

PROPOSED BRANCHES OF THE MONMOUTH RAILWAY COMPANY ON THE WEST OF THE RIVER WYE, 1808-1810

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Introduction

The Monmouth Railway Company was incorporated by Act of Parliament¹ on 24th May 1810, and most of the horse-powered tramroads authorized were actually built, providing a main line from Howlers Slade (just east of Coleford) to May Hill, Monmouth, with branches, all entirely on the east of the River Wye. A very full and interesting account of this system is given by Paar.² In this account, Paar draws attention to the fact that the Company originally intended to build two branches west of the River Wye, to "Pool Dee on Penalt Common" and to "New Mill" at Whitebrook.³ It seems practically certain that no part of these proposed branches was ever built as a tramroad,⁴ but the proposals have greatly intrigued the present author, who is well acquainted with the district, because of their bearing on the industrial activity of the parish of Penallt⁵ (in which the terminals and most of the route lie), because of the economic unlikeliness of the proposals, and because of some interesting aspects of the proposed routes, including gradients of 1 in 7. He has consequently investigated the matter more fully, and the findings are presented below.

The documentary evidence on which the investigation is based comprises two sets of papers: the somewhat fragmentary Minute Book of the Monmouth Railway Company for 1808-1810 (i.e. before the Act was passed)⁶ and a plan of the proposed tramroads, together with the Book of Reference,⁷ filed at Gloucester. It is a matter of some interest that the minutes of the Company's meetings never make any reference to a Whitebrook branch, only to the Pool Dee branch. However, the former is shown, purely schematically, on the plan, and is dealt with in the Book of Reference. The Act itself is also available in various libraries,⁸ and a point of interest is that the printed plan which accompanied it, while generally identical with the hand-drawn plan at Gloucester, omits the Whitebrook branch altogether. Nowhere in the documents is there any mention of the kind of traffic which was expected for these branches, nor of the economic considerations which led to the proposals. Part of the investigation has therefore been to establish what traffic could have been expected.

Minutes referring to the Penallt branch

The parts of the minutes referring to this branch are short enough to quote in full.

Meeting on 20 Dec. 1808. It was resolved

"That power be taken to pass Railway Carriages by a Ferry across the Wye from the publick Wharf at Redbrook to the opposite Shore and afterwards to continue the Railway to Pool Dee on Penalt Common but this Branch is not to be executed from the amount of the general Fund until the Dividend upon the sum expended in making the road to Monmouth and other intended Branches shall exceed five p cent in which latter case the said Company shall advance the sum of One Thousand pounds only provided so much shall remain unexpended of the said Subscription for making the said Road and Branches and that only upon condition that some responsible person will engage with the Company to complete the said Branch and to pay the excess if any beyond the said sum of One Thousand Pounds and that the Tonnage of 6d. a Ton be paid to the said Company for all Goods carried on the said Branch which shall not in length exceed 2,200 yards".

Meeting of 14 Nov. 1809

"That the £1000 for . . . [illegible] the branch to Pool Dee be advanced before the Railway is extended to the left of Wye Bridge into the Town".⁹

In fact, the tramroad was never extended into the town of Monmouth.

Agreed wording of Petition to the Commons (i.e. to Parliament)

" . . . extending . . . to the River Wye at or near a place called the Cinder Bank in the Parish of Newland in the County of Gloucester, there to cross the said River by a Boat or Barge, to be drawn across the said River by a fixed Rope or Chain, to or near to a place called Pool Dee, in the parish of Penalt in the County of Monmouth . . . ".

The plan of the tramroad

Paar states that the plan was prepared by Astley Bowdler, engineer to the Company, and deposited on 30 Sept. 1809. The printed map appended to the Act has in the bottom right-hand corner: ASTLEY BOWDLER SURVEYOR & ENGINEER 1810. The small part of the hand-drawn map showing the Pool Dee branch is reproduced in Fig. 1. The numbers against various portions of the route refer to the ownership of the land as set out in the Book of Reference, and the length of each portion is also given. The relevant entries are as follows:

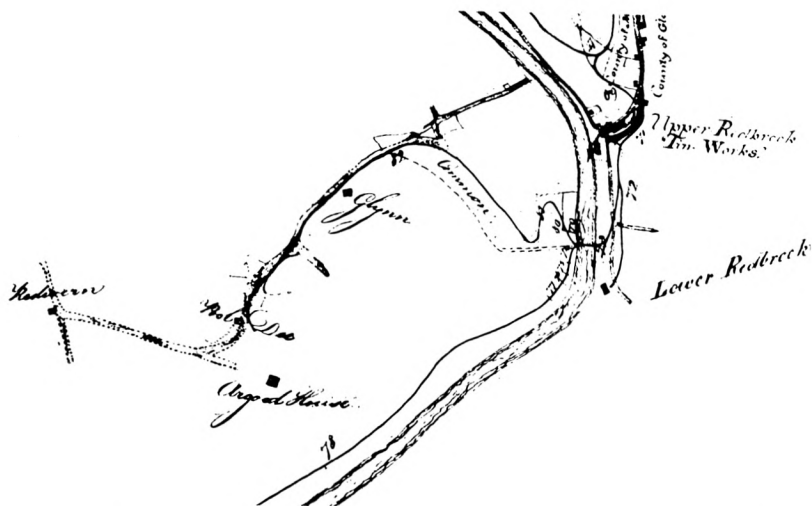


Fig. 1. Portion of Bowdler's plan showing proposed Pool Dee branch of the Monmouth Railway.

| No. | Owner's Names | Occupier's Names | Description of Land | Length ch. ft. |
|-----|---|--------------------|------------------------|----------------|
| 73 | John Quick | Thomas Hughes | Timber yard and meadow | 6.06 |
| 74 | Mrs. Morgan Widow | Edward Bevan | | 3.00 |
| 75 | Duke of Beaufort | Joseph Williams | Meadow | 2.00 |
| 76 | Elizabeth Williams | herself | Orchard | 1.00 |
| 77 | Joseph Williams | himself | ditto | 3.00 |
| 78 | Duke of Beaufort | | Wood in hand | 264.00 |
| 79 | Mrs. Morgan Widow | Frost, Argoed Farm | | 3.00 |
| 80 | Ann Stephens | herself | | 1.00 |
| 81 | Mrs. Morgan Widow | Edward Bevan | | 14.11 |
| 82 | Up old road to be altered and over Common | | | 69.00 |

Nos. 74-78 represent the Whitebrook branch, 79-82 the Pool Dee branch.

The plan is very inaccurate, as can quickly be seen from a comparison with a true map as shown in Fig. 2. It would be very difficult to determine the exact route if it were not for the triangular road junction near the number 82, for the name "Glynn" which clearly refers to the farmhouse (still existing) called The Glyn, or Glyn Farm, and for the fact that the terminus "Pool Dee" must have been the stone quarry at O.S. grid reference SO 516 095.

Route and traffic of the Pool Dee branch

Looking at the contours shown in Fig. 2 it can be seen that the branch has to climb over 700 ft. in altitude in its length of just about 1,700 yards. This is an average gradient of about 1 in 7.3—a very steep gradient indeed. It is thus a reasonable supposition that the branch was intended to bring loads *down* from Pool Dee to the river and not to carry any appreciable traffic up from the river. This is consistent with the idea that the traffic was to be stone from the quarry at Pool Dee and no doubt also from the quarry at grid ref. SO 530 100. There was another quarry (filled in and obliterated in 1970) at grid ref. SO 508 086, and it is interesting that this was exactly on the 800 ft. contour, and its products could evidently have been carried to the tramroad at Pool Dee over a perfectly level route by sledge or wagon. It is not known exactly when these three quarries started and stopped working, but it is likely they were all in operation in the early 19th century. The main product was millstones, for which the quartz conglomerate stone was very suitable.¹⁰

The name Pool Dee is an anglicization of the Welsh "Pwll Dŷ" (black pool or pit), which appears on the First Edition 1 inch O.S. map a quarter of a mile to the south-east of the quarry. It is believed to have been the original name of the house now called "Moorcroft".¹¹ As the plan shows the line curving south-east at its terminus, it is just possible that the line was to have gone to this point instead of the quarry. Here it would have been near the centre of the hamlet of Pentwyn and might have been the base for a wide distribution of coal over the thinly-populated plateau. This is consistent with the fact that in the list of tolls in the Act, reference is made to "All goods, etc., from Redbrook to Pool Dee or back again . . .", suggesting that upwards traffic was seriously contemplated.

