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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No.

1654

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3-4-375

Dated

15-6-1863

Not to be folded or roughly handled

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*Proceedings of the Madras Government, Public Works Department,
15th June 1865.*

No. 374. Read the following letter from Captain J. MULLINS, R. E., Consulting Engineer for Irrigation and Canal Company, to Colonel C. A. ORR, R. E., Secretary to Government, Department Public Works, dated Madras, 20th May 1865, No. 10:—

SIR,

I Estimate.
I Original letter from Agent, General No. 72.

• From Provisional Chief Engineer, No. 65, 12th instant.
Do, Acting do. do. " 1,707, 20th March.
Do, Executive do. do. " 1,188, 17th February.

to Rupees 43,938 for the 20th mile of the main canal.

2. This mile is in the second section and includes a deep cutting across a ridge which has been several times referred to in reports† from this Office. The original estimate for this mile was Rupees 43,661,† the revised Rupees 71,921, and that now submitted amounts to Rupees 1,12,324. The cause of these successive increases is principally the raising of the average rate for the deep cutting from 5½ Annas originally to 8 Annas, and now to 12 Annas a cubic yard. The Provisional Chief Engineer quotes the opinions expressed by General Ludlow and myself, in support of the increase. Paragraph 31 of my letter No. 40 hardly bears out this conclusion, though the increase§ included in the revised estimate for the section was approved for the reasons given. It is also true that General Ludlow stated that he thought it impossible to do the work for less than 1 Rupee a cubic yard. The work, however, to which he refers, in connection with this rate, is described as "extremely hard rock" and this applies to only a small portion of the total excavation, and, as mentioned by me last year and, as is confirmed¶ by the present Executive Engineer, by far the larger portion is of a much easier description.

§ To Annas 8.

¶ Paragraph 5 of letter quoted in margin of paragraph 1 above.

3. It is not mentioned whether the rate of 12 Annas on the average, now proposed, is intended to reimburse the Contractor for the expenses resulting from the way in which the work has been carried on, or only to mitigate the loss which he has necessarily sustained from his want of experience and capacity for the work. This is a point of some little importance because, as mentioned in my last report, paragraph 29, it is impossible that a rate fair to the Company could have been profitable to a Contractor working in the way in which this work has been done. Opinions may differ as to what would be a fair average rate for the whole of this deep cutting, but an average that would pay for work so done must be greatly in excess of the fair rate.

4. It would have been more satisfactory had the data for the average of 12 Annas entered in the estimate been noticed by the Provisional Chief Engineer. It would not be difficult in the present state of the cutting to estimate with considerable accuracy the quantities of excavation of different degrees of hardness requiring separate rates, and it would have been better perhaps, therefore, had this been done. Mr. Dodson, the Executive Engineer, in paragraph 5 of his letter mentions that ¼th of the excavation is hard quartzite rock, requiring blasting, ¼th the same rock partially decomposed and removeable with crow-bars, and the rest soft rock, kunker, gravel, and cotton soil all removeable without more than ordinary trouble. Now the average rate 8 Annas a cubic yard would admit of ¼th Rupees a cubic yard being paid for the rock blasted, 8 Annas a cubic yard for that removed by crow-bars, and 4 Annas a cubic yard for all the rest. An increase of ½ an Anna to the average rate would allow of an increase of 2 Annas for the blasted material, and the 12 Anna average would raise the rate for the most difficult rock to 2½ Rupees.

5. I have felt it necessary to notice this question in detail, because not only is the amount large, but the principle involved is an important one. It is by no means necessary, politic or advisable, to insist on such men, as the Contractors, engaged on works in the interior of India, usually are, completing their contracts when it is found that the rates allowed them, and which they have accepted are far below what the work could really be done for; but on the other hand, when the nature of the work has been actually ascertained, the rates adjusted, and an offer has been made to cancel the agreement, and to relieve the Contractor of his work, if he, whether from "over-strained and mistaken feelings of honor," or from any other cause, though incapable of executing the work properly, refuses to give it up, he and not the Company should be the loser.

