fourth' and the timber piles of the old bridge were 'to be drawn or cut off near the bottom of the river'. The work was to also include the relaying of the sub-base of the road which would then be 'covered with a top coat of tarred Macadam by the Council's roadmen'. The work was to be completed at a cost of £785.



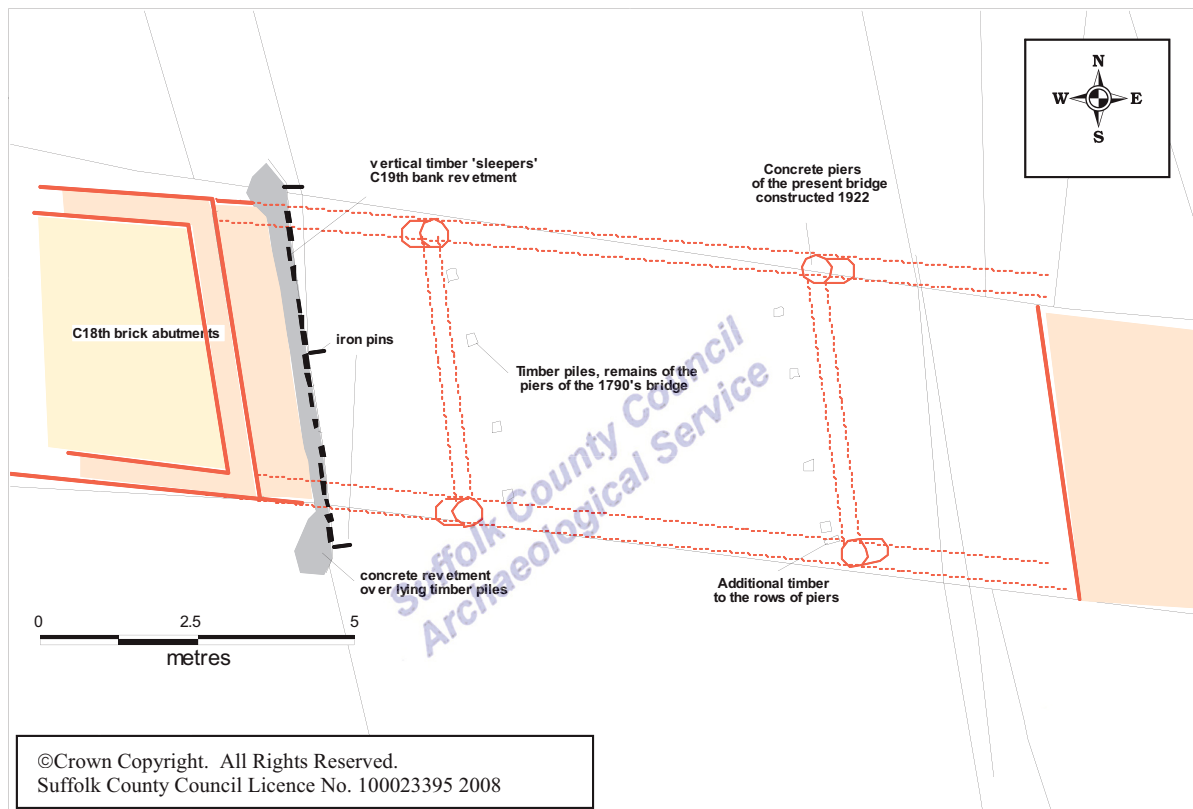
Figure 6. The C18th St Mary's Bridge (photographed for the legal dispute 1890-97) and the concrete bridge constructed 1922 (photographed prior to the start of work (2008)

Fieldwork results

The survey identified and recorded the remains of the late 18th century bridge. The plan and section are shown in Figures 7 and 9 and are described below.

Description of the early bridge

St Mary's Bridge was a simple beam bridge made of timber spanning between two raised brick-built abutments. The early bridge was photographed in 1884 and a copy of this is shown in Figure 5. The abutments were retained when the bridge was replaced in 1922 with the current concrete structure ensuring that the heights and spans of the two bridges were similar.



The plan (and photograph) shows that the bridge was carried on piers formed by two alignments of four timber piles. The central span between the two lines of piers was 4.8m apart and 3.76m from the west and 3.9m from the east abutment respectively. The timbers are aligned with the river flow and not square to the carriageway and have been cut off c.300mm above current water levels. The arrangement of the piles within the two alignments is symmetrical and precise, with the inner post being 1.50m (c.5ft) centre to centre and the outer ones 1.04m (c.3ft) in both rows of posts. An odd additional post exists at the south end of the east alignment; this is unlike the rest of the timbers in the row in that it is rectangular in section. It is however similar to the timbers used torevet the west bank and thought to be contemporary with this part of the structure. The 19th century photograph shows the piles linked by diagonal braces and it is possible that the additional timber is part of this bracing. The main piles are 170-200mm across and square-sectioned but are too decayed above the water line for saw or tooling marks to survive on their surfaces. The timbers are driven into the riverbed and the water depth on the eastern side was 0.8m and on the western side in excess of 2m at the time of the survey.

