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(2) Date of repair 11-6-49 17/2-43

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

G.O. No. 2982	Press
254-58	~~Mis.~~
Dated 13 . 12	1862.

Not to be folded or roughly handled

[Handwritten signature]
17/11/49

*Proceedings of the Madras Government, Public Works Department,
13th December 1862.*

No. 254. Read the following letter from Lieutenant-Colonel S. O. E. LUDLOW, R. E., Deputy Chief Engineer, Northern Circle, to Colonel W. I. BIRDWOOD, R. E., Secretary to Government, Public Works Department, dated Chepauk, 6th November 1862, No. 456/G 328 :—

SIR,

- 1 Letter from Acting District Engineer Godavery, No 329, dated 16th July 1862.
- 1 Do. No. 431, dated 7th August 1862.
- 1 Do. „ 451, „ 9th do.
- 1 Do. „ 555, „ 3rd September „
- 1 Do. „ 718, „ 9th October „
- 1 Do. „ 776, „ 17th do. „
- 1 Comparative statement.
- 1 Estimate.
- 1 Letter from the Deputy Chief Engineer, No. 390, dated 6th August 1862. (To be returned.)
- 1 Do. No. 464, dated 9th October 1862. (To be returned.)
- 1 Longitudinal section.
- 3 Sketches.
- 2 Plans.
- 1 Letter from Acting District Engineer, Godavery, No. 496, dated 25th August 1862.

1. I have the honor to forward for submission to Government, a revised estimate amounting to 84,940 Rupees, for the construction of an Aqueduct and Calingulah across the Tommelair River, near Ellore, in the Godavery District.

2. The object of these works is to carry the High Level Canal between the Godavery and Kistna, across the Tommelair River, and on the recommendation of the Chief Engineer they were sanctioned by Government at an estimated cost of 57,510 Rupees vide Government Order dated 10th January 1861, No. 56. This estimate was made by Mr. Hawkins the Range Officer, and Major Stoddard states that he now finds that the rates allowed were much below what they should have been even in 1860, and yet more in defect of those now prevailing.

3. A revised estimate was therefore sent in by Major Stoddard with his No. 329. This only amounted to Rupees 69,370, but in forwarding it he explained that the excess would have been much larger but for certain modifications, which he then proposed in the work, by which the amount of excavation would be considerably diminished.

4. These modifications, as will appear from the accompanying correspondence, I only partially approved of, and the District Engineer has furnished a second revised estimate for the work, which now amounts to the above mentioned sum of 84,910 Rupees.

5. The original design was for an aqueduct for the Canal, a weir across the river 400 feet above the aqueduct, the deepening of the river bed between the weir and the aqueduct, and the excavation of a tail race below the aqueduct till the bed came out on the surface of the land making it nearly two miles long. The modifications proposed by the District Engineer are fully explained in paragraph 3 of his No. 329. They consisted of the approximation of the weir to the aqueduct and dispensing with the far larger portion of the tail race.

6. To the first I did not object, to the second I did, and still do for the reasons set forth in the correspondence which has passed. My opinion is that unless the excavation of the bed is continued as originally proposed so as to give the stream after passing below the Canal a free discharge on a suitable level the bed would there before long silt up and rise, and the Canal be liable during high freshes to be submerged.

7. If my view of this question therefore be correct, it becomes necessary to retain the item for the excavation of the tail race, and the saving hoped by the District Engineer to have been effected by its abolition must be given up.

8. A reference to the comparative statement furnished by the District Engineer will show that the necessity for the additional outlay now proposed arises exclusively from the great rise which has taken place in rates, indeed owing to the approximation of the weir to the aqueduct, there has been a considerable diminution in the quantity of earth work.

9. The rates now being paid for earth work in the Godavery District are stated to be just double of those allowed in the original estimate, and even so there is difficulty in getting work done.

carried forward — 419902

Proceedings of the Madras Government, Public Works Department,
13th December 1862.

10. The average rate allowed in the original estimate for earth work was about 8½ Pie per yard, that allowed in the estimate now submitted is 1 A. 5½ Pie, being rather better than double the original rate; but I do not consider this to be more than the circumstances of the case require. The principal part of the excess is on this item of earth work.

11. The remainder of the excess is due to increased rates for masonry works. I have compared the rates allowed with the price lists and rates prevailing in the District, and do not find that they are in excess of what they should be.

12. Under these circumstances I would beg to recommend the revised estimate amounting to Rupees 84,940 for sanction.

13. This being the only work yet required to complete this Canal, it is most desirable that it should be carried out, if possible, before the next year's freshes; especially the masonry works. I judge from the Report of Progress made in Major Stoddard's letter* that 10 or 12,000 Rupees in addition to the small balance in hand would suffice for this, and I would very strongly urge that, an additional grant to this amount for expenditure during the current year be made out of the "Reserve Fund" the balance being entered for expenditure in the Budget of 1863-64.