Acting Chief Engineer's letter, end of paragraph 2.

Proceedings of the Madras Government, Public Works Department,
15th June 1865.

6. Paragraphs 4 and 5 of Mr. Dodson's letter explain that on the smaller cutting in the 20th mile there are 9,300 cubic yards of excavation more than are allowed for in the revised estimate, and similarly in the deep cutting 4,800 cubic yards in excess.

The former at 5 Annas = Rupees 2,906
The latter at 8 do. = " 2,400
5,306

on the other hand the banking in the estimate already sanctioned amounts to cubic yards 31,566, Rupees 5,031-4-8, and that in Mr. Dodson's to cubic yards 23,994, Rupees 4,499. It would appear therefore that independently of the question of rates, about 5,000 Rupees require to be added to the revised estimate already sanctioned to compensate for errors in calculation.

7. I am unable to recommend the Government to sanction this large supplemental estimate Rupees 43,938 as the case stands at present, and with the intention, it may be supposed, of handing it over to the Contractor. The best course appears to me to be to take the work at once out of the Contractor's hands, to measure up all the work that he has done of different kinds, fixing fair rates first, and paying him any balance that may be due, and then to complete the cutting in a proper manner under the superintendence of the Executive Engineer and his Assistants.

No. 375.

ORDER THEREON, 15th June 1865, No. 1,654.

CIVIL WORKS, No. 64.

1. After a careful perusal of the papers bearing upon this subject, the Government are of opinion that, although much of the difficulty experienced arose from the ignorance and recklessness of the Contractor, yet a good deal was caused by the decision of the Company's Engineers to open out at first only one-third of the cutting, and by other circumstances over which the Contractor had no control. He was, of course, ignorant of the character of the work he had to perform, but so would any other Contractor have been.

2. Under these circumstances, the Government do not think that it would be politic on the part of the Company to take advantage of the man's inexperience, for the purpose of getting the work done under its fair cost. They are not, however, disposed to sanction the supplementary revised estimate now before them, if the work is to remain in the present Contractor's hands, as it is clear that he is quite unfit to hold such a contract. They approve of the course suggested by the Consulting Engineer, at the close of his letter. If the Contractor can be induced to relinquish his engagement, the work already executed can be measured carefully and paid for at liberal rates, and the cutting can then be completed in a proper manner under the superintendence of the Company's Engineers.

(True Extract.)

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

To the Consulting Engineer for Irrigation and Canal Company.
" Manager for do. do.

Exd. T. O'Connor.

Enclosures-2.

1 Estimate

1 Orig. letter

From Agent

J. H. J. 2.

No. 10.

Consulting Engineer's Office,
Irrigation and Canal Co.,
Madras, 20th May 1865.

From Captain J. Mullins, R.E.
To The Secretary to Government,
Department of P. Works.

Sir,
1. I have the honor to forward for the consideration of Government a letter No. 38 of the instant, with its annexed correspondence, from the Agent & Manager Madras Irrigation Canal Company, and a supplementary revised estimate amounting to Rupees 43,938 for the 20th mile of the Main Canal.

2. This mile is in the second section and includes a deep cutting across a ridge, which has been several times referred to in reports from this Office. The original estimate for this mile was Rupees 43,661, the revised Rupees 71,921 and that now submitted amounts to Rupees 112,324. The cause of these successive increases is principally the raising of the average rate for the deep cutting from 5 1/3 annas originally to 8 annas, and now to 12 annas a cubic yard. The Provisional Chief Engineer quotes the opinions expressed by General Leedlow and myself in support of the increase. Para 31 of my letter No. 40 hardly bears out this conclusion, though the increase included in the revised

in show ch. Engr. No. 65-12 dated 18th
" Ad. Ch. Engr. - 1707-20th March
" Exec. Engineer. 1188-17th Feb.

