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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 1236	Press
702-703	~~Mis~~
Dated 29-4-	1864

Not to be folded or roughly handled

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*Proceedings of the Madras Government, Public Works Department,
29th April 1864.*

No. 702. — Read the following letter from Major-General S. O. E. LUDLOW, Consulting Engineer for Irrigation and Canal Company, to Colonel C. A. ORR, R. E., Secretary to Government, Department Public Works, dated 22nd April 1864, No. 187 :—

SIR,

1. I have received from the Chief Engineer, Madras Irrigation and Canal Company, a supplementary Estimate, amounting to Rupees 1,84,650, for the completion of the Soonkasala Anicut, being 147½ per cent. in excess of the original Estimate, the amount of which was 1,25,000 Rupees.

2. As the Chief Engineer in his explanatory letter does not to my mind satisfactorily account for this very large excess, and as there are certain points in the case which render it highly necessary that the matter should be more thoroughly investigated, I have returned the Estimate for further explanation, and if necessary, revision, with the letter, copy of which I forward for information.

3. But as a large portion of the excess has been already incurred, the funds having been taken from other sanctioned works, which may be delayed if they be not quickly returned, and as the completion of the Anicut is indispensably and immediately necessary, I beg to recommend that a further advance of one and a half lacs of Rupees be made on account of this work, pending the final submission with further explanation by the Chief Engineer of the supplementary Estimate.

No. 703. ORDER THEREON, 29th April 1864, No. 1,236.

Pending the receipt of the fuller explanation called for from the Chief Engineer, Madras Irrigation and Canal Company, the Governor in Council sanctions the further advance of Rupees 1,50,000 recommended by the Consulting Engineer for the completion of the Soonkasala Anicut.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

• To the Consulting Engineer for Irrigation and Canal Company.
„ Agent for do. do.
„ Secretary and Treasurer, Bank of Madras.

Exd. S. T. Augustin.

*may be in cut stone work and this arose from
the*

N^o 453

Madras Irrigation and Canal Co.
Chief Engineer's Office,
Rumool 15th March 1864.

To

R. S. Brunton Esq^r

Interim Agent & Manager
Madras

Dear Sir

N^o 55

In forwarding to you the accompanying Supplemental Estimate for completing the Sunkasala Annicut it is necessary I should afford some general explanation of the cause of the great excess above the original sanctioned amount, which this Estimate exhibits

1. The work is now nearly complete and therefore the Estimate may be considered almost a statement of the total cost of the work though an early fresh may yet interfere with the work of the North Annicut and cause a check.

3. The original Estimate was founded on reasonable data for labor skilled and other which as far as could be judged would be available.

This will follow.

4. The comparative statement of Estimate and cost in detail will shew that the greatest excess is in cut stone work and this arose from the

the necessity of employing untaught men both in the quarries and in squaring the heavy stone work of the Sluices. Carpenters work is another item in which the cost greatly exceeds the Estimate and for the same reason. The Body of the work was constructed under Contractors some of whom failed and by paid labor under Overseers of little experience, more experienced supervision was not procurable. The work was carried on with rapidity the first year by multitudes of untaught laborers and it seemed desirable though at the necessary sacrifice of greater expense to make the most use of the labor there available. This year labor has been exceedingly scarce and high prices have continued.

5 There were occasional freshes in the river during the progress of the work causing expense for dams and bridges in the bed of the river, above what the Estimate allowed and there was damage done by the work being in an unfinished state at the close of the season, which has been repaired and some weak parts have been strengthened by additional protection not included in the first Estimate because the necessity was not anticipated.

Sam^r
Signed/ H. C. Leiston
Chief Engineer

32
True Copy/
J. W. Newman
Manager

N^o 18.

Communicated to Consulting Eng^r
for Information Letter N^o 1453 of this date
from Chief Engineer to Agent

Signed/ W. C. Beaumont
Asst. Officer in Charge

True Copy/
J. S. Muller Major General.
Consulting Engineer for Irrigation &c.

