

(1) Number of pages 8 ~~10~~ sheets
(2) Date of repair Nov-87
(3) Initials of the Referencer lony

TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P-W DEPARTMENT

G.O. No.	683, W	Press.
B.P. No.	684 W	Mis.
Dated	15-3-1886	198

Not to be folded or roughly handled.

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, 5th March 1886, No. 56 W.:—

I have the honor to submit, herewith, a plan with the report of progress on these works during the past month of February. Again I regret to state that in some points of the work the progress has not been what I had hoped for, but the cause of this is beyond my control.

2. *North pier superstructure.*—I fully believed that in February the work of building the new superstructure would commence, but unfortunately, on the 23rd February, the Titan crane was disabled by the breaking of a wheel, and this damage is not yet repaired. Such accidents unfortunately will always happen with new machines, and the only precaution to be taken is to have duplicates of parts that are most liable to break.

3. *North pier foreshore and base.*—I am happy to be able to report good progress in the base and foreshore at the north pier. The divers have been hard at work, blowing up concrete blocks with dynamite, and have cleared away in February no less than 93, representing 2,511 tons of rubble deposited in the base. In addition to this, there have been 7,732 tons of rubble tipped by boats, and 1,333 tons of large boulders dropped in to form the heart of the wave-breaker, making a total of 11,576 tons, the best month's work yet achieved.

4. *Wave-breaker.*—At the extreme end of the north pier, the wave-breaker has been completed for a length of 190 feet at the site of the abutment of the new work, as will be seen in red on the plan. To form this length, 198 blocks, of 30 tons each, have been deposited, the greater part of these having been placed by the Titan crane, and when that was temporarily disabled the wave-breaker crane was brought into use. The completion of this length of wave-breaker is one great point gained, as now the Titan crane can get to its legitimate work of building the break-water itself.

5. *Wave-breaker crane.*—The large wave-breaker crane has now been thoroughly tested for stability, and the results proving highly satisfactory, the huge machine was travelled out on February 22nd from the spot where it was erected to the middle of the north pier. A locomotive engine drew it without difficulty. This machine has been working since February 23rd, and although there have been many unexpected and vexatious difficulties in the way, I have no hesitation in pronouncing it to be a most magnificent piece of machinery, which will, with some slight alterations, do excellent work.

6. *Difficulties at present with working cranes.*—I beg to be allowed to explain in some detail one of the difficulties which has delayed the working of the cranes during February, irrespective of accident. It must be remembered that, previous to the sanction of the present design for re-construction, there were some 800 concrete blocks on

stock in the yard. These blocks, for the most part, are not of the best shape for constructing a wave-breaker of random work, being 12' wide, 9' high, and only 4' 6" thick, whereas the proper blocks for this purpose, as made since April 1885, are 9' x 9' x 6', or much more nearly approaching a cube in shape.

7. It is most desirable to get rid of the old discarded blocks as soon as possible so as to make room in the yards for making others of the correct shape, and with this in view I have hitherto been using the old blocks almost exclusively. But the result of this is unfortunate in one way. To drop the blocks at random into the sea, a peculiar apparatus or "claw" is necessary so as to dispense with divers in releasing the block, and of these claws only two pairs exist on the works, which are ample after this present stage of the work is past. But during the time that the old and awkwardly-shaped blocks remain, it becomes necessary to use the second pair of claws to lead these blocks on to the trucks. The two pairs of claws therefore are now necessary for working one crane, whereas when the old stock of blocks is exhausted, one pair will be available at the south pier.

8. And this is really the reason why at present I am unable to work more than one crane at the wave-breaker. As I have said before, the difficulty will not be of long duration, but one it was impossible to foresee, because until I had made many experiments with these claws here in Madras, I could not tell for certain which was the best way to seize a block so as to avoid the chance of the concrete chipping away from the points of the claws, and I now find, after very numerous experiments, that, in order to drop one of the old section blocks from the claws, it is necessary that it should have been loaded on the truck with claws also.

9. *South pier works.*—From the above rather lengthy explanation it will be seen that during February I have been unable to deposit blocks at the south pier in the wave-breaker as I had hoped to do. There have, however, been 4,045 tons of large boulders thrown in to form the heart of the wave-breaker, and 6,247 tons of rubble added to the base, giving a total of 10,292 tons of stone deposited in February, the best month's work yet carried out.

10. *Pallavaram quarries.*—The quarries at Pallavaram have been working satisfactorily on the whole during February, and 19,408 tons of stone were delivered at the harbour. Two new lines are now laid in, and I am trying to arrange for running five and six trains a day, but at present we cannot hit upon a time-table that suits both the South Indian Railway and the Harbour Works. There were two accidents at the quarries during the month, by which three of the people belonging to the contractor lost their lives. A cooly woman and child fell down in front of a passing train, and, in spite of all efforts to save them, they were run over and died subsequently. Another cooly woman belonging to the contractor fell into a well and was drowned. I imagine that accidents of this sort, happening to people under the contractor and not under my own charge, do not need special reports to Government.

