No. 2853 Marine 11th Oct/83

B

Communicated
Communicated to officers Concerned
to officers Concerned

W. Cy.
11/10

3.10

Dw. No. 8395

Govt. of {1883} Madras.

MARINE.

S.S.C

Issued

Recd. 28/9/83 *Encl.*

G.O., 12th September 1883, No. 458.

No. 2853 Marine 11th Oct/83

SEPTEMBER.

Gen
Answ
11/10

Dcs
11/10

Sec. Port Circle
S.E. Vizag State Rly.
Consg Engr. for Rly.

Vizagapatam Pier.

Informing the Master Attendant, Madras, that there is no objection to his consulting Engineers in India, in view to plans and estimates being prepared for the erection of the proposed pier at Vizagapatam.

2 Copies Sent to Govt
Letter dep

Entd in Receipt Regr.

2.10
Ltrs 1/9

Ed 5/10

So 12/10

GOVERNMENT OF MADRAS.

MARINE DEPARTMENT.

READ—the following papers:—

From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Madras, to the Private Secretary to His Excellency the Governor, dated Madras, 15th August 1883.

Administrative Department.

I hope I shall not be considered as unnecessarily trespassing upon His Excellency's time in bringing forward again a subject so recently pressed upon his attention, but having received a very interesting letter from Mr. Goodrich on the occasion of his leaving the Northern District, the matter of his communication calls for my special notice. It relates to the inconvenience of the boat traffic in the port of Vizagapatam, in view of the various changes and increases that will be forced upon it, when the proposed railway is brought into operation, and the landing of its materials and heavy machinery is considered in contradistinction to the normal light bag traffic that has been hitherto conducted by masulah boats. Before, however, dealing with the questions he raises, I may remark that Government need be under no alarm about the possibility of the work being carried out in the present unaided state of the port, for all the material and machinery of the Madras Railway was landed under the greater disadvantage offered by the surf at Madras by the simple addition of rafts where boats were insufficient, the Madras Pier not being then in existence. Rafts of course are equally available in Vizagapatam, but as it is now very evident that the system of boats and rafts formerly in use at Madras would be quite incapable of dealing with its present trade, and would have impeded and crippled the development of this trade, it is only wise and prudent to consider carefully and hopefully the immediate future of Vizagapatam. Mr. Goodrich has authorized me to make any use I think fit of his notes, and so I may at once say that he has now adopted the conclusion that it would be foolish and impracticable to attempt to carry out the visionary scheme of digging docks in the pool and swamp and blasting a six-fathom channel into this from the sea; while the first-class harbour alluded to by Mr. Parkes to enclose the whole bay is far in advance of any prospective wants of the town or shipping interest, even if the fearful risk of failure to such a work, with an Indian backwater emptying into it, is left out of the calculation. But Mr. Goodrich proceeds to say that several Engineers have advanced their confident opinions to him that a powerful dredge could cut a trench in the bar of not less than eight feet depth at low water, through which a small steamer could tow a string of lighters of a capacity similar to those in use at Madras, by this means carrying cargo in a safer and more expeditious manner. On this point it has to be observed that at present no Engineer has had an opportunity of witnessing the behaviour of a dredge in rough water, so that their opinions must be purely speculative, and are certainly opposed to all nautical experience, which is that vessels to contend with surf must be very light and high-sided with perfect freedom to watch, and wait, and seize an opportunity whenever offered by the waves, very different conditions from those involved in mooring a large heavy vessel like a dredge with such rigidity as to enable her to work her machinery so as to make one uniform cut. But the technical difficulties would fill a page themselves, and the experiment would be a most costly one. It will probably be sufficient to point out that the trench, if completed,

