

MARINE (1899) DEPARTMENT.

Dated 23rd May,

No. 12 of 1899.

Madras Harbour

FORWARDING a report from the Engineer to the Harbour Trust Board commenting on the shoaling outside the Madras Harbour, and furnishing information respecting the nature of the deposit inside the enclosure.

No. 12, MARINE, 23RD MAY 1899.

MARINE DEPARTMENT.

LETTER—to

THE RIGHT HONOURABLE THE SECRETARY OF STATE FOR INDIA.

MY LORD,

We have the honour to acknowledge the receipt of your Lordship's Despatch No. 1, Public Works, dated 9th February 1899, recommending to the attention of this Government the opinion of Sir A. Rendel that the gradual shoaling which is taking place in the entrance of the Madras Harbour and its neighbourhood requires to be carefully watched, and that further information is desirable respecting the nature of the deposit inside the Harbour. In reply, we have the honour to forward, herewith, a report from the Engineer to the Harbour Trust Board commenting on the shoaling outside the Harbour and furnishing information respecting the nature of the deposit inside the enclosure.

2. It will be seen from the Chairman's covering letter that Mr. Pogson's proposed groyne to protect the harbour entrance has not been approved. The general question of harbour extension, including the position of the proposed dock, is now before your Lordship, the papers having been forwarded with our Despatch No. 1, Marine, dated 3rd January 1899.

We have the honour to be,

My Lord,

Your Lordship's most obedient, humble servants,

(Signed) A. E. HAVELOCK.

(") A. T. ARUNDEL.

(") H. M. WINTERBOTHAM.

OOTACAMUND,
23rd May 1899.

Exd. W. D'Moss.

Government (1899) of Madras.
MARINE.

Recd.

Regd.

} 1899.

Enclosures

Spare copies

G.O., No. 442, 23rd May 1899.

MAY.

Madras Harbour

Ordered that the report by the Harbour Trust Board Engineer on the shoaling outside the — and the nature of the deposit inside the enclosure be forwarded to the Secretary of State.

Government {1899} of Madras.
MARINE.

Recd.

Regd.

} 1899.

Enclosures

Spare copies

G.O., No. 442, 23rd May 1899.

MAY.

Madras Harbour

Ordered that the report by the Harbour Trust Board Engineer on the shoaling outside the — and the nature of the deposit inside the enclosure be forwarded to the Secretary of State.

GOVERNMENT OF MADRAS.

MARINE DEPARTMENT.

READ—the following paper :—

From H. BRADLEY, Esq., I.C.S., Chairman, Harbour Trust Board, Madras, to the Secretary to Government, Marine Department, dated 1st May 1899, No. 4/A.

Referring to G.O., No. 266, Marine, dated 20th March 1899, I have the honour to forward herewith, for the information of Government and for favour of transmission to Sir Alexander Rendel, copy of a letter from the Board's Engineer, No. 56, dated 25th April.

2. The mud noted on the charts of soundings, to which Sir Alexander Rendel refers, will apparently cause no difficulty in dredging within the harbour.

3. The groyne to which Mr. Pogson again refers was not considered necessary when his proposal was discussed by the Board and referred to Government (*vide* G.O., No. 119, Marine, dated 26th February 1896), and it is understood that Sir Alexander Rendel did not agree with the reasons given by the Board's Engineer in his proposals for the construction of it.

4. The position approved for any dock which may be constructed is in the sandy accretion to the south of the harbour (*vide* G.O., No. 10, Marine, dated 3rd January 1899).

ENCLOSURES.

From A. LEE POGSON, Esq., Engineer, Harbour Trust Board, Madras, to the Chairman, Harbour Trust Board, Madras, dated 25th April 1899, No. 56.

I have the honour to acknowledge the receipt of G.O., No. 266, Marine, dated 20th March 1899, received with your letter No. 4, dated 5th instant, and, in reply to the note by Sir A. Rendel, K.C.I.E., Consulting Engineer to the Secretary of State for India, I beg to report that the mud inside the harbour collects in the outer half of the harbour and is deepest in the hollow behind the bar and shoaling which has taken place at and seawards of the harbour entrance.

2. The mud varies from a thin layer overlying the sand to a depth of 2 feet, generally in the form of soft mud, into which a sounding lead easily sinks.

3. Since the receipt of the above Government Order, I have tried the action of the sand pump dredge upon this mud and find that, due to its soft state, it is easily removed and the sand underlying it raised in the usual manner. Should the mud due to calm weather settle and become compact, it will be removable by means of a jet of water being directed upon it in front of the suction mouth-piece.

