

(1) Number of pages 1-28

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.**Government of Madras.***public works* **DEPARTMENT.**

G.O. No.

987

Press
Mis.

12-48.

Dated

3-4-

1871.

Not to be folded or roughly handled

No. 42. Read the following Endorsement of the Acting Consulting Engineer for Railways, dated Madras, 16th March 1871, No. 104:—

From D. LOGAN, Esq., Chief Engineer, to the Chairman and Directors of the Great Southern of India Railway, London, dated Trichinopoly, ———.

I HAVE the honour to report, for your information, the following particulars regarding the works of my department since October 1869.

2. On the return of Mr. Betts from England in October 1869, I handed over charge of the agency to him, and immediately turned my attention to the Southern Extension.

3. In 1868 the Government of Madras decided that this line should be constructed from Caroor, through Dindigul and Madura, to Tuticorin and Tinnevely. But in a despatch, dated 11th March 1869, the Government of India recommended that the proposals made concerning your line should be reconsidered "in relation to the general arrangements which would be most convenient for the whole of the Southern Peninsula, taking into consideration the opening of a new coast line from Arcunum or Madras towards the south."

4. Reviewing the project in this aspect, after an examination of the country between Trichinopoly and Madura, I reported (December 1869) in favour of a route from Trichinopoly *via* Dindigul to Madura, and thence nearly as before to Tuticorin and Tinnevely.

5. During January 1870 eight Assistant Engineers reported their arrival at head-quarters, and were, as speedily as a working establishment with tents and instruments could be provided, sent on to the line south of Madura, the exact route north thereof not then having been decided upon.

6. On the 20th May 1870 it was notified to me that the Government of Madras had decided to adopt Trichinopoly as the point of junction for the southern line, with the route recommended in my report of December 1869; and as Assistant Engineers finished up the work to the south of Madura, they were placed on this northern portion until, in November last, the whole line of 215 miles was staked out from end to end, and the working surveys and sections completed.

7. In October and November last the Deputy Consulting Engineer for Railways inspected the location of the line as staked out, and we still await the decision of Government upon the report made thereon.

8. The detailed working plans and estimates of the entire railway have just been completed, and will, within a few days, be before the Government of Madras. An abstract of this estimate is, together with other tabular statements concerning the projected line of railway, appended for your information, and these are of such a nature as I trust to render it unnecessary to enter into further detail here.

9. The line of railway has been laid out with a view to taking in all the most productive sources of traffic, mere directness of communication in the present comparatively undeveloped state of the country being looked upon as a secondary consideration.

10. North of Madura the ruling gradient is 1 in 100, and this, as far as practicable with regard to reasonable cost, has been kept to a minimum. South of Madura the steepest gradient is 1 in 200.

11. The item of stations turns out a somewhat heavy one, but this is partly due to the cost of the proposed general offices of the Company at Trichinopoly, which ought fairly to go against the mileage of the whole undertaking, or 401 miles instead of 215 miles of the extension only. If this be done the cost per mile for stations will be reduced against the extension from £1,130 to £1,060 per mile for stations.

12. In the stations, as in every other item, I have, in conformity with your orders, endeavoured to design every thing with a view to the strictest economy in construction and in working and maintenance; nothing has been added merely for ornament or effect.

13. It will be seen from the appended abstract of the estimate that the total cost of the projected extension amounts to, in round numbers, £7,000 per mile, exclusive of rolling stock, and I have sanguine expectations of being able to keep within this figure.

14. Skilled labour will, as heretofore, have to a considerable extent to be imported, and unskilled labour, owing to the agricultural occupation of the people, will be fluctuating. Labour of both kinds will increase in cost as we go south, to the neighbourhood of the richer districts and of the competition of the Ceylon market.

15. Staff (See Appendix, No. —). The health of the staff has, I am sorry to say, not been so satisfactory as could have been desired.