The road is carried up to the bridge on brick-built abutments; these are survivors of the original bridge and were retained when the concrete bridge was constructed. The bricks are plain bricks

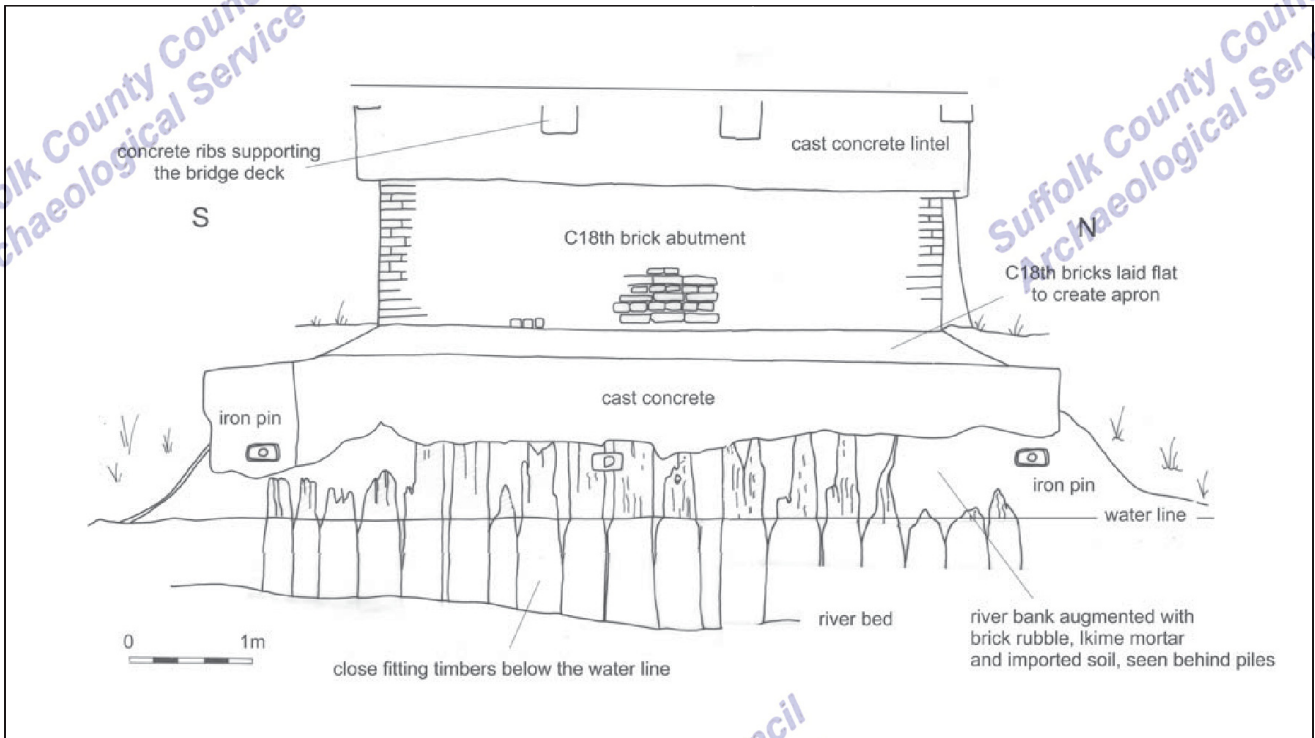


Figure 8. Drawn elevation of revetment and bridge abutment on the west bank

in a sandy red firing clay measuring $2\frac{1}{2}'' \times 4\frac{1}{2}'' \times 9\frac{3}{8}''$ and are laid in English bond. Examination of the bricks indicate only single phase of work in their construction and apart from re-pointing using a cement based mortar and white washing there has been no repair. The top of the abutment is capped with a concrete lintel, which replaced a similarly positioned timber lintel from the earlier bridge (Fig. 5) so that the springing point of the old and new bridges is the same. A trench excavated along the south edge of the road exposed the inner face of the south wall of the abutment. This was stepped so that it was thicker at the base and it was made up of a mixture of brick oddments including handmade bricks in both red and white clays. The trench also showed the make-up of the road which had layered bands of packed flint interleaved with rammed chalk; this was in accordance with the specification of the 1922 repair (see documentary report Appendix 1).



