

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No.	313	Press
638-639		Mis.
Dated	30-1-	1873

Not to be folded or roughly handled

No. 638. Read the following letter from the District Engineer, Madura, to the Secretary to Government, Public Works Department, dated Madura, 20th December 1872, No. 4,308 :—

I HAVE the honour to forward herewith, in original, a Report, No. 43, dated 11th instant, from Executive Engineer Mr. Randall, together with its enclosure from Sub-Engineer Mr. Wiffen, regarding the restoration of the Ambasamoodrum Bridge.

2. I have already quite recently, in my report on giving over charge of the Tinnevely District to Mr. Randall, brought to notice the excellent service performed by Conductor Wiffen in his personal superintendence of the work under notice, and as the reports now forwarded give detailed accounts of the work carried out, little is left for me to add here.

3. It will be seen that my predictions of the difficulties of getting in the foundations of what has been termed the 'Partington pier' were fully confirmed. "We had," so reports Mr. Wiffen, "300 balers working day and night for thirty-eight days!" In no other country, I presume, could such a body of men be obtained to do such work at such rates; and but for the work being a popular one, and having the hearty countenance of the Revenue Authorities, that work could not have even been done here at the rates actually paid. For it will be observed that the total cost of the baling for the whole of the restoration work, in the four piers re-constructed, was under Rupees 2,000.

4. Even with the difficulties surmounted, the total expenditure incurred has amounted to but little over Rupees 100 per running foot of bridge actually restored.

5. Although no longer connected with the Tinnevely District, I have been requested by Mr. Randall to submit this report, as I had inspected the work in all stages of its progress, and as it had been completed while I was still in charge of the 8th Division.

6. The 'historical mile-stones' relating to the work may be stated as follows :—

I.—That the bridge was restored by voluntary subscription in 1871-72.

II.—That Mr. A. J. Stuart, the Sub-Collector, was its promoter, and that by his personal influence, zeal, and engineering skill, he successfully "floated" the scheme.

III.—That Mr. Wiffen (as Engineer in charge of the work), Tahsildar Gunnapathy Pillay, and Revenue Inspector Kistnasawmy Iyengar, have claims to be remembered for their active co-operation in the work.

7. The subscribers have now the proud satisfaction to know that the bridge has been substantially restored, with good material and with labour honestly and thoroughly given. And they may rest assured that the bridge will stand firm, until again subjected to a flood as high as that which last caused its destruction; but whether it will stand, uninjured, such a flood is more than I am prepared to say. The insufficiency of the water-way has been prominently brought by me to the notice of Government at the commencement of the works of re-construction,

Proceedings of the Madras Government, Public Works Department,
30th January 1873.

and I have strongly recommended that that water-way should be increased. The Government, however, have preferred to have the bridge re-constructed on its old lines, and their orders have been faithfully carried out.

8. In conclusion I would call attention to Mr. Rundall's remarks regarding the restoration of the Sattoor bridge, although I myself do not endorse those opinions. The Sattoor river is quite of a different character to that of the Tambrapoorney, where crossed at Ambasamoodrum and Palamecottah. The banks are low, the crossing is, with rare exceptions, always feasible for bandies, and a ferry is never required. Moreover, it is to be borne in mind that with a railway constructing by its side, the old trunk road to Tinnevely is no longer an Imperial highway. The guaranteed interest on the Railway expenditure represents the cost of maintaining the trunk roads which the railways supersede. The restoration of the Sattoor Bridge will no doubt be a boon to the residents of that obscure and dismal neighbourhood, and if they are prepared to contribute a moiety, as they are well able to do, towards the restoration of the bridge, the cost of which is estimated at Rupees 30,000, I think that the Local Funds might supplement the rest of the estimate.

No. 639.

ORDER THEREON, 30th January 1873, No. 313.

CIVIL WORKS, No. 34.

His Excellency the Governor in Council congratulates the public spirited subscribers towards the restoration of the Ambasamoodrum Bridge on the successful completion of that work, and desires to express his approbation of the unanimity, zeal, and skill with which it has been carried out by all the Government officials whether European or Native, of the Revenue or of the Public Works Department, that have been associated in the undertaking.

(True Extract.)

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

To the District Engineers, Madras and Tinnevely.
" Revenue Department.

Ed. S. T. Austin.

District Engineer's Office.

Madras 20th December 1872

No. 4308

From.

Sir: Colonel R. & Roberts R.E.

District Engineer, Madras

To.

Colonel G. W. Walker R.E.

Secretary to Government

Sir,

I have the honor to forward

Enclosures 2 herewith in original a report &c. &c. dated 11th Instant, from Executive Engineer Mr. Rundall, together with its enclosure from Sub Engineer Mr. Wiffen regarding the restoration of the Ambasamoodrum Bridge.

