

Public Works (1897) Department.

Print

G.O., No. 900-1.2

DATED 4th Nov^r 1897

3/12 *Proof* *8/1/97*

[Despatch Abstract.]

*Order and Extension of the
Nilgiri Railway*

*Inspection Report of the Com. Engrs.
on the alignment of the — Government
Rail to the Agent, Nilgiri Railway, and
a copy of these Reports forwarded to
the Govt. of India.*

*Forwarding Copy of the Proceedings
incorporating the Inspection Report of the Com.
Engrs. on the alignment of the —*

[illegible][illegible]

Government { 1897 } of Madras.
PUBLIC WORKS.

Spare copies

NOVEMBER.

Forwarding copy of the Proceedings embodying the Inspection Report of the Consulting Engineer on the alignment of the —.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read the following papers :—

From the Under Secretary to the Government of India, Public Works Department (Railway Construction), to the Officiating Joint Secretary to the Government of Madras, Public Works Department, Railway Branch, dated Simla, 30th September 1897, No. 1634 R.C.

I am directed to acknowledge the receipt of your letter, No. 634 R., dated 10th September 1897, forwarding copy of a note and statement prepared by the Consulting Engineer for Railways, Madras, showing the saving that is likely to result from the carriage by the proposed extension of the Nilgiri Railway to Ootacamund from Coonoor of Government passengers and stores, also a note giving the results of a count of traffic registered between Coonoor and Ootacamund during May and June last.

2. With reference thereto, I am to say that the results of the survey of the proposed extension now under preparation by the Agent, Nilgiri Railway Company, together with the report by him on the statistics of traffic recently collected, will be awaited by the Government of India.

Inspection Report on the Ootacamund Extension of the Nilgiri Railway, dated Madras, 20th October 1897.

1. I inspected the alignment of the proposed extension on the 18th October in company with Mr. Weightman, the Engineer-in-Chief. The distance from Coonoor to Ootacamund is about $11\frac{1}{2}$ miles. The country to be traversed is not nearly so precipitous as that from Kullar to Coonoor on the existing section of the Nilgiri Railway; still it is fairly steep and there is some pretty heavy work. Practically the whole of it is on sidelong ground. The grading has been designed for the most part so as to keep the road bed on the solid. There are few waterways of any importance, but there will be a very large number of small culverts. Most of the waterways can be sufficiently well gauged from the culverts of the main cart-road which, as a rule, runs not far off the railway and above it.

2. The chief feature of the proposed extension is that, instead of consisting of either a continuous adhesion line or a continuous rack, it has been designed so that there are about $3\frac{1}{2}$ miles of rack, most of it 8 per cent., and 8 miles of adhesion line, from 1 in 40 to level. The $3\frac{1}{2}$ miles of rack is not continuous; it is in four pieces, respectively 1,200, 4,700, 8,000, and 4,500 feet long. There is a great deal of level and there are considerable lengths of easy grades. The object of this design is to keep the line as far as possible on cheap and easy ground. Trains will be through trains between Méttupálaiyam and Ootacamund. Coonoor marks no special change in traffic conditions. The decision therefore to use the same engines all through is a good decision and there is the gain of cheaper construction.

3. Leaving Coonoor, where the substantial and convenient railway station is very nearly completed, the rack begins just outside the station and rises for a distance of 12 chains. Thence there is an adhesion line at 1 in 50 to Wellington which is at chains 43 to 50. On this one-mile section from Coonoor to Wellington the railway runs up a valley and its grading is practically fixed by the stream bed.

4. The rack begins at once beyond Wellington station, the 1 in 12.5 extending from 50 chains to 97 chains. The main road is crossed by an under-bridge at 57 chains. This section of rack keeps on the west side of a great knoll or spur of which the cart-road keeps to the east. The railway is on sidelong ground, not very steep; good rock most of it.

5. The next section, from 97 to Arvenghat station, 192 chains, is more or less level, with slight rises. The ground is good and construction easy. This section runs up the left side of the Arvenghat valley where the brewery is. There are some short 25 or 30 feet cuttings and banks.

6. The rack begins again immediately at the north end of Arvenghat station, and runs from 192 to the "half-way house", 272 chains. This is also in the Arvenghat valley. It is not exactly easy work, but still not very difficult.

7. From the top of the rack, 272 to 388, the line runs up the Kaity valley, rising only 55 feet in the two miles, or practically level. The ground is all sidelong and fairly easy.

8. From 388 to the Lawrence Asylum station, 433, a distance of nearly $\frac{7}{8}$ th mile, is all rack, but part of it is 1 in 12.50 and part of it 1 in 16.66. This is wrong, because there is no advantage at all in the easier grade, and the ground is of such a contour that there will be no difficulty in getting 1 in 12.5 down from the Lawrence Asylum to meet the nearly level Kaity valley section, and so to save some hundreds of feet of rack.

