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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P.W.D. DEPARTMENT

G.O. No. / B.P. No.	71. W.	Press. / Mis.
Dated	13.1.1882	197 .

Not to be folded or roughly handled

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

13th January 1880, No. 71 W.

Buildings and Roads.
Civil Works.

Read the following paper :—

No. 16. From F. N. THOROWGOOD, Esq., M. Inst. C.E., Superintendent, Madras Harbour Works, to the Secretary to Government, Public Works Department, dated Madras, 5th January 1880, No. 48 W.

I have the honor to submit the following report of the progress on these works during the past month of December, together with a brief summary of the past year's work.

2. *North Pier, Superstructure.*—The weather has been most unfavorable for work during nearly the whole of the month, and the progress has consequently been very small at the north pier, only three rows of blocks (twenty-four in all) having been set, bringing the termination of the work on December 31st to 2,371½ feet from the point B. From the 3rd and on all available days, till the 12th of the month, the divers were employed in fixing some special blocks to form a tide-gauge well in deep water. These blocks I have long wanted to set in position, hoping that they might serve the purposes of Captain Baird, R.E., in his tidal observations. The blocks, five in number, were most satisfactorily set on the inside of the north pier, 820 feet back from the end, on the 13th, the top course being tied back with iron ties to the blocks of the permanent pier. Unfortunately, on the 14th, a rather heavy sea got up, and on the morning of the 16th the tide-gauge blocks had disappeared, having been completely swept away by the force of the waves breaking over the pier.

3. The work of fixing these tide-gauge blocks interfered very slightly with the advance of the pier, but the loss of the special blocks is to be regretted. Since January 1st the work of block-setting has progressed steadily.

4. *North Pier, Rubble Base.*—The bad weather interfered seriously with the work at the rubble base, and in December only 2,483 tons of stone were deposited, the smallest quantity of work done in any month of the whole year. The hopper barges could not be used at all, as the swell prevented them from lying alongside the pier to load.

5. *Concrete Block-making.*—The work of making blocks was pushed on during December as hard as possible, but want of cement prevented operations from being carried on during eleven days. Of course these interruptions are most inconvenient, as the block-making staff (excepting the coolies who are paid by the piece and not by time) has to be kept on whether blocks are made or not. If the local supply of cement from General Morgan were equal in quantity and quality to what he has agreed to deliver, these delays would not occur. As it is, however, General Morgan's supply for the last two months and a half has not permitted me to make one single block from his cement during that time.

6. During December 339 blocks were turned out, of which 112 were made at the south pier ground. At the end of December there were 1,084 blocks on stock, and as I am advised of a regular supply of cement having sailed from England, the first of which is expected shortly, we may hope for rapid and regular progress between this date and next May.

7. *Quarries.*—The amount of material required from Ambatúr, during December, was small, and two trains a day sufficed for all purposes. The total amount delivered in the month was 3,797 tons, the smallest quantity of any month in the year.

8. From the Pallávaram quarries the outturn has been increased, and five trains daily (on full working days) have been running. The amount of stone delivered from Pallávaram in the last month has been 14,571 tons, and the total amount from both Railways 18,368 tons.

9. *South Pier, Superstructure.*—At the south pier the progress during December was slightly better than at the north pier, but was nevertheless far below the average. The number of blocks set was seventy-two, advancing the work by a length of 41½ feet, and making the total length of block work at the end of the year 1,719 feet from the point E. From the 1st of January the weather has improved, and the progress bids fair to be more nearly what it ought to be.

10. *South Pier, Rubble Base.*—The work of depositing rubble base from cargo boats was kept up pretty well during the past month, as the north pier affords much shelter to the whole of the south pier, and boats can be loaded with stone, when to do the same work at the north pier is impossible. In December 6,486 tons of stone were deposited, a greater quantity than was disposed of in the previous month of November.

11. The extent of base in advance reaches up to the turning point of the curve, but more stone is required over this length to bring the bank up to its proper level.

12. *Protective Works and Coast Line.*—No further encroachment has occurred in December to the shore near Mr. Coleman's house, and the protective works referred to in paragraph 12 of my last report have proved effectual. The wall of Mr. Coleman's compound and of that of Shand's Cotton Press has been rebuilt, and the bank at the foot made up with large laterite boulders, for which purpose 850 tons have been used.

