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(2) Date of repair 30.6.86
(3) Initials of the Referencer lang

TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P. W. DEPARTMENT

G.O. No.	629	Press.
B.P. No.		Mis.
Dated	7.2.1878	197.

Not to be folded or roughly handled

629
1

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

7th February 1878, No. 629 W.

Buildings and Roads.

Civil Works.

Read the following papers:—

No. 65.	From Dist. Engineer, South Canara, dated	7th March 1877, No.	77.
No. 65-A.	From " " " " "	29th May " "	21.
No. 65-B.	From Collector of " " "	19th Nov. " "	1,959.
No. 65-C.	From Dist. Engineer, " " "	7th Jan. 1878, "	69.

No. 66. ORDER THEREON, 7th February 1878, No. 629 W.

HIS GRACE the Governor in Council is of opinion that the cost of the works necessary to permanently improve the Mangalore Harbour is such as, under present conditions, to render all action in the matter prohibitory. His Grace deprecates all temporary expedients, and desires all further expenditure in protecting the foreshore, &c., &c., shall cease.

It is ordered that Government may be kept informed from time to time of the state of the Harbour, the District Engineer will before and after each monsoon submit the plan of the Harbour of Mangalore, marking thereon in different colors all changes that may take place.

(True Extract.)

Colonel, R.E.,
Secretary to Government, P.W.D.

To the District Engineer, South Canara.
" Marine Department.

Exd. E. C. Shunker.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1878) Madras.
PUBLIC WORKS.

THE DISTRICT ENGINEER,
SOUTH CANARA,
&c. &c. &c.

Dated February 7th.

For

Recd.

Encs.

G. O. 7th February 1878, No. 629 W.

FEBRUARY.

Nos. 65-68.

Mangalore Harbour.—All further expenditure in protecting the foreshore, &c., of the — to cease, and the District Engineer to submit before and after each monsoon a plan of the — marking thereon in different colors all changes that may take place.

PUBLIC WORKS DEPARTMENT.

629

Letter from the Dist. Engr. South Canara No 77 d/7th March 77
do do do do d/29th May 1877 No 21
do Acty Collector do No 1759 d/19th Nov 1877
do Dist Engr. South Canara No 69 d/7th Jan 1878.

FOR ORDERS.

The Chief Engineer is of opinion that the only mode of permanently improving the Mangalore Harbour would be to fix entrance to the Harbour and secure the exit of the two Rivers Netravatty and Goorapoor through it, to carry out which it would be necessary to construct two long and heavy training walls with revetted approaches &c. and thoroughly protect the spits of sand North and South of the fixed entrance from erosion by sea or Rivers by a series of groynes and Revetments inside and outside

I fully share the opinion that it is permanently for the Entrance to the Harbour back water will cost far more money than this is the slightest probability of improving the Entrance or the

outside so as to prevent the possibility of the fixed entrance being outflanked in storms or heavy floods. The Chief Engineer believes any temporary expedients to secure what is required will be certain to end in failure and be simply waste of money.

The papers are now circulated to Government for orders as to whether plans and estimates shall be prepared for the necessary permanent works which doubtless will cost a vast sum of money, or if the subject shall lie till further orders.

Edw. Colvill, R.E.
Chf Engr and Secy to Govt.
Jaup.

the present river. It is just as in expending for the purpose if become worse it.

I do believe the short gorges will have any material effect on the condition of the bank. For an Engr. is that the opening of a new entrance at the present place is a disadvantage.

So? to build a new entrance in these parts is a very expensive experiment. For the only thing which is known at the present is that the means of making a new entrance is a great deal more than if this was the present.

I agree with you. The entrance to the river is a great extent - when visiting the river consider the spot - it seemed from all accounts. I would have most important that any measure would be effective in reducing the action of the sea - & the erosion of the conflicting currents of the 2 streams or 3/4 the mouth a long point after the entrance the natural forces place it. The expense of any

such measure would be very large - the large portion of the cost would be the only thing which is known at the present is that the means of making a new entrance is a great deal more than if this was the present.

629/3
The entrance to the river is a great extent - when visiting the river consider the spot - it seemed from all accounts. I would have most important that any measure would be effective in reducing the action of the sea - & the erosion of the conflicting currents of the 2 streams or 3/4 the mouth a long point after the entrance the natural forces place it. The expense of any

But the entrance is shifting constantly & gorges cut the river in places of that kind. It is of course a very expensive experiment.

