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MADRAS RECORD OFFICE

GOVERNMENT OF MADRAS

Revenue DEPARTMENT

G.O. No.	785	~~Press~~
~~B.P. No.~~		~~Misr.~~
Dated	1. 4. 1876	196

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
17th March 1876.*

Read the following papers :—

No. 261. Proceedings of the Board of Revenue, dated 19th February 1876.

From R. J. MELVILLE, Esq., Acting Collector of the Chingleput District, to C. A. GALTON, Esq., Acting Secretary to the Board of Revenue, dated Poodovail, 15th February 1876, No. 98.

THE Ennore bar having lately closed, I addressed the Superintending Engineer on the subject of its being opened, and enclose for the Board's information copy of his letter, dated 27th ultimo, No. 4,295 $\frac{1}{2}$, reporting that he has succeeded in opening the bar.

2. I beg to draw the special attention of the Board to the remarks of Colonel Moberly at paragraphs 14—23, and request that sanction of Government may be obtained for carrying out the works suggested in paragraphs 23 and 24, to prevent the reclosing of the bar. The survey of the bar, received with Colonel Moberly's letter is herewith enclosed, to be returned when no longer required.

From Colonel F. J. MOBERLY, R.E., Superintending Engineer, Chingleput, to R. J. MELVILLE, Esq., Acting Collector of Chingleput, dated Mount, 27th January 1876, No. 4,295 $\frac{1}{2}$.

I HAVE the honor to inform you that, agreeably to the request in your No. 20, of 12th January 1876, I sent instructions (copy enclosed*) to the

1 Copy of letter to the Assistant Engineer, Siroolloor Range.

Assistant Engineer, Siroolloor Range.

1 Plan.

1 Sketch.

* No. A., dated 14th January 1876.

2. On reaching Ennore, 24th instant, I found that Lieutenant Smither had excavated

a channel through the bank at the point selected by Government to about low water-mark; it would have been better 3 feet deeper if it could be done.

3. He had also arranged stakes and bags full of sand to enclose the beach as far as low water-mark. I would suggest that on another occasion we should do this much further out seaward, as the beach has a very small slope.

4. As the tide fell on the 25th, the bank was run out on both sides, and the enclosure within the stakes was completed by noon, and strengthened through the evening; a very boisterous flood tried it severely in the night, but the gang of coolies whom I had kept succeeded, under Lieutenant Smither's orders, in keeping out the water.

5. As the tide of the 26th fell, I commenced to open the bank from the north side. I had desired that the south enclosing bank should be left to protect the cut from the surf, and

New Moon, 26th.

Lieutenant Smither suggested that we should prolong it seaward by shifting the sand bags from the north side, and so make a groyne; our material enabled us to secure about 30 feet more protection in this manner.

6. The bank to north and east was entirely cleared away a little before 1 P.M., the tide had fallen very nearly, if not quite, to its lowest, and the water in the river was 1 $\frac{1}{4}$ feet above it, as nearly as possible at M.S.L.; the surf was very low, and there was a light west wind blowing.

7. The coolies were then sent in to cut away the beach out for 30 feet to seawards, and with the head we had a fair scour was effected, and the current was still running fairly strong at 5 P.M., though a flood tide was making.

8. At high water this was very rough, and part of the groyne near its root gave way, but the sea had not succeeded this morning in closing the outlet, and we shall have the sea water of two floods.

9. I have desired Lieutenant Smither to close the gap in the groyne as the tide recedes to-day, and to keep coolies to stir the sand and help the scour during each ebb-tide; by this means

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we may keep the mouth open for a few days, and may repeat the operation at each change of the moon, with better prospects in the way of heal.

10. The bar is, I believe, invariably closed nearly at high water; so that if we do this at low water springs we may count on 2½ feet or 3 feet instead of 1½ feet head.

11. I must acknowledge that sand bags have answered much better than I expected. They lost nearly half their contents as they were dragged through the water to the groyne, but have lost very little since, and may last, diminishing gradually, for a week; as long as they keep the surf out we may keep the mouth open.