13. I have laid down a rough line of railway from Clive's battery towards the spot where the sea encroached most heavily, and when this is completed I propose to build a stronger revetment of large granite boulders, surmounted with concrete blocks, which, I trust, will be sufficient to stop all further erosion of the coast at this spot.

14. I hope shortly to be able to address Government on the effects on property of the erosion of the coast further north, as mentioned in my last report and in G.O., No. 2,842 W., of 11th November 1879, but I am not at present quite prepared with all the facts.

15. *Stores received on works.*—The following stores were received in December:—

By the ship *Afton* 2,660 casks Portland cement.
Do. S.S. *Hydaspes* 398 casks do.
Do. S.S. *Australia* diving dresses and gear.
Do. S.S. *Verona* 454 casks of cement (some much damaged) from the S.S. *Penguin* wrecked in the Red Sea.
Do. S.S. *Oriental* 388 sleepers, from Gopálpur.
Do. S.S. *Ellora* 760 do. do.

16. General Morgan has delivered about 70 tons of his cement in December instead of 300 tons, as he is bound to do by his contract. Of the cement delivered in November none was strong enough for use on the works and the whole was rejected. Of the 70 tons delivered in December I have not yet tested any samples that come up to the required standard. By the terms of the agreement under which General Morgan is now delivering cement (since December 1st) all deficiencies below 300 tons shall be cancelled from his order and will be indented for from England.

17. *Plans, &c.*—The accompanying lithographed plan shows the line of coast to the north beyond Cassimode, at the end of December, in a green dotted line edged with a blue tint; the line of coast for November being shown in plain black dots. The two longitudinal sections show the amount of progress in block-setting as

usual. A considerable alteration and improvement has been made in the line of railway from the north to south pier whereby a flatter curve is obtained. This alteration and the line northward along the beach are shown in red.

18. *Expenditure.*—The total expenditure, approximately arrived at, up to December 31st, 1879, has been Rs. 34,71,792, but to this there are considerable additions to be made for sál-wood sleepers from the Forest Department, the accounts for which I cannot adjust yet.

19. *General Summary for the year* 1879.—The amount of progress in the year has not been so great as we had hoped it would be, but the causes of delay were quite apart from any difficulty in the work and were beyond my control. The want of diving dresses in the early part of the year, and of cement during the whole year, must account for certainly 300 feet of *each pier* more than we have to show. From March 26th to May 26th (the best season) the north pier was at an absolute standstill for want of diving dresses, and the south pier suffered in a less degree. The failure in General Morgan's cement supply was an item which could not certainly have been foreseen, but its result was an almost complete stoppage of work at the south pier from September 6th to November 1st.

20. The length of north pier advanced in 1879 has been 1,021 lineal feet, and of the south pier 1,018 lineal feet, in each case more than was built in 1878.

21. The amount of stone deposited in the base of the piers has been, for the north pier 134,129 tons, and for the south pier 124,523 tons, giving a total for 1879 of 258,652 tons.

22. There have been 3,500 blocks made in the yards, and 3,426 blocks set in the piers.

23. From the Pallávaram quarries 157,947 tons of stone have been received, and from Ambatúr 171,511 tons, giving a total for the year of 329,458 tons.

24. As far as one is able to foresee there appears no reason why in the next four months the rate of progress should not be more rapid than in any previous four months since the work commenced. At the north pier the work will be more difficult of execution and more liable to damage from attacks of the sea, but as no sea that has visited Madras since 1876 has ever been able to displace a single block with a proper depth of foundation, it may be reasonably hoped that if an exceptionally heavy sea should attack the piers next May there will be an ample margin of strength in the work to resist it.

No. 17. ORDER THEREON, 13th January 1880, No. 71 W.

ORDERED to be recorded.

(True Extract.)

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

To the Superintendent, Madras Harbour Works.
" Secretary, Harbour Works Committee.
To General Morgan.

Exd. S. T. Austin.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1880) Madras.

PUBLIC WORKS.

To

THE SUPERINTENDENT, MADRAS HARBOUR WORKS,

&c., &c., &c.

Dated January 13th.

Issued

Recd. Encl.

G. O., 13th January 1880, No. 71 W.

JANUARY.
Nos. 16-17.

Madras Harbour Works report for December 1879, recorded.

No. 487.

