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MADRAS RECORD OFFICE.

Government of Madras.

P. Subbarao DEPARTMENT. *10/5/60*

G.O. No. <i>487</i>	Press Mis. <u> </u>
<i>SR SR</i> Dated <i>6-3-</i>	<i>18 60</i>

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
for the month of March 1860.*

No. 82. Read the following letter from Colonel J. H. BELL, Chief Engineer, to the Secretary to Government, dated 18th February 1860, No. 10475.

In my letter, No. 9715, dated 28th January 1860, I had the honor to submit with my recom-

1 Letter from District Engineer, 4th
February 1860.
1 Do. do. 8th do. No. 5.

mendation Captain Haig's proposition that an Officer and an Overseer, with a specified Office Establishment for each, should be attached to him for the purpose of performing Surveys, &c., preparatory to the work at the Sintoral Barrier.

2. I now beg to forward two subsequent letters from that Officer, Nos. and dates as per

No. — dated 4th February 1860.
No. 5, dated 8th do.
Letter to the Madras Govt., dated 8th
Decr. 1857, No. 5922.

margin, in the first of which he asks that the sum of Rupees 3,000, sanctioned by the Government of India for the removal of shoals in the Godavery between Dowlaishwaram and Buddrachellum, may be placed at his disposal for this purpose.

In my letter, No. 4569, dated 3rd September 1859, I informed Government that no part of the earlier sanction of Rupees 2,013, in supersession of which the subsequent grant of Rupees 3,000 was made, had been made use of, and I now beg the sanction of Government to the disbursement of Rupees 3,000, to Captain Haig for the above purpose as a special grant, there being no funds provided for the upper Godavery in the present or next year's Budget.

3. Captain Haig points out that the only funds available at present for effecting improvements in the Godavery navigation are those accruing from the saving in the transport of stores by the river, amounting at present to Rupees 6,000, and this sum he proposes to devote to blasting away some of the detached masses of rock which occur between Dowlaishwaram and Mungapetta, as well as cutting a passage through the reef which crosses the river at Abbaka.

Captain Haig shews that the operations of the steamers during the last monsoon were greatly hampered by a few rocks at different points, which might easily be removed and at small cost, and he considers that this ought to be done before next autumn. I beg, therefore, to solicit the sanction of Government to his proposal to use the balance of the transit money, as far as it will go, for this purpose.

I should explain that the "saving" spoken of by Captain Haig is the difference between the 5 annas per ton per mile authorized by Government to be paid by the Commissariat Department for the transport of Stores up the Godavery, and the sum actually expended carrying the same.

With a view to keep open the navigation of the Godavery throughout the year, Captain Haig suggests that a maintenance allowance of Rupees 200 per mile should in future be allowed, to commence with the ensuing official year. Until the completion of the works proposed for the barriers there must of necessity be an interruption of the traffic at these points as the river subsides, but Captain Haig considers that this can be overcome by means of portages, or by the small unfinished locks in the river bed. The other parts of the river where shoals are met with, require a different mode of treatment. The difficulty here is overcome to a considerable extent by the use of "Bandals," formed of stakes, driven into the bed at short intervals, and connected by bamboo mats and rolls of grass, placed diagonally with the current so as to confine the stream to one channel and cause a scour on the bed. Captain Haig does not mention the total distance for which he requires a maintenance allowance of Rupees 200 per mile, but as he speaks of overcoming the difficulty at the barriers, I conclude he requires it as far as Masadeopore or Chinnore, which are both situated above the 1st and 2nd barriers, but below the 3rd, or Dewalmarree barrier, the former being 226 and the latter 243 miles from Dowlaishwaram. Supposing Chinnore to be the temporary terminus, the annual maintenance allowance will amount to $243 \times 200 = \text{Rupees } 48,600$.

Captain Haig's second letter explains the arrangements which he considers necessary for the exploration of the upper tributaries of the Godavery.

Two distinct parties are to be employed, one for exploring the Wyne Ganga and the Pyne Ganga tributaries of the Pranheeta, and the other for the Godavery proper, the time dur-

improvement of the river (transport) and that this is now

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for the month of March 1860.*

ing which the obstructed parts of these rivers are navigable being too limited to allow of one party accomplishing the whole tour.