I think it was the much
 likely being then in mind
 to make some provision for
 the drainage of the area
 & to make this provision
 during the same period
 the same time
 for the purpose of
 for the purpose of
 directed towards the
 to clear the area
 to clear the area

FOR ORDERS.

629 W

8014

S. Canara

26/1

Recd 5.2.70 Del 7.2.70
 Recd 31.5.70 Del 5.6.70

Mangalore Range office
 7th May 1872. 1872/4

To
 The officer in charge of
 Mangalore Range.

The Superintending Engineer
 7th Division.

92718/11

No. 527 of 7th May
 1872, copy of which
 is herewith
 forwarded.

On the receipt of G. O. No 1085 of
 24th April 1872, orders were issued to suspend
 the collection of rough stone for the protection
 of the said spit but a letter received from
 the Collector whose views entirely coincide
 with my own, has induced me to proceed with
 the work, and I trust, that the reasons
 given below will be sufficient excuse for
 my taking action in a matter apparently
 settled by the G. O. in question.

2. The point at which the threatened
 breach will occur is situate very far to the
 south of the Custom-house, opposite to
 which building, according to old records,
 both rivers debouched prior to the opening
 at Bellal being cut. Consequently the
 major portion of the backwater now caused
 by the Nitrawati river will be left slack
 water, should the breach be formed and
 will probably be silted up rapidly by
 the sand &c brought down by the monsoon
 water.

water. Could the scour of the Surpar river be brought to bear at once upon the back water intervening between the two openings it would be a different matter, but the inadvisability of at once closing the entrance of the above river, is admitted by Mr. Robertson and I venture to submit that the difficulties in the way of any objections to the course proposed by that Gentleman have not been sufficiently considered.

3. I cannot but fear that even two monsoons will be insufficient to clear the solid aggregations of sand now between the river mouth & that time would be sufficient to seriously affect the depth of the Harbour were the present scour removed.

4. There is moreover the danger of a spit of sand similar in shape to that now running from the Southern end of Badakody Island being forced forth of the new entrance and such an impediment would convert the two or three miles of back water where vessels now lie into a lake to the utter ruin of the Mangalore Trade.

D.

5. So great have the changes been in the Harbour, that I am now engaged in taking a fresh survey of the river mouth and hope to be able before long to forward fresh Plans for your information. Until then I will defer reporting further on the matter.

6. I should not be doing my duty did I not urge in the very strongest manner the absolute necessity of at least protecting temporarily the narrow portion of said Spit. I have paid considerable attention to the Harbour, and the combined action of the waves, and the river current and feel confident that the spit of sand mentioned in para 4 would be thrown out if a new mouth was made, & there was no opposing current to prevent such formation and as it cannot be denied that such a spit would be terribly detrimental to the interests of Mangalore, European & Native. I trust I may be supported in the action I have taken till at least such time as the personal inspection of someone better qualified to judge, shall have removed the responsibility from me.

J

I have
 by E. H. Pringle
 Assistant Engineer
 (true copy)

by E. H. Pringle
 District Engineer
 Malacca

P.W.D.
 4 JUN 77
 No. 5491

Special Port Fund.

Original works.

Miscellaneous Public Improvement

B Aids to Marine Navigation

iii Miscellaneous

Detailed estimate No. 7 of 1877-78

South Canara District

Work. Protecting the sand spit at Lellal to prevent
 its being broken during flood.

Detail of work

Groins of Coconut or palmyrah
 piles with rafters nailed and
 bamboos tied with ropes &
 fascines of brushwood
 running feet

Pitching face of sand between
 groins with rough stone Cubic
 yards.

Number each	Measurement in ft.		Depth	Contents	Quantity
	Length.	Breadth			
6	150	900			900
1	500	500	10 $\frac{1}{4}$		1250

629
 6

Abstract to the foregoing estimate

Quantity

Description of work Per Rate amount Total

900 Rs. ft. Groins of Coconut or palm
-rah piles with rafters nailed &
bamboos tied with ropes and Rs. ft 38 - 3150 -

facies of brushwood

Pitching

1250 C. yds. Pitching face of sand between
groins with rough stone C. yd 1 - 1250 -

4400 -

Sundries & Superintendence Cent 5 - 220 -

Total Estimate Rs 4620

South Canara
District Engineer's Office
Mangalore 29 May 1877

[Signature]

District Engineer

[Signature]

[Signature]

P.W.D.
4 JUN 77
5401

Special Post Fund.
Original works.
Mis. Public Improvement
B Aids to Marine Navigation
iii Miscellaneous
Details estimate No 7 of 1877-78.
South Canara District

Work. Protecting the sand spit
at Ullal to prevent its
being breached during
floods -

Estimate Amt. Rs 4,620-8-

No 77. South Canara D. Engrs office,
Mangalore 6th March 1877.
6th 9/8

From

The District Engineer
South Canara.