Figure 9. Trench showing road make-up and south wall of the west abutment

To support the construction of the bridge abutments, the riverbank below the bridge has been built up with layers of gravels, loose brick rubble, dumps of lime mortar and topsoil. These are held in place on the west bank behind a revetment of rectangular-section timbers driven vertically into the riverbed. This projects forward of the general line of the river bank across the width of the abutment and can be seen in the plan of the revetment timbers (Fig. 6). Above the water line the timbers have rotted so that they no longer effectively retain the soil, which has been eroded away creating a void, but below the water they still have their original dimensions and butt closely together. The revetment timbers were described as old railway sleepers in an engineer's report in 1837 suggesting that they are later than the original bridge. The top of the timbers have been capped with concrete which conceals the relationship between an apron of horizontally laid bricks and the top of the revetment timbers. Casting marks of the horizontal shuttering boards can be seen on the surface of the concrete. Projecting from the west bank are a row of three long, hand-wrought iron pins. These are square headed with washers and pass between the timbers and, at the south end, through the concrete. The pins are thought to be part of the temporary works associated with the manufacture of the concrete embankment and bridge in 1922.

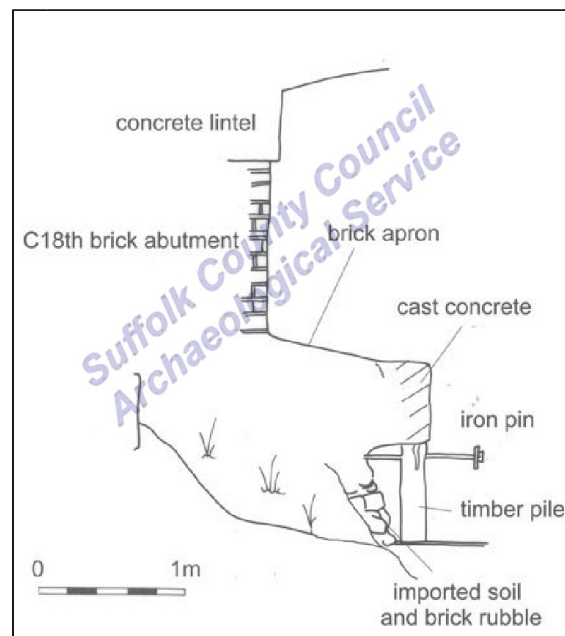


Figure 10. Profile of the west abutment and the revetment

Discussion and Conclusions

The structural remains recorded below the present St Mary's Bridge are part of the original crossing built over a stretch of canal as part of the Ipswich and Stowmarket Navigation and probably dates to c.1793. The bridge is one of a series of similarly styled bridges (see Figs. 4 and 5) that were built by the navigation company. St Mary's Bridge does not appear to have been replaced until the construction of the concrete bridge in 1922. Study of previous wooden bridges of this type have shown that they generally last for about 100 years (Gill 2004), exactly the interval between the construction of the bridge and the legal wrangling over its repair between 1890-1897 after which the County was responsible for the bridge's upkeep. Repairs must have been completed at this juncture (1897) to keep the bridge safe for a further 25 years but no record of the work was found. However evidence from the documentary sources suggests that bridge was in very ill repair as early as 1837 and a notice attached to the bridge proclaimed that 'This Bridge is insufficient to carry weights beyond the ordinary traffic of the district – H. Miller engineer to the Trustees'. Miller had done this with the 'authority of the trustees whom he told it should be done to protect themselves' and the bridge was again re-examined and possibly repaired in 1853. These 19th

century repairs may have been to the upper structure of the bridge as no evidence of later repair work exists in the surviving remnants.

Miller also observes 'the quaying on the right bank under the bridge is constituted of old railway sleepers' suggesting that the revetment recorded on the west bank was not part of the original 1790 structure. The identification of the source of the wood may be spurious; the railway company did take over the lease of the navigation and carried out repairs but this was not until 9 years after Miller's comments.

Examination of the bricks show that the brick abutments are a single build. They are probably original to the 1790's structure and are unchanged from the photograph of the bridge taken in 1890's. The bricks are *c.*1" longer and wider than might be expected for a house brick of the period but are similar in size to the bricks used in the construction of the brick arched bridge at Semer built in 1781 (Duffy 2004). The Navigation minute books beginning on 19 April 1790 (ref. EM 400/2) ordered that all the bricks used in the construction of locks and bridges should be '*made and burnt as near as may be possible to the places where wanted*'. This demonstrates that the bricks are custom made and suggests that 'outsized bricks' are being used in the construction of bridges.

The survey work has further demonstrated the value of examining the documentary source material in the study of bridges. Justices of the Peace were responsible for the administration of repairs to bridges after the passing of *The Statute of Bridges* in 1531 until the creation of West Suffolk County Council under the Local Government Act of 1888. The Justices met in the Court Quarter Sessions and the court records often give comprehensive accounts of the bridge's condition and repairs.

