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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

Revenue DEPARTMENT

G.O. No.	1285	Press.
B.P. No.		Mis.
Dated	6. 3. 1877	197

Not to be folded or roughly handled.

1255
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*Proceedings of the Madras Government, Public Works Department,
23th February 1877. No. 672.*

Read the following papers :—

No. 681. Note by the Hon. R. S. ELLIS, c.b., dated 9th February 1877.

No. 681-A.

MEMORANDUM.

Madras Harbour Works G.O., No. 480, of the 12th February 1877, paragraph 2.

THE Chief Engineer has consulted with Mr. Thorowgood and with Colonel Farewell, and has the honor to report to Government as follows on the two points referred for consideration :—

1st.—As to the way in which the works at the south surf bank and pier can be carried on *without impediment to trade*.

(a) The Superintendent of the works proposes to lay the beach railway as shown on the tracing, which has been dated 16th instant; except near Clive's Battery, which has to be passed on the east side, the line from the block ground to the south pier will run close alongside the tramway and the space occupied will thus be reduced to a minimum. Similarly the branch from the South Indian Railway will be carried alongside the tramway to the point where the root of the surf bank will commence.

(b.) The transport of blocks from the block ground to the south pier will for the most part be carried on at night. The Superintendent considers, however, that, looking to the early setting in of the southerly wind, it will be desirable to commence

the south surf bank as early as possible
with material* brought by the Madras

Railway; for the construction of the Cocum bridge on the South Indian beach branch is, with the appliances available, getting on but slowly, and the sooner the south surf bank is run out the less will be the accumulation of sand within the harbour space. The Chief Engineer considers that under these arrangements the impediment to trade due to works of construction will not be material at any time, and that when the branch of the South Indian Railway has been completed the interference will be nominal.

(c.) It appears proper further to note that it is more than probable that the action of the surf bank on the currents will at times make it difficult for boats to work at particular points on the beach between the north and south piers. The positions of these points will vary according to the strength of the current and the projection of the surf bank and pier. It is believed that the difficulty arising from this action will not be of moment, and there will, it is supposed, be nothing to prevent a large proportion of the grain traffic being carried on south of the south pier and between it and the Fort.

2nd.—*Danger to Boats.* The danger referred to is that arising from the dispersion of the stone used for the surf-bank between the beach and the block abutment of the south pier.

(1.) Mr. Thorowgood has suggested that the dispersion of the small stone of this surf bank may be prevented or limited by placing blocks of seven tons weight along the foot of the north slope. It appears, however, to the undersigned that, so far as dispersion will be caused by the blow of the sea from waves coming in from the south-east and south south east, it will be the south slope rather than the north which will need

*Proceedings of the Madras Government, Public Works Department,
28th February 1877. No. 672.*

protection. Could the direction of storm waves be foreseen, preventive measures might be adopted which might be nearly completely successful in preventing the dispersion of any considerable point of the mass of small stone. What can be prevented however is rather such dispersion from the more regular action of the sea than from a storm which may not improbably occur either at the end of April or in May next. The Chief Engineer would recommend the following arrangements as likely to prevent any such dispersion as occurred at the north pier and to secure the surf bank as completely as is perhaps feasible.

(2.) The beach groynes which have from time to time been constructed to prevent erosion of the shore and danger to the beach road are made of not very large stone and have always stood fairly well, but little of this stone having been washed away, though much of it has sunk into the sand. It will be desirable therefore to act upon this experience, and to protect the entire south face of the south surf bank with similar stone but of rather larger size. This heavier stone facing to be made 6 feet thick and the mass of the surf bank to be reduced to a similar extent.

(3.) In the next place there will be a comparatively short length of this face, commencing at a distance from the shore, which may probably be determined with sufficient accuracy, where the heaviest blow from south-east waves will impinge, and here, and here only the seven ton blocks may be used with advantage as an additional and more complete protection.

(4.) The north face may it is considered be left unprotected. It will be assailable only by waves from east and from north of east, and the spreading of the small stone will not cover any large space to the north of the south pier.

