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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 260-61 Press Mis.

521-93

Dated 27 1 1871.

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department, 27th January 1871.

No. 521. Read the following letter from the Officiating Secretary to the Government of India, Public Works Department, to the Secretary to the Government of Madras, Public Works Department, dated Fort William, 14th January 1871, No. 14-B. C.:—

I AM directed to enclose, for your information, copy of a letter of instructions which has been given to Mr. Robertson, the Engineer sent out by the Secretary of State for the purpose of examining the harbours of India, who will arrive in Madras by the steamer which takes this letter.

2. The correspondence which has been previously sent to you and these instructions to Mr. Robertson will place the Government of Madras in possession of the intentions of the Government of India in this matter. It is, therefore, unnecessary to enlarge upon them here further than to remark that the Governor-General in Council will be glad if the Government of Madras will communicate to Mr. Robertson its wishes as to any inquiries it may desire him to undertake.

3. The Government of India anticipates very beneficial results from this visit, which is believed to be in conformity with the views of the Government of Madras, and with the request made by the Madras Chamber of Commerce, as communicated in your docket, No. 1,632, dated 7th July 1870.

4. A copy of any reports which may be made by Mr. Robertson to the Government of India will, of course, be at once sent for the information and consideration of the Government of Madras.

From the Officiating Secretary to the Government of India, Public Works Department, (Buildings and Roads—Miscellaneous,) to C. ROBERTSON, Esq., C.E., Bengal Club, dated Fort William, 14th January 1871, No. 15-B. C.

IN continuation of verbal instructions which have been given to you by order of the Government of India, I am now directed to request that you will proceed to Madras by the steamer which leaves Calcutta on the 17th instant, and, on arrival, will communicate with Colonel Orr, the Secretary to the Government of Madras in the Public Works Department, and ascertain the wishes of that Government as to the manner and order in which the duties for which you have been deputed there by the Government of India shall be carried out.

2. The desire of the Government of India is, that you shall, to the best of your ability, conduct your inquiries in the manner and order desired by the Government of Madras, subject to a substantial regard for the main object of your deputation, which may, in a general way, be defined to be the examination of the more important of the minor ports on the Indian coasts, with a view to the preparation by you of a report as to the extent to which they can be improved by engineering operations. Your opinion on various questions connected with some of the larger ports will also be of assistance to the Governor-General in Council in disposing of questions which have long been under discussion.

3.-The Government of India, in giving you these general directions, desires me to state on its part that it specifically wishes that the port of Cocanada shall be visited by you; and that the backwaters on the west coast south of Calicut shall be examined, with special reference to the possibility of taking advantage of the anchorage at such localities as Allippee and Narrikal, and opening out communications between them and the backwaters.

4. The Government of India also desires to have your opinion on the questions which have arisen respecting the formation of a port at or near Madras by the formation of a breakwater or otherwise.

5. The Government of Madras has already been requested to arrange for the collection of such information as may be necessary to enable you to carry out the object of your visit with as little delay as possible, and will doubtless have all that is at its command readily available.

6. Cocanada will probably be reserved for examination on your return-journey, and in this case, if convenient, the opportunity might be taken of making an examination of the anchorage at False Point.

7. On the completion of the duty thus sketched out, and such other work, as, under these instructions, the Government of Madras may desire you to undertake, the Government of India wishes you to return to Calcutta.

8. The reports of the results of your visits may be prepared either before or after your return to Calcutta as may be most convenient, and should be submitted to the Government of India in this Department, under the immediate control of which you will understand yourself to be employed.

9. A copy of this letter has been sent to the Government of Madras.

No. 522. ORDER THEREON, 27th January 1871, No. 260.

CIVIL WORKS, No. 38.

ORDERED that the following letter be sent:—

(Here enter No. 261, dated 27th January 1871.)

(True Extract.)

Colonel, R.E.,

Secretary to Government.

Exd. F. R. Bantleman.

PUBLIC WORKS DEPARTMENT,
FORT SAINT GEORGE, *27th January* 1871.

No. 523.

No. 261.

To

G. ROBERTSON, ESQ., C.E.

CIVIL WORKS, No. 39.

Mangalore.	Tuticorin.
Cannanore.	Negapatam.
Calicut.	Madras.
Cochin.	Cocanada.
Paumben.	