16. On the line of country south of Madura, during the early part of 1870, cholera was prevalent, and I regret to have to record the deaths of two Assistant Engineers from this disease—the one, Mr. William Davie, in February 1870, and the other, Mr. George Haughton, in June of the same year, being the only casualties in this country in the Assistant Engineer's staff since the commencement in 1858. Other members of the staff suffered from fever, and the work generally was much retarded by this and the prevalence of very high winds during several months. With the exception of an Assistant at head-quarters the Engineers were under canvas during the whole of the hot weather of 1870, and I have pleasure in bearing testimony to the zeal and will with which, amid many discomforts and discouragements, all did their work.

17. I regret exceedingly that this report is so meagre, and, compared with that at the commencement of your other extension, that the record is so utterly barren of results commensurate with the expenditure, so far as actual work is concerned; but that this is due to circumstances entirely beyond the control of your staff I think you are sufficiently aware.

18. In 1869 the Government of India ruled that no expenditure whatever was to be sanctioned upon works of construction until all our detailed working plans and estimates should be submitted and sanctioned, and, although frequently solicited for a relaxation of this order, no relief has been accorded.

19. Hitherto we were permitted, after the location of the line had been sanctioned, to begin the formation of a working staff, to collect material, and to perform such parts of the work as were absolutely certain to be required, no matter what the detailed estimates might be, such as quarrying, brick-making, the erection of quarters for the staff, etc.

20. On beginning the Erode Extension at the end of the first year, the electric telegraph was up and at work from end to end, the Engineers' and Inspectors' bungalows were built; about 7,000 cubic yards of masonry were built in bridges and culverts, and materials were ready for as much more. At the end of this our first year of the Southern Extension, on the contrary, I regret to have to record nothing whatever done.

21. Not only is there no telegraph and no masonry executed, but we are entering upon another hot season without a single shed provided for the shelter of the staff, who will thus, in the event of work being soon sanctioned, have to go out again under canvas.

22. Your Uncovenanted staff, the members of which on former occasions were kept in continuous employment, have on this occasion had to be disbanded as the expenditure sanctioned to preliminary expenses worked out. Some of these persons came from great distances with their families, in the reasonable hope of continuous employment, and have had to wander back, not only enduring hardships, but spreading such reports as have made our service anything but popular.

23. Our endeavour is of course to get good and trustworthy employes. As a rule these are not found among the unemployed, of whom there are enough and to spare, and those in employment decline to join a service from which for no fault of their own they may be turned off at any moment.

24. This part of the country is removed from facilities for getting men accustomed to railway work, and it is a work of no small expense and patience to form a good working staff, to weed out the idle and dishonest, and to enlist and discover the useful and trustworthy.

25. In the early part of 1870, I asked sanction to expenditure in laying down a siding at Trichinopoly, in order that the permanent-way, which you were sending out to Negapatam for the northern half of the line might, as landed, be run up, and so avoid being twice handled and deteriorate from lying exposed to the sea air. The Government of India, however, declined to sanction this expenditure, and the result is that 100 miles of permanent-way material lie rusting at Negapatam, while the expense of storing and stacking over acres of ground has been very considerable, to be again added to by unstacking and reloading in wagons for Trichinopoly when the works are sanctioned.

26. The whole of the materials for the construction of the electric telegraph are also lying at Negapatam subjected, for similar reason, to like deteriorating influences.

27. I mention these matters now because it is a source of present discouragement to find the experience gained in working our system for the past twelve years practically put aside, as it will be a fruitful source of delay hereafter, when sanction to the work is accorded, to have then to begin to form a staff to carry out the work, instead of being in a position at once to start it.

28. Trusting that I may have a more cheerful report to make at the end of the present year.

To the Consulting Engineer, for information.

(Signed) W. S. BETTS,

Agent.

4th March 1871.

*Proceedings of the Madras Government, Public Works Department,
3rd April 1871.*

FORWARDED for the information of the Government.

