## **Boston Town Bridge**

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## **The First Bridges**

The first mention of a bridge was in a petition of John de Brittany, Earl of Richmond, 33 Edward I (1305), for pontage to be granted him for repairing a bridge across the river at St Botolph's, between the lands of the said Earl, those of William de Ros and the heirs of Robert de Tattershall. The petition was granted and he was allowed to levy tolls on saleable articles over and under the said bridge for three years fro 18<sup>th</sup> March 1305. On the 22<sup>nd</sup> May 1305, a similar privilege was granted to William de Ros of Hamlake for the same purpose for five years. The intention it appears was that William de Ros should take the duties for goods passing from west to east, his land being on the west side, while the Earl of Brittany took duties for goods from his lands on the east heading west. The grants were recorded between 1308 and 1358, after which the bridge had not to be repaired until 1500. What became the old wooden bridge in use before Rennie's bridge was supported in the middle of the river by the pier of a sluice erected by May Hake circa 1500, although the superstructure had been renewed two or three times since.

In 34<sup>th</sup> Henry VIII (1543) this sluice under the bridge was in bad shape and an order was made by the Commissioner of Sewers for repairs at the charges of the wapentakes of Kirton and Skirbeck for one half and the wapentake of Ellowe and the town of Boston for the other half. All previous repairs of bridge ands sluice were apparently paid for by the Countess of Richmond. Between 1546 and 1550 the Corporation spent £48 16s on bridge repairs, but by 1553 it was in bad shape again, when Queen Mary made a grant of the Erection Lands to the Corporation, part of which was to pay for bridge repairs.

From Corporation Records this bridge fell on Sunday 22<sup>nd</sup> March 1556. A toll had been received from 1549 up to its fall. A new bridge was begun in 1557, with gates erected in 1562 to enable toll collection. Apparently Lord Ros collected tolls at the west end, in accordance with the previous grants, and the Corporation at the east around 1550. The bridge was repaired in 1567, 1584 and 1588.

In 1626 'the bridge was in great decay'. St John's church was taken down in 1626 and it appears that some of the materials were used in bridge repairs, as fragments of pillars and carved arches were found within the old eastern abutment in 1815, when Rennie's bridge was being built. The bridge being in a ruinous state and in danger of falling, was taken down in 1629 and a new one built in 1631. During its construction, passengers were ferried across the river at the Corporation's expense. Many repairs were recorded between 1642 and 1736. Mr William Jackson proposed rebuilding the bridge in 1741 for £360, which was accepted by the Corporation. The old bridge began being taken down on 10th June 1742. Again during construction, passengers were ferried across the river, but for a halfpenny. This bridge was of wood, resting on the pier of Hake's Sluice, which stood about two thirds the rivers' breadth from the west side. The bridge was reported to be in a dangerous state in 1771. In 1772 improvements were made in the approach from the Market Place.

## John Rennie's Bridge

After many repairs, the last costing about £500 in 1765, in December 1799 Boston Town Council decided to take the wooden bridge down and replace it with a new iron bridge, a little to the south of the wooden one, linking the High Street and Market Place. A committee was set up and in July 1800 John Rennie was asked for masonry and iron alternative designs. In

November he submitted outline schemes for a single arch of 76ft span 'as flat as can conveniently be done' to suit the site. He estimated £6,310 for an iron bridge (£1,722 for the ironwork) and £7,206 for a masonry bridge. The iron arch was to be one of Rowland Burdon and Thomas Wilson patent arches with a flat deck, a rise of only 5ft 6in and the ribs graduated in depth from 33 to 48ins. The Council decided on an iron arch and applied to Parliament for an Act.

