

(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. *949-50* Press
B.P. No. *6875* Mis.

Dated *10-4-* *195*

Not to be folded or roughly handled

No. 198. 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, 19th March 1875, No. 159:—

I HAVE the honor to report, for the information of Government, that the operations in progress for the repair of the damaged bridges on the North-West Lane were inspected by me during last week in company with the Chief Engineer of the Madras Railway.

2. At the Cheyair the work is well advanced. The embankment in the centre of the river has been restored, with both abutments; and of the four masonry piers which failed in the north portion of the bridge three have been replaced with screw piles. At the site of the fourth pier the bed of the river was found to be so much encumbered with old masonry as to render the screwing of piles almost impossible, and it has been necessary to alter the design and to construct the new pier of masonry resting on wells nine feet in diameter and carried down to a depth of 35 feet. The bricks for these wells are ready, and the work is now in progress. At the pier which failed in the south portion of the bridge, the clearing away of the old foundation has been attended with some trouble on account of the compactness of the masonry and the quantity of water in the river; but the work is making steady progress, and the new foundations will soon be got in.

3. At the Chittravatty the work is also well advanced. At this river nine of the masonry piers failed, and they are being replaced by ten piers formed with screw piles. Of these nine are now completed, and in the tenth pier all the piles are screwed into position with the exception of one which came in contact with a large block of masonry about nine feet below the bed of the river. The removal of this obstruction has caused some delay, but I trust that all the piers will soon be ready to receive the girders.

4. At the Paupugnee little has been yet done beyond getting all the material into position. The work here consists solely of forming new piers with screw piles in the positions occupied by those which were carried away, and it was thought advisable to concentrate the whole available labor on to the Chittravatty bridge in the first instance, as greater difficulties were anticipated there. The large gangs of trained labor will now be brought to the Paupugnee, where it is expected that the construction of the new piers will soon be pushed through.

5. At the Pennair it has been found necessary to modify in some particulars the mode originally proposed for reconstructing the two piers which failed. The river bed was found to be encumbered with old masonry to such an extent as to render it impossible to support the girders temporarily, as was proposed, upon screw piles. The difficulty of dealing with this bridge is increased from the fact that the traffic over it has not been diverted, as in the other cases, to a temporary road laid across the river bed; and it is therefore necessary to provide for the repair of the piers without interfering with the passage of trains over the bridge. The obstructions which have been come upon unexpectedly in the river bed, and which prevent the screwing of piles, render the progress of work under these conditions a matter of considerable difficulty. A revised method of supporting

*Proceedings of the Madras Government, Public Works Department,
10th April 1875.*

the girders during the operation of building the piers has now been adopted, and this is shown in the accompanying

* No. 152. Return requested.

plan. Another modification in the original design which it has been found necessary to introduce, is the substitution of well foundations for solid ones in rebuilding the two piers. This change is due to the depth of sand, 15 feet, overlying a solid substratum. The wells will be 9 feet in diameter, and bricks for the purpose are now being conveyed to the bridge.

6. Adverting to the letter from this office, dated the 8th instant, No. 145,

* G. O., No. 784, dated 20th March 1875.

I have the honor to report that, unless unforeseen difficulties occur, the com-

pletion of the repairs to the Cheyair, Chittravatty, and Paupugnee bridges may be looked for during April. The extent of the progress made towards the reconstruction of the damaged piers is explained above, and in each case the necessary girder material is on the ground, and the girders are being rapidly rivetted and got ready.

7. It is more difficult to name the date when the repairs to the Pennair bridge will be finished. The obstructions found in the river bed have retarded the work very considerably, but I am still in hopes that the repairs will be completed, or nearly so, by the end of May. The Government may rest assured that every effort to attain this object will be made by the Railway officers.

8. The unusual amount of water in the beds of the Chittravatty and the Pennair has made it impossible to make any examination as yet of the pier foundations, and this must in all probability be postponed for another month.

No. 199. ORDER THEREON, 10th April 1875, No. 949.

RAILWAY, No. 27.

His Excellency the Governor in Council is glad to find that steady progress is being made with the restoration of damaged bridges on the Madras Railway. Difficulties met with in the execution of the work have been overcome by what appear to be judicious modifications of the original designs. The completion of the repairs to the Cheyair, Chittravatty, and Paupugnee may, it is stated, be expected during April, while the Pennair bridge will probably be ready by the end of May.

2. His Excellency the Governor in Council accepts the assurance given that every effort will be made by the Railway officers to ensure the completion of the work by the time specified.

(True Extract.)

(Signed) G. W. WALKER, Colonel, R.E.,
Secretary to Government.

No. 200.

(DOCKET No. 950, dated 10th April 1875.)

Copy of the above forwarded to the Government of India in continuation of docket No. 785, dated 20th March 1875.

(True Extract.)

(Signed) G. W. WALKER, Colonel, R.E.,
Secretary to Government.

Exd. S. T. Austin.
Spare Copies

Railway Department.

CONSULTING ENGINEER'S OFFICE.

No. 159

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,

I have the honor to report, for the information of Government, that the operations in progress for the repair of the damaged bridges on the North-west line were inspected by me during last week, in company with the Chief Engineer of the Madras Railway.

