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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P.W DEPARTMENT

G.O. No.	890 W	Press.
B.P. No.		Mis.
Dated	1.4.1881	197.

Not to be folded or roughly handled

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

1st April 1881, No. 890 W.

Buildings and Roads.
Civil Works.

Read the following papers :—

- No. 1. From Captain A. AWDRY, R.E., Superintendent of Works, Buckingham Canal, to the Chief Engineer, Public Works Department, dated 9th March 1881, No. 3,305.

I HAVE the honor to forward herewith a survey, with plans, sections, report, specification, and estimate, amounting to Rs. 70,700, for the measures necessary for securing the canal in the Surnamukhi reach from the very expensive damages which every fresh at present cause it.

2. The traffic is delayed after every shower, for the Surnamukhi has a sandy bed, and, being liable to very heavy floods (that of November 1880 is the highest recorded, having risen to 8-10 feet above mean sea level), vast quantities of sand are not only deposited in the river-bed where deepened for navigation, but also for a considerable distance along the canals entering the river from the north and south.

3. It appears very evident from the taluk and district maps, as well as from the present survey, that the river had originally its mouth at Kottapatam some miles to the north of the Pamanji bar. This is supported by the evidence of other rivers on this coast as their mouths are always to be found to the north of the point where they begin to strike the coast. Also it appears that up to about 20 years ago the river did actually find its way to the sea only through the Kottapatam mouth, but that at about that time the East Coast Canal was cut along the general line of the present south branch of the river, and that in a heavy fresh the river took possession of the canal, which it is presumed was deeper than its own bed and burst its way out to the sea at the Pamanji bar.

4. The design now submitted for sanction has in contemplation the formation of the necessary banks to drive the force of the river floods into their original direction, and, while cutting a new line of canal in place of the portion where it at present follows the river bed, to protect its heads by flood-gates on each side of the river from being subjected to the force of the sand-bearing floods.

5. The design comprises the reach of the canal from 75 miles 7 furlongs to 77 miles 1 furlong from Madras, and will form a portion of the general scheme under preparation for isolating the canal so as to render it safe from damage.

6. You will observe that at the point where it is proposed to cross the river it is at present apparently in two branches with an island between. One, the river proper, is to the south, and I propose to use that as the crossing; the other (called Salla Calva) is dangerously close to the canal bank, and, although now deeper than the other branch, it owes this to the fact that it is the surplus of fields irrigated by a canal with an unregulated head. As this Salla Calva deepened the other branch apparently shallowed, but, if the former is closed and its water diverted into the latter, a straight reach of river will be made for the canal to cross over, and it will no doubt, after the first fresh has confirmed the direction which I propose to give to the floods by an artificial scouring channel down the bed, become a deep and convenient crossing.

7. The sills of the gates are to be set at 6 feet below mean sea level to allow of their being available for use if the canal is hereafter deepened, but the bed of the canal is only 3.50 feet below mean sea level, as the lowest recorded tide is only 0.35 below mean sea level. The tow-paths will be at 4.50 feet above mean sea level, being about 3 feet above highest tide level, and the flood banks will be at 11 feet above mean sea level, or about 3 feet above the maximum flood. I should explain that by "mean sea level" I allude to a point 2 feet above the zero of the present gauge, but, even if the levelling from deHavilland's bench mark, by which it was brought from Madras to Surnamukhi, is absolutely accurate, which is being checked, I do not consider that the observations now being made by Captain Baird, R.E., will agree with the mean sea level arrived at. This, however, does not affect the design.

8. As this piece of the canal is a frequent source of annoyance to travellers and of heavy expense to Government, I have the honor to request that sanction may be given to commence the work as soon as possible.

No. 1-A.

MEMORANDUM.

SUBMITTED to Government.

The project may be accepted as it stands, but in carrying out the work the flood-gate on the left bank of the Surnamukhi must be recessed at least 50 feet more to the west, and the bank on the river-side well revetted with rough stone to protect the work in flood. The training bank on that side should also be curved and carried continuously as roughly shown in pencil on the plan.

3. The flood-gate on the east bank should also be well protected by rough stone revetment.

4. These changes in detail will not practically interfere with the estimate.

(Signed) R. H. SANKEY, Col., R.E.,
Chief Engineer, P.W.D.

29th March 1881.

No. 2.

ORDER THEREON, 1st April 1881, No. 890 W.

THE estimate, amounting to Rs. 70,700, for the diversion of the canal at the Surnamukhi river-crossing, including embankments for forcing the river to its old bar at Kottapatam is sanctioned.

2. The attention of the Superintendent of Works is called to the remarks of the Chief Engineer, which should be attended to in carrying out the work.

3. The amount of the estimate will be appropriated from the allotment for the Buckingham Canal in the Provincial Budget for 1881-82.

4. This sanction has been registered as Provincial No. 1 B of 1881-82, and classified as 33, Irrigation and Navigation, Original Works.

(True Extract.)

Major, R.E.,
Under Secy. to Govt., P.W.D.