In Parliament on 18 March 1801 'A Petition of the Mayor, Aldermen, and Common Council, of the Borough of Boston, in the County of Lincoln, was presented to the House, and read; Setting forth, That the Bridge over the River Witham, in the said Borough, is much too narrow, and , at present, in a very decayed and ruinous State and Condition, and is become inconvenient and dangerous to passengers, Carriages, and Cattle, passing over the same; ad therefore it is necessary to take down and re-build the said Bridge, a and also to widen, raise, and render more commodious, several Streets, Lanes, or Ways, leading or near thereto, and to purchase and take down several Houses and Buildings for that Purpose; and that the Situation of the present Bridge is very inconvenient and incommodious, and it will tend greatly to the Improvement of the Borough, if the intended Bridge was made and erected in a more proper and convenient Situation, very near the present Bridge, and, in such Case, it will be necessary to purchase and take down several Houses and Buildings...', continuing with proposals to enlarge the Gaol & House of Correction, and the Market Cross and Rooms. On 20 May John Rennie was examined to confirm the allegations of the petition, saying that the bridge was much too narrow, was in a very decayed and ruinous condition and had become inconvenient and dangerous for passengers etc passing over. He said that it was therefore necessary to take down and rebuild a wider and more commodious bridge in a more convenient situation very near the present bridge, by the purchase of and taking down several houses and buildings. It was then ordered to bring in a Bill to empower the mayor etc to carry out their intentions. After amendments had been introduced by Parliament procedure, the Bill was ingrossed on 20 June 1801 but proceeded no further that year. The same petition was presented again on 22 February 1802, with William Hopkinson being examined this time on 30 April, the Bill finally receiving Royal Assent on 22 June 1802, as 'An Act to empower the Mayor, Aldermen, and Common Councilmen, of the Borough of Boston, in the County of Lincoln, to take down the Bridge over the River Witham, in the said Borough, and to erect a Bridge over some other part of the said River, within the said Borough, and to open and make proper Avenues, Ways, and Passages thereto; and enlarge and improve the Gaol and House of Correction within the said Borough; and to purchase and take down several Houses for the Purposes aforesaid'.

The Act allowed the Corporation to continue receive tolls as before on the old bridge. The cost of the new bridge would be £24,000, which was borrowed by the Corporation on their bond, the repayment being secured on the corporate estates. However half of the amount they charged on the charity fund, which since 1791 had been charged with £23,707 on account of the bridge. The appointment of Charity Trustees under the Municipal Corporation Act ended this practice.

Rennie provided 'The 'Specification of a Bridge/Proposed to be built over the River Witham/ at Boston' dated 9<sup>th</sup> August 1802, covering the foundations and masonry abutments, the ironwork details being left for later. See Appendix for the Specification. Tenders for the abutment materials were accepted on 27 December from Messrs Lister and Green (Bramley Fall stone at 4d/cu ft), John Watson (bricks at 28s/thousand) and John Betts (Memel timber at 21d/foot). Watson was appointed to supervise construction at 100 guineas per annum, from 1st May under Rennie. Tenders for the construction were invited in April 1803, Jacob Ellis and Isaac Whitaker (stone masons) with Samuel Lister (mason and stone merchant) and George Wood (carpenter) being accepted, all from Leeds. A 5 ton cast iron crane from Messrs Hawkes of Newcastle was ordered by Rennie for £120, as well as 25 ½ tons of 'pozzolano' (£130). Piles and pile hoops were advertised for in May. Work began in June, but after a few months work stopped as the ground was not what the contractors were told, and resumed on new terms in February 1804.

The foundation stone laying ceremony was performed on  $2^{nd}$  August 1804 by the Mayor. The ironwork details had still not been settled. In February 1803 the committee asked that the waterway be increased from 72 to 80 feet, instructing Rennie to send drawings to 'Mr Wilson of Sunderland'. On 4 February 1805 Rennie was asked to increase the span again, warning that his estimate would have to rise. Thomas Wilson sent his estimate 'for a patent cast iron bridge over the Witham at Boston: span 85 feet and breadth 36 feet, consisting of eight ribs' to Rennie with a letter dated 15 August 1805. Comprising 166 tons of cast iron arch blocks, stays, spandrels, pannels, balustrades, cover plates, dowels and diagonals/stays, plus 1 ton of wrought iron bolts, wedges and top-rail, the estimate was £2,980 including patent charges and erection.

However Rennie was not happy with some features, preferring an increased depth of arch ribs towards the springings. He disliked circles in the spandrels preferring vertical struts, as well as preferring iron springing plates instead of setting the rib ends in the masonry abutments. Rennie also wanted a flat deck, not arched, and full-depth transverse connecting frames. For Boston Rennie accepted voussoirs of uniform depth with vertical spandrel struts, iron springing plates, bars linking upper and lower transverse connectors and a flat deck. The last two items caused some disagreement between Wilson and Rennie, and Wilson instructed the Walkers to carry on as his original estimate. The arch blocks were 3ft 3in deep, 4in thick and 5 ½ ft long, the whole rib consisting of 17 blocks. Although Rennie was not happy a compromise was reached on the cross frames.