9. From the Lawrence Asylum station, 433 to Lovedale Road Saddle, 509, is an adhesion line, much of it 1 in 40, and all of it very heavy work. The work can apparently be lightened, and the length somewhat shortened, by more detailed survey. Over the stream which fills the Lawrence Asylum lake is a very heavy 50 feet bank, which can probably be more economically crossed by a girder viaduct. The Lovedale Road Saddle is the highest point on the line, being 7,300 feet above the sea.

10. From Lovedale Road Saddle the line is an adhesion line, and drops about 80 feet to the Willow Bund at Ootacamund Lake, and thence it runs a few hundred feet further into Metucherry, the site fixed by the Madras Government for the terminal station. Along its course where it enters the Ootacamund Settlement great care has been taken so that the railway shall cause the minimum of inconvenience. When roads have to be crossed they are taken under the railway, and existing roads and structures are interfered with as little as possible.

11. During the inspection certain small modifications of alignment suggested themselves and have been accepted by the Company's Chief Engineer. The selection of the marked-out centre line has been done with much care and judgment, and is the result, as I could see from the plans, of a very considerable number of trial lines. The Company's Chief Engineer, Mr. Weightman, hopes to have his project in a complete state ready for submission to Government by about the end of November.

12. The rates which are being inserted in the detailed estimate now under preparation have been based on experience gained on the construction of the Méttupálaiyam-Coonoor line, which now approaches completion. The road traffic statistics which, under the control of the Civil authorities, are being collected on the ghât, are being placed, as fast as collected, at the Company's Agent's disposal.

13. It may be accepted as certain that the Méttupálaiyam-Coonoor line can never reach its full development until it is extended the full distance to Ootacamund, because the competition of carts will be very severe as long as even for a part of the Méttupálaiyam-Ootacamund journey they have to be used.

Public Works (1897) Department.

CURRENT No. 9872

SERIAL
No. 54

From Govt of India

No. 1634 R-C

Dated 30th September 1897

Received
Registered 36-10-97

Enclosures

Spare copies

SUBJECT.

Proposed Extension of the Nilgiri Ry
to Ootacamund

stating with reference to Madras
Govt no 6432 dated 10-9-97 that the
results of the survey of the
Nilgiri Ry now under preparation by the Agent,
together with the report
by him on the statistics of Traffic
recently collected will be awaited.

4 No. 900 R., 4TH NOVEMBER 1897.

14. I may add that on the 19th of October, on arrival at Kullar, I ran up about three miles of the rack portion of the Nilgiri Railway with Mr. Weightman on one of the engines. Everything worked perfectly smoothly, and the brakes seem to be amply powerful enough for the descent. On the engine are a vacuum brake, a Chatellier brake, a friction brake on the adhesion engine, and another on the rack engine. In addition to this there is a very powerful brake upon the rack axle of each of the waggons. The estimate that the railway to Coonoor may perhaps be open in April next is, I fear, rather too sanguine an estimate.

F. J. E. SPRING,
Offg. Consulting Engineer for Railways.

ORDER—No. 900 R., dated 4th November 1897.

Communicated to the Agent and Chief Engineer, Nilgiri Railway, for information.
2. A copy of these Proceedings will be forwarded to the Government of India.

[Here enter No. 901 R., dated 4th November 1897.]

(True Extract.)

(Signed) F. J. E. SPRING,
Offg. Joint Secy. to Govt.,
Railway Branch.

To the Consulting Engineer for Railways
„ Agent and Chief Engineer, Nilgiri Railway.

ENDORSEMENT—No. 901 R., dated 4th November 1897.

Forwarded.

(By order.)

(Signed) F. J. E. SPRING,
Offg. Joint Secy. to Govt.,
Railway Branch.

Order

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BACK PAPERS.

FURTHER PAPERS.

No.	Data.

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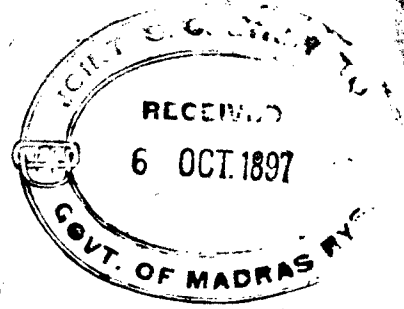
CONCERNS BOTH BRITISH INDIA

No. 1034 R.C.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

RAILWAY CONSTRUCTION.



*All communications
should be addressed
to the Secretary.*

Tc

The Joint Secretary to the Government of Madras,
Public Works Department, Railway Branch.

Simla, the 30th September 1927.

Sir,

Sir,
I am directed to acknowledge the receipt of your letter No. 634 R., dated 10th September 1897, forwarding copy of a note and statement prepared by the Consulting Engineer for Railways, Madras, showing the saving that is likely to result from the carriage by the proposed extension of the Nilgiri Railway to Ootacamund from Coonoor of Government passengers and stores, also a note giving the results of a count of traffic registered between Coonoor and Ootacamund during May and June last.

2. With reference thereto, I wish to say that the results of the survey of the proposed extension now under preparation by the Agent, Nalgiri Railway Company, together with the report by him on the statistics of traffic recently collected, will be awaited by the Government of India.