Consulting Engineer's Office,
Irrigation & Canal Company,
22 April 1864.

N^o 49.
From, The Consulting Engineer
Irrigation & C. Company.
To, Colonel A. C. Patton,
Chief Engineer I. & C. Company.

1. I have the honor to return for further
explanation and inquiry, and if necessary for re-
vision, your supplementary estimate for the
San Jacinto Damment.

*with 2 abstracts.

2. The excess in the case of this work, is
a very large 104,600 or 147.72 percent and has as
yet been accounted for as far from satisfactory,
that I deem it right to urge upon you, the desira-
bleness not only for the satisfaction of the com-
mittee, but more especially in the interest of the
Company, and in order to obviate the recurrence of
similar extravagance hereafter, of instituting a
more full and searching inquiry into the causes
of the heavy extra outlay which has occurred.

3. The season will now admit of accurate
measurements being made of the work as it
stands, and this should be immediately done.

4. The different officers and subordinates
who were employed on the work, should be called
upon to explain as far as lies in their power, how
the

Copied in and letter to Eng. Co.
March 27: 1864.

Enclosed in a letter
of 1873 from the Com. Eng. Co.
of 1865 to the Com. Eng. Co.
of 1865 of 1865.

277 1873/65
of 1865 of 1865

the species in each particular kind of work occurred, and he required to furnish the fullest information they can, in explanation of few species so unusually large, and hitherto unsatisfactorily explained.

It might perhaps be advisable to appoint a special officer, one hitherto unconnected with this particular work, to enquire into, and thoroughly sift the whole matter, but you will be best able to judge, whether this measure is necessary.

There are some points which a perusal of the Comparative Statement I mean the one last received induces me to call your particular attention to, as especially demanding inquiry and explanation.

In the case of the amount itself of the whole estimated quantity of rubble stone in human, was 17909 cubic yards, and no rubble stone/dry/whatever was entered in that estimate, whereas in the revised estimate, I find the quantity of rubble in human to be 29325 cubic yards, and there is a further quantity of 15243 cubic yards of dry/rubble. - If there be not some error in this as I suspect there must be, the entire contents of the Amnic when completed, will be $2\frac{1}{2}$ times as great as the estimate provided for. - It is true that 1290 cubic yards of rubble in human have been substituted for as much cut stone, omitted, but on the other hand, there must have been a saving in quantity of a considerable amount by the substitution of sand for rubble in the body of the work. I am aware that

a large quantity of loose stone was used in parts of the foundation, that parts of the work were washed away, and had to be renewed, and that a breach occurred which had to be built up afresh. Still all these do not satisfy my mind, satisfactorily account for the very large excess in the quantity of rubble in human and rubble, and I therefore think that the point should be fully investigated.

In the under sluice 1173 yards of rubble and 600 yards of cut stone, and in the head sluice 2790 yards of rubble and 490 yards of cut stone, - more than were estimated, appears to have been used. Now have these works been altered in plan, so as to render such a large excess in quantity necessary?

In the Amnic and Head sluice, the rubble masonry has cost Rupees 4 and Annas 2, and Rupees 4 and Annas 14 respectively, per yard, whereas in the Under sluice, the same class of work, in a way superior, as far as I can judge, from its appearance, has cost Rupees 10 Annas 9 per cubic yard. - Therefore this great difference -

cut stone has cost Rupees 44 and Annas 14 per cubic yard in the Under sluice, Rupees 53 and Annas 5 in the Amnic, and Rupees 62 and Annas 12 in the Head sluice. - All unconceivably high, but why higher in the Head sluice and the Amnic especially in the latter where the work was very heavy than in the Under sluice.

The cost of shutters in both the sluices, has very largely exceeded the estimate. - A drawing

in detail of each description of shutters, should be furnished, and the quantity of wood and iron in each be stated: and a detailed statement of the cost in labor and materials be furnished.