* No. 33-6th July 1863 para 33.
P.M. G. 25th July No. 2055.
No. 40-23rd July 1864 para 81.
P.M. G. 24th Aug. No. 2438.
No. 24-19th April 1865 para 29.
P.M. G. No. 1317-15th May 1865.

* No. 187-6th Jan. 1865 para 5.
P.M. G. 4th Feb. 1865 No. 321.

* to Annas 8.

revised Estimate for the section was approved for the reasons given. It is also true that General Cudlow states that he thought it impossible to do the work for less than 1 Rupee a cubic yard. The work however to which he refers, in connection with this rate, is described as "extremely hard rock" and this applies to only a small portion of the total excavation, and, as mentioned by me last year and, as is confirmed by the present Executive Engineer, by far the larger portion is of a much easier description. x para 5 of letter quoted in margin of para 1 above

3. It is not mentioned whether the rate of 12 annas on the average, now proposed, is intended to reimburse the contractor for the expenses resulting from the way in which the work has been carried on, or only to mitigate the loss which he has necessarily sustained from his want of experience and capacity for the work. This is a point of some little importance because, as mentioned in my last report, para 29, it is impossible that a rate fair to the Company, could have been profitable to a contractor working in the way in which this work has been done. Opinions may differ as to what would be a fair average rate for the whole of this deep cutting, but an average that would pay for work so done must be greatly in excess of the fair rate.

4. It would have been more satisfactory had the data for the average of 12 annas been

in the estimate been noticed by the Provisional Chief Engineer. It would not be difficult in the present state of the cutting to estimate with considerable accuracy the quantities of excavation of different degrees of hardness requiring separate rates, and it would have been better perhaps therefore had this been done. Mr. Dodson the Executive Engineer in para 5 of his letter mentions that $\frac{1}{8}$ of the excavation is hard quartzite rock, requiring blasting, $\frac{1}{8}$ the same rock partially decomposed and removable with crowbars, and the rest soft rock, kunker, gravel and cotton soil all removable without more than ordinary trouble. Now the average rate 8 annas a cubic yard would admit of $1\frac{1}{8}$ Rupees a cubic yard being paid for the rock blasted, 8 annas a cubic yard for that removed by crowbars and 4 annas a cubic yard for all the rest. An increase of $\frac{1}{2}$ an anna to the average rate would allow of an increase of 2 annas for the blasted material, and the 12 anna average would raise the rate for the most difficult rock to $2\frac{1}{8}$ Rupees.

5. I have felt it necessary to notice this question in detail, because not only is the amount large but the principle involved is an important one. It is by no means necessary, proper or advisable, to insist on such men, as the contractors engaged

engaged on works in the interior of India, usually are, completing their contracts when it is found that the rates allowed them, and which they have accepted are far below what the work could really be done for, but on the other hand, when the nature of the work has been actually ascertained, the rates are adjusted, and an offer has been made to cancel the agreement, and to relieve the contractor of his work, if he, whether from "overstrained and mistaken feelings of honor" or from any other cause, though incapable of executing the work properly, refuses to give it up, he and not the Company should be the loser.

Chief Engg's letter
end of para 2.

5. Paras 4 & 5 of Mr. Dodson's letter explain that on the smaller cutting in the 20th mile there are 9,300 Cubic Yards of excavation more than are allowed for in the revised estimates and similarly in the deep cutting 4,800 Cubic yards in excess.

The former at 5 annas = Rs. 290 6
The latter at 8 - - - = 2,400
5,306

on the other hand the banking in the estimate already sanctioned amounts to 31,566 Rs 5,031-4-8 and that in Mr. Dodson's to Rs. 23,994 Rs. 4,499. It would appear therefore that independent of the question of rates, about 5,000 Rupees are required to be added to the revised estimate already sanctioned to compensate for errors in calculation.

