

M.R.O. 1—10,006—28-2-50.

(1) Number of pages _____

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	1772-73	Press
B.P. No.		Mis.
Dated	28-6-8975	195—.

Not to be folded or roughly handled

No. 542. Read the following letter from Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, to Lieutenant-Colonel J. MULLINS, R.E., Officiating Secretary to Government, Public Works Department, dated Madras, 11th June 1875, No. 330 :—

I HAVE the honor to report, for the information of Government, that the repairs of the bridges over the Cheyair, Paupugnee, and Chittravutty rivers were completed during last month. The bridges in question were inspected by me upon the 25th and 26th ultimo, and permission was then given to re-open them for traffic, as has already been reported to you by telegram. Every one of the new girders was satisfactorily tested in my presence.

2. The mode in which it was originally intended to carry out the repairs of those bridges and the slight modifications which have been subsequently found necessary have been detailed in previous* reports. The completion of these repairs has been anxiously looked for; and too much credit cannot be given to the Engineers in charge, Mr. West and Mr. Haworth, to whose untiring and self-denying exertions the successful completion of the work is due. If the south-west monsoon had found the repairs unfinished, the floods in the rivers would certainly have put an end to the use of the temporary roads laid across their beds, and all through traffic would have been interrupted.

* 16th December 1874, No. 762.
19th March 1875, No. 159.
11th May 1875, No. 263.

3. In the case of the Pennair bridge, I regret that I cannot submit an equally favorable report. It was at first supposed that the damage sustained by this bridge was confined to two piers, Nos. 21 and 22; but upon further close examination three other piers, Nos. 17, 18 and 20, are found to have suffered more or less from the recent destructive floods. The extent of the injury is detailed in the enclosed letter† from the Chief Engineer, from which it will be seen that it is proposed to rebuild all the six piers, from No. 17 to No. 22, inclusive. The difficulty experienced in dealing with this bridge has been greater than in the case of any of the others, owing to the fact of the traffic not having been diverted; and fresh obstacles have cropped up from time to time while the repairs have been in progress, which have rendered the work most anxious and harassing. The mode in which it has now been determined to carry out the temporary repairs, while the rebuilding of the injured piers is in progress, is shown in the enclosed drawing.‡ These temporary arrangements are being pushed on as quickly as possible.

† No. 406, dated 8th June 1875.

‡ No. 161, return requested.

4. I regret to have to report that it has not been found possible to make a satisfactory examination of the foundations of the damaged piers in the Pennair and Chittravutty bridges. The amount of water in the beds of these rivers has been most unusual, and has rendered all examination impossible, except with the assistance of pumps. The attention of the Engineers in charge has been thoroughly taxed by the more important work in hand, of completing the repairs before the burst of the monsoon. The enclosed letter§ from the Chief Engineer gives the result

§ No. 408, dated 9th June 1875.

of an inspection of the foundations of some of the fallen piers at the Chittravutty bridge. It will be seen that Mr. Anderson has not lost sight of the necessity for a thorough examination.

From B. ANDERSON, Esq., Chief Engineer, to R. B. ELWIN, Esq., Agent and Manager, Madras Railway Company, dated Madras, 8th June 1875, No. 636.

With reference to your endorsement on Consulting Engineer's letter, No. 610, of 2nd current, I have the pleasure herewith to forward a *No. 181 drawing* showing the arrangements completed and in progress for the purpose of repairing the Pennair bridge.

2. I have arranged to have piles driven round piers Nos. 17, 18 and 19 to protect them against the chance of scour until they are rebuilt.

3. Pier No. 17 has sunk on the up-stream side between three and four inches.

4. Pier No. 18 has a crack extending from the cut water a little above ground level on the up-stream side to the foundations under the rails.

5. Although pier No. 19 is not injured to any appreciable extent, I think that, as piers Nos. 18 and 20 have suffered, it would not be safe to let it stand.

6. Pier No. 20 is three and a half inches out of plumb, and the Resident Engineer informs me that it is considerably more out of the perpendicular at present than it was after the floods in October last.

7. Piers Nos. 21 and 22 were completely destroyed, as detailed in my letter, No. 782, of 1st December 1874.

No. 613.

Copy forwarded with plan for the information of the Consulting Engineer for Railways.