2. The Chief Engineer of the Great Southern of India Railway sends to the Board of Directors a brief outline of the operations of his department, since October 1869, on the Southern Extension, showing that nothing has been done in the way of construction, and comparing this result with the first year's work on the Erode Extension, when the electric telegraph was put up, Engineers' or Inspectors' bungalows were built, a considerable quantity of masonry work was executed in bridges and culverts, and materials were in readiness for more work. Mr. Logan notices that no shelter is provided for his staff in the hot season of this year; that his subordinate staff cannot be kept up till the works are sanctioned, and therefore trouble and expense will be incurred in forming such staff hereafter; also that materials have been stored and stocked at Negapatam instead of having been conveyed on landing to Trichinopoly.

3. The points thus brought forward as subjects of regret by Mr. Logan have, as he observes, been represented to the Government in the hope of a relaxation of the orders that no expenditure was to be allowed on construction till detailed plans and estimates were sanctioned. There is therefore nothing in this letter to call for any remarks; but the subject will doubtless be prominently noticed at the next meeting of the Board of Directors, and I have thought it advisable to forward the report for perusal.

(Signed) C. J. SMITH, Captain, R.E.,
for Acting Consulting Engineer for Railways.

No. 43.

ORDER THEREON, 3rd April 1871, No. 987.

RAILWAY, No. 6.

ORDERED to be recorded.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Consulting Engineer for Railways.

Exd. S. T. Augustin.

*Great Southern of India Railway
Chief Engineers Office
Trichinopoly*

*To
The Chairman and Directors
Great Southern of India Railway
London.*

Gentlemen.

*I have the honor to report
for your information the following
particulars regarding the works of my
Department since October 1869.*

*On the return of Mr. Petts
from England in October 1869 I handed
over charge of the Agency to him and
immediately turned my attention to the
Southern Extension*

*In 1868 the Government of
Madras decided that this line should
be constructed from Caroor through
Dindigul and Madurai to Yettieorin
and Yinnerelly. But in a despatch
dated 11th March 1869 the Government
of India recommended that the proposals
made concerning your line should be
reconsidered "in relation to the
" general arrangements which would
" be most convenient for the whole of
" the Southern Peninsula taking into
" consideration*

2

"Consideration the opening of a new
"coast line from Arcotum or Madras
"towards the South."

Reviewing the project in
this aspect, after an examination of
the country between Trichinopoly and
Madura, I reported (December 1869)
in favor of a route from Trichinopoly
via Dinigul to Madura and thence
nearly as before to Tuticorin and
Tinnevely.

During January 1870.
Eight Assistant Engineers reported their
arrival at Head Quarters and were as
speedily as a working establishment with
tents and instruments could be provided
sent on to the line South of Madura
the exact route north thereof not then
having been decided upon.

On the 20th May 1870.
it was notified to me that the Govern-
ment of Madras had decided to
adopt Trichinopoly as the point of
junction for the southern line, with
the route recommended in my report
of December 1869, and as Assistant
Engineers finished up the work to the
South of Madura they were placed on
this northern portion until in November
last the whole line of 215 miles was
staked out from end to end and the
working surveys and sections completed.

In October and November
last

2
79

"Consideration the opening of a new
"coast line from Arcotum or Madras
"towards the South."

Reviewing the project in
this aspect, after an examination of
the country between Trichinopoly and
Madura, I reported (December 1869)
in favor of a route from Trichinopoly
via Dindigul to Madura and thence
nearly as before to Tuticorin and
Tinnevely.

During January 1870.
Eight Assistant Engineers reported their
arrival at Head Quarters and were as
speedily as a working establishment with
tents and instruments could be provided
sent on to the line south of Madura
the exact route north thereof not then
having been decided upon.

On the 20th May 1870.
it was notified to me that the Govern-
ment of Madras had decided to
adopt Trichinopoly as the point of
junction for the southern line, with
the route recommended in my report
of December 1869, and as Assistant
Engineers finished up the work to the
South of Madura they were placed on
this northern portion until in November
last the whole line of 215 miles was
staked out from end to end and the
working surveys and sections completed.

See October and November
last.

3
90

last the Deputy Consulting Engineers for Railways inspected the location of the line as staked out and we still await the decision of Government upon the report made thereon.