SIR,—Adverting to the instructions of the Government of India which were communicated to you in Colonel Strachey's letter of the 14th instant, No. 15-B. C., I am directed to state that the ports named in the margin are those to which the Madras Government are desirous that you should turn your attention, and I am to inform you that His Excellency the Governor in Council is of opinion that you should proceed to Beypore on such a date as to catch one of the coasting steamers which touch at that port on the Thursday of each week or on or about the 8th and 22nd of each month, and that, embarking for Mangalore, you should commence your inspection of the ports of the Western Coast by an examination of that harbour. From Mangalore His Excellency the Governor in Council thinks it will be desirable that you should travel down the coast to Cochin and Allippee, inspecting on the way the ports of Cannanore and Calicut, as well as the system of backwaters which the Government of India wish you to examine.

2. After spending as much time as may be necessary on this duty, it is desirable that you should visit Paumben and inspect Tuticorin, taking advantage of a coasting steamer from the latter place to Negapatam, and thence returning to Madras, where further instructions will await you.

3. The papers which will be furnished to you will afford you all the information which is in the possession of Government regarding the physical characteristics, the present state, the supposed capabilities, and the trade of the several ports; and I am only now to add that the measures of improvement which have been from time to time under the consideration of Government, and on which they specially desire your opinion are, the advisability of closing one of the outlets by which the two rivers which, discharging through a lagoon or backwater, form the harbour of Mangalore, and the feasibility of doing this in such a manner as to ensure the tidal action being concentrated so as not only to create and maintain an increased, as well as a constant depth of water through the entrance from the sea, but also to scour out to a sufficient extent the deposits which have accumulated of late years within the harbour itself. Formerly, while there was but one outlet for both rivers nearly opposite the Town of Mangalore, the harbour contained a considerable depth of water, and the passage from it to the sea was correspondingly open. It is to restore this state of things by artificially closing one of the river-mouths now open, and by fixing it in the most suitable position by permanent protective works, that the consideration of Government has been frequently called, and to which His Excellency in Council thinks it necessary prominently to direct your attention.

4. Your inspection of the so-called ports of Cannanore and Calicut is desirable for the satisfaction of trading interests and the public generally, but the Madras Government, I am to say, have little expectation of your being able to devise anything likely to effect any material improvement.

5. At Cochin, where of late years the encroachment of the sea and the occurrence of a large breach through the spit of sand which to the northward separates the backwater forming the harbour from the sea have caused serious fears to be entertained of the safety not only of the harbour but of the Town, the questions which will require your consideration are, the means by which the depth of water on the bar can be increased and kept permanent, the necessity, or otherwise, of closing the Cruz Milagre Gap, and the measures to be adopted to arrest the erosion of the beach both to the north and south of the harbour mouth, and to restore, as far as possible, so much of the foreshore as has been washed away during the last few seasons. The Government will be glad also to have your views as to the most feasible mode of closing the Cruz Milagre Gap, should you consider that step necessary, and as to the advisability of endeavouring, by a revetment of stone, by the projection of groynes, or other means, to maintain the harbour entrance in its present position, and to direct the tidal current on to the bar.

6. It will be satisfactory to Government if you can spare time to visit the works at Paumben, where operations have for many years past been in progress on a limited scale to deepen the passage, and where a depth of about 12 feet has been obtained, but which might, with great advantage to the coasting trade, be increased to, say, 14 feet, if this could be effected without a much larger outlay of money than this Government is likely to be in a position to incur. The approaches to the passage from either side should also engage your attention.

7. The Government are not of opinion that the shallow harbour of Tuticorin is susceptible of any important improvement, but it is desirable that you should satisfy yourself on this point by personal examination.

8. Negapatam, at which you will touch on your voyage to Madras, being the ocean terminus of the Great Southern of India Railway, will demand perhaps a somewhat careful examination, as it is a point of considerable importance to determine how far, by works of not too costly a nature, the harbour may be made accessible at all states of the tide to boats and vessels of light draft. The Superintending Engineer of the 6th Division will be directed to meet you there, and to explain the nature and objects of the works which have been undertaken, and carried out, with but partial success, to effect these objects.

9. Lieutenant-Colonel Farewell, Acting Superintending Engineer of the 7th Division, will be directed to meet you at Beypore, and to accompany you throughout your examinations.

I have the honour to be,
Sir,
Your most obedient servant,

(Signed) CHARLES A. ORR, Colonel, R.E.,
Secretary to Government.

Exd. F. R. Bantleman.

All communications should be addressed to the Secretary.

No. 15 B—C.

GOVERNMENT OF INDIA.