2. At the Cheyair the work is well advanced. The embankment in the centre of the river has been restored, with both abutments, and

and of the four masonry piers which failed in the north portion of the bridge, three have been replaced with screw piles. At the site of the fourth pier the bed of the river was found to be so much encumbered with old masonry as to render the screwing of piles almost impossible, and it has been necessary to alter the design, and to construct the new pier of masonry resting on wells 9 feet in diameter and carried down to a depth of 35 feet. The bricks for these wells are ready, and the work is now in progress. At the pier which failed in the south portion of the bridge, the clearing away of the old foundation has been attended with some trouble,

51 2
on account of the compactness of the masonry and the quantity of water in the river; but the work is making steady progress, and the new foundations will soon be got in.
3. At the Chithavatty the work is also well advanced. At this river nine of the masonry piers failed, and they are being replaced by ten piers formed with screw piles. Of these nine are now completed, and in the tenth pier all the piles are screwed into position with the exception of one, which came in contact with a large block of masonry about 9 feet below the bed of the river. The removal of this obstruction has caused some delay, but I trust that

that all the piers will soon be ready to receive the girders.

4 At the Pauquenee little has been yet done beyond getting all the material into position. The work here consists solely of forming new piers with screw piles in the positions occupied by those which were carried away, and it was thought advisable to concentrate the whole available labour on to the Chittavatty bridge in the first instance, as greater difficulties were anticipated there. The large gangs of trained labour will now be brought to the Pauquenee, where it is expected that the construction of the new piers will soon

soon be pushed through. At the Pazinaw it has been found necessary to modify in some particulars the mode originally proposed for reconstructing the two piers which failed. The river bed was found to be encumbered with old masonry to such an extent as to render it impossible to support the girders temporarily, as was proposed, upon screw piles. The difficulty of dealing with this bridge is increased from the fact that the traffic over it has not been diverted, as in the other cases, to a temporary road laid across the river bed; and it is therefore necessary to provide for the repair of the piers without interfering with the passage

passage of trains over the bridge. The obstructions which have been come upon unexpectedly in the river bed, and which prevent the screwing of piles, render the progress of work under these conditions a matter of considerable difficulty. A revised method of supporting the girders during the operation of building the piers has now been adopted, and this is shown in the accompanying plan. Another modification in the original design which it has been found necessary to introduce, is the substitution of well foundations for solid ones in rebuilding the two piers. This change is due to the depth of sand, 15 feet, overlying a solid substratum. The wells

9 4
wells will be 9 feet in diameter, and buoys for the purpose are now being conveyed to the bridge.

6. Adverting to the letter from this office dated the 8th instant, No 145, I have the honour to report that, unless unforeseen difficulties occur, the completion of the repairs to the Cheyair, Chittiaratty, and Paupugree bridges may be looked for during April. The extent of the progress made towards the reconstruction of the damaged piers is explained above, and in each case the necessary girder material is on the ground, and the girders are being rapidly rivetted and got ready.

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110 5

I have the honour to be

Sir

Your most obedt servt.

Wentworth L. Hol. R. E.

Cons. Engineer for
Railway

Madras

19 March

1845

W. B. H.

PROCEEDINGS of the MADRAS GOVERNMENT.

Under date the

Read the following:—

From
The Inspr^g Engr^g for Railways (H.R. No 159 of 19-March 75)
949

His Excellency the Governor in Council is glad to find that steady progress is being made with the restoration of damaged bridges on the Madras Railway - Difficulties met with in the execution of the work have been overcome by what appear to be judicious modifications of the original designs - The completion of

Mol
24/5

G. W. 1875 Sept.

RAILWAY DEPARTMENT.

From
No: 1848

The Consulting Engineer,
for Railways,

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

Dated
19th Decr 1875

Recd.
20

E.I. No. 159

G.O. No. 949. 10.4.75

20 Nov 75 No 159
18. 20 " " 1897
1. Feb 76 " " 311
9 May 76 " " 61

Respecting the
results of the execution
of the operations in
progress for the repairs
of the damaged bridges
on the M.S. Railway
The Madras Railway
G.O. No. 949-10 April 75

No 198

1022-3-75

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Chittravutti and Pampuguee
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end of May.

His Excellency the
Governor in Council accepts
the assurance given that
every effort will be made by
the Railway Officers to en-
sure the completion of the
work by the time specified.

RE No 9

Copy of the above
forwarded to the Govern-
ment of India in conti-
-nuation of Docket No 785

dated

dated 20th March 1875

G.M.M.

Dispd - 12-4-75

To The Constl Engr for Ryrs
with Plan Dispd - 12-4-75

1848 ✓

Govt. of 1875 Madras.

PUBLIC WORKS.

To Comdg Engineer
M Railways.
Secy to Govt

Dated

Recd.

Encl.

G. O., 10 April 1875, No. 949

950
Nos. 198-199 & 200

Forwarding Pro: on report
of the Com. Eng. for Rep on
the results of his inspection
of the operations in progress
for the repair of the damaged
bridges on the N.W. Line
of the Madras Railway.

Bridges (Rep) - Passing
orders on letter from the Com.
Eng. for Rep reporting the
results of his inspection of
the operations in progress
for the repair of the damaged
bridges on the N.W. Line
of the Madras Ry.