

(1) Number of pages 14
(2) Date of repair 11. 2. 43
(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. <u>2757</u>	Press Mis. <u>✓</u>
Dated <u>2-10-43</u>	18 <u>70</u>

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
3rd October 1862.*

No. 60. Read the following letter from Lieutenant-Colonel J. OUCHTERLONY, R. E., Deputy Chief Engineer, Southern Circle, to Colonel W. I. BIRDWOOD, R. E., Secretary to Government, Public Works Department, dated Madras, 23rd September 1862, No. 85:—

SIR,

1. I have the honor to submit for the information of Government a communication from the Acting District Engineer Tanjore, with enclosure, detailing what has been done at Negapatam to induce permanent deposit of sand on the Harbor spit at that Port.

1 Letter from District Engineer, No. 175, dated 12th September 1862.
1 Letter from Mr. Fraser, No. 168, dated 1st September 1862.

2. I have informed Captain Mullins that as the work may be considered completed, the submission to Government of an estimate is unnecessary; and I have requested him to append full explanation to the Bill in sending it up for audit.

3. I have further pointed out to the Acting District Engineer that "Warner's Tub Engine" referred to in paragraph 10 of Mr. Fraser's letter is objectionable for use where the surface of the land is composed of sand or soft soil; as with 240 lbs. (24 gallons) of water in the tank it would be very heavy to move about; and I have recommended that instead of ordering out this machine from England a skeleton wheel-barrow should be employed with a water cask mounted on it, fitted with a spigot by which to fill watering cans or chatties. The wheel to have a broad light tyre bolted round it. The cost of this apparatus, which should be trifling, I have authorized Captain Mullins to add to the Bill for the spit work. The outlay will speedily be returned by the saving of the wages of many coolies now employed in carrying single chatties of water from a distance to water the trees and shrubs planted on the spit.

4. I think the use of a similar water-barrow would be found economical where young avenue and canal bank trees have to be watered at the public cost.

No. 61. ORDER THEREON, 3rd October 1862, No. 2,375.

1. The Government will await the receipt of a Bill for the work referred to, together with the explanation promised. The authority under which the work was carried out should be stated, and Captain Foord should be addressed on the subject, if necessary, as it appears that it was commenced under his orders.

2. The Government in Proceedings dated 11th September 1862, No. 2,169, deferred the consideration of the project for the improvement of the Negapatam Harbour.

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

illustrator

B. 18. 9/1862/63

34
1st Range Office

Megapalan 1st Sept 1862

Sir,

W. Fraser Esquire - C. E.

1st Dept (District Engineer)

To,

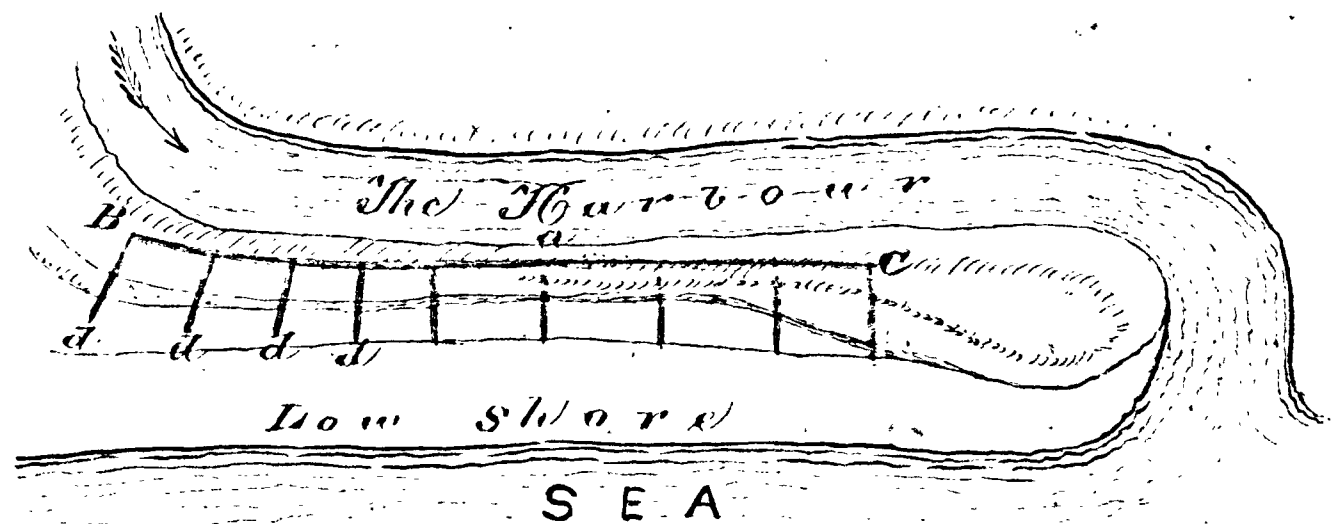
Captain J. Mulline

District Engineer of Tanjore

Sir,

With reference to your letter No. 271, I have the honor to refer you to my letter No. 152 dated 19th August 1862 in which I drew your attention to the fact that for the work then being done for the extension of the sand spit at the Harbor, I had the authority of Captain Sord only.

