M.R.O. 1—77,606—8-6-37.

(1) Number of pages 18

(2) Date of repair 10-10-38.

(3) Initials of the Referencer

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

Cons. 20 12 57

G.O. No. 2947 Press / Mis.

143-66

Dated 19-12- 1857.

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department, for the month of December 1859.

No. 143. Read the following letter from Lieutenant-Colonel J. H. BELL, Chief Engineer; to J. D. BOURDILLON, Esq., Secretary to Government, dated 28th November 1859, No. 7708.

2 Original letters with 1 list and 1 sketch plan.
1 Draft letter.
* From District Engineer, dated 8th November 1859, No. 307.
To Do. 14th December. No. 6285.
From do. 27th October 1859, No. 728, with 2 enclosures.

With reference to paragraph 14 of Extract Minutes Consultation, No. 2167, dated 24th November 1857, and paragraph 1 of Extract Minutes Consultation, No. 1068, dated 4th June 1858, I have the honor to forward herewith the correspondence noted in the margin, respecting the prolongation of the head land south of the Calingapatam anchorage in the district of Ganjam.

2. It will be observed that the District Engineer is adverse to the above proposal, and that he is borne out in this opinion by merchants who possess an intimate acquaintance with the port of Calingapatam. In support of his own opinion on the subject, Captain Harington observes that, for the principal traffic months, the sea is as smooth as a lake, that there is seldom any difficulty in communicating with the shipping, and that shipwrecks are unknown in the Calingapatam roadstead.

3. The number of ships that have anchored in the above roadstead from May 1851 to April 1859 is 712, (tonnage 1,59,742), shewing an average of 89 vessels, (tonnage 19,967) per annum.

4. The soundings taken shew a depth close to the shore of 2 fathoms or 4 yards, and at a mile from the shore of 8 fathoms or 16 yards. Captain Harington shews that the estimate for extending the head land a mile and using ship ballast, would consequently be cubic yards 9,50,400, which at 6 annas per cubic yard, would amount to Rupees 3,56,400, exclusive of charges of construction, loss, or displacement of stone and other contingencies. If the ballast is to be got from the land, the District Engineer feels certain that the cost would be at least 1½ Rupees per cubic yard, as the nearest quarry is 5 miles from the shore. Making the most liberal allowances for the quantity of ballast yearly brought, the time it would take to bring the required quantity at 10,000 tons, or 5,000 cubic yards per year is computed at 70 years!

5. The District Engineer strongly recommends that moorings be sanctioned for the Calingapatam port. He remarks that its trade and importance are increasing. In three months, viz. from 1st July to 30th September 1859, there have been 13 English and French vessels, averaging about 460 tons, and a ship of 1,200 tons was at anchor in the Calingapatam roadstead about the middle of last month. The export duty for the above three months has been Rupees 14,420, and as the busiest season of traffic is after December, the District Engineer considers that about half a lac may be realized in the year as export duty at the above port.

6. Under the foregoing explanation, it seems unwise to incur any expenditure in prolonging the head land south of the Calingapatam anchorage. I would suggest, however, that, as proposed by the District Engineer, 2 anchor bridle moorings, similar to those lately sanctioned for the port of Munsúrcotta, should be procured from England as a certain, inexpensive and valuable improvement to the Calingapatam port.

No. 144. ORDER THEREON, 19th December 1859, No. 2947.

Under the circumstances stated in this letter, and that from the District Engineer of Ganjam, the Government agree with the Chief Engineer that it is inexpedient to take any measures for extending the southern head land of Calingapatam.

2. The question of providing mooring buoys will be considered in the Marine Department.

(Signed) J. D. BOURDILLON,
Secretary to Government.

Central Office of P.W.
Cart Court Records
24 November 1859.

No 7601

From

The Chief Engineer

To

The Secretary to Government
Public Works Department

Sir,

Public

No 2643.

With reference to Para 6 of the Proceedings of Government dated 12th November 1859, I have the honor to report that no steps have been taken for recovering the records of the survey of the Carrinja Harbour withheld by Mr. Taylor, as the Government in Proceedings dated 14th May last No 1158, considered such steps inexpedient, nor do I possess any further information on the subject of these Surveys.

