Archives I-10,006—16-8-77.

(1) Number of pages 38

(2) Date of repair 24-3-87

(3) Initials of the Referencer

TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P.W.D. DEPARTMENT

G.O. No. ~~B.P. No.~~ 1694-W

Press. ~~Mis.~~

Dated 6-7-1882 ~~197~~.

K.N.K.

Not to be folded or roughly handled

6th July 1882, No. 1694 W., Public Works.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

No. 33.

Read—the following papers :—

Copy of letter from W. PARKES, Esq., M. Inst. C.E., to the Under Secretary of State for India, dated 23, Abingdon Street, 2nd June 1882.

I have received through the Superintendent of the Harbour Works an Order of the Government of Madras, No. 1008 W., forwarding certain papers "to the Government of India and the Secretary of State in continuation of the papers recorded with G.O., No. 780 W., dated 23rd March 1882."

2. I think it my duty to call your attention at once to one of these papers, because it contains a statement which is, no doubt unintentionally, quite untrue, and calculated to prejudice the conclusions which I have submitted to the Government. I do not propose to enter at present into any question of *opinion*, but simply confine myself to one of *fact*.

3. The papers consist of a letter from Captain Taylor, the Master Attendant to the Government, forwarding, with some remarks, the opinions of three officers of his department and of several other persons as to the relative force of sea in the great storm of May 1872 and in November 1881, and a note thereon by the Chief Engineer of the Presidency.

4. This evidence, interesting and valuable as it is, adds nothing material to the information furnished to me at the Master Attendant's Office before I made my report. Other equally confident evidence to the contrary effect was then before me, and on a review of the whole I felt that I was not justified in saying more upon the comparison of the two storms than that there was a conflict of evidence as to which was attended by the heavier sea.

5. I was bound, however, to follow the course indicated by actual results in my investigations. Having ascertained the weak places in the work, I proposed to apply additional strength to those places, and that to an extent considerably beyond what was actually proved to be necessary by the results of the late storm; this additional security being avowedly intended to meet the possible attacks of still heavier seas.

6. This was in my mind, and it will be seen that I have given occasional expression to it throughout the preparation of my report, and it was therefore with some surprise that I read in the note by the Chief Engineer (paragraph 13) the statement that the late cyclone was "in his (Mr. Parkes's) opinion" "one of maximum intensity," and that my restoration scheme was based on this assumption.

7. It is possible that Colonel Sankey's misapprehension may have arisen from the fact that I made observed results the starting points for my recommendations and abstained from adopting any conjectures as to what heavier seas might do in other directions than those indicated on this occasion. To do so would, in my opinion, be impractical and unscientific. I look upon the construction of the Madras piers as an

important experiment in engineering, of which the results are not confined to mere local benefits, and I should deplore on more than personal grounds a decision of the Government which would throw away the results of the late most important and interesting lesson.

8. I would respectfully ask that the substance of this letter be communicated to the Governments of India and Madras.

No. 33-A.

Note by the Chief Engineer, Public Works Department.

By the last Home Mail Mr. Parkes has communicated copy of the annexed letter, dated the 2nd June 1882, addressed to the Under Secretary of State for India, in which he takes exception to the interpretation I had placed on his estimate of the storm of the 12th November 1881 as expressed in paragraph 13 of my note printed with G.O., 24th April 1882, No. 1008 W., viz., that it was one of "maximum intensity."

2. The quotation given by me in the paragraph adverted to was taken from paragraph 8 of Mr. Parkes's report of the 9th March 1882, which runs as follows:— "The testimony of all observers is to the effect that the sea of the 12th November must rank with those of the great historical cyclones, though there is a conflict of evidence as to whether it was actually as heavy or "heavier;" and then he goes on to quote his authority Mr. Chisholm, who, he says, "speaks confidently as to the recent sea being considerably heavier than that of 1872."

3. My remark that he had based his restoration scheme almost wholly on the effects of the late cyclone, as in his opinion having been one of maximum intensity is, he observes, "unintentionally, no doubt, quite untrue." He is of course the best exponent of his own language, but I submit that I had somewhat strong grounds, as shown by the above quotations, for the conclusion I had arrived at. He now contends (paragraph 4) that the evidence furnished by the Master Attendant and other very experienced Marine Officers "adds nothing material" to what he had himself collected before making his report; but in this case I think it may fairly be inquired why, with the evidence of the professional Marine Department open to him, he set this aside and only quoted that of the Consulting Architect, whose opinion, however valuable in matters connected with his own profession, must necessarily weigh but very little in a case of this kind, even had his opportunities for arriving at an opinion been exceptionally good, which would seem not to have been the case.

4. Mr. Parkes, in paragraph 7 of his present letter, observes that it would have been "impractical and unscientific," had he not made observed results the starting point of his recommendations, and abstained from adopting any conjectures as to what heavier seas might do with his work, and (paragraph 5) that having ascertained the weak places in the work he proposed to apply additional strength to those places, "to an extent considerably beyond what was actually proved to be necessary by the results of the late storm, &c."