MADRAS, (Signed) R. B. ELWIN,
9th June 1875. *Agent and Manager.*

From B. ANDERSON, Esq., Chief Engineer, to R. B. ELWIN, Esq., Agent and Manager, Madras Railway Company, dated Madras, 9th June 1875, No. 638.

Consulting Engineer's letter, No. 637, dated 3rd instant.

I regret to say that no reliable evidence has yet been obtained with regard to the depth of the pier foundations in the Pennair and Chittravutty bridges.

2. There has been so much water in these rivers since the floods of October last, that it has been found impossible to make a satisfactory examination of the foundations.

3. I enclose copy of a letter from the Resident Engineer (No. 385, dated 29th ultimo), reporting the result of an examination which he made at the request of the Consulting Engineer. The information obtained, however, is not of a nature to be of much value. A thorough examination will be made as soon as practicable.

From H. HAWORTH, Esq., Resident Engineer, to B. ANDERSON, Esq., Chief Engineer, Madras Railway Company, dated Conjeeveram, 29th May 1875, No. 385.

I beg to inform you that, as requested by the Consulting Engineer, I inspected yesterday the foundations of the piers at Chittravutty bridge which he pointed out, with the following result:—

Old pier No. 1.—Foundation six feet six inches below present level of river bed, apparently on very stiff clay.

Old pier No. 4 fallen.—No trace of wells to be found.

Old pier No. 6 fallen.—Part of well (two courses) still adhering to base of pier; part of another apparently in fair condition to be felt with a bar, but impossible to lower the water sufficiently to see it without a dam.

Proceedings of the Madras Government, Public Works Department,
28th June 1875.

Old pier No. 8 fallen.—No trace of wells.

Old pier No. 30 first masonry pier north side.

Foundation ten feet below present bed of the river. The contractor states that, on first excavating, he saw the wells; but afterwards, and at the time I saw it, the springs had increased so much that he could not keep the water below ten feet with three picottahs and baskets.

No. 615.

For the information of the Consulting Engineer for Railways.

MADRAS, (Signed) R. B. ELWIN,
9th June 1875. *Agent and Manager.*

No. 543. ORDER THEREON, 28th June 1875, No. 1,792.

RAILWAY, No. 68.

ORDERED to be recorded.

2. The Honorable the Governor in Council notices with pleasure the highly creditable exertions of Mr. West and Mr. Haworth, to which are attributed the timely completion of the repairs to the bridges over the Cheyair, Paupugnee, and Chittravutty rivers, and the maintenance of through communication which the south-west monsoon would otherwise have interrupted on these portions of the line.

3. The Pennair bridge will no doubt receive proper attention at the hands of the Chief Engineer and his Assistants.

(True Extract.)

(Signed) J. O. HASTED, Major, R.E.,
Offg. Joint Secretary to Government.

No. 544. (DOCKET No. 1,793, dated 28th June 1875.)

COPY of the above forwarded to the Government of India in continuation of docket, No. 950, dated 10th April 1875.

(True Extract.)

(Signed) J. O. HASTED, Major, R.E.,
Offg. Joint Secretary to Government.

Exd. E. C. Shunker.

Spare Copies

of an inspection of the foundations of some of the fallen piers at the Chittravutty bridge. It will be seen that Mr. Anderson has not lost sight of the necessity for a thorough examination.

From B. ANDERSON, Esq., Chief Engineer, to R. R. ELWIN, Esq., Agent and Manager, Madras Railway Company, dated Madras, 8th June 1875, No. 468.

With reference to your endorsement on Consulting Engineer's letter, No. 632, of 3rd current, I have the pleasure herewith to forward a drawing* showing the arrangements completed and in progress for the purpose of repairing the Pennair bridge.

* No. 161.

2. I have arranged to have piles driven round piers Nos. 17, 18 and 19 to protect them against the chance of scour until they are rebuilt.

3. Pier No. 17 has sunk on the up-stream side between three and four inches.

4. Pier No. 18 has a crack extending from the cut water a little above ground level on the up-stream side to the foundations under the rails.

5. Although pier No. 19 is not injured to any appreciable extent, I think that, as piers Nos. 18 and 20 have suffered, it would not be safe to let it stand.