For a similar reason, steamers must be employed instead of paddle boats, and as there are none of the former now afloat on the Godavery exactly suited to the object in view, either in point of size or speed, Captain Haig proposes to build two very light draught steamers of wood, coppered, and to put into them the engines and boilers of the small iron steamers, built by Forrester and Co., and intended originally for the East Coast Canal, three of which are at Dowlaishwaram in pieces at present, but will be put together as soon as the workshop establishment there can find time to do so. These boats will be useful as cargo boats even without their engines.

Captain Haig estimates the cost of each boat as follows:—

Wooden hull, coppered and fitted with Cabins	Rs.	3,500
Placing Machinery on Board	"	2,500
Total Rupees ...		<u>6,000</u>

or for 2 steamers, Rupees 12,000.

As it is very doubtful whether these boats could be built at the Dowlaishwaram workshops in time for the early freshes, Captain Haig proposes that they should be built by contract at Coringa, and if commenced immediately he has little doubt of having them ready in time.

Under the above circumstances, I beg to request special sanction for the sum of Rupees 12,000 for two steamers of the form described by Captain Haig in the 9th paragraph of his letter of the 8th February 1860.

No. 83. ORDER THEREON, 6th March 1860, No. 487.

1. In this letter the Chief Engineer submits and recommends four applications for money to improve the navigation of the Godavery and explore its tributaries.

*For clearing the river between Davarapalli and Dowlaishwaram for 5 months at 400 Rs. from January to May	2,000
For do. do. between the Sinteral and Enchampilly barriers for 5 months at 200, from January to May	1,000
	<u>Rs. 3,000</u>

† From Govt. of India, 8th Dec. 1857, No. 5922.

I. 3,000* Rupees for clearing shoals in the Godavery river between Dowlaishwaram and Buddrachellum, sanctioned by the Government of India in December† 1857, but not expended.

II. 6,000 Rupees, being the residue of the saving effected in the transport of Commissariat Stores by the Godavery river. It is explained that the saving is the difference accruing between the sanctioned rate of 5 annas a ton and the actual cost of the transport; and that the residue is now wanted for blasting rocks occurring between Dowlaishwaram and Mangapetta, and for cutting through the Abbaca reef.

III. A maintenance allowance of 48,600 Rupees, or 200 Rupees a mile for 243 miles of navigation from Dowlaishwaram to Chinnore. This is applied for by Captain Haig from the 1st May 1860, on the same principle on which annual maintenance allowances are granted for the preservation of roads, on the ground that the Godavery may be considered one of the highways of the country.

IV. 12,000 Rupees for building on contract at Coringa two light boats at 6,000† Rupees each. It is proposed to fit these boats with the engines of certain small iron steamers built by Messrs. Forrester and Co. for the East Coast Canal, but now lying in pieces at Dowlaishwaram, and to use the two vessels thus fitted in exploring the Godavery proper, and the Pranheeta, with its tributaries, the Wyne Ganga and the Pyne Ganga.

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for the month of March 1860.*

2. The Government grant authority for the application of the second of the items applied for, viz. 6,000 Rupees, in the manner proposed; that amount being reported to be in hand. The first item, 3,000 Rupees, being a grant once allowed and sanctioned by the Government of India, but not expended, and the last item, 12,000 Rupees, for the building of the exploring boats, are sanctioned subject to the confirmation of the Government of India; but as under the circumstances reported, it is highly desirable that Captain Haig should be enabled to make the necessary preparations to allow of his commencing the work at the proper season, the amount of both sanctions, viz. 15,000 Rupees, will be placed at his disposal at once; and application will be made to the Government of India for their confirmation to the grant.

3. The third item of 48,000 Rupees a year, or the maintenance allowance of 200 Rupees a mile, must be declined. The Government do not perceive the analogy between the road and river communication in this respect, nor that the principle on which the money is asked for applies. Maintenance allowance is given to keep up a road already made, and to be devoted to its renewal and repair from time to time throughout its whole length; whereas the Godavery has yet to be opened, and when it has been opened, the work of keeping it so will be confined to certain places where there are rocks or shoals, while considerable reaches of the river will require no operations at all.

No. 84. Ordered in consequence that the following letter be dispatched.

From T. PYCROFT, Esq., Chief Secretary to the Government of Fort Saint George; to the Secretary to the Government of India, D. P. W., dated 6th March 1860, No. 488.

