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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

J. W DEPARTMENT

G.O. No. 1144-W	Press.
B.P. No.	Mis.
Dated 14 - 5 - 1880 197.	

Not to be folded or roughly handled

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GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

14th May 1880, No. 1,144 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, Buildings and Roads, dated Madras, 4th May 1880, No. 7 W.

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

2. *North Pier Superstructure.*—I mentioned in paragraph 3 of the report for March that the work of block-setting would have to be suspended for a time in April to allow the concrete blocks to harden properly. On this account operations were suspended for eight days of the month, but on the remaining days 170 blocks were satisfactorily set advancing the pier by a length of $95\frac{1}{2}$ feet, and making the total length of blockwork on April 30th 2,840 $\frac{1}{2}$ feet from the commencement. There remains now only 96 feet more of curved work to be built.

3. The month now commenced may be considered the most critical month of the year so far as danger from cyclones is concerned, and I believe it to be my duty to use every precaution against mishap from an attack by a sudden and heavy storm. Never before have the two Titan cranes been so far out to sea, and therefore so difficult of access in bad weather, as at present, it is therefore necessary to make good provision for their safety, and with this view I have resolved to stop work for a time and bring the north Titan back to a spot where the work has taken its permanent settlement or nearly so. At the same time the three end rows of blocks on the north pier are securely keyed together in such a way that it is not probable the sea will be able to displace any one of them, although waves from the north-east would strike with great force broadside on.

4. These and other precautionary measures are taken at the loss of perhaps 60 feet of progress in the current month, but I trust that the Government will agree that the advanced state of the north pier justifies a slight delay if at the same time it tends to insure the safety of so costly a machine as the Titan as it undoubtedly does. For if work were to be carried on in the usual manner and a storm suddenly came on, it would be absolutely impossible to retire the Titan rapidly on the curved work, and to allow it to remain on the newly set blocks at the extreme end would be to select the most unsafe place of all.

5. With a good stock of blocks on hand and full supply of cement to be depended on with certainty, we shall have no difficulty in making up in June and subsequent months for a precautionary stoppage during the cyclone season, and shall, I hope, advance at a rate that has never been attained before.

6. *North Pier, Rubble Base.*—The quantity of stone deposited in the rubble base has been very small compared with some previous months. The reason of this has been partly absence of coolies at the quarries and partly want of locomotive power on these works which has interfered seriously with all departments involving the hauling of trucks and wagons.

7. During April only 17,086 tons of rubble were deposited in the base, of which 11,000 tons were tipped from the steamers and the remainder from the cargo

boats. In addition to the stone brought from the quarries I succeeded in obtaining 1,350 tons of hard stone ballast from various vessels, thereby at the same time accommodating the vessels and the Harbour works.

8. There is now about 62,500 tons of rubble in advance of the blockwork and, roughly speaking, 74,000 tons more will complete the north pier base.

9. *Concrete Blockmaking.*—Blockmaking by machinery and by hand labor has been carried on steadily during April, but has been occasionally and unavoidably stopped on account of absence of coolies on native festivals. During the month 539 blocks were made, of which 123 were by hand labor at the south pier. In the two months of March and April concrete blocks have been made to the extent of 28,834 tons.

10. The cement supply is now so regular and sufficient that no fears need be entertained of further delays caused by want of blocks.

11. *Quarries.*—The want of coolies at the quarries still interferes with a large outturn of stone, but fortunately this causes no inconvenience during the present month of May as there is a good extent of rubble base in advance of each pier. From Ambatur during April 15,012 tons of laterite were sent to the works, and from Pallavaram 15,624 tons of hard stone, giving a total of 30,636 tons received altogether. Most of the Pallavaram stone has been used in the manufacture of concrete.

12. *South Pier Superstructure.*—The want of locomotive power (now in a measure rectified) interfered very much with block-setting operations at the south pier, and the progress during April has not been very great. There were 151 blocks set in the pier advancing it by a length of 85½ fathoms and making the total length of blockwork on April 30th 2,225 feet. There now remains a length of 152 feet to be built before commencing the curve northward.

13. At the south pier as at the north, I have withdrawn the Titan from the end and secured it for the present on blocks that have taken their permanent settlement.

14. *Protective Works to the Beach.*—The completion of the protective work along the beach is still greatly delayed owing to want of large stone from the quarries, and the road outside Mr. Coleman's compound is not yet completed. The rough revetment of stones is however in a fit state to resist any ordinary attack from the sea. During April 1,127 tons of boulders were used in this work.

15. *Intercepting Sewer.*—The construction of the intercepting sewer is being pushed on as rapidly as possible. Great difficulty is met with getting in the foundations at the northern end owing to the constant percolation of water upwards through the sand. The sewer has to be built in sections and pumps kept constantly at work. During April a length of 1,200 feet has been completed, and I hope that it will be carried through the north surf bank during the current month.

