

*Proceedings of the Madras Government, Public Works Department,
29th September 1875.*

No. 640. Read the following letter from Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, to Major-General G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madras, 18th September 1875, No. 522:—

I HAVE the honor to lay before Government a report by Major Smith, Deputy Consulting Engineer, upon the progress of the line under construction between Madura and Tuticorin. The report shows clearly the work which remains to be executed, and the arrangements which have been made for completing it. The Agent's attention has been specially drawn to the recommendations made by Major Smith. Unless extraordinary reverses are met with, there is no doubt that the line will be finished throughout during November, and it will be in a fit state for His Royal Highness the Prince of Wales to travel over by the 10th December.

2. Major Smith reports that the erection of the telegraph wire upon permanent posts is making rapid progress, and will probably be finished during the current month, so that the want of this, which was the cause of delay in opening the line between Madura and Trichinopoly, will not affect the opening to the south of Madura.

3. With reference to the first paragraph of the Order of Government, dated the 19th August 1875, No. 2,387, I have explained to you that I was prevented from going over the line in person at that time; and Major Smith was deputed to make the inspection before the order in question reached this office. I hope to be able to go over the entire line before the end of October, and a further report on the progress of the work shall then be submitted.

INSPECTION REPORT.

OPEN LINE, SOUTHERN EXTENSION.—The now open line between Trichinopoly and Madura is improving fast as far as Ammanaickanoor. Thence to Madura additional gangs and, probably, extra subordinate superintendence will be needed to bring the line up to the same standard as the parts more favored as regards ballast and longer finished. I judge from my inspection that for the safety of passengers, it would be well to increase the establishment along this portion.

WATERING ARRANGEMENTS.—The temporary watering arrangements for this portion of the line are sufficient, the permanent ones are in progress.

The position of the unopened line, as regards completion, at the time of my inspection was as follows:—

PROGRESS OF LINE SOUTH OF MADURA.—From the north the engine ran as far as the 114th mile, from the south, on the 8th September, the engine ran to the 153rd mile from Trichinopoly.

The rate of laying the permanent way from each face is usually estimated at $\frac{1}{2}$ mile per day; but any irregularity or insufficiency in the supply, such as sending more of one description of stores than another, or a disproportionate supply, or the state of the bank at formation level, the necessity for bridging an opening, or other requirement, interferes with the estimate, and makes it advisable to base calculations on a less rate of progress, probably $\frac{1}{4}$ mile per week from each face is the greatest likely to be attained.

At this rate the Nully bridge of 4-39, in the 148th mile, would be reached in three weeks from the 7th, or, say, by the 30th September. With the additional assistance sent from Head-quarters, I think this bridge ought to be ready for the engines by the same date. Between this bridge and the Sator river, the following work is required to complete the laying of the permanent way. For a distance of 1 mile 53 chains all material is wanted; for 1 mile 69 chains, seven sleepers

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per rail only are wanted. If the material is carted from the depot at Trimungalum, and if additional gangs be sent to the work with a good Platelaying Superintendent, this length would be finished easily by the 30th September, and so the first 70 feet girder bridge be reached by the engine on the 1st October. If this result be attained it will be as much as could be hoped for.

Assuming this done, an engine will probably be able to pass over it by, say, the 5th October, and the first girders for the Satoor main river of 11 openings be run down by, say, the evening of the 5th. It is difficult to forecast the probable time that it will take from this date to complete this bridge, 22 days, or, say, by the end of October, is the earliest possible in my opinion; fifteen days later is the probable date if there are no freshes in the river. The Chief Engineer had arranged for the Assistant Locomotive Superintendent to go and take independent charge of this work, and if the laying of the line from the south (as in my opinion it ought to) permits the commencement of the work on or about the day named, there need be no reasonable doubt as to the completion of the bridge; sheds for the work people and other arrangements necessary for carrying on the work in the rains have been ordered.