David Gill
June 08

References

Duffy, J.D, 2004, *Archaeological Excavation Report: Semer Bridge SMR 024*. SCCAS Report No 2004/59

Appendix 1 Documentary Search by A.M. Breen

Parish boundary

The western end of this bridge is now in the civil parish of Needham Market and the eastern end in the civil parish of Creting St Mary. The civil parish of Needham Market was formed in 1901 out of the former hamlet Needham Market, a hamlet of the parish of Barking, and part of the parish of Creting St Mary (Youngs). This bridge now crosses the River Gipping between the two parishes though formerly the river did not form the parish boundary of Creting St Mary. Creting St Mary was formed from the union in 1792 of the two former ecclesiastical parishes of Creting St Mary and Creting All Saints with St Olaves. The separate parish of St Olaves was annexed to All Saints in 1712.

Location

The position of this bridge is shown on the second edition of the 1:2500 Ordnance Survey map sheet number LVI.16 published in 1904 (Fig. 4). The bridge carries the road leading south from Jack's Green in Creting before turning to the west to cross over a towing path and then the river to pass in front of Hawk's Mill. The mill, then recently rebuilt, was a corn mill though formerly it had been a paper mill. A separate channel feeds from the River Gipping directly to the north of the mill and returns to the river from underneath the present structure. Further to the west there is the remnant of another irregular watercourse crossed by a footbridge from near Valley House to the mill and buried beneath the present road a culvert carries water from a ditch within the ground of Valley House. In the area between the road from Jack's Green and the river to the north of the mill, there are further ditches and another watercourse that rejoins the river below a lock. In the then village of Needham Market to the south of 'Hawksmill Street' there is another road marked as 'Bridge Street' that no longer leads to a bridge apart from the foot bridge marked on the map as 'High Bridge'. To the east of this bridge there is a farm marked on the map as 'Bridge Farm'. It is a necessary part of this report to consider these various channels.

Not all bridges were built under instructions of the county councils established in 1888 or by their predecessors the County Quarter Sessions and it is an important part of this research to establish who had responsibility for the building and repair of St Mary's Bridge before its reconstruction in 1922. The bridge is not listed in *'The List of County Bridges in the Eastern Division of the County Of Suffolk As settled by the Committee appointed by Quarter Sessions'* dated 4 January 1866 (ref. B106/4/9) though the list does contain *'81 Hawks Mill Bridge, Brick segmental arch, 24 feet and 6 inches chord. Parapet of brick octagon piers with stone caps and iron rails on each side' situated 'in the parish of Creting St Mary'*.

The Rebuilding of St Mary's Bridge, 1922

The present bridge was built in 1922. The contract between East Suffolk County Council and the contractors Messrs George Munday & Sons Ltd was signed on 15 May 1922 (ref. SCC 9/92). In the contract the bridge is named as *'Needham Market Bridge in the Parish of Creting St Mary'* and it was ordered that *the 'old bridge shall be taken down and reconstructed in accordance with the specifications conditions plans sections and drawings which have been prepared by Henry Miller surveyor to the County Council and the Considère Construction Company Ltd'*. The work was to be completed at a cost of £785. There are references to two plans in the separate specifications, unfortunately only the blue print of the new bridge produced on the scale of 4 feet to one-inch remains in the file. The plan is stamped with *'This print is the property of the Considère Construction Company ... It must not be traced or copied and at the termination of the works to which it refers must be returned to the Owners'*.

The specifications lists a second plan or set of drawings described as

'No 1 shows the existing bridge to be removed the timber and ironwork in which to become the property of the contractor; except so far as may be required to be used as piling or shuttering, in forming a concrete footing to the Southern abutment, or in repairing the existing post and rail fencing to the approaches'.

According to the specifications *'Before closing the road entirely, he (the contractor) shall provide a temporary foot-bridge, not less than 3ft wide and shall remove the same and make good the fencing and abutments on the completion of the new bridge'.*

The Bridge was to carry a *'load of 25 tons on four wheels with a factor of safety of one fourth'. The old piles were 'to be drawn or cut off near the bottom of the river: for which purpose the water can be lowered for a short time by arrangement with the occupier of the water-mill'. The 'metalling on the existing bridge' was 'to be removed and laid aside for re-use if suitable. On the completion of the bridge, about 12 ft at each end to be picked up and re-laid. The new road about 130 sup yards in all to be formed of hard broken flints and chalk, 6 inches thick at sides and 9 inches at the crown, formed and rammed to a proper camber and made sufficient for ordinary traffic; to be afterwards covered with a top coat of tarred Macadam by the Council's roadmen'.*

The contract required that the *'Contractor shall reinstate the present concrete footing making use of any suitable timber from the old bridge for piling or shuttering and providing any additional required'. The work was to begin 'within fourteen days of the signing of the contract and shall complete the same within (blank) months from the order commence'. The only other document in the file is the printed 'Reinforced Concrete Considère System (Patented) Standard Specification' dated June 1912.*

