

(1) Number of pages _____

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 1369 (1r)

Press
Mis.

Dated 21-4-1877.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
21st April 1877. No. 1,369.*

Read the following papers :—

No. 506. . From F. N. THOROWGOOD, Esq., C.E., Superintendent, Madras Harbour Works, to the Chief Engineer, Public Works Department, Buildings and Roads Branch, dated Madras, 18th April 1877, No. 9 W.

I HAVE the honor to submit to you the following special report on the Madras Harbour Works.

2. The state of the sea has been such that only two courses of blocks have been set since March 31st, advancing the north pier about 9 feet 10 inches. This delay, however, is one that may be expected at this season, and I can only be glad to think that the amount of work done in March was satisfactory.

3. On the afternoon of March 31st, the diver reported to me that a slight accumulation of sand had taken place in front of the block work, but this was washed away the next time the diver went down, the wind having been north-east for a short time.

4. The state of things at present is this, the sand is accumulating in front of the north pier so fast that I can as yet devise no means to clear it away in time to set a block. The difficulty of diving work is increased by the darkness of the water.

5. In referring to my report to Government on what I thought would be the result of stopping the south pier, (No. 104 W, February 3rd,) I see that my words were "if the south surf bank were stopped" the sand would surely form on the rubble base of the north pier. To this remark Mr. Parkes has since rather objected. I therefore hesitate before I quote it.

6. I now can report the south bank as in fair progress, and being in the breaking surf, nevertheless it catches but a small quantity of the sand in motion, and the accumulation on the south side is not yet perceptible to the eye. Sections will of course be taken from time to time to show the actual state of affairs. I am however using all the force I can to push on the south bank, and considering that it was not till the middle of May last year that the north bank began to collect sand perceptibly, I hoped that I was tolerably safe in getting a substantial bank commenced in the middle of March this year. New troubles however now appear.

7. I have of course mentioned to Mr. Parkes that I feared the sand would form on the north pier base, but he has not yet agreed with me in fearing any difficulty from this cause, although he is not taken by surprise. His remarks to me on this subject are these, in a letter dated March 16th, and received April 6th, "I shall be curious to know how you find the sand in the foundation. I expect you will be troubled with it more or less till your rubble base is 4 or 5 feet above the natural level of the bottom, but this will be no evidence of general movement. Local eddies will play all manner of tricks till you get into deeper water." I may remark here that the rubble bank is at present from 2 to 3 feet above the sand.

8. Mr. Parkes has evidently clearly foreseen that some trouble would be caused by sand, but until I have witnessed one whole year at Madras I would respectfully

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21st April 1877. No. 1,369.*

request not to be asked to give an official opinion on the result of local eddies, for I know too well what tricks were played by them at first at the Tyne entrance, and one cannot find them out in a few months.

9. As a matter of fact, however, the sand is collecting in front of the north pier, and as I find it this morning the depth is 3 feet over the rubble. The water out to the 4-fathom line is full of sand in suspension, and the short but constant waves prevent me from doing any *real work* with the divers crew. Moreover, as fast as the sand is excavated from off the rubble it fills in again. The consequence is that for a time the north pier progress is slow, and my chief object in sending this special report is to place on record before Government a statement showing that there is a sufficient reason for this present slow progress.

10. In referring to this accumulation of sand in front of the north pier, I may state that if I were asked to give an opinion about it, I should say that I think the difficulty would vanish when the pier was advanced 100 feet further, but this is only my opinion after having been here for nine months. In expressing this opinion I am guided by what I call in my own notes the line of "water saturated with sand," and until we are outside that line it seems to me to be probable that sand will continue to be deposited.

11. The difficulty that affects me most as Executive Engineer is what to do at the present time with the north pier. My own experience would lead me to hurry on the south pier as fast as I can, and to leave the block setting on the north pier alone for a time, or until the sea becomes so smooth as to admit of a good week's work being carried out. The question is a hard one to deal with, but I do not apprehend that the difficulty will last long.

12. From my own measurement of the currents I find the greatest velocity obtained during the past two weeks has been 1.10 miles per hour, and the current on the bottom has been inappreciable. The fact however remains that sand is now deposited daily in front of the north pier, while at the same time there is no sand caught on the south side of the north or the south pier.

13. I think the remedy to be tried is to put all force on the south pier and leave the north alone.

MEMORANDUM.

THE Chief Engineer recommends that cross sections be taken across the rubble base to the 4-fathom line, showing the accumulation of sand north, south and above it. Doubtless the south pier should be pushed on with as rapidly as possible, but the rubble base of the north pier should be daily examined and every advantage taken of it being temporarily free of sand to push on with block setting; since the distance to the 4-fathom line is now not great it would be as well to set as many blocks as possible daily, care been taken that all the sand is removed from the rubble base below each block.

FORT ST. GEORGE,
19th April 1877.

(Signed) E. A. FOORD, Colonel, R.E.,
Chief Engineer, P.W.D.

*Proceedings of the Madras Government, Public Works Department,
21st April 1877. No. 1,369.*

No. 507.

ORDER THEREON, 21st April 1877, No. 1,369.

CIVIL WORKS, No. 43.

His Excellency in Council is of opinion that the south surf bank should be pushed on with the utmost expedition.

He does not consider, however, that work on the north bank should be abandoned. He would rather have the course of action proposed by the Chief Engineer followed.