The measurement of distance indicated in the table above is reasonably accurate, but the zig-zag section near the river is hard to understand. The contours in Fig. 2 show that it was not possible to built it exactly as shown in Fig. 1, and a visual inspection of the site makes this doubly clear. There was in fact an easy direct route via the line of the present road, which certainly existed in 1848 as it is shown on the Tithe Map,¹² and in marking the line of the tramroad in Fig. 2 it has been assumed that this would indeed have been the route, with the zig-zag on a much reduced scale. This is, moreover, more consistent with the layout of the parcels of land shown on the Tithe Map.

The Book of Reference indicates that the tramroad was to follow the public road for most of its route, the road "to be altered". This alteration was presumably to smooth the gradient around Glyn

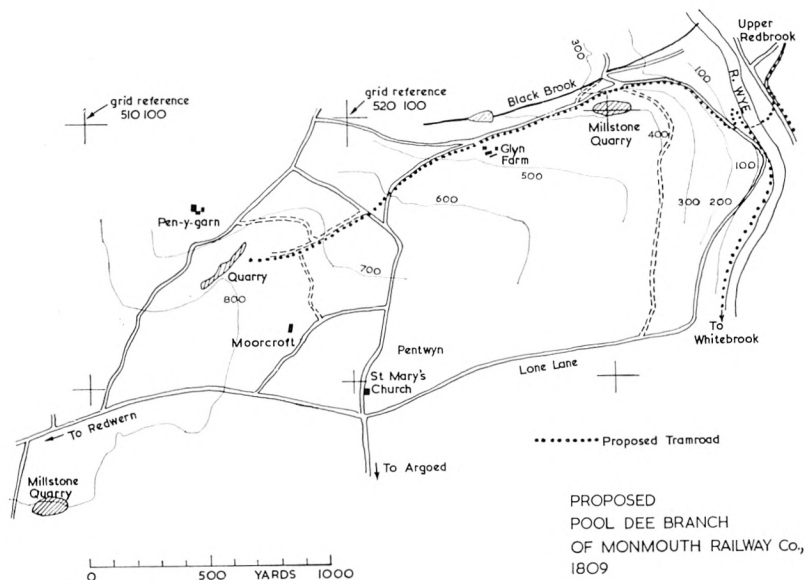


Fig. 2. A true map of the probable route of the Pool Dee (Penallt) branch. (Crown Copyright Reserved).

Farm, for whereas the road has a gradient reasonably steady at about 1 in 7 from the river up to the 400 ft. contour, it then fluctuates between 1 in 20 and 1 in 6.5 in two waves up to the 600 ft. contour. Above this point the route would have had to cut across a piece of woodland and then follow what is now a bridle road at a fairly steady gradient of 1 in 13 up to the brow of the quarry or round towards the hamlet. (N.B. The gradients were measured in situ by the author using a home-made "inclinometer".)

It seems fairly evident that the last part of the route at least must have been specially constructed before the 19th century as a convenient way of getting the stone away from the quarry, probably by road wagon, for there was no alternative route without adverse gradients. It is hardly believable that it was constructed in anticipation of the tramroad around 1810, and its even gradient is not artificially contrived, as it is the same in the adjacent fields.

Route and traffic of the Whitebrook branch

The Whitebrook branch would have been of quite a different nature. The section along the river would have been practically level, and up the valley of the White Brook the line would have climbed about 400 ft. in about 2,000 yards, as shown in the map of Fig. 3, i.e. with an average gradient of only about 1 in 15. Since

