

(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. 474 (W)	Press Mis.
Dated 12-2-	1877.

Not to be folded or roughly handled

12A

*Proceedings of the Madras Government, Public Works Department,
12th February 1877. No. 474.*

Read the following papers :—

No. 305. From Major H. M. VIBART, R.E., Officiating District Engineer, Presidency, to Major-General G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Fort St. George, 22nd January 1877, No. 5,432.

With reference to your memorandum No. T-465, dated 27th June 1876, I have the honor to submit for sanction an estimate amounting to Rupees 408 for testing the accuracy of Major deHaviland's bench-marks, and to request that funds may be allotted from any source at the disposal of Government to enable me to adjust the charge already incurred, and which appears in the statement of objectionable items.

2. This work was stopped on the receipt of G.O., No. 1,956, dated 2nd August 1876.

MEMORANDUM.

No. T-465.

THE Chief Engineer requests Major Montgomerie, R.E., District Engineer, Presidency, will, as early as possible, be so good as to arrange for a series of levels being taken to verify the correctness of Major deHaviland's bench-mark with reference to mean sea level, and ascertain if, since it was originally fixed, the stone has sunk at all.

By order,

(Signed) W. FAREWELL, Colonel,
Offg. Under Secy. to Govt., P.W.D.

27th June 1876.

To the District Engineer, Presidency.

No. 305-A. From Major H. M. VIBART, R.E., Officiating District Engineer, Presidency, to Colonel W. T. F. FAREWELL, Deputy Chief Engineer, Public Works Department, dated Fort St. George, 3rd February 1877, No. 5,693.

With reference to your memorandum No. T-96, dated 27th January 1877, I have the honor to report as follows :—

Ci/ In accordance with the Chief Engineer's memorandum No. T-465, of 27th June 1876, an endeavour was made to test the accuracy of the bench-mark fixed by Major deHaviland on the north face of Fort St. George. For this purpose a series of levels were repeatedly taken and bench-marks fixed on the south wing wall of the Wallajah bridge and the north wing wall of the Napier bridge, and a staff was fixed in the water at both places, graduated so that 20 feet on the staff marked the M.S.L. according to Major deHaviland. Two floating gauges were then constructed, one from a barrel target obtained from the Arsenal, and the other from a single spar about 30 feet long. To each a graduated staff was attached with a view to observations being taken from a shed (constructed for the purpose on the beach), and having reference to the down stream gauge fixed at the Napier bridge.

2. The construction of the gauges was easy, but the proper adjustment of the weights, and the difficulty experienced in towing them from the pier to their anchoring ground nearly opposite to the Napier Bridge, a distance of nearly two miles, caused a considerable amount of delay before any reliable observations could be made.

3. The barrel gauge was anchored a little beyond the third surf, and the spar gauge at a distance of about 2,000 feet from the shore.

4. The former was got into position about 8th August, and was read up to the 22nd, when it was found to be submerged owing to the corks in the barrel having become saturated and the whole structure covered with barnacles.

5. About 15th September both gauges were got into position, the barrel gauge having in the meantime been taken in and repaired.

6. On the 20th September the gauges were ordered to be taken up and put into store, as a tidal gauge was being fixed at the pier head, and for which lines of levels were run from Major deHaviland's bench-mark to the foundation stone of the Harbour Works and the bench-mark on the basement of the light-house.

7. So far nothing has been determined regarding deHaviland's bench-marks, as the observations were too few in number and the gauges at no time sufficiently steady to give reliable readings. In order to arrive at any result by the above method a gauge should be anchored at a convenient distance from the shore, and read for at least six months during the time of year when the sea is calmest.

No. 306.

ORDER THEREON, 12th February 1877, No. 474.

CIVIL WORKS, No. 16.

(a) Heads of Service.—Provincial.

Fund.—Ordinary.

Class.—Original Works.

Main-head.—Miscellaneous Public Improvement.

Sub-head.—B. Aids to Marine Navigation.

Section.—iii. Miscellaneous.

Name of Work.—Testing Major deHaviland's Bench-

marks.

Amount.—Rupees 408.

Carried out by the Public Works Department.

THE expenditure of Rupees 408, incurred for testing the accuracy of Major deHaviland's bench-marks, is sanctioned, and the requisite funds appropriated from the Provincial Reserve.

2. The use of floating gauges, such as have been employed and are again suggested by the District Engineer, does not commend itself. It is remarked that

all observations having ceased many months ago, the District Engineer should have taken steps for the earlier adjustment of the accounts.