4. The removal of the deposits of sand inside the harbour and immediately across the entrance can be done by the sand pump dredger, but the shoaling outside the entrance and to the south of the harbour cannot be removed by a floating dredger due to the constant rough sea and waves caused by the harbour piers.

5. To prevent the shoaling *outside* the harbour which is now taking place, I proposed in May 1893, 1895 and 1896 the construction of a groyne as a means of staying the sand to the south of the harbour and preventing it from reaching and shoaling the entrance or entering the harbour through the outer length of the south arm as it is now doing through the wave-breakers and where the pier cannot be made sandtight.

6. It was also shown that, when the groyne has been extended a little seawards of the harbour entrance, that it would produce a scouring action across the entrance and probably remove the sand which has now collected at that spot.

7. With the action of a groyne and that of the Dredger "Wenlock", I am of opinion that the shoaling difficulty can be overcome, but by a floating dredger it cannot, because useful dredging in the open roadstead by a floating dredger is impossible.

8. I therefore ask that, the shoaling difficulty may be considered as part of any scheme for improvements, whether in the form of a dock or a wet basin, as I consider that whatever money is spent should be in some work which will prevent the entrance from shallowing, and this can be done by placing the dock or wet basin seawards, as I have already proposed, and not inshore in the accreted sand where it cannot prevent shoaling at the entrance, besides the fact that an inshore dock necessitates the construction of a long and dangerous protecting arm projecting into the harbour which will reduce the present berthing area.

9. It is now certain that sand is resting and shallowing the roadstead in the front of the harbour entrance, and it must therefore be prevented from reaching that position by means of a groyne (which may also form a south wharf of a dock for the same cost), or the sand must be wholly removed by dredging.

10. A floating dredger cannot do useful work outside the harbour due to rough sea, and if the sand is not to be arrested by a groyne, it must be removed by dredging pumps placed on the harbour arms in the manner proposed in my report, No. 529, dated 27th November 1896, viz., by means of a travelling sand pump working along the south pier, drawing the sand from outside the harbour, and delivering it into hoppers inside the harbour.

11. If, therefore, an inshore dock is sanctioned, special travelling sand pumps should be provided for the removal of sand outside the harbour arms, or the dock placed seawards, so that its southern wall may take the place of the groyne referred to above.

EXTRACT of Proceedings of the Trustees of the Harbour of Madras, at a meeting held at the offices of the Board on Friday the 28th day of April 1899.

5. Read G.O., No. 266, Marine, dated 20th March 1899, communicating despatch from the Right Honourable the Secretary of State for India forwarding copy of a note by Sir A. Rendel after inspection of certain charts of soundings of the Madras Harbour, and directing that the further information asked for by Sir A. Rendel be furnished at an early date.

Read letter from the Board's Engineer, No. 56, dated 25th April, reporting as directed. Resolved that the particulars given by the Engineer be forwarded to Government for the information of Sir Alexander Rendel.

The Trustees do not agree with Mr. Pogson's proposals with reference to the construction of a groyne immediately to the south of the harbour (*vide* G.O., No. 119, Marine, dated 26th February 1896, and No. 10, dated 3rd January 1899).

ORDER—No. 442, Marine, dated 23rd May 1899.

Ordered that the Secretary of State be addressed.

[Here enter No. 12, Marine, dated 23rd May 1899.]

(True Extract.)

(Signed) W. B. DEWINTON,
Secretary to Government.

To the Chairman, Harbour Trust Board.

Exd. W. D'Moss.

Date tal

main DEPARTMENT.

READ the following:—

Letter from the Chairman, Harbour Trust Board, Madras, No. 4/A, dated 1st May 1899.

Madras Harbour

Circulated to

H. E. to Governor
5 P

ORDER.

No. 442 dated 23 Aug 99

A.H.
19.5.99

Ordered that the Secretary of State be addressed.

To The Chairman, Harbour Trust Board.

21/10/99
M

To

No 12 of 73-5-99

The Right Honourable the Secretary of State for India.

My Lord,

A.H.

We have the honour to acknowledge the receipt of your Lordship's Despatch No. 1 Public Works, dated 9th February 1899 recommending to the attention of this Government the opinion of Sir A Rendel that the gradual shoaling which is taking place in the entrance of the Madras Harbour and its neighbourhood requires to be carefully watched, and that further information is desirable respecting the nature of the deposit inside the harbour. In reply, we have the honour to forward herewith a

[P. W. 42-A.
1,000-2-3-99.]