1. I am directed to report for the approval and confirmation of the Government of India, the Proceeding of this Government in sanctioning on the strong recommendation of Captain Haig, supported by the Chief Engineer, two sums of money in connection with the Godavery river, amounting together to 15,000 Rupees as follows:—

For clearing Shoals between Dowlaishwaram and Buddrachellum ...	3,000
For building two light boats, to be employed in exploring the Godavery and its tributaries.....	12,000
	<u>Rupees..... 15,000</u>

2. The first of these items was sanctioned by the Government of India in Captain Yule's letter of the 8th December 1857, No. 5922; but this sanction was never acted on. Captain Haig now applies for it, to enable him to remove certain shoals occurring in the river bed between Dowlaishwaram and Buddrachellum, which offer great impediment to the passage of the steamers, so much so indeed that one isolated rock alone above the mouth of the Sibberri caused serious injury to the most important of the steamers plying on the river. As this sum is not included in the Budget, it requires the special sanction of the Government of India. The second sum of 12,000

Rupees is required for building two light boats for the present at 6,000* Rupees each. It is proposed to fit these boats with the engines and boilers of certain iron steamers built by Messrs. Forrester and Co., and originally intended

for the East Coast Canal, but now lying at Dowlaishwaram; and to employ the vessels thus fitted in exploring the Godavery proper, the Pranheeta, and its tributaries, the Wyne Ganga and Pyne Ganga. Two parties, if possible, are to be engaged in the exploration, because the time during which the obstructed parts of these rivers are navigable is probably very short, limited only to the periods of high freshes; and one party might not therefore have time to accomplish the whole tour. For the same reason, steamers must be employed instead of paddle boats, as the latter have neither speed enough to get over the distance to be traversed within the time available, nor power to stem the currents in rocky and confined places. Again, none of the steamers that are or have been afloat, even if they could be spared, are considered suited to the object in

caps and engines were removed from the boats with the river transport, and that this is now

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for the month of March 1860.

view, either in point of size or speed. So also the small canal boats, whose engines it is proposed to use, are thought to be unsuitable to the navigation of the river in its present state, both in point of speed and draught of water; but Captain Haig is of opinion that the same motive power placed in properly constructed hulls, would give a higher speed with less immersion; hence his proposal to build wooden hulls to obtain a light draught for the special purpose in view, in furtherance of which the boats are to be coppered in order to reduce the surface friction to the lowest possible amount.

3. As under the circumstances it appeared highly expedient to put Captain Haig in present possession of means to enable him to make preparations for entering on the proposed work at the proper season, this Government deemed it necessary to place the above-mentioned sum of 15,000 Rupees at his disposal at once; and they now beg to express the hope that their proceedings will meet with the approval and confirmation of the Supreme Government.

Central Office of P.W.D.
Shankarain
18 February 1860

N^o 10475

Public From The Chief Engineer
To The Secretary to Government
Public Works Department

Enclosures:
1 Letter from Dist.
Eng^r 4 Feb^y 1860
1 do - do - 8 Feb^y 1860

In my letter N^o 9715, dated 28 January 1860, I had the honor to submit with my recommendation Captain Haig's proposition that an Officer and an Overseer, with a specified Office establishment for each, should be attached to him for the purpose of performing surveys &c preparatory to the work at the Antoral Bar.

I now beg to forward two subsequent letters from that Officer, N^o 1 dated 4 Feb^y 1860 and dated as per Margin, in the first of which he asks that the sum of Rupees 3000, sanctioned by the Government of India for the removal of shoals in the Godavari between Dowlaishwaram and Buddrachellum

may
transport, and that this now

may be placed at his disposal for this purpose.

In my letter No. 2569, dated 3rd September 1859, I informed Government that no part of the earlier sanction of Rupees 2013, in supersession of which the subsequent grant of Rupees 3000. was made, had been made use of, and I now beg the sanction of Government to the disbursement of Rupees 3000. to Captain Haig for the above purpose as a special grant, there being no funds provided for the upper Godavari in the present or next year's Budget.

3 Captain Haig points out that the only funds available at present for effecting improvements in the Godavari navigation are those accruing from the saving in the transport of stores by the river, amounting at present to Rupees 6000, and this sum he proposes to devote to blasting away some of the detached masses of rock which occur between Dowlaish. waram and Gungapetta, as well as cutting a passage thro. the reef which crosses the river at Abbaca.

Captain Haig shews that
the

the operations of the Steamers during the last monsoon were greatly hampered by a few rocks at different points, which might easily be removed and at small cost, and he considers that this ought to be done before next Autumn. I beg, therefore, to solicit the sanction of Government to his proposal to use the balance of the Transit money, as far as it will go, for this purpose.

