

CONTRACT NO: 1

Indenture dated 1869.

John Ashwell, The Retreat, Kentish Town, County of Middlesex.

The distance of the contract is from one and half miles south of Settle Station near Cleatop Barnto the Marble Works on the road from Hawes to Dent.

Payment of Bond by the Contractor £34,832

Sureties for the Bond – John Kitchin of Sheffield and John Vikes of Buxton.

CONTRACTUAL CONDITIONS.

Midland Railway allowed to make alterations to the works as legally agreed under the Railways Clauses Consolidation Act 1845.

Work to commence fourteen days after compulsory purchase of the land by the Midland Railway.

The Contractor is required to pay for repairing roads. Midland Railway allowed to deduct any expenses or payment of compensation to landowners and this to be deducted from work which has already been completed.

The Contractor has to supply details of the number of artificers and other workmen and labourers, horses, engines, wagons and other plant as required by the Midland Railway Company – the contractor to pay £20 of any details which are not provided.

Wages are to be paid every fourteen days in offices provided by the Contractor.

The Contractor has the power to discharge any sub-contractors without being liable to any claim for loss.

Accommodation for the workforce has to be provided at the contractors expense. The Midland Railway Company may provide accommodation at the contractors expense and the rent retained by the Midland Railway Company if the contractor refuses to provide the cottages.

The contractor may not provide any articles of consumption to the workforce and for every breach of this ruling £100 will be deducted from any payment to the contractor by the Midland Railway Company.

The contractor is required to provide and pay for such number of Policemen as may be required. A fine of £100 is payable if this requirement is forfeited.

Every accident or death to be notified to the Engineer and in default the sum of £50 will be payable to the Midland Railway Company. The contractor is required to indemnify the company against personal injury.

USE OF INFERIOR MATERIALS.

Materials considered by the Engineer to be inferior to be removed immediately. Materials provided must correspond to the specification. Inferior materials must be removed within two days and expenses for the removal to be deducted from payment to the Contractor.

IMPERFECT WORK

If the company or engineer considers work to be inferior it shall be taken down. In default the company may contract the same at the contractors expense. The contractor to make good any deficiency on demand. The company is required to complete the work by contract or otherwise in the event of insolvency. Materials, horses, wagons and plant and machinery to become the property of the company. The contractor is required to pay the deficiency on demand. Materials are not to be removed by the contractor and the company not to be held liable for any loss or damage due to the weather.

PERMANENT WAY

Permanent way materials, rails and sleepers are to be delivered to Settle Station and the contractor is to be held liable for any loss or damage, charges and expenses in the event of any delay.

PAYMENT ON COMPLETION OF CONTRACT

The Midland Railway Company is required to pay the contractor on completion of the work the sum of £348,318. 10s. 2d. subject to any deductions as specified in the contract.

Principal Engineer – John Sydney Crossley.

SPECIFICATION

The contractor has to provide labour and materials except station buildings and permanent way materials. The distance in mileage of the contract is 17 miles 10 chains. The railway is to be staked out. The specification has to be adhered to and alterations are not to affect prices quoted. Completion of the work rests with the contractor.

EARTHWORKS

The plans and sections are believed to be correct. Cuttings to be dealt with at chain lengths and excavations. Agreement as to the length of the cuttings to be between the engineer and the contractor.

MONTHLY PAYMENTS

Monthly payments to be made to the contractor on the certificate of the engineer subject to a deduction of ten per cent being retained by the company.

MEASUREMENTS

Measurements to be agreed on the spot, foundations are to be opened out. The engineer is required to measure it before it is covered up or hidden.

CONTINGENCES

The contractor is required to include all contingencies in his estimate. The engineer may provide another person to carry out the work providing it does not interfere with the work of the contractor.

WORKING DRAWINGS

The contractor is to provide working drawings at his own expense.