11. *Plan.*—The plan accompanying this report will be rendered more clear with a few words of explanation. At the north pier is shown, in red, the outline of the new rubble base, and in deeper red the completed wave-breaker at the end of the standing portion. In advance of the standing portion the completed rubble foundation is shown by a red wash all over it. The positions of the cranes are likewise denoted. At the south pier the same remarks apply, with the exception of the rubble base completed.

12. *Quarterly plans and photographs.*—Next month two plans and some photographs will accompany the report, which will be to the end of the last quarter of the financial year.

13. *Estimate much needed.*—I must venture to state, now that work is being resumed in all branches and these new "wave-breakers" are actual facts, that it is extremely desirable, and indeed absolutely necessary, that the estimate for the work of re-construction be sanctioned, if only for purposes of audit, for I am still forced to keep to the original estimate for the works in which no such thing as a "wave-breaker" existed, at the same time the expenditure under this head is now over Rs. 45,000, and is steadily increasing at the rate of roughly Rs. 1,800 a-day.

ORDER—dated 15th March 1886, No. 683 W., Public Works.

The progress made during the month of February, though better than that made during the preceding month, cannot be considered wholly satisfactory. The several causes which have combined to render this so are fully explained by the Superintendent.

2. Paragraph 10 of the foregoing letter will be communicated to the Consulting Engineer for Railways. Accidents to contractor's coolies at the Pallavaram quarries need not be specially reported to Government.

3. With reference to paragraph 13, the Government of India will be asked when sanction to the revised estimates for the restoration of the harbour may be expected.

(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.

Ed. E. Fernandez
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1886) Madras.
PUBLIC WORKS.

Dated March, 1886.

Recd.

Encl.

G.O., 15th Mar. 1886, No. 683 W.

MARCH.

Madras Harbour Works

Passing orders on the progress report of
the — for February 1886.

No. 56 W.

From

THE SUPERINTENDENT,

MADRAS HARBOUR WORKS,

To The Hon^{ble} Colonel J. H. M. Stuart, Esq.
Secretary to Government
Public Works Dept.
MADRAS, 5th March 1886.

Sir,

I have the honour to submit herewith a plan
with the report of progress on these works during the
past month of February. Again I regret to state
that in some points of the work the progress had
not been what I had hoped for, but the cause of
this is beyond my control.

North Pier Super 2.
structure.

I fully believed that in February the work of
building the new superstructure would commence, but
unfortunately on the 23rd February the Titan Crane
was disabled by the breaking of a wheel, and this
damage is not yet repaired. Such accidents are
fortunately not always happen with new machines,
and the only precaution to be taken is to have dupli-
cates of parts that are most liable to break.

North Pier 3.
Structure Base.

I am happy to be able to report good progress
in the base and pierwork at the North Pier. The divers
have been hard at work blowing up concrete blocks with
dynamite and have cleared away in February as

Yours

has thus far represented 26 1/2 tons of rubble deposited
in the basin. In addition to this there have been
1782 tons of rubble tipped by trucks and 1500 tons of
large boulders dropped in to form the heart of the wall.
Workman making a total of 10576 tons. The best
months work yet achieved.

At the extreme end of the North pier, the Wave Breaker
has been completed for a length of 190 feet
at the side of the abutment of the new work, as
will be seen in red in the plan. To form this
length 190 blocks of 30 tons each have been deposited,
the greater part of these having been placed by the
Jib crane, and when that was temporarily dis-
abled the Wave Breaker crane was brought into use.
The completion of this length of wave breaker is
one great point gained, as now the Jib crane
may get to its legitimate work of building the break-
water itself.

The large Wave Breaker crane has now Wave Breaker
Crane
been thoroughly tested for stability and the results
proving highly satisfactory, the huge machine
was travelled out on February 22nd from the spot
where it was erected to the middle of the North Pier.
The portable engine drove it without difficulty.
The machine has been working since February 23rd
and

Difficulties at present to
be surmounted.

and although there have been many unexpected and occa-
sional difficulties in the way, I have no hesitation in
pronouncing it to be a most magnificent piece of machinery
which will, with some slight alterations, do excellent work.

I beg to be allowed to explain in some detail
one of the difficulties which have delayed the working of
the cranes during February, irrespective of accident.
It must be remembered that previous to the sanction
of the present design for the construction there were some
8000 concrete blocks in stock in the yard. These blocks for
the most part are not of the best shape for constructing
a wave breaker of random work, being 12' 0" wide, 9' 0"
high, and only 10' 0" thick, whereas the proper blocks
for this purpose are made since April 1885, are
9' 0" x 9' 0" x 10' 0", or much more nearly approaching
a cube in shape.

It is most desirable to get rid of the old dis-
carded blocks as soon as possible so as to make room
in the yards for packing others of the correct shape,
and with this in view I have hitherto been using
the old blocks almost exclusively. But the result of
this is unfortunately in my way. To drop the blocks
at random into the sea a peculiar apparatus or
"claw" is necessary so as to dispense with the divers in
releasing the block, and of these plans only two pairs
exist

exist in the work, which is ample for this present stage of the work is past. But during the time that the old and particularly shaped blocks remain, it becomes necessary to use the second pair of claws to load these blocks on to the trucks. The first pair of claws therefore are now necessary for working one crane, whereas when the old stock of blocks is exhausted one pair will be available at the South Pier.