would not in any degree interrupt or diminish the wave line which approaches from the sea. We can bear witness in Madras how little the harbour walls themselves intercept the surf as long as any opening exists in them. The bar also is constantly moving, and I have known several seasons when there were eight feet over it with a higher surf than now prevails. A cheap and certain remedy is offered by a pier, and Mr. Goodrich, after considering my reply, admits that it would be an excellent thing. He writes that his ideas were strongly colored by noticing that the Surveying Engineer had seized the present landing-place and goods-shed as the necessary terminus of the railway, but no such necessity exists. I am of course not able to anticipate the line they may select for the admission of the rail into the town of Vizagapatam, but unless it comes in from the S.-W., where it must cross the river, or across the swamp, where it would be injuriously affected by every inundation, the probably best course is along the road on the inside of the town, where an excellent site for a terminus is to be found in the present cutcherry or in the block of cheap buildings near it. The site for a pier would be close to the flagstaff, completely outside the bar, and lighters could ply to it as they do in Madras, merely using the backwater as a resort on approaching bad weather when if empty, as they would be, they could readily cross the bar at H.W. A pair of shears like the railway shears at Madras close to the root of the pier would lift locomotives and such weights from rafts. The map I send with this letter is compiled from observations by Mr. Nordman and others, and verified by myself. A glance at it will reveal the shallow nature of all the water outside and inside the bar. The task of clearing this space would be Herculean, and it would always be in course of filling up again from the backwater and river. This communication would be deficient, if I were not in a position to offer some approximate estimate, and I beg to forward one which the kindness of the French Government at Pondicherry has placed in my hands. The pier at Pondicherry is in my opinion a counterpart of what is required at Vizagapatam. The export trade of jaggery, grain, wheat and all present imports are suited to such a construction. I do not anticipate that at Vizagapatam more than the original length of the French pier would be required, the cost of which is £11,595 for a length of 633 feet, and it would place the T head in 13 feet low water. A copy of the Pondicherry letter is here inserted.

COPIE.

No. 78. PONDICHERY, *le* 10 *Mai* 1883.

MONSIEUR LE DIRECTEUR DE L'INTERIEUR,

Conformément à votre apostille sur la lettre de Monsieur le Consul Britannique, j'ai l'honneur de vous addresser les renseignements relatifs au Pont débarcadère de Pondichéry demandé par Monsieur le Capitaine de port de Madras.

	m.
Longueur primitive du pier construit en 1864 et 1865	192—00
Original length of pier constructed in 1864-1865	633 ft.
Longueur de l'allongement en 1880 et 1881	68—00
Length of extension in 1880—1881	224 ft.
Largeur du tablier (appendices compris)	12—50
Width of planking recesses included.	
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Width of planking recesses excluded.	
Profondeur de l'eau (à la tête du pier)	7—10
Depth of water at head of pier.	
Longueur des pieux dans la terre	4—50
Insertion of piles in the bottom.	
Hauteur du tablier du pier au-dessus de la mer	4—00
Height of platform of pier above the sea.	
Diamètre des pieux en fer plein	0—13
Diameter of piles in iron throughout solid.	
Distance d'un pieu à l'autre, en longueur et en largeur	4—00
Distance of one pile from another in length and breadth.	
Deux lignes de voies ferrées d'une largeur de	1—12
Two lines of railroad of the guage of	
séparées par une distance de	1—50
separated by a distance of	

COUT DU PIER.

Cost of Pier.

	F.	*C.*
1ère partie de 192 mètres de longueur	289,875—	33
First portion of 633 *feet*	£ 11,595	

MONSIEUR CELORON DE BLAINVILLE,
Directeur de l'Intérieur,
Pondichéry.

2me partie de 68 mètres de longueur	166,348—	2?
2nd portion of 224 *feet in length*	£ 6,654	
Deux grues fixés de la force de 2½ tonnes sont fixés sur la plate-		
Two cranes fixed of a capacity of 2½ *tons are fixed on the plat-*		
forme de la tête du pier.		
form at the head of the pier.		
Leur prix total est de	18,000—	00
Their entire price is	£ 720	
Une grue roulante de la force d'une tonne a coûté	4,500—	00
One moveable crane of capacity of one ton cost	£ 180	
Total ..	F. 478,723—	56
Total ..	£ 19,149	

La longueur des fiches des pieux dans le sol a été calculée à 4m. 50, mais les mouvements de sable font varier cette dimension en plus ou en moins. Le ras de marée de Novembre 1881 a creusé le fond de la mer, près de la tête du pier, d'une manière inusitée et inquiétante, car depuis cette époque les pieux extrêmes de la plateforme de la tête du pier sont plus que 3 mètres de fiche.

Pour copie conforme—Le Secrétaire General, pi.

J'ajouterai en terminant que pendant le mauvais temps, ce pont débarcadère n'a subi aucune dégradation dans sa structure en fer, ni dans son tablier en bois de teck.

L'Ingénieur Colonial,
Chef du service des ponts et chaussées,
(Signé) E. JUMCAN.

The beach surf at the port of Vizagapatam is insignificant. A terminus for passengers would be offered at a commodious position in the town and another at the northern extremity would provide for all passenger traffic. Vizagapatam is a straggling town in entirely a northerly direction.

