

(1) Number of pages 10

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.**Government of Madras.***Public Works* **DEPARTMENT.**

G.O. No.	504	Press
		~~Mis~~
Dated	31. 7.	1877.

Not to be folded or roughly handled

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

31st July 1877, No. 504 W.

Buildings and Roads.
Civil Works.

Read the following paper:—

No. 372. Resolution of the Government of India, Department of Revenue, Agriculture and Commerce, dated 4th July 1877, Nos. 377—384.

Read the following correspondence on the subject of a systematic record of tidal observations at selected points on the coast of India:—

Despatch from Her Majesty's Secretary of State for India, No. 6 (Public Works), dated the 27th January 1876, and enclosure.

Resolution in the Public Works Department, Nos. 81—85 M, dated the 14th March 1876.

Letter from the Superintendent of the Great Trigonometrical Survey, No. 34—345, dated the 31st March 1876.

Letter from the Superintendent of Marine Surveys, No. 228, dated the 18th April 1876.

Letter from the Government of Bombay, to the Government of India, Public Works Department, No. 333 C. W.—912, dated the 13th May 1876.

Letter from the Chief Commissioner of British Burmah, to the Government of India, Public Works Department, No. 2397—13^a, dated the 31st May 1876.

Letter from the Government of Madras, to the Government of India, Public Works Department, No. 1,598, dated the 26th June 1876, and enclosures.

Letter from the Government of Madras, to the Government of India, Public Works Department, No. 1,957, dated the 2nd August 1876, and enclosures.

Letter from the Government of Madras, to the Government of India, Public Works Department, No. 2,923, dated the 31st October 1876, and enclosures.

Letter from the Superintendent of Port Blair and the Nicobars, to the Government of India, Public Works Department, No. 580—650, dated the 6th September 1876.

Despatch from Her Majesty's Secretary of State for India, No. 8 (Geographical), dated the 15th February 1877.

Letter from the Superintendent of the Great Trigonometrical Survey, No. 37—385, dated the 31st March 1877.

Memorandum from the Public Works Department, No. 124 M, dated the 17th May 1877.

OBSERVATIONS.—The Governor-General in Council observes that the great scientific advantages of a systematic record of tidal observations on Indian coasts have frequently been urged upon, and admitted by, the Government of India. Hitherto the efforts in the direction of such a record have been desultory and in many cases wanting in intelligent guidance and careful selection of the points where the observations should be recorded. Additional importance has recently been given to the subject by the institution of a Marine Survey Department, for whose operations

accurate tidal observations are a necessity without which no permanent record of the changes of ground in the different harbours of the coast can be kept up.

2. The advantages to be expected from well considered and carefully conducted observations of the tides are mainly the following:—

- (1.) They enable standards to be fixed for the purposes of survey.
- (2.) They afford data for the calculation of the rise and fall of the tides, and thus subserve the purposes of navigation.
- (3.) They are of scientific interest apart from their practical usefulness as stated above.

The first two of these advantages are of strictly local bearing: an accurate survey of a port is essential to the safety of the shipping frequenting it, and correct tide-tables are necessary for the convenience of navigators and for engineering purposes within the port itself.

3. The Governor-General in Council is of opinion that, in view of these considerations, every port where a tide gauge is set up should pay for its establishment and maintenance from Port funds. The third object, the scientific results to be expected from the record, will be sufficiently provided for by the appointment by the Government of India of one of its own officers to supervise and control the local observations and to arrange for their utilization to the utmost extent possible. The charges will thus be divided in a manner appropriate to the advantages to be secured.

4. His Excellency in Council accordingly resolves to entrust the general superintendence and control of tidal observations upon Indian coasts to Captain Baird, R.E., Deputy Superintendent in the Great Trigonometrical Survey Department, who will be guided in his operations by the orders and advice of the head of that department. This will involve no new charge upon Imperial Funds, for Captain Baird has for some years past been engaged upon observations of this nature in the Gulf of Cutch and in reduction of the observations in England: the work is of a nature which properly falls within the scope of the operations of the Great Trigonometrical Survey; and the object of the present change is merely to provide for its extension and systematization under an undivided control. Captain Baird will thus remain a member of the department, and his operations will form one of the subjects to be treated by the Superintendent in his annual report.

5. The first duty of the Superintendent will be to instruct Captain Baird to determine, in communication with the Governments of the maritime provinces, the points where observations should be carried out. The necessary gauges (where these do not already exist) will then have to be provided from Port funds, and the establishments entertained under the sanction of the Local Governments. It will probably be most convenient that all Captain Baird's communications with the establishments in charge should pass through the Local Governments, but this point may be settled as may be found most expedient in practice.

ORDER.—Ordered, that a copy of this Resolution be forwarded to the Superintendent of the Great Trigonometrical Survey for information and guidance, and for communication to Captain Baird.

Also, that a copy be forwarded to the Government of Madras, with reference to the correspondence ending with its letter to the Public Works Department, No. 81, dated the 10th January 1877, to the Government of Bombay and the Chief Commissioner of British Burma, with reference to their letters Nos. 333 C.W.—912 and 2,397—18, dated the 13th and 31st May 1876, respectively, and to the Government of Bengal for information.