3

PUBLIC WORKS DEPARTMENT.

BUILDINGS AND ROADS.

~~Civil.~~ *Miscellaneous.*

To C. Robertson Esqre C.E.
Bengal Club.

Fort William 14th January 1871.

Sir.

In continuation of verbal instructions which have been given to you by order of the Government of India, I am now directed to request that you will proceed to Madras by the steamer which leaves Calcutta on the 17th instant, and on arrival will communicate with Colonel Orr, the Secretary to the Government of Madras in the Public Works Department, and ascertain the wishes of that Government as to the manner and order in which the duties for which you have been deputed there by the Government of India shall be carried out.

W. Th. C
J. D. S

2. The desire of the Government of India is that you shall to the best of your ability conduct your enquiries in the manner and order desired by the Government of Madras, subject to a substantial regard for the main object of your deputation which

which may, in a general way, be defined to be the examination of the more important of the minor ports on the Indian coasts with a view to the preparation by you of a Report as to the extent to which they can be improved by Engineering operations - your opinion on various questions connected with some of the larger ports will also be of assistance to the Governor General in Council in disposing of questions which have long been under discussion.

3. The Government of India in giving you these general directions, desires me to state on its part that it specifically wishes that the port of Coconada shall be visited by you; and that the backwaters on the west coast South of Calicut shall be examined, with special reference to the possibility of taking advantage of the anchorage at such localities as Alipee and Kairlal and opening out communications between them and the backwaters.

4. The Government of India also desires to have your opinion on the questions which have arisen respecting the formation of a port at or near Madras, the formation of a breakwater or otherwise.

5. The Government of Madras has already been requested to arrange for the collection of such information as may be necessary to enable you

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you to carry out the object of your visit with as little delay as possible and will doubtless have all that is at its command, readily available.

6. Coconada will probably be reserved for examination on your return journey, and in this case if convenient the opportunity might be taken of making an examination of the anchorage at False Point.

7. On the completion of the duty thus sketched out, and such other work as, under these instructions, the Govt. of Madras may desire you to undertake the Govt. of India wishes you to return to Calcutta.

8. The reports of the results of your visits may be prepared either before or after your return to Calcutta, as may be most convenient and should be submitted to the Govt. of India in the Department under the immediate control of which you will understand yourself to be employed.

9. A copy of this letter has been sent to the Government of Madras.

I have the honor to be,
Sir,
Your most Obedt. Servant.
(Sd) R. Strachey - Colr R.E.
Offg Secy: to the Govt of India

Jym G.

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All communications should be addressed to the Secretary.

No. 14 ~~E.~~ B.C.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

~~ESTABLISHMENT.~~

To

Colonel Orr

Secretary to the Government of Madras
Public Works Department.

Fort William 14th January 1871.

Sir

I am directed to enclose for your information copy of a letter of instructions which has been given to Wm Robertson, the Engineer sent out by the Secretary of State for the purpose of examining the Harbors of India, who will arrive in Madras by the Steamer which takes this letter.

2 The correspondence which has been previously sent to you and these instructions to Wm Robertson will place the Government of Madras in possession of the intentions of the Government of India in this matter. It is therefore unnecessary to enlarge upon them here further than to remark that the Governor General in Council will be glad if the Government of Madras will communicate to Wm Roberts

its wishes as to any enquiries it may desire him to undertake.-

3 The Government of India anticipates very beneficial results from this visit which is believed to be in conformity with the views of the Government of Madras and with the request made by Madras Chamber of Commerce as communicated in your docket No 1632 Dated 7th July 1870.-

4 A copy of any reports which may be made by Mr Robertson to the Government of India will, of course, be at once sent for the information and consideration of the Government of Madras.-

I have the honor to be
Sir
Your most obedient Servant

A Rivaz Coll. R.E.
Offg Secretary to the Govt of India

Public Works 1871 Department
Prov: of Govt of Fort St. George
No. 30

From

The Government of India

P. W. D.

Dated 11th January } 1871.
Rec'd 23d " }

Encls: One

No. 11 P. W.

Forwarding, with remarks a copy of the letter of instructions which has been given to Mr. G. Robertson Harbour Engineer.