Earlier County Bridges

In a separate file in the current county council records there is a detailed and undated early nineteenth century plan of the bridge in front of Hawksmill (Fig 11. Ref. SCC276/6A). On this plan the road from St Mary's Bridge is marked as a *'Carriage Way to Creting All Saints'*. At the time when this plan was drawn the carriage led to a wash down stream from the mill and crossed through this ford to Hawk Mill Street into Needham Market. The mill bridge only carried a *'bridle way to Creting All Saints'* and was not capable of bearing carriages or heavier carts. The then mill is shown in part on this plan consisting of the *'The Old Paper & Corn mill'* to the west and the new mill to the east. In front of the *'new mill'* there was a *'pool for waste water'* crossed by a *'cart bridge to back yard'*. A *'dyke'* to the east of the buildings emptied the pool. Only a small portion of the *'river or mill dam'* is shown to the north of the mill. The irregular channel shown on the 1904 Ordnance Survey map is marked on this map as *'backwater from the meadows of Fet Dyke'*.

There is a separate file described in the public catalogue to the Quarter Session records as *'Contract for building Creting Bridge ...'* dated 1833. The file includes a plan showing another bridge between Needham Market and St Mary's Bridge (ref. B106/2A/35). This brick built bridge is to the south of the mill and to the north of a culvert carrying water from the ditch in the grounds of Valley House that was formerly part of the parish boundary. It was built over the irregular watercourse shown on the 1904 Ordnance Survey map. The hand coloured plan dated 1832 shows both the position of the new bridge and that of a former bridge. In the contract dated 6 July 1833 it states *'that a certain public bridge situate and being in the parish of Creting All Saints and in the hamlet of Needham Market ... in the King's High Highway there branching out of the Turnpike Road leaving Ipswich from the town of Ipswich to the parish of Stowmarket from the street of Needham Market aforesaid and leading by a certain paper mill in Creting aforesaid towards and unto the Turnpike road from Ipswich aforesaid to the City of Norwich was*

