

(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.	132-	9	Press
B.P. No.			Mis.
262-263			
Dated	20-1-1874	195-	

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
20th January 1874.*

No. 262. Read the following endorsement of the Chief Engineer for Irrigation, dated Fort St. George, 15th December 1873, No. 934B:—

From Captain A. EDGCOMBE, R.E., Acting District Engineer, Bellary, to Lieutenant-Colonel J. MULLINS, R.E., Chief Engineer for Irrigation, dated Bellary, 15th December 1873, No. 1,510.

In reply to your letter No. 866A, dated the 2nd instant, I have the honour to state that on the afternoon of the 7th November I received a report at Venkatapuram (140 miles from Gootloor) that the Gootloor Tank had breached on the morning of the 1st November. Knowing that you were on tour, I at once

reported* the circumstance direct to the Chief Engineer, and I am at a loss to understand why no notice was taken by Government of my report, and why you only received instructions on the subject after a report had been made in the Revenue Department.

2. I left Venkatapuram on the morning of the 8th November, and arrived at Gootloor on the 20th. I examined the breach alone that evening, and on the following morning I examined the two slips in the revetment to the north of the breach, and again examined the breach itself, and ordered trial pits to be dug at these three points to ascertain the description of foundation available. During the day, on the 21st, I took the statements of the Reddi and Gurnum of Gootloor and of the chief Niraganti relative to the breach. On the morning of the 22nd I examined such of the trial pits as had been dug on the 21st, and found the work revealed by these pits of such unequal quality that I ordered trial pits to be dug along the whole length of the tank bank, at intervals varying from 10 to 100 yards. As the excavation of these pits would occupy ten days at least, I went on a tour in the Pennacunda Range for that period, and returned to Gootloor on the 3rd December. On the morning of the 4th I made a minute inspection of some 70 trial pits that had been excavated during my absence, and by this inspection

obtained the information requisite for the preparation of the estimate,* which

I consider necessary for closing the breach and for strengthening the tank bank throughout. I forward a survey of the tank bank showing the breach and the two

slips in the revetment. At the site of the breach was the central sluice,† with only 18 inches of foundation, resting

partly on the old bank, and partly on very inferior soil in rear of it. There is now not a trace of this sluice to be seen, and my opinion is that the cause of the breach was the undermining of this sluice; and that when the breach was once formed the rush of water from the high ground near the northern calingulah towards the breach caused the two slips in the revetment. I may observe that the flush level of the northern calingulah is 3 feet below that of the southern calingulah, but that the former is fitted with Tambagi shutters, by which its crest may be brought up to the same level as that of the southern calingulah; and that the shutters were in at the time of the breach, the water standing at 1 foot below the crest of the southern calingulah.

* Plan and copy of Contractor's statement appended (i) (j).

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20th January 1874.*

3. The measures taken to provide for the safety of the tank were these. A Maistry of this department was directed to watch it, and his report to the Range Officer shows that there were no signs of weakness immediately prior to the breaching of the tank. In addition to the Maistry there were Niraganties employed by the Revenue Department, whose sole duty it was to watch the tank bank, and you will observe that the Niraganti whose statement I have appended, says that he reported to the Reddi that there was a slight leakage in rear of the central sluice, but that the Reddi took no notice of the report. The Reddi denies this, and it is impossible to decide which of the two is economising the truth. I may remark that the water had been standing for a fortnight previously at the level at which it stood when the breach occurred, and that no rain had fallen in the interval. The tank has been inspected, since the rains commenced, by the Range Officer on the 12th, 13th, 14th, and 15th August, and on the 5th September, and he reports that the only thing he observed was a few ruts in the rear slope, caused by the heavy rains. The tank has also been inspected by the Maistry on the 5th September, and on the 1st, 7th, 24th, 25th, 27th, 28th, 29th, and 31st October, and he reports that he found nothing to attract his attention at the site of the present breach.

4. I have obtained a statement* from the chief ryots of Gootloor, showing that the central sluice is not needed, and I have therefore omitted the reconstruction of this sluice in my estimate, and have provided for closing the breach without it.

I may remark that the work at the central sluice, together with that at the bank in its neighbourhood, was executed between five and six years ago, when the late Mr. Brosnahan had charge of the range.