3. But this is really the reason why at present I am unable to work more than one crane at the wavebreaker. As I have said before the difficulty will not be of long duration, but as it was impossible to force, because until I had made many experiments with these claws here in Madras I could not tell for certain which was the best way to place a block so as to avoid the chance of the concrete chipping away from the points of the claws, and I now find, after many moments of persistence, that in order to drop one of the old pattern blocks from the claws it is necessary that it should have been loaded on the truck with the claws closed.

4. From the above rather lengthy explanation of the South Pier Works it will be seen that during February I have been unable to deposit blocks at the South Pier in the wavebreaker as I had hoped to do. There have however been 4045 tons of large boulders thrown in to form the heart

Pallavaram Quarries

8/3 p 3
heart of the wavebreaker, and 6247 tons of rubble added to the base, giving a total of 10292 tons of stone deposited in February the best month this work yet carried out.

10. The quarries at Pallavaram have been working satisfactorily on the whole during February, and 19408 tons of stone were delivered at the Harbour. Two new lines are now laid in, and I am trying to arrange for running 5 and 6 trains a day, but at present we cannot hit upon a time-table that suits both the South Indian Railway and the Harbour Works. There were two accidents at the quarries during the month by which three of the people belonging to the contractor lost their lives. A cooly woman and child fell down in front of a passing train and in spite of all efforts to save them they were run over and died subsequently. Another cooly woman belonging to the contractor fell into a well and was drowned. I imagine that accidents of this sort happening to people under the contractor and not under my own charge do not need special reports to Government.

Plan

11. The plan accompanying this report will be pondered more than with a few words of explanation. At the North Pier is shown in red the outline of the new rubble base, and in deeper red the completed wavebreaker at the end of the standing portion. In advance of the

the standing portion the completed public founda-
tion is shown by a red wash all over it. The positions
of the cranes are likewise indicated. At the South
Pier the same plan will apply with the exception of
the public base completed.

12. Next month two plans and some photo- Twenty-two plans
graphs will accompany the report which will be photographs.
to the end of the last quarter of the financial year.

13. I must venture to state now, that work is Estimate much
being pressed in all branches, and these new "Wave- needed.
breakers" are actual facts, that it is extremely desirable
and indeed absolutely necessary that the Estimate
for the work of reconstruction be sanctioned, if
only for purposes of audit, for I am still forced to
keep to the original estimate for the works in which
no such thing as a "Wave-breaker" existed, at the same
time the expenditure under this head is now over
£145,000 and is steadily increasing at the rate
of roughly £1800 a day.

I remain, Sir, to be,

Sir,

Your most obedient Servant,

W. H. Murray, Esq. M.P.

Superintendent.

W.H.

682
6

W.C. 1743
Buildings & Roads

From

The Superintendent
 Madras Waterworks



N^o 56 W
 Dated 5th March 1886.

5/3/86

No of Enclosures One

(Tracing)

Progress Report.

Submits — for February 1886

90 990 W of 7. 4. 85
 " 777 W of 30. 3. 85
 " 989 W of 7. 4. 85
 " 1106 W of 11. 5. 85
 " 305 W of 19. 11. 84
 " 3153 W of 23. 12. 84
 " 66 W of 9. 1. 85
 " 776 77 W of 30. 3. 85 O.S.P.
 " 1076 W of 8. 5. 85.
 " 1303 W of 21. 5. 87
 " 370.1 W of 10. 2. 87
 " 2676.7 W of 11. 87
 " 989 W of 17. 4. 85
 " 790 W of 27. 4. 85
 " 1619 W of 30. 6. 85
 " 501 C of 6. 2. 86
 " 376 W of 1. 2. 86
 " 398 W of 1. 2. 86

File in order of 2/3/86

Car. 7. 2. 86

N^o 683 W

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the

Read the following

From the P. W. Roads. 56. W. & S. March/86.

The progress made during the month of February, though better than that made during the preceding month cannot be considered wholly satisfactory. The several causes which have combined to render this so are fully explained by the Superintendent.

2. Para 10 of the foregoing letter will be cou'd to the consulting Eng^r for Railway & Accidents to Contractors & coolies at the Palloor & quarries need not be specially reported to Govt.

3. With

3. With reference
to para 13, the Govt of
India will be asked
when sanction to the
revised estimates
for the restoration of
the harbour may be
expected.

[Faint handwritten notes and a circular stamp]

2. Referring to the Govt of India
P. W. Dept.

Sir,
Adverting to your
no: 191. M. & 23 April '06,
I am directed to inquire
when the sanction of
the Govt. to the revised
estimates for the restor-
ation of the Madras
harbour may be ex-
pected.

[Signature]
8/5/06
15.3.06
15.3.06

Despatch
24/3
S. M. H. Woods
Com: Eng: for Rep.
Marine Dept.

1743

Govt. of Madras.

PUBLIC WORKS.

18/3/11

G.O. 15 March 1886

6837-6838

In A work

Presenting orders and
Progress Report
of the — for Feb
1886.

70

4

20
2

1886