(1) Number of pages 24.

(2) Date of repair 19-10-87

(3) Initials of the Referencer [illegible]

TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

Public works DEPARTMENT

G.O. No. / B.P. No.	1900 — W	Press. / Mis.
Dated	17-8-1885.	~~198~~ .

S.G.M.

Not to be folded or roughly handled

Archives I--10,006 I -80.

17th August 1885, No. 1900 W., Public Works.

1900
1

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

Read—the following letter from F. N. THOROWGOOD, Esq., M. Inst. C.E., Superintendent, Madras Harbour Works, to the Secretary to Government, Public Works Department, dated Madras, 3rd August 1885, No. 26 W.:—

I have the honor to submit the following brief report of progress on these works during July, and am sorry to state that a persistent ground swell has interfered very much with all work in the neighbourhood of the fallen and damaged walls of the harbour piers.

2. *North pier—Rubble base.*—During July 6,424 tons of stone were deposited in the new foundations for the north pier and 5 old blocks were blown up by dynamite, giving a total of 6,560 tons of suitable material now deposited to receive the superstructure blocks. Work with the boats for tipping stone was frequently stopped by the swell.

3. *Recovering old blocks.*—Up to the date of this report I have not been able to experiment on the recovery of old blocks, but I hope before ten days are passed the attempt will have been made. It is imperative that a smooth day be chosen for this class of work, as the floating craft with the lifting tackle has to be brought close up to the broken and fallen walls, where any considerable swell will be a serious obstacle. If only 30 blocks can be picked up to be used again as foreshore in the wave-breakers, the experiment will more than pay its expenses.

4. *Setting out new line of work.*—The beacons referred to in paragraph 5 of my last report for June have proved to be a success. Two are now fixed in position at the north pier and two more are nearly ready at the south pier. To protect these beacons from danger of being knocked over by boats, I found it necessary to close three of the gaps in the ruined walls through which boats have been in the habit of plying since November 1881. In this the Marine Department gave me much help with their authority and influence.

5. *South pier—Rubble base.*—The work done at the south pier has necessarily been very little during the past month, as the centre beacons are not yet fixed in position, although the sites for them are marked out by buoys; consequently I am obliged to suspend the work of tipping rubble for a short time. In July 1,060 tons of granite were deposited, making a total now of 33,645 tons tipped in the new line of foundation and in the new foreshore.

6. *Concrete block-making.*—The block-making machinery was kept at work throughout the month and 226 blocks were added to the stock. These vary from 20 to 30 tons in weight each and are of first-rate quality. In addition to these there have been 48 of the old blocks converted into a shape which suits the new design of section. All the cement used in July was of English manufacture.

7. *Pallávaram quarries.*—The outturn from the quarries has been rather less than during June, owing to the fact that we could not arrange for increasing the deposit of rubble in the bases of the piers. Only 10,751 tons of stone were sent down from the quarries during July, of which 3,261 tons were for making concrete blocks. The railway lines at the quarry are being extended and the work there is in good order.

8. *Tools, plants and supplemental works.*—One more teakwood frame for block-making was completed in July, making now ten for the new design of blocks. The alteration in the second block-making platform at the north pier yard has been commenced and is progressing rapidly. This work could not have been taken in hand sooner as it involved the lifting of the old blocks at present on the platform, and this could not be managed until the new boiler (referred to in paragraph 13 of my last report) was fixed; as is it now is.

9. The double boats intended to form the basis of the gearing for lifting old blocks (see paragraph 3) were launched satisfactorily on the 31st. There still remain some fittings to be adjusted before they can be tested by experiment.

10. The store-house was thoroughly overhauled and cleaned and a large quantity of old Portland cement casks were sold by auction, together with some worn-out railway material. A small additional store-house, referred to in the June report (paragraph 12), has been completed.