From Satoor river to Tuticorin (56 miles) the line, except for a few miles here and there, will require top ballast; and eight miles of it will have to be bottom ballasted by engine. I cannot state definitely what amount of work this represents: at the rate of half a cubic yard per yard run, for, say, 40 out of the 56 miles, two engines would have to make each of them five trips daily, with fifteen wagons each, to complete the work in sixty days. The Chief Engineer has sent down a third engine and all the ballast wagons available from the line between Madras and Chingleput; and if, as has been ordered, all work be stopped on Tinnevely branch and in Tuticorin station yard, there remains, as far as I see, nothing else to be done towards hastening the completion. A great portion of the ballast has yet to be prepared, but I believe no difficulty is anticipated on this score.

The water-supply on this length (56 miles) is sufficient, but the permanent watering arrangements are not by any means complete; there is however ample time to complete them.

STATION BUILDINGS AT TUTICORIN.—The station offices at Tuticorin need roofing in, and can be completed in time; and the goods shed might be roofed in and made use of if required in connection with the visit of His Royal Highness the Prince of Wales.

SIDINGS.—One of the most important requirements just at present is, in my opinion, the sidings, without which the two ballast trains cannot be worked; one will be needed at each of the following stations, Covilputty, Kadamboor, Mamachee, and, probably, at least one intermediate one.

LINE NORTH OF SATOOR RIVER.—As mentioned above, on the 7th instant the engine from the north had reached the 11th mile, and allowing that the maximum of 1 mile per day is reached from each of four faces, that is one mile daily in all, and all the 10.20 feet girders and one "15 feet" are put in position at the rate of one in two days (as a maximum rate), it will in all probability take forty-three days before the 5-70 feet bridge and the 5-50 feet bridge will be completed by the time the former is ready for the engine; if so, the completion of the 5-50 feet may probably be looked for about the 15th of November; the line from this bridge to the Satoor river will, by that time, probably be ready; and the line might at this rate be opened through by the 15th November at the earliest.

There will no doubt be two ballast trains available for work south of Madura from the 1st October. It has been arranged to run one material train daily from Negapatam, and two with the same material from Trichinopoly; these will lead forward at least 1 mile daily, and at this rate the end of the month should see most, if not all, of the permanent-way to the front. The ballast work to be executed by the two trains may probably approximate to 20,000 yards, but is not definitely known how much may be done by hand.

WATERING ARRANGEMENTS.—The well at Satoor, having reached rock, was abandoned; but there is an existing well which can be used if instructions are sent to the Engineer to arrange accordingly.

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The well at Virduputty gave a depth of 7 feet of water at 30 feet below the surface, and it is thought that the tank-house and water-column will be ready within a month.

The watering arrangements at Tirumungalum are complete.

At Covilputty there is a good, sweet well, and the watering arrangements are well forward.

At Kadamboor the water is fairly good, and the watering arrangements are nearly complete.

At Mamachee the water is very brackish, the watering arrangements can be made ready in a short time if wanted.

At Tuticorin the quality of the water is improving; the arrangements are serviceable.

(Signed) C. J. SMITH, Major, R.E.,
Deputy Consulting Engineer for Railways.

No. 641. ORDER THEREON, 29th September 1875, No. 2,805.

RAILWAY, No. 51.

ORDERED to be recorded.

2. His Excellency the Governor in Council is glad to learn that there is every probability of the line to Tuticorin being completed throughout during November, and that it will be ready for His Royal Highness the Prince of Wales to travel over by the 10th December.

3. The report promised in paragraph 3 of the Consulting Engineer's letter will be awaited.

(True Extract.)

(Signed) G. W. WALKER, Major-General, R.E.,
Secretary to Government.

No. 642. (DOCKET No. 2,806, dated 29th September 1875.)

COPY of the above forwarded for the information of the Government of India.

(True Extract.)

(Signed) G. W. WALKER, Major-General, R.E.,
Secretary to Government.

Ed. S. T. Austin.

Spars Copies

Inspection Report

Open line
Southern
Extension.

The new open line between Trichinopoly and Madura is improving fast as far as Ammandathanor. Thence to Madurai additional gangs and probably extra subordinate superintendence will be needed to bring the line up to the same standard as the parts more favoured as regards ballast and longer finished. I judge from my inspection that for the safety of passengers it would be well to increase the establishment along this portion.

Watering
arrangements.

The temporary watering arrangements for this portion of the line are sufficient, the permanent ones are in progress.