From

THE SUPERINTENDENT,
MADRAS HARBOUR WORKS,

To Colonel R. H. Tanky C. E. R. E.
Secretary to Government P. W. Dept
Fort Saint George

MADRAS, 5th January 1880.

SIR,

North Pier
Superstructure

I have the honor to submit the following report of the progress on these works during the past month of December together with a brief summary of the past year's work.

2. The weather has been most unfavourable for work during nearly the whole of the month and the progress has consequently been very small at the North Pier, only three rows of blocks (21 in all) having been set bringing the termination of the work on December 31st to 2374 feet from the point B. From the 3rd and on all available days till the 12th of the month, the divers were employed in fixing some special blocks to form a tide gauge well in deep water. These blocks I have long wanted to set in position,

hoping

hoping that they might serve the purpose of keeping Point A in the head clear. The blocks 5 in number were most satisfactorily placed on the South Pier 320 feet back from the end on the 15th the top course being tied back with iron ties to the blocks of the permanent pier. Unfortunately on the 16th a rather heavy sea got up and on the morning of the 17th the tide gauge blocks had disappeared having been completely swept away by the force of the waves breaking over the pier. The work of fixing the tide gauge blocks interfered very slightly with the advance of the pier but the loss of the special blocks is to be regretted. Since January 1st the work of block-making has progressed steadily.

North Pier. Rubble Bases.

6. The bad weather interfered seriously with the work at the rubble base and in December only 2483 tons of stone were deposited, the smallest quantity of work done in any month of the whole year. The Hopper Barges could not be used at all as the swell prevented them from lying alongside the pier to load.

The

Concrete Block-making.

5. The work of making blocks was pushed on during December as hard as possible, but want of cement prevented operations from being carried on during 11 days. Of course these interruptions are most inconvenient as the block making staff (excepting the coolies who are paid by the piece and not by time) have to be kept on whether blocks are made or not. If the local supply of cement from General Morgan were equal in quantity and quality to what he has agreed to deliver these delays would not occur. As it is however General Morgan's supply for the last two months and a half has not permitted me to make one single block from his cement during that time.

6. During December 339 blocks were turned out of which 112 were made at the South Pier ground. At the end of December there were 1084 blocks on stock, and as I am advised of a regular supply of cement having sailed from England, the first of which is expected shortly we

may

may hope for rapid and regular progress between this date and next May.—

Quarries

7. The amount of material required from Ambathoor during December was small and two trains a day sufficed for all purposes. The total amount delivered in the month was 3797 tons, the smallest quantity of any month in the year.—

8. From the Pallavaram quarries the outturn has been increased and 5 trains daily on full working days have been running. The amount of stone delivered from Pallavaram in the last month has been 14,571 tons, and the total amount from both Railways 18,368 tons.—

South Pier Superstructure

9. At the South Pier the progress during December was slightly better than at the North Pier, but was nevertheless far below the average.— The number of blocks set was 72 advancing the walk by a length of 41½ feet and making the total length of blockwork at the end of the year 1719 feet from the point P5. From the first of January the weather has improved and the progress bids fair to be more nearly what it ought to be.—

The

South Pier Rubble Base

10. The work of depositing rubble base from cargo boats was kept up pretty well during the past month, as the North Pier affords much shelter to the whole of the South Pier and boats can be loaded with stone when to do the same work at the North Pier is impossible. In December 6488 tons of stone were deposited, a greater quantity than was disposed of in the previous month of November.—

11. The extent of base in advance reaches up to the turning point of the curve, but more stone is required over this length to bring the bank up to its proper level.—

Protective Works & Coast line

12. No further encroachment has occurred in December to the shore near Mr. Coleman's house, and the protective works referred to in para 12 of my last report have proved effectual.— The wall of Mr. Coleman's compound and of that of Shands Cotton Press has been rebuilt and the bank at the foot made up with large laterite boulders, for which purpose 800 tons have been used.—

13. I have laid down a rough line of railway from Celive's Battery towards the spot where the sea encroached most

heavily

heavily, and when this is completed I propose to build a stronger revetment of large granite boulders surmounted with concrete blocks which I trust will be sufficient to stop all further erosion of the coast at this spot.

14. I hope shortly to be able to address Government on the effects on property of the erosion of the coast further North as mentioned in my last Report and in G.O. No 2842 of 4th December 1879 but I am not at present quite prepared with all the facts.

