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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P. W. D. DEPARTMENT

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1386
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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

18th March 1878, No. 1,386 W.

Buildings and Roads.

Civil Works.

Read the following paper:—

No. 254. From F. N. THOROWGOOD, Esq., Superintendent, Madras Harbour Works, to the Secretary to Government, Public Works Department, dated Madras, 1st March 1878, No. 78 W.

I HAVE the honor to submit the following report of progress on these works during the month of February 1878.

2. NORTH PIER WORKS.—Block-setting has been carried on vigorously during the month, and on each day except Sundays the work has been advanced. 198 of the 27 ton concrete blocks have been satisfactorily set, and these have extended the pier a length of 165 lineal feet. The total length of block-work now set on the north pier is 600 feet, of which 244 feet have been built since 1st January 1878.

3. The section of the pier is the same as in January, namely, three tiers of 8 feet each in height. The level of the top surface is 1·6 higher than I intend it to be ultimately, and when the work is brought down this 1·6 the top surface will still be higher than Mr. Parkes' design. The difficulties with the sand on the top of the rubble which were so troublesome last year prevented the blocks from being set at their proper level. This deviation from the design has of course been reported to Mr. Parkes, who does not object to it as a temporary measure.

4. The foundations are at present quite clear of sand, and the work is founded on a wide base of laterite stone from 4 to 5 feet thick, the upper surface being covered with a layer of granite chips from the Palaveram District. The last length of 200 feet of the pier has not settled down more than an inch in any place, although the blocks were quickly set and the titan and locomotives travelled over them very shortly after each course was finished. Occasionally the course at the extreme end of the pier subsided a few inches during the night, but there have been no cases of settlement in a course that is not at the extreme end.

5. RUBBLE BASE.—On the 6th February a contractor named Sarawanamuttoo Pillay (whose tender for the work had been accepted) commenced tipping stone from boats for the bases of the two piers. His price for the work was 12 Annas per ton of stone loaded into boats, taken out to sea, and there thrown overboard. The present contract is to extend over two months from the date of commencing work. The amount of laterite rubble deposited from boats during the month is 4,097 tons, besides 437 tons of the granite chips for levelling up the beds of the blocks.

6. The rubble base cannot yet be deposited by the Hopper Barges, as I still take the precaution of protecting each side of the block-work with a heavy foreshore which prevents the vessels from coming alongside the pier. I think that when a distance of 700 feet from point B has been reached the foreshore can be dispensed with, and the rubble base will then be deposited by the steamers.

7. BLOCK-MAKING.—The large number of blocks that have been set in the two piers during February has reduced the stock of blocks in the yard very considerably. At the same time the stone-crushing and elevating machinery has broken down in many places owing to the hardness of Chinnamapett stone. My block-making resources have, therefore, been very severely taxed at a critical time. The machinery has had to be supplemented by hand labor, and with the two together fifteen blocks have been turned out in one day.

8. The total number of superstructure blocks made during the month is 237 (the greatest number ever made in one month), of which 140 were made on the north and 97 on the south platform. Very much of the cement used has been of General Morgan's manufacture.

9. With regard to the breaking down of some of the block-making machinery, I should state that on November 8th, 1877, I sent in an indent on England for duplicate parts of the machines, but I have not yet received any notice of the articles required being shipped for Madras.

10. SUPPLY OF STONE FROM QUARRIES.—Both laterite and hard stone have been received during the month from Ambatoor and Chinnamapett. From Ambatoor 1,950 tons of laterite and from Chinnamapett 1,785 tons of shingles for block-making. This gives a total of 3,735 tons of materials brought to the works by the Madras Railway during February.

11. SOUTH PIER WORKS.—At the south pier block-setting has been carried on during every day of the month except one (excluding Sundays); and since January 31st 154 blocks have been satisfactorily laid. This has advanced the pier a length of 124½ lineal feet, and the total length of block-work from the point E is now 298¼ feet, of which 222¾ feet have been built since January 1st, 1878.

