GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following papers :—

From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Administrative Department, Madras, to the Acting Secretary to Government, Public Works Department, dated Madras, 17th October 1882, No. 8883.

BIMLIPATAM.—This prosperous port has throughout the past year been very unfavorably situated with regard to its landing and shipping conveniences.

2. The river mouth has continued open in the furthermost north corner of the bay, and the one least suited to boating operations.

3. I have given instruction to cut the sand-banks near the round tower, in the most favorable place, directly a good opportunity occurs, and I am in hopes the cyclonic weather now reported at Cuttack may furnish such a fresh in the Bimlipatam River as will justify the operation and give help to the trade; but it is very desirable that the mouth should be fixed, if possible, in the best site, and this, in the universal opinion of all local authorities and observers, can be done by running out a moderately long groyne, say 400 feet, from the rocky spit off the round tower straight to seaward. I am of opinion that as this is on the south side of the river, and the action of the sand is the same at all mouths on this East Coast, the analogy of the Madras Harbour Works would obtain here, and erosion be carried on close round the groyne, if a short one, and the desired result be gained. I would, therefore, respectfully recommend that this measure be carried out, and an estimate of its cost be submitted to Government as a preparatory step.

4. It should, in my opinion, be of large stone thrown down irregularly, and obtained from the neighbouring hill. There are some rocks already in position in the same site, and these have not been disturbed within the memory of the oldest inhabitants. If the work rises to three feet above high-water, it will serve the purpose, and when the river mouth is open, the boats can pass readily in and out of the river, and discharge and load at the river bank in perfectly smooth water at all seasons.

5. The merchants, I am credibly informed, would be willing to have a small toll levied on all goods landed and shipped, in order to secure this benefit, as has been proposed at Cocanada; but if the estimate is not large, the expense may perhaps be sanctioned by Government from Port Funds, towards which Bimlipatam has largely contributed without having any assistance hitherto.

6. A rough plan of the port is sent for easy reference.

No. 937 E., Public Works.

Referred to the Superintending Engineer, First Circle, for report, and for submission of an estimate for the work described in paragraph 3 of the Master Attendant's letter.

24th October 1882. (Signed) J. SHAW-STEWART, Colonel, R.E.,
Ag. Secretary to Government.

From G. T. WALCH, Esq., Officiating Superintending Engineer, First Circle, to the Chief Engineer, Public Works Department, dated Dowlaishweram, 12th February 1883, No. 613 V.Z.

With reference to your No. 937,* dated 24th October 1882, and to G.O., No. 47 W., 8th January 1883, I have the honor to state that on 21st ultimo I visited Bimlipatam and the accompanying plans † and estimates have been prepared in accordance with orders given on the spot.

2. The efficacy of the work I consider doubtful, but as the Master Attendant, Administrative Department, who has more experience about such works than I have, considers it likely to prove useful and as it appears this is also the "opinion ‡ of local authorities and observers," and as the proposed expenditure is small, I recommend that the experiment be made.

3. The estimate does not provide for any stone except such as can be carted and handled by appliances now obtainable at the place; to make the groyne of such masses as would not be liable to be disturbed during really heavy weather would require special and costly plant, and the stone provided for, if well packed, will stand all but heavy weather. After such weather the groyne would have, if it proves useful, to be made up again.

* Returned, herewith, with its enclosure (1 Survey made by Lieut. Taylor, R.N.R.)

†1 Survey plan of port of Bimlipatam Harbour.
2 Sections across sand bank and part of backwater (2 sheets).
3 Levels (Sections) at site of proposed groyne.
4 Specification.
5 Detail and Abstract Estimates.

‡ See paragraph 2 of Captain Taylor's letter with Proceedings of Madras Government, No. 47 W., 8th January 1883.

Memorandum by the Chief Engineer, Public Works Department, dated 23rd February 1883, No. 470 C.

From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Administrative Department, to the Secretary to Government, Public Works Department, dated Madras, 6th March 1883, No. 1969.

I have the honor to return the correspondence, plan and estimate for a rough groyne at the port of Bimlipatam, and to remark thereon that I entirely concur in the opinion of the Chief Engineer that there are conditions at that port that remove the case from those where straight sand beach on this coast renders the action of groynes reliable; but I have had great experience of Bimlipatam, having visited it many consecutive years when I commanded ships in the East India Trade, and I am convinced that the rocky spit that now exists was the cause of the river mouth remaining fixed at the old place near the tower from which it was removed by the freshes of the river in a very exceptional season, seeking a more direct opening to the sea. This opening is unfortunately so far from this spit that it has not been acted upon by it, and has maintained itself, in spite of certain efforts to bring back the *status quo*.

