M.R.O. 1—10,006—28-2-50

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(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

pub works DEPARTMENT

G.O. No.	3291	Press
~~B.P. No.~~ 368-67		~~Mis.~~
Dated	21-11-1874	195 .

Not to be folded or roughly handled

No. 366. Read the following letter from Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, to Colonel G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madras, 29th October 1874, No. 665 :—

In continuation of the papers forwarded with endorsement No. 632, dated the 20th instant, I have the honor to enclose, for the information of Government, the letters noted in the margin, giving particulars of the circumstances under which it was deemed advisable to cut the railway embankment near the Panar bridge at the 203rd mile of the Bangalore Branch, with the object of relieving the bridge from the great pressure caused by the breaching of the Ooscottah tank.

From Agent, Madras Railway, No. 941, 20th October 1874.
From do., do., No. 949, 22nd October 1874, with enclosure.
From Deputy Consulting Engineer, 22nd October 1874.

2. There can be no doubt that Mr. Scott exercised a wise discretion in taking the precautionary measures described in these papers.

3. From letter No. 655, dated the 28th instant, and its accompaniments, the Government will have learnt that it has again been found advisable to discontinue the running of night trains upon the Bangalore Branch.

From R. B. ELWIN, Esq., Agent and Manager of the Madras Railway Company, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Madras, 20th October 1874, No. 941.

With reference to my letter of the 17th instant, No. 934, I have the honor to inform you that on the evening of that date the Ooscottah tank breached, and in consequence of the great rush of water through the Panar bridge at the 203rd mile, Bangalore Branch, the Resident Engineer had gaps cut in the embankment with a view to afford more waterway, and so lessen the great strain on the bridge.

2. Upon the subsidence of the flood the gaps were filled in, and the road having been inspected and passed by Captain Ross Thompson, through traffic was resumed on Sunday afternoon. The running of night trains on the Bangalore Branch was also resumed yesterday, the 19th instant.

3. A further report on the subject will be made in a few days.

From the same Officer, dated Madras, 22nd October 1874, No. 949.

In continuation of my letter of the 20th instant, No. 941, I have the honor to enclose, for your information, a copy of the Acting Chief Engineer's letter of the 21st idem, No. 706, and a copy of the letter from the Resident Engineer of the 2nd Division, South-West Line, therein referred to, in which particulars are given of the circumstances under which breaches were cut in the embankment at the 203rd mile, Bangalore Branch, on the 17th instant.

From T. H. GOING, Esq., Acting Chief Engineer, to R. B ELWIN, Esq., Agent and Manager of the Madras Railway Company, dated Madras, 21st October 1874, No. 706.

I enclose a copy of letter No. 326, of 20th instant, from Resident Engineer, 2nd Division, South-West Line, reporting the precautionary measures taken on Saturday, 17th instant, to save the bridge at 203rd mile 12th telegraph post, Bangalore Branch, from being washed away in the event of the water from the Ooscottah tank, which breached at 8 A.M. that day, rising to a dangerous height.

2. The contingency provided for did not actually arise, but there is no doubt that Mr. Scott used a wise discretion in taking the energetic steps described in his letter, and thus securing the bridge from danger.

From P. SCOTT, Esq., Resident Engineer, 2nd Division, South-West Line, to T. H. GOING, Esq., Acting Chief Engineer, Madras Railway Company, dated Bangalore, 20th October 1874, No. 326.