Copy also forwarded to the Public Works Department, and to the Superintendent of Marine Surveys, for information, and to the Home Department for communication to the Superintendent of Port Blair and the Nicobars.

(True Extract.)

(Signed) J. W. N. BATTEN,
Offg. Secy. to Govt. of India.

No. 373. ORDER THEREON, 31st July 1877, No. 504 W.
COMMUNICATED to the Master Attendant, through the Marine Department, with reference to the under-mentioned orders:—

G.O., No. 884, dated 4th April 1876.

"	"	1,597,	"	26th June	"
"	"	1,956,	"	2nd August	"
"	"	2,922,	"	31st October	"
"	"	3,351,	"	11th Dec.	"
"	"	80,	"	10th January 1877.	"

Captain Taylor will be instructed to arrange for immediately setting up and maintaining tide gauges at the places already approved. The local officers of the Public Works Department will give such aid as they may be in a position to afford at places where the Marine Establishments are in need of assistance.

(True Extract.)

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

To the Marine Department.
 " District Engineer, Ganjam.
 " " Vizagapatam.
 " " Godavery.
 " " Kistna.
 " " South Arcot.
 " " Nellore.
 " " Chingleput.
 " " Presidency.
 " " Tanjore.
 " " Tinnevely.
 " " Madura.
 " " Malabar.
 " " South Canara.
 " Superintendent, Madras Harbour Works.

Exd. E. C. Shunker.
51 are Copies.

315 /

Nos. 377—384.

Extract from the Proceedings of the Government of India in the Department of Revenue, Agriculture and Commerce,—dated Simla, the 4th July 1877.

SURVEYS.

RESOLUTION.

READ the following correspondence on the subject of a systematic record of tidal observations at selected points on the coast of India :—

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Letter from the Chief Commissioner of British Burma, to the Government of India, Public Works Department, No. 2397—18 $\frac{2}{1}$, dated the 31st May 1876.

Letter from the Government of Madras, to the Government of India, Public Works Department, No. 1598; dated the 26th June 1876, and enclosures.

Letter from the Government of Madras, to the Government of India, Public Works Department, No. 1957, dated the 2nd August 1876, and enclosures.

Letter from the Government of Madras, to the Government of India, Public Works Department, No. 2923, dated the 31st October 1876, and enclosures.

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(True Extract)

J. M. Hatter
Offg. Secretary to the Government of India.

12378
To The Secretary to the Government of Madras.

Buildings & Works 53

N^o 504 W Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 31st July 1877.

Read the following:—

Resolution of the Govt.
of India, Department
of Revenue Agriculture
and Commerce

(H.E. Nos 377—384 of 4 July 1877.)

Communicated to the
Master Attendant, and
through the Marine,
Department with reference
to the undermentioned orders.

- G.O. 884 dated 4th April 1876
- " 1597 " 26th June "
- " 1956 " 2nd August "
- " 2922 " 31st October "
- " 3351 " 11th Dec^r "
- " 80 " 10th Jan^y 1877.

Captain Taylor will
be instructed to arrange
for immediately setting
up and maintaining
tide gauges at the
places

[Faint handwritten notes and stamps]

[Signature]

904 apt 1876. No 884.
26 June " 1597 + 1598.
2 Aug " 1956. 1957.
31 Oct " 2922 + 2923.
11 Dec " 3351.
10 Jan 1877. 80 + 81.

1877

DEPARTMENT OF REVENUE,
AGRICULTURE AND COMMERCE.

SURVEYS.

To

RESOLUTION.

Nos. 377—384.

Dated Simla, the 4th July 1877.

SUBJECT.

SYSTEMATIC record of tidal observations at selected
points on the coast of India.

4031st July 1877 No. 372

Printed by B. 10777

places already approved.
 The local officers of the
 P. O. Department will
 give such aid as they
 may be in a position
 to afford at places where
 the Marine Establish-
 ments are in need
 of assistance.

Oct 21/77

To Marine Depatt.	7
Ch. Mangam	4
" Vizagapatnam	4
" Godavari	9
" Kistur	6
" ~~Septem~~ ~~Arach~~	6
" Vellore	8
" Chingleput	6
" Presidency	6
" Tanjore	7
" Sineselly	5
" ~~Madras~~	7
" Calabar	8
" Canara	4

W. L. B. C 23/7/77 1231-7-77
 C 23/7/77 1231-7-77.

Supdt. H. H. W. R. S.
 9-8-77

C237/77

Gobt. of India

PUBLIC WORKS.

To *the Marine Department*

Dated

Issued

Recd.

Encl.

G. O., 31st July 1877. No. 504 W

Nos. 372-373

Tidal observations at
selected points on the coast
of India. Resolution of the
Govt of India regarding a
systematic record of —
Comm'd to the Master attend-
ant to the Marine Dept
with instructions

For P. & M. Dept.

Recd
C237/77 1231-7-77
C237/77 1231-7-77.

Recd Capt. H. K. W. Ho
9-8-77