2. The drift sand also has been a serious impediment to the re-action. I am confident that a groyne would be the best method to restore comfort to the port, and

I hope it will be adopted. I cannot, however, say that I approve of the idea of a small stone work after the groyne has entered the sea, though for its root from the tower to high-water mark to keep off drift sand and check storm current, it would answer with occasional repair; but I should be sorry to see any stones smaller than those used in the Public Works groynes at Madras, or Sir Arthur Cotton's groynes at Vizagapatam, placed in positions where they will be constantly exposed to wave and current action. I do not know the method employed in placing these stones, but I imagine it requires no plant of any expensive quality. The mode of operation must be well known in the Public Works Department. With a groyne of that sort I believe much good may be effected. I also, on reconsideration, think that I overstated the required length. I should like to see a groyne of 150 feet from high-water mark left for a season or two. I think that might suffice, and a portion of the reserved estimate might be used in helping to close the present mouth when the new work is ready. Bimlipatam has never had anything done for it, and when its river is open, it enjoys facilities for rapid despatch of steamers and general landing and shipping that no amount of money available could obtain for Vizagapatam.

I believe they average about one ton weight.
J. H. T.

No. 580 C., Public Works.

The present proposals of the Master Attendant, with a copy of the Chief Engineer's memorandum, No. 470 C., dated 23rd February 1883, are forwarded to the Superintending Engineer, First Circle, for early submission of a revised estimate.

2. The method of lifting large stones with chains and by distributing the weight is so well known and universally applied, that no special remark is called for.

3. The collection of materials should proceed in anticipation.

4. The return of the papers now sent is requested.

(By Order.)

10th March 1883. (Signed) J. PENNYCUICK, Major, R.E.,
Deputy Chief Engineer, P.W.D.

From G. T. WALCH, Esq., Officiating Superintending Engineer, First Circle, to the Chief Engineer, Public Works Department, dated Dowlaishweram, 18th March 1883, No. 689 V.Z.

With reference to your memorandum, No. 580 C., dated 10th March 1883, I have the honor to request instructions as to what is to be the limiting size of the stones to be used in the Bimilipatam groyne.

2. The place where they will have to be quarried is about a mile away; from this they will have to be brought in the small carts of the country (unless of course special plant is to be provided, which I understand is not intended), and they will have to be carted or carried over some 200 or 300 yards of heavy sea sand.

1 Master Attendant's letter No. 8883, dated 7th October 1882.
4 Plans.
1 Report.
1 Survey plan (by Taylor, Esq.)
1 Detailed Estimate.
1 Abstract ,,
1 Letter No. 613 V.Z., dated 12th February 1883.
1 Master Attendant's letter, No. 1969, dated 6th March 1883.
1 Memorandum No. 470 C., dated 23rd February 1883.

3. My specification, which has not been approved, provided for one-third of the stones being 3 cubic feet and they would weigh between 400 lb. and 500 lb. ; half, not less than 2 cubic feet which would weigh about 300 lb., and the remaining one-sixth, not less than ½ cubic foot or say 75 lb., the last being required, I thought, for filling interstices.

4. As said in my letter, it is perfectly impossible without special plant to place stones the weight of which will prevent their being displaced in really heavy weather ; and this being the case, I provided for such sizes, as I considered could be fairly easily handled and roughly *built*, not merely thrown down at random.

No. 703 C., Public Works.

Referred to the Superintendent, Madras Harbour Works, for favor of his opinion as to the weight and size of the stones which, under the circumstances, he would recommend to be used, having in view the experience gained on the Madras Harbour Works.

29th March 1883. (Signed) R. H. SANKEY, Colonel, R.E.,
Chief Engineer, P.W.D.

From F. N. THOROWGOOD, Esq., M. Inst. C.E., Superintendent, Madras Harbour Works, to the Chief Engineer, Public Works Department, dated Madras, 30th March 1883, No. 59 W.

I have the honor to return, herewith, the papers which accompanied your memorandum, No. 703 C., of the 29th March, in which you ask for my opinion on the size and weight of stones suitable for building a groyne at Bimlipatam.

2. It appears that the proposed groyne would have to bear the full weight of the surf waves from the south and south-east, and I imagine that these would be very similar to the surf waves at Madras during the south-west monsoon. This being so, there can be no doubt that the lárger the stones are, of which the groyne is made, the better. I am of opinion that no stones of less than 4 cwt. should be employed, and that the greater part (say two-thirds) of the work should be built of stones weighing 7 cwt. each, or, at the very least, so heavy that three will weigh one ton. The size of such stones would be about 6 cubic feet.

3. I do not consider that any packing or building up of small stones would be of any use against breaking waves.

4. The surf bank of the south pier of this Harbour was a fairly successful work similar to the proposed groyne, and for the southern side of this the stones were not less than 7 cwt. each. Many of them were taken from the old Public Works Department groynes near Clive's Battery.