It will be at once apparent that, supposing the terminus to be placed about as suggested in this letter, the expense and difficulty of rounding Ross Hill would be avoided and the pier and its approaches be a cheap substitute. A pier, such as described, would last a sufficient time to allow the future prospect of the trade to develop, and the question of a harbour could then be entertained. It will, in my judgment, be wiser not to clog the first railway enterprise with costly and doubtful harbour expenses, and not to confuse it with imaginary advantages that in all probability it will never be called upon to supply. I allude here to a suggestion thrown out by Mr. Goodrich, doubtless from remarks freely offered on the subject, to the effect that Vizagapatam will occupy a leading position between Europe and Bombay and Rangoon, China, Japan, &c. This argument was at the base of that which led to the selection of Beypore as a terminus for the Madras South-West line. Beypore is really in the direct line, and a saving of many days to Calcutta itself was offered before the railway was constructed, but Beypore has never received any attention; the expense and attendant disadvantages of transhipping cargo and passengers have destroyed the promised benefit.

Moreover, setting the railway aside, the expense of construction of a pier for present use could be met by a small toll on goods, such as is proposed at Cocanada and such as I hope to see accepted at Gopálpur. I would here draw attention to the concluding paragraph of the letter from Pondicherry, where it is mentioned that the pier at that port has never suffered any injury since its construction, and in conclusion I would beg His Excellency's attention to the two areas in black ink (XXIV and XXII).

They represent the pot-holes always exhibited at the mouth of such rivers in our Presidency as remain open throughout the year, the largest examples of which are at Cochin and Mangalore, but they are materially affected by any important changes in the direction of the river, and have no claim to be considered as the safe positions of harbours; that at Mangalore has now changed two miles from its former site, and that at Cochin would obey the common law of nature in those parts, if another opening to the sea was from any cause effected in its vicinity.

The protracted black-dotted lines are the approximate positions of the groynes contemplated by Mr. Addis, and the rough-stone colored groyne is suggested by me as a means of turning the ebb entirely on the bar and checking the escape of the large portion of it that is diverted along shore.

No. 303 E.

Referred to the Superintending Engineer, First Circle, who will, as soon as possible, have the requisite investigations made to ascertain whether laterite rock is met with at any depth less than 20 inches below the surface of the sand along the line of the proposed pier. If an outcrop be found in this precise position, the ground should be tested to some distance up and down the foreshore in the immediate vicinity.

2. The papers, including plan, are sent to the Superintending Engineer in original to save time. They should be returned, with the report now called for, as early as practicable.

OOTACAMUND, 23*rd August* 1883. (Signed) R. H. SANKEY, Major-General, R.E., *Secretary to Govt., P.W.D.*

To the Superintending Engineer, First Circle.

No. 304 E.

Copy of the above forwarded to the Master Attendant (Administrative Department), Madras, for information, and with remark that the Government approve generally of the scheme for the proposed pier with a ⊤ head at Vizagapatam in the position indicated. It is understood that the site selected for the Railway Station will conform sufficiently to this.

2. The plan will, on return by the Superintending Engineer, be sent back to the Master Attendant, after a copy has been taken for the Chief Engineer's Office.

3. It is requested that an additional copy of the printed letter may be supplied for reference.

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To the Master Attendant, Administrative Department, Madras.

From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Madras, to the Secretary to Government, Public Works Department, dated Madras, 31st August 1883, No. 8474.

Administrative Department.

With reference to your No. 304 E, dated 23rd August 1883, I have the honor to request you will be pleased to inform me if I may communicate with Engineers in India, in view to plans and estimates being prepared for the erection of the proposed pier at Vizagapatam through local agency.

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Transferred for disposal to the Marine Department, with copies of Nos. 303 E and 304 E, dated 23rd August 1883, and with expression of opinion that if plans and estimates are prepared for the proposed pier at Vizagapatam, they should be referred for consideration to the Public Works Department.

OOTACAMUND, 6*th September* 1883. (Signed) J. SHAW-STEWART, Colonel, R.E., *Joint Secretary to Govt., P.W.D.*

To the Marine Department, with copies of papers.

ORDER—dated 12th September 1883, No. 458, Marine.

There is no objection to Captain Taylor's consulting Engineers as proposed.

2. Any plans and estimates should be submitted to Government in the Marine Department.

3. The Public Works Department will be consulted in regard to the plans and estimates when prepared.

(True Extract.)