To

The Ag. Chief Engineer
Roads & Buildings
Sir,

In reply to your letter No 477 dated 23rd ultimo, I have the honor to state that the survey of the Harbour on the basis of Col. Horsley's Survey of 1858 will be submitted as soon as the sections at the fixed points noted by the late Chief Engineer are completed, and the alterations in the coast line will be filled in on Capt. Taylor's Chart.

2. In a private letter dated 27th August last, General Walker requested me to lay down all fresh survey on tracings of Col. Horsley's Survey, but such great changes have taken place both in sea & shore lines since 58 and annually occurs, that it is no easy matter to connect the two without extensive resurveys. These, both of shore line and of sand bank, I even now venture to think, will be necessary in connection with the sections to give an accurate idea of the

the

the changes in the Channel between Allah and the Harbour mouth. However such Surveys can be carried on after the submission of the sections.

3. The address to the Secretary to Government D. P. W. of the reply to the Chief Engineer's letter was inadvertent.

4. I regret that I have unintentionally done Mr. Montserrat injustice in my letter No. 66 dated 20 January last. When his field book was sent to me, the work on the first three leaves in pencil was all that was found by me. As the entries commenced with Station A at Jeppoor, as ordered, I concluded that this was the only work shown by him. I now learn for the first time that there were ink entries at the other end of the field book.

I have the honor to be
Sir
your most obedt. Servt.

Edmund
District Engineer
Madras -

P.W.D.
10 MAR 77
NO 2571

From, The Dy. Engrs.
to, The Dy. Engrs.
Dated 6th March 1877
Copy 7th March 1877
Recd. Engrs. Office
No. 77
Mangalore Harbour
Dated 6th March 1877
basis of Col. Kennedy's
survey of 1858 the survey
of the will be
submitted.

Recd 31-1-78

(6)

No. 21 South Canara District Engineer's Office
Mangalore 29th May 1877 629/10

From
The District Engineer
South Canara.
to
The Chief Engineer
Roads & Buildings Branch.
D. P. W. Madras.
Sir,

With reference to your Memorandum
No. 1336, dated 21st May 1877, I have the honor
to return the lithograph survey forwarded there
with showing as much of the Contours of
the sand spit as have yet been resurveyed,
with the positions of the groins I propose
to throw out to check the action of the
Natarwati on the narrow portion of the spit
near Ullal.

2. These groins can be annually pushed
outwards until the spit has increased its
width, when the river face can be pitched
with rough stone to stop further erosion.
3. The direction of the groins is oblique
to prevent too great interference causing
counter current and scour.
4. The estimates have necessarily been
rather hurriedly drawn out and may want
some revision in details, but approximately

may, I believe, be relied on. No work of the kind has yet been executed in this district.

5. I trust that after perusal of the Memorandum of the Chief Engineer, No. 8, dated 15 April 1872, printed with G. O. No. 1065 dated 24 April 1872, and para 2 of that printed with G. O. No. 2347, dated 7 October 1872, I may be relieved of the responsibility thrown on me in para 2 of your Memo under reply.

My own views concerning the protection of the spit near Bellal, were strongly expressed to the then Superintending Engineer of the Division as may be seen by the copy of my letter No. 44 of 7th May/72, to him, but I considered the subject decisively closed by the above quoted Memorandum of the Chief Engineer and I should not have thought of reopening the question but for the remark of General Walker, made when he stopped at this place on his way to England.

6. The annual wear is not evidently

so great as I anticipated in 1872 or the continuity of the spit would have long since been destroyed.

629
11

I have the honor to be
Sir
your most obedt Servt
Edw. Smyth
District Engineer
S. J. J. J.