As, however, there was no special sanction either of the Chief Engineer or Government, and as you might view the matter differently from both Captain Sord and me, I stopped all work with the exception of watering the trees and other things that had been planted -



2

The above sketch of the sand spit will illustrate

illustrate what has been done:-

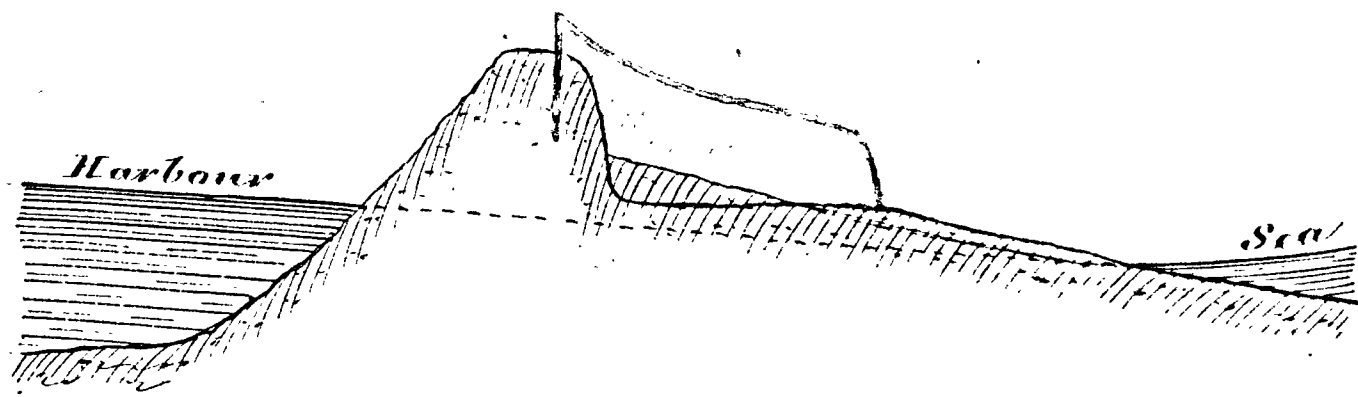
The part near the mouth of the River is high and broad and covered with creeping and other plants.

Here, the sand is permanent, but the rest of the spit is narrow and low and destitute of vegetation:

From this part the sand is blown by westerly winds into the mouth of the river:-

The place marked A is where the breaches have occurred.

The Bank at that place is very weak - still: The section is thus,



3 Two years ago some rough fences of Bamboos and Reeds were made along the narrow part where the breach had taken place, and with an excellent result; for, so far as the fences were made, sand was collected and retained:-

4 It occurred to me that by extending this work on a larger scale, and more systematic plan, the high part of the bank might be increased and rendered permanent at a

very small expense:-

That if in addition to the fences, we planted such trees, shrubs, creepers &c. as we know will grow in sand and sandy soil near the sea, and thus cover the whole spit with close jungle, we should in the course of a few years give stability to the Bank and probably render unnecessary the more expensive works contemplated:

5 we had proof of the rapidity with which one sort of tree would grow on this spit - in pure sand:

In October 1860 there was occasion to throw in some brushwood along the River edge of the spit: It consisted, principally, of branches of the *Picrasa* tree: A considerable number of these took root, and the new shoots are now 3 to 4 feet in height:

This suggested the idea of planting a belt of these trees along the edge of the bank for the purposes of holding the sand together and preventing another breach.

The work actually done and the results are as follows:-

1. — A fence of Bamboos and Reeds has been made along the Bank from B to C for a length of 800 yards and $1\frac{1}{2}$ yards high
2. — Do without Reeds, 90 yards —
3. Cross fences of Bamboos & Reeds marked d-d-
Vⁿ 1440 yards by $1\frac{1}{2}$ yards.

4. Cross fences without Reefs 1,80 yards —
(These give 3360 square yards finished with
Reefs; and 1140 square yards without Reefs.)

Trees &c. planted

1. Pu Arasu	340
2. Cthyo	138
3. Rashedu	600
4. Punga	665
5. Kambu	211
6. Tille	50
7. Kunda	70
8. Pinray	502
9. Rattamanakku	1,500
10. Sals	300

Total 4376

These are all getting on very well —
except Nos. 6 and 7, of which, the greater part
have died.

Of the whole number 1574 are now
growing well: The rest are coming on.

Although it was late in the S.W.
Monsoon when we commenced to make
the fences, the result has been most satisfac-
tory.

Already over 13000 cubic yards of sand
have been deposited between the fences, and
the action will continue whilst the present
Monsoon lasts.

The fences will prevent the North
East Monsoon blowing the sand into the
River

River as it has hitherto done; and thus in a few
seasons we may expect to have a high sand bank
500 or 60 yards wide, instead of the narrow unsafe
bank which at present exists.

The entire expenditure up to the 31st
August has been a very small sum for the
quantity of work done; and still smaller
compared with the beneficial results which
may be confidently expected.

I have no doubt whatever but that,
with an expenditure not exceeding 5000 Rupees
and in 5 years time, a high sand bank 100
yards wide, and covered with trees and
plants, could be placed between the sea —
and the Harbor.