12. RUBBLE BASE.—The rubble base for the south pier has been carried on by the same contractor as at the north pier. The stone used has come from Palaveram and the 15th mile quarry. The total amount of stone deposited in the base and foreshores during February is 4,935 tons.

13. The base is kept well in advance of the block-work, and is at the present time about 4 or 5 feet in thickness. It is levelled now by divers (who commenced work February 4th) as at the north pier, and the block-work of the superstructure is now similar to that of the north pier, namely, three tiers in height.

14. A little trouble is caused already by silt or sand in the foundation, but there has been very little delay from that cause as yet. The experience gained last year at the north pier will be of service in meeting this difficulty at the south.

15. STONE-SUPPLY FOR SOUTH PIER.—At the beginning of the month the supply of stone from the South Indian Railway was rather small; but, as more wagons became available, the amount of stone sent down increased. A total of 6,830 tons has been received from the quarries on the South Indian Railway (against about 3,800 tons received in January), and of this quantity about 736 tons of small granite has been sent along the beach railway to the block ground for block-making.

16. OBSERVATIONS ON TANKS AND CRATES.—The whole of the diving staff and diving boatmen have been so much employed, and with such good results, during February that I have not taken them off for one day to examine the two tanks or the remaining crate. I will endeavor to visit them, however, during March.

17. SURVEY OF ROADSTEAD.—On February 12th Mr. Beardmore and I commenced to resurvey the whole of the roadstead in the immediate neighborhood of the proposed Harbour. We repeated the soundings over the traversing lines set out in 1876 for Lieutenant Jarrad. The weather being most favorable and the sea remarkably smooth we were able to take the soundings and tidal observations with great accuracy. The result of this survey is shown on the plan submitted herewith. The soundings are shown in blue figures representing feet and inches below what is known as de Havilland's Mean Sea Level. The contour lines are shown in blue dotted lines, and the contour lines of Lieutenant Jarrad's survey in black dotted lines. These last contour lines are corrected to depths below de Havilland's Mean Sea Level,

so as to be comparable with this recent survey. I should remark that the mean sea level to which these soundings are referred appears to be more nearly the high water level of the present day.

18. On examining this recent survey it will be seen that the effect of the north pier and surf bank has been to push the 3-fathom contour line slightly out to sea. The 4-fathom contour is, however, not yet affected. Further out to sea a deepening is apparent, which shows clearly that any alarms that may have been raised about the shoaling up of the roadstead are entirely without foundation.

19. GENERAL.—On the 1st February the north and south piers were inspected by His Grace the Governor and Sir Andrew Clarke; and on the 2nd Sir Andrew Clarke examined the plans, sections, charts, &c., in the office. On the 16th he again visited the north pier and inspected all the machinery and arrangements for block-making, stone-crushing, &c.

20. EXPENDITURE.—The total expenditure on the works up to the end of February has been about Rupees 16,09,363.

21. PLANS AND SECTIONS.—Accompanying this report I have the honor to forward one general plan, one elevation of the north, and one of the south pier, whereon the work done during the month of February is shown in red color.

No. 255. ORDER THEREON, 18th March 1878, No. 1,386 W.

HIS GRACE the Governor in Council is much pleased with the energy with which the works have been pushed on during the ~~quarter~~ under notice.

(True Extract.)

Colonel, R.E.,
Secretary to Government, P.W.D.

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

Exd. T. D. Ryan.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of Madras.

PUBLIC WORKS.

To

The SUPERINTENDENT, MADRAS
HARBOUR WORKS,
&c., &c., &c.

Dated March 1878.

Read. Encl.

G. O., 18th March 1878, No. 1,336 W.

MARCH.

Nos. 254-255.

Madras Harbour Works.—Progress report of the — for February 1878, recorded with remark.

No. 78 W.

From

THE SUPERINTENDENT,
MADRAS HARBOUR WORKS.

To

Colonel E. A. Reid R.E.
Secretary to Government P. W. Dept
Buildings & Roads Branch
Fort St. George

MADRAS, March 1878.