The position of the unopened line as regards completion at the time of my inspection was as follows:

Progress of
line South of
Madurai.

From the north the engine ran as far as the 14th mile, from the south on the 8th September the engine ran to the 15th mile from Trichinopoly.

The rate of laying the permanent way from each face is usually estimated at 1/2 mile per day; but any irregularity or insufficiency in the supply, such as finding more of one description of stones than another, or a disproportionate supply, or the state of the bank at formation

formation level, the necessity for bridging an opening, or other requirement, interferes with this estimate, and makes it advisable to base calculations on a less rate of progress; probably $1\frac{1}{2}$ mile per week from each face is the greatest likely to be attained.

At this rate the Nully bridge of 4-30, in the 148 mile, would be reached in three weeks from the 7th, or say by the 30th September. With the additional assistance sent from Head Quarters, I think this bridge ought to be ready for the engine by the same date. Between this bridge and the Sator river, the following work is required to complete the laying of the permanent way. For a distance of mile 53 chains, all the material is wanted; for 1 mile by chains, seven sleepers per rail only are wanted. If the material is carted from the depot at Spinnungalim, and if additional gangs be sent to the work with a good plate laying superintendent, this length would be finished easily by the 30th September, and the first 40 feet girder bridge be reached by the engine on the 1st October. If this result be attained it will be as much as could be hoped for.

Assuming this done, an engine will probably be able to pass over it by say the 5th October, and the first girders for the Sator main river of 11 openings be put down by day the evening of the 5th. It is difficult to forecast the probable time that it will take from this date to complete this bridge; 22 days, or say by the end of October, is the

earliest

earliest possible in my opinion; 15 days later is the probable date if there are no freshes in the river. The Chief Engineer had arranged for the Assistant Locomotive Superintendent to go and take independent charge of this work, and of the laying of the line from the south (as in my opinion it ought to permit the commencement of the work on or about the day named, there need be no reasonable doubt as to the completion of the bridge; sheds for the work people and other arrangements necessary for carrying on the work in the p.m. have been ordered.

From Sator river to Tuticorin (56 miles) the time, except for a few miles here and there, will require top ballast, and eight miles of it will have to be bottom ballasted by engine. I cannot state definitely what amount of work this represents, at the rate of half cubic yard per yard run, for say about of the 56 miles, two engines would have to make each of them 5 trips daily with 10 wagons each to complete the work in 60 days. The Chief Engineer had sent down a third engine and all the ballast wagons available from the line between Madras and Chingleput, and if, as has been ordered, all work be stopped on Tinivelly branch and in Tuticorin station yard, there remains, as far as I see, nothing else to be done towards hastening the completion. A great portion of the ballast has got to be prepared, but I believe no difficulty is anticipated.

anticipated on this score.

The water supply on this long the 56 miles is sufficient, but the permanent watering arrangements are not by any means complete; there is however ample time to complete them.

The station office at Tuticorin ^{Station buildings at Tuticorin} need roofing in, and can be completed in time; and the goods shed might be roofed in and made use of if required in connection with the visit of his Royal Highness the Prince of Wales.

One of the most important ^{sidings} requirements just at present is, in my opinion, the siding, without which the two ballast trains cannot be worked; one will be needed at each of the following stations, Verduputty, Madambom, Mannachee, and probably at least one intermediate one.

As mentioned above, on the 9th instant, the engine from the north had reached the 11 1/4 mile, and allowing that the maximum of 1/4 mile per day is reached from each of four faces, that is one mile daily in all, and at all the 11 1/2 feet girder and one 15 feet are put in position at the rate of one in two days, at a maximum rate, it will in all probability take 43 days before that 5.75 feet bridge can be reached from Trichinopoly. It is hoped that the line between the 5.75 feet bridge and the 5.50 feet bridge will be completed by the time the former is ready for the engine.

engine; if so, the completion of the 5.50 feet may probably be looked for about the 10th of November; the line from this bridge to the Sator river will, by that time, probably be ready; and the line might at this rate be opened through by the 15th November at the earliest.