2. It will be seen from Mr. Thorowgood's office note of the 14th instant, that stone was moved from the north surf bank to a distance of 360 feet south, and 230 feet north, and these limits are in excess of any probable dispersion of the south surf bank if first block setting be commenced before the next north-east monsoon, and if secondly there be no cyclonic storm in April or May.

The distance between the north and south piers and the iron pile pier respectively is about 500 yards, so that at worst only about one-sixth of the space is likely to be interfered with.

3. What appears to be essential is that Mr. Thorowgood should receive instructions to go on at once with the south surf bank and to push it forward with all possible rapidity. Then there will be a minimum of risk of interference with trade and of danger to the boat traffic.

FORT ST. GEORGE,
19th February 1877.

(Signed) JOHN MULLINS, Lt.-Col., R.E.,
Chief Engineer, Public Works Dept.

No. 682.

ORDER THEREON, 28th February 1877, No. 672.

CIVIL WORKS, No. 55.

HIS GRACE the Governor in Council having carefully considered the foregoing memorandum by the Chief Engineer is of opinion that the construction of the south pier surf bank should be proceeded with so soon as the branch under construction from the South Indian Railway will allow of the necessary material being brought by that line; but that, looking to the great

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pressure now existing on the Madras Railway for the transport of grain inland, it will not be possible to provide either engines or wagons for the carriage of any material for the south surf bank by the latter railway. It is further considered that while this pressure lasts the rolling stock of the Madras Railway should not be diverted from the grain traffic to bring material for the north pier foundation, and that measures should therefore be at once adopted for utilizing the dispersed stone of that surf bank, and for transferring the stone of the abandoned bank north of the drain. When all the material referred to has been placed in the line of the north pier, the Superintendent of the Harbour Works will, if necessary, report what additional small stone will be required to enable the block setting to be proceeded with without interruption, and such orders as may at the time be necessary will then be passed.

2. The decision not to bring material for the south surf bank by the Madras Railway makes it doubtful whether the beach railway between the south and north piers will be required for some months to come, and on this point Mr. Thorowgood will be requested to submit a further report showing clearly, should he think this railway essential to his operations, what work it would be required to perform prior to the commencement of block setting, which it is understood will not be begun at the earliest until after July or August. The only heavy material until then to be used on the south pier will be the protective blocks, which can be made on the spot and will not therefore need any transport.

3. His Grace in Council considers that the use of similar, but somewhat larger stone than that used for the beach groynes, as a protective facing on the south side of the south surf bank, may be expected to diminish, if not altogether to obviate, the dispersion of the comparatively small material of which the mass of this bank will be formed. The use of such stone for a facing, and of blocks, either of the seven ton or some other suitable size, as a further protection along the limited space over which the surf action will be a maximum, is therefore approved, and the Superintendent will arrange to carry out this modification, and will report what additional expense will be entailed by these precautions.

4. The following telegram will be sent to the Secretary of State for India:—

Please inform Parkes Government have ordered south side south surf bank to be protected from surf action by facing of stone, like that used for beach groynes, but somewhat heavier, to obviate danger to boats by dispersion of small stone. Small blocks will be used as further protection where surf action greatest.

(True Extract.)

John Mullins

Lieut.-Colonel, R.E.,
Secretary to Government.

To the Superintendent of Madras Harbour Works
" Consulting Engineer for Railways.
" Marine Department.
" Revenue Department.

Exd. E. C. Shunker.

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Govt. of 1877 Madras.

PUBLIC WORKS.

To *No 1587*

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

Dated February 28th.

I send

Recd. *6 March*

Encl.

G. O. 28th February 1877, No. 672.

De: M. W.
FEBRUARY.

Nos. 681-682.

No 1255.

*Comm. to the
Board of Revenue*

6 March 77

Madras Harbour. — Passing orders, on
memorandum by the Chief Engineer relative
to the construction of the south pier surf
bank of the —

12. To the H. of Revenue 77-3-77