30th May '59 No 1310.

I should explain that the "saving" spoken of by Captain Haig is the difference between the 5 annas per ton per mile authorized by Government to be paid by the Commissariat Department for the transport of stores up the Godavari, and the sum actually expended carrying the same.

With a view to keep open the navigation of the Godavari throughout the year, Captain Haig suggests that a maintenance allowance of Rupees 200 per mile should in future be allowed, to commence with the ensuing Official year, until the completion of the works proposed for the barrier there must

according to Capt Haig's estimate the river transport, and that this sum

must of necessity be an interruption of the traffic at these points as the river subsides but Captain Haig considers that this can be overcome by means of portages, or by the small unfinished locks in the river bed. The other parts of the river where shoals are met with require a different mode of treatment. The difficulty here is overcome to a considerable extent by the use of "Bandals", formed of stakes driven into the bed at short intervals, and connected by bamboo mats and rolls of grass, placed diagonally with the current, so as to confine the stream to one channel and cause a scour on the bed. Captain Haig does not mention the total distance for which he requires a maintenance allowance of Rupees 200 per mile, but as he speaks of overcoming the difficulty at the barriers, I conclude he requires it as far as Masandipore or Chimnore, which are both situated above the 1st and 2nd barriers but below the 3rd, or Dewalmaree barrier, the former being 226 and the latter 243 miles from Dowlahwarum.

Supposing

Dowlahwarum

Supposing Chimnore to be the temporary terminus, the annual maintenance allowance will amount to 243×200 Rupees 48,600.

Captain Haig's second letter explains the arrangements which he considers necessary for the exploration of the upper tributaries of the Godavari.

Two distinct parties are to be employed, one for exploring the Wyne Gunga and the Dyne Gunga tributaries of the Pranabeta, and the other for the Godavari proper, the time during which the obstructed parts of these rivers are navigable being too limited to allow of one party accomplishing the whole tour.

For a similar reason Steamers must be employed instead of paddle boats, and as there are none of the former now afloat on the Godavari exactly suited to the object in view, either in point of size or speed, Captain Haig proposes to build two very light draught Steamers of wood, coppered, and to put into them the Engines and boilers

according to Capt Haig's letter has been spent in the improvement of the river transport; and that this is now

boilers of the small iron steamers built
by Forester and Co, and intended origi-
nally for the East Coast Canal; - three
of which are at Dowlishwarum in
pieces at present, but will be put to-
gether as soon as the workshop Estab-
lishment there can find time to do so.
These boats will be useful as cargo boats
even without their Engines.

Captain Haig estimates
the cost of each boat as follows.

Wooden hull coppered and fitted with cabins - - - -	Rs 3500
Placing Machinery on board - - - -	2500
<u>Total Rupees</u>	<u>6000</u>

or for 2 Steamers Rupees 12000.

As it is very doubtful whether
these boats could be built at the
Dowlishwarum workshops in time
for the early Freshes, Captain Haig proposes
that they should be built by contract
at Posinga, and if commenced immediately,
he has little doubt of having them ready
in time.

Under the above circumstances
I beg to request special sanction for the
sum

sum of Rupees 12000 for two steamers
of the form described by Captain Haig
in the 9th para of his letter of the 8th
February 1860.

Central Office of P.W.
Sephakam
18th February 1860

I have the honor to be
Sir

Your Most Obedient Servt.

J. A. Bell Colonel
Chief Engineer

~~By Order of the~~
By Ch. Eng. J. A. Bell

To

The Secretary to Government
P.W.D.

according to Capt Haig's letter has been
spent in the improvement of the river transport, and that this is now

29 Feb 1858

1858

Recd 20 Feb 1858
From Mr. P. R. 24 3 60
Recommends the
disbursement of Rs. 3000 for
exploring the upper reaches
of the Godavari and
of the Godavari and
into the stream.

Dated 18 Feb 1858
Recd 20 Feb 1858

The Secretary to the
Govt of Madras

The Chief Engineer

To Mr. P. R. 24 3 60
From Mr. P. R. 24 3 60
Recd 20 Feb 1858

Only in a letter to the
Govt of Madras dated 18 Feb 1858

Proceedings of the Madras Government
Under date the 6th March 1858.
Recd the following
letter from the Chief Engineer

Applies for certain sums
of money being placed at the disposal
of Capt. King, to be expended in improving
the navigation of the Godavari, and in com-
mencing two boats for exploring it and
its upper tributaries.