Stores received on works

15. The following Stores were received in December:-

By the Ship "Afton" 2660 Casks Portland Cement
" S.S. "Hydaspes" 398 Casks do
" S.S. "Australia" Diving dresses & gear
" S.S. "Verona" 454 Casks of Cement (some much damaged) from the S.S. "Penguin" wrecked in the Red Sea.

By the S.S. "Oriental" 388 Casks from Gopanpore
" S.S. "Ellora" 760 ditto ditto

16. General Morgan has delivered about 70 tons of his cement in December instead of 300 tons as he is bound to do by his Contract. Of the cement delivered in November none was strong enough for use on the works and the whole was rejected. Of the 70 tons delivered in December I have not yet tested any samples that come up to the required standard. By the terms of the agreement under which General Morgan is now delivering cement (since December 6th) all deficiencies below 300 tons shall be cancelled from his order and will be indented for from England.-

Plans &c

17. The accompanying lithographed plan shows the line of coast to the North beyond Cassimode at the end of December in a green dotted line edged with a blue tint, the line of coast for November being shewn in plain black dots. The two longitudinal sections shew the amount of progress in blocksetting as usual. A considerable alteration and improvement has been made in the line of railway from the North to the South Pier whereby a flatter curve is obtained. This alteration and the line Northward along the Beach are shewn in red.-

Expenditure

18. The total expenditure, approximately arrived at, up to December 31st 1879, has been

been Rs 34.71.792 but to this there are considerable additions to be made for sal wood sleepers from the Forest Department the accounts for which I cannot adjust yet.

19. The amount of progress in the year has not been so great as we had hoped it would be, but the causes of delay were quite apart from any difficulty in the work and were beyond my control. The want of diving dresses in the early part of the year, and of cement during the whole year must account for certainly 300 feet of each pier more than we have to show. From March 26th to May 26th the best season of the North Pier was at an absolute standstill for want of diving dresses and the South Pier suffered in a less degree. The failure in General Morgan's cement supply was an item which could not certainly have been foreseen, but its result was an almost complete stoppage of work at the South Pier from September 6th to November 1st.

General Summary for the Year 1879.

20. The length of North Pier advanced in 1879 has been 1021 lineal feet, and of the South Pier 1018 lineal feet, in each case more than was built in 1878.-

The

21. The amount of stone deposited in the base of the piers has been for the North Pier 134,129 tons, and for the South Pier 124,523 tons giving a total for 1879 of 258,652 tons.-

22. There have been 3500 blocks made in the yards, and 342 6 blocks set in the piers.-

23. From the Pallavaram quarries 157,947 tons of stone have been received, and from Ambathoor 171511 tons, giving a total for the year of 329458 tons.-

24. As far as one is able to foresee there appears no reason why in the next 4 months the rate of progress should not be more rapid than in any previous 4 months since the work commenced.- At the North Pier the work will be more difficult of execution and more liable to damage from attacks of the sea, but as no sea that has visited Madras since 1878 has ever been able to displace a single block with a proper depth of foundation it may be reasonably hoped that if an exceptionally heavy sea should

attack

71/8
71/8

attack the piers next May, there will be
an ample margin of strength in the work
to resist it.-

I have the honor to be,
Sir,
Your most Obedient Servant,

F. W. Chorowsoth. M. Inst. C.E.
Superintendent
Madras Harbour Works

GP.S.-2842 W-11-11-79
" 3134 W-9-12-79

Buildings & Roads

From The Superintendent
Madras Harbour Works

Rec'd 13 Jany 80 No. 71 W.

No 48 W
Dated 5th January 1880

No of Enclosures 3

Sent to Secy
Fabrics
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Back No. 16

Progress Report

Submits progress report of the works for December 1879

No 71 W

P. W. Department.

PROCEEDINGS of the MADRAS GOVERNMENT.

Under date the 13 January 1880

Read the following

From
The Supt. M. Harbour Works
} (R. No. 48 W dt 5th Jan 7/80)

Ordered to be recorded.

Supt. M. H. Works.
Secy. Harbour Works Committee
General Morgan.

N.E.P.
6/1

7/1/80

✓ Cloth

1880

Govt. of ~~1879~~ Madras.

PUBLIC WORKS.

To

Dated

Issued

Recd. Encl.

Jany 1880

G. O. No. 13 ~~Jany 1879~~, No. 71 W

Nos. 16-17

Madras Harbours Works

report for Decr 1879, recorded