There was some disagreement about the abutment heights, Wilson wanting to increase them by three feet so that he could increaser the rise of the arch, which had not been altered from Rennie's 1800 design. Rennie refused but grudgingly allowed 6in. additional rise. On  $2^{nd}$ December the abutment contractors sent their estimate of £115 for the arch centring and supports to start in 1806. By January 1806 Walker's of Rotherham reported that the ironwork was all cast and would be despatched in February. It arrived piecemeal over the next few months, with the bridge being almost complete by October, apart from lamp brackets and some stays. The paving of the road and footpaths occurred at the end of 1806, and it was agreed to paint the bridge an iron colour and open it to traffic.

However, soon after, faults in the ironwork began to appear, and the opening was delayed while arguments about liability occurred. Watson submitted his report on failings on 13 April 1807, saying that 'there are 49 of the stays (radii) broke that connect the upper and lower circles of the ribs together, and those stays are principally broke in the second and third blocks from each abutment. There are 28 broken on the east side and 21 on the west side. The abutments are perfect.'

Rennie wrote on 20 April assuring the Council that the cracks were unimportant. He stated that the radial bars connecting the upper and lower rings of the main ribs served no purpose other than to keep the rings in their proper position, and that the 49 broken ones would not affect the stability of the bridge. 'If the abutments stand good-of which I trust there is no doubt-I think there is little to fear'. The Council accepted his advice and opened the bridge on 2<sup>nd</sup> May, but authorisation to removed the old wooden bridge was withheld until they received another reassuring letter in June. The Committee delayed settling the Wilson and Walker accounts until Wilson had visited and made his report. Although Rennie visited several times while he was in the area on his drainage schemes, Wilson did nor visit again until 1813. Meanwhile the wrangle over responsibility for the problems dragged on.

The Council sided with Rennie after a report from three gentlemen (5 July 1808), who agreed that the abutments had not moved. Wilson maintained that he had been told that Rennie was in charge and he had not been allowed to make decisions on his own. Rennie acknowledged that he had indeed made certain alterations, but that Wilson had ultimate responsibility and the Walkers had still not been paid in 1810. In 1811 the Council asked Rennie to consult another iron expert and on 21 September he visited with Samuel Aydon of the Shelf Ironworks, who recommended strengthening the broken radii with bolted on cover plates and installing diagonal bracing on plan, but no action was taken. In 1813 Wilson served a writ on the Corporation to get his bill paid and agreed to meet Rennie on site on 20 August, but there is no record. In 1814 a local contractor, Jeptha Pacey, reported that new cracks were appearing. At the time Joshua Walker and William Yates were in London with Rennie and all three visited the bridge. On 7 May Yates proposed patching the ribs with cover plates, but again no action was taken. In 1815 Rennie was asked to estimate for (a) repairing the bridge and (b) replacing it with a masonry arch. On 24 April he recommended that immediate action be taken to put on cast iron plates 1in thick by 18in wide on the circle of the arch by two bolts each end. Pacey produced a sketch and a local founder William Howden made the plates, which were all in place by 1816. Howden continued with occasional repairs over the next few years until 1819.

No final account was noted but local newspapers studied for years 1904-13 put the final cost at £22,000, equivalent to £2 million today. The cost of the ironwork alone has been estimated at £4,155 1s 8d, equalling the Walker's bill plus £1,000. The £22,000 cost was financed with £12,000 coming from Corporation estate funds and £10,000 raised from a Tontine, which is an annuity shared by subscribers to a loan, the shares increasing as subscribers die until the last survivor gets the entire sum. In Napoleonic times the tontine system was a popular system of borrowing money which was scarce, albeit at fairly high rates of interest. In the case of the Boston Bridge Tontine, the Corporation advertised the tontine in local newspapers in 1803-4 for a total of £4,000, required in £100 shares, which by 1813 had risen to £10,000 for the tontine. Finally on 1<sup>st</sup> September 1815, the Corporation seal was affixed to an Indenture dated under which 100 shares were sold at £100 each to persons who nominated 62 lives varying from 2 to 25 years old, the Corporation agreeing to pay 7% interest, paid twice yearly to each nominee, the shares passing to the remaining nominees upon death. The last nominee, a Mrs Mary Ann Maillard (aged two at the beginning), died in December 1904, aged 92. The final amount paid in annuities by the Corporation was £62,300.