* No. 496, dated 2nd August 1862.

No. 255.

ORDER THEREON, 13th December 1862, No. 2,984.

The work referred to in the foregoing letter having already made considerable progress towards completion, the Government have now no alternative but to sanction the revised estimate submitted amounting to Rupees 84,940, and accordingly authorize a grant of Rupees 10,000 from the Reserve Fund for the completion of the masonry works before the freshes of 1863. They cannot however but remark that it would have been a far simpler and less expensive plan to have constructed a masonry dam of sufficient length in the Canal bank with under sluices for letting off the silt during the freshes, and to have allowed the Tommelair to discharge itself over it on an apron in three falls from fifteen to twenty feet each in length. There will be quite as much deposit to clear out of the syphon as there ever would have been out of the Canal bed, and probably more; the dam also then on the right branch of the river would not have been necessary.

(Signed.) W. I. BIRDWOOD, Colonel, R. E.,
Secretary to Government.

Revised Estimate of 1862/63.

Godavery District

Talug Ellora

Work. Constructing an Aqueduct and a Calingulak across it across the River Tummalain near Ellora

Quantity

Description of work.

Rate Amount Total.

— Aqueduct —				
3,300-18½	Stone in Chumam — per cypd —	4	• •	13202/123
1055½	Brick in Chumam — do —	3	8 •	3694/134
132½	Concrete — do —	2	8 •	8308/10
784	Arch work brick in Chumam — do —	5	• •	3920 •
214-15½	Cut stone work — do —	10	• •	2145/134
146-18	Gravelling — do —	•	10 •	91/18
1378-24	Rough stone packed — do —	2	• •	2957/125
106-56	Plastering inside of arches with 2 coats per square —	3	• •	319/101
	Contingencies —			1000 • •
	Baling —			500 • •

— Calingulak —

1784-24	Stone in Chumam — per cypd —	4	• •	7139/8105
184-12	Cut stone — do —	10	• •	1844/71
613-9	Rough stone packed — do —	2	• •	1226/108
	Contingencies at 10% per cent —			3816/39

Carried forward — 41,990.

Brought forward 41,990

Earth work

46,977 Excavation for Aqueduct and
Calingula in one pit per cyd 2 5,372 2
192,000 Tail race per cyd 1 618,000
187,071 do do 1 3 14,614 14 9
27,600 Upper reach do 1 3 2,156 1
954 Cross Bank to River do 9 44 11 6
Contingencies at 5 per cent 246 15 9
1,305 14 6 1,295 0
27,380

Total Estimate Rupees 84,940
69,370

Godanery District
Engineer's Office
Dowlaiswarum
16th July 1862
Major
District Engineer Godanery
Ed
St

End
M.D.

Northern Circle Office
Chapault B^o November/62

C 328
N^o 158

From
Lieutenant Colonel S. D. C. Suddow R.E.
Deputy Chief Engineer N.C.

To
Colonel W. J. Birdwood R.E.
Secretary to Government
Department of Public Works

Enclosed I have the honor to forward
Statement for submission to Government a
revised Estimate amounting to
84,940 Rupees, for the construction
of an aqueduct and sallingulack
across the Summalair river, near
Ellore, in the Godaverry District.

The object of these works
is to carry the high level canal
between the Godaverry and Kistnah
across the Summalair river, and
on the recommendation of the

Chief

52 Aug 2 60034 Nov 2, 43
27 29 Sept 62
Nov 2, 43 60034 Nov 2, 43

C 328
N^o 158
27 29 Sept 62
Nov 2, 43

The District Engineer
Godaverry
The Dy. Chief Engineer
Northern Circle

8-10-1862
27 29 Sept 62
Nov 2, 43

Revised Estimate
Godaverry District
To the Dy. Chief Engineer
Northern Circle

North - Constructing an
aqueduct and a sallingulack
across the Summalair river, near
Ellore, in the Godaverry District.

Chief Engineer they were sanctioned by Government at an estimated cost of 5,540 Rupees vide S.O. dated 10th January 1861 N^o 56. This estimate was made by Mr. Hawkins the range Officer, and Major Stoddard states that he now finds that the rates allowed were much below what they should have been even in 1860, and yet more in defect of those now prevailing.

3. A revised estimate was therefore sent in by Major Stoddard with his N^o 329. This only amounted to 69370 but in forwarding it he explained that the Excs would have been much larger but for certain modifications, which he then proposed in the work, by which the amount of excavation would be considerably diminished.

dated 16th
July/62

4. These modifications, as will appear from the accompanying correspondence, I only partially

approved

approved of and the District Engineer has ~~also~~ furnished a second revised estimate for the work which now amounts to the above mentioned sum of 84,940 Rupees.