The detailed working plans and estimates of the entire Railway have just been completed and will within a few days be before the Government of Madras. An abstract of this estimate is together with other tabular statements concerning the projected line of Railway appended for your information and these are of such a nature as I trust to render it unnecessary to enter into further detail here.

The line of railway has been laid out with a view to taking in all the most productive sources of traffic, mere directness of communication in the present comparatively undeveloped state of the country being looked upon as a secondary consideration.

North of Madras the ruling gradient is 1 in 100 and this as far as practicable with regard to reasonable cost has been kept to a minimum. South of Madras the steepest gradient is 1 in 200.

The item of Stations turns out a somewhat heavy one but this is partly due to the cost of the proposed general

4.
general offices of the Company at
Trichinopoly which ought fairly to go
against the mileage of the whole under-
taking or 401 miles instead of 215 miles
of the extension only. If this be done the
cost per mile for Stations will be reduced
against the extension from £1,130 to £1,060.
per mile for Stations.

In the Stations as in every
other item I have in conformity with
your orders endeavoured to design every
thing with a view to the strictest economy
in Construction and in working and
maintenance, nothing has been added
merely for ornament or effect.

It will be seen from the appended
abstract of the estimate that the total cost
of the projected extension amounts to in
round numbers £7,000 per mile exclusive
of rolling stock, and I have sanguine
expectations of being able to keep within
this figure.

Skilled labour will as heretofore
have to a considerable extent to be imported,
and unskilled labour owing to the agri-
cultural occupation of the people will
be fluctuating. Labour of both
kinds will increase in cost as we go
south to the neighbourhood of the richer
Districts and of the competition of the
Ceylon market.

Staff (see appendix No. 1)
The heads of the Staff has I
am sorry.

5
am sorry to say not been so satisfactory
as could have been desired.

On the line of Country South
of Madras during the early part of 1870.
Cholera was prevalent and I regret to have
to record the deaths of two Assistant
Engineers from this disease, the one Mr.
William Davie in February 1870 and the
other Mr. George Houghton in June of the
same year, being the only casualties in
this Country in the Assistant Engineers
staff since the commencement in 1858.
Other members of the Staff suffered from
fever and the work generally was much
retarded by this and the prevalence of very
high winds during several months. With
the exception of an Assistant at Madras
the Engineers were under canvas during the
whole of the hot weather of 1870. and I have
pleasure in bearing testimony to the zeal and
will with which amid many discomforts
and discouragements all did their work.

I regret exceedingly that this
report is so meagre and compared
with that at the commencement of your
other extension that the record is so utterly
barren of results commensurate with the
expenditure so far as actual work is
concerned; but that this is due to circum-
stances entirely beyond the control of
your staff I think you are sufficiently
aware.

In 1869 the Government of India
ruled

ruled that no expenditure whatever was to be sanctioned upon works of construction until all our detailed working plans and estimates should be submitted and sanctioned, and although frequently solicited for a relaxation of this order no relief has been accorded.

Hitherto we were permitted after the location of the line had been sanctioned to begin the formation of a working staff, to collect material, and to perform such parts of the work as were absolutely certain to be required no matter what the detailed estimates might be such as quarrying, Brick making, the creation of quarters for the staff &c.

On beginning the Erode Extension at the end of the first year the Electric Telegraph was up and at work from end to end. The Engineers and Inspectors Bungalows were built, about 7000 cubic yards of masonry were built in bridges and culverts and materials were ready for as much more. At the end of this our first year of the Southern Extension on the contrary I regret to have to record nothing whatever done.

Not only is there no Telegraph and no masonry executed, but we are entering upon another hot season without a single shed provided for the shelter of the staff, who will thus in the event of work being soon sanctioned have to go out

7. 156
go out again under canvas.
Your uncorrupted staff
the members of which on former occasions
were kept in continuous employment
have on this occasion had to be dis-
banded as the expenditure sanctioned to
Preliminary Expenses worked out. Some
of these persons came from great distances
with their families, in the reasonable hope
of continuous employment and have
had to wander back not only enduring
hardships but spreading such reports as
have made our service anything but
popular.