On Friday, the 16th instant, I received intimation from Colonel Sankey, R.E., that the Ooscottah tank was in a very dangerous state, and that if it breached the great volume of water would in all probability carry away the Penaukeny bridge if proper precautions were not taken, so I made arrangements on the first alarm being given to take two companies of Sappers to Cadgoody to cut the embankment at the lowest point to save the bridge. I ordered an engine to be kept in steam all night for the purpose of conveying the Sappers to the point of danger. At 2 A.M. on Saturday I received a message from Ooscottah saying that the tank was in such a dangerous state, that it might breach before morning. I went immediately to the station and telegraphed to the driver and guard of the 12-50 A.M. mail train to keep a good look out for signals and proceed slowly over the Cadgoody bank, and to Mersh, who was at the spot, to prepare for cutting if necessary, and I went down myself as soon as I could get a train out; the tank breached at 8 A.M. (Saturday), but I did not consider the bridge in any danger till about 7 P.M. The Sappers came down by special train at 4-30 P.M. by order of Colonel Sankey; I did not send for them, as two companies were already on the ground, having marched in from Ooscottah. At 7 P.M. the water was up to the springing course of the bridge, and rising at the rate of 16 inches an hour, so by advice of Colonel Sankey I set the Sappers to work, as I feared if the water continued to increase at this rate the bridge would be choked before we could give the water a way through the railway; we cut ten trenches, 15 feet centre to centre, 5 feet wide, and 8 feet 6 inches deep; this depth was fixed at what was considered by me to be a safe depth for the bridge, so that if the water did not continue to rise the line would not be breached and communication could be restored in a day; the trenches were finished about midnight, and the Sappers sent in to Bangalore by special train about 2 A. M. The water did not appear to be rising nearly so fast at that time, but as it was a dreadful night, the rain coming down in torrents, I left the trenches open till the morning; at daylight on Sunday I found the water was gradually subsiding, so I sent a special message to Colonel Sankey at Ooscottah to ask him if I might commence work in re-establishing communication with safety; his reply was that I would now be quite safe, so I commenced work and had communication restored in time for the 7 A. M. train from Madras to pass over. Fortunately Captain Thompson was in the train, so that everything was done in order. The water still continues very high, to about 6 inches from the springing course, and the difference of level of the water above and below the railway is 2 feet 5 inches.

2. I forgot to mention that on Saturday I put two train loads of very large stones into the last opening of the Penaukeny bridge, to fill up the place that was scoured by the flood of the 17th September.

Note on the opening made in the Madras Railway, Bangalore Branch, near Cadgoody, on the 17th of October 1874, for the purpose of relieving the bridge over the Panar river from flood pressure, consequent upon the Ooscottah Tank having breached.

I HAVE the honor to report that in consequence of the Ooscottah tank having breached it was considered necessary to cut the Madras Railway embankment near Cadgoody, on the Bangalore Branch, on Saturday last, the 17th instant, to relieve the masonry bridge of five 30-feet spans (arches) over the Panar river from the heavy pressure of flood-water, which it was anticipated it would be subjected to.

2. Mr. Scott, the Resident Engineer of the Bangalore Branch, had for some days previously been in communication with Colonel Sankey, R.E., Chief Engineer of the Public Works Department, Mysore, regarding the state of the Ooscottah tank, and had, with him, decided upon the measures to be adopted in order to save the railway bridge in the event of the Ooscottah tank giving way.

Proceedings of the Madras Government, Public Works Department,
21*st November* 1874.

3. The tank having at length fairly breached, and all hope of repairing it having been abandoned for the present, Colonel Sankey obtained the services of two companies of the Madras Sappers and Miners from Major Prendergast, R.E., Commanding, and had the men conveyed by a special train from Bangalore to Cadgoody.

4. Under the direction of Mr. Scott, the Resident Engineer, the permanent-way was taken up for a length of about 200 feet, and ten trenches were cut by the Sappers across the railway embankment. These trenches were each 5 feet wide and 8 feet 6 inches deep, or 6 inches below the level to which the flood of the 17th of last month rose, when it carried away the 6 feet culvert and breached the line close by.

5. The trenches were commenced about 7 P.M. and completed at midnight on Saturday the 17th instant, work being carried on, for a great part of the time, under extremely heavy rain. At one time the flood rose very rapidly, viz., at the rate of 16 inches per hour, and it was feared that the embankment would not be cut through in time to save the bridge.