16. *Steam Hopper Barges.*—The five steamers are now for the first time retained at Madras during the stormy season. They were kept at work till near the end of April, when I ordered them to lie at moorings and get into better order for meeting bad weather. The loading shoots have been removed, their bulwarks replaced, their yards rent down, and they have undergone such slight repairs as are necessary. They are provided with extra heavy anchors and cables at which they will ride in case of bad weather, but not otherwise.

17. *Stores received on Works.*—A large quantity of cement has arrived from England during April in the following ships:—

S. Date of Sutherland,	1,967	tons	portland cement
S. Dornada,	1,117	do	
Chittall,	4,043	do	
S. Duke of Devonshire,	1,491	do	
Dragon,	1,271	do	
	9,889		

In addition to this General Morgan has supplied 300 tons of most excellent cement which will be required for the sewer and other works.

18. *Plans and Sections.*—The usual lithographed plan accompanies this report, and it will be observed that up to date the advance of the shore on the south of the south pier is very slight, and that close against the blockwork there is a cutting away. The intercepting drain completed during April is shown in red. The two longitudinal sections show the extent of the rubble bases in the middle of April.

19. *Expenditure.*—The expenditure on the works up to the end of April has been approximately Rs. 38,77,193.

20. *Visit of His Excellency the Governor of Pondicherry.*—On the 1st April the works were visited by His Excellency the Governor of Pondicherry with His Grace the Governor of Madras, who went to the end of the north pier and inspected the process of lowering blocks by the Titan crane.

No. 17.

ORDER THEREON, 14th May 1880, No. 1,144 W.

ORDERED to be recorded.

(True Extract.)

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

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

Encl. E. C. Shunker.
Spare Copies

BUILDINGS AND ROADS
CIVIL WORKS.

Govt. of 1880: Madras
PUBLIC WORKS.

GOVERNMENT OF MADRAS
PUBLIC WORKS.

From
To
By

GOVERNMENT OF MADRAS
PUBLIC WORKS.

RECEIVED
May 16-17.

Madras Harbour Works.—Progress Report
of the — for the month of April 1880.
Recorded.

No. 714.

From

THE SUPERINTENDENT,
MADRAS HARBOUR WORKS.

To

Colonel R. H. Sankley, C. B. P. C.
Secretary to Government, P. W. Dept.
Buildings & Roads
Fort Saint George
MADRAS, 4 May 1880.

Sir,

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

North Pier.
Superstructure.

2. I mentioned in para: 3 of the report for March that the work of block-setting would have to be suspended for a time in April to allow the concrete blocks to harden properly. On this account operations were suspended for 8 days of the month, but on the remaining days 170 blocks were satisfactorily set advancing the pier by a length of $95\frac{1}{2}$ feet and making the total length of blockwork on April 30th 2840 $\frac{1}{2}$ feet from the commencement. There remains now only 96 feet more of curved work to be built.

3. The month now commenced may be considered the most critical month of the year so far as danger from cyclones is

is concerned, and I believe it to be my
duty to use every precaution against
misfortune from an attack by a sudden
and heavy storm. Never before have
the two Titan cranes been so far out to
sea, and therefore so difficult of access in
bad weather, as at present, it is therefore
necessary to make good provision for their
safety, and with this view I have resolved
to stop work for a time and bring the
North Titan back to a spot where the
work has taken its permanent settlement
or nearly so. At the same time the
three end rows of blocks on the North
Pier are securely keyed together in such
a way that it is not probable the sea will
be able to displace any one of them, although
waves from the North East must strike
with great force broadside on.

These and other precautionary
measures are taken at the loss of perhaps
60 feet of progress in the current month,
but I trust that the Government will
agree that the advanced state of the
North Pier justifies a slight delay if at

the same time it tends to insure the safety
of so costly a machine as the Titan, as it
undoubtedly does. For if work were to be
carried on in the usual manner, and a
storm suddenly came on, it would be
absolutely impossible to retire the Titan,
rapidly on the curved work, and to allow
it to remain on the newly set blocks at
the extreme end would be to select the most
unsafe place of all.

5. With a good stock of blocks on hand,
and full supply of cement to be depended on
with certainty, we shall have no difficulty
in making up in June, and subsequent
months for a precautionary stoppage dur-
ing the cyclone season, and shall I hope
advance at a rate that has never been
attained before.

North Pier.
Rubble Base.

6. The quantity of stone deposited in the
rubble base has been very small compared
with some previous months. The reason
of this has been partly absence of coolies
at the quarries and partly want of
locomotive power on these works which
has interfered seriously with all departments
involving

involving the hauling of trucks and wagons.
7. During April only 17056 tons of rubble
were deposited in the base, of which 11000 tons
were tipped from the steamers and the re-
minder from the cargo boats. In ad-
dition to the stone brought from the quarries
I succeeded in obtaining 1350 tons of hard
stone ballast from various vessels thereby
at the same time accommodating the vessels
and the Harbour Works.