H. B. 6.5.99

Marine (1898) Department.

CURRENT No. 574

Order

From

The Chairman,
Harbour Trust Board,
Madras.

No. $\frac{4}{A}$

Dated 1st May '99

Despatched 2nd —

Received 4-5-99

Enclosures 2

Spare copies —

SUBJECT.

Madras Harbour.

Forwarding for information of
Government and transmission to
Sir Alexander Rendel copy of
letter No. 56 dated 25th April
1899 from the Engineer Harbour
Board regarding soundings taken
of the —

report from the Engineer to the Har-
bour Trust Board, commenting on the
shoaling outside the harbour and
furnishing information respecting
the nature of the deposit inside
the enclosure.

2. It will be seen from the Chair-
man's covering letter that Mr. Pogson's
proposed groyne to protect the Harbour
entrance has not been approved. The
general question of harbour extension,
including the position of the pro-
posed dock, is now before Your Lord-
ship, the papers having been forwarded
with our despatch No. I Marine dated
3rd January 1899.

We have &c,

Handwritten signature
6-5-99

Handwritten date
7/11/99

BACK PAPERS.

G. O.	No.	Department.	Date.
	266		20-3-99
	Dispatch		3-1-99
	10		3-1-99
	Dispatch No 12		10-12-98
	9/98		10-12-98
	1030		10-12-98
	Dispatch No 11		29-11-98
	9/98		29-11-98
	994		11-10-98
	860		

Papers

FURTHER PAPERS.

G. O.	No.	Department.	Date.
	80	8-9	29-6-99

Harbour Trust Office.

MADRAS, 1st May 1899.

No. 4a

FROM

Herbert Bradley Esq. I.C.S.,

CHAIRMAN, HARBOUR TRUST BOARD,
MADRAS.

To

Colonel A. W. Smart, R.E.,

AG. SECRETARY TO GOVERNMENT,
Marine Department.

Sir,

Referring to G/O No. 266 Marine dated 20th March 1899 I have the honour to forward herewith for the information of Government, and for favour of transmission to Sir Alexander Rendel, copy of a letter from the Board's Engineer No. 56 dated 25th April.

2. The mud noted on the charts of soundings, to which Sir Alexander Rendel refers, will apparently cause no difficulty in dredging within the Harbour.

3. The groyne to which Mr. Pogson again refers was not considered necessary when his proposal was discussed by the Board and referred to Government. Vide G/O No. 119 Marine dated 26th February 1896, and it is understood that Sir Alexander Rendel did not agree with the reasons given by the Board's Engineer in his proposals for the construction of it.

4. The position approved for any Dock which may be constructed is in the sandy accretion to the south of the Har-

bour. Vide G/O No. 10 Marine dated 3rd January 1899.

I have the honour to be,
Sir,
Your Obedient Servant,

Herbert Bradley

Secy.

Chair

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(a) 92.119

From,

The Engineer,
Harbour Trust Board,
M A D R A S.

To,

The Chairman,
Harbour Trust Board,
M A D R A S.

Madras 25th April 1899.

Sir,

I have the honour to acknowledge the receipt of G.O. No. 200 Marine, dated 20th March 1899, received with your letter No. 4 dated 5th instant, and in reply to the note by Sir A Rendel K.C.I.E. Consulting Engineer to the Secretary of State for India, I beg to report, that the mud inside the Harbour collects in the outer half of the Harbour, and is deepest in the hollow behind the bar and shoaling, which has taken place at, and seawards of, the Harbour entrance.

2. The mud varies from a thin layer overlying the sand, to a depth of two feet; generally, in the form of soft mud, into which a sounding lead easily sinks.

3. Since the receipt of the above G.O. I have tried the action of the sand pump dredge upon this mud, and find that due to its soft state, it is easily removed, and the sand underlying it, raised in the usual manner. Should the mud due to calm weather, settle and become compact, it will be removable by means of a jet of water being directed upon it, in front of the suction mouth-piece.

4. The removal of the deposits of sand inside the Harbour and immediately across the entrance can be done by the sand pump dredger, but the shoaling outside the entrance and to the south of the Harbour, cannot be removed by a floating dredger due to the constant rough sea and waves caused by the Harbour Piers.