5. Now the sections given of Mr. Parkes's proposed restoration show (paragraph 30 of his report of the 9th March 1882) that the upper part of the completed work will have a thickness of only *three* concrete blocks, but, as noticed by me in paragraph 14 of my note of the 13th March, the piers at their ends where the thickness was *four* blocks had, as a fact, fared no better than where there were only *two*; they had been equally knocked over in the 12th November storm. It is quite true that Mr. Parkes provides an iron cramp between his two front blocks, and also increases the weight of his rear block, but with all this I think it may fairly be questioned whether with these additions his section will be stronger than what it was at the end of the piers in the work which failed.

6. The principle, moreover, of only providing for meeting the shock of a storm which, as it now seems, Mr. Parkes does not consider to have been of "maximum intensity" seems to me wrong.

7. It is the duty of the Engineer invariably to provide a sufficiently large margin to ensure the safety of his work, and this is one of the chief points in which

I cannot help thinking Mr. Parkes's design distinctly fails. As his wall should be constructed with the express object of withstanding intact the shock of the heaviest seas and breaking them up, he is bound, I consider, to allow a sufficient co-efficient of safety. He has not I think done this, and it is to my mind far from reassuring to find, at the present stage of this great work that, Mr. Parkes is obliged to look on it as only an "important experiment in engineering."

8. It being of the greatest importance that this subject should be ventilated as much as possible, I take this opportunity to add the following remarks from a letter addressed by the late Captain C. Biden, Master Attendant, to the Secretary, Military Board, dated Madras, 18th June 1851:—

* * * * * *

"*Paragraph* 16.—As a remarkable effect of the great force and power of the ground-swell in this Roadstead, I may call the Board's attention to the following occurrence, as published in the Asiatic Annual Register for 1808, pages 128-9, to which I myself was an eye-witness, as I was living in quarters on the north beach during the whole of one of the most violent hurricanes that ever assailed Madras, viz., on the 11th December 1807:—'The sea rose much beyond its usual height, the surf reached Messrs. Harrington's on the beach, and by its violence exposed four feet of the foundation of the house; one side of the adjacent building, the Naval Office (where I was residing), is much damaged, the Company's Rice Godowns were forced open, and much of their contents washed away. The sea rose close to the ditch of the Fort and the surf dashed with violence over the ramparts. The counterscarp at the north-east angle gave way and the water poured into the ditch at every rising of the surf. The bastion at the northern extremity of the Black Town wall gave way and two guns were dismounted into the sea, &c. Some idea may be formed of the strength of the current and force of the surf from the circumstance of a large portion of the ribs of a ship, supposed to be the *Fairlie*, which was burnt in the roads in 1799 were thrown ashore close to Mr. Parry's Godowns.'

"17. This is the remarkable fact to which I have alluded; the wreck thrown aground by the upheaving of the sea was the entire bottom of a ship of about 800 tons burthen with iron kentledge on her floor, and I well recollect that many persons conjectured it was the remains of the *Malabar* burnt and sunk in six fathoms water in 1801, especially her Commander, Captain Kent, who happened to be at Madras during the gale. However, this remarkable instance of so large and weighty a body of wreck being hove high and dry on shore should be taken into consideration when any great outwork for the improvement of the port is in contemplation, and it is very evident that no other barrier than a well-constructed breakwater could resist or oppose so tremendous a force."

* * * * * *

(Signed) R. H. SANKEY, Col., R.E.,
Secretary to Government, P.W.D.

26th June 1882.

No. 34.

Order—dated 6th July 1882, No. 1694 W., Public Works.

Ordered to be recorded and a copy forwarded to the Secretary of State through the Government of India.

(True Extract.)

Under Secy. to Govt., P.W.D.,
Irrigation Branch.

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

Exd. A. F. Goodall.

Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Gobt. of (1882) Madr

PUBLIC WORKS.

Dated July, 6th.

Recd. *Encl*

G.O., 6th July 1882, No. 1694 W.

JULY.
Nos. 33-34.

Madras Harbour.

Recent damage to the —. Copy of letter addressed to the Under Secretary of State for India by W. Parkes, Esq., and Note thereon by the Chief Engineer, Public Works Department, in connection with the —, recorded, and copy forwarded to the Secretary of State through the Government of India.

[illegible]

55/3

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

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Secretary to Government, P.W.D.

26th June 1882.

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(True Extract.)

Under Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Superintendent, Madras Harbour Works.
,, Marine Department.

BUILDINGS AND ROADS.
CIVIL WORKS.

Madras Harbour.

Recent damage to the —. Copy of letter addressed to the Under Secretary of State for India by Mr. W. Parkes, Esq., and Note thereon by the Chief Engineer, Public Works Department, in connection with the —, recorded, and copy forwarded to the Secretary of State through the Government of India.