3. This sanction is registered as Provincial No. 235—W. of 1876-77.

(True Extract.)

Colonel,

Acting Joint Secretary to Government.

To the District Engineer, Presidency.

„ Examiner of Public Works Accounts.

Exd. S. T. Austin.

Spare Copies

(a) Heads of Service—

Provincial

Fund.

Ordinary

Class.

Original Works

Main-head.

Miscellaneous Public Improvement

Sub-head.

B. Aids to Marine Navigation

Section.

iii Miscellaneous

Name of Work.

Testing Major de Haviland's Bench Marks.

Amount.

Rs 408

To be carried out by the

P. W.

Department.

Print in the margin of G. O. No 474 of 12/2/77

58
Optimal for Testing the accuracy of Major
D'Avila's Bench Marks.
Vol. Chief Eng. Memo. No. $\frac{T}{465}$ of 27 June 76

Particulars	Per.			Amount.		
	Reces.	Cms.	Price.	Reces.	Cms.	Price.
Exp for constructing our preparatory shed and eight gauges. }	.	.	.	297	67	
Exp for Boat hire for fixing and re. adjusting from time to time the floating gauges out at Fair }	.	.	.	140	.	
				137	67	
Cash in hand advanced for Boat hire.	.	.	.	30	.	
				107	67	
Add for unrecd items.				95		
Total Reces.				408	.	

Fort Saint George.
11th December 1893.

W. B. Baddley
Lieut. P. E.
Assistant Engineer
Fort Rango.

Dear Mr. West - Major G. B.
 Offg. District Engineer
 Residency

14-12-76

(No. 5432,

From,

The Offg. District Engineer,
Presidency.

To,

The Chief Engineer, and
Secretary to Govt. P. & O.

Sir,

With reference to your Memo No. 265
of 27 June 1876, I have the honor to submit
for sanction an estimate amounting to
Rs 408 for testing the accuracy of Major D.
Haviland's Bench marks - and to request that
funds may be allotted from any source
at the disposal of Govt. to enable me to
adjust the charges already incurred, and
which appear in the statement (by objectionable) items
2. This work was stopped on the receipt
of G. O. No. 1956 of 22 August 1876.

I have the honor to be

Sir,

Your most obedient servant

Henry A. Roberts
Major R.E.

Offg. District Engineer,
Presidency.

St. George
11/1/1877

Recd.

Valued at Rs 408
of 27 June 1876.
The accuracy of Major D.
Haviland's Bench marks.

P.W.D.
23 JAN 77
N. 628

Hand
The District Engineer
Secretary to Govt.
Dated 22nd January 1877
Encl. No. 57432
Submits for sanction
and ultimate order to
No 108's protecting the
accuracy of major
D. St. John's bench
marks.

Memo No. 96 of 27th Jan 77

GP. No. 884 of 4th April 76
1597 - 26th June -
1598 - - - - -
1956 - 2nd Aug -

Hand
P.W.D.
5 FEB 77 91
1187
The District Engineer
President of
to the Chief Engr.
D. St.

Dated 3rd Feb 1877
Recd.

Encl. No. 5693
Submits report upon
the testing of D. St. John's
bench marks.

No. 305-a

Encl. 2-27 1/2 12-2-77

No. 305-

Encl. 2-27 1/2 12-2-77

No 474

Public Works Department

PROCEEDINGS OF THE MADRAS GOVERNMENT

UNDER date the

12th Feb/77

Read the following:—

From

The Dist. Engr. Presidency (H. E. No. 5432 d/22nd Jan'y 1877)

do ——— do ——— (no 5693 — 3rd Feb —)

The expenditure of
Rs 408 incurred for testing
the accuracy of Major
de Havilland's Bench Marks
is sanctioned and the requisite
funds appropriated from
the Provincial Reserve.

2. The use of floating
gauges such as have been
employed and are again
suggested by the District
Engineers does not commend
itself. It is remarked
that all observations &c
having

having ceased many months ago the District Engineer should have taken steps for the earlier adjustment of the accounts.

3. This sanction is registered as Provincial No. 235 of 1876-77/11/11/8.2.77

1876-77
Govt. of 1877 Madras.
PUBLIC WORKS.

To
The W. B. Presidency

Dated

Issued

Recd.

Encl.

G. O. 12th Feb 1877, No. 474

Nos. 305-6

[Signature]

Major de Havilland
Penck Marks The expenditure of Rs 408 incurred for testing the accuracy of — sanctioned with annals and the requisite funds appropriated from the Provincial Revenue

Out in file

2nd Div. 20.11.10
C-9-27