Fortunately, however, the flood only rose at this rate for a short time, and it never reached the level of the bottoms of the trenches, consequently no water ever passed through them, and a large breach in the embankment was thus spared.

6. The place chosen for cutting the embankment was at the lowest point, and about midway between the bridge over the Panar and the temporary bridge, where the 6-feet culvert was carried away on the 17th ultimo, thus securing these two works, as far as possible, from being endangered in the event of the flood widening, to any great extent, the cut made for its passage through the embankment.

7. The Ooscottah tank having breached beyond repair, and the waterway of the bridge over the Panar proving equal to its discharge, no further rise of flood, and consequently no further damage to the railway, was to be apprehended. The trenches cut in the embankment were therefore no longer required, and there was nothing to prevent traffic being resumed in safety as soon as they had been filled in, and the permanent-way laid down again.

8. This work of restoration was completed on the following day, viz., Sunday, the 18th instant, and inspected by me in time to admit of the 7 A.M. train from Madras proceeding to Bangalore. On arrival there I despatched the following telegram to the Agent of the Madras Railway.

"Communication restored at Cadgoody. Through traffic may be resumed."

9. On the following day (Monday the 19th) I again inspected this portion of line with the Resident Engineer. A ballast train was at work on it, and the roadway was being made neat again. After the passage of a few trains, and being lifted and packed, it will be in as good order as ever.

10. Yesterday (21st instant) I went with the Resident Engineer to see the breach in the Ooscottah tank, and to satisfy myself that there would be no chance of any further damage to the railway, and that the restoration of the line had not been premature. From what I saw I am satisfied that the Panar bridge is quite equal to passing the discharge from the breach in the tank, and that the restoration of the line was in no way premature.

11. The tank is breached at the north-east side of the larger or eastern calingulah, between the calingulah and the high ground on the east of the tank into which the bund runs.

The breach cannot deepen or widen to any dangerous extent between the calingulah and the high ground, and there is no danger of its eating away the calingulah and extending the breach to the westward, where the bund is high and water deep, before it has expended itself. The tank is safely and surely discharging through the breach, and no further danger to the railway need be apprehended from it.

12. Had the breach occurred about the centre of the bund, where the water is deepest, there would, I fear, have been a very different story to relate. In all probability the Panar bridge, and possibly some hundreds of yards of line, would have been swept away.

BANGALORE,
22*nd October* 1874.

(Signed) ROSS THOMPSON, Captain, R.E.,
Offg. Dy. Consg. Engr. for Railways.

Proceedings of the Madras Government, Public Works Department,
21st *November* 1874.

No. 367. ORDER THEREON, 21st November 1874, No. 3,291.

RAILWAY, No. 58.

His Excellency the Governor in Council is satisfied that a wise discretion was exercised in cutting the railway embankment near the Cadgoody bridge over the Panar river and approves entirely of Mr. Scott's action in the matter. All hands, of whatever department of service, appear to have been creditably on the *qui vive*.

2. His Excellency in Council would like to be informed whether any apprehensions were entertained, and precautions taken, with reference to the railway bridge over the Panar river lower down, between the Samalputty and Morapur Stations in the Salem District.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Consulting Engineer for Railways.
" Revenue Department.
" Chief Engineer for Irrigation.

Exd. S. T. Austin.
Spare Copies

No. 944

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE.

Madras, 21 October 1874

From

The Agent and Manager. M. R. Company.

To

Lieut. Colonel J. H. M. Shaw Stewart R. E.
Consulting Engineer for Railways.

SIR,

With reference to my letter of the 17th instant N° 934 I have the honour to inform you that on the evening of that date the Doscottah South breached and in consequence of the great rush of water through the Panar bridge at the 203rd mile Bangalore Branch the Resident Engineer had gaps cut in the Embankment with a view to afford more waterway, and so lessen the great strain on the Bridge.