12. Lieutenant Smith, the East Coast Canal Superintendent, Chellaperumall Pillay, and the Contractor on the canal, S. Streenuvassa Moodalliar, were all day and a great part of each night on the work.

13. The site at which in G.O. No. 3,416, of 1st December 1875, I have been ordered to open the bar is, in my humble opinion, most unfavorable; possibly, Captain Taylor's survey may have misled His Excellency the Governor in Council.

14. If it was correct when Captain Taylor made it, the river is very much altered since. The whole bay north of the proper channel of the river is silted up, possibly by land blown in during the prevalence of the north-east winds; this is specially to be observed in the long spit of sand running south-west from the point where the bar closed. The shoal has increased very much above water, and new banks are appearing as marked in pencil.

15. I have worked a line of soundings which I took roughly in, what I have always held to be, the proper channel of the river, and found 18 feet depth within a very short distance of the bank. I cannot account for Captain Taylor's remark on the plan, which would lead one to suppose that the stream had left the south channel.

16. The north-east monsoon may have, I feel sure it has, silted up what is marked as the "present channel," but it could not have deepened the other. I have not had any time to examine the survey, but I think it is incorrectly drawn, and that the river banks above "ruined temple" and "Natal's bungalow" are more as shown in pencil lines.

17. I believe it will cost Rupees 1,000 to open and keep this mouth open for a short time; I hope long enough to saturate with salt the basin inshore of it from which the pans are supplied.

18. I would however urge that, in my opinion, there would be no difficulty in doing this permanently with a stone groyne.

19. In heavy floods the whole of the sand between the trees north and south is carried away, and in such seasons it is of little or no importance where we make the first opening by which the swollen river is to reach the sea. It will speedily cut its way north and south, and if Messrs. Binny's out-houses are not better protected, they will shortly follow the bungalow.

20. I would here point out that a pile of bricks is too light in water to afford any protection as a groyne, in the manner in which Messrs. Binny and Co. have placed the materials of their bungalow.

21. I presume that after the experience of 1872 and 1874 nobody will deny the probability of the whole bar being removed; we cannot therefore place any work in the middle of this space without running the risk of seeing its destruction in the first considerable fresh. The north end of this bar I cannot but consider quite out of the question.

22. I would therefore urge that the new cut be made as near as possible to the south side, where a considerable quantity of clay is mixed with the sand, and affords means of growing casuarinas and other plants, all which I would encourage as they would serve to keep out blown sand.

23. I would raise a bank on the south side of clay and sand as far as the sea would allow on the beach, revetted on the channel side with stone, and continue this by a stone groyne to sea as far as 3 feet below low water work. A small groyne at the river end would secure this from being turned by a high fresh.

24. I believe that for Rupees 5,000 all this might be done and a permanent outlet secured. A similar revetment on the north side, at a distance equal to the section required for floods, might be an improvement by preventing the water wasting its power in width instead of depth. I may

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observe that I made this suggestion to Mr. Clark regarding the Cooum, and that he proposed the jetty or revetment at the north side.

25. If the Government approved of the crude plan, I would propose surveys and estimates immediately.

SUBMITTED for the orders of Government.

2. The Collector of Chingleput forwards a letter from the Superintending Engineer reporting the opening of the bar at Ennore, and expressing a hope that it may be kept open long enough to supply a sufficiency of salt water for the manufacture of salt in the neighbouring pans during the current season.

3. Colonel Moberly proposes to construct a stone groyne at the mouth of the river with a view to keeping the bar open permanently, and so insuring the influx of the sea into the backwater in all seasons. He roughly estimates the costs of this operation at Rupees 5,000, and expresses himself confident of its success.

4. The Board can give no opinion as to the soundness or otherwise of Colonel Moberly's proposition from an engineering point of view, but there can be no doubt that it is a matter of very great importance to secure, by any means, a certain supply of salt water in the backwater at Ennore. The salt stores at Madras are supplied exclusively from the pans located at Ennore and between that place and Pulicat; and the greater proportion of those pans depend for their supply of brine entirely on the sea water which enters the backwater by the Ennore bar. A failure in that supply might result in entire dearth of salt at the Madras stores, which it would be almost impossible to remedy by supplies drawn from elsewhere, except at an enormous cost. The prospect of making any large quantity of salt at the pans near Ennore during the current season is very small; but owing to the manufacture last year having been unprecedentedly large there is no present fear of the stores being exhausted. A second year's failure would be most disastrous.