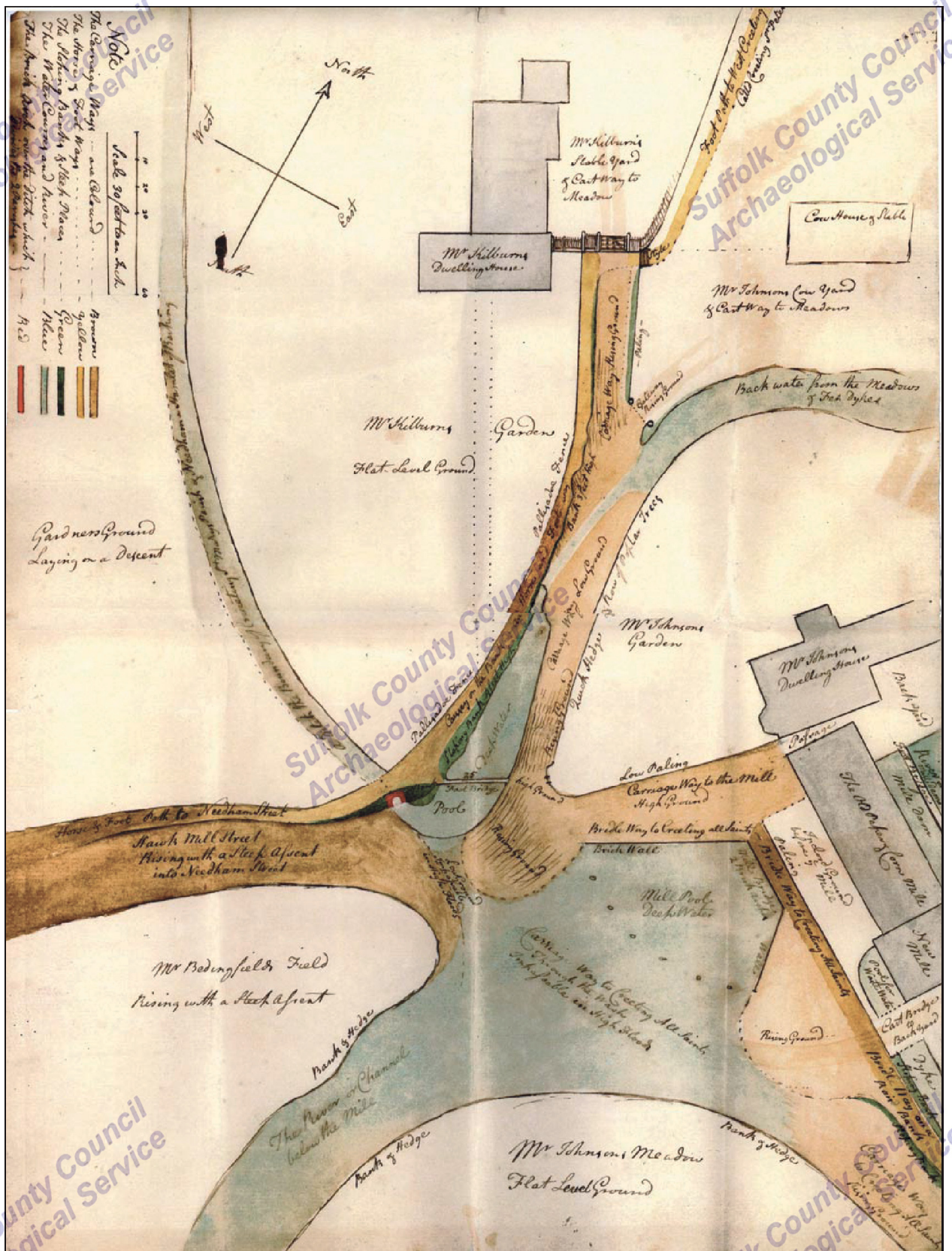


Figure 11. Early nineteenth century plan of the bridge in front of Hawksmill

in great decay, broken down and ruinous. At a meeting of a committee of the Quarter Sessions it had been decided that *'the County shall appear to be liable to rebuild ... and ... after due examination and enquiry the said Committee being satisfied that the said Bridge is a County Bridge'* ordered the rebuilding of this bridge. The contract with the builder John Grimwood of Hemingstone states that the new brick bridge was to be built at a cost of £73 *'according to the*

plan ... and specification and particulars following (that is to say) the old Bridge and all that belongs thereto to be taken down and cleared away all the soil that required to be removed for the erection of the new bridge to be laid where the old bridge now stands and to be used, if good enough and fit for the purpose, to form the road over the new bridge'. There a further details relating to the quality of both the bricks and brick work, the mixture of the sand and lime and 'Roman Cement' concluding with 'the three top courses of the parapet which is to finish with brick on edge the four piers to be coped with Portland Stone nine inches thick set in Roman Cement'. The 'Old Bridge' mentioned in this contract and shown on the plan is not shown on the earlier undated plan (see SCC 276/6A). Instead on the earlier plan a footbridge crossed the mill leet and the road to the mill entered the river over 'Low Ground Impassable in High Floods'.

The Gipping Navigation

The idea of making the River Gipping navigable from Ipswich to Stowmarket was first proposed in 1719 but failed due to opposition from the merchants in Ipswich. The idea was revived seventy years later and in September 1789 a meeting held at the White Horse Inn in Stowmarket to 'examine plans drawn up by Isaac Lenny, a surveyor and W. Jessop, an engineer and to consider a petition to Parliament to implement them' (Paget 1988).

The printed plan of the proposed route dated 1790 (Fig 4 ref. HD25/1) depicts two channels on the river Gipping to the northwest of Needham Market. 'Needham Paper Mill' is marked over the lower channel and a 'lock' is marked over the upper channel in the same position as the lock shown on the 1904 Ordnance Survey map. This upper channel is shown on the plan in red, as are other parts of the river. These sections marked in red show the positions of new channels that were to be dug as part of the navigation. No bridges are shown on the plan crossing either of the two channels. A roadway is shown leading out of Needham along the line of Bridge Street and crossing the river via Snamford Bridge. This bridge is shown on Joseph Pennington's 1772 'Map of the Town of Needham Market' (Fig. 12 ref. MC4/73). The bridge was situated at the end of 'Snamford Lane' later Bridge Street and crossed the 'River Orwell'.



Figure 12. Joseph Pennington's 1772 'Map of the Town of Needham Market

The Navigation was created through an act of Parliament passed in 1790. The principal purpose of the act is set out in the preamble and states 'Whereas the making and maintaining a navigable

communication from Stowupland Bridge, situate upon the River Gipping, at the town of Stowmarket, to the town and port of Ipswich in the County of Suffolk will render the conveyance of corn, hops, and other produce of the said county and parts adjacent, and of coal, timber, lime and other things, less expensive than at present, and will in other respects be of considerable benefit to the inhabitants of the several towns and places within the said county and parts adjacent, and of publick utility; but the same cannot be effected without the Authority of Parliament' (ref. EM 400/1). The act granted wide-ranging powers to the trustees to facilitate the construction of the navigation with the width of the river and tow paths extended to eighteen yards 'except where the banks of the rivers or cuts shall be more than three feet above the surface of the water and where places shall be made for Boats or other Vessels to turn or pass each other and in no such case of greater width than twenty yards' and 'also to make any navigable cuts at and near the sides of the said River Gipping, to straiten the course of the said river'.