Upon the subsidence of the flood the gaps were filled in, and the road having been inspected and passed by Captain Ross Thompson, through traffic was resumed on Sunday afternoon. The running of light trains on the Bangalore Branch was also resumed yesterday the 19th instant.

A further report on the subject will be made in a few days.

No. 949

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE.

Madras, 22 October 1874

From

The Agent and Manager of the M. R. Co.

To

Lt Colo. J. H. Ellis, Thane Stewart, R. E.

Consulting Engineer for Railways.

SIR,

In continuation of my letter of the 20th instant No 941, I have the honour to enclose for your information a copy of the Acting Chief Engineer's letter of the 21st idem No 706, and a copy of the letter from the Resident Engineer of the 2nd Division South West Line thereon referred to, in which particulars are given of the circumstances under which breaches were cut in the embankment at the 20th mile Bangalore Branch on the 17th instant.

I have the honour to be,
Sir,
Your most obedient Servt.

J. W. Ellis.
for the Agent & Manager.

I have the honour to be
Your most obedient Servant.
J. W. Ellis.
for Agent and Manager

MADRAS RAILWAY.

From

The Agent and Manager.

To

The Consulting Engineer
for Railways.

Rly. No. 21 dated 15 Oct. 1874.

Dated 20 October 1874

Read 21 Oct.

No. 941. Requesting that Mr. Wright, Resident Engineer, 2nd Division, South West Line, may be allowed to proceed to Bangalore for the purpose of inspecting the breaches which occurred on the Bangalore Branch, and reporting thereon.

P. Bro 25 Oct 74

MADRAS RAILWAY.

From

The Agent and Manager.

To

The Consulting Engineer

for Railways.

Rly. Dy 21 Nov. No 3886.

Dated 22nd October 1874

Recd. 23rd ditto

No. 94

Regarding the breaches being cut in the Sir. embankment at the 203 mile Bangalore Branch

Br. 6788/1874.

2

Madras Railway Company
Chief Engineer's Office
Madras 21st October 1874

No. 706

The Agent and Manager

Dear Sir,

I enclose a copy of letter No. 326 of 20th instant from Resident Engineer 2nd Division South West Line reporting the precautionary measures taken on Saturday 17th instant to save the bridge at 203 m. 12 TP Bangalore Branch from being washed away in the event of the water from the Ossottah tank which breached at 8 A M that day rising to a dangerous height

The contingency provided for did not actually arise but there is no doubt that Mr Scott used a wise discretion in taking the energetic steps described in his letter and thus securing the bridge from danger

Yours faithfully
/signed/ Francis B Hanna
for Acting Chief Engineer

Madras Railway Company
2nd Divn. S.W. Line Resident Engineers Office
Bangalore 20th October 1874

No. 326

The Chief Engineer
My dear Sir,

On Friday the 16th instant I received intimation from Colonel Lankey R.E.

that the Oscottah tank was in a very dangerous state, and that if it breached the great volume of water would in all probability carry away the Penaukeny Bridge, if proper precautions were not taken, so I made arrangements on the first alarm being given to take two companies of sappers to Cadgoody, to cut the embankment at the lowest point to save the bridge. I ordered an Engine to be kept in steam all night for the purpose of conveying the sappers to the point of danger. At 2 A M on Saturday I received a message from Oscottah saying that the tank was in such a dangerous state that it might breach before morning. I went immediately to the station and telegraphed to the Driver and Guard of the 12-50 A M mail train to keep a good look out for signals and proceed slowly over the Cadgoody bank and to Mesh who was at the spot to prepare for cutting if necessary, and I went down myself as soon as I could get a train but the tank breached at 8 A M (Saturday) but I did not consider the bridge in any danger till about 7 P M the Sappers came down by special train at 4-30 P M by order of Col Lankey, I did not send for them as two companies were already in the ground, having marched in from Oscottah, at 7 P M the water was up to the springing course of the bridge and rising at the rate of 16 inches an hour, so by advice of Col Lankey I set the sappers to work as I feared if the water continued to increase at this rate the bridge would be choked before we could give the water a way through the