6. Pier No. 20 is three and a half inches out of plumb, and the Resident Engineer informs me that it is considerably more out of the perpendicular at present than it was after the floods in October last.

7. Piers Nos. 21 and 22 were completely destroyed, as detailed in my letter, No. 703, of 1st December 1874.

No. 613.

Copy forwarded with plan for the information of the Consulting Engineer for Railways.

Madras, (Signed) R. R. ELWIN,
9th June 1875. *Agent and Manager.*

From B. ANDERSON, Esq., Chief Engineer, to R. R. ELWIN, Esq., Agent and Manager, Madras Railway Company, dated Madras, 9th June 1875, No. 468.

Consulting Engineer's letter, No. 627, dated 3rd instant.

I regret to say that no reliable evidence has yet been obtained with regard to the depth of the pier foundations in the Pennair and Chittravutty bridges.

2. There has been so much water in these rivers since the floods of October last, that it has been found impossible to make a satisfactory examination of the foundations.

3. I enclose copy of a letter from the Resident Engineer (No. 385, dated 29th ultimo), reporting the result of an examination which he made at the request of the Consulting Engineer. The information obtained, however, is not of a nature to be of much value. A thorough examination will be made as soon as practicable.

From H. HAWORTH, Esq., Resident Engineer, to B. ANDERSON, Esq., Chief Engineer, Madras Railway Company, dated Condapoorum, 29th May 1875, No. 385.

I beg to inform you that, as requested by the Consulting Engineer, I inspected yesterday the foundations of the piers at Chittravutty bridge which he pointed out, with the following result:—

Old pier No. 1.—Foundation six feet six inches below present level of river bed, apparently on very stiff clay.

Old pier No. 4 fallen.—No trace of wells to be found.

Old pier No. 6 fallen.—Part of well (two courses) still adhering to base of pier; part of another apparently in fair condition to be felt with a bar, but impossible to lower the water sufficiently to see it without a dam.

Old pier No. 8 fallen.—No trace of wells.

Old pier No. 30 first masonry pier north side.

Foundation ten feet below present bed of the river. The contractor, while excavating, he saw the wells; but afterwards, and at the time I saw it, the water had increased so much that he could not keep the water below me by the use of picottahs and baskets.

No. 615.

For the information of the Consulting Engineer for Railways.

Madras, (Signed) R. R. ELWIN,
9th June 1875. *Agent and Manager.*

No. 543. Order thereon, 28th June 1875, No. 1,792.

RAILWAY, No. 68.

Ordered to be recorded.

2. The Honorable the Council notices with pleasure the creditable exertions of Mr. West and Mr. Haworth, to which are attributable the timely completion of the repairs to the bridges over the Cheyair, Pennair and Chittravutty rivers, and the maintenance of through communication which the south-west monsoon would otherwise have interrupted on these portions of the line.

3. The Pennair bridge will no doubt receive proper attention at the hands of the Chief Engineer and his Assistants.

(True Extract.)

(Signed) J. O. HASTED, Major, R.E.,
Offg. Joint Secretary to Government.

No. 544. (Docket No. 1,793, dated 28th June 1875.)

Copy of the above forwarded to the Government of India in continuation of docket, No. 950, dated 10th April 1875.

(True Extract.)

(Signed) J. O. HASTED, Major, R.E.,
Offg. Joint Secretary to Government.

Exd. E. C. Shunker.

Spare Copies

No 408.

Madras Railway Company,
Chief Engineer's Office
Madras 9th June 1875

The Agent and Manager,

Dear Sir,

Consulting Engineer's letter No. 63 dated 3rd instant.

1. I regret to say that no reliable evidence has yet been obtained with regard to the depth of the pier foundations in the Pennair and Chittravutty Bridges.

2. There has been so much water in those rivers since the floods of October last that it has been found impossible to make a satisfactory examination of the foundations.

3. I enclose copy of a letter from the Resident Engineer (No 365 dated 29th ultimo) reporting the result of an examination which he made at the request of the Consulting Engineer. The information obtained however is not of a nature to be of much value. A thorough examination will be made as soon as practicable.

Yours faithfully,
(Sd) Bernard Anderson
Chief Engineer.

Madras

P. 385.

Madras Railway Company
Resident Engineer's Office
Coudapoorum 29th May 1875.