Edw. Smyth

No 119 - 13-6-72
 179 - 30-3-70
 G.O. 3343 - 16-10-69
 1065 - 24-4-72
 1519 - 22-6-70
 1449 - 12-6-72
 2347 - 7-10-72
 447 - 11-2-73
 1772 - 9-7-73
 2138 - 27-8-73
 874 - 13-1-74
 347 B - 13-2-74
 1192 B - 4-5-74
 Mis 85 - 15-10-74
 G.O. 273 - 2-2-75
 Mis 159 - 17-5-75
 G.O. 2599 - 10-9-75
 2055 - 10-8-76
 2467 - 15-9-77
 G.O. 1190 - 4-8-76
 447 - 23-2-77
 5 - 3-1-77
 1336 - 21-5-77

4 JUN 77

5191

From
 The District Engineer
 Mangalore

To
 The Chief Engineer
 Road & Railways

No 21.

Dated 29th } May 1877
 Recd 30 }
 Recd

Encl (Four)

Lithograph Survey of the entrance
 to Mangalore River. - Returns
 the — with an estimate, proposed
 to throw out some groins to check
 the action of the Mithrawadi
 on the narrow portion of the spit
 near Ullal.

19-1-78

659/12

No 1959

South Canara Collectors' Office
 on Circuit Karkal
 19th November 1877

From,

W. H. Comyn Esquire,
 Acting Collector of South Canara.

To

Colonel W. Farwell
 Under Secretary to Government.
 Public Works Dept. - Fort St. George

Sir,

I have the honor to return the Estimate
 for Rs 4620 for protecting the sand spit
 near Ullal, together with the other papers
 received with your Memorandum, dated
 6th August 1877. No 2203, in which I am
 requested to state whether I consider the
 proposed object worth the expenditure.

2. In the face of the conflict of high
 professional opinion as to the best way
 of securing the interests of the Mangalore
 Harbour, I should feel considerable dif-
 fidence in advancing an opinion on the
 general question, in which that of the
 necessity or otherwise of protecting the
 sand spit ^{near Ullal} is involved, but assuming

that the protection of this sand spit is necessary for the safety of the Harbour and that the groynes and revetments provided in the Estimate will afford the protection required. I should have no hesitation in saying that the proposed object is well worth the money.

3. On receipt of the papers now returned, I visited the sand spit on two occasions in company with Mr. J. D. Davidson the Officiating District Engineer and it seemed to me that the danger to the sand spit lay not so much from within as from without - in other words that the spit was more likely to yield to the inroads of the sea than to erosion by the river. If this were to be the case, any money spent on groynes or other protective measures would be so much money thrown away.

4. We found that the sea had made considerable inroads on the spit north of the existing groynes since the commencement of the last -

23/13

by no means heavy - South West monsoon leaving only a width of 18 yards of sand between the sea and river at the narrowest part of the ridge, and we were of opinion that during a heavy monsoon the sea would probably work in and undermine any revetment that might be constructed for protecting the spit from the action of the river floods.

5. I beg to enclose a plan of the sand spit near the existing and proposed groynes. The dotted line shews the spit before and the blue line the spit after the monsoon. The sections through Bench marks 6 & 7 were taken before and that through C.D. after the monsoon: it is at this last section that the danger seems to threaten.

6. . . . Before replying to your Memorandum, I thought it desirable to consult Mr. Pringle on this point, and accordingly wrote to him on the subject on his return to the district from leave. From his demi-official reply it does not appear that he shares my apprehensions; he states that

"the action of the sea noticed is not unusual and has previously occurred very near the same place where the width of the spit was reduced to less than 50 feet. It is no doubt dangerous to a certain extent if occurring at the narrow portion during an unusually high flood, but at other times the sea, as soon as it has lowered the high portion of spit, repairs the injury in a manner by sweeping large quantities of sand over the bank into the river and thus pushing forward the spit without ^{breaching} benching it", and Mr. Pringle is of opinion that the sand spit cut away at C D will probably be re-formed during the dry weather. I think it very probable that it will, but then I think it equally probable that it will be washed away again in a heavy monsoon, and this may occur at a time when the river is in high flood. The question to be decided is whether, granting that the protection of the sand spit is

629/19

necessary for the safety of the Harbour, the proposed protective measures will have the desired effect.