Railway we cut ten trenches 15 feet centre to centre, 5 feet wide and 8' 6" deep, this depth was fixed at what was considered by me to be a safe depth for the bridge so that if the water did not continue to rise the line would not be breached and communication could be restored in a day, the trenches were finished about midnight and the sappers sent in to Bangalore by special train about 2 A M. The water did not appear to be rising nearly so fast at that time, but as it was a dreadful night the rain coming down in torrents, I left the trenches open till the morning at day light on Sunday I found the water was gradually subsiding, so I sent a special message to Col Lankey at Oscottah to ask him if I might commence work in re-establishing communication with safety his reply was that I would now be quite safe, so I commenced work and had communication restored in time for the 7 A M train from Madras to pass over; fortunately Capt Thompson was in the train so that everything was done in order. The water still continues very high to about 6 inches from the springing course and the difference of level of the water above and below the Railway is 2' 5".

I forgot to mention that on Saturday I put two train loads of very large Stones into the last opening of the Penaukeny bridge to fill up the place that was scowred by the flood of the

17th September.

Yours very truly
/sd/ P. Scott
Resident Engineer

/True Copy/
/sd/ Francis B. Hanna
for Acting Chief Engineer

/True Copies/

/sd/ J. W. Mellis.
for the Agent & Manager

Encl 21 Sheets
Bridges
Plans

SP 1

Note on the Opening Made in the Madras Railway Bangalore Branch, near Cadgoody. On the 17th of October 1874, for the purpose of relieving the Bridge over the Pinar River, from flood pressure, consequent upon the Dascottah Tank having breached

1. I have the honour to report, that in Consequence of the Dascottah Tank having breached, it was Considered necessary to Cut the Madras Railway Embankment near Cadgoody, on the Bangalore Branch, on Saturday last the 17th inst: to relieve the Masonry bridge of five 30 feet Spans, (Arches) over the Pinar River, from the heavy pressure of flood water, which it was anticipated it would be subjected to.

At the Rate of 16 inches per hour, and it was feared that the Embankment would not be Cut through in time to save the bridge: Fortunately however, the flood only rose at this Rate for a short time, and it never reached the Level of the bottoms of the trenches, Consequently no water ever passed through them, and a large breach in the Embankment was thus spared.

6. The place chosen for Cutting the Embankment was at the lowest point, and about midway between the Bridge over the Penar and the Temporary Bridge, where the Fifteen Culvert was Carried away on the 14th Instant, thus securing these two works, as far as possible, from being Endangered in the Event of the flood widening to any great Extent, the Cut made for the passage through the Embankment.

7. The Rascollat Bank having breached beyond Repair, and the Waterway of the ~~Bridge over the Penar Crossing~~ Bridge over the Penar proving Equal to its discharge no further Rise of flood, and Consequently no further damage to the Railway, was to be apprehended. The trenches Cut in the Embankment, were therefore no longer required, and there was nothing to prevent Traffic being resumed in Safety as soon as they had been filled in and the permanent way laid down again.

8. This work of Restoration was Completed on the following day. Viz. Sunday the 18th Inst-

and inspected by me, in time
to admit of the 7. am train
from Madras proceeding to
Bangalore. On arrival
there I dispatched the following
telegram to the Agent of the
Madras Railway.

× "Communication restored"
"at Cadgoody. Through "
"traffic may be resumed "

On the following day (Monday 9th
the 19th) I again inspected
this portion of line with
the Resident Engineer.
A ballast train was at work
on it, and the roadway
was being made real again.
After the passage of a few
trains, and being lifted
and packed, it will be
in as good order as ever.