Exd. A. F. Goodall.

-3-

6th July 1882, No. 1695 W., Public Works.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

No. 35.

Letter—from

Colonel R. H. SANKEY, C.B., R.E.,
Secretary to Government, Public Works Department,
Madras,

To

The SECRETARY to the GOVERNMENT of INDIA,
Public Works Department.

Sir,

I am directed to forward, for the information of the Secretary of State, through the Government of India, the accompanying copy of a Note by the Chief Engineer, Public Works Department, in which he replies to some remarks submitted to the Under Secretary of State for India by Mr. Parkes in connection with the recent storm which damaged the Harbour piers.

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

Under Secy. to Govt., P.W.D.,
Irrigation Branch.

Ootacamund,
6th July 1882.

Exd. A. F. Goodall.
Spare Copies.

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1882} Madras.
PUBLIC WORKS.

Dated July, 6th.

Recd. *Encl.*

6th July 1882, No. 1695 W.

JULY.
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4

8

6th July 1882, No. 1695 W., Public Works.

28/2

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

No. 35

Letter—from

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Secretary to Government, Public Works Department,
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BUILDINGS AND ROADS.
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Exd. A. F. Goodall.

Memo

This can be finally printed after inserting the emendations I have noted

10/7/82

I should like to have 4 spare copies

Copy

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I have the honor to be
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Your most obedient servant
(signed) W. Parkes

I think a copy of this Note should be sent through India to the Secretary of State. The matter cannot be too much ventilated.

H. S.
30. 6. 82.

Certainly
M.
July 1 1882

P. W. D.

11

Note by the Chief Engineer

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C. W. Stanley
Col R.E.
26/6/82

Md. 64/6
& Ms.
Ca: 28/6/82 R 3/7/82

Hon H E Sullivan
Ist Hon.ble the Governor

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[illegible]

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"scarp at the North East Angle
"gave way and the water
"poured into the ditch at
"every rising of the surf -
"the Bastion at the northern
"extremity of the Black Town
"wall gave way and two
"guns were dismounted into
"the sea, &c - Some idea may
"be formed of the strength
"of the current and force of
"the surf from the circumstance
"of a large portion of the
"ribs of a ship supposed
"to be the "Fairlie" which
"was burnt in the roads
"in 1799 were thrown ashore
"Close to Mr Parry's Godowns" -
'-17- This is the remarkable
'fact to which I have
'alluded, the wreck thrown
'aground by the up-heaving
of

'the sea was the entire
'bottom of a ship of
'about 800 tons burthen
'with iron Kentledge on
'her floor, and I well
'recollect that many per-
'sons Conjectured it was
'the remains of the Malabar
'burnt and sunk in 6
'fathoms water in 1801, es-
'pecially her Commander Cap-
'tain Krut, who happened
'to be at Madras during
'the gale, however this
'remarkable instance of
'so large and weighty
'a body of wreck being
'hove high and dry on
'shore should be taken
'into consideration when
'any great out work for
'the improvement of the
'Port is in contemplation,
'and it is very evident,
'that no other barrier
'than a well constructed
Breast

'Breakwater could resist
'or oppose so tremendous
'a force"
× × × × × ×

Sd/ R H Sankey [illegible]

No. 1694 W 16 - E

[illegible]

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 6th July 1882

Read the following :—

Copy of letter from W. Parkes Esq: to the Under Secy: of State for India — (Do. 2 June 1882)

Note by the Chief Engr: P.W.D. (— 26th —)

Ordered to be recorded and a copy forwarded to the Secretary of State through the Govt. of India.

Do. No. 1695 W dated 6th July/82

To,
The Secy: to the Govt. of India P.W.D.

Sir,

I am directed to forward for the informatn

Issued 14/7

Supdt. M H Works ✓
Marine Dept. ✓
one [illegible]
and to Police Commr
with [illegible] 18/8/82

16

of the Secy: of State thro'
the Govt. of India, the
accompanying copy of a
note by the Chief Engineer
P.W. Dept. in which he
replies to some remarks
submitted to the Under
Secy: of State for India
by Mr. Parkes in connection
with the recent storm
which damaged the
harbour piers.

R.S.

3/7/82

Dspd
14-7-82

1457. 8

Govt. of (1882) Madras
PUBLIC WORKS.

Dated S.O.W. 6/7

Recd. 7/7 Encl.

G. O. 6 July 1882, No. 1094 W / 1095

Nos. 33 to 35

Madras Harbour

Recent damage to the —

Copy of letter addressed to the Under Secty of State for India by Mr. Parkes M.I.C.E. and note thereon by the Ch. Engr. P.W.D. in connection with the —,

Recorded & copy forwarded to the Secty of State through the Govt of India.

1/6/7