(Here under 18 Feb 1858 at 10475)

In this letter the
Chief Engineer submits
and recommends for applica-
tion for money in this letter,
navigation of the Godavari & explore
its tributaries.

* For clearing the river between
Enimaphali & Enlaishwaram
for 5 months at 400 Rs. from
January to May 2000
for do. do. between the Sinteral
and Enchappally barriers for 5
months at 200, from Jan to May 1000
Total 3000

I. 3000 Rs for clearing should
in the Godavari river between
Enlaishwaram & Badrachellam,
sanctioned by the Govt of India
in Dec/57 but never worked in.

* From Govt of I, 8th Dec/57, No 5922.

II. 6000 Rs, being the residue
of the saving effected in the trans-
port of commensurate stones by the
Godavari river. It is explained that
the saving is the difference accruing
between the sanctioned rate of 5 an.
has a ton & the actual cost of the
transport; and that the residue
is now

These are the sums
which have been
applied for in the
letter of the Chief
Engineer dated 18 Feb 1858
and which have been
sanctioned by the Govt of India
in Dec/57 but never worked in.

wanted for blasting rocks occur-
ring between Dowlaishwaram
and Mangapetta, and for cutting
thru' the Albaka reef.

III. A maintenance allow-
ance of 48,600 Rs, or 200 Rs a mile
for 243 miles of navigation from
Dowlaishwaram to Chennai. This
is applied ^{by Capt Haig} for from the 1st May,
1850, ~~on the same~~ on the same
principle on which annual main-
tenance allowances are granted for
the preservation of roads, on the ground
that the Godavery may be considered
one of the highways of ^{the country} ~~the country~~.

IV. 12,000 Rs for building
on contract at Koringa two light
ships at 6000 Rs each. It is proposed
to fit these boats ^{with} the engines of
certain small iron steamers built
by Mess^{rs} Forrester & Co for the East
Coast Canal, but now lying in
pieces at Dowlaishwaram, and to
use the two vessels thus fitted in

* Wooden hull, coppered,
and fitted with cabins - 3,500
Placing machinery on
board - 2,500
Rs 6000.

exploring the Godavery proper,
and the Pranhita with its tri-
butes the ^{Sauva} Wyne & the Pyne
Sauva.

2. The Govt grant authority
for the application of the sum
of the items applied for, viz
6000 Rs, in the manner proposed,
that amount being reported to be
in hand. The first item, 3000 Rs,
being a grant ^{once} allowed and sanc-
tioned by the Govt of India, but
not expended, and the ~~second~~ ^{last}
item, 12,000 Rs, for the building
of the exploring boats, are sanc-
tioned subject to the confirma-
tion of the Govt of India; but as
under the circumstances reported,
it is highly desirable that Capt
Haig should be enabled to make
the necessary preparations to allow
of his commencing the ^{work} ~~expedition~~
at the proper season, the amount

of both sanctions, viz 15,000 Rs, will be placed at his disposal at once; and application will be made to the Govt of India for their confirmation to the grant.

3. The third item of 40,000 Rs a year, or the maintenance allowance of 200 Rs a mile, must be declined. The Govt do not perceive the analogy between the road and the river, nor see that the principle on which the money is asked for applies. Maintenance allowance is given to keep up a road already made, and to be devoted to renewal and repair from time to time throughout its whole length; whereas the Sodam has yet to be opened, and when it has been opened, the work of keeping it so will be confined to the few places where there are rocks or shoals, while considerable reaches of the river will require no operations at all.

10 Copies to the Chief Eng^r Dpt^y
1 to the Secy^r General

JP

Copy in a letter to Capt.
8/25th June 1860 \$2.45

Public Works Board of St.
Bridg Street to the Church.

2/24/87.

Proffitt & Co. at Fort
St. Charles, Mo.

From Chas. Gay 22 1/2 1/2 1/2

Case of 84 in. R. 5

Ordering that the

15000 be placed at the

disposal of Captain

Waring to be expended

in improving the ranges

and of the fortification and

and constructing two forts

for exploring it and its

distances

From Fort of Louis 8 50

Aug 1860. Chas. 1157. Dec. 25th

76-77

M82483.

From the Chief Engineer 84
Aug 27/61 C. M. 1822