5. The original design was for an aqueduct for the canal, a weir across the river 400 feet above the aqueduct, the deepening of the river bed between the weir and the aqueduct and the excavation of a tail race below the aqueduct till the bed came out on the surface of the land making it nearly 2 miles long. The modifications proposed by the District Engineer are fully explained in para 3 of his N^o 329. They consisted of the approximation of the weir to the aqueduct and dispensing with the far larger portion of the tail race.

6. To the first I did not object, to the second I did, and still do for the reasons set forth

in

in the correspondence which has passed. My opinion is that unless the excavation of the bed is continued as originally proposed so as to give the stream after passing below the Canal a free discharge on a suitable level, the bed would there, before long, silt up, and rise and the Canal be liable during high freshes to be submerged.

If my view of this question therefore be correct, it becomes necessary to retain the item for the excavation of the Tail race and the saving hoped by the District Engineer to have been effected by its abolition must be given up.

8. Reference to the comparative statement furnished by the District Engineer will shew that the necessity for the additional outlay now proposed arises exclusively from the great rise which has taken place in rates - indeed owing to the approximation

of

of the weir to the aqueduct, there has been a considerable diminution in the quantity of earth work.

9. The rates now being paid for earth work in the Godavery District are stated to be just double of those allowed in the original Estimate and even so there is difficulty in getting work done.

10. The average rate allowed in the original Estimate for earth work was about $8\frac{1}{4}$ per yard - that allowed in the Estimate now submitted is $15\frac{1}{4}$, being rather better than double the original rate, but I do not consider this to be more than the circumstances of the case require. The Principal part of the Excess is on this item of earth work.

11. The remainder of the Excess is due to increased rates for masonry works. I have compared the rates allowed with the price lists and rates prevailing in the district and do not find that they are

and in excess of what they should be. -

12. Under these circumstances I would beg to recommend the revised estimate amounting to Rupees 84940 for sanction. -

13. (This being the only work yet required to complete this Canal, it is most desirable that it should be carried out, if possible, before the next year's freshes; especially the masonry works. I judge from the report of Progress made in a Major Stoddard's letter that 10 or 12,000 ^{* Rs. 4968/2} Rupees in addition to the small ^{Aug 1/82} balance in hand would suffice for this, and I would very strongly urge that, an additional grant to this amount for expenditure during the current year be made out of the "Reserve Fund" the balance being entered for expenditure in Budget of 1863.64. -

I have the honor to be

Sir

Yours most obedient Servant
J. H. Stoddard
Deputy Chief Engineer
To Col. H. F. Purdwood, Secy
Secretary to Government
Department of Works
100/11/82

2987
Proceedings of the Madras Government
Public Works Department
Under date No. 13th Decr 1862
Read the following letter
15/

From the Deputy Chief Engineer Northern Circle.
Forwarding for the sanction of Govt.
a revised Estimate amounting to Rs. 84,910
for constructing an aqueduct and
calingulak across the Gummel air pass
near Bellur in the Podanary District.

Sd/- 1st Nov. 1862 A. 456

The work referred to
in the foregoing letter having
already made considerable
progress towards comple-
tion, the Govt. have now
no alternative but to sanc-
tion the revised Estimate
submitted amounting to
Rs. 84,910, and accordingly
authorize a grant of Rs.
10,000 from the Reserve
fund for the completion
of the masonry works
before

MD

10/11/1862
Dated 10/11/1862
for the
10/11/1862

Received
of the
Chief Engineer
Northern Circle
for the
10/11/1862

Received
of the
Chief Engineer
Northern Circle
for the
10/11/1862

Forwarding for the
sanction of Govt.
a revised Estimate amounting
to Rs. 84,910
for constructing an
aqueduct & calingulak
across the Gummel
air pass near Bellur in
the Podanary District.

10/11/1862

10/11/1862

10/11/1862

before the freshets of 1863.
They cannot however but
remark that it would
have been a far simpler
and less expensive plan
to have constructed a
masonry dam of suffi-
-cient length in the canal
bank with Under Sluices
for letting off the silt
during the freshets, and
to have allowed the Tor-
-melair to discharge
itself over it on an apron
in three falls from 15
to 20 feet ^{in height} each. There will
be quite as much depo-
-sit to clear out of the
siphon as there ever
would have been out of
the canal bed and pro-
-bably more: the Dam
also then on the right.

James

17
branch of the river would
not have been necessary.

LB

7 Copies.

To the Chief Engr. Sup^d 15.

7. — " — say do N. circle with 10 Encls.
3. — " — Accountant Genl.

(5).

Public Works 1862 Department
Pro: of Govt. for December.

No. 2984.

Proceedings of the Malabar
Government.

Dated 13th December 1862.

Charles E. Smith

(3)

Sanctioning the revised estimate of Rs 54,940 for the construction of an aqueduct and bridge across the Sonmair River near Ellore in the Godavari District and authorizing with some remarks the grant of Rs 10,000 from the Reserve Fund.

✓ 254-235