

(1) Number of pages.....

(2) Date of repair.....

(3) Initials of the Referencer.....

MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	2007	(W)	Press
B.P. No.			Mis.
Dated	4-8-		1876.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
4th August 1876. No. 2,007.*

Read the following papers :—

No. 118. From N. Sr. B. BEARDMORE, Esq., Officiating Superintendent of the Madras Harbour Works, to Major-General G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madras, 11th July 1876, No. 43 W.

I HAVE the honor to forward to you, as directed in G.O., No. 1,492, dated 15th June 1876, a plan and sections of a proposed line of railway to be laid on the beach road for the use of these works.

2. It will be seen that I proposed to lay it along the surface of the road, the root of the iron pier being the summit level, so that it may be crossed at any point on the level, in order that communication may be kept up with the beach. Where it crosses the beach road at Royapooram, fencing with gates should be placed as shown in red dotted lines, in order to provide for the safety of the carriage-traffic. When a train is proceeding to the south pier, I propose, for the safety of the traffic, that it should move at a slow rate of speed, and, if thought necessary, a man walk before it with a red flag in the manner adopted with traction engines in England to warn people that the train is approaching. The Municipal Commissioners declared at a meeting held on 30th June that they have no objection to this line.

3. An alternative line might be made to run along the sand and pass under the iron pier as shown in blue lines on the plan, which would be more out of the way of carriage-traffic, and would be crossed on the level in the same way to afford communication with the beach, but there is some question whether this line would not be expensive to maintain, as there would be the possibility of its being damaged or washed away altogether by the force of the sea, and there would be some difficulty from want of headway in passing under the pier.

4. The same plan shows a number of sewers which fall into the sea within the limits of the future Harbour. Those marked with red figures on the plan and in black type in the list attached discharge foul drainage. I am informed by the President of the Municipal Commission that he can afford me no information as to when the drainage works for Madras, as designed by Mr. Clark, will be commenced, but I do not apprehend any nuisance will occur until we have projected each pier out some one thousand five hundred feet; Mr. Parkes says, "until the surf ceases" to beat upon the beach within the limits "of the Harbour," which, he thinks, will not be for at least 18 months to come. If no general drainage scheme is carried out, it is thought these sewers might be diverted by an intercepting sewer along the beach road and discharged into the Royapooram main sewer or elsewhere.

5. On the question of projecting the southern pier at once I beg respectfully to offer my opinion that it is advisable to delay a little the commencement of this portion of the work of the Harbour for the following reasons:—If the pier is advanced much before the north-east monsoon sets in, we shall have the inner corner, marked A on the plan, during the time the monsoon lasts, silt up, and there would be less chance of the present great accumulation of sand, marked C, being swept away. By the time the monsoon changes to the south the northern pier will be so far projected that the southerly current would be in a measure stopped, and the sand that would have accumulated at A and along the beach between the

two piers would never be washed out again; but, if we commence towards the end of this year, when the north-east monsoon is nearly over, the present accumulation of sand would then, I conjecture, have been swept away. The southern pier would only be advanced a short distance by the time the southerly winds set in, and the sand would then collect on the outside of the southern pier of the Harbour at B, where it would do no harm, and by the time the north-east monsoon sets in again both piers will be so far projected that little silting will take place, it is conjectured, inside or between the two piers.

6. Some delay has occurred in my presenting this report owing to my having waited since the 19th day of May to hear from the Municipal Commission and to my having been in communication with Mr. Parkes on certain points that occurred to the late Mr. May and were discussed between him and me before his death.

MADRAS HARBOUR WORKS.

Descriptive List of the Sewers and Drains which discharge within the limits of the proposed Harbour.