6. I am unable to recommend the Government to sanction this large supplemental estimate Rupees 43,938 as the case stands at present, and with the intention, it may be supposed, of handing it over to the Contractor. The best course appears to me to be to take the work at once out of the Contractor's hands, to measure up all the work that he has done of different kinds, fixing fair rates first, and paying him any balance that may be due, and then to complete the cutting in a proper manner under the Superintendence of the Executive Engineer and his assistants.

Yours Most Obedt^{ly} & Gr^{at}
Wm. Lindsay Captain R.E.
Cons. Engg. for S. B. E.

E. M. B.

An important principle
 is involved in these papers,
 viz., Whether the Govt.
 should interfere to prevent
 the Irrigation Company
 from ^{making} what seems to be an un-
 necessarily high sum to a
 Contractor as compensation
 for loss sustained by him
 in carrying out his
 contract.

The circumstances are these. The original estimate for the 20th mile of the Company's main canal came to Rs. 43,661. A revised estimate, of Rs. 41,921, was sanctioned on 4th February 1865.

And now a second re-
vised estimate, amounting
to Rs. 112,324, is forwarded
by the Consulting Engineer
^{for the consideration of} Captain
Mullins explains that
these successive increases
are chiefly due to raising
the rate for excavating the
deep cutting in the 20th mile,
— the original rate of
5 1/3 annas per yard being
raised to 8 annas, and
now to 12 annas, —
while in this last estimate

I went to inspect the
 cutting when I was at
 Kinnool and though I
 course much of the difficulty
 experienced arose out of
 the ignorance of the contractor
 for a good deal was caused
 by the decision of the Ins.
 of the Company to open abt
 1000 only one third of the
 width of the cutting -
 The Contractor was grossly
 ignorant of the character
 of the soil he had to pierce
 - for he had no idea of the
 any other contractor have
 been I do not think that

P.O. 2369-
 24 Dec. 1861

40. 321

1865 July 16 20 635-636
 22 Aug 14 - 505-509
 24 $\frac{1}{2}$ Oct 14 - 55-56
 25 Aug 14 - 305-306
 26 Aug 14 - 305-306
 27 Aug 14 - 305-306
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 100 Aug 14 - 305-306

Wm. Lloyd Garrison
No. 25 N. 4th St. Phila.
Pa.
Nov. 11th 1846

Feb 20 }
 Return 227 } May 1865

Page: 2

It towards for the consideration
of Grant a letter No. 38 of the 18th
wh. with its annexed correspondence
from the Grant & a supplementary
round letter to amount to
\$439.38 for the 20 mile of the
Main Canal with certain
observations.

1837

e. 3185 May 1865.

1654-15th June/65

the quantities also have been largely increased, - those upon which the two former estimates were calculated being represented by W. Dodson, the Exec. Engineer, as being far below the actual contents of the cutting.

Captain Mullins enters fully into details, & shows that the rate already sanctioned of 8 annas per yard allows what seems to be an ample price for blasting the ~~hard~~ hard rocky portions of the cutting, - taking it, at W. Dodson's estimate, to consist of hard quartzite rock to the extent of one fourth of the whole excavation.

The work seems to have been performed in an irregular manner. W. Dodson states that there has been no written engagement with the Contractor, & that he has been always dissatisfied with the rates paid to him. It has been proposed that he should relinquish

it would be either honest or politic on the part of the company to take advantage of the main ignorance in the purpose of getting the work done under the fair cost - in England & elsewhere where a Contractor is presumed to know

85,900 cub. yds.

his business he is held to his bargain but then would never answer with native contractors in India at all events in the manner of the contract system. I should imagine that the actual quantities to be excavated could be obtained to a nicety - in all clear ground - but I cannot estimate that a rough estimate of the proportion of rock & especially hard character can be made the basis of the payment to the contractor who ought to take each quality of rock & earth at a fair price & be paid by measurement.