11. *Stores received.*—During July the P. and O. S.S. *Chusan* brought some stores which were much needed, such as screw-jacks, crab-winches, rail-lifters, leather-belting, sheet tin, wheel tyres, &c. It also brought an electric lamp for the use of the divers in working amongst fallen blocks. I have not tried this lamp yet, as unfortunately three cells of the battery attached were broken on the voyage. I have applied to the Superintendent, School of Arts, for duplicate cells. From Gopálpur also I received a first consignment of 40 sál-wood sleepers from Messrs. Minchin and Company.

12. *General.*—Surveys of the high-water mark were taken this month and sections of the rubble bases of the pier. I also tested the levels and positions of the blocks in the more severely damaged portions of the piers, and am glad to report that there has been no movement appreciable since November 1881. The standing portions also are quite stable and free from settlement.

13. Up to the date of this report I have received no notice of when I may expect Mr. A. L. Pogson as an assistant.

Order—dated 17th August 1885, No. 1900 W., Public Works.

It is to be regretted that work was so much interfered with during the month under report by the persistent ground swell. The progress reported is, however, fairly satisfactory.

2. The Superintending Engineer, IV Circle, has reported that he will be able to relieve Mr. Pogson on the 17th August 1885.

(True Extract.)

Major, R.E.,
Under Secy. to Govt., P.W.D.

To the Superintendent, Madras Harbour Works.
" Examiner, Public Works Accounts.
" Marine Department.

Exd. J. Henricus.
Spare Copies

1900/2

8

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of [1885] Madras.

PUBLIC WORKS.

Dated August, 17th.

Recd. *Encl.*

G.O., 17th Aug. 1885, No. 1900 W.

AUGUST.

Madras Harbour Works

Orders on progress report on — for July 1885.

8

15th July 1885, No. $\frac{1659\ \text{W.}}{\text{A}}$, Public Works.

1900/3

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

Read—the following letter from F. N. THOROWGOOD, Esq., M. Inst., C.E., Superintendent, Madras Harbour Works, to the Secretary to Government, Public Works Department, dated Madras, 3rd July 1885, No. 19 W. :—

I have the honor to submit the following report of the progress on these works during the month of July.

2. *North pier works—Rubble base.*—The sea has been very troublesome during the greater part of the month, and has interfered most seriously with diving operations, with deposit of rubble, and with surveying work in setting out the new lines for working. The foreshore (to be covered hereafter with 30-ton blocks) was reported complete last month, and the only addition to it during June has been about 140 tons of rubble excavated by the divers from the harbour side of the pier and merely thrown to the sea side to be out of the way.

3. The preparation of the new rubble foundation has been proceeded with as well as circumstances would permit, and 774 tons of rubble from Pallávaram were accurately deposited. This amount together with broken pieces of blocks blasted by dynamite make a total of 1,460 tons of good material now in position for the commencement of the new work, and as the old rubble base has been properly levelled by divers, there is already provision for nearly 200 feet of foundation for the new superstructure.

4. *No advance in recovering old blocks.*—I am sorry to report that I have been unable to experiment yet on the recovery of old blocks by means of a floating crane, partly on account of almost incessant swell and partly on account of sickness on the staff.

5. *Setting out new work.*—The setting out of the line for the new work has hitherto given much trouble owing to the broken water caused by the proximity of the old and fallen walls. The system that I am adopting is more laborious than that usually used in deep sea works, where buoys are generally anchored to mark certain spots. In this particular work I propose to mark the curve with specially framed iron beacons, the positions of which will be accurately determined with theodolite and measuring line, and which will be fixed in their places by divers. I hope to have the first of these beacons fixed in three days' time, and if this arrangement proves successful, a more rapid deposit of rubble and clearing away of old blocks may be reckoned upon.

6. *South pier works—Rubble base.*—At the south pier the state of the sea interfered much with marine operations, but to a less extent than at the north. During June 7,153 tons of rubble were tipped in the new base, making a total of 13,046 deposited altogether. As mentioned with respect to the north pier, when the beacons marking the new centre line are accurately fixed (a feat demanding a quiet sea) work will make more rapid progress.