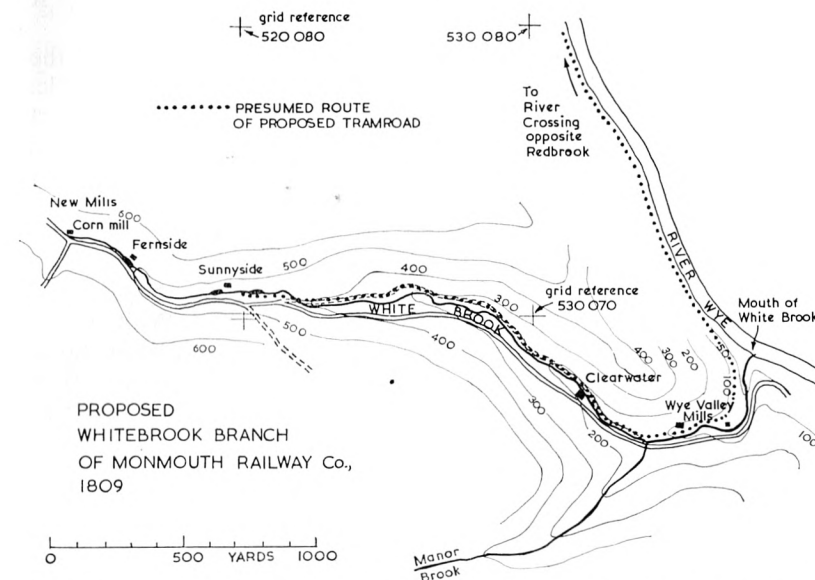


Fig. 3. A true map of the probable route of the New Mill (Whitebrook) branch. (Crown Copyright Reserved).

its terminus was marked "New Mill", and the distance quoted in the Book of Reference took the line exactly to the paper mill which formerly stood beside the house once called "Sunnyside" and now called "Traligael", it is clear that its traffic was to be at least largely that appertaining to the paper industry of the valley. There were at least two, and possibly three, other paper mills lower in the valley.¹³ This traffic would have comprised coal from the Forest of Dean (not very much as power was supplied by the brook) and rags, etc., upwards, and finished paper downwards. The gradient was quite suitable for upwards traffic, with horse traction.

It is very surprising to find that between the junction of the Manor Brook with the White Brook (at altitude about 120 ft.) and the terminus of the line (at about 445 ft.), there is on the north side of the White Brook a bridle road with a perfectly even gradient of about 1 in 14 over its length of about 1,500 yards. It is a carefully-engineered road, as compared with the tarred public road, which twists and rises and falls awkwardly with a maximum gradient of 1 in 7. The bridle road looks like an old tramroad formation, and one almost expects to find stone sleepers in it; but the author has never managed to observe any. One cannot help feeling that it might have been constructed in anticipation of the coming of the tramroad, although even as a normal road it would have materially

aided transport to the paper mill. It certainly existed by 1848 as it is shown on the Tithe Map.¹⁴

Below the lower end of this road, there is no obvious route for the tramroad, although the public road would not have been impossible. As it is now, it is mostly reasonably level, but there is one short stretch at 1 in 10 which could no doubt have been easily smoothed out a little. It is more likely, however, that a smoother route near the brook, as shown in Fig. 3, was intended, as the Book of Reference suggests the whole route here was in the Duke of Beaufort's woodlands.

Apart from fuel, the imports and exports of the paper mills travelled by barge up and down the River Wye below Whitebrook, being transhipped at a suitable river port out of or into larger boats which made the trip from and to Bristol and elsewhere. It is therefore unlikely that traffic other than coal would use the line between the mouth of the White Brook and Redbrook, and a siding linking the tramroad to the wharf at Whitebrook (which was to the south of the mouth¹⁵ as indicated at the present-day by the ruins of an old warehouse) would have been necessary.

Economics of the branches

Little is known of the amount of traffic from the quarries and to and from the paper mills.

Starting, therefore, from the point of view of tramroad costs, we note that the Pool Dee branch was to cost the Company £1,000 and that it was anticipated that this would not be the whole cost. In fact, the cost might not have been much in excess of £1,000, as so much of the route was already formed by roads. Allowing for maintenance and profits, the Company must have expected the tolls to have earned say £100 p.a. At the figure of 6d. a ton quoted in the minutes, this would have required 4,000 tons a year. If, as the author believes (see ref. 10), the dressing of the stone was done at the quarry, and only finished millstones and other stone products were sent away, then it is most unlikely that the traffic could have been more than a small fraction of this. A typical millstone weighs just under 1 ton. The quarries are not large, and it is more likely that only a few hundred could have been made in a year. As far as the possibility of upwards coal traffic is concerned, such traffic would have been quite light, serving only a rural and sparsely-populated area (less than a thousand people in over 15 sq. miles) and could not have contributed much to the revenue of the line. It is very hard to see how the tramroad could have paid its way. Yet it is likely that it was shortage of capital rather than calculations of expected income which prevented the building of this branch, since it was included in the Act.