5. I would venture to remark that the groyne will not stand with slopes of 1 to 1, but that the waves must be allowed to determine what slope will suit them on the south side. I should think that 3 or 4 to 1 slope would be about the angle of the south side of the groyne.

6. The cost of large boulders brought from the neighbourhood of Guindy and deposited by coolies in the south surf bank was from Rs. 1-12-0 to Rs. 2-4-0 a ton, according to size of the boulders.

No. 753 C., Public Works.

Communicated to the Superintending Engineer, First Circle for information and guidance with reference to his letter No. 689 V.Z., dated 18th March 1883.

5th April 1883, (Signed) R. H. SANKEY, Colonel, R.E.,
Chief Engineer, P.W.D.

G. T. WALCH, Esq., Officiating Superintending Engineer, First Circle, to the Chief Engineer, Public Works Department, dated Dowlaishweram, 3rd June 1883, No. 101 V.Z. :—

With reference to your memoranda, No. 753 C., dated 5th April 1883, and No. 850 C., dated 16th April 1883, I have the honor to forward, herewith, revised estimate,* abstract and detail, for the Bimlipatam Groyne together with the documents† connected with it, named in the margin.

2. In accordance with your telegram, dated 16th May 1883, the Divisional Officer has been ordered to push on with the work with reference to which he remarks : "The present opening, however, is what generally occurs every year during the south-west monsoon and so there does not appear to be anything very urgent to call for the immediate execution of the work."

* Rs. 5,980.

† 1 Plan "Survey of port of Bimlipatam Harbour" dated 4th February 1883, which accompanied former estimate.
1 Enlarged Sketch.
1 Sheet of (Tracing Linen) "Levels for the Groyne," dated 28th May 1883.
1 Specification Report with revised estimate.
1 Chief Engineer's Memorandum, No. 939 E., dated 24th October 1882, with a plan.
1 Chief Engineer's Memorandum, No 470 C., dated 23rd February 1883.
1 Madras Master Attendant's letter, No. 1969, dated 6th March 1883, to the address of the Chief Engineer, Public Works Department.

No. 1159 C., Public Works.

Forwarded to the Master Attendant for countersignature to the plan and estimate, if approved.

Early return is requested.

(By Order.)

20th June 1883. (Signed) C. BOWEN, Major, R.E.,
Under Secy. to Govt., P.W.D.

From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Administrative Department, to the Secretary to Government, Public Works Department, dated Madras, 26th June 1883, No. 5826.

I have the honor to return the letter from the Superintending Engineer, First Circle, No. 101 V.Z., dated June 3rd, 1883, with revised estimate and plan for the construction of a rough stone groyne at the port of Bimlipatam, at a cost of Rupees (5,980) five thousand nine hundred and eighty, both of which are approved and countersigned by me.

2. With reference to paragraph 2, I would observe that the intention and hope of the groyne are that it will fix the mouth, which, for several years, has been very troublesome in its movements : from this point of view it seems very desirable that expedition should be used, in order to secure the present opening before adverse action sets in.

Order—dated 9th July 1883, No. 1924 W., Public Works.

The plan and estimate, amounting to Rs. 5,980, for constructing a rough-stone groyne in the Port of Bimlipatam, in the Vizagapatam Division, are sanctioned for early execution.

	Rs.
Works	5,980
Establishment	1,375
Tools and Plant	90
Total ...	7,445

2. The Accountant-General will be instructed, in the Financial Department, to place the sum of Rs. 7,445, as per margin, at the disposal of the Public Works Department, from the balance to the credit of Port Funds, for the execution of the work.

3. The Superintending Engineer will furnish the Examiner, Public Works Accounts, with a duplicate of the abstract estimate in proper form.

4. This sanction has been registered as Local No. 19 W. of 1883-84 and classified as Miscellaneous Public Improvement, Original Works.

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineer, First Circle, with six Enclosures.
" Examiner, Public Works Accounts.
" Financial Department.
" Marine do.
" Master Attendant.

Exd. E. Fernandez.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1883} Madras.

PUBLIC WORKS.

Dated July, 9th.

Recd. *Encl.*

G.O., 9th July 1883, No. 1924 W.

JULY.

Rough-stone Groyne at Bimlipatam

Plan and estimate for constructing a —, sanctioned with remarks.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

Read—the following papers:—

From G. T. WALCH, Esq., Officiating Superintending Engineer, I Circle, to the Chief Engineer, Public Works Department, dated Dowlaishweram, 19th December 1883, No. 437 V.Z.

I have the honor to forward, herewith, copy of a letter, No. 1763, dated 10th instant, from Vizagapatam division officer, and its enclosures, and to request orders by telegraph as regards the extension of the Bimlipatam groyne.