To

The Asst Deputy Chief Engineer
Madras Railway

My dear Sir,

I beg to inform you that, as requested by the Consulting Engineer, I inspected yesterday the foundations of the piers at Chattravutty Bridge which he pointed out, with the following result.

Old pier No. 1. Foundation 6'.6" below present level of river bed, apparently on very stiff clay.

Old pier No 2 fallen. No trace of wells to be found.

Old pier No 3 fallen. Part of well (2 courses) still adhering to base of pier; part of another apparently in fair condition to be felt with a bar, but impossible to lower the water sufficiently to see it without a dam.

Old pier No 4 fallen. No trace of wells.

Old pier No 30 feet to west of new pier with side foundation 10 feet below present bed of the river.

The Contractor states that on first excavating, he saw the wells, but afterwards, and at the time I saw it, the springs had increased so much that he could not keep the water below 10 feet with three first class and 6 hand pumps.

Yours

Yours very truly
p.p. W. Haworth
Resident Engineer.

/True Copy/
p.p. Personal Assistant,
Chief Engineer.

/True Copy/

Asst Secretary
Agent & Manager.

No. 615

For the information of the Consulting Engineer for Railways.

Madras
9th June 1875.

MADRAS RAILWAY.

From

The Agent and Manager.

To

The Consulting Engineer

for Railways.

Dated 9th June 1875

Rcd'd 10th do do

No. 615.

Regarding the Pier Foundations of the Penner River Bridges.

Rec'd 28th do

S.R. 117

No 406

Madras Railway Company
Chief Engineer's Office
Madras 8th June 1875

The Agent and Manager

Dear Sir,

No 181 With reference to your endorsement on Consulting Engineer's letter No. 636 of 3d current I have the pleasure herewith to forward a drawing shewing the arrangements completed, and in progress for the purpose of repairing the Penner Bridge.

2. I have arranged to have piles driven round piers Nos. 17, 18 and 19 to protect them against the chance of scour until they are rebuilt.

3. Pier No. 17 has sunk on the up-stream side between 3 and 4 inches.

4. Pier No. 18 has a crack extending from the cut water, a little above ground level, on the up-stream side to the foundations under the rails.

5 Although pier No. 19 is not injured to any appreciable extent I think that as piers Nos. 18 and 20 have suffered it would not be safe to let it stand.

6. Pier No. 20 is 3½ inches out of plumb and the Resident Engineer informs me that it is considerably more out of the perpendicular at present than it was after the floods in October last.

7. Piers Nos. 21 and 22 were completely destroyed as detailed in my

Letter No. 792 of 1st December 1874.

Yours faithfully
Edwd Byres ford Anderson
Chief Engineer

True Copy

Agent & Chief Manager

No. 613

Copy forwarded with plan for the information of the Consulting Engineer for Railways

Madras
9th June 1875

Railway Department.

CONSULTING ENGINEER'S OFFICE.

No. 3 Coimbatore 11 June 1875

From

LIEUT.-COLONEL J. H. M. SHAW STEWART, R.E.,

Consulting Engineer for Railways,

To Lieut.-Col. H. J. Mullens, R.E.,

Secretary to Government,

Public Works Department,

Fort Saint George.

Sir,

I have the honour to report, for the information of Government, that the repairs of the 2 broken iron Girder, Pandiyaconal and Chettiarpatty bridges were completed during last month. The bridges in question were inspected by me upon the 25 and 26th ult., and permission was then given to reopen them for traffic, as has already been reported to you by telegram. Every one of the new girders was satisfactorily tested in my presence.

2.

MADRAS RAILWAY.

From

The Agent and Manager.

To

The Consulting Engineer

for Railways.

Dated 10 June 1875

Rect. 11 "

No. 473

Returning a Memorandum relating to Arrangements for Testing and Opening the Pandiyaconal and Chettiarpatty Bridges and the Proposal for the Temporary Retention of the Present Pandiyaconal Bridge.