I would strongly recommend
the adoption of this course instead of expen-
ding the large amount which, I understand,
is entered in the Estimate for the strengthen-
ing of this Bank.

The Pinray and Rashedu trees would
in 5 years yield a Revenue which would
soon repay the whole cost.

I would here mention that on this
bank upwards of 12,000 Rupees have been
expended within the last 8 or 9 years —

It is intended that a large proportion
of the sand &c. dredged in the Harbor should
be deposited upon this bank.

This would render it necessary to
construct the fences we have made, or else
the sand would be all blown back again.

9 I have already stated that being uncertain what your opinion might be, I had stopped the work:

It is however nearly Completed so far as I should wish to have it Carried out this year:-

About 200 Rupees will finish what was originally intended to be done:-

The watering of the trees &c is still Continued, and this Costs now 85 Rupees a Month:

It may be discontinued next month when the rain begins, but should be recommenced in January.

10 As the present mode of watering is expensive I would recommend the use of a Garden Engine, which would be very suitable for this place as it could be wheeled along the Rivers edge and have all the Plants within Range:-

One of Warner's galvanized iron tub engines, to hold 2 1/2 gallons, can be bought in London (at 8 Crescent, Cripple gate E C) for 1 guinea

Such a machine would reduce the Cost of watering to 12 Rupees a Month.

11 Captain Ford intended that the Cost of this work should be met from the 25,000 Rupees granted for expenditure on the Harbor works this year: I now however send an Estimate for it.

In Connection with the Dredging of the Harbor this work is actually necessary.

necessary.

I have &c

(Signed) W. Fraser Esquire - C. E.
1st. Asst. District Engineer

(True copy)

W. Fraser Esquire

Captain
Acting District Engineer, Sanjore

W. Fraser

N^o 175 of 1862/63.

Southern Circle
District Engineer's Office
Tanjore, 12 September 1862.

From
Captain J. Mullins.
Acting District Engineer

To
The Deputy Chief Engineer
D.P.P.

Public
Para 3.

Sir,
In continuation of my letter N^o 170, of the 10th Instant, I have the honor to forward a copy of a letter N^o 168 of the 1st Instant, from Mr. Fraser giving the information required with reference to the work which has been done on the spit between Vajaputnam Harbour and the Sea, and I beg to recommend that the amount of the Estimate Rs 1500 therein allotted, may be sanctioned, and that the expenditure may be debited to the Estimate Rs 62000 which was forwarded with Captain Baker's letter N^o 370 of the 11th April 1861, and much of the work included in which, that now done will supersede.

2 Captain Ford, so far as I am as-
certain, must have been under a misappre-
hension in supposing that Rs 25000 had been
sanctioned for Harbour Works, for the current
year, as I can find no trace of any such au-
thorization.

I have &c
J. Mullins
Captain
Acting District Engineer

so far 23/9/63 N^o 85.

Enclosed are a return
from the No. 1800
Commission of Enquiry
No 175 dated 12th Sept 62
1862.

90th 2893/62

Copy of letter from
Mr. Fraser regarding
on the sand spit
at the Vajaputnam
Harbour.

121

From

24

Mr,

44.175
of 12 Sept '62

Lucy

2. I have informed Capt. Mullins that as the work may be considered completed, the submission to Govt of an Estimate is unnecessary; I have requested him to append full explanation to the bill in sending it up for audit. I have also written to the Asst. Engineer that

The wheel to have a broad light type bolted round it. The cost of this apparatus, which should be trifling, will be added to the bill for

4. I think the use of a similar water barrow would be found economical where young Avenue & Canal bank trees have to be watered at the Public cost.

Shaw

Kuchterley

H. M. S. S. S. S.

No 400th of 23rd April 1962
A.H. 85

27.85

Virginia

8

Shedding of the Scales
Chrysalis

27
Theodore Tilton

5

Sept 12th
1862

10/13/05

201/2598/12

8
According entry of Mr
Harris letter 12/10/8 of
the 1st instant regarding
the bank on the 1st of
the term the Harbour
and the of Department

Cl. Colburn Jr.

Pa. 60. 61.

Smithsonian
1863

[illegible]

1852
1853

1885
June 2.

10-23-53 - October -

reducing expenses, especially
with respect to his Parker
plot at Hingham, becoming
sensible the use of a water barrel
with a barrel tyrod wheel to econ-
omize the cost of conducting the tree
stands planted on it, of course
for use where young conifers were
to have to be raised standing at
the public expense. -
J. H. Mendenhall

Oct 23/51

The Lord will direct the

receipt of a Bill for the want of the funds
together with the explanation furnished. The
austerity under which the work was carried
out should be stated, and, Captain Ward
should be asked, on the subject, if necessary
as it appears that it was a common need under
his orders.

new means. The Spirit in Pro: dated 11 Sept 1846
At 2166 referred, the consideration of the
project for the improvement of the Chicago
Harbour.

Chapman &
322 Oct. 1862

13 Copies.

10 The Day Christ King of Canale Night 4
4 " " Officiaries changed of a duct it 28/15

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