There will no doubt be two ballast trains available for work South of Madura from the 1st October. It had been arranged to run one material train daily from Nagapattinam, and two with the same material from Trichinopoly; these will lead forward at least 1 mile daily, and at this rate the end of the month should see most, if not all, of the permanent way to the front. The ballast work to be executed by the two trains may probably approximate to 20,000 yards, but is not definitely known how much may be done by hand.

The well at Sator, having reached rock, was abandoned, but there is an existing well which can be used if instructions are sent to the Engineer to arrange accordingly.

The well at Verduputty gave a depth of 7 feet of water at 30 feet below the surface, and it is thought that the tank house and water column will be ready within a month.

The watering arrangements at Tirumangalam are complete.

At Coudputty there is a good well

well, and the watering arrangements are well
forwarded. In the neighbourhood of Kadamboor the water is
fairly good, and the watering arrangements are
nearly complete.

At Mannachur the water is
very brackish, the watering arrangements can
be made ready in a short time if wanted.

At Tuticorin the quality of the
water is improving, the arrangements are
serviceable.

Signed G. W. Walker, Major R.E.
Consulting Engineer for Railways.

True copy
W. M. Theobald

Signed G. W. Walker, Major R.E.
Consulting Engineer for Railways.

29 September 75
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29 September 75
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29 September 75
B. 640

Railway Department.

CONSULTING ENGINEER'S OFFICE.

No. 522.

Madras, 18th September 1875.

From
LIEUT.-COLONEL J. H. M. SHAW STEWART, R.E.,
Consulting Engineer for Railways,

To Major General
G. W. WALKER, R.E.,
Secretary to Government,
Public Works Department,
Fort Saint George.

SIR,

I have the honour to lay before Government a report by Major Smith, Deputy Consulting Engineer, upon the progress of the line under construction between Madurai and Tuticorin. The report shows clearly the work which remains to be executed, and the arrangements which have been made for completing it. The Agent's attention has been specially drawn to the recommendations made by Major Smith. Unless extraordinary reverses are met with, there is no doubt that the line will be finished throughout during November, and it will be in a fit state

5/10/75

state for His Royal Highness the Prince of Wales to travel over by the 10th December.

2. Major Smith reports that the erection of the telegraph wire upon permanent posts is making rapid progress, and will probably be finished during the current month, so that the want of this, which was the cause of delay in opening the line between Madurai and Trichinopoly, will not affect the opening to the south of Madurai.

3. With reference to the first paragraph of the Order of Government dated the 19th August 1875, No. 2387, I have explained to you that I was prevented from going over the line in person at that time; and Major Smith was deputed to make the inspection before the order in question reached this office. I hope to be able to go over the entire line

line before the end of October, and a further report on the progress of the work shall then be submitted.

I have the honour to be

Sir
your most obedient servant

Wm. T. Dainton, Esq.,

Genl. Engineer for Railways

W. T. Dainton

Public Works Dept
No 2805

Proceedings of the Madras Government
Under date the 29 Sept 1895
Read the following

From
The Comd Engineer for
Railways } (No. 522 of 15 Sept 1895)

Ordered to be
recorded.

His Excellency the
Governor in Council
is glad to learn
that there is every pro-
bability of the line
to Tuticorin being com-
pleted throughout
during November, and

It is running the
very close - but all must
be done. That can be

W.A.
28/9

Q. O. 1924 of 1753268222. S. W. 1895 Sept.
No. 6041

RAILWAY DEPARTMENT.

From
The Consulting Engineer,
for Railways,
To
The Secretary to Government,
P. W. Department,
Fort Saint George.
Dated 18th September 1895
Recd 21st September 1895

E. I. No. 522.
16 2815-29-9-95-

Forwarded
a report by the
Chief Consulting
Engineer upon the
progress of the line
under construction
between Madurai
and Kallar.

in-23-9-95
in-21-9-95

2640

and that it will be
ready for His Royal
Highness the Prince
of Wales to travel
over by the 10th Decem-
ber.

The report pro-
vided in para 3 of
the Comd. Engrs letter
will be awaited.

H.C. docket N^o 2806
dat. 29 Sept. 1875.

Copy of the above
forwarded for the
information of the
Govt. of India.

14640/2

sc prop - 8-10-75

sc dispa - 8-10-75

Comd. Engrs for Regt 12

Office 17

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