E. F. WEBSTER,
Acting Chief Secretary.

To the Master Attendant, Madras.
„ Public Works Department.

Exd. J. Henricus.

No. 2853 W. of 11th Octr. 1883

Communicated to officers concerned.

(Sgd.) J. L. S.

Govt. of {1883} Madras.

MARINE.

Issued

Recd. *Encl.*

G.O., 12th September 1883, No. 458.

G. 8625 53 W. of 11-10-83.

SEPTEMBER.

S.E. First Circle
" Vizag. State Ry.
Consg. Engr. for Hyd.

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(True Extract.)

Acting Chief Secretary.

To the Master Attendant, Madras.
„ Public Works Department.

Exd. J. Henricus.

No 2853 Wdy 11th October/83

Communicated to officers concerned.

(Sgd) [illegible]

Govt. of {1883} Madras.

MARINE.

Issued

Recd. *Encl.*

G.O., 12th September 1883, No. 458.

No 2853 Wdy 11th October/83

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S. E. I Circle

S. E. Vizag: State Rys.

Consg: Engr: for Rys:

With Order

GOVERNMENT OF MADRAS.

MARINE DEPARTMENT.

READ—the following papers:—

From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Madras, to the Private Secretary to His Excellency the Governor, dated Madras, 15th August 1883.

Administrative Department.

I hope I shall not be considered as unnecessarily trespassing upon His Excellency's time in bringing forward again a subject so recently pressed upon his attention, but having received a very interesting letter from Mr. Goodrich on the occasion of his leaving the Northern District, the matter of his communication calls for my special notice. It relates to the inconvenience of the boat traffic in the port of Vizagapatam, in view of the various changes and increases that will be forced upon it, when the proposed railway is brought into operation, and the landing of its materials and heavy machinery is considered in contradistinction to the normal light bag traffic that has been hitherto conducted by masulah boats. Before, however, dealing with the questions he raises, I may remark that Government need be under no alarm about the possibility of the work being carried out in the present unaided state of the port, for all the material and machinery of the Madras Railway was landed under the greater disadvantage offered by the surf at Madras by the simple addition of rafts where boats were insufficient, the Madras Pier not being then in existence. Rafts of course are equally available in Vizagapatam, but as it is now very evident that the system of boats and rafts formerly in use at Madras would be quite incapable of dealing with its present trade, and would have impeded and crippled the development of this trade, it is only wise and prudent to consider carefully and hopefully the immediate future of Vizagapatam. Mr. Goodrich has authorized me to make any use I think fit of his notes, and so I may at once say that he has now adopted the conclusion that it would be foolish and impracticable to attempt to carry out the visionary scheme of digging docks in the pool and swamp and blasting a six-fathom channel into this from the sea; while the first-class harbour alluded to by Mr. Parkes to enclose the whole bay is far in advance of any prospective wants of the town or shipping interest, even if the fearful risk of failure to such a work, with an Indian backwater emptying into it, is left out of the calculation. But Mr. Goodrich proceeds to say that several Engineers have advanced their confident opinions to him that a powerful dredge could cut a trench in the bar of not less than eight feet depth at low water, through which a small steamer could tow a string of lighters of a capacity similar to those in use at Madras, by this means carrying cargo in a safer and more expeditious manner. On this point it has to be observed that at present no Engineer has had an opportunity of witnessing the behaviour of a dredge in rough water, so that their opinions must be purely speculative, and are certainly opposed to all nautical experience, which is that vessels to contend with surf must be very light and high-sided with perfect freedom to watch, and wait, and seize an opportunity whenever offered by the waves, very different conditions from those involved in mooring a large heavy vessel like a dredge with such rigidity as to enable her to work her machinery so as to make one uniform cut. But the technical difficulties would fill a page themselves, and the experiment would be a most costly one. It will probably be sufficient to point out that the trench, if completed,