7. *Pallávaram quarries.*—On many days trains from the quarries had to be cancelled owing to roughness of sea and consequent inability to dispose of stone. As

it is impossible to foretell beforehand the state of weather and sea for the following day, it often became necessary to cancel trains by telegraph at very short notice, which, no doubt, must be awkward for the traffic department of the South Indian Railway. That Company has been so obliging as to allow the harbour works staff at Madras and Pallávaram the free use of their telegraph wires for this purpose, and has otherwise been most accommodating.

8. From the 15th June, excepting when stopped by bad weather, four trains ran daily from Pallávaram bringing down 12,187 tons of stone. Of this quantity 4,402 tons were clean granite chips for making concrete and the remainder was for rubble base.

9. With reference to the working of the Pallávaram quarries, I cannot help, with all deference, expressing my regret that I have failed to show (G.O., No. 1478 W., of 24th June 1885) the want of some change in the magisterial arrangements with regard to run-away coolies. I feel sure that I have not pointed out the existing evil sufficiently clearly, and I beg to be permitted to address Government once more on the subject, as at present the coolies desert to an extent that is most hurtful to progress, and in spite of the utmost efforts of the contractor to summon them before a magistrate, and chiefly because the Sarishtadár of Saidapett is not always available, being on tour.

10. *Concrete block-making.*—The block-making machinery has been working well up to the 25th of June, when, through a slight misunderstanding with the Madras Cement Works, it had to be stopped for four days; the misunderstanding being that, without giving the Cement Works sufficient warning, I had ordered rather more cement than they could supply. There is, however, plenty of English cement in store, and block-making was, after four days, resumed with this material, my reason for not using it at once being that, as it all came direct from the factory to Madras *viâ* canal, it was likely to require four or five weeks' exposure to mature it.

11. During June 176 concrete blocks for the new work were turned out, making now a total of 259. Of these blocks 166 are for the "wave-breakers," and 93 are for the superstructure of the two piers.

12. *Tools and plant, &c.*—Two new moulds for making concrete blocks have been completed, and a covered wagon made for conveying blasting materials to the ends of the piers. Several repairs were executed upon the locomotive engines and cranes, and all machinery was kept in good order. The railway lines have been kept in as good order as the worn-out state of the rails will allow. A new boat-shed for the harbour works boats has been completed, and a small new store-shed for ropes, pulley-blocks, &c., has been taken in hand.

13. *Stores received on works.*—Some much-needed stores have been received during June, of which the following are the most important:—a boiler for a steam crane, which will enable me to move some of the old concrete blocks and re-build another block platform; a large consignment of 50-lb. and 75-lb. rails and fishplates, which are most seriously needed, the present lines being very unsafe; besides these, turpentine, boat oars, emery cloth, iron chain, &c., have arrived.

14. *Staff of office and on works.*—The death of Mr. Beardmore, on the 2nd June, already reported and commented on, with regret, in G.O., No. 1385, of 13th June, need only be noted here as a marked event during the month. On 7th June Mr. Beardmore's principal clerk (whose illness I drew attention to in paragraph 18 of my last report), Mr. E. A. D'Vaz, died of heat apoplexy. As he had charge of all Mr. Beardmore's papers in the office, referring to cement testing, boundaries of properties, drainage works, &c., his death was not only most distressing but added greatly to the difficulties of carrying on office work. Mr. Underdown, foreman diver, reported sick in paragraph 2 of my last report, is quite recovered; but most unfortunately, Mr. G. Gunther, foreman engineer, and Mr. J. Lowe, supervisor of block-making, have both been completely disabled, by injuries received on the works, since 13th June. They are now able to walk, and are on a fair road to complete recovery; but it is needless to say how disconcerting all these disasters have been just when all possible energy is needed. I beg to be allowed to record that but for the great energy of Mr. G. Lowe, head foreman, and for the able and willing assistance of

1900/4

Mr. Dumphy, our lately appointed Sub-Engineer, the deficiency on the staff would have been sadly felt.