No. 26 Copy
Public Works Dept
Fort St George
27 January 1871

Read Rep. of Public Works

No. 5-21

C-26-1-71

No. 261. Civil Works

From

G. Robertson Esq. C.E.

Sir,

Adverting to the instructions of the Govt. of India which were communicated to you in Col. Strachey's letter of the 14th instant, No. 1582, I am directed to state that the Ports named in the margin are those to which the Madras Government are desirous that you should turn your attention, and I am to inform you that His Excellency the Governor

Mangalore.
Cannanore.
Calicut
Cochin
Paumben
Tuticorin.
Negapatam
Madras
Cocanada

Wallis C.

afford you all the information which is in the possession of Govt regarding the physical characteristics - the present state - the proposed capabilities - and the trade of the General Port, and I am only now satisfied that the measures of improvement which have been from time to time under the consideration of Govt and on which they especially desire your opinion are, the advisability of closing one of the outlets by which the two rivers which, discharging thro' a lagoon or backwater,

form the harbour of Mangalore, and the feasibility of doing this in such a manner as to ensure the tidal action being concentrated so as not only to create and maintain an increased, as well as a constant depth of water through the entrance from the sea, but also by Govt to as sufficient extent the deposits which have accumulated of late years within the harbour itself. Formerly, while there was but one inlet for both rivers nearly opposite the town of Mangalore, the harbour contained a considerable depth of water,

and the passage from it to the sea was corresponding[ly] open. It is to restore this state of things by artificially closing one of the rivers which now open, and by fixing it in the most suitable position by permanent protective works, that the consideration of York has been frequently called and to which His Excellency in Council thinks it necessary prominently to direct your attention.

Your inspection of the so called Forts Hannamore and Calicut is desirable for the satisfaction

of trading interests and the public generally, but the Madras Govt. I am to say, have little expectation of your being able to devise anything likely to effect any material improvement.

At Cochin, where of late years the encroachment of the sea and the occurrence of a large breach through the spit of land which to the northward separates the backwater forming the harbour from the sea have caused serious fears to be entertained of the safety not only of the harbour but of the Town, the questions which will

require your consideration are the means by which the depth of water on the bar can be increased and kept permanent - the necessity or otherwise of closing the Cruz Bilagre Gap, and the measures to be adopted to arrest the erosion of the beach both to the north and south of the harbours mouth and to restore as far as possible so much of the foreshore as has been washed away during the last few seasons. The Govt will be glad also to have your views as to the most feasible mode of

by the projection of groynes

Closing the Cruz Bilagre Gap, should you consider that step necessary, and as to the advisability of endeavouring by a revetment of stone or other means, to maintain the harbour entrance in its present position and to direct the tidal current on to the bar.

It will be satisfactory to Govt if you can spare time to visit the works at Pacuibeu where operations have for many years past been in progress on a limited scale to deepen the passage, and where a depth of about 12 feet has been obtained,

but which might with great advantage to the Coasting trade be increased to say 14 feet, if this could be effected without a much larger outlay of money than this Port is likely to be in a position to incur. The approaches to the harbour from either side should also engage your attention.

The Port are not of opinion that the shallow harbour of Tuticorin is susceptible of any important improvement, but it is desirable that you should satisfy yourself on this point by personal examination.

Negapatam, at which

you will touch on your voyage to Madras, being the Ocean terminus of the Great Southern of India Railway, will demand perhaps a somewhat careful examination, as it is a point of considerable importance to determine how far, by works of a costly nature, the harbour may be made accessible at all states of the tide to boats and vessels of light draft.

The Superintendent of the 6th Division will be directed to meet you there, and to explain the nature and objects of the works which have been undertaken and carried out with the partial success

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8-2-1913 ✓

In effect these Orders

Lieut Col Farewell

Army Supt Mgr of the 2 Division

will be directed to meet you

at Reyrore and to accom-

pany you throughout

your examinations.

Copy of this letter was sent

to the Supt Mgr of the

6th Dn with reference to ltr 8

13/2/71

C 26-1-71 Dept 27/1/71

Cfp 306.4

Govt. of {1871} Madras.

PUBLIC WORKS.

To

Dated

Rcvd. Encl.

G. O., 27th Sept 1871, No. 2609261.

Further Rcs. dt. 526 9/24 12-2-71.
Do. 535 23
Do. 38 8 Bnds
Nos. 521-522 & 523
Cfp 802 4/11 3-11
1181 " 21 6-11

Wm. G. Roberston, Harbour Engr.

Sir, I am directed to state that a letter from the Govt. of India forwarding with remarks, a copy of the Instructions which have been given to Mr. Roberston

for furnishing with Remarks, Estimates of the Ports & Harbours required the Guidance