I have the honor to be,
Sir,
Your Most Obedt Servant

Dy Chf Engr's Office

J. M. Bell Lieut Colonel
Chief Engineer

Memo:

Prolongation of Head Land south of Calingapatam.
(From the Chief Engr. 28th Nov/57, No 7708).

In para 26 of his (a) report on his tour of the northern districts, Col. T. C. Cotton adverted to the port of Calingapatam, & said that it was the only one between Ganjam and Barma in Orissa, a distance of 400 miles, which had the advantage of a protected roadstead, afforded by a head land south westward of the anchorage, which reduced the swell and diminished the surf during the southerly winds. He suggested that this head-land might be prolonged to give the port better shelter, & appeared to have instructed Major Birdwood to investigate the practicability of the project. In the (b) review of this report, Govt observed that they would be glad to learn the result of the enquiry.

We then received a letter from the (c) Marine Board, in para 7 of which they said that Lieut Blagrave (Dis: Engr of Ganjam) had suggested that repels might be

(a) Dated 21 July/55
in
Letter from Chief Engr, 22 Aug. 1856, No 5986.

(b) Pro: of Govt. 24 Nov/57 No 2167, para 14.

(c) From the Marine Board 16 April/58, No 1644.
in
Pro of Govt (Marine dept, 5th May/58, No 169).

Rec'd 19 Pro Govt Dept. 13/11/58

Read Letter from Chief Engr. 22 Aug. 1856, No 3091.

Read Letter from Marine Board 16 April 1858, No 1644.

Read Letter from Govt. 24 Nov. 1857, No 2167.

Ordered that the Secretary do write to Government, and the Chief Engineer Orissa, requesting to be favored with the opinion of the latter on the practicability of the project suggested by Lieut Blagrave, & the probable cost of it.

Dated 4th Dec. 1858.

Received 25th Dec. 1858.

No 7061

Ordered that the Secretary do write to Government, and the Chief Engineer Orissa, requesting to be favored with the opinion of the latter on the practicability of the project suggested by Lieut Blagrave, & the probable cost of it. Original letter dated 4th Dec. 1858.

Ordered that this letter be filed for reference.

No 2948. 19th Dec. 1858.

permitted to discharge their ballast (in a set line) off the point, but that they have replied to the Chief Engr that it was not advisable to permit this, unless it could be done under the direction of some officer attached to the port, with experience to judge, and power to act. They however added that there can be no doubt, if the point can be artificially extended, a much greater protection would be afforded to the shipping lying in the road stead. Sort on this, (2) called on the Chief Engr to obtain and submit plans & estimates for prolonging the head Land.

Sort Rec: 4 June /59, No 1068.

The Chief Engr now sends in a report from the District Engr, disapproving of the prolongation of the head Land suggested by Col Cotton. Capt Harrington has ascertained from the principal merchants who know the port well, that they do not consider the work necessary, as during the principal months, the bay is as smooth as a lake, while there is seldom any difficulty in communicating with the shipping; neither has there been any shipwrecks.

(2) From Dis: Engr, 27 Oct /59, No 728.

A sketch of the port and anchorage of Calingapatam is put up, shewing

the positions of a large English ship, the "Bury St. Edmunds" of 1200 tons, in water between 7 and 8 fathoms, which is the usual anchorage taken up by the shipping.

From a statement which also accompanies, it appears that for the last 8 years the number of European and Native Craft which anchored in the Calingapatam roadstead has been 712, of a total tonnage of 159,742; or 89 vessels of 19,967 tons per annum; while during the present year, Capt Harrington says there has been more shipping in the roads between July & Oct^r than usual, owing to a brisker trade; & yet but very little difficulty has been experienced in shipping cargoes.

* May 1857 to April /59.