15. In conclusion I have to state that I trust the arrival of Mr. A. L. Pogson is now not far distant; for, without wishing to magnify my labors in the least, I would, with much deference, draw attention to the fact that from 26th April I have had no assistant whatever, and I begin to find I cannot do justice to the two-fold duties, especially at this time of year.

ORDER—dated 15th July 1885, No. $\frac{1659\ W.}{A}$, Public Works.

Taking into consideration the difficulties which have been encountered, arising from the state of the weather and from sickness among the staff, the Right Honorable the Governor in Council considers the progress made on the Madras harbour works during June to be satisfactory.

2. The Government are well aware of the large amount of work that has unavoidably fallen on the Superintendent during the past two months. The sanction of the Government of India to the appointment of Mr. A. L. Pogson as Assistant Superintendent is daily expected.

3. Paragraph 9 of Mr. [illegible]horowgood's letter will be communicated to the Judicial Department for consideration, with advertence to G.O., dated 9th June 1885, No. 1522.

4. Paragraph 7 will be communicated to the Consulting Engineer for Railways.

(True Extract.)

(Signed) J. SHAW-STEWART, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintendent, Madras Harbour Works.
" Consulting Engineer for Railways.
" Examiner, Public Works Accounts.
" Judicial Department.
" Marine "

Exd. E. Fernandez.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of |1885| Madras.

PUBLIC WORKS.

Dated July, 15th.

Recd. Enc.

G.O., 15th July 1885, No. $\frac{1659\ W.}{A}$

JULY.

Madras Harbour Works

Orders on progress report of — for June 1885.

No. 26W 1900/5

FROM

THE SUPERINTENDENT,
MADRAS HARBOUR WORKS,

TO The Honble: Col: J. H. M. Shaw-Stewart, R.
Secretary to Government,
Public Works Department,
Fort Saint George.

MADRAS, 3d August 1885.

Sir,

I have the honour to submit the following brief report of progress on these works during July, and am sorry to state tha a persistent ground swell has interfered very mu with all work in the neighbourhood of the falle and damaged walls of the Harbour piers.

North Pier-
Rubble Base

2. During July 6424 tons of stone were deposited in the new foundations for the North Pier, and 50 ol blocks were blown up by dynamite giving a tota of 6560 tons of suitable material now deposite to receive the superstructure blocks. Work with the boats for tipping stone was frequently stopp by the swell.

Recovering old
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are
blocks, but I hope before 10 days is passed
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tackle has to be brought close up to the broken
and fallen walls, where any considerable swell
will be a serious obstacle. If only 30 blocks can
be picked up to be used again as foreshore
in the wave breakers the experiment will more
than pay its expenses.

Setting out new line of work

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of my last report for June have proved to be a
success. Two are now fixed in position at the
North pier and two more are nearly ready at the
South pier. To protect these beacons from danger
of being knocked over by boats I found it
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ruined walls through which boats have been
in the habit of plying since November 1881. In
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help with their authority and influence.

South Pier Rubble

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necessarily been very little during the past month,
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out by buoys; Consequently I am obliged to
suspend the work of tipping rubble for a
short time. In July 1060 tons of granite were
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tipped in the new line of foundation and in
the new foreshore.

Concrete Block making

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kept at work throughout the month and
226 blocks were added to the stock.
These vary from 20 to 30 tons in weight
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old blocks converted into a shape which
suits the new design of section. All the
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facture.

Pallavaram Quarries

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9. The double boats intended to form the basis of the gearing for lifting old blocks (see para 3) were launched satisfactorily on the 31st. There still remain some fittings to be adjusted before they can be tested by experiment

experiment.-

10 The store-house was thoroughly overhauled and cleaned and a large quantity of old portland Cement Casks were sold by auction, together with some worn out railway material- A small additional store house referred to in the June report (para 12) has been completed.

