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# TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P. W DEPARTMENT

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| G.O. No. | 1084 W   | Press. |
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| Dated    | 7-4-1879 | 297.   |

Not to be folded or roughly handled

A.K

1084

GOVERNMENT OF MADRAS.  
PUBLIC WORKS DEPARTMENT.

7th April 1879, No. 1,084 W.

Buildings and Roads.  
Civil Works.

Read the following paper:—

No. 84. From F. N. THOROWGOOD, Esq., M.I.C.E., Superintendent, Madras Harbour Works, to the Secretary to Government, Public Works Department, Buildings and Roads, dated Madras, 2nd April 1879, No. 2 W.

I HAVE the honor to submit the following report of the progress on these works during the month of March.

2. NORTH PIER SUPERSTRUCTURE.—The weather throughout the month has been most favorable for work, and if we had only had enough of diving dresses the progress would have been very considerable. At the early part of the month the excavation in the rubble base was very heavy, and as the diving power was weak progress was slow at first. Blocks were set on fourteen days of the month, advancing the work by  $81\frac{1}{2}$  feet; further advance was stopped by want of dresses, as all those that were in working order I transferred to the south pier. The total length from point B is now  $1,526\frac{1}{2}$  feet. It is probable that in a week I shall not have one dress fit to use, and then work at both piers will have to wait for the arrival of those dresses asked for on 1st October 1878.

3. NORTH PIER RUBBLE BASE.—Rubble base has been steadily deposited by the *Salisbury*, and by cargo boats during March, and the total quantity deposited in the north pier base was 14,158 tons. Of this the *Salisbury* deposited 5,693 tons, the rest was thrown from cargo boats and from the end of the block work. The north pier base is now fully made up (with the exception of small hollows) for a length of 460 feet beyond the end of the block work, and partly made up for 675 feet beyond the same point. Mr. Beardmore takes frequent and accurate surveys of the base so as to prevent waste of material.

4. BLOCK-MAKING.—Block-making by machinery has been carried on whenever there has been cement for the purpose. The whole of the 1,000 tons indented for by me on 8th June 1878 (sanctioned by the Secretary of State 11th July 1878) has now been received and used on the works, and the next consignment will come by steamer as ordered in G.O., No. 269 W, dated 22nd January 1879. General Morgan's cement, of which we have 600 tons in store, is not yet fit for use, and it appears to improve very slowly. The consignments delivered in February appear to be improving most, and, at the strong recommendation of Mr. H. Morgan, I ventured to make blocks with it after having tested it for a month. The blocks are most unsatisfactory, but a special report will be submitted on this subject in reply to G.O., No. 776 W, of 14th March. I await General Morgan's remarks.

5. During March 318 blocks were made, of which 19 were of General Morgan's cement. The remainder were made of Gillingham's cement and of White's cement, of which I was able to procure a few tons in Madras at a reasonable rate. This cement is excellent. There are now 783 blocks on stock, all of these being at the north block ground. Block-making is at present stopped, and probably will not be resumed until the cement ordered on 22nd January 1879 arrives, unless General Morgan's supply takes a decided change for the better.

Noted and approved by Secretary of Govt.

6. **QUARRIES.**—The extension of the railway siding into the second quarry at Umbathoor is not yet completed, but will be in a few weeks. A slight difficulty has been met with during March in keeping up the supply of laterite as very many of the contractor's men and cattle went away to cultivate land after the rain which fell. I found it quite impossible to prevent this to a certain extent, but no serious inconvenience has been felt. During the past month 20,946 tons were sent down from Umbathoor.

7. From the South Indian Railway quarries the supply has been regular, and a total amount of 14,512 tons have been delivered at Madras, making a grand total from all sources of 35,458 tons, the largest amount ever yet brought to works in one month.

8. **SOUTH PIER SUPERSTRUCTURE.**—Delay was caused at the south pier from March 15th to the 24th owing to the failure of two important wheels in the top gearing of the Titan crane. New wheels were cast and turned, and work resumed on the 25th. During the month 224 blocks were set, and the pier was advanced by a length of 133½ feet, the total length from the point E being 1,110 feet on the 31st. The rate of progress after the Titan was repaired is what I had hoped to accomplish at each pier during March (the best month for work). Between the 24th and 31st, on six working days, 96 blocks were set, advancing the work by 57 feet.

9. All the diving work is now confined to the south pier, as that is the most important one to advance, and there are not dresses for divers at both piers.