SIR,

I have the honor to submit the following report of progress on these works during the month of February 1878.

North Pier Works 2. Block setting has been carried on vigorously during the month and on each day except Sundays the work has been advanced. 195 of the 27 ton concrete blocks have been satisfactorily set and these have extended the pier a length of 185 lineal feet. The total length of block work now set on the North Pier is 600 feet of which 246 feet have been built since 1st January 1878.—

3. The section of the pier is the same as in January, namely three tiers of 8 feet each in height. The level of the top surface is 1.6 higher than I intend it to be ultimately, and when the work is brought down the 1.6 the top surface will still be

higher than Mr. Parkes's design. The difficulties with the sand on the top of the rubble which were so troublesome last year prevented the blocks from being set at their proper level. This deviation from the design has of course been reported to Mr. Parkes who does not object to it as a temporary measure.

4. The foundations are at present quite clear of sand and the work is founded on a wide base of laterite stone from 4 to 5 feet thick, the upper surface being covered with a layer of granite chips from the Palaveram district. The last length of 200 feet of the pier has not settled down more than an inch in any place although the blocks were quickly set and the Titan and locomotives travelled over them very shortly after each course was finished. Occasionally the course at the extreme end of the pier subsided a few inches during the night, but there have been no cases of settlement in a course that is not at the extreme end. —

1386/4

Rubble Base. 5. On the 6th February a contractor named Tarawana muttoo Pillay (whose tender for the work had been accepted) commenced tipping stone from boats for the bases of the two piers. His price for the work was 12 annas per ton of stone loaded into boats, taken out to sea and there thrown overboard. The present contract is to extend over two months from the date of commencing work. The amount of laterite rubble deposited from boats during the month is 4097 tons, besides 437 tons of the granite chips for levelling up the beds of the blocks.

6. The rubble base cannot yet be deposited by the Hopper Barges as I still take the precaution of protecting each side of the blockwork with a heavy foreshore which prevents the vessels from coming alongside the pier. I think that when a distance of 700 feet from point B has been reached the foreshore can be dispensed with, and the rubble base will then be deposited by the steamers.

Blockmaking. 7. The large number of blocks that have been set in the two piers during February has

has reduced the stock of blocks in the yard very considerably. At the same time the stone crushing and elevating machinery has broken down in many places owing to the hardness of Chinnamapett stone. My blockmaking resources have therefore been very severely taxed at a critical time. The machinery has had to be supplemented by hand labour, and with the two together 15 blocks have been turned out in one day.

8. The total number of superstructure blocks made during the month is 237 (the greatest number ever made in one month) of which 140 were made on the North and 97 on the South platform. Very much of the cement used has been of General Morgan's manufacture.

9. With regard to the breaking down of some of the blockmaking machinery I should state that on November 8th 1877 I sent in an Indent on England for duplicate parts of the machines, but I have not yet received any notice of the articles required being shipped for Madras.

Supply of stone from Quarried

10. Both laterite and hard stone have been

been received during the month from Ambatoor and Chinnamapett. From Ambatoor 1950 tons of laterite, and from Chinnamapett 1785 tons of shingles for block making. This gives a total of 3735 tons of materials brought to the works by the Madras Railway during February.

South Pier Works

11. At the South pier blocksetting has been carried on during every day of the month except one (excluding Sundays), and since January 31st 154 blocks have been satisfactorily laid. This has advanced the pier a length of 124½ lineal feet, and the total length of blockwork from the point E is now 298¼ feet, of which 222¾ feet have been built since January 1st 1878.

Rubble Base

12. The rubble base for the South pier has been carried on by the same contractor as at the North pier. The stone used has come from Palaveram and the 15th mile quarry. The total amount of stone deposited in the base and foreshore, during February is 4935 tons.

13. The base is kept well in advance

of

of the blockwork, and is at the present time about 4 or 5 feet in thickness. It is levelled over by divers (who commenced work February 4th) as at the North pier, and the blockwork of the superstructure is now similar to that of the North pier, namely three tiers in height.