2. I have already quite recently in my report on giving over charge of the Tinnevely District to Mr. Rundall brought to notice the excellent service performed by Conductor Wiffen in his personal superintendence of the work under notice, and as the Reports now forwarded give detailed accounts of the work carried out

little is left for me to add here.

3. It will be seen that my predictions of the difficulties of getting in the foundations of what has been termed the 'Porkington pier' were fully confirmed. 'We had', so reports Mr Wiffen, '300 balers working day and night for 38 days'! In no other country, I presume, could such a body of men be obtained to do such work at such rates; and but for the work being a popular one, and having the hearty countenance of the Revenue Authorities, that work could not have even been done here at the rates actually paid. For it will be observed that the total cost of the baling for the whole of the restoration work, in the four piers, as constructed, was under Rupees 2,000.

4. Even with the difficulties surmounted, the total expenditure incurred has amounted to but little over Rs 100.

per running foot of bridge actually raised. 5. Although no longer connected with the Tinnevely District, I have been requested by Mr. Randall to submit this report, as I had inspected the work in all stages of its progress, and as it had been completed while I was still in charge of the 8th Division.

6. The 'historical mile-stones' relating to the work may be stated as follows:

I. That the bridge was restored by voluntary subscriptions in 1871-72.

II. That Mr. A. J. Stuart the Sub Collector was its promoter and that by his personal influence, zeal, and engineering skill he successfully 'floated' the scheme.

III. That Mr. Wiffen (as Engineer in charge of the work), Tahildar Gannapathy Pillay, & Revenue Inspector Krishnaswamy Iyengar, have claims to be remembered for their

active co-operation in the work.

7. The subscribers have now the proud satisfaction to know that the bridge has been substantially restored, with good material and with labor honestly and thoroughly given. And they may rest assured that the bridge will stand firm until again subjected to a flood as high as that which last caused its destruction, but whether it will stand, uninjured, such a flood is more than I am prepared to say. The inefficiency of the waterway has been prominently brought by me to the notice of Government, at the commencement of the works of re-construction, and I have strongly recommended that that waterway should be increased. The Government, however, have preferred to have the bridge re-constructed on its old lines, and their orders have been

faithfully carried out.

8. In conclusion, I would call attention to Mr. Rindall's remarks regarding the restoration of the Saitoon Bridge, although I myself do not endorse those opinions. The Saitoon River is quite of a different character to that of ^{the} Sambapoorney where crossed at ^{the} Basamoodrum and Palameottah. The banks are low, the crossing is with rare exceptions always feasible for handies, and a ferry is never required. Moreover, it is to be borne in mind that with a Railway constructing by its side, the old trunk Road to Timmerally is no longer an Imperial High-way. The guaranteed interest on the Railway expenditure represents the cost of maintaining the trunk Roads which the Railway

supersede. The restoration of the Sultoon
Bridge will no doubt be a boon to the
residents of that obscure and dismal
neighbourhood, and if they are prepared
to contribute a moiety, as they are well
able to do, towards the restoration of
the bridge, the cost of which is estimated
at Rs. 30,000, I think that the Local
Fund might supplement the rest of
the estimate.

I have the honor to be,

Sir,

Your Most Obedt Servt

Dica. J. Roberts Lieut. Col. R. R.

District Engineer

N.B.

Report on the restoration of the Ambasamoochum Bridge.

This Bridge was built in the year 1842
under the orders of Colonel Gough. 3 of its
Arches were swept away by the extraordinary floods
of November 1869 and its reconstruction was
commenced in the month of February 1871
under the immediate supervision of
A. J. Stuart Esquire the Asst. Sub. Collector.
The foundations for 3 of the piers was got down in
that year, they were all founded on rock,
they varied in depth from 8 to 9 feet
the whole of lower work was built with
wedged Stone in Cement.

The work was given over to me on
the 15th August 1871 when I found that
Rupees 6503.00 had been expended, for
this 798 Cds of wedged Stone had been
built. The old debris of Bridge had been

1872 De. 11
The District Engineer
The Secy to the
Government
The Secy to the
Government

March 20. Received 1872
Rupees 25. 00

Enclosures 2

Reports regarding the
restoration of the
Ambasamoochum
Bridge -

Rs. 315. 50. 00 Aug 1873.

Feb 1873

Feb 1873

removed except to the 7" pier; exposed out the foundations for the 1270. Putting down the pier on the 31st August 1871, but on account of the lateness of ^{the} season very little could be done except clearing out the debris of old pier and the old foundation; on the 8th February 1872 we reopened out the foundation again, on the 19th February commenced to sink the wells, great trouble was found in getting rid of the water, we had 300 balis working day and night for 30 days and then only could get the water down 6-6 below bed of river. Our greatest difficulty was in keeping the sand from coming into the foundations after we got to a depth of 4 feet, to prevent this the space excavated for the foundations was sheathed all round with 2 inch planks, piles ^{were} driven 16 feet down in the sand, and we had to piddle behind the planking to a distance of 3 feet with turf, the bed of the Tambera poornay is never dry at any time of the year, the work lying so close to the hills, and there being nothing but jungle cultivation all round, the amount of water that we had to contend against was very great.