The Navigation minute books beginning on 19 April 1790 (ref. EM 400/2) offer further details. At their meeting held on 17th July 1790 orders were given for '*taking down and rebuilding Hanford Bridge*' at Ipswich and in November they ordered all the bricks used in the construction of locks and bridges should be '*made and burnt as near as may be possible to the places where wanted*'. Other materials included '*Reach or Isleham Lime and Oak, Elm and Popular Timber*'. Thomas Shave of Ipswich was contracted to supply '*sound hearty dye square timber*'. The brick earth required for the works was dug from the nearest possible source. It appears to be the case that various parts of the navigation were opened and in use before the completion of the works on 14th September 1793. The minutes are sparse of details and are mainly concerned with subscriptions from investors and the payments of bills. Occasionally there are references to repairs such those ordered following floods in 1795.

Legal Dispute

There is a photograph of 'Needham Bridge' in a file of photographs (Fig. 6, ref. A808/5/1.28) prepared as part of a legal dispute between East Suffolk County Council and the Ipswich and Stowmarket Navigation 1890-97 (ref. A808/5/1). The file includes photographs of the Pickerel or Stowupland Bridge and Ford, Sproughton Bridge, Needham Market Bridge '*over the new cut*', Bosmere Bridge, and Bramford Bridge. Apart from the Pickerel Bridge each of the other bridges appears to have been constructed to a similar pattern.

The dispute had arisen over a request to the trustees of the navigation from then East Suffolk County to repair the bridges at Sproughton and Bramford. The case concerning the liabilities for the repair of these bridges and others including Needham Market Bridge was referred to arbitration.

The case papers are contained in 29 separate files and only a small number have been examined for this report. There is a list of the bridges along the length of the navigable part of the Gipping in '*Further Instructions*' dated 1894 (ref. A808/5/1.2). Amongst those listed '*Ravensford Bridge*' was '*Repaired by the Trustees*' of the navigation, the repairs of '*Needham Bridge*' were disputed as the bridge it was '*Not shown as a bridge on plan*'. '*Hawkes Mill Bridge over the overfall from mill*' was considered a '*county bridge*' and the repairs to a foot bridge in the position of Snamford Bridge were considered to be the responsibility of the trustees. The plan mentioned in the text was a '*large plan on parchment dated 1792 which is in the custody of the Trustees & which purports to be a plan of the proposed navigation*' has not been deposited at the record office with the other records of the navigation. It is interesting to note that the repairs for Bosmere Bridge were disputed even though this bridge is named as a county bridge in another list dated 1651 (ref. HA1/BB1/3).

In preparing these 'further instruction' the solicitors acting for the council had examined the Quarter Sessions records from 1794 to 1856 and had noted '*Down to 1832 no reference as to any of the Bridges is to be found. On July 6 1832 is an order appointing a Committee of Justices "to inspect the state of Creting Bridge presented by Mr Davy as out of repair & in case the inhabitants of the county shall appear to be liable to rebuild or repair the same that they order & direct what may be necessary & report thereon at the next or any future sessions". It is not clear to which Bridge this refers but -probably this is Bosmere Bridge - as there is no subsequent entry it is assumed that the committee did not find the county liable to repair'. Evidently the solicitors had not seen the separate files and plans (see SCC 276/6A and B106/A2/35). The instructions continue 'In 1853 a committee was appointed to examine into the state of "Needham Bridge & Coddenham Bridge". This appears from subsequent entries Barking Bridge reconstructed in 1853'.*

The 'further instructions' conclude that '*From the above it will be seen that the Trustees repair all the Bridges over the Navigation except Claydon & Handford Bridges. It is understood that the trustees will admit that they have always repaired the bridges in question as also the other bridges now repaired by them. They are all similar in character & there is a strong presumption that they were either built or rebuilt when the Navigation was made, viz, about 1792 i. e. previously to 1803'.*

This file includes a note written in pencil describing '*Needham Bridge - over a cut - near mill & between locks - has on it W.L. (Wm Lancaster a former secretary to the trustees) 1837. This is on one of the trestle heads- Wooden Trestle Bridge p 2 timber Piers - 3 openings brick abutments, towing path under - Road rises over it - embanked approach guarded by post & rail fence, clap gate similar to those on towing path. Notice Board on post attached to Bridge - "This Bridge is insufficient to carry weights beyond the ordinary traffic of the district - H. Miller engineer to the Trustees" - He put this up this year - with authority of the trustees whom he told it should be done to protect themselves - the quaying on the right bank under the bridge is constituted of old railway sleepers - no doubt kept up by the trustees - The Public have & have had free access, public road over - the Trustees repair the metalling over & for 20 yards from the centre each way - Brickwork whitewashed by Trustees & so is the brickwork of the locks above - this preserves the pointing - Hawkes Mill Bridge - Brick & Stone is a County Bridge & within 150 yards'.*

Further details of the case include the opinion of a solicitor R. S. Wright in which he notes that the navigation had leased the canal to the Ipswich and Bury Railway in 1846 and during the term of the lease the railway had repaired the canal's property. The effect of this lease '*was that the Railway Company had practically shut up the greater part of the river for navigation purposes, and only part used at present time is between Bramford Manure Works & Ipswich (about 4 miles) Messrs Packard & Co & Messrs Fison & Co using barges for transmitting their artificial manure from Bramford to Ipswich'.* From 1846 onwards the county had taken over from the former turnpike trusts the repairs to the highways including the road over the bridge at Claydon (ref. A808/5/1.7).