12. It is true that the work was pushed on very rapidly through the first season, but as it was begun in November 1861, and is not quite completed now, the excess of expenditure since the first working season, and it is since that time my report dated October 1862, that the principal excess has occurred, cannot I think be reasonably attributed to the rapid execution of the work. As regarding into the causes of the excess, I would therefore advise, that each month's expenditure in detail, be carefully compared with the work executed, as shown in the progress report during the month, in order that some judgment may be formed, as to when and how and under whom, the excessive expenditure began.

13. The whole of the stone and sand used in the rubble masonry, was I believe procured on the spot, but the distances which the granite and lime stone used in cut stone work, had to be carted, should be mentioned. The distance of each quarry, the quantity brought from each, and the cost of quarrying and carting, should be given. The distance from which chunam was brought, the quantity used, and its cost, should also be specified. The rates of wages allowed to different classes of work people, should also be given.

14. As I cannot until further information is furnished.

furnished, submit your supplementary estimate to Government for sanction, and as it may take some time to collect the additional information required, I shall recommend Government to sanction a sum of one and a half lacs of Rupees towards the completion of the work, pending the final receipt of the supplementary estimate, with the additional information required.

I have the honor to be, Sir,
Yours faithfully,
J. A. C. Ludlow Major Genl.
Engineer for S. C. Co.

Forwarded to Government for information

Engineer's Office,
Barrackpore, Calcutta,
April 1864.

J. A. C. Ludlow Major General.
Engineer for S. C. Co.

The Secretary to Government,
Department of Pub. Works.

Edw. M. Brock

Consulting Engineer's Office,
Irrigation & Canal Company,
22nd April 1864.

187

70

From, Major Genl. S. C. Sudlow,
Chief Engineer S. C. Company,
Colonel, S. A. Bro. S. C.
Secy to Government S. C. P. W.

Sir, I have received from the Chief Engineer, Madras Irrigation & Canal Company, a supplementary estimate, amounting to Rs. 1,04,650 for the completion of the Coon-
-karakat Tunnel, being 14 7/8 per cent in excess of the original estimate, the amount of which was 1,25,000 Rupees.

2. As the Chief Engineer in his explanatory letter, does not do my mind satisfactorily account for this very large excess, and as there are certain points in the case which render it highly necessary, that the matter should be more thoroughly investigated, I have returned the estimate for further explanation, and if necessary, revision, with the letter, copy of which I forward for information.

3. As a large portion of the excess has been

Copy in the Madras to England
27th May 1864. 1832

Received from the Chief Engineer
of the Madras Irrigation & Canal Company
the supplementary estimate
of Rs. 1,04,650 for the completion
of the Coon-karakat Tunnel
dated 22nd April 1864.

27th May 1864
S. C. P. W.

been already incurred, the funds having been taken
from other sanctioned works, which may be
delayed if they be not quickly returned, and as
the completion of the Amnicut is indispensably
and immediately necessary, I do recommend
that a further advance of one and a half lacs
of Rupees be made on account of this work,
pending the final submission with further
explanation by the Chief Engineer of the supple-
mentary estimate.

I have the honor to be,

Sir,

Your most obedient servant,

J. S. Meston Major Genl;
Commanding I. & C. Company.

Ed. Meston

Copy in a letter to Eng. 07 27 1 May 64
A:32

Dated 22- April 1864.
 Recd 25 }
 No. 1236-29 me April 1864
 Inc 2. Rm 13766/11

Informs that he has rec^d
 from the Chief Eng^r M^r ETC Co.
 a supplementary estimate amounting
 to \$104,650 for the completion of the
 work at the mill, the original being \$117,725
 per cent, excess of the original estimate
 the amount of which was 12,000 lbs.
 but as the Chief Eng^r does not explain
 fully account for this enormous excess
 he has returned the estimate for further
 explanation, & recommends that for the
 advance of 1/2 cars of the price the final
 estimate with further explanation by
 Chief Eng^r & the supplemental estimate.

[illegible]