7. It appears from Mr. Pringle's letter to me that the Estimate requires revision, as the work can be done cheaper than allowed for, and some more groynes to the north are required. As this is the case and as Mr. Pringle considers that the Estimate need not be sanctioned until the effect of the groynes already placed is seen, I would beg to suggest that the Estimate may be returned to him for revision.

8. But it would appear that the proposed works are only intended to avert danger at one point, and that (always assuming the necessity and feasibility of protecting the spit) groynes will be required throughout the length of the Harbour, as the set of the river is on the sand spit throughout its length and with constantly diminishing

effect on its width. What with "the
"narrowing of the protecting spit
"the silting up of the shoreside, and
"the continued advance of the mouth
"northwards" it is evident, as Mr.
Pringle says, that other works are
really necessary "if anything is to
be done to improve the harbour or
in fact to save it as a harbour",
and it is presumed that these works
will entail a large expenditure of
public money.

9. The great importance of
Mangalore as a trading port being
considered, the protection of its
harbour appears to me to be a
matter requiring the most earnest
consideration. I agree therefore with
Mr. Pringle in thinking that, with
so many conflicting opinions on the
subject, something should be done
in view to arriving at a definite

629/5
policy, and I would beg to suggest,
for the consideration of Government,
the expediency of appointing a Com-
mittee to enquire into the whole
matter on the spot, and to report
in what way the desired object
can best be secured.

I have the honor to be,
Sir,

Your most obedt. Servt.

W. L. G.
Acting Collector.

W. L. G.

No. 69) District Engineer's Office
Mangalore 7 January 1877

From The District Engineer,
South Canara

To The Chief Engineer
for Roads and Buildings
Madras

Sir,
In forwarding the survey called for
in your Memo No. 2202 of 6 August 1877,
I have the honor to inform you that
I was under the impression that it had
been sent during my absence on leave, and
it was only on receipt of your
reminder that I ascertained the survey
was still in the hands of the Divisional
Draftsman.

I regret the delay which has
taken place through the original call,
having been chosen to me on my return.

I have the honor to be,
Sir,
Your most obedient servant

Endersby
District Engineer

From

The Acting Collector of
South Canara

To The Under-Secretary to Govt.
Public Works Department
Fort St. George

Dated 19th November 1877

Recd. 22nd Decr 1877

Enclosure two

Given to
A. G. Raman

Returning the Estimate for
protecting the sand spit near
Mallik (Mangalore Harbour)
stating that the same be
submitted to the District Engineer
for revision -

Dec 31-1-78. 7-2-78.

Jan 19-1-78.

From
The District Engineer
Mangalore

To
The Chief Engineer
Roads & Buildings

Dated 7 January 1878

Encl.
No. 69

to Mr. Planville
Mangalore
Survey - Forwarding the encl.
sent for in Memo No. 2202 of
6 August 1877.

Recd 30.1.78 At 7.2.78

B. & R. Clarke
No. 69 W Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 7th Feb 1878.
Read the following:—

From the District Engineer Mangalore (H.E. No. 77 dated 7 March 77)
Do. do. do. 21. 29 May 77
Do. Collector do. 1959. 19 Nov 77
Do. District Engineer do. 69. 7 Jan 78

His Grace the Governor
in Council is of opinion that
the cost of the works necessary
to permanently improve the
Mangalore Harbour is such
as, under present conditions
to render all action in the
matter prohibitory. His
Grace deprecates all temporary
expedients and desires all
further expenditure in
protecting the fore shore

See 1500 shall cease.

In order that Government
from time to time may be
kept informed of the state
of the Harbour, the District
Engineer will before and
after each monsoon sub-
mit the plan of the
Harbour of Mangalore
marking thereon in dif-
ferent colors all changes
that may take place.

CAF

20.1.78

S. S. Canara ✓
Marine Dept ✓

Ans 14-2-78

Recd 5-2-78 27.8.78
Recd 31-1-78-24 5-2-78

12420
13491
No 22/4
25/1



Govt. of Madras.
PUBLIC WORKS.

To *The D. G. Public Works*

Dated *7/7/78*

Issued

Recd. Encl.

G. O., 77th, 1878, No. 6296

Nos.

Mangalore Harbour
All further expenditure
in protecting the foreshore
of the — because, and
to submit before
after each season
plan of the — marking
thereon in different colors
changes that may
place.

*Submitted to
3/25
1702/6732/78*

Recd 31-1-78-24 5-2-78

ANP 14-2