10. **SOUTH PIER RUBBLE BASE.**—The work of depositing rubble base has been carried on steadily during March, 15,947 tons having been disposed of for this purpose. Of this amount 5,761 tons were brought by the *Salisbury* from the north pier, and the remainder thrown in from boats and from the pier itself.

11. The base is well made up now for 530 feet in advance of the block work, and partly made up for 700 feet, beyond the same point.

12. **PROTECTIVE WORKS NORTH OF HARBOUR.**—The groynes to the north of the harbour still continue to arrest the sand and preserve the foreshore. A new groyne, approved by Mr. Parkes, will now be thrown out further north than any of the previous ones, and it is hoped that this will have a very marked effect.

One thousand three hundred and thirty-five tons of laterite have been used on these works during March, making a total quantity of 12,237 tons used since May 1878.

13. The *Hobart* left Calcutta on the 25th March, but at the date of this report had not arrived in Madras. Wind and current are against her. On her arrival I shall be able to report exactly what has been done to her and the cost which will amount to nearly Rupees 5,000.

14. During the past month the ship *Marmion* arrived with 1,433 casks of Portland cement which completed the fulfilment of the order sanctioned 12th July 1878 by the Secretary of State. The S.S. *Dorunda* also brought a spare Titan chain and stone-crusher jaws indented for in August 1878. These articles were not urgently needed, but many other things in the same indent are wanted very badly indeed.

15. Since writing the first paragraphs of this report I have learnt by telegraph from Mr. Parkes that the diving dresses did not leave England until 22nd March in the S.S. *Duke of Argyle*. We may expect them at the end of this month. Portland cement, I learn, left on the 13th per S.S. *El Dorado*.

16. **RAILWAY SLEEPERS.**—I have heard at some length from the Forest Department on the subject of sleepers for the works, and I hope to be able to arrange for all future supplies coming from that Department at a somewhat cheaper rate than I have hitherto obtained the best quality of sal wood sleepers. There are at present about 2,400 sleepers due on outstanding orders from Cuttack and Palghat, and it is probable that about 6,000 more will be required to complete the work and renew existing roads. The timber which the Forest Department propose to supply is sal wood from the neighbourhood of Gopalpur, from which port the sleepers would be sent.

17. **EXPENDITURE.**—The total expenditure on the works up to the end of February is Rupees 26,20,757 subject to corrections in detail.

18. **PLANS AND SECTIONS.**—I send with this report a plan of the harbour on a small scale showing the progress at each pier and the line of high water. I should be glad to learn if this small plan meets with the approval of Government, or whether the larger scale as hitherto submitted is preferred. There are also two longitudinal sections accompanying this report, showing the extent of the rubble base, &c., in advance.

No. 85.

ORDER THEREON, 7th April 1879, No. 1,084 W.

RECORDED.

2. The Government observe that the diving dresses are now on their way to India. The delay which has occurred in receiving them has been very unfortunate.

3. The Superintendent will doubtless be careful not to risk the use of Morgan's cement until he is satisfied that it is in a fit state.

4. The plan of the harbour on the scale of 500 feet to an inch is, in the opinion of the Governor in Council, sufficiently large, and its substitution for the plan on the larger scale of 200 feet to an inch, previously submitted, is approved.

(True Extract.)

Colonel, R.E.,  
Secy. to Govt., P.W.D.

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

Exd. C. Howarth.  
Spare Copies

BUILDINGS AND ROADS.  
CIVIL WORKS.  
Gobl. of (1879) Madras.  
PUBLIC WORKS.

To  
THE SUPERINTENDENT,  
MADRAS HARBOUR WORKS.

Dated April 1st.

Issued.

Recd.

Encl.

G. O., 7th April 1879, No. 1,084, W.

APRIL

Nos. 84-85.

MADRAS HARBOUR WORKS.—Diagram of progress  
for March 1879, recorded with observations.

No. 211

From

THE SUPERINTENDENT,  
MADRAS HARBOUR WORKS.

To  
Colonel J. R. M. Shaw-Stewart P. E.  
Secretary to Government P. W. Deptt.  
Buildings & Roads  
Fort Saint George  
MADRAS, 2 April 1879.

Sm,

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

North Pier 2. The weather throughout the month  
Superstructure has been most favourable for work, and if  
we had only had enough of diving dresses  
the progress would have been very considerable.  
At the early part of the month the excavation  
in the rubble base was very heavy and as  
the diving power was weak progress was  
slow at first. Blocks were set on 11th  
days of the month advancing the work  
by 8 1/2 feet, further advance was stopped  
by want of dresses, as all those that were  
in working order I transferred to the  
South Pier. The total length from point B

is now 15.26 feet. It is probable that in a week I shall not have one dress fit to use, and then work at both piers will have to wait for the arrival of those dresses asked for on October 1st 1878.

