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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

PUBLIC WORKS. DEPARTMENT

G.O. No.	1034	Press.
B.P. No.	1035 W	Mis.
Dated	21. A. 1886	498.

Adm

Not to be folded or roughly handled.

1034-35
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, 8th April 1886, No. 1 W. :—

I have the honor to submit my report of the progress on these works during March 1886, together with a brief summary of the work done during the past financial year. The report is accompanied by two plans and six photographs which will be explained so far as necessary in due course.

2. *North pier rubble base.*—Boats were engaged on many days depositing rubble in the base, and at the same time divers were busy blowing up blocks in the line of new foundations. A total of 6,005 tons of stone was deposited, of which 891 tons are due to fragments of concrete blocks. The north pier base is now in a forward state of preparation for a length of nearly 1,100 feet, 700 feet still remaining to be done before this piece of work is complete.

3. To form the inner portion of the wave-breaker, there were 5,908 tons of large boulders thrown in by hand from the pier. This work, at the north pier, is now very nearly completed.

4. *North pier wave-breaker.*—Unfortunately the work of forming the screen of blocks known as the wave-breaker was stopped from March 15th to March 26th owing to the breaking of two teeth on one of the main spur wheels of the crane employed for this work. This was in no way the fault of the machine, or owing to any defect in its strength, it was a pure accident which ought not to have occurred, and for which the man in charge of the crab was to blame to some extent. During the days that the crane was working it dropped 219 blocks into the wave-breaker, protecting about 340 feet of the north pier of the harbour. At present this machine is working inwards toward the shore, but before the end of the current month it will be travelled outward again, and strengthen the outer portion of the work, previous to its being withdrawn for the stormy month of May. There have now been 432 blocks, equalling about 12,800 tons of concrete deposited in the wave-breaker.

5. *North pier superstructure.*—The actual work of reconstructing the north pier commenced on March 18th, and although the swell from the south-east interferes much with diving operations at this point, we succeeded in setting the whole of the new abutment, and five rows of blocks in addition to this. There is now 25 feet of the new pier completed so far as block setting is concerned.

6. In accordance with Mr. Parkes' instructions, before commencing to set blocks regularly on the rubble base, I applied the iron "compressors" or weighted boxes to consolidate the foundation. The settlement was, however, so very slight on this old and weather-beaten length of rubble that I abandoned their use, hoping to get a good length of the new work made secure before the month of May, when all the cranes will be withdrawn.

7. *Block-making.*—On the 25th March the blocks in the yard were so far cleared out that one platform was available for making more. From the 25th to the 31st there were 50 blocks of 30 tons each added to the stock. Blocks were removed also from the north pier yard to the south pier to be in readiness for the new abutment to that part of the work.

8. *South pier rubble base, &c.*—At the south pier work has been going on satisfactorily. In the rubble base 12,699 tons of stone have been deposited, and 203 tons of large boulders have been thrown in to form the base of the wave-breaker. The divers have blown up 61 old concrete blocks and the rubble foundation is in a forward state of preparation for a length of 700 feet.

9. *Wave-breaker.*—The titan crane was travelled out to the extreme end of the standing portion of the work, and commenced dropping 30-ton blocks into the sea for the wave-breaker. During the last ten days of March 87 blocks (2,610 tons) were satisfactorily deposited. This crane is working inward from the outer end and I hope to have nearly 200 feet of the end safely protected before May, when the crane will be retired in shore.

10. *Pallavaram quarries.*—The outturn from the quarries has exceeded any previous month's work by some 3,000 tons of stone, and since April 1st five trains have been running daily. During March 22,050 tons of stone were supplied to the works, and I hope that in future greater punctuality will be ensured in the working of the trains. With one additional train daily (making six) I think the maximum requirements for the works will be reached.

11. *Stores received from England.*—During March there arrived the steamers *Pelican*, *Navarino*, *Nuddea*, *Duke of Buccleugh* and *Bokhara* with stores for the works comprising 7,900 casks of Portland cement, iron and steel bars, diving dresses and fire-bars for engines. The cement has to be strictly tested on arrival, the result of each consignment and of each maker being kept separate. At present the whole supply is coming from the Tunnel Cement Company, Limited, and Messrs. Burge and Barrow.

12. *Plans.*—I send, herewith, a tracing on a scale of 200 feet to an inch on which the extent of the rubble base and wave-breakers is shown up to March 31st, 1886. The whole of this work may be considered as belonging to the past financial year. The commencement of the new work at the north pier is also shown. There is also a small lithograph plan for the Government of India, which shows the works as at present.