REMOVAL OF TREES AND BUILDINGS

Trees and buildings to be removed by the contractor at his own expense. The trees and buildings being the property of the company by compulsory purchase order.

MONTHLY CERTIFICATES

Payments only to be made subject to the satisfaction of the engineer. No interest is to be payable.

BATTYE MOSS VIADUCT AND BLEA MOOR TUNNEL

BRICKWORK

The bricks are to be made from good brickearth, uniform sizes, sound hard square – well burnt approved by the engineer. No bricks to be used warm from the kiln until they have been soaked in water and of uniform colour. No differences of workmanship or materials will be allowed between inside and outside work.

SPANDRILLS

No spandrills or parapets are to be built until the centres are eased quite clear of the arches.

BOND OF ARCHES

Arches where directed to be built of brickwork shall be bonded in such manner as the engineer may direct. No arch will be allowed to be built in half brick rings.

FROST

No brickwork or stonework to be set during frosty weather. All work may be impaired by frost and will need to be rebuilt.

ARCHES

All arches whether of brickwork or stonework shall be coated with boiled tar and mineral pitch or artificial asphalt two inches thick to be laid in three coats so as effectively to exclude water from the work.

TUNNEL SHAFTS AND HEADINGS

Soil to be removed for a depth of six inches and the entire surface to be covered. Spoil to be kept within the companies boundary. Any land damaged beyond the companies boundary will be

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Research notes for the Ribbleshead Archaeological Tours . All material obtained from the National Archives, Kew by Peter G. Davies

required to be paid for by the contractor with all costs and charges incident thereto. Three shafts to be sunk with the brickwork nine or fourteen inches thick, Staffordshire blue bricks may be used to line the shafts. Headings are to be six feet by five feet properly and securely timbered to be kept during the progress of the work, open and in safe condition at the level one foot above the foundation level.

MASONRY

The work is to be kept free of water and may consist of walled block. Horses may be used in the extraction of spoil.

MORTAR

To be composed of freshly unburnt hydraulic lime of quality approved by the engineer properly and carefully slaked and covered for eight hours at least, mixed with clear sharp sand or good grit stone, properly ground, well beaten together in the proportion of two of sand or ground grit stone to one of unslaked lime by measure. The least possible quantity of water is to be used in mixing the mortar which is to be tempered in a mill of a construction to be approved by the engineer. No mortar which has become set will be used. For such provisions as may be directed by the engineer mortar shall be used composed of the lime of the country to be approved by the engineer. Unslaked lime one measure, calcined clay one measure, sand one measure with the necessary quantity of water to be completely incorporated by grinding in a mill of approved construction and used fresh from the mill.

REQUIREMENTS FOR COMPLETION OF THE CONTRACT.

Twelve miles of the railway to be laid by the 30th June, 1871 and from there to the end of the contract by 1st May, 1873. Extensions may be granted. The contractor has to maintain the works for one year after the railway is opened to passenger traffic.

Contract signed 13th August, 1869.

SCHEDULE OF PRICES

DAY WORK

All bills for day work to be sent to the engineer's office in the week succeeding within which the work has been done or the claim will be disallowed. The prices following are to include expenses of all agents, foremen, and timekeepers.

2,000 Navigators and labourers at 3/6 per day - £350

1,500 Bricklayers at 5/- per day £375

1,500 Masons at 5/- per day £375

500 Carpenters at 5/- per day £125

250 Smithers at 4/- per day £50

250 Strikers at 3/- per day £37 10/-

1,000 Miners at 4/- per day £200

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300 Platelayers at 3/6 per day £52.10