Nos.	Description.	MEASUREMENT.		Remarks.
		Breadth.	Depth.	
		FT. IN.	FT. IN.	
1	Flat arch drain	1 0		Dirty water.
2	Arch do.	4 1	3 6	Sewer, foul drainage.
3	Flat do. do.	2 0		Rainwater at monsoons.
4	Do. do. do.	2 0	2 2	Sewer, foul drainage.
5	Arch do.	1 6	2 2	Sewer, do. from stables, &c.
6	Do. do.			Pipe drain.
7	Flat arch do.	3 4	3 0	Sewer, foul drainage.
8	Do. do. do.	1 1		Rainwater at monsoons.
9	Do. do.	2 0		Do. do.
10	Do. do.	4 3	3 9	Sewer, foul drainage.
11	Do. do.	1 3		Rainwater at monsoons.

No. 1,082.

MEMORANDUM.

No. 118-A.

With reference to Mr. Beardmore's letter, No. 43 W., dated 11th July, the Chief Engineer, Public Works Department, has the honor to inquire whether the Officiating Harbour Superintendent has taken into consideration the line of beach railway between the northern and southern harbour piers which Mr. Parkes had in view originally, *viz.*, immediately behind, *i.e.*, east of the iron warehouse and pier master's office, and in front, *i.e.*, west of the wing walls of the approach to the iron pier. That line was pointed out by Mr. Parkes to the undersigned in his last visit to Madras, and in Major-General Walker's opinion it should be adhered to unless there are insuperable objections to it. He will be much obliged by Mr. Beardmore's reporting further on the subject as soon as possible; of course the intention was to cross the pier rails at the level.

COTACAMUND,
15th July 1876.

(Signed) G. W. WALKER, Major-Genl., R.E.,
Chief Engineer, P.W.D.

To the Officiating Superintendent of the Madras Harbour Works.

No. 118-B. From N. Sr. B. BEARDMORE, Esq., Officiating Superintendent of the Madras Harbour Works, to Major-General G. W. WALKER, R.E., Chief Engineer and Secretary to Government, Public Works Department, dated Madras, 17th July 1876, No. 47 W.

I HAVE the honor to report, with reference to your memorandum, No. 1,082, dated 15th July, that the line of railway mentioned by you therein as passing to the east of the iron warehouse and pier master's Office and crossing the pier railways on the level is practicable.

2. I had not taken it much into consideration before as I had not learnt Mr. Parke's views on the subject, and because the line laid down on the plan that accompanied my letter, No. 43 W, of the 11th July, to run along the disused Tramway Company's road was the one recommended by Mr. May, he being of opinion that every block on its way to the southern pier would have to be turned on a turn-table situated on the road to the north of Clive's Battery.

3. Since this accumulation of sand has taken place, however, the case is altered. The curve round Clive's Battery I thought should either be temporary for carrying laterite until the southern surf bank was completed or might be made permanent according to circumstances. The now proposed alternative line would strike away from it. It is possible it might be an expensive line to maintain in the event of damage from the sea, but it would be far preferable to the line passing under the pier, and would be more advantageously situated with regard to carriage-traffic than the line along the tramway. I think, therefore, the balance of the different points is in its favor.

No. 119. ORDER THEREON, 4th August 1876, No. 2,007.

CIVIL WORKS, No. 13.

HIS GRACE the Governor in Council is of opinion that the Superintending Harbour Engineers have in their plans failed to

appreciate the magnitude of the task to be accomplished in a given time.

2. The progress has in no one part equalled the rate anticipated by Mr. Parkes.

3. The slower the progress the greater the risk of damage from longer exposure to storms of incomplete works.

4. The principal problem to be solved is how to bring down and deposit daily a certain definite quantity of material. Up to the present time only the Madras Railway line has been used; and, while there is no doubt that the Company can bring upon their main line the full amount needed, it seems very questionable whether the limited space available will allow of the unloading and deposit of the large amount without great and inconvenient delay. It seems, therefore, deserving of earnest consideration whether the line of the South Indian Railway cannot be made available to bring the material for the south surf bank at least, and thus the necessity of bringing every train of material for the south surf bank through the yard at Royapooram, where the whole construction of the concrete blocks, &c., is proposed to be carried on, and along the suggested line parallel with beach road, at a slow speed, which will occupy in going and returning an additional time of nearly an hour for every train, may be avoided.