The following papers accompany this report:—

- (a).—Copy of report to the Chief Engineer.
- (b).—Statement of Reddi of Gootloor.
- (c).—Statement of Curnum of Gootloor.
- (d).—Statement of chief Niraganti.
- (e).—Detail estimate for closing breach and strengthening tank bank.
- (f).—Abstract Estimate.
- (g).—Data for rates entered in estimate.
- (h).—Survey of tank bank.
- (i).—Plan of central sluice.
- (j).—Statement of Contractor who built central sluice.
- (k).—Statement of chief ryots of Gootloor, showing that the central sluice is not needed.

SUBMITTED for the information of Government with reference to the orders as per margin. The information given by the District Engineer, Bellary, regarding the breaching of the Gootloor Tank leads to the conclusion that the sluice constructed some five or six years ago under the superintendence of the late Mr. Brosnahan was the cause of the accident, and this view is confirmed by the plan of the sluice signed by that gentleman, and dated 12th November 1867—a

No. 197, dated 27th November 1873.
" 3,013, " 15th December "
" 92, " 17th " "

*Proceedings of the Madras Government, Public Works Department,
20th January 1874.*

plan, it may be remarked, which has been often or commonly used for regulating the discharge from the shallow tanks in the coast districts, but which is entirely unsuited for deep tanks.

2. It will be observed that the District Engineer reports the reconstruction of a low level sluice to be unnecessary, but his opinion should have been supported by information as to the levels of the several sluices, and the capacity of the tank (approximately at least) above and below the level of the sill of the lowest sluice still existing. As, however, it is improbable that in any case it would be advisable to construct a sluice at the breach site, the determination of this question need not delay the closing of the breach.

3. As far as I am able to judge no blame attaches to those in charge of the tank at the time the accident occurred. The water then was at the level at which it had stood for a fortnight previously, and it is improbable that had this level been lowered the two feet which might have been done by removing the planks from the northern calingulah, the accident would have been prevented.

4. The restoration estimate provided for three sluices, and it appears that their cost has been Rupees 530, 751, and 606, respectively, and probably the only variation in design is in the length of the tunnels, so that it will be necessary to ascertain whether the other sluices are safe with reference to the description of soil on which they are built, to the way in which the filling in of the bund in connection with them has been carried out, and to the depth of water on their sills. The best plan will be, if this depth is considerable, to build a face or head wall with water-wings and suitable foundations, somewhat of the kind shown in the design for a tank sluice attached to this office Circular No. 35, dated 6th March 1871, care also being taken to make a water-tight junction with the bund on either side.

5. The District Engineer submits an estimate, amounting to Rupees 25,000, for closing the breach, and the only item which appears to call for explanation is the revetment, which it is observed that there are 15,834 cubic yards, the earthwork being cubic yards 65,180, and the proportion does not seem to be correct. Also, of the revetment cubic yards 11,838 are new stone, and it should be stated what has become of the old material which it is presumed was washed through the breach and deposited at no great distance.

6. In carrying out the work of closing the breach the instructions given in Circular No. 48, of the 21st December 1872, should be carefully attended to.

(Signed) J. MULLINS, Lieut.-Colonel, R.E.,
Chief Engineer for Irrigation.

No. 263. ORDER THEREON, 20th January 1874, No. 132.

IRRIGATION, No. 27.

THE Government learn with much dissatisfaction that the breaching of the Gootloor Tank, the restoration of which

Proceedings of the Madras Government, Public Works Department,
20th January 1874.

was completed only on the 21st August last, was caused by the faulty construction of the low level sluice which was built on a design not adapted to a tank of

G. O., 2nd September 1873, No. 2,184. this description. Nothing could be less creditable from first to last than the way in which the restoration was carried out, and it would now appear that precautions essential to the safety of the tank, which were neglected.

2. The District Engineer reports that reconstruction of the destroyed sluice to be unnecessary, and as it would not in any case be requisite or desirable to build a work of this kind in a breach, the closing of the latter can be proceeded with in anticipation of the final decision as to whether a low level sluice is needed, which can be determined only on the data referred to by the Chief Engineer for Irrigation.

3. Captain Edgecome's special attention should be given to the condition of the other two sluices, which have apparently been constructed on a similar design to that which led to the breaching of the tank.