It appears to be the case that the decision of the arbitrator was that as Needham Bridge carried a public road, it was the responsibility of the council to carry out repairs. He may have arrived at this decision because on the original 1790 plan of the navigation it appears that there was a road bridge at Snamford Bridge in Needham. It was the case that even though the position of the bridge had moved to the present site if it had been a road bridge before 1803 the responsibilities for repairs still rested with the council. It is possible that if he had seen some of the plans for the earlier bridges in front of Hawksmill and had noted that the road was described as a 'carriage way' he may have made a different decision with respect to Needham Bridge.

Conclusion

The present bridge was built in 1922 replacing the earlier timber bridge described in the case papers of 1894 and shown in the photograph of the same date. It is highly likely to be the case that first 'St Mary's Bridge' was built over the new cut of the navigation between 1790 and 1793 and was originally intended to give access for the inhabitants of Creeting to Hawksmill. The evidence of the undated plan of the area shows only a carriage way in front of the mill leading from the mill to the bridge and not a public highway. Before 1835 two bridges had been constructed over the irregular water channel and the former course of the Gipping to the west of the mill. These bridges are shown on the plan dated 1833, but in that year it was considered to be necessary to repair and realign the bridge over the water channel. This 1833 plan has not been copied for this report and was not seen by either the solicitors or the arbitrator in the 1894 case. The rebuilding of these bridges would have encouraged more traffic to use 'St Mary's Bridge' and this is the reason why the notice of disclaimer was placed on the bridge in 1835. The Navigation minutes for this period do not contain any details of repair work.

Part of the brickwork of the original 1790 bridge can be seen beneath the existing present structure. The dates of the timber that project out of the water and are partly encased in concrete are highly likely to be contemporary with the construction of the original bridge.

In a recent report on a site in Ipswich, it was noted that Thomas Shave lived in the parish of St Mary Quay, Ipswich close to the Custom House and that his name appears on Joseph Pennington's map of Ipswich. As he was contracted to supply timber for the construction Handford Bridge it is likely that he may have supplied timber for further works along the canal.

There is further scope for research into the bridges at Needham and Creeting in the records of the Parish Highway Surveyors 1769-1842 in the Creeting St Mary Parish Collection (ref. FB12/H1/1) and in the early deeds for Creeting St Mary in the Iveagh Collection (ref. HD 1538/195/1-40).

References for the documentary

Maps

1:2500 Ordnance Survey Map sheet number LVI.16 published 1904

HD25/1 'A Plan of the intended navigation from Stowmarket to Ipswich' by Isaac Lenny, surveyor and W. Jessop, engineer Scale 60 perches to 1 in 1790

MC4/73 'A Map of the Town of Needham Market in the County of Suffolk surveyed in 1772' Joseph Pennington

Suffolk County Council Records

A808/5/1.2 'Draft appointments of arbitrators, brief in support of County Council, lists of documents produced by the County Council and Trustees and other papers in re E.S.C.C. v Ipswich and Stowmarket Navigation 1893-1894'

A808/5/1.7 Papers relating to the repair of bridges on the Gipping, including copies of Quarter Sessions, chiefly relating to Bramford Bridge, newspaper cuttings, legal opinions, correspondence and the like; also list of county bridges in the western division of Suffolk 1845. 1845 – 1891

A808/5/1.27 Photographs of Bramford, Sproughton, Needham and Stowupland Bridge 1894'

Quarter Session Records Loose Papers

B106/2A/35 Contract for building Creeting Bridge with plan by John Whiting, 1832' 1833

B106/4/9 'The List of County Bridges in the Eastern Division of the County of Suffolk As settled by the Committee appointed by Quarter Sessions, January 4 th, 1866'

From Parish Index of County Council Records

SCC 276/6A Quarter Sessions Road Orders Creeting St Mary Plan of Naivigation to Stonham Maltings 1817 and Hawksmill Bridge n.d.

Trustees of the Stowmarket Navigation

EM 400/1 Stowmarket Navigation Acts 30 Geo III (1790) and 9-10 Vict (1846)

EM 400/2 Trustees Minute Book 1790 – 1843

HA1/BB1/3 Account of the County Bridge 1651

Printed Works

Hugh Paget 'A History of Needham Market' Needham Market Society 1988

Frederic A. Youngs, jr 'Guide to the Local Adminstrative Units of England: Volume 1: Southern England'