As an example, when we went the first well down to a depth of 12 feet the springs rose the water in the well 2-6 above that in the foundations, so as we kept sinking our wells the more water we had to contend against, and it was not until such time as they were filled in with ^{concrete} Hydraulic that we could at all lessen the balis, this accounts for the great expense in the item "hauling", the wells were all down by the 9th March 1872 during this time we were stopped 7 days on account of floods in river so that we were only 23 days in getting down all the wells. I have stated in my former report. A. of 16th May 1872 the depth of the wells with an explanation of the system adopted, and the method adopted in making the concrete foundations were completed by the 20th March the whole of the piers which are 12 feet in height and 7 feet in width, and which are raised to a height of 3 feet with cut stone, each course is 9" in thickness stones 7 feet in length and 1 foot in breadth, and built up to the piers at distances of 3 feet apart these stones bind the whole work, and make a very strong job of the whole. The remainder is of brick in Chumam were

were Completed on the 7th April 1872.

The first Centring was raised, and the arch work commenced on the 20th May 1872, the two first arches were built in concentric rings, but not bonded, the effect was that when we struck the Centring to No 6 arch, after the lapse of one month the rings parted slightly. I allowed the Centring to remain up for nearly another month, and then when removed the cracks did not open out any more, the arch is now thoroughly sound. The other arches were bonded by pulling in a course of headers every 3 feet, the whole of the arch work was built with mortar composed of 1 Lime to 1 1/4 of Clean washed river sand first well ground in the mill, and then ground by hand. No rook was used.

The No 6 arch was commenced on the 8 May Completed 3rd June Centring struck on 1st July and cleared 2nd August.

No 7 commenced 10th May Completed 15th June Centring struck 1/2 in 2nd August cleared 23rd August.

No 8 commenced 24 June Completed 27th August cleared 27th September.

No 9 commenced 9th August Completed 31st August Centring struck 30th ^{Jan} cleared 4th October.

No 10 commenced 9th August Completed 31st August Centring struck 30th September cleared 4th October.

Settlement of the Arches on the 3rd October was No 6 4.9 No 7 0.10 No 8 0.12 No 9 0.11 No 10 0.17 on the 22nd November after falling in the Road way and after the very heavy rain which brought down a fresh in the River of 17.6 and the bridge had been opened for traffic for 22 days the settlement was No 6 11.2 No 7 0.13 No 8 0.15 No 9 0.14 No 10 0.22 this shows that the settlement was very little considering the extreme flatness of the Arches which have only a rise of 11.6 the span being 45.6.

The whole of the work was Completed with the exception of plastering the face & parapet walls on the 22nd October and opened out for traffic on the 31st October 1872.

I annex a Memo showing the actual cost of the work in detail from its commencement to the opening of the Bridge; considering the difficulty we had to overcome in the way of having no skilled labor and the very superior material used I trust that the rates will not be considered excessive.

In Conclusion I would beg to acknowledge the great assistance I received from the Sirdar Ganaspathy Pillay, who took a great interest in the work, and supplied the labor and material as required, the supervision of the work was in the hands of Richaewang Syengar.

Of course Inspector to whom I cannot give too great
 thanks for his untiring energy and display of zeal
 in carrying out the order he received, he is a man
 who commands great respect from all classes and
 has an unbounded command over the laborers
 for the Ambaiamoo drum Taluq.
 I was 66 days actually on the work from the
 time I took over charge until its completion
 I had no other duties as Sub Division Officer
 to look to; during my absence the work was continued
 by Kistnawamy Sengar as he was working up the
 orders I always gave him.

C. S. Wilkes
 Sub Engineer

Camp Foundation
 7 December 1872

Comparative Statement showing the expenditure from the commencement of the foundation
 to its being opened on the 31st Oct 1872.

Quantities	Description of work	Rate	Amount	Total
289 ²⁵ / ₁₀₀	Cyds of Concrete	2	723 4	6 2
130 ⁵ / ₁₀₀	" of Masonry to walls in dry draught Cement	5	690	2 9
	Excavating foundations &c.		1210	10 10
	Building walls		1986	1
1584 ²⁵ / ₁₀₀	Cyds of hedged stone in dry draught Cement foundations	4	6330	1 2
40	" of Caltone in Chuanam	14	672	
265 ³ / ₁₀₀	" of Brick in Chuanam	4	1194	
772	" of " " for Arch work	7	5404	
171	" of " " for Dampst and face wall	4	769	8
44	Square feet of Plastering (per 100)	2	99	"
90 ² / ₁₀₀	Measure of Soil	10	56	7 9

Cyts. of Gravel and Grates for Roadway _____
Laying Embankment Vrs _____
Blasting and removing the old debris _____
Erecting Temporary Scaffs & Lime Kilns Vrs _____
Drilling Shot holes for blasting material _____

Ann

The officer in charge
of the Subson
S. The District Engineer
Spencer

Sailed 7^o
 Departed 7^o } Dec. 6th 1872
 Received 7^o }
 V¹² B

Report on the
restoration of Ambasciano
Bridge.