3. Rubble has been steadily deposited by the "Salisbury" and by cargo boats during March, and the total quantity deposited in the North Pier base was 114158 tons. Of this the "Salisbury" deposited 5698 tons, the rest was thrown from cargo boats and from the end of the block work. The North pier base is now fully made up (with the exception of small hollows) for a length of 450 feet beyond the end of the blockwork, and partly made up for 675 feet beyond the same point. Mr. Boardman takes frequent and accurate surveys of the base so as to prevent waste of material.

4. Blockmaking by machinery has been carried on whenever there has been cement for the purpose. The whole of the 1000 tons

### North Pier Rubble Base

### Blockmaking

2  
1084  
indented for by me on June 8<sup>th</sup> 1878, sanctioned by the Secretary of State July 11<sup>th</sup> 1878 - has now been received and used on the works, and the next consignment will come by steamer as ordered in G.O. N. 269 W. dated January 22<sup>nd</sup> 1879. General Morgan's cement of which we have 600 tons in store is not yet fit for use and it appears to improve very slowly. The consignments delivered in February appear to be improving most, and at the strong recommendation of Mr. H. Morgan I ventured to make blocks with it after having tested it for a month. The blocks are most unsatisfactory, but a special report will be submitted on this subject in reply to G.O. N. 776 W. of March 14<sup>th</sup>. I await General Morgan's remarks.

5. During March 318 blocks were made, of which 19 were of General Morgan's cement. The remainder were made of Gillingham cement and of White's cement of which I was able to procure

a few tons in Madras at a reasonable rate. This cement is excellent. There are now 783 blocks on stock, all of these being at the North block ground. Blockmaking is at present stopped and probably will not be resumed until the cement ordered on January 22<sup>d</sup> 1879 arrives, unless General Morgan's supply takes a decided change for the better.

6. The extension of the railway siding into the second quarry at Umbathoor is not yet completed but will be in a few weeks. A slight difficulty has been met with during March in keeping up the supply of laterite as very many of the contractors men and cattle went away to cultivate land after the rain which fell. I found it quite impossible to prevent this to a certain extent but no serious inconvenience has been felt.

During the past month 20946 tons were sent down from Umbathoor.

7. From the South Indian Railway quarries the supply has been regular, and

3 1084  
and a total amount of 14,512 tons have been delivered at Madras making a grand total from all sources of 35,458 tons, the largest amount ever yet brought to the works in one month.

South Pier  
Superstructure

8. Delay was caused at the South pier from March 15<sup>th</sup> to the 21<sup>st</sup> owing to the failure of two important wheels in the top gearing of the Titan crane. New wheels were cast and turned and work resumed on the 25<sup>th</sup>. During the month 224 blocks were set and the pier was advanced by a length of 133½ feet. The total length from the point B being 1110 feet on the 31<sup>st</sup>. The rate of progress after the Titan was repaired is what I had hoped to accomplish at each pier during March (the best month for work). Between the 24<sup>th</sup> and 31<sup>st</sup> on 6 working days, 96 blocks were set, advancing the work by 57 feet.

9. All the diving work is now confined to the South pier as that is the

the most important one to advance and there are not dresses for divers at both piers.

10. The work of depositing rubble base has been carried on steadily during March 15,947 tons having been disposed of for this purpose. Of this amount 5761 tons were brought by the "Salisbury" from the North Pier and the remainder thrown in from boats and from the pier itself.

11. The base is well made up now for 530 feet in advance of the blackwork and partly made up for 700 feet beyond the same point.

12. The groynes to the North of the Harbour still continue to arrest the sand and preserve the foreshore. A new groyne, approved by Mr. Parkes, will now be thrown out further North than any of the previous ones and it is hoped that this will have a very marked effect.

1335 tons of laterite have been used on these works during March making a total

South Pier  
Rubble Base

Protective  
Works - North  
of Harbour

4 108 1/6  
total quantity of 12,237 tons used since May 1898.

13. The "Hobart" left Calcutta on the 25<sup>th</sup> March but at the date of this report had not arrived in Madras. Wind and current are against her. On her arrival I shall be able to report exactly what has been done to her and the cost which will amount to nearly Rs 6000.