4. The estimate, amounting to Rupees 25,000, for closing the breach, etc., is sanctioned, subject to such revision as may be necessary with reference to the remarks of Lieutenant-Colonel Mullins on the item for revetment.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the District Engineer, Bellary.
,, Chief Engineer for Irrigation.
,, Revenue Department.

Exd. S. T. Austin.
Spare Copies

N-197-27-10-73
---3013-15-Dec-73---
92-17-0---

Snell 17

N-934 B
Submitted for the information of Government with reference to the orders as per margin of the information given by the District Engineer Bellary regarding the breaching of the Gootloor Tank leads to the conclusion that the sluice constructed some 5 or 6 years ago under the superintendence of the late Mr. Broseman was the cause of the accident, and this view is confirmed by the plan of the sluice signed by that gentleman and dated 12 November 1867, a plan it may be remarked which has been often or commonly used for regulating the discharge from the shallow tanks in the Coast Districts, but which is entirely unsuited for deep tanks.

2. It will be observed that the District Engineer reports the reconstruction

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which it had stood for a
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is improbable that had this

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Comparative 4. The restoration estimate
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14th November 1868
No. 8th January 1869 appears that their cost has
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the bund in connection with
them has been carried out
and to the depth of water
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 ment cubic yards 11,888 are
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 it is presumed, was washed

$$7942 + \frac{7892}{2} =$$

$$7942 + 3946 = 11888$$

Public Works Department
 Singhpore
 No. 1259

From
 The Inspecting Engineer
 for Buildings,

To
 The Secretary
 to Govt. of India

No. 133. 20th Sep/74

And to

Dated 1st October 1873.
 Recd.

Howard for
 orders on estimate
 for repairs & alterations
 to the District Court at Madras
 in the District of
 Cuddalore

Oct 26/74

to Govt. of India
 10/10/74

through the breach and de-
picted at no great distance

6. In carrying out the work
of closing the breach the
instructions given in Circular
No 48 of the 21st December 1872
should be carefully attended
to.

St George } Undermills St Olth.
December 1873 }
Chief Engineer for Brigades

To The Secretary Govt Works

Public Works Department

No 132

Proceedings of the Madras Government
Under date the 18th January 1874
Read the following

From the Chief Engineer, H. C. No 934 of 27 Dec 1873
for Irrigation.

The Government

learn with much dissatisfaction that the breaching
of the Goolloor Tank the
restoration of which was
completed only on the 21st
August last, was caused
by the faulty construction
of the low level sluice
which was built on a
design not adapted to a
tank of this description.
Nothing

M
157

A Short Sketch of former
condition & cost of repairs
which has been useful.
When necessary
157

1874. 1874. 1874.
Com. of Govt. of Madras
1874. 1874. 1874.

the charge

for irrigation

to the Secretary to

the Govt. &

No 934 B.

Dated 29 Dec 1873.

Received 13 Dec 74

1874

Subscribed by the

Superintendent of the

works near the 1873

report on the breaking

of the Goolloor Tank

with reference to

certain other

No 162

1874

No 132-20 Dec 1874

Nothing could be left creditable from first to last than the way in which the restoration was carried out; and it would now appear that precautions essential to the safety of the tank when completed were neglected.

2 The District Engineer reports the reconstruction of the destroyed Sluice to be unnecessary, and as it would not in any case be requisite or desirable to build a work of this kind in a breach, the closing of the latter can be proceeded with in anticipation of the final decision as to whether a low level Sluice is

16 2 Sept 1878
No 2184.

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3 Captain Edgemoor's special attention should be given to the condition of the other two Sluices which have ^{apparently} been constructed on a similar design to that which led to the breaching of the Tank.

4 The estimate amounting to Rs 25,000 for closing the breach has been sanctioned, subject to such revision as may be necessary with reference to the remarks of Lieut Colonel Mullins on the

No item for reversion.

by 5/1/74

new

General

Mr. J. J. J. J. J.

1900

To
The D^r Eng^r Bellamy
" Chief Eng^r for the City of London
" Rev^d Dept^r
" Controller

See S. 2 only to the D^r Eng^r Bellamy 20/1/74.
P-C - 11/2/74.

No. 1795.
Govt. of Madras.
PUBLIC WORKS.

To The District Engineer
Bellary

Date:

Recd:

Encl.

G. O. 20th Aug 132

263-1263

Proctor Tank, Bellary

St. - Papering orders on
papers relating to the
breaching of the tank.