would not in any degree interrupt or diminish the wave line which approaches from the sea. We can bear witness in Madras how little the harbour walls themselves intercept the surf as long as any opening exists in them. The bar also is constantly moving, and I have known several seasons when there were eight feet over it with a higher surf than now prevails. A cheap and certain remedy is offered by a pier, and Mr. Goodrich, after considering my reply, admits that it would be an excellent thing. He writes that his ideas were strongly colored by noticing that the Surveying Engineer had seized the present landing-place and goods-shed as the necessary terminus of the railway, but no such necessity exists. I am of course not able to anticipate the line they may select for the admission of the rail into the town of Vizagapatam, but unless it comes in from the S.-W., where it must cross the river, or across the swamp, where it would be injuriously affected by every inundation, the probably best course is along the road on the inside of the town, where an excellent site for a terminus is to be found in the present cutcherry or in the block of cheap buildings near it. The site for a pier would be close to the flagstaff, completely outside the bar, and lighters could ply to it as they do in Madras, merely using the backwater as a resort on approaching bad weather when if empty, as they would be, they could readily cross the bar at H.W. A pair of shears like the railway shears at Madras close to the root of the pier would lift locomotives and such weights from rafts. The map I send with this letter is compiled from observations by Mr. Nordman and others, and verified by myself. A glance at it will reveal the shallow nature of all the water outside and inside the bar. The task of clearing this space would be Herculean, and it would always be in course of filling up again from the backwater and river. This communication would be deficient, if I were not in a position to offer some approximate estimate, and I beg to forward one which the kindness of the French Government at Pondicherry has placed in my hands. The pier at Pondicherry is in my opinion a counterpart of what is required at Vizagapatam. The export trade of jaggery, grain, wheat and all present imports are suited to such a construction. I do not anticipate that at Vizagapatam more than the original length of the French pier would be required, the cost of which is £11,595 for a length of 633 feet, and it would place the ⊤ head in 13 feet low water. A copy of the Pondicherry letter is here inserted.

Copie.

No. 78.

Pondichery, *le* 10 *Mai* 1883.

Monsieur le Directeur de l'Interieur,

Conformément à votre apostille sur la lettre de Monsieur le Consul Britannique, j'ai l'honneur de vous addresser les renseignements relatifs au Pont débarcadère de Pondichéry demandé par Monsieur le Capitaine de port de Madras.

	m.
Longueur primitive du pier construit en 1864 et 1865	192—00
Original length of pier constructed in 1864-1865	633 ft.
Longueur de l'allongement en 1880 et 1881	68—00
Length of extension in 1880—1881	224 ft.
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Width of planking recesses included.	
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Profondeur de l'eau (à la tête du pier)	7—10
Depth of water at head of pier.	
Longueur des pieux dans la terre	4—50
Insertion of piles in the bottom.	
Hauteur du tablier du pier au-dessus de la mer	4—00
Height of platform of pier above the sea.	
Diamètre des pieux en fer plein	0—13
Diameter of piles in iron throughout solid.	
Distance d'un pieu à l'autre, en longueur et en largeur	4—00
Distance of one pile from another in length and breadth.	
Deux lignes de voies ferrées d'une largeur de	1—12
Two lines of railroad of the guage of	
séparées par une distance de	1—50
separated by a distance of	

COUT DU PIER.

Cost of Pier.

	F. *C.*
1ère partie de 192 mètres de longueur	289,875—33
First portion of 633 *feet*..	£ 11,595

Monsieur CELORON de BLAINVILLE,

Directeur de l'Intérieur,
Pondichéry.

2me partie de 68 mètres de longueur	166,348—23
2nd portion of 224 *feet in length*	£ 6,654
Deux grues fixés de la force de 2½ tonnes sont fixés sur la plate-	
Two cranes fixed of a capacity of 2½ *tons are fixed on the plat-*	
forme de la tête du pier.	
form at the head of the pier.	
Leur prix total est de	18,000—00
Their entire price is	£ 720
Une grue roulante de la force d'une tonne a coûté	4,500—00
One moveable crane of capacity of one ton cost	£ 180
Total ..	F. 478,723—56
Total ..	£ 19,149

La longueur des fiches des pieux dans le sol a été calculée à 4m. 50, mais les mouvements de sable font varier cette dimension en plus ou en moins. Le ras de marée de Novembre 1881 a creusé le fond de la mer, près de la tête du pier, d'une manière inusitée et inquiétante, car depuis cette époque les pieux extrêmes de la plateforme de la tête du pier sont plus que 3 mètres de fiche.

Pour copie conforme—Le Secrétaire General, pi.

J'ajouterai en terminant que pendant le mauvais temps, ce pont débarcadère n'a subi aucune dégradation dans sa structure en fer, ni dans son tablier en bois de teck.

L'Ingénieur Colonial,
Chef du service des ponts et chaussées,
(Signé) E. JUMCAN.