Stores received

11 During July the P&O S.S. "Chusan" brought some stores which were much needed, such as screw jacks, crab-winches, rail lifters, leather belting, sheet tin, wheel tyres &c. It also brought an Electric lamp for the use of the divers in working amongst fallen blocks. I have not tried this lamp yet, as unfortunately 3 cells of the battery attached were broken on the voyage. I have applied to the Superintendent School of Arts for duplicate cells. From Gopalpore also I received a first consignment of 405 sal wood sleepers from Messrs Minchin & Co.-

General

12 Surveys of the High water mark were taken this month and sections of the rubble bases of the pier- I also tested the

the levels and positions of the blocks in the more severely damaged portions of the piers, and am glad to report that there has been no movement appreciable since November 1881. The standing portions also are quite stable and free from settlement.

13. Up to the date of this report I have received no notice of when I may expect Mr. A. L. Payson as an assistant.

Vide No. 1322 C
31-7-85 – S.B.

I have the honour to be,
Sir,
Your most Obdt. Servant

F. N. Horrowgood, M. Inst. C.E.
Superintendent.

L.W.p.

1900/8

G.O. 1659 Wd/15-7-85
No. 1322 A Cd/31-7-85

Put up with C No 6917

Rec 6863

Buildings & Roads

From
The Superintendent
Madras Harbour Works

(13)

No 26 W
Dated 3rd Augt 1885
Rcd 4 [illegible]

No of Enclosures Nil

Progress Report

Submits — for July 1885

W.S. 28/8. Cir 7/8
O 5/8/85 R. 17.8.85

Public Works Department.

Para 3 of draft G.O.

Has not S.E. reported on this matter? 1900/5

If so, cannot wording be altered?

W

Please see proposed alterations.

The S.E.'s letter was [illegible] to the [illegible] [illegible] has been taken from the report.

CL
14.8.85

Alterations approved [illegible] could [illegible] Madras [illegible]

IH 14.8.85

Saw [illegible] check [illegible] 16.8

G.O. No. 7659 W dy 15-7-85

No. 1322 A edy 31-7-85

5/9/85 R. 17.8.85

PUBLIC WORKS DEPARTMENT.

1900 / A10

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the

READ the following

From the Supdt. Madras Harbour Works — } H. E. No. 26 W d/ 3 Aug/85

It is to be regretted that work was so much interfered with during the month under report by the persistent ground swell. The progress reported is however fairly satisfactory.

~~2. The Government are glad to learn that there has been no appreciable movement in the portions of the piers that were severely damaged in November 1884. The [illegible]~~

~~[illegible]~~

~~[illegible]~~

~~[illegible]~~

§ 2. The Supg Engr ~~VI~~ IV Circle has been directed to report the date on which he will be able to relieve Mr Pogson.

C.S.
5.8.85

6.8.85

~~Hon. H. E. Sullivan~~

Ord. 23/8
G.O. No 6883
(13)

1900 W

Please copy draft afresh – leaving out para 2 –
Mark for H. M.

7.8.85

Supdt M H W
Ecr P W A
Marine Dept

~~H W~~ W

O 5/8/85 – D 17/8/85

A/Circ:

Buildings + Roads
Civil Works

PUBLIC WORKS DEPARTMENT.

No. 1900 W

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 17th August /85

1900/11

READ the following

Letter from the Supt: Madras Harbour Works N.E. No 26. W d/ 3rd August /85.

It is to be regretted that work was so much interfered with during the month under report by the persistent ground swell. The progress reported is however fairly satisfactory.

2. The Suptg: Engr: IV Circle has ~~been directed to~~ reported that ~~the date on which~~ he will be able to relieve Mr Pogson, on the 17th August 1885.

7.8.85

Supt: M. H. Works ✓
Ex: P.W. Accts: ✓
Marine Dept: ✓
E.E.A.S.

Des/d
25/8/85

1900/12

W B 3

Govt. of {1885} Madras.

PUBLIC WORKS.

Urgent

Prss 18/8/85

Dated

Recd. Encl.

G.O., 17 Aug 1885, No. 1900 W

M Hr works

Orders on progress report on - for July/85

70 copies
5 for signature

17/8

17/8

..87.
...ours
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