Our endeavour is of course to
get good and trustworthy employees.
As a rule these are not found among
the unemployed of whom there are
enough and to spare, and those in
employment decline to join a service
from which for no fault of their own
they may be turned off at any moment.

This part of the country
is removed from facilities for getting
men accustomed to Railway work,
and it is a work of no small expense
and patience to form a good working
staff to weed out the idle and dishonest
and to select and discover the useful
and trustworthy.

In the early part of 1870
I asked sanction to expenditure in
laying down a siding at Tishinopoly
in order

159
8.
in order that the Permanent way which you were sending out to Negapatam for the northern half of the line might as landed be run up and so avoid being twice handled and deterioration from being exposed to the sea air. The Government of India however declined to sanction this expenditure and the result is that 100 miles of Permanent way material lie cumbering at Negapatam, while the expense of storing and stacking over acres of ground has been very considerable, to be again added to by unstacking and reloading in waggons for Trichinopoly when the works are sanctioned.

The whole of the materials for the construction of the Electric Telegraph are also lying at Negapatam subjected for similar reason to like deteriorating influences.

I mention these matters now because it is a source of present discouragement to find the experience gained in working our system for the past twelve years practically put aside, as it will be a fruitful source of delay hereafter when sanction to the work is accorded to have then to begin to form a staff to carry out the work instead of being in a position at once to start it.

Trusting that I may have a more cheerful report to make

9.
make at the end of the present year
I have the honor to remain

Gentlemen
your most obedient servant
Signed David Logan
Chief Engineer

True copy.

William B. B. B.
agent.

Received

Doctor Consulting Engineer

For information

William B. B. B.
agent
4/3/71

10

Railway Department. Consulting Engineer's Office

No. 164 - 10th March 1870

Forwarded for the information of
the Government.

2. The Chief Engineer of the Great Sew-
-thern of India Railway, sends to the Board
of Directors, a brief outline of the operations of
his Department, since October 1869, on the Southern
extension, showing that nothing has been done
in the way of construction, and comparing this
result with the first years work on the Erode
extension, when the Electric Telegraph was put
up, Engineers or Inspectors bungalows were
built, a considerable quantity of masonry work
was executed in bridges and culverts, and
materials were in readiness for more work.

Mr. Logan notices that no shelter is
provided for his staff in the hot season of
this year; that his subordinate staff cannot

be

S. M. 1221/70

be kept up, till the works are sanctioned, and therefore trouble and expense will be incurred in forming such staff hereafter, also that materials have been stored and stocked at Negapatam instead of having been conveyed on landing, to Trichinopoly.

3. The points thus brought forward as subjects of regret by Mr. Logan, have, as he observes, been represented to the Government, in the hope of a relaxation of the Orders, that no expenditure was to be allowed on construction till detailed plans and estimates were sanctioned.

There is therefore nothing in this letter to call for any remarks: but the subject will doubtless be prominently noticed at the next meeting of the Board of Directors, and I have thought it advisable

to

to forward the report for perusal. - 219

Madras
16 March 1871 }

W. Smith Captain R.E.
for Adj. Genl. Eng. for Railways

J. The Secretary to Government
Public Works Department
Fort Saint George.

Journal of Capt. J. H. ...

Dec 17 Sept 1871 321-322
 " 16 May 170 - 224-225
 " 80 Aug - 457-489
 " 7 Sept - 106-107
 " 29 - 505-507
 " 5 Oct - 80-81
 " 8 - 133-134
 " 31 - 448-449
 " 7 Jan 171 - 43-45
 " 26 - 475-476
 " 14 Feb - 328-330
 " 16 - 356-357

March 1871 156-157

Recd 4/4/71
 Wm C. ...
 32 May 171
 Fort. George
 Ordered to be recorded

Forwarding
 for the information of
 Govt a copy of the
 report from the Chief
 Engineer G. S. of S. R. Ry.
 to the Board of Directors
 in England.
 Dated 16th March 1871
 No 104
 Enclosures
 To the Secy to Govt
 W. M. D. ...
 St. St. George
 Public Works 871 No 104

622 March 71 0A 24E