The beach surf at the port of Vizagapatam is insignificant. A terminus for passengers would be offered at a commodious position in the town and another at the northern extremity would provide for all passenger traffic. Vizagapatam is a straggling town in entirely a northerly direction.

It will be at once apparent that, supposing the terminus to be placed about as suggested in this letter, the expense and difficulty of rounding Ross Hill would be avoided and the pier and its approaches be a cheap substitute. A pier, such as described, would last a sufficient time to allow the future prospect of the trade to develop, and the question of a harbour could then be entertained. It will, in my judgment, be wiser not to clog the first railway enterprise with costly and doubtful harbour expenses, and not to confuse it with imaginary advantages that in all probability it will never be called upon to supply. I allude here to a suggestion thrown out by Mr. Goodrich, doubtless from remarks freely offered on the subject, to the effect that Vizagapatam will occupy a leading position between Europe and Bombay and Rangoon, China, Japan, &c. This argument was at the base of that which led to the selection of Beypore as a terminus for the Madras South-West line. Beypore is really in the direct line, and a saving of many days to Calcutta itself was offered before the railway was constructed, but Beypore has never received any attention; the expense and attendant disadvantages of transhipping cargo and passengers have destroyed the promised benefit.

Moreover, setting the railway aside, the expense of construction of a pier for present use could be met by a small toll on goods, such as is proposed at Cocanada and such as I hope to see accepted at Gopálpur. I would here draw attention to the concluding paragraph of the letter from Pondicherry, where it is mentioned that the pier at that port has never suffered any injury since its construction, and in conclusion I would beg His Excellency's attention to the two areas in black ink (XXIV and XXII).

They represent the pot-holes always exhibited at the mouth of such rivers in our Presidency as remain open throughout the year, the largest examples of which are at Cochin and Mangalore, but they are materially affected by any important changes in the direction of the river, and have no claim to be considered as the safe positions of harbours; that at Mangalore has now changed two miles from its former site, and that at Cochin would obey the common law of nature in those parts, if another opening to the sea was from any cause effected in its vicinity.

The protracted black-dotted lines are the approximate positions of the groynes contemplated by Mr. Addis, and the rough-stone colored groyne is suggested by me as a means of turning the ebb entirely on the bar and checking the escape of the large portion of it that is diverted along shore.

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Referred to the Superintending Engineer, First Circle, who will, as soon as possible, have the requisite investigations made to ascertain whether laterite rock is met with at any depth less than 20 inches below the surface of the sand along the line of the proposed pier. If an outcrop be found in this precise position, the ground should be tested to some distance up and down the foreshore in the immediate vicinity.

2. The papers, including plan, are sent to the Superintending Engineer in original to save time. They should be returned, with the report now called for, as early as practicable.

OOTACAMUND, *23rd August* 1883. (Signed) R. H. SANKEY, Major-General, R.E., *Secretary to Govt., P.W.D.*

To the Superintending Engineer, First Circle.

No. 304 E.

Copy of the above forwarded to the Master Attendant (Administrative Department), Madras, for information, and with remark that the Government approve generally of the scheme for the proposed pier with a T head at Vizagapatam in the position indicated. It is understood that the site selected for the Railway Station will conform sufficiently to this.

2. The plan will, on return by the Superintending Engineer, be sent back to the Master Attendant, after a copy has been taken for the Chief Engineer's Office.

3. It is requested that an additional copy of the printed letter may be supplied for reference.

OOTACAMUND, *23rd August* 1883. (Signed) R. H. SANKEY, Major-General, R.E., *Secretary to Govt., P.W.D.*

To the Master Attendant, Administrative Department, Madras.

From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Madras, to the Secretary to Government, Public Works Department, dated Madras, 31st August 1883, No. 8474.

Administrative Department.

With reference to your No. 304 E, dated 23rd August 1883, I have the honor to request you will be pleased to inform me if I may communicate with Engineers in India, in view to plans and estimates being prepared for the erection of the proposed pier at Vizagapatam through local agency.

No. 337 E.

Transferred for disposal to the Marine Department, with copies of Nos. 303 E and 304 E, dated 23rd August 1883, and with expression of opinion that if plans and estimates are prepared for the proposed pier at Vizagapatam, they should be referred for consideration to the Public Works Department.

OOTACAMUND, *6th September* 1883. (Signed) J. SHAW-STEWART, Colonel, R.E., *Joint Secretary to Govt., P.W.D.*

To the Marine Department, with copies of papers.