To the Superintendent of Works, Buckingham Canal, with twenty-one enclosures.
" Examiner of Public Works Accounts, with three abstract estimates.

Exd. J. W. Fischer.
Spare Copies

890
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BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of 1881 Madras.
PUBLIC WORKS.

To

THE SUPERINTENDENT OF WORKS,
BUCKINGHAM CANAL,

&c., &c., &c.

Dated April, 1st.

Issued

Recd.

Encl.

G. O., 1st April 1881, No. 890 W.

APRIL.

Nos. 1-2.

Buckingham Canal.—Sanctions the estimate, amounting to Rs. 70,700, for the diversion of the — at the Surnamukhi river-crossing including embankments for forcing the river to its old bar at Kottapatam.

80-81.
P. W. SECRETARIAT—1870-80.

KEEP-WITH.

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ection.

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Current No. 1625.

Letter No. 3305.

Dated the 9th March 1881.

from the Supdt. of the S.M.S.
Buckingham Canal.

Note of Remarks.

The Estimate with Survey, Plans, Sections & Specifications for the diversion of the Canal at the Surnamukhi river crossing including the necessary embankments for forcing the river to its old bar at Kottapatam, amounts to Rs. 70,700.

The design of the work as contemplated in the Scheme, is to remove the Canal from the river bed, in which it runs for 2 miles & with the view of maintaining the perfect isolation of such deviation the works for 1 mile for forcing the river to its Original Bar. The mouths of the Canal will be protected with flood gates.

The Estimate provides for the following works:

- 1— A deviation of the Canal between the points A at 7 1/2 miles 7 furlongs. & C at 77 miles 1 furlong which will separate the Canal from the river.
- 2— An Embankment across & along the Salla Calva, to force its waters into the main line of the Surnamukhi river.
- 3— A Securing Channel in the original bed of river to lead the floods to the deep Channel.
- 4— An Embankment along right

P. W. Secretariat.

Sign & Navigation. Sargate

ds.

ual has an allotment

from which some-
is for this work.

Budget Superintendent. *Chit*

bank of river, which will
cross the river where it turns
away from its north end.

5- A second embankment
across the Canal & Panauji
back water channel.

6- Cross bank alongside head
(north end) "derivation cut",
across Canal, after com-
pleting diversion works,
to cut off Canal Commu-
nication with river, also
a connecting bank between
left bank & the Panauji
embankment.

7- Flood gates to diversion
line of Canal where it crosses
the river.

8- Estimates for the Es-
tablishment of the flood
gates.

The Estimate provides
for Compensation for land,
Special Superintendence,
Contingencies & Sundries.

The Rates here shown agree
with the Dist Schedule - but
the Rates for Earth work of
the derivation cut includes
balancing charges &c.

17th March 1881.

[Signature]

C. No. 1625

Note by Budget Section.

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Work

Remarks and References.

Derivation of the Canal
at the junction with river
crossing including embank-
ment, and for forming the
river to its old bed at
Kottapattam

Fund Provincial
Service Road - Communications
Class Capital Work - Irrigation & Navigation - Bangalore

Amount of estimate Rs. 40,700

Expenditure in previous year "

Allotment in current year "

Balance required to complete 40,700

Total Rs. 40,700

Note of available funds.

The Buckingham Canal has an allotment
of Rs. 1,65,972 for 1881/82, from which some
funds could be appropriated for this work.

[Signature]
Budget Superintendent, Chit

18/3/81.

Note by Budget Section.

Let Col. Fanning
see this before
circulation -

2^{19/3}

89/W

No. 3305

240

OFFICE OF THE SUPERINTENDENT OF WORKS,

BUCKINGHAM CANAL.

Camp, On committee of Board 1881.
Despatch 12th do

From

THE SUPERINTENDENT OF WORKS,

BUCKINGHAM CANAL.

To

THE CHIEF ENGINEER,

PUBLIC WORKS DEPARTMENT,

Madras.

SIR,

Enclosures 10.

I have the honor to forward herewith
a Survey with Plans Sections, Report, Specifications
and estimate amounting to Rs 70,700-
for the measures necessary for securing the
canal in the Surinamukhi reach from
the very expensive damages which every
fresh at present cause it.

2 The traffic is delayed after every
shower, for the Surinamukhi has a sandy
bed and being liable to very heavy floods
- that of November 1880 is the highest
recorded having risen to 8.10 feet above
Mean Sea Level - vast quantities of

2
sand are not only deposited in the river bed where deepened for navigation but also for a considerable distance along the canals entering the River from the North and South.

3 It appears very evident from the Taluk and District Maps as well as from the present survey that the River had originally its mouth at Kothapatnam some miles to the north of the Pamanji Bar. This is supported by the evidence of other rivers on this coast as their mouths are always to be found to the north of the point where they begin to strike the coast.

Also it appears that up to about 20 years ago the River did actually find its way to the Sea only through

183 200
the Kothapatnam mouth, but that at about that time ^{the} East Coast Canal was cut along the general line of the present South Branch of the River and that in a heavy fresh the River took possession of the canal which it is presumed was deeper than its own bed and burst its way out to the Sea at the Pamanji Bar.