5. Under these circumstances the Board consider that every effort should be made to keep open during the next three months the temporary cutting made by Colonel Moberly, and resolve to recommend that a careful survey of the river and estimate of the cost of constructing works for making a permanent opening in the bar be made with as little delay as possible.

(True Copies: 1 Extract.)

(Signed) C. A. GALTON,
Acting Secretary.

TRANSFERRED to the Public Works Department.

(Signed) D. F. CARMICHAEL,
Secretary to Govt., R.D.

24th February 1876.

No. 261-A. Proceedings of the Board of Revenue, dated 2nd March 1876.

From R. J. MELVILLE, Esq., Acting Collector of the Chingleput District, to C. A. GALTON, Esq., Acting Secretary to the Board of Revenue, dated Saidapet, 25th February 1876, No. 129.

With reference to my letter, No. 98, dated 15th instant, I have the honor to report that the steps recently taken by the Superintending Engineer to open the bar at Ennore have been successful. On the 23rd, when I visited it shortly after high-tide, a considerable body of water was flowing into the backwater.

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SUBMITTED to Government in continuation of Board's Proceedings, dated 19th
February 1876, No. 503.

(A true Copy and Extract.)

(Signed) C. A. GALTON,
Acting Secretary.

TRANSFERRED to the Public Works Department.

4th March 1876.

(Signed) D. F. CARMICHAEL,
Secretary to Govt., R.D.

MEMORANDUM.

THE Chief Engineer does not consider it advisable to attempt to keep the Ennore bar open permanently as it will involve certain heavy outlay, with great uncertainty of result; nor does it appear advisable to incur an indefinitely great expense when there is no object in keeping the bar open longer than during the season for manufacture of salt. It has already been shown that in all but most exceptional years the bar opens itself. Also that in such exceptional years it can be easily and cheaply opened at will. It remains to be seen at what cost it can be kept open as long as desired. Colonel Moberly seems to think Rupees 1,000 will suffice.

2. This will be a very moderate charge on the Salt Revenue, in the interest of which the work will be undertaken; and an annual provision may be made accordingly in the Salt Budget. It is desirable also that a careful survey of the backwater at Ennore, with soundings between fixed points, or on known bearings from fixed points, be carried out with funds provided from the same source.

(Signed) G. W. WALKER, Major-General, R.E.,
Chief Engineer, Public Works Dept.

9th March 1876.

No. 262. ORDER THEREON, 17th March 1876, No. 691.

CIVIL WORKS, No. 26-A.

HIS GRACE the Governor in Council approves of the appropriation of a sum (not exceeding Rupees 1,000 in all, with-

out submission of regular estimate) from savings in the salt Budgets of 1875-76 and 1876-77 for opening the Ennore bar and keeping it open as long as may be required for the manufacture of salt, in such proportions as may be determined by the actual expenditure of the current year.

2. The District Engineer, Chingleput, will submit an estimate of the cost of an accurate survey, with soundings, of the Ennore backwater.

(True Extract.)

Comdant Major-General, R.E.,
Secretary to Government.

To the Superintending Engineer, Chingleput.
" Revenue Department. ✓

Encl. S. T. Austen.

20 Spare Copies

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PUBLIC WORKS.

To

THE SUPERINTENDING ENGINEER

CHUNGLEPUT.

Co. ...

Dated M. 17th.

Received

By *3/5*

Recd. 3/5

M. O. 17th March 1876, No. 101.

MARCH

785

No. 231-232

Encls. Bar. — Funds allotted for opening the — and keeping it open as long as it may be required for the manufacture of salt, the District Engineer to submit an estimate for the cost of an accurate survey of the Lahore Backwater and provision to be made in the Salt Road of 1876-77 for the same purpose.

SP 785

Communicated to the Secy of Revenue.

1. April 76

DEPARTMENT

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