ORDER—dated 12th September 1883, No. 458, Marine.

There is no objection to Captain Taylor's consulting Engineers as proposed.

2. Any plans and estimates should be submitted to Government in the Marine Department.

3. The Public Works Department will be consulted in regard to the plans and estimates when prepared.

(True Extract.)

Acting Chief Secretary.

To the Master Attendant, Madras.
„ Public Works Department.

Exd. J. Henrious.

No. 2853 W a/ 11th Octr 1883

Communicated to officers concerned.

(Sigd) J. L. S.

Govt. of {1883} Madras.

MARINE.

Issued

Recd. *Encl.*

G.O., 12th September 1883, No. 458.

SEPTEMBER.

S.E.I Circle
" Vizag: State Ry:
Con: Engr for Rep.

Vizagapatam Pier.

Informing the Master Attendant, Madras, that there is no objection to his consulting Engineers in India, in view to plans and estimates being prepared for the erection of the proposed pier at Vizagapatam.

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GOVERNMENT OF MADRAS.

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Their entire price is .. .. £	720	
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2. The papers, including plan, are sent to the Superintending Engineer in original to save time. They should be returned, with the report now called for, as early as practicable.

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From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Madras, to the Secretary to Government, Public Works Department, dated Madras, 31st August 1883, No. 8474.

Administrative Department.

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To the Marine Department, with copies of papers.

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There is no objection to Captain Taylor's consulting Engineers as proposed.

2. Any plans and estimates should be submitted to Government in the Marine Department.

3. The Public Works Department will be consulted in regard to the plans and estimates when prepared.

(True Extract.)

E. F. WEBSTER,
Acting Chief Secretary.

To the Master Attendant, Madras.
„ Public Works Department.

Exd. J. Henricus.

N. 2853 M. dy 11th Octr/83

Communicated
to Offrs Concerned

1/Sgt/ CS

Govt. of {1883} Madras.

MARINE.

Issued

Recd. *Encl.*

G.O., 12th September 1883, No. 458.

N. 2853 M dy 11th Octr/83

SEPTEMBER.

Vizagapatam Pier.

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To The Supg. Engr. First circle
" " Vizagapatam
State Ry.
" Consulting Engr. for Rys.

With order

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From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Madras, to the Private Secretary to His Excellency the Governor, dated Madras, 15th August 1883.

Administrative Department.

I hope I shall not be considered as unnecessarily trespassing upon His Excellency's time in bringing forward again a subject so recently pressed upon his attention, but having received a very interesting letter from Mr. Goodrich on the occasion of his leaving the Northern District, the matter of his communication calls for my special notice. It relates to the inconvenience of the boat traffic in the port of Vizagapatam, in view of the various changes and increases that will be forced upon it, when the proposed railway is brought into operation, and the landing of its materials and heavy machinery is considered in contradistinction to the normal light bag traffic that has been hitherto conducted by masulah boats. Before, however, dealing with the questions he raises, I may remark that Government need be under no alarm about the possibility of the work being carried out in the present unaided state of the port, for all the material and machinery of the Madras Railway was landed under the greater disadvantage offered by the surf at Madras by the simple addition of rafts where boats were insufficient, the Madras Pier not being then in existence. Rafts of course are equally available in Vizagapatam, but as it is now very evident that the system of boats and rafts formerly in use at Madras would be quite incapable of dealing with its present trade, and would have impeded and crippled the development of this trade, it is only wise and prudent to consider carefully and hopefully the immediate future of Vizagapatam. Mr. Goodrich has authorized me to make any use I think fit of his notes, and so I may at once say that he has now adopted the conclusion that it would be foolish and impracticable to attempt to carry out the visionary scheme of digging docks in the pool and swamp and blasting a six-fathom channel into this from the sea; while the first-class harbour alluded to by Mr. Parkes to enclose the whole bay is far in advance of any prospective wants of the town or shipping interest, even if the fearful risk of failure to such a work, with an Indian backwater emptying into it, is left out of the calculation. But Mr. Goodrich proceeds to say that several Engineers have advanced their confident opinions to him that a powerful dredge could cut a trench in the bar of not less than eight feet depth at low water, through which a small steamer could tow a string of lighters of a capacity similar to those in use at Madras, by this means carrying cargo in a safer and more expeditious manner. On this point it has to be observed that at present no Engineer has had an opportunity of witnessing the behaviour of a dredge in rough water, so that their opinions must be purely speculative, and are certainly opposed to all nautical experience, which is that vessels to contend with surf must be very light and high-sided with perfect freedom to watch, and wait, and seize an opportunity whenever offered by the waves, very different conditions from those involved in mooring a large heavy vessel like a dredge with such rigidity as to enable her to work her machinery so as to make one uniform cut. But the technical difficulties would fill a page themselves, and the experiment would be a most costly one. It will probably be sufficient to point out that the trench, if completed,