He does not know exactly whether ships come up in ballast or not, or whether it is stone or sand; but he says that the cost of procuring it from them is by no means trifling. The largest masulah boat takes 80 bags, or something under 3 tons: if filled with stone, it could not carry more than 1½ cubic yard, the charge for carrying which will be 6 annas the load for a return trip, or 12 annas for each boat if sent expressly for the stone. Referring to Col. Cotton's memorandum (3) dated 12 Sept

* of grain (164 lbs).

(3) vide Memorandum recorded in Sort Rec: 8 Aug /59, No 1900.

suggesting the use of stones 20 tons in weight each, for groynes for the Vizagapatam harbour, Capt Harrington says that the ballast stone of ships generally weighs not more than 5 lbs each, or less than half a cwt; and he then quotes from the "Civil Engr & Architect's Journal," that the nucleus of a breakwater from the bed to a height of 22 feet might consist of 3d class rubble, or blocks of 1200 lbs, or ½ ton in weight; that from that height to 12 feet under low water, 2d class rubble from ½ ton to 2 tons in weight should be used; and that then, 1st class rubble from 2 to 5 tons in weight should be employed up to low water; that blocks of 9 tons in weight had not sufficient resistance to remain permanent much above the level of low water, unless laid with a low slope; while French Engineers found in constructing a mole at Algeria, that blocks of 22 tons were requisite to withstand the shock of the waves.

112 lbs = 1 cwt.
20 cwt = 1 ton.

He then calculates that to extend the Calingapatam headland one mile into 8 fathoms water, it would take

Yards 1760 × 10 × 54 = 9,50,400 (see diagram in margin)

Width in feet. No. of the cubic yards in the mile. Cubic yards

Section of Groyne.



the slope of the section being 5 to 1; the Cost of publicks, obtaining the ballast from the shipping, would be 3,56,400 Rs @ 6 annas a cubic yard, exclusive of charges of construction, loss by displacement of stones, and other contingencies; but if it became necessary to get the stone from land, the cost would be raised to 1½ R per cubic yard, as the nearest quarry is about 5 miles from the beach. Depending however upon the shipping for the ballast, and making the most liberal allowance for the quantity yearly brought in, Capt Harrington calculates the period which would be occupied in making the mile of headland at 70 years, at 10,000 cubic yards or 5,000 per years.

Taking the above into consideration, and the uncertainty of the set and force of the currents, Capt Harrington strongly recommends that moorings, such as those recently sanctioned by the Secretary of State (8) for Masulipatam, might be written for from England for Calingapatam, which would be a certain, cheap, and valuable improvement to the port. Col Bell supports this recommendation, as he agrees with the District in deprecating

9,50,400 Cubic yards
2,79,53,400
4,75,200
Rs 14,25,600, cost of extending the headland mile by obtaining stone from land at 1½ R per cubic yard.

* This appears like a mistake however. The proper period would be 190 years; for dividing 9,50,400 (the total number of cubic yards required) by 5000 (the quantity obtainable in a year), the quotient is 190.

5000) 9,50,400 (190

Capt H's hon. opponent by dividing the 3,56,400 (the cost of the total quantity of stone required) by 5000.

5000) 356400 (71

(8) See Pro: of Govt. 18 April 57. no 916.

any unnecessary expenditure, or such as would be out of proportion to the good to be effected.

The trade & importance of Ca. linga patam are said to be increasing. Between July & Sept.r 13 English and French vessels, averaging 466 tons each, anchored in the road-stead; while a vessel of 1200 tons anchored there in the middle of October last. The export duty for the 3 months of July, August, & September, is given at 14,420 Rs; but as the busiest trade is after December, the District Engr considers that half a lac may be realized in the year as export duty at Calingapatam.

From Capt Harrington's letter of the 8th Novr 58, which is also sent up, it would appear that he has ascertained from an intelligent & influential European merchant & others, that they do not want more than moorings to improve the port.

H.S.
6/12/58

Memo:
Prolongation of Head
Land at Caliagapatam.

56

Central Office M.E.
Fort St. George
28th November 1859.

No. 7708

Marine

From
The Chief Engineer
To
The Secretary to Government
Public Works Department

Enclosures 5.