Rec. 15 June 1875

2

GB-25 June 75

Mr. Mullens

2

The mode in which it was originally intended to carry out the repairs of those bridges, and the slight modifications which have been subsequently found necessary, have been detailed in previous[x] reports. The completion of these repairs has been anxiously looked for; and too much credit cannot be given to the Engineers in charge, Mr. West and Mr. Haworth, to whose untiring and self-denying exertions the successful completion of the work is due. If the South-West monsoon had found the repairs unfinished, the floods on the rivers would certainly have put an end to the use of the temporary roads laid across their beds, and all through traffic would

[x] 16th Decr. 1874 No. 762
[+] [illegible]
[*] 19 March 1875 No. 159
[‡] [illegible]
[††] 11th May 1875 No. 268.
[§] [illegible]

would have been interrupted

3. As the case of the Pamaur bridge I regret that I cannot submit an equally favourable report. At first it appeared that the damage sustained by this bridge was confined to two piers, Nos. 21 and 22; but upon further close examination three other piers, Nos. 17, 18, and 20, are found to have suffered more or less from the recent destructive floods. The extent of the injury is detailed in the enclosed letter from the Chief Engineer, from which it will be seen that it is proposed to rebuild all the six piers, from No. 17 to No. 22, inclusive. The difficulty experienced in dealing with this bridge has been greater than in

[x] No. 406 of 8th June 1875.

on the case of any of the others, owing to the fact of the traffic not having been diverted; and fresh obstacles have cropped up from time to time while the repairs have been in progress, which have rendered the work most anxious and harassing. The mode in which it has now been determined to carry out the temporary repairs, while the rebuilding of the injured piers is in progress, is shown on the enclosed × drawing. These temporary arrangements are being pushed on as quickly as possible.

× No. 161
Return requested

4. I regret to have to report that it has not been found possible to make a satisfactory

1873

satisfactory examination of the foundations of the damaged piers on the Penner and Chittravutty bridges. The amount of water in the beds of these rivers has been most unusual, and has rendered all examination impossible, except with the assistance of pumps. The attention of the Engineer in charge has been thoroughly taxed by the more important work in hand, of completing the repairs before the burst of the monsoon. The enclosed × letter from the Chief Engineer gives the result of an inspection of the foundations of some of the fallen piers at the Chittravutty

× No. 408 of 9th June 1875.

Public Works Dept.

Proceedings of the Madras Government

Under date the 1875

Read the following

From

The Cons.g Engineer for Railways } (No. 330 dated 4th June 1875)

G.O. No. 1792 dated 25th June 75

Ordered to be recorded.

The Hon'ble the Governor in Council notices with pleasure the highly creditable exertions of Mr. West and Mr. Haworth, to which are attributed the timely completion of the repairs to the bridges over the Cheyaur, Panjrugnee, and Chittravutty rivers

WPD 246

GB

P.W. 1875 Rcpts No. 3872.

RAILWAY DEPARTMENT.

From

The Consulting Engineer,
for Railways,

To

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

Dated 11th June 1875.
Rec.d 12th June 1875.

No. 330

With 3 enclosures

Reporting on the Repairs to the bridges on the G. S. Line of Mc Railway

Chittravutty bridge. It will be seen that Mr. Anderson has not lost sight of the necessity for a thorough examination.

I have the honour to be, Sir,
Your most Obed.t Servant,

Mun Munt R. Cale R.E.
Cons.g Engr for Railways

To 3 —

GB Burt 26 June 75

GO 26 June 75 No 1792.

rivers, and the maintenance of through communication which the South West Monsoon would otherwise have interrupted on these portions of the line.

The Penair bridge will no doubt receive proper attention at the hands of the Chief Engineer and his Assistants.

(Docket No. 1793 dated 25th June 75

Copy of the above forwarded to the Govt of India in continuation of docket No. 950 dated 10th April 1875.

6 S C Disp 12-7-75

30
2
12 C.E. for Rep.
11 S C & 1 Sketch
Disp'd - 12-7-75

1 Remark
2 made in the
2 share Office
letter Govt of India
the Sketch was not sent with the

3872

Govt. of Madras.

PUBLIC WORKS.

The Lieutenant-Governor
&
Hon. Chief Secretary

Fort St. George

20 June

Nos 5-2 to 5-3

Reply

Regarding Proceedings
on the report of the
Executive Engineer for
Bridges on the repairs
of the Bridges on the
North West Line of
the Madras Railway.

Reference to the Bridges
on the North West Line
of the Madras Railway.

Passing orders on the letter from
the Executive Engineer, referring
to the