2. Mr. Thorowgood should, at the same time, have careful examinations made as frequently as possible of the state of the bottom around the crates at the 7-fathom line; and will report whether any sand is now deposited there.

(True Extract.)

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

To the Superintendent, Madras Harbour Works.
" Marine Department.
" Harbour Committee Secretary.

Exd S. T. Austin.
Spare Copies

May be of the same

READ the following:—

Letter from the Suplt., Madras Harbour Works,
No. 9 W dated 18th April. 1877.

Memorandum by Chief Engineer M.D. 19 April 1877

FOR ORDERS.

Ed. M.D. Colmell
Secretary to Govt. M.D.

Ed. does suggest
in the Ch. Eng. Note.
It is in fact is what
Mr. Thompson proposes
plus taking the sections
in front of the North pier.

A. H.
Yes & also keep careful
examinations as frequently as
may be of the State of

Bottom around the
crater at the 7 fathom
line - is sand being
now deposited there?

By. 20/4

As I read the papers
through for work on the North Pier - leave
it alone" Mr Ch. Capt. Wd
push it on - ~~the South Pier~~
are agreed abt - pushing on
the South pier is hopes that it
will act as a sand drop trap

Is an unprofessional mind
it occurs to ask - Is the laying
of sand in front of the N. Pier
a new thing? Can the extension
of the South Pier have any thing
to do with carrying the sand
drift line out further in front
of the N. Pier?

Of the two alternatives
I am inclined to Mr Ch. Capt
and let work go on on the
North Pier with all expedition
But feel incompetent to

advise or confide in Mr Y.

Memorandum.

Letter from the Supt. Madras
Harbour Works No 9 W d 18th April 1897

The Chief Engineer recom-
mends that cross sections be taken
across the rubble base to the 4 fathom
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taken of it being temporarily free of
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since the distance to the 4 fathom line
is now not great it would be as well
to set as many Blocks as possible

daily, care being taken that all the
sand is removed from the rubble base
below each block.

Fort St George } EA Mnd Colonel R.E.
April 19th 1877 } Chief Eng^r P. W. O

[Faint, mostly illegible handwritten text, likely bleed-through from the reverse side.]

[Small handwritten signature or initials at the bottom left.]

11/1 129W
From
J. N. Thoroughgood Esq: C. E.
Superintendent
Madras Harbour Works
Colonel C. A. Ford R. E.
Chief Engineer,
for Roads & Buildings,
Fort Saint George.
Madras 18th April 1877.

Sir,
I have the honor to submit to you
the following special report on the Madras
Harbour Works.-
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only two courses of blocks have been set
since March 31st advancing the North Pier
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and I can only be glad to think that the
amount of work done in March was
satisfactory. -

[Handwritten signature or initials at the bottom right.]

3. On the afternoon of March 31st the diver reported to me that a slight accumulation of sand had taken place in front of the block work but this was washed away the next time the diver went down, the wind having been N.E. for a short time.

4. The state of things at present is this the sand is accumulating in front of the North Pier so fast that I can as yet devise no means to clear it away in time to set a block. The difficulty of diving work is increased by the darkness of the water.

5. In referring to my report to Government on what I thought would be the result of stopping the South Pier (No 104 12 February 3). I see that my words were if the south surf bank were stopped the sand would surely form on the rubble base of the North Pier. To this remark Mr. Parkes has since rather objected. I therefore hesitate before I quote it.

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dated March 16, and received April 6. I shall
be curious to know how you find the sand
in the foundation. I expect you will be
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rubble base is 11 or 5 feet above the natural
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7 3
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bable that sand will continue to be deposited.
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Executive

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13. I think the remedy to be tried is to put all force on the South Pier and leave the North alone.

I have the honor to be,
Your most obedient servant
A. H. H. H. H.

Superintendent

G. 6. 26. Sept 77 - 2569
 " 20. Nov. - 3088
 " 9. Dec. - 3343
 " 19. do - 3490
 " 3. Feb 77 - 389
 " 12. do - 480
 " 28. do - 672
 " 2. March - 714
 " 9. do - 812
 " 20. do - 559
 " 7. April - 1203.

P.W.D.
 104877
 4081
Roads & Buildings

From
 The Superintendent
 Madras Harbour Works

No 912
 Dated 18th April 1877.

Accumulation of Sand.
 Reports accumulation of sand
 in front of North Pier. -

L. O. 21st April 77 J.B. & 506

No 1369

9 21 1877
 Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 21st April 1877
 Read the following:—

The Supt. Madras H. Works (H. E. No. 9 W. of 18th April 1877)
 Memo. by the Chief Eng. P.W.D. (— 19th —)

His Excellency in
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 the South Surf bank should
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 utmost expedition. He
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 that work on the North
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 He would rather have the
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 by the Chief Engineer
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at the 7 fathom line; and
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ELT
21/4/77

Supt. Madras H. Works in ref
Recd - 21-4-77
Marine Dept
Harbour Committee Secretary.
Dtd 30-4-77

102081
~~18~~
Govt. of Madras
PUBLIC WORKS.

To The Supt. P. W. Works.

Dated

Issued

Recd.

Encl.

24/4

G. O., 21 April 1877, No. 1369

Nos. 506-507

Madras Harbour Works

Passing Orders on report
of the accumulation of
sand in front of North
Pier of the —

Contd. in Regt.