13. *Photographs.*—I send two copies each of three views of the work in progress, a brief description being written on the back of each. With the irregularly formed wave-breaker it will be advisable to have periodical photographs, as well as levels taken on prominent blocks, so as to keep a true record of the behaviour of the blocks under storms.

14. *Summary of work.*—During the past year there have been 27,448 feet of railway laid down replacing the old lines, exclusive of the lines in the quarry. There have been 139,470 tons of stone sent down from Pallavaram, and 132,747 tons deposited in the sea at both piers; 1,058 concrete blocks have been made, and 554 have been placed in their final destination, the sea. The new plant and machinery has come into full operation and is now doing well.

15. *Expenditure.*—The comparison between estimate and expenditure (which I cannot give in detail in the absence of a sanctioned estimate) are roughly as follows:—

	Expenditure.	Revised budget estimate.
	RS.	RS.
Works	4,19,778	4,70,335
Establishment	55,829	58,495
Tools and plant	2,17,858	2,60,144

showing that thus far there has been no excess over estimate. The additional charge of $8\frac{1}{2}$ annas per ton of stone hauled by the South Indian Railway will of course increase the estimate immensely, and no doubt to meet this the estimate will have to be revised.

ORDER—dated 21st April 1886, No. 1034 W., Public Works.

Recorded.

2. Paragraph 10 will be communicated to the Consulting Engineer for Railways.

3. The lithograph plan and a copy of each of the photographs will be forwarded to the Government of India.

(Here enter No. 1035 W., dated 21st April 1886.)

(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.

„ Marine Department.

„ Newspapers.

ENDORSEMENT—dated 21st April 1886, No. 1035 W., Public Works.

Forwarded.

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

Exd. A. Aubert.
Spare Copies

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2

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1886) Madras.

PUBLIC WORKS.

dated April, 21st.

ed.

Encl.

O., 21st April 1886, No. 1035 W.

APRIL.

Madras Harbour Works

Copy of orders on the progress report for March 1886 and on the summary of work done during 1885-86, forwarded to the Government of India.

No. 1 W.

FROM

THE SUPERINTENDENT,

MADRAS HARBOUR WORKS,

To The Honble Col. J. H. M. Shaw-Stewart R.E.
Secretary to Government
Public Works Department
MADRAS, 8 April 1886.

Sir,

I have the honour to submit my report of the progress on these works during March 1886 together with a brief summary of the work done during the past financial year. The report is accompanied by 2 plans and 6 photographs which will be explained so far as necessary in due course.

North Pier Rubble Base.

2. Boats were engaged on many days depositing rubble in the base, and at the same time divers were busy blowing up blocks in the line of new foundations. A total of 1005 tons of stone was deposited of which 891 tons are due to fragments of concrete blocks. The North pier base is now in a forward state of preparation for a length of nearly 1100 feet, 400 feet still remaining to be done before this piece of work is complete.

3. To form the inner portion of the Wave breaker there were 5908 tons of large boulders thrown

thrown in by hand from the pier. This work,
at the North Pier, is now very nearly completed.
4. Unfortunately the work of forming the North Pier
screen of blocks known as the wave breaker Wavebrea
was stopped from March 15th to March 26th.

owing to the breaking of two teeth on one of
the main spur wheels of the crane employed
for this work. This was in no way the fault
of the machine, or owing to any defect in its
strength, it was a pure accident which
ought not to have occurred, and for which
the man in charge of the crab was to blame
to some extent. During the days that the
crane was working, it dropped 219 blocks into
the wave breaker, protecting about 340 feet of
the North pier of the Harbour. At present
this machine is working inwards toward the
shore, but before the end of the current month
it will be travelled outward again, and
strengthen the outer portion of the work, previous
to its being withdrawn for the stormy month
of May. There have now been 1132 blocks,
equalling about 12800 tons of concrete deposited
in the Wave Breaker.

5. The actual work of reconstructing the North Pier
Superstructure commenced on March 18th, and
although

1034-38 P2
although the swell from the S. E. interferes
much with diving operations at this point, we
succeeded in setting the whole of the new abut-
ment, and five rows of blocks in addition to
this. There is now 5 ft. of the new pier completed
so far as block-setting is concerned.

6. In accordance with Mr. Parker's instruc-
tions before commencing to set blocks regularly
on the rubble base I applied the iron compressors
or weighted boxes to consolidate the foundation.
The settlement was however so very slight on this
old and weatherbeaten length of rubble that I
abandoned their use, hoping to get a good length
of the new work made secure before the month
of May, when all the cranes will be withdrawn.

Blockmaking.