600 Boys at 2/- per day £60

200 One horse cart and driver at 8/- per day £80

100 Two horses cart and driver 14/- per day £70

TOTAL WORKFORCE 8,200

SUMMARY

Folio Fences and Gates 9,350. 8s. 0d. 3

6 Earthworks)

8 Excavations) £140,522. 13s. 4d.

9 Excavating Foundations £1,943. 10s. 10d.

10 Brickwork £6,732 15s. 0d.

12 Stonework £56,215 0s 0d.

14 Culverts £7,146. 8s. 0d.

15 Concrete £1,625 0s. 0d.

16 Ironwork £6,319. 0s. 0d.

17 Shafts and Heading £21,582 0s. 0d.

18 Tunnel £67,670 0s. 0d.

20 Woodwork £2,166. 17s. 6d.

22 Ballasting and laying permanent way £23,153 15s. 0d.

25 Surface Crossings £328 12s. 6d.

26 Approaches to surface crossings and bridges £417 10s. 0d.

28 Day Work £1,775 0s. 0d.

29 Measurement of works £2070 0s. 0d.

TOTAL £348,318 10s. 2d.

Signed James Ashwell.

James S. Wheeler , Solicitor 10 Park Street, Westminster

This contract cancelled by agreement. Material releases are to be executed if required by either party at the expense of the company. Dated 26th October, 1871.

Signed James S. Wheeler for the Midland Railway Company.

CONTRACT NO: 2

NOTES FROM THE NORTHERN CONSTRUCTION COMMITTEE MINUTES RELATING TO CONTRACT No: 2.

That a scripture reader be appointed to the district occupied by Messrs. Benton and Woodiwiss Contractors and that the Engineer be requested to arrange with Messrs Benton and Woodiwiss to pay half the expense. Mr. James to be requested to arrange with the Committee of the Bradford Town Mission for the services of a scripture reader on the land occupied by Messrs Benton and Woodiwiss at a salary of £100 per annum. It is interesting to note that no free pass was allowed as in the case of James Tiplady on Contract No: 1.

2nd August, 1870.

In Dentdale heavy rain caused the washing away of bridges on the road alongside the River Dee.

4th October, 1870

Smardale Viaduct has not had sufficient masonry carried out. Difficulties were being experienced in laying the foundations for the viaduct because of problems with Scandale Beck.

6th December, 1870

Heavy rain was experienced, six piers had been erected at Smardale Viaduct at a height of nineteen feet. The number of men employed was 1,319.

3rd January, 1871

Smardale Viaduct.

Pier No: 5 is now at a height of sixteen feet. Pier No: 7 has been excavated and work has not continued because of frost.

31st January, 1871.

Cowgill Tunnel is now referred to as Rise Hill.

28th February, 1871.

Further bad weather was experienced.

2nd May, 1871.

Work is progressing on Arten Gill, Ais Gill, and Smardale Viaducts. Further progress was being made with Rise Hill Tunnel. Cow Gill culvert. Difficulties were being experienced with twenty five feet being dug out for the fifth time.

1st August, 1871.

It was reported that there had been a seventy three per cent turnover in the number of staff employed.

3rd October, 1871.

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More staff have been employed and there is better progress with Contract No: 2 as a whole. A letter was received from a Wesleyan Minister Rev. William Moister from Sedbergh requesting that the company create a temporary building for public worship for the navvies employed near Garsdale Head. The request was refused.

31st October, 1871.

A letter was received from Benton and Woodiwiss regarding Contract No:1 and Contract No: 2 reminding the Midland Railway Company of the difficulties experienced with the two contracts.

2nd January, 1872.

No progress had been made with the embankment at the Moor Cock, and no work had started on Birkett Tunnel. Nine months were needed to complete the tunnel. On Smardale Viaduct there was an inadequate workforce with only twelve months to complete the viaduct.

1st October, 1872.

The Midland Railway Company agreed to pay a loan of £15,000 to Messrs Benton and Woodiwiss to be repaid at 5% per annum. The security being the plant and machinery owned by Messrs. Benton and Woodiwiss.

3rd December, 1872.

Authorization was given by the Engineer, Mr. Crossley for the construction of a viaduct at the Moor Cock later to be known as Dandry Mire Viaduct.