Comprising a single arch span with spandrels and bindings, it comprised of 208 tons of cast iron and 3 tons 3cwt of wrought iron. Thompson gave the span as 86 ½ ft and the breadth over cornices as 39ft, although the span and width were nominally 85ft and 36ft respectively. Telford publicised Rennie's Boston troubles in his Edinburgh Encyclopaedia, article on bridges. Telford estimated the main rib members as seven by four and a half inches, and the radii and spandrel struts as four by three inches. Telford, Rennie and most engineers attributed the cracking to casting stresses in the non-uniform cross section of the rib members, although the localised cracking near the abutments shows that that this was but one of several factors. Despite its flaws the bridge lasted until 1913 as below.

## **Boston Town Bridge (1913)**

Mr John J Webster, Engineer of Victoria St, Westminster was invited by Boston Town Council in October 1911 to examine and report on the stability and condition of the Town Bridge. His report was read at a Council meeting on 5<sup>th</sup> December 1911, recommending putting a 3 ton vehicle on four wheels, or a 2 ton axle limit, or more than ten beast or cattle at a time on it. At the same meeting they then discussed a new steel bridge of similar span dimensions, to be designed by Mr Webster, but wider to allow for footways. The bridge was pulled down into the river in April 1913 by the paddle tug Privateer.

During the building of the current Town Bridge, while Rennie's bridge was being demolished, a workman found a two pence piece of George III, wrapped in a piece of rag embedded in the stonework when it was built. On the head side was the inscription 'Georgius III. D. G. REX.', but also in the inner circle, 'W. BRAND, Collr. Cus. P.B.' and in the bottom of the rim '8<sup>th</sup> April 1806'. On the reverse side were the normal Britannia and the coin's date 1797, but also in the inner circle 'T WILSON of Sunderland erected this bridge'. Around the edge was 'First Block placed 5<sup>th</sup> April 1806.', making it the one placed to commemorate the erection of the bridge. It was deposited on the laying of the first blocks of the parapet, and recovered when the ironwork was removed from the riverbed. The W Brand referred to was the Collector of Customs for the Port of Boston.

The Town Bridge closed on Saturday 5<sup>th</sup> April 1913 to allow for demolition and reconstruction. The contractors for the new steel bridge were Messrs Goddard, Massey and Warner Ltd of Nottingham, whose tender (one of eight) for £5,612 11s 6d was accepted by the Town Council on 23 August 1912. £2,000 of the cost was borne by Holland County Council. Sub-contractors were Mr W T Norris, Nottingham for masonry, concrete and paving; Mr W Challis, Manchester for the demolition of the old bridge and the erection of the new structure. Described in the 19 July 1913 edition of the Boston Guardian as a three pin arch structure, each girder has pins at the springing and middle of each girder. There are six ribs with a pan of 84ft from the centres of the pins and a 6ft rise from springing pin to centre pin. 235 tons of mild steel were used in the deck. The only cast iron used is in the parapet and pin bearings, totally about 35 tons. The original sandstone abutments have been retained, although they were partly rebuilt as they were not exactly parallel. This was not regarded as important for Rennie's bridge as the abutments were built to accommodate the cast iron bridge sections, whereas the steel girder sections were all the same length. Consequently the girders have been set slightly skew to accommodate the error, ensuring that the bridge is properly parallel while the abutments are not. The new bridge is 43ft wide, compared to 38ft 8in between parapets, with a 25ft carriageway compared to the old 21ft 8in, and the 9ft wide footways are 2ft wider each side. To enable the wider footways, the deck was cantilevered beyond the south rib. Services were run under the north footway. The original stone piers at the ends were not to be reinstated. The girders for one end of the bridge were brought up from the dock to avoid the necessity of carting them round. A temporary wooden footbridge of three spans was erected by Mr W S Thompson for £216 18s 7d, between the White Hart Hotel and the Butter Market during the construction.

On both outer sides in the middle of the parapet are cast plates with he year '1913', and on the insides are bronze plates with inscriptions thus: 'This bridge was opened to the public 18<sup>th</sup> July 1913/Coun. Millson Enderby, Mayor/Ald. James Eley, Deputy-Mayor/M Staniland, Town Clerk.' Its neighbour says:'this bridge was built in 1913, upon the site of Rennie's Cast Iron Bridge (built 1803, demolished April, 1913)/John Webster, M.Inst.C.E., Engineer/H F Richards, Assoc. Inst.C.E., Resident Engineer/George E Clarke, M Inst.CE, Borough Engineer/Goddard, Massey, and Warner Ltd, Contractors.'