Y^{rs} / Sub. j^{ts} /
L^{ve} all un^d /
yth G^overn^{or} /

277
Note 3. Timmucally Dist^{to} Engrs Office
Palamecottah 11th December 72

L. corn

J. W. Randall Esq
District Engineer
Sincerely

For Chas. R. Roberts

to Engineer
Madras.

the honor to
to a Report
tells Wiffen
operation of the
Bridge.
saw the work
its progress,
to add to
I find he
previous Report
1872 but
any record
see this my
remember

3. The work done is
all of excellent quality.

and has been executed at rates which could only be done in a popular work, when all in the neighbourhood were interested in its being done as cheaply as possible.

4. I have in my letters nos 305 & 373 of the 13th July and 3rd August respectively reported fully on arch no 6 regarding which we were at first doubtful, as it was built without the rings being bonded, and there was, when the centre was raised ^{between the rings.} a slight separation. If this separation ever existed throughout the width of the arch, I have no doubt the masonry reunited as soon as the slackening of the Centre was stopped, and the arch is now thoroughly sound.

5. The work done is in every way creditable to Mr. Wiffen and to Revenue Inspector Kristnasamy Iyengar who remained on the works as Superintendent and carried out the orders given to him, either by Mr. Wiffen or myself, with great intelligence.

6. The successful Completion of this

this work and the Surlochanum Bridge with ^(more than one lac of Rupees) money subscribed by the ryots & others in the vicinity of the works, evinces a wonderful spirit of liberality on the part of the people of this province. I think it would be not only a graceful, but a wise just act if the Government granted the full sum required for the restoration of the 3rd Large Bridge in this District destroyed by the cyclone floods of Nov. 1869.

7. I allude to the Sattor Bridge, which situated as it is on the high Road into the Province, is more peculiarly an Imperial work than the Ambasamudram Bridge, I trust you will in reporting the completion of these works be good enough to press this view of the matter on the Government notice.

I have the honor to be
Sir
Your most obed^t serv^t.
Wm. Randall
District Engineer, Sincerely

N^o 313 P. h. S.

Proceedings of the Madras Government.

ring.

3 20 Dec 1892

cellery
Council
the public
Subscribers
restoration
sawoodrum
successful
that work;

and desires to express
his
approbation of the unceasing
ministry, zeal, and
skill.

From

The District Engineer

To
The District Engineer

Madras

Dated 11 December 1892

Received
No 43

Subd-1

of one and a half feet from
Sub Engineer Mr W. J. J. J.
regarding the restoration
of the Sub Engineer's house
No 1.

Encl: 1 In a letter from
the District Engineer Madras
to the Secretary to Govt. P.W.
Dated 20 December 1872
No 4305.

PTW/6411/2

Mr Rundell's
letter

N^o 313 P.W.D.

Proceedings of the Madras Government.

Read the following:-

From,

The D. Engineer
Madras

(H. E. & No 4305 of 20 Dec 72)

W. E.

Ed. L.

His Excellency
the Governor in Council
congratulates the public
— spirited Subscribers
towards the restoration
of the Ambasamoodram
Bridge on the successful
completion of that work;
and desires to express
his approval of the unceasing
industry, zeal, and
skill,

still, with which it has
been carried out by all
the Government Officials
whether European
or Native, of the Gov-
ernment or of the Public
Works Department, that
have been associated
in the undertaking.
GNW

2
The De Ingenio Madras
Reve ^{to Finnerly} ~~de~~ _{de}
Rec'd 1/2/73

still, with which it has
 been carried out by all
 the Government Officials
 whether European
 or Native, of the Revenue
 or of the Public
 Works Department, that
 have been associated
 in the undertaking.
GMW

Op 6411

Govt. of 1873 Madras.

PUBLIC WORKS.

To The District Engineer
 Madras.

Dated

Recd.

Encl. 2

G. O. 30th Aug 1873. No. 313.

No. 688 & 689

Ambacaramam Road

Chinnivelly District. Co.

trabulating the progress
 here towards the comple-
 tion of the bridge in
 the successful comple-
 tion of that work.

and expressing ap-
 proval of the service
 rendered by the staff
 several officers in connec-

To The District Engineer
 Revenue & Chinnivelly
 Dec 21/73

21st Aug 73