*Proceedings of the Madras Government, Public Works Department,
4th August 1876. No. 2,007.*

5. In order that no time may be lost in dealing with this question on Mr. Thorowgood's arrival, the Governor in Council determines to request the Engineers of the Madras and South Indian Railways to meet the Consulting Engineer for Railways and consider what measures they can suggest to ensure the delivery by their joint efforts of the necessary amount of material continuously day by day on the works, and also how that traffic can best be worked through the several streets or roads, either by steam or animal power, with the least inconvenience to the ordinary traffic, reporting fully at an early date.

6. Mr. Beadmore will in the mean time concentrate all his energies and those of his staff in pushing forward the north groyne so that the first or abutment blocks may be set to protect the surf bank before the monsoon months, during which the steam barges will probably be unable to work or even to remain at Madras.

(True Extract.)

(Signed) G. W. WALKER, Major-General, R.E.,
Secretary to Government.

Ms. 113. 1v.

From
The Offg Superintendent,
Madras Harbour Works.

To
Major-General G. W. Walker R.E.,
Secretary to Government,
Public Works Department,
Fort St. George.

Sir,
Madras 11th July 1876.

I have the honour to forward to you as directed in G. O. No. 1092, dated 15th June 1876, a Plan and sections of a proposed line of Railway to be laid on the Beach Road for the use of these works.

2. It will be seen that I proposed to lay it along the surface of the road, the roof of the Iron Pier being the summit level, so that it may be crossed at any point on the level, in order that communication may be kept up with the beach. Where it crosses the Beach Road at Nagapooram, fencing with gates should be placed as shown in red dotted lines in order to provide for the safety of the carriage traffic. When a train is proceeding to the South Pier, I propose for the safety of the traffic that it

should move at a slow rate of speed and if thought necessary, a man walk before it with a red flag in the manner adopted with traction Engines in England to warn people that the train is approaching. The Municipal Commissioners declared at a meeting held on June '80th that they have no objection to this line.

An alternative line might be made to run along the sand and pass under the Iron Pier as shown in blue lines on the Plan which would be more out of the way of carriage traffic and would be crossed on the level in the same way to afford communication with the beach. But there is some question whether this line would not be expensive to maintain, as there would be the possibility of its being damaged or washed away altogether by the force of the sea, and there would be some difficulty from want of headway in passing under the Pier.

The same Plan shows a number of sewers which fall into the sea within the limits of the future Harbour. Those marked with red

figures on the Plan and in the list attached discharge foul drainage. I am informed by the President of the Municipal Commission that he can afford me no information as to when the drainage works for Madras, as designed by Mr. Clark will be commenced, but I do not apprehend any nuisance will occur until we have projected each Pier out some one thousand five hundred feet.

Mr. Parkes says, "until the surf ceases to beat upon the beach within the limits of the Harbour," which he thinks will be for at least 18 months to come. If no general drainage scheme is carried out, it is thought these sewers might be diverted by an intercepting sewer along the beach road and discharged into the Royapootam main sewer or elsewhere.

On the question of projecting the Southern Pier at once, I beg respectfully to offer my opinion, that it is advisable to delay a little the commencement of this portion of the work of the Harbour for the following reasons:- If the Pier

is advanced much before the North East Monsoon sets in, we shall have the inner corner marked A on the Plan, during the time the monsoon lasts, silt up, and there would be less chance of the present great accumulation of sand marked C, being swept away. By the time the monsoon changes to the South, the Northern Pier will be so far projected, that the southerly current would be in a measure stopped, and the sand that would have accumulated at A and along the beach between the two Piers would never be washed out again, but if we commence towards the end of this year when the north east monsoon is nearly over, the present accumulation of sand would then I conjecture, have been swept away. The Southern Pier would only be advanced a short distance by the time the Southerly winds set in, and the sand would then collect on the outside of the Southern Pier of the Harbour at B where it would do no harm, and by the time the North East Monsoon sets in again, both Piers will be

be so far projected, that little silting will take place it is conjectured inside or between the two Piers.