The new Town Bridge was opened on 18 July 1913, on Rennie's original supports. It was Listed Grade II on 14 February 1975.

In 1964 a new bridge at The Haven, a quarter of a mile downstream, was opened as part of the Boston Inner Relief Road, turning the Town Bridge into a one way bridge and halving its traffic.

In early June 2020 a £320,000, 13 week, programme of work to repair, repaint and protect the Boston Town Bridge began, closing one lane of traffic at a time. Jack Tighe Ltd was awarded the contract to scaffold, encapsulate, clean, blast and paint the by now Grade II listed bridge.

The work was regarded as essential, as parts of the steel structure are submerged under the River Witham water line. The work was completed in early September 2020.

References

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Appendix: 'Specification of a Bridge Proposed to be built over the River Witham at Boston'

1. The Abutments to be founded at a depth 4 Feet under the deepest part of the Bed of the Witham. It is expected that at this Depth a good solid Bed of Clay will be found; if not, it must either be taken deeper until the good Clay is found, or such Piling and Planking must be used as shall be judged requisite for making a good and firm Foundation.

2. The Abutments are to be faced with good Stone (such as is got from Bramley Fall, near Leeds.) laid in Beds, Header and Streatcher; the Headers not being more than 4 Feet asunder, nor less in Breadth than 2 Feet, binding into the Wall from 3 <sup>1</sup>/<sub>2</sub> to 4 Feet; none of the Streatchers to be shorter than 1 Foot 6 Inches in the Face, nor binding less into the Work, on the Average, than 2 Feet; but no Stone must bind less than 18 Inches.

The Courses of Stone must be drove with a Chisel round the whole Bed, Top, and Ends, for about 2 Inches broad, and fair dressed between, and they must have an Aris taken round the Face, i.e. bevelled off for about 1 <sup>1</sup>/<sub>2</sub> Inch at each upper and under Joint, but square at the Ends, the face being left rough, so that the Faces of the Courses of Stone may appear to be regular Stratums of Rock. The Stones both in the Headers and Streatchers, must be as full in their Size at their Inner End as at the Face, and the Joints and Laying must be done in the best Manner.

3. The Hearting and Counterforts must be of Brickwork; but great Care must be taken to make the Joints of the Brickwork as thin as possible, not exceeding, at most, <sup>1</sup>/<sub>4</sub> of an inch; and the Courses of the Stone in the face must correspond to the Courses of Brickwork: therefore from the Level of low Water to the Foundation, the Courses of Stone may be 15, 12, 9, and 6 Inches thick; and of these respective Sizes the whole of each Course must be throughout.

From the Surface of low Water, upwards, they must all be of one Thickness, i.e. a Foot or 15 Inches.

In the Middle of these Abutments, between the Foundation and the Spring of the Arch, a Course of Stone must be carried through the whole thickness of the Abutments and Counterforts: which Course must be of large Dimensions, containing from Half a Ton to a Ton in each Stone; and these Stones must be well bedded and jointed at the Sides, and connected together by Iron Cramps sunk into the Stone, and covered over with Lead.

Fom this Course of Stone to the Spring of the Arch, the Beds of the Brick and Stonework should gradually incline towards the Arch. The Brick can be raised by putting in Beds of plain Tiles; and the Stone by making the Courses a little radiated; the Courses, however, must appear on the Outside as if Level.

4. Just under the Spring of the Arch must be a String Course of Stone 18 Inches thick, smoothly dressed in the Face, well jointed in the Beds, and projecting about 4 Inches beyond the rest of the Work. The Depth of the Beds of those Stones to be, on the Average, 3 1/2 Feet, except those next the Arch, which must be, at least, 5 Feet. And Stonework must be continued through the whole of the Abutments and Counterforts, for the whole Depth of the Rings of the Iron Arch, into which the Ribs must be set. From the Rings up to the Cornice, the Courses of Stones must be Header and Streatcher, as before described, and the Hearting of Brickwork.

5. From the String–Courses, the Faces of the Abutments must be done as in the Drawings, having four Pilasters with a Nick on each Face; the Back Part being French Rustic, and a Capital and Cornice, as in the Drawings. As the Iron Ribs are put up, the Contractor for the Masonry and Brickwork must cut out and fit the Stones answerable to the Iron; and he must

make the Stone Part above the Cornice in the Parapet as there represented, and fix the Lamp-Irons in them.