5. To prevent the shoaling outside the Harbour which is now taking place, I proposed in May 1893, 1895 and 1896 the

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X

Consent to be given by the Harbour Trust Board
25.4.1899

construction of a groyne, as a means of staying the sand to the south of the Harbour, and preventing it from reaching and shoaling the entrance, or entering the Harbour through the outer length of the south arm, as it is now doing through the wave breakers, and where the Pier cannot be made sand tight.

6. It was also shown that when the groyne has been extended a little seawards of the Harbour entrance, that it would produce a scouring action across the entrance, and probably remove the sand, which has now collected at that spot.

7. With the action of a groyne and that of the Dredger "Wenlock", I am of opinion that the shoaling difficulty can be overcome, but by a floating dredger, it cannot; because useful dredging in the open roadstead by a floating dredger is impossible.

8. I therefore ask that the shoaling difficulty may be considered as part of any scheme for improvements whether in the form of a Dock, or a Wet basin, as I consider that whatever money is spent, should be in some work which will prevent the entrance from shallowing, and this can be done by placing the Dock or Wet basin seawards, as I have already proposed, and not inshore, in the accreted sand where it cannot prevent shoaling at the entrance, besides the fact that an inshore dock necessitates the construction of a long and dangerous protecting arm projecting into the Harbour, which will reduce the present berthing area.

9. It is now certain that sand is resting and shallowing the roadstead in the front of the Harbour entrance, and it must therefore be prevented from reaching that position by means of a groyne (which may also form a South Wharf of a dock for the same cost), or the sand must be wholly removed by dredging.

10. A floating dredger cannot do useful work outside the Harbour due to rough sea, and if the sand is not to be arrested by a groyne, it must be removed by dredging pumps placed on the Harbour Arms, in the manner proposed in my report No. 529, dated 27th November 1896, viz, by means of a travelling sand pump working along the south pier, drawing the sand from outside the Harbour and delivering it into hoppers inside the Harbour.

II. If therefore an inshore dock is sanctioned special travelling sand pumps should be provided for the removal of sand outside the Harbour Arms, or the Dock placed seawards, so that its southern wall may take the place of the groyne referred to above.

I have &c,

Signed A. Lee Poggson,
Engineer, Harbour Trust Board.

(True Copy)

HARBOUR TRUST
MADRAS-2 MAY 9
SECRETARY'S OFFICE

C. Finck
Secretary,
Harbour Trust Board.

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9. It is now certain that sand is resting and shallowing the roadstead in the front of the Harbour entrance, and it must therefore be prevented from reaching that position by means of a groyne (which may also form a South wharf of a dock for the same cost), or the sand must be wholly removed by dredging.

10. A floating dredger cannot do useful work outside the Harbour due to rough sea, and if the sand is not to be arrested by a groyne, it must be removed by dredging pumps placed on the Harbour Arms, in the manner proposed in my report No. 522, dated 27th November 1896, viz, by means of a travelling sand pump working along the south pier, drawing the sand from outside the Harbour and delivering it into hoppers inside the Harbour.

II. If therefore an inshore dock is sanctioned special travelling sand pumps should be provided for the removal of sand outside the Harbour Arms, or the Dock placed seawards, so that its southern wall may take the place of the groyne referred to above.

I have &c,

Signed A. Lee Pogson,
Engineer, Harbour Trust Board.

(True copy)

HARBOUR TRUST
MADRAS 2 MAY 9
SECRETARY'S OFFICE

C. J. Vincent
Secretary,
Harbour Trust Board.

not traceable

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EXTRACT of Proceedings of the TRUSTEES OF THE HARBOUR
OF MADRAS, at a Meeting held at the Offices of the
Board on Friday the 28th day
of April 1899.

5. Read G.O. No. 266 Marine, dated 20th March 1899, communicating despatch from the Right Honourable the Secretary of State for India forwarding copy of a note by Sir A. Rendel after inspection of certain charts of soundings of the Madras Harbour, and directing that the further information asked for by Sir A. Rendel, be furnished at an early date.

Read letter from the Board's Engineer No. 56 dated 25th April, reporting as directed.

Resolved that the particulars given by the Engineer be forwarded to Government for the information of Sir Alexander Rendel.

X The Trustees do not agree with Mr Pogson's proposals with reference to the construction of a groyne immediately to the south of the Harbour, vide G.O. No. 119 Marine, dated 26th February 1896, and No. 19 dated 3rd January 1899.

(True Extract)

HARBOUR TRUST
MADRAS-2 MAY-9
SECRETARY'S OFFICE

C. Pinxent
Secretary,
Harbour Trust Board.

Marine (1000)

6 P

Date

4/5/57