16. A little trouble is caused already by silt or sand in the foundation, but there has been very little delay from that cause as yet. The experience gained last year at the North pier will be of service in meeting this difficulty at the South.

15. At the beginning of the month the supply of stone from the South Indian Railway was rather small, but as more waggons became available the amount of stone sent down increased. A total of 6830 tons has been received from the quarries on the South Indian Railway against about 3000 tons received in January, and of this quantity about 786 tons of small granite has been sent along the beach railway to the block ground for block making.

Stone supply for South Pier.

Observations on tanks and crates.

16. The whole of the diving staff and diving boat have been so much employed and with such good results during February that I have not taken them off for one day to examine the two tanks or the remaining crate. I will endeavour to visit them however during March.

Survey of Roadstead.

17. On February 12th Mr Beardmore and I commenced to resurvey the whole of the roadstead in the immediate neighbourhood of the proposed Harbour. We repeated the soundings over the traversing lines set out in 1896 for Lieutenant Jarrad. The weather being most favourable and the sea remarkably smooth we were able to take the soundings and tidal observations with great accuracy. The result of this survey is shewn on the plan submitted herewith. The soundings are shewn in blue figures representing feet and inches below what is known as de Havilland's Mean Sea Level. The contour lines are shewn in blue dotted lines and the contour

lines of Lieutenant Jarrad's survey in black dotted lines. These last contour lines are corrected to depths below De Havilland's Mean Sea Level, so as to be comparable with this recent survey. I should remark that the mean Sea Level to which these soundings are referred appears to be more nearly the High Water Level of the present day.—

18. On examining this recent survey it will be seen that the effect of the North pier and Surf bank has been to push the 3 fathom contour line slightly out to sea. The 4 fathom contour is however not yet affected. Further out to sea a deepening is apparent which shows clearly that any alarms that may have been raised about the shoaling up of the roadstead are entirely without foundation.

General

19. On the 1st February the North and South piers were inspected by His Grace the Governor, and Sir Andrew Clarke, and on the 2nd Sir Andrew Clarke examined the plans, Sections charts &ca in the Office. On the 16th he again visited the North pier and inspected all the machinery and arrangements for block making, stone crushing &ca &ca.

Expenditure

20. The total expenditure on the works up to the end of February has been about Rs 16,09,303.—

Plans & Sections.

21. Accompanying this report I have the honor to forward one general plan, one elevation of the North and one of the South pier, whereon the work done during the month of February is shewn in red colour.—

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

J. N. Thorowgood.
Superintendent
Madras Harbour Works

Buildings & Roads

From
The Superintendent
Madras Harbour Works

No. 78 W
Dated 1st March 1878

No. of Enclosures 3
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Go. 12 Feb. 1878. No. 721. W.

Progress Report

Submits report of progress of the works during February 1878.

Cer 573/78

PUBLIC WORKS DEPARTMENT.

1386/9

Letter from the Supt. Madras Harbour Works No. 78 W dd 1st March 1878

FOR ORDERS.

E A Ford Colonel R.E.
Secy. to Govt. P.W.D.

Be might I think remark favorably on the energy work which the work has been pushed on and telegraph for the duplicate part of machinery applied for
[illegible]

Yes [illegible]

5 March 1878.

FOR ORDERS.

6

No. 1386 Wd/18th March/78
B. & W. Works

His Grace the Governor in Council is much pleased with the energy with which the works have been pushed on during the ~~quarter~~ period under notice.

EAF 16/3

Supt. M. H. Works 44
Marine Dept. 4 30

1386
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Sept. of (1878) 30 Madras.

PUBLIC WORKS

To the Supt Madras Harbour Works

Dated

Issued

Recd. Encl.

G. O. 18 Mar 1878, No. 1386

Nos: 254-255

Madras Harbour Works

Progress report of the
for July 1878 recorded
with remark

Bath in Hyd