Yesterday (21st inst.) I went 10.
with the Resident Engineer
to see the breach in the

Cascal Nati. Tank; and to
satisfy myself that there
would be no chance of
any further damage to the
Railway, and that the
Restoration of the line had
not been premature.
From what I saw, I am
satisfied that the Canar
Bridge is quite equal to
passing the discharge
from the breach in the
Tank, and that the
Restoration of the line was
in no way premature

11. The Tank is breached at the
North-East side of the Cargo
or Eastern Calingula,
between the Calingula and
the high ground on the East
of the tank into which the
bund runs.
The breach cannot deepen
or widen to any dangerous
extent between the Calingula
and the high ground and

there is no danger of its
taking away the Calingada
and extending the breach
to the westward, where the
bund is high and water
deep, before it has expended
itself. The tank is
safely and surely discharging
through the breach, and
no further danger to the
Railway need be apprehended
from it.

Had the breach occured about
the Centre of the bund, where
the water is deepest, there
would I fear have been
a very different story to relate.
In all probability the Panar
Bridge, and possibly some
hundreds of yards of line
would have been swept away.

Lt. Col. Simpson

Offg. Dy. Con. Engr. Railways

Bangalore
October 22nd 1874

29. Ult. W.

P.C. Dy. Con. Engr. Rlys.
Bangalore
Dated 22nd October 1874
No. 365
12.

Railway Department. CONSULTING ENGINEER'S OFFICE.

No. 665

From

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

To

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

SIR,

In continuation of the papers forwarded with endorsement No. 632, dated the 20th instant, I have the honour to enclose for the information of Government the letter noted in the margin, giving particulars of the circumstances under which it was deemed advisable to cut the Railway embankment near the Panar bridge, at the 203rd mile of the Bangalore branch, with the object of relieving the bridge from the great pressure caused by the breaching of the Oascottah tank.

2. There

Copy of letter from Offg. Dy. Con. Engr. Rlys. Bangalore, dated 22nd October 1874, No. 365.
Forwarded with endorsement from Consulting Engr. for Rlys. dated 24th October 1874, No. 632.
Forwarded with endorsement from Secretary to Government, Public Works Department, dated 29th October 1874, No. 665.

2. There can be no doubt that Mr. Scott exercised a wise discretion in taking the precautionary measures described in these papers.

3. From letter No. 655, dated the 28th instant, and its accompaniments, the Government will have learnt that it has again been found advisable to discontinue the running of night trains upon the Bangalore branch.

I have the honour to be
Sir
Your most obedient Servant
Madras
29th October
1874

V. Venkatarow Esq.
Cons. Engr. for Railways
&c &c &c

P.W. 1874 Dept.
No: 6788

RAILWAY DEPARTMENT.

From

The Consulting Engineer
for Railways,

To

The Secretary to Government,
P. W. Department,
Fort Saint George.

Dated 29 Oct 1874.
Recd. 30

P.W. No. 665-

Submitting letter from the Agent-Railway Contractors Messrs Parker upon the Breaks occurring in the Bridges over the 13 Branches.

No. 366

Recorded 30th Oct 1874

His Excellency in Council would like to be informed whether any apprehensions were entertained, and precautions taken with reference to the Railway Bridge over the Panar River lower down, between the Lamalpatty and Inorapur Stations in the Salem District.

Yours

To.

The Chief Engr for Railways
" Revenue Dept.
" Chief Engr for Irrigation

Signed & s. copies desp. 25/11/14

366-367.

Cir 5/11/14

678 v

Govt. of {1874} Madras.

PUBLIC WORKS.

To

The Chief Engr.
for Rep.

Dated

Recd. 1 Encl. 4

G. O. 21 Nov. 1874, No. 3271

Nos. 166-167

Report on the Madras Ry

Passing Orders on letter
the Secretary for
Says submitting papers
Agent Madras Ry
Further on the
the Headgoody
the Penar Bridge