As far as I can understand the position I sh. be disposed to adopt the course recommended by Capt. Mullins

at the end of his letter - which if liberal rates are allowed for work already done would seem fairly to be parties - The Com. the Contractor, but then to order it is said will be declines to do. yet not join up his contract to much perhaps, as but he would I presume W. Beaumont suppose. rather entering into it "from overstrained & mistaken feelings of honor, as from the hope that on completion of the work, a Bonus would be paid to him, to cover his losses." It seems clear that the greater part of the loss incurred by the Contractor is due to the way in which the work has been carried on, & not to the necessary cost of the work. Messrs Beaumont & Dodson allude to his recklessness & inexperience, & to the dishonesty of his subordinates. Captain Mullins, while expressing his belief that the work might have been done, by a skilful Contractor, for the original rate of 5 1/3 annas, says that the Indian who undertook it & his subordinates, were alike ignorant and unskilful, & that he seldom went near the work. It should be borne

The Contractor, judging from his name, must be one of the old Kurnool noblemen, and, certainly, he can know nothing of work such as he has contracted to perform, many other works. If he had been careful & persevering in executing the job, which difficulties became apparent, we might, I think, keep him on & moderately raise

Letter, W. 40
2. July. 1864.
Page 31.

This rule allowed but with a man like Messrs Raja Khan, who is said to be determined to hold the contract with the idea that he will get out of a bad speculation, an eventual increase of rate of payment for what he has actually done, seemed a stretch a pound to be laid on him. In my view I consider the better course for adoption, what Captain Mullins proposes in his letter - W.D.

It should be borne

in mind that any in-
crease to the rates, made
with the object of rein-
forcing the Contractor for
losses caused chiefly by
his ignorance & carelessness,
will come, for the present
at least, from Imperial
Funds, as ~~the~~ ^{it} will be
~~charged to~~ ^{charged to} the Govt.
-owned Capital of the
Company.

W. B.

Civil Works No. 1654 P.W.D.
Proceedings of the Madras Government.
Under date the 15 June 1865

Recd the following.

From the Com. Engrs. & Co.

Enclosed for the con-
sideration of Govt. a letter
with its annexed corre-
spondence from the Agent and
a supplementary period to
estimate amounting to Rs. 43938
for the 20" side of the main
Canal with entire observations

W. S. 20 May 1865 No. 10

After a careful per-
usal of the papers bear-
ing upon this subject, the
Government are of opinion
that, although much of
the difficulty experienced
arose from the ignorance
and recklessness of the
Contractor, yet a good
deal was caused by the
decision of the Com-
mission's Engineers to open

W. B.

JP

W. B.

open out at first only
one third of the cutting,
and by other circum-
stances over which the
Contractor had no control.
He was, of course, ig-
norant of the character
of ^{the} work he had to per-
form, but so would
any other Contractor have
been.

2. Under these cir-
cumstances the Board
do not think that it
would be politic on
the part of the Company
to take advantage of
the man's inexperience,
for

for the purpose of
getting the work done
under its fair cost -
They are not, however,
disposed to sanction the
supplementary revised Es-
timate now before them,
if the work is to remain
in the present Contractor's
hands, as it is clear
that he is quite unfit
to hold such a contract.

They approve of the
course suggested by the
Consulting Engineer at the
close of his letter - If
the Contractor can be
induced to relinquish
his engagement, the
work already executed can

can be measured
carefully and paid for
at liberal rates, and the
cutting can then be
completed in a proper
manner under the super-
intendence of the Com-
pany's Engineers.

W.H.

For
the
Com-
pany

To
The Com-Engineers
H. & C. Co
The Manager
Sept-15th 1880

Copy in a letter to Engle
of 26 Sept 1860 of Feb 5.

of 1865 Dep't
Pro: of Gov't for June

No 1654
Pro: of the M. C. C.
of 15 June / 65

Letter from the
Genl. Eng. & C. C. C. sub.
submitting an Estimate
Amounting to \$1
43.988 for the 20 Mile
of the C. C. main canal
With orders thereon.

No 371. 375