Some delay has occurred in my presenting this Report, owing to my having waited since the 14th day of May to hear from the Municipal Commission and to my having been in communication with Mr. Parker on certain points that occurred to the late Mr. May and were discussed between him and me before his death.

I have the honour to be,
Sir,

Your most obedient servant,
Nathl B Beardmore
Offy Superintendent
of the Harbour Works

8810/6/76 No 1492

P. W. 1876 Department
From S. 11-768

The Offg Superintendent
Madras Harbour Works

To Major Genl Sir Walker R.
Secretary to Government
Public Works Department
Fort St. George

Dated 11th
Recd 12th July 1876
at 10 18 37 AM

Forwards with remarks
Plan of Railway along
Beach Road for the South
Pier of Harbour Works

Madras Harbour Works

Descriptive List of the Sewers and Drains which
discharge within the limits of the Proposed Harbour

Nos.	Description	Measurement				Remarks
		Breadth		Depth		
		ft	in	ft	in	
1	Shut Arch Drain	1	0	0	0	Dirty water
	Arch Do	4	1	2	6	Sewer, foul drainage
3	Shut Do Do	2	0	0	0	Runwater at Monsoons
	Do Do Do	2	0	2	0	Sewer, foul drainage
	Arch Do	1	6	2	0	Sewer, do from stable &c
6	Do Do					Ripe drain
	Shut Arch do	3	4	2	0	Sewer, foul drainage
8	do do do	1	1	0	0	Runwater at Monsoons
9	do do do	2	0	0	0	do do do
	do do do	4	3	3	0	Sewer, foul drainage
11	do do do	1	3	0	0	Runwater at Monsoons

Recd - 26.7.76
Cir - 19.6.76 Ptd 26.7.76
Despd to Govt 17.7.76

W. W.

From

W. M. Boardman Esqre
Offy Superintendent
Madras Harbour Works,

Major General G. W. Walker
Chief Engineer
Public Works Department
Northamptn Barge
Madras 17 July 1896.

Sir,

I have the honor to report with
reference to your Memorandum of 17th July
dated 15th July that the line of railway
mentioned by you therein as passing
to the east of the Iron Warehouse and
near Master's Office and crossing the
P. & N. Railways on the level is practicable.

2. I had not taken it much into
consideration before as I had not learnt
Mr. Parker's views on the subject, and
because

because the line laid down on the Plan
that accompanied my letter N-1500
of the 11th July, to run along the shortest
Tramway Company's road was the
one recommended by all the Messrs. being
of opinion that every block on
its way to the Southern Pier would have
to be turned on a turn table situated
on the road to the north of Chiswick
Battery.

3. Since this accumulation of
sand has taken place however, the
case is altered. The curve round
Chiswick Battery I thought should either
be temporary for carrying Salsb's
until the Southern Pier Bank was
completed or might be made perman-
ent according to circumstances. The
now proposed alternative line would
strike away from it. It is possible it
might be an expensive line to maintain
in the event of damage from the sea,
but it would be far preferable to

the

the line passing under the Pier and
would be more advantageously situated
with regard to carriage traffic than
the line along the Tramway. I think
therefore the balance of the different
points is in its favour.

I have the honour to be,

Sir,
Your Most Obedient Servant
Robert B. Beadmore
Off. Superintendent.

5609

From

The Off^r Superintendent
Madras Harbour Works

Dated 17th July }
Received 7th August } 1876.

28.11.76

Referring upon the
line of Road Railway between
the Northern and Southern
Harbour Piers.