14. During the past month the ship "Marmion" arrived with 1453 casks of Portland cement which completed the fulfilment of the order sanctioned July 12<sup>th</sup> 1898 by the Secretary of State. The "S. S. Dornada" also brought a spare Titan chain and stone crusher jaws indented for in August 1898. These articles were not urgently needed, but many other things in the same indent are wanted very badly indeed.

15. Since writing the first paragraph of this report I have learnt by telegraph from Mr. Parkes that the diving dresses did not leave England until March 22<sup>nd</sup> in the "S. S. Duke of Argyll". We may expect them

them at the end of this month. - Portland Cement I learn left on the 15<sup>th</sup> per s.s. "El Dorado."

16. I have heard at some length from the Railway Forest Department on the subject of sleepers for the works and I hope to be able to arrange for all future supplies coming from that Department at a somewhat cheaper rate than I have hitherto obtained the best quality of sal wood sleepers. There are at present about 2400 sleepers due on outstanding orders from Buttack and Palghat, and it is probable that about 6000 more will be required to complete the work and renew existing roads. The timber which the Forest Department propose to supply is sal wood from the neighbourhood of Gopalspore from which port the sleepers would be sent.

17. The total expenditure on the works up to the end of February is Rs 26,20,757 Expenses subject to corrections in detail.

Plans & Sections

18. I send with this report a plan of the Harbour on a small scale showing the progress at each pier and the line of High Water. I should be glad to learn if this small plan meets with the approval of Government or whether the larger scale as hitherto submitted is preferred. There are also two longitudinal sections accompanying this report, showing the extent of the rubble base in advance.

I have the honor to be  
Sir,

Your most Obedient Servant

A. H. M. R. O. G. O. D. M. P. S. S.  
Superintendent  
Mullay Harbour & Works

Buildings & Roads  
From the Superintendent  
Madras Harbour Works

No 217  
Dated 2<sup>d</sup> April 1879.

2014-3-79 h=776 M.

Atty Enclosures 3  
No 217-4-79 M. 1084 M.

Progress  
Submit progress report for  
March 1879.

84

2014-4-21

Public Works Dept.  
Letter from the Superintendent, Madras  
Harbour Works, No 217, dated 2<sup>d</sup> April 79.

For Orders.

With respect to the  
delay in the despatch  
from England of the

The diving dress & the dining dresses, the  
to be on this day at least. following telegram  
The delay has been very (being the third)  
unfortunate. W. T. with was sent on the 23<sup>th</sup>  
doubtless he must compel March to the Secretary  
not to risk using gun of State:-  
that cannot if not  
purportedly satisfactory  
I think the dress  
scale gun plan is  
quite large one. The  
sections shd. be cut!  
in the large scale. [H]  
"Diving dresses incubated  
nineteenth November  
Apparently still  
unforwarded & Harbour  
Works will stop and  
season be lost."

M 5/11

Instructions are required  
on the last paragraph  
of Mr. Harrowgood's report.  
The plan now submitted  
by him is on a scale  
of 500 feet to an inch.  
The plans previously  
submitted were on a  
scale of 200 feet to an  
inch.

3/4-  
V. Muntz  
Sg. Secy. to Government  
P. M. D.

GO No 1084  
of 7/4/79

Exhib. C-3-4-79

No 1084 Fr. 1084

Public Works Department.  
PROCEEDINGS OF THE MADRAS GOVERNMENT.  
Under date the 7<sup>th</sup> April 1879  
Read the following:—

From,  
The Supt. Madras  
Harbour Works } (K.C. No 24 of 2<sup>nd</sup> April 1879)

Recorded.

The Government  
observe that the  
diving dresses <sup>now</sup> are on  
their way to India;  
the delay in receiving  
them has been very  
unfortunate.

The Superintendent  
will doubtless be  
most careful not to  
risk using Morgan's  
Cement unless perfectly  
satisfactory.

The plan of the harbour  
on the scale of 500 feet  
to an inch is in the  
opinion of the Governor  
in Council sufficiently  
large, and its subse-  
-quent for the plan  
on the larger scale  
of 300 feet to an inch,  
previously submitted,  
is approved.

Sept 19/30  
Capt. M. H. Works  
Marine Department  
Harbour Works Committee

Sept 17-4-7930

1084

11

C. 20611



Govt. of Madras.

PUBLIC WORKS.

*Received by the*

*Very urgent*

*8/4/79*

C. O. 7 April 1879, No. 1084W

Nos. 84-85

Madras Harbour Works  
Progress report for March  
1879. Accompanied with plans  
and figures.