7. On the 25th March the blocks in the yard
were so far cleared out that one platform was
available for making more. From the 25th to the
31st there were 50 blocks of 30 tons each added to
the stock. Blocks were removed also from the
North Pier yard to the South Pier to be in
readiness for the new abutment to that part of
the work.

South Pier rubble base &c

8. At the South pier work has been going on
satisfactorily. In the rubble base 12,699 tons of
stone have been deposited, and 203 tons of large
boulders.

boulders have been thrown in to form the base of the wavebreaker. The divers have blown up 61 old concrete blocks and the rubble foundation is in a forward state of preparation for a length of 400 feet.

9. The Titan crane was travelled out to the extreme end of the standing portion of the work, and commenced dropping 30 ton blocks into the sea for the wave breaker - During the last 10 days of March 84 blocks (2600 tons) were satisfactorily deposited - This crane is working inward from the outer end and I hope to have nearly 200 feet of the end safely protected before May, when the crane will be retired in shore.

10. The output from the quarries has exceeded any previous month's work by some 3000 tons of stone, and since April 1st five trains have been running daily. During March 22,050 tons of stone were supplied to the works, and I hope that in future greater punctuality will be ensured in the working of the trains. With one additional train daily (making 6) I think the maximum requirements for the works will be reached.

11. During March there arrived the Steamers "Pelican", "Kavarino", "Kudda", "Duke of Buccleugh" and "Bokhara" with

Wave breaker

Pattavaram

Quarries

Stores received from England

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5

with stores for the works comprising 4900 casks of Portland Cement, iron and steel bars, diving dresses and fire bars for engines - The cement has to be strictly tested on arrival the result of each consignment and of each maker being kept separate - At present the whole supply is coming from the Tunnel Cement Company Ltd and Messrs. Burge & Barrow.

Plans

12. I send herewith a tracing on a scale of 200 ft. to an inch on which the extent of the rubble base and wave breakers is shewn up to March 31st. 1886. The whole of this work may be considered as belonging to the past financial year. The commencement of the new work at the North pier is also shewn. There is also a small lithograph plan for the Government of India, which shows the works as at present.

Photographs

13. I send two copies each of three views of the work in progress - a brief description being written on the back of each - With the irregularly formed wave breaker it will be advisable to have periodical photographs, as well as levels taken on prominent blocks, so as to keep a true record of the behaviour of the blocks under

Storms

Summary of work

14. During the past year there have been

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6

been 29,448 ft. of railway laid down re-
placing the old lines, exclusive of the lines
in the quarry. There have been 139,470 tons
of stone sent down from Pallavaram, and
132,747 tons deposited in the sea at both piers.
1058 concrete blocks have been made, and
554 have been placed in their final des-
tination the sea. The new plant and
machinery has come into full operation and
is now doing well.

16. The comparison between Estimate and Expenditure (which I cannot give in detail in the absence of a sanctioned estimate) are roughly as follows.

	<u>Expenditure</u>	<u>Revised Budget Estimate</u>
Works	4,19,448	4,70,335
Establs	55,829	58,145
Tools & plant	2,17,868	2,60,144

showing that thus far there has been no excess over estimate. The additional charge of $8\frac{1}{2}$ annas per ton of stone hauled by the South Indian Railway will of course increase the estimate immensely and no doubt to meet this the estimate will have to be revised.

I have the honour to be,
Sir,
Your most Obedt Servant
J. H. Morrongiolo, M. Inst. C. E.
Superintendent

Submits _____ of Madras
Harbour Works for March
1886.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 27 April 1884

READ the following

From the Supt. Madras Harbour Works, R.E. 1st W,
dated 8th April 1886.

Recorded

2. Para 10 will be communicated to the Consulting Engineer for Railways.

3. The lithograph plan and a copy of each of the photographs will be forwarded to the Government of India.

Supt. M. A. Works ✓
 Consgr. Eng^r for Railroads.
 Marine Department ✓
 " Newspapers

A.E. No 1035 d/21 Apr 1886
Forwarded.

Despd. 3/5/86 $\frac{111}{16 \cdot 4 \cdot 96}$

The Hon H. B. Sullivan

C.S.D.



Plans of
photo gallery
sent by Mr. [unclear]
1914

Proposed to come
memorial to
newspapers

Aug. 31/4. Cio 16/4.

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G.O., 21 April 1888, No 1034 w
1035 w

Mudra Kumbha Works:

Orders on the progress
report for March
1856 & on the Septth
summary of work
done during 1855-56.

$\frac{90}{5}$ $\frac{30}{2}$
M. H. Works

Copy of orders on the
progress report for month
1856 & on the summary of
work done during 1855-56,
transmitted to the pub. office