No 118-B-

On 19.7.76
J. H. S. 23 July

The plans sent herewith
lead me to the conclusion
that Messrs. had better
concentrate all their energy
in pushing forward the
Suez Canal & Association for
what becomes the adjustment
North with the return energy
and let the question of
accept of S. pier from
Singaporean aspect for
Thoroughness answer

The line suggested
is liable to be damaged
washed away -

arrangements indicated
for S. Pier connection on
this line are insufficient
for carrying ~~the~~ rapid
progress —

The line is not prolonged
sufficiently to allow a
single train to be taken
entire past the point —

2. additional lines
viz. one for empty to
get into & from the empty
train - and one as
a loop for empty to get from
train - would be needed

an heavy train proceeding
at slow speed 3 ¹/₂ miles
an hour (would ^{be} the
 utmost ^{safe speed} would ~~be~~ ^{be} ~~be~~
full pressure of steam
to keep it moving on an

ascending gradient of
1 in 297 - and it is
very doubtful whether any
locomotives could stand the
steam blast - ~~which~~
if the train were to be
stopped on the ascending
gradient to the pier -
some trouble would be caused
in starting - and the running
together of the engines as
they approached the South Pier
would be very alarming to
passers —

but no particulars are
given ~~of~~ ^{on any} estimate in
form of what damage
of latents can be wrought
though for the S. pier &
deposited daily without
interrupting the work of
the North pier —

I would suggest that the
plans be referred to the
Committee C. L. the

H. - I would further urge on
 M.B. The importance of getting
 R. L. S. bank forward so that
 the allotment should maybe
 set before the R. L. Monsoon
 & that he should use every
 possible exertion to get this
 date of deposit increased - as
 agreed by M. A. & myself.
 He will be unable to use his Vays
 after the approach of R. L. Monsoon
 when they must be sent to India.
 B. 207

His Grace the
 Governor in Council is
 of opinion that the
 final determination of ^{the mode of} access to the
 South Pier had better
 await until after the arrival
 of Mr. Charnwood which
 may be expected early
 in August. It will then
 be considered by him
 how best to provide for
 the delivery of material
 at the rate of 1500 Tons
 of Limestone and 500
 Tons of Granite daily
 at both Piers - which
 after

will be ~~very~~ ^{very} ~~great~~, as the
~~cost of the~~ lines of rail
at Kays communication
for transport of the
boulders, leaving the
expense of Clinton Battery
entirely for the granite
material and blocks
for the construction
of which it is required.
The cost will be ^{less}

you are careful thinking
out, and must be fully ex-
plained to His Grace - A
Baron in Council by a
Mr. Thompson in person,
after he shall have

We referred them in
 conference with the
 Railway authorities
 without whose ^{the} consent
 no proposition could ^{ever}
 be brought forward. ^{any}
 Yours &c.

Meanwhile Mr. Board-

man will concentrate

his energies on pushing

forward the Southern

Iron Works that

its efficiency may be

less of production by

the deposit of the

the cement blocks,

which he speaks

in need of some

provisions against the

effects of the monsoon

during which it is

proposed

that the Steam Works

will be able to work.

creation
what does the
could be worked

the State -

The use of better
appears to be working
supplies through the
making the beach road
unless it is found
to use animal power

Sept 11 B. W. W.
C. E. for the
P. S. M. W.
P. S. M. W.

Public Works Department

The Government Council
It is Grace, is of opi-
nion that the Superin-
tending Harbour Engineers
have failed in their
plans to appreciate the
magnitude of their task
to be accomplished in
a given time.

The progress has
in no one part equaled
the rate anticipated
by the Surveys.

The slower the
progress the greater the
risk of damage from
longer exposure to storms
of incomplete works.

4. The principal problem to be solved is how to bring down and deposit daily a certain definite quantity of material.

5. In order that no time may be lost in

on Mr. Thoroughgood's arrival, the Governor in Council determined, to request the Engineer in Charge of the Madras and Northern Indian Railways to meet the Consulting Engineer

for Russia and
consider ^{what measures they can} ~~have to them~~
suggest ~~to~~ ^{to} ~~run~~ the delivery of the
joint efforts of the ne-
cessary amount of
material ~~and~~ ^{also} ~~and~~ ^{to} ~~have~~
that traffic can
best be worked this
the several streets

The 10th of the present month only the
 Grand National Hunt has been run &
 while there is no doubt that this
 can bring upon their earnings the
 full amount needed. it seems very
 questionable whether the limited
 available will allow of the horses
 being able to depart with any
 dealing in the present, in view of delay
 in the market.

with the least inconvenience to
the ordinary traffic.