2. That groyne was, at the request * of the Master Attendant, Administrative Department, made only 150 feet long, but it appears that he now wishes it made 150 feet longer, and for doing this the estimate † now sent provides.

*See his letter, No. 1969, dated 6th March 1883, printed with Proceedings of Madras Government, No. 1924 W., dated 9th July 1883.
† Rs. 3,890.

Enclosure.

From H. E. CLERK, Esq., Assistant Engineer in charge of Vizagapatam Division, to the Superintending Engineer, I Circle, Dowlaishweram, dated Waltair, 10th December 1883, No. 1763.

As requested by the Master Attendant, Administrative Department, Madras, in his telegram, dated the 19th November 1883, to the Port Officer, Bimlipatam, copy enclosed, I have the honor to submit, herewith, plans and estimates, amounting to Rs. 3,890, for extending the groyne 150 feet seawards.

1 Copy of letter.	1 Abstract estimate.
1 Do. of telegram.	1 Specification.
3 Plans.	1 Calculation sheet.
1 Detailed estimate.	

2. I enclose a copy of letter from the Port Officer, Bimlipatam, requesting that the work be commenced at once, and request you will permit me by wire to go on with the work in anticipation of sanction to the estimate and an allotment of funds.

No. 2620 C., Public Works.

Referred, through the Marine Department, for the early approval and countersignature of the Master Attendant.

(By Order.)

(Signed) C. BOWEN, Major, R.E.,
Under Secy. to Govt., P.W.D.

31st December 1883.

From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Administrative Department, Madras, to the Chief Secretary to Government, dated 10th January 1884, No. 115.

I have the honor to return the plan and estimate for the extension of the groyne at Bimlipatam, amounting to Rupees 3,890, approved and countersigned, together with the other papers forwarded with endorsement dated 7th instant.

No. 89., Marine.

Endorsement on the above.

Transferred to the Public Works Department.

14th January 1884. (Signed) E. F. WEBSTER,
Chief Secretary.

Order—dated 21st January 1884, No. 177 W., Public Works.

The estimate, amounting to Rs. 3,890, for extending the rough stone groyne in the port of Bimlipatam, is sanctioned.

2. The Accountant-General will be instructed, in the Financial Department, to place the sum of Rs. 2,490* at the disposal of the Public Works Department from Port Funds, on account of the work, for expenditure during the current official year.

	Rs.
* For Works	
„ Establishment	2,000
„ Tools and Plant	460
... ...	30
Total ...	2,490

3. This sanction has been registered as Local Excluded No. 51 W. of 1883-84, and classified as Miscellaneous Public Improvement, Original Works.

(True Extract.)

(Signed) J. SHAW-STEWART, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineer, I Circle, with eight enclosures.
„ Examiner, Public Works Accounts, with abstract estimate.
„ Financial Department.
„ Marine Department.

Exd. J. Moses.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1884} Madras.

PUBLIC WORKS.

Dated January, 21st.

Recd. *Encl.*

G.O., 21st Jan. 1884, No. 177 W.

JANUARY.

Stone Groyne in the Port of Bimlipatam

Estimate, amounting to Rs. 3,890, for extending the rough —, sanctioned.

G.O. 1924 W. 9. 7.83
177 W. 21. 1.84.

KEEP WITH Genl. No.

dated 18 .

[Exr. Wks. Form No. 111.]

GOVT. OF MADRAS. } 1884. { P. W. DEPT.

EXAMINER, P. W. ACCOUNTS.

Madras, 7th February - 1884

OFFICE NOTE No. 1158.

To Exrs. —

W.

With reference to G.O. No. 177 W. dated 21st. January 1884, I beg to suggest that the Estimate therein sanctioned for "Extending the rough stone groyne in the Port of Bimlipatam", be sanctioned as supplemental to the construction Estimate sanctioned in G.O. 1934 W. dated 9th. July 1883, as the latter has not yet been completed- and that the Superintending Engineer be informed accordingly.

No. 365 W dated 11th Feby/84

C.

Note From the papers filed in connection with letter from S.E.I. No. 487 W/3 & 19.12.83 (Sp. 177 W of 21.1.84) it appears that the first portion of the groyne was completed. Cr

No. 365 W PUCLIC WORKS DEPARTMENT.

. 22.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 11th February/84

READ the following :—

Office note from the Supdg Engr No 1158 dd 7th Febry 1884

The estimate sanctioned in G.O. No 177 W dd 21st January 1884, for extending the rough stone groyne in the port of Bimlipatam, will be treated as supplemental to the construction estimate sanctioned in G.O. No 1924 W dd 9th July 1883 —

CS. 8-2-84

S.E.I Circle

Supdg Engr

Cr W. 8-2-84

№ 365 W dated 11th February/84

Status in Reign's Register