Sir,

With reference to Para 14 of Extract Minutes Consultation No. 2164, dated 24th November 1859, and Para. 1 of Extract Minutes Consultation No. 1368, dated 4th June 1858, I have the honor to forward herewith the correspondence noted in the margin, respecting the prolongation of the Head Land South of the Caliagapatam Anchorage in the District of Ganjam.

It will be observed that the District Engineer is adverse to the scheme proposed, and that he is borne out in his opinion by Merchants who profess

An

× From Asst Engr dated 8th Augt 1859 No. 304
To Do dated 2nd Sept 1859 No. 428 with 2 enclosures.

7th December 815

an intimate acquaintance with the Port of Calingapatam. In support of his own opinion on the Subject, Captain Harington observes that, for the principal traffic months, the Sea is as smooth as a Lake, that there is seldom any difficulty in Communicating with the Shipping, and that Shipwrecks are unknown in the Calingapatam Roadstead.

3. The number of Ships that have anchored in the above Roadstead from May 1855 to April 1859 is 912 (Tonnage 659,424) shewing an Average of 89 Vessels (Tonnage 179,69) per Annum.

4. The Soundings taken shew a depth close to the Shore of 5 fathoms or 9 yards, and at 1 mile from the Shore, of 8 fathoms or 16 yards. Captain Harington views that the Estimate for extending the Head Land a mile and making Ship ballast, would consequently be

be Cubic yards 950,400 which at 6 Annas per Cubic yard, would amount to Rupees 356400, exclusive of Charges of Construction, loss, or displacement of Stone and other Contingencies. If the ballast is to be got from the Land, the District Engineer feels certain that the Cost would be at least 12 Rupees per Cubic yard, as the nearest quarry is 5 miles from the Shore. Allowing the most liberal allowance for the quantity of ballast yearly brought, the time it would take to bring the required quantity at 5000 Tons, or 3000 Cubic yards per year is computed at 90 years.

5. The District Engineer strongly recommends that Moorings be sanctioned for the Calingapatam Port. He remarks that its trade and importance are increasing. In three months, viz. from 1st July to 30th September 1859

there

there have been 13 English and French Vessels, averaging about 280 Tons, and a Ship of 1200 Tons was at Anchor in the Calingapatam Roadstead about the middle of last month. The export duty for the above 3 months has been Rupees 4,420, and as the busiest season of Traffic is after December, the District Engineer considers that about half a Lac may be realized in the year as Export duty at the above Port.

6. Under the foregoing Explanation, it seems unwise to incur any expenditure in prolonging the head Land South of the Calingapatam Anchorage. I would suggest, however, that, as proposed by the District Engineer, 2 Anchor bridle moorings, similar to those lately Sanctioned for the Port of Mumeircotta, should be procured from England as a certain, inexpensive and reasonable improvement to the Calingapatam Port.

Central Office of Civil Engineer
Fort St. George
23 November 1859.

I have the honor to be
Sir,
Your Most Obt Servant
W Lee Lieut Colonel
Chief Engineer

To
The Secretary to Government
P. W. D.

Major
Chief Engr

P.W. Cons. 21st Nov 1859 No 107 to 153.
" — 8th Dec 1859 No 138 to 146-47.
" — 21st Dec 1859 No 148 to 156-57.

Treasury 31 Jany 1860.
No 32-33.

P.W. 160 Department
Received 19 Dec 1859.
No 3095.
From
The Chief Engineer
To
The Secretary to Govt
Fort St George

Dated 28 November 1859
Read 29
E-5 No 25-1-60 No 7708

Reporting on the prolongation of the Reed Land South of the Calingapatam Anchorage in the Ganjam District-

No 2947. 19th December
With an Order

No 2947.

Under the circumstances stated in this letter, and that from the District Engineer of Ganjam, the Government fully agree with the Chief Engineer that it is inexpedient to take any measures for extending the Southern Headland of Calingapatam

2 The question of providing mooring buoys will be considered in the Marine Department.

Fort St George
19th Dec 1859
To Chief Engineer Disp Do
" Marine Dept Do

19 Dec 1859