It seems therefore desirous of
earnest consideration whether the
line of the S. Indian R.R. cannot
be made available during the winter
for the Santa Fe branch at least -
thus the necessity of having very
few if any trains for the S. Ind.
branch there. The road at Mayaguez
crossing the river by which the
whole construction of the
Canyon the river is separated from
the river - and along the river
trains parallel with beach road
at a slow speed which will occupy
in going & returning an additional
time of nearly an hour for every
train may be avoided.

or points either by
steam or cannonal
power reporting fully
at an early date.
Sir Blandmore
will in the meantime
concentrate all his
energies and those
of his Staff in pushing
forward the North
Groyne so that the
first or abutment
blocks may be set
~~to prevent the Substruck~~
before the monsoon
months during which
the ~~other~~ barges will pro-
bably be unable to
work or even remain
at Madras.

No 2007.

Public Works Department.

PROCEEDINGS of the MADRAS GOVERNMENT.

Under date the 4th August 1876.

Read the following :-

at
Specimen

The Offg Superintendent
Madras Harbour Works

(P. H. 1876/145 July 1876)

Chief Engineer's Office

1002 - 15th -

Specimen

The Offg Superintendent
Madras Harbour Works

(P. H. 1876/145 July 1876)

His Grace the
Governor's Council
is of opinion that the
Superintending Harbour
Engineers have in their plans
failed to appreciate the
magnitude of the task
to be accomplished in
a given time.

2. The progress has in
no one part equalled
the rate anticipated
by Mr. Parker.

3. The slower the progress
the

MR
4/10

W. H.

the speaker the risk of
damage from longer
exposure to storms of
incomplete works

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lem to be solved is how
to bring down and de-
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their main line the full
amount needed, it seems
very questionable whether
the limited space available
will allow of the unloading
and deposit of the large
amount without great
and inconvenient delay.

It seems therefore deserving
of earnest consideration
whether the line of the
South Indian Railway

cannot be made available
to bring the material for
for the South Surf bank
at least and thus the
necessity of bringing the
very heavy loads of material
for the South Surf bank
through the ga at Royal
Pearson, where the whole
construction of the concrete
blocks is proposed to be
carried on, and along the
suggested line parallel
with beach road, at a
slow speed, which will
occupy in going and
returning, an additional
time of nearly an hour
for every train, maybe
avoided.

5. In order that no time
may be lost in dealing
with this question and
Mr. Thorngood's arrival,
the Governor in Council
determines to request the
Engineers

Engineers of the Madras
and South Indian Rail-
ways to meet the Consulting
Engineers for Railways, and
consider what measures they
can suggest to ensure the
delivery by their joint efforts
of the necessary amount
of material ^{continuously day by day} ~~and certainly~~
on the works; and also
have that traffic can
best be worked through
the several districts
heads either by steam
or animal power, with
the least inconvenience
to the ordinary traffic;
reporting fully at an
early date.

C. D. W. Boardman will
in the meantime con-
centrate all his energies
and those of his staff
in pushing forward
the North Bazar so that
the first or secondment
blocks may be set
to

to protect the lung bank
before the monsoon
months; during which
the steam barges will
probably be unable
to work, or even to
run near at hand.

C. D. W.

Supt. M. St. Works
C. E. for Regs.

W. depts. to both. 4/8/96.

4968
5609

GOVT. OF INDIA
PUBLIC WORKS.

The Capt. Madras Harbour
Works

Date

Place

Subject

C. O. No. 2767

Date 7/5/19

Railway line along
the Beach road to the
North Point pier of the
Madras Harbour -

Passing orders in
correspondence are to
the _____

Butcher
27-5-19