8. There is now about 62,500 tons of
rubble in advance of the blockwork and
roughly speaking 74,000 tons more will
complete the North Pier Base.

9. Blockmaking by machinery and
by hand labour has been carried on steadily
during April, but has been occasionally
and invariably stopped on account of
absence of coolies on national festivals. During
the month 539 blocks were made of which
123 were by hand labour at the South Pier.
In the two months of March and April
concrete blocks have been made to the extent
of 29,534 tons.

10. The cement supply is now so regular
and sufficient that no fears need be

entertained

Quarries

11. The want of coolies at the quarries
still interferes with a large outturn of stone,
but fortunately this causes no inconvenience
during the present month of delay, as there
is a good stock of rubble base in advance of
each pier. From Ambatur during April
15,012 tons of laterite were sent to the works
and from Pallavaram 15,624 tons of flint
stone giving a total of 30,636 tons received
altogether. Most of the Pallavaram stone
has been used in the manufacture of concrete.

South Pier Superstructure

12. The want of locomotive power (now
in a measure rectified) interfered very
much with block-laying operations at the
South Pier and the progress during
April has not been very great. There
were 186 blocks set in the pier advancing
it by a length of 88½ lineal feet and
making the total length of blockwork on
April 30th 2235 feet. There now remains
a length of 152 feet to be built before
commencing the curve Northward.

13. At the South Pier about the
North, I have withdrawn the 3rd
from the end, and raised it for the
present on blocks that have taken their
permanent

5

Permanent Settlement.

14. The completion of the protective work along the beach is still greatly delayed, owing to want of large stone from the quarries and the road outside Mr. Coleman's compound is not yet completed. The rough revêtement of stone is, however, in a fit state to resist any ordinary attack from the sea. During April 1124 tons of boulders were used in this work.

15. The construction of the intercepting sewer is being pushed on as rapidly as possible. Great difficulty is met with getting in the formations at the northern end owing to the constant percolation of water upwards through the sand. The sewer has to be built in sections and pumps kept constantly at work. During April a length of 1200 feet has been completed and I hope that it will be carried through the North Street Bank during the current month.

16. The two steamers are now for the first time retained at Madras during the stormy season. They were kept at work till near the end of April, when I ordered them to lie at moorings and get into better order for meeting bad weather. The loading sheds have been removed.

Notes

Intercepting

Steam
Boys

Notes received
on 15th

demanded their bulwarks replaced; their yards sent down and they have undergone such slight repairs as are necessary. They are provided with extra heavy anchors and cables at which they will ride in case of bad weather but not otherwise.

17. A large quantity of cement has arrived from England during April in the following ships:—

S. Duke of Sutherland	1757	tons	Bethland Cement
S. Dorinda	1117	tons	ditto
Lechildwall	4082	tons	ditto
S. Duke of Buckingham	1406	tons	ditto
Dragon	1271	tons	ditto
	9831	Total	

In addition to this, General Morgan has supplied 300 tons of most excellent cement which will be required for the sewer and other works.

18. The usual lithographed plan accompanies this report, and it will be observed that up to date the advance of the shore on the South of the South pier is very slight and that close against the blockwork there is a cutting away. The intercepting drain completed during April is shown in red. The two longitudinal sections show the extent of the rubble bases in the middle of April.

The

14. The expenditure on the working to the end of April has been approximately

26. On the 1st April the works were visited by His Excellency the Governor of Pondicherry, with His Grace the Governor of Madras, who went to the end of the North Pier and inspected the process of lowering blocks by the Milan Crane.

I have the honor &c.

Yours most affectionately

Stellaria media, A. N. S. P.

Stellaria media, Michx.

Buildings & Roads

Mem.
The Superintendent
Hudson's River, N.Y.

Alfred H. May 1880

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Progress

Submits Report of - 10th
month of April 1856.

C. 7-1-8. Stange
 Cont 5-8-80 3-1-80

№ 1144 Б.

1347
Chas. P. H. Rept

Proceeding of the Madras Government 5th
under date the 14th May/80

Read the following:—

From the Super-hydro
Harbour Work

(Hm 7w at 4 May/80)

Ordered to be recorded.

5.5

[Handwritten signature]

10/5/20

Rupt. Lu. H. Burke ✓
 Secy Harbour Committee ✓
 Marine Dept. ✓

24-5-80

[Handwritten signature]
5/5

with plan in the
case.

Cir 10.5.80. Dec 12.5.80.

Oct 325.80. 11.11.80.

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DEPT. OF COMMERCE

PUBLIC WORKS

DATE
PLACE
NO.

14 May 1866

16-17

In Harbor Works.

Respectfully

for the month

of April 1866, being