4. The design now submitted for sanction has in contemplation the formation of the necessary banks to drive the force of the River floods into their original direction, and, while cutting a new line of canal in place of the portion where it at present follows the River Bed, to protect its heads by Flood gates on each side

of the River from being subjected to the force of the sand-bearing floods.

5 The design comprises the reach of the canal from 75 miles 7 furlongs to 77 miles 1 furlong from Madras, and will form a portion of the general Scheme under preparation for isolating the canal so as to render it safe from damage.

6 You will observe that at the point where it is proposed to cross the River it is at present apparently ^{the river} in two branches with an island between.

One, the River proper, is to the south and I propose to use that as the crossing, the other (called Salla Calva) is dangerously close to the canal Bank and although now deeper than the other branch it owes this

to the fact that it is the surplus of fields irrigated by a canal with an unregulated Head. As this Salla Calva deepened the other branch apparently shallowed, but if the former is closed and its water diverted into the latter a straight reach of River will be made for the canal to cross over and it will no doubt, after the first fresh has confirmed ^{the} the direction which I propose to give to the floods by an artificial scouring channel down the bed, become a deep and convenient crossing.

7 The ^{gates} cills of the gates are to be set at 6 feet below Mean Sea Level to allow of their being available for use if the canal is hereafter deepened, but the bed of the canal is only 3.50 feet below Mean Sea Level as

the lowest recorded tide is only 0.35 below
Mean Sea Level. The low paths will be at 4.50
feet above M. S. L. being about 3 feet above
highest Tide level, and the flood banks will
be at 11 feet above M. S. L. or ^{about} 3 feet above
the maximum flood. I should
explain that by 'Mean Sea Level' I
allude to a point 2 feet above the top
of the present gauge, but even if the
levelling from de Havilland's Bench Mark
by which it was brought from Madras
to Surnamukhi is absolutely accurate
which is being checked, I do not
consider that the observations now
being made by Captain David &c. will
agree with the Mean Sea Level arrived
at. This however does not affect the
design.

8. As this piece of the canal
is a frequent source of annoyance
to Travellers and of heavy expence

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to Government, I have the honor
to request that sanction may be
given to commence the work as
soon as possible.

I have the honor to be
Sir,

Your most Obedient Servant.

A. A. A. A. Captain R. E.
Superintendent of Works Buckingham
Canal.

S.W. C. No. 1625.
From
THE SUPERINTENDENT OF WORKS,
BUCKINGHAM CANAL,
To
THE CHIEF ENGINEER,
PUBLIC WORKS DEPARTMENT,
Madras.

Dated 9th March 1881.
Recd 12th do
Received 14th No. 3305

ENCLOSURES 10 24

Survey, with Plan Sections
Specification Report and
Estimate for diverting the
Canal at the Surnamukhi
River crossings including
necessary embankments
and forcing the River to
its old bar at Kottapattam
for Rupees 70,700-0-0
Forwards for sanction the

C. 30.3. B. 1.6.

C. 30.3. B. 1.6.

18 Sept 1881
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Letter from the Superintendent of
Works Buckingham Canal
No. 3305 dated 9th March 1881

Submitted to Govt for decision

The project may be
accepted as it stands; but
in carrying out the
work the flood gate
on the left bank of the
Soornamukhi must
be recessed at least
50 feet more to the west,
and the bank on the
river side well protected
with rough stone to
protect the work in
flood. The training
bank on that side
should also be curved

and carried on:

timonously as roughly
shown in pencil on the
plan

3. The flood gate
on the east bank should
also be well protected
by rough stone revetment.

4. These changes in
detail will not practically
interfere with the Estimate.

W. H. D. S. S. S.

Chief Engineer P. W. D.

27th March 1881

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PUBLIC WORKS DEPARTMENT.

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PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 1st April 1881.

Read the following:—

From the Supdt. of Works } (N.E. No. 3205 of 27th Mar/81)
Buc. Kijungam Canal

Memorandum by the } (" " " 27th ")
Chief Engineer, P. W. D.

The estimate amounting
to Rs 40,000, for the diversion
of the Canal at the
Surnamukhi river
crossing, including
embankments for forcing
the river to its old bed
at Kottapattam, is
sanctioned.

2- The attention of the
Superintendent of Works
is called to the remarks
of the Chief Engineer
which should be attended
to in carrying out the
work.

R.S.

3- The amount of the estimate will be appropriated from the allotment for the Bue Higham Canal in the Provincial Budget for 1881-82.

4- This sanction has been registered as Provincial No 1 B of 1881-82 and classified as ~~as Irrigation and Navigation~~ ^{as Irrigation and Navigation} Original Works, Irrigation and Navigation, Canals.

Att

30/3/81

To the Supr. of Works
B. Canal with 21 Engrs
" Exec. P. W. Works with
3 abstract Estimates

WHD
8-4-81