As regards the Whitebrook branch, which was longer, tolls of about £300 p.a. would have been required. Assuming a rate of 6d. per ton per mile, this too would have required 4,000 tons a year. Even in 1865-75, when the paper mills were driven by steam power, and so more coal was needed, the total traffic was estimated at only 100 tons per week¹⁶—i.e. 5,000 tons per year, and this over the length of the valley only. It is hard to see that traffic of an economic volume could have materialized in 1810, and certainly there would have been negligible traffic on the riverside portion. It is likely that the uneconomic nature of this branch was realized by the Company all along; hence the absence of mention of it in the Minutes and its omission from the Act. Indeed, one wonders if its inclusion in Bowdler's survey was perhaps entirely the idea of the surveyor.

It is interesting to note that Paar, in his book (loc. cit.) quotes some traffic returns for 1840 relating to the tramroad actually constructed on the *east* of the River Wye; these figures show that the line then paid its way (and a dividend) with a total traffic of about 4,000 tons. So our assumptions above seem justifiable.

Acknowledgments

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REFERENCES

- ¹ 50 Geo. III cap 123.
- ² H. W. Paar, "The Great Western Railway in Dean", David & Charles, Newton Abbot, 1965 (2nd Edition 1971).
- ³ Paar appears to have slightly misinterpreted the documentary evidence, by suggesting (p. 87) that the New Mill was on Penallt Common and not on the proposed Whitebrook branch.
- ⁴ The certainty would be greater if it were not for the curious inclusion of these branches in a railway map of 1830 published as "Map of Inland Navigations, Canals and Railroads in Great Britain" by J. Walker, Brit. Museum 1135/4.
- ⁵ The correct Welsh spelling of the name is PENALLT, but the use of a single "l" was universal in English documents of the 18th and 19th centuries, and is still not uncommon.
- ⁶ British Transport Historical Records, MON 1/1. All the other minute books of the Company appear to have been lost.
- ⁷ Gloucestershire County Record Office, Q/RUM 34
- ⁸ Apart from obvious places in London, there is a copy of the Act, with annexed plan, in the National Library of Wales, Badminton Papers Group II, No. 11,800.
- ⁹ Paar quotes the minutes as saying that 'the £1,000 . . . be *not* advanced . . .'. Unfortunately the legibility of the minutes is very poor, but the present author is convinced that the word "not" does not appear in this phrase.

- ¹⁰ Fully discussed in D. G. Tucker, "Millstone making at Penallt, Monmouthshire", *Ind. Arch.*, 8, 1971, pp. 229-239.
- ¹¹ Y. R. H. Probert, "Parish of Penallt", Second edition 1966, obtainable at Church or Vicarage, Penallt.
- ¹² Tithe Map for the parish of Penallt, in National Library of Wales, Aberystwyth.
- ¹³ See D. G. Tucker, "The paper mills of Whitebrook, Monmouthshire", *Arch. Cambrensis*, in course of publication.
- ¹⁴ Tithe Map for parish of Llandogo, National Library of Wales. Curiously the upper end of the road, which is in the parish of Penallt, is not shown on the Tithe Map of Penallt, but it does appear on the Tithe Map of Trellech.
- ¹⁵ "The Slip and Ware House" were shown at the same place on the map No. 6 prepared by John Aram in the Survey of the Manors of Usk and Trelleg, 1772, now in the National Library of Wales, Aberystwyth.
- ¹⁶ Monmouthshire Beacon, 13 Nov. 1875. The estimate was given by people pleading for a station on the Wye Valley Railway, and was therefore probably an over-estimate.

NOTES ON CONTRIBUTORS

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