2nd September, 1873.

Progress was being made at Rise Hill Tunnel.

CONTRACT NO: 3

NOTES FROM THE NORTHERN CONSTRUCTION COMMITTEE MINUTES RELATING TO CONTRACT No: 3.

The contract document is not held at the National Archives, however, the Northern Construction Minutes indicate that reasonable progress was made with the contract despite the fact that the workforce could obtain higher wages by working on the land in the summer months rather than the railway. At the onset of winter the workforce returned to work on the railway. The value of the contract was £278,813 10s. 10d.

The information shown for the length of the contract is from Smardale cutting at the northern end of Smardale Viaduct to Newbiggin, a distance of fifteen and a quarter miles.

The shortest contract in terms of distance.

CONTRACT No: 4.

The total length of the contract is twenty three and a half miles commencing at the road from Newbiggin to Kirkby Thore to Petteril Bridge in the Parish of St. Cuthbert, Carlisle.

The contractor was Eckersley and Bayliss and the value of the accepted contract was £329.905 – Seventeen shillings.

A bond was secured from Henry Hood of Pepper Hill, Northallerton and Caleb Wright of Tydesley.

The same contract terms apply to Contract No: 4 as they did for Contracts 1 and 2.

The rails were to be delivered to Appleby (London North Eastern Station) of the Eden Valley Railway and to Scotby (London North Eastern Station) on the Carlisle to Newcastle Railway.

Specification notes.

Total costing for Culgaith Tunnel £15,912

Total costing for Wastebank Tunnel £4.664

Total costing for Baron Wood Tunnels £4,857.10

Total costing for Armathwaite Tunnel £8,245

In the case of the Baron Wood Tunnels no air shafts were shown on the specification indicating that the gap between the two tunnels acts as an air shaft to allow steam to escape. The lengths of the tunnels may be altered according to the nature of the work executed.

NOTES FROM THE NORTHERN CONSTRUCTION COMMITTEE MINUTES RELATING TO CONTRACT No: 4.

1st November, 1870.

A scripture reader was appointed to Contract No:4 at a salary of £100 per annum. No indication is given of the name of the person appointed.

6th June, 1871.

The partnership between Mr. William Eckersley and Mr. Bayliss was dissolved. Mr. Eckersley was not exonerated from his liabilities in regard to the contract to the company.

5th December, 1871.

£1,800 was paid for timber as a loan for a twelve month period. Interest was to be charged from 8th January, 1872.

3rd December, 1872.

A landslip occurred at Eden Brows.

1st April, 1873.

£5,000 was paid to Mr. Bayliss at an interest rate of 5% per annum.

30th September, 1873.

A further £5,000 was paid to Mr. Bayliss as a retention of the contract with no interest payable.

It is interesting to note that on **5th December, 1872** a bonus of 15% was to be added to all prices on Contracts, 2, 3, and 4 to be paid by adding a percentage to the monthly payments after deducting loans now due to the company. This advance was to be made and accepted without prejudice to the legal obligations of the existing contractors. The bonus was duly accepted by all the contractors.

BRIDGE AND VIADUCT DRAWINGS FOR CONTRACT No: 4.

The original drawings for Armathwaite, Drybeck, and High Stand Gill viaducts are to be found at the National Archives. Some of the drawings are on cloth, others are on paper.

The same relates to the number of bridges which were constructed. Each bridge, viaduct and tunnel gives the mileage in miles and chains from both Settle Junction and Petheril Bridge Junction, Carlisle.

They are in a bound book which is very heavy to lift as I discovered on my visit.

Also contained in the book are the drawings for the tunnel at Lazonby which is 99 yards long and was built at the request of the local vicar who objected to the steam trains passing the vicarage.

**REPRODUCED WITH ACKNOWLEDGEMENT TO THE NATIONAL ARCHIVES,
KEW, RICHMOND, SURREY.**