6. The Foundation and Spaces for the Abutments must be excavated by the Contractor, and a Cofferdam of Piles made of whole Baulks about a Foot Square, and a Groove to receive a Tongue, to be afterwards drove into it, to make the Dam Watertight; one Groove need only be in each Pile, and about 4 Inches Wide and 4 Inches Deep.

These Piles must be drove into the River, about 3 Feet deeper than the Foundation is intended; and their Heads must be sufficiently high, to prevent the Tide from getting over them: they must therefore be about 30 Feet long each. This Dam must be well braced, or supported within; and proper Pumps must be prepared and worked by the Contractor, for taking out the Water while the Works are in Hand. When one Abutment is compleated, the Piles may be drawn and used for the other.

7. The Mortar for the Face of this Work, for the whole Depth of the Stone, must be composed of one Part of Barrow \lime, one Part of Pozzolano, and two Parts of clear River Sand. The Lime, Pozzolano, and Sand, to be mixed together during the Operation of slacking. This is done by laying the Sand and Lime, in its due Proportions, in Beds, and throwing the Water on it; after which, another Bed is laid on, and watered, till a Heap is thus formed; when the whole should be covered with Sand; and in this state it must lie for about 24 Hours; and when it is to be used, the Quantity taken, must be put through a fine Screen (,the rest being again covered with Sand).

The Backing Mortar may be made with one part of Bennington Lime, and from three to four Parts of clear River Sand; to be slacked and mixed as before-mentioned.

All the Mortar must be well and sufficiently beat and mixed up together, before used. A Horse Machine will answer this Purpose the best. The whole Lime must be used as hot as possible; and every Course must be grouted, so that the whole be as one solid Mass.

8. The Contractor shall not have it in his power to let the making of the Mortar, or the Building of any Part of the Work, by the Piece, to his Men, or any others; but shall have the whole of this Part by Days Wages.

9. When the Deviation or Alteration from the Plan and Section or Specification, as the Case may be, is proposed by the Mayor and Incorporation of Boston, or their Engineer, or by the contractor or Contractors, whereby the Masonry or Brickwork may be increased, altered, or diminished, or the Foundation in any respect be made different, due Notice, in Writing, shall be given of the same, by the Party proposing such Deviation or Alteration to the other. And the Contractor shall not begin to execute any Part of the same until a Price is fixed, and an Agreement made, otherwise he shall have no Payment for what he does; and in Case the Deviation is resolved on, and the Demand made by the Contractor, for executing the same, be more than the said Mayor and Incorporation shall have it in their Power to contract and agree with any other Person, for the same, at each under-Price as they may think proper, the Contractor having no demand against them for such Deviation; and he shall deduct out of his Contract-Price, such Sums of Money as may be saved by such Deviation.

Should it appear at any Time during the Execution of this Work, that the Contractor is not executing it, in the Opinion of the Engineer, agreeably to his Contract, the Engineer shall give him Notice of such deficiency, and in the case he does not immediately remedy the same, the Engineer shall have it in his power to stop the Work, until the Contractor shall shew him, satisfactorily, that he can and will remedy the Defects complained of; and should he fail in so doing, the Engineer shall have it in his Power to discharge the Contractor, and take the Work

out of his Hands: the Value of the Work executed, and Materials and Tools, in Hand, being first valued by the Engineer, and which the Mayor and Incorporation shall cause to be immediately paid; but should the said Contractor be possessed of Tools or Materials of any sort which the Engineer shall not think necessary for the Work, the Mayor and Incorporation may, should they think proper, reject such Tools, Implements, or Materials.

All the Work must be done to the Satisfaction of the Engineer, for the Time being, and under his Directions, and such Alterations may be made by him, in the Work and Materials, as he from Time to Time may judge proper, Agreements being previously made, as above-specified. And in case any misunderstanding should arise, respecting the Explanation or Meaning of any Part of the above Specification, the same shall be determined by the Engineer, whose Explanation shall be final.

10. The whole Work to be measured by the Plans, and the Contractor to be paid according to said Measurement, unless Written Orders can be shewn from the Engineer, directing it to be done otherways; and this to be added to or deducted from the Plan as the Case may be.

11. The Proposals for the Masonry and Brickwork, to be delivered by the Cubic Yard or Foot. The Mayor and Incorporation to furnish the Contractor with Pozzolano at 2s 6d per Bushel.

The Proposals for the Cofferdam, Excavation, and Pumping Water, to be given in separately.

John Rennie

LONDON, 9<sup>th</sup> August, 1802.