I have the honour to be,

Sir,

Your most obedient servant,

G. A. Anderson

Under Secretary.

Documents accompanying:-

Nil.

S. A.

Ootacamund Extension of the Nilgiri Railway.

1. I inspected the alignment of the proposed extension on the 18th October in company with Mr. Weightman, the Engineer-in-Chief. The distance from Coonoor to Ootacamund is about $11\frac{1}{2}$ miles. The country to be traversed is not nearly so precipitous as that from Kullar to Coonoor on the existing section of the Nilgiri Railway; still it is fairly steep and there is some pretty heavy work. Practically the whole of it is on sidelong ground. The grading has been designed for the most part so as to keep the road bed on the solid. There are few waterways of any importance, but there will be a very large number of small culverts. Most of the waterway can be sufficiently well gauged from the culverts of the main cart-road which, as a rule, runs not far off the railway and above it.

2. The chief feature of the proposed extension is that, instead of consisting of either a continuous adhesion line or a continuous rack, it has been designed so that there are about $3\frac{1}{2}$ miles of rack, most of it 8 per cent., and 8 miles of adhesion line from 1 in 40 to level. The $3\frac{1}{2}$ miles of rack is not continuous; it is in four pieces, respectively 1,200, 4,700, 8,000, and 4,500 feet long. There is a great deal of level and there are considerable lengths of easy grades. The object of this design is to keep the line as far as possible on cheap and easy ground. Trains will be through trains between Méttupálaiyam and Ootacamund. Coonoor marks no special change in traffic conditions. The decision therefore to use the same engines all through is a good decision and there is the gain of cheaper construction.

3. Leaving Coonoor, where the substantial and convenient railway station is very nearly completed, the rack begins just outside the station and rises for a distance of ~~1,200 feet~~. Thence there is an adhesion line at 1 in 50 to Wellington which is at chains 43 to 50. On this one-mile section from Coonoor to Wellington the railway runs up a valley and its grading is practically fixed by the stream bed.

4. The rack begins at once beyond Wellington station, the 1 in 12.5 extending from ~~1,200 feet to 2,700 feet~~. The main road is crossed by an under-bridge at 5,700. This section of rack keeps on the west side of a great knoll or spur of which the cart-road keeps to the east. The railway is on sidelong ground, not very steep; good rock most of it.

5. The next section, from ~~2,700~~ to Arvenghat station, ~~10,200~~, is more or less level, with slight rises. The ground is good and construction easy. This section runs up the left side of the Arvenghat valley where the brewery is. There are some short 25 or 30 feet cuttings and banks.

6. The rack begins again immediately at the north end of Arvenghat station, and runs from ~~10,200~~ to the "half-way house", ~~27,200~~. This is also in the Arvenghat valley. It is not exactly easy work, but still not very difficult.

7. From the top of the rack ~~27,200 to 30,000~~ the line runs up the Kaity valley, rising only 55 feet in the two miles, or practically level. The ground is all sidelong and fairly easy.

8. From ~~30,000~~ to the Lawrence Asylum station, ~~42,300~~, a distance of nearly $\frac{7}{8}$ th mile, is all rack, but part of it is 1 in 12.50 and part of it 1 in 16.66. This is wrong, because there is no advantage at all in the easier grade, and the ground is of such a contour that there will be no difficulty in getting 1 in 12.5 down from the Lawrence Asylum to meet the nearly level Kaity valley section, and so to save some hundreds of feet of rack.

9. From the Lawrence Asylum station, ^{433/}~~12,500~~ to Lovedale Road Saddle, ^{504/}~~10,500~~, is an adhesion line, much of it 1 in 40, and all of it very heavy work. The work can apparently be lightened, and the length somewhat shortened, by more detailed survey. Over the stream which fills the Lawrence Asylum lake is a very heavy 50 feet bank, which can probably be more economically crossed by a girder viaduct. The Lovedale Road Saddle is the highest point on the line, being 7,300 feet above the sea.

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MADRAS,
20th October 1897.

(Signed) F. J. E. SPRING,
Consulting Engineer for Railways.

PROCEEDINGS

RAILWAYS GOVERNMENT.

Read the following

Letter from the Govt. of India P. W. D. No. 1634 R.C. of 30th Sept 1897
Inspection Report on the Acheam & Extension of
the Nilgiri Railway of 20th Oct 1897.

(3) His Excellency the Governor
(4) The Honble Sir Henry Bliss, K.C.S.I.
(2) The Honble Mr. J. G. G. C. S. I. Agent & Chief Engineer Nilgiri
Railway for information.

2. A copy of these Progs
will be forwarded to the Govt.
of India.

Pass
Please send 2 copies
of progs.
8/11/97

H.E. No 901. R of 1897
Forwarded
FWSR
26/10/97

To The Comptroller for Rys
- Agent & Ch. Eng Nilgiri

30/10/97

14/11/97 14/11/97 14/11/97