would not in any degree interrupt or diminish the wave line which approaches from the sea. We can bear witness in Madras how little the harbour walls themselves intercept the surf as long as any opening exists in them. The bar also is constantly moving, and I have known several seasons when there were eight feet over it with a higher surf than now prevails. A cheap and certain remedy is offered by a pier, and Mr. Goodrich, after considering my reply, admits that it would be an excellent thing. He writes that his ideas were strongly colored by noticing that the Surveying Engineer had seized the present landing-place and goods-shed as the necessary terminus of the railway, but no such necessity exists. I am of course not able to anticipate the line they may select for the admission of the rail into the town of Vizagapatam, but unless it comes in from the S.-W., where it must cross the river, or across the swamp, where it would be injuriously affected by every inundation, the probably best course is along the road on the inside of the town, where an excellent site for a terminus is to be found in the present cutcherry or in the block of cheap buildings near it. The site for a pier would be close to the flagstaff, completely outside the bar, and lighters could ply to it as they do in Madras, merely using the backwater as a resort on approaching bad weather when if empty, as they would be, they could readily cross the bar at H.W. A pair of shears like the railway shears at Madras close to the root of the pier would lift locomotives and such weights from rafts. The map I send with this letter is compiled from observations by Mr. Nordman and others, and verified by myself. A glance at it will reveal the shallow nature of all the water outside and inside the bar. The task of clearing this space would be Herculean, and it would always be in course of filling up again from the backwater and river. This communication would be deficient, if I were not in a position to offer some approximate estimate, and I beg to forward one which the kindness of the French Government at Pondicherry has placed in my hands. The pier at Pondicherry is in my opinion a counterpart of what is required at Vizagapatam. The export trade of jaggery, grain, wheat and all present imports are suited to such a construction. I do not anticipate that at Vizagapatam more than the original length of the French pier would be required, the cost of which is £11,595 for a length of 633 feet, and it would place the T head in 13 feet low water. A copy of the Pondicherry letter is here inserted.

Copie.

No. 78. Pondichery, *le* 10 *Mai* 1883.

Monsieur le Directeur de l'Interieur,

Conformément à votre apostille sur la lettre de Monsieur le Consul Britannique, j'ai l'honneur de vous addresser les renseignements relatifs au Pont débarcadère de Pondichéry demandé par Monsieur le Capitaine de port de Madras.

	m.
Longueur primitive du pier construit en 1864 et 1865	192—00
Original length of pier constructed in 1864-1865	633 ft.
Longueur de l'allongement en 1880 et 1881	68—00
Length of extension in 1880—1881	224 ft.
Largeur du tablier (appendices compris)	12—50
Width of planking recesses included.	
Largeur du tablier (appendices non compris)	5—50
Width of planking recesses excluded.	
Profondeur de l'eau (à la tête du pier)	7—10
Depth of water at head of pier.	
Longueur des pieux dans la terre	4—50
Insertion of piles in the bottom.	
Hauteur du tablier du pier au-dessus de la mer	4—00
Height of platform of pier above the sea.	
Diamètre des pieux en fer plein	0—13
Diameter of piles in iron throughout solid.	
Distance d'un pieu à l'autre, en longueur et en largeur	4—00
Distance of one pile from another in length and breadth.	
Deux lignes de voies ferrées d'une largeur de	1—12
Two lines of railroad of the guage of	
séparées par une distance de	1—50
separated by a distance of	

COUT DU PIER.

Cost of Pier.

	F. *C.*
1ère partie de 192 mètres de longueur	289,875—33
First portion of 633 *feet*	£ 11,595

Monsieur CELORON de BLAINVILLE,
Directeur de l'Intérieur,
Pondichéry.

2me partie de 68 mètres de longueur	166,348—23
2nd portion of 224 *feet in length*	£ 6,654
Deux grues fixés de la force de 2½ tonnes sont fixés sur la plate-	
Two cranes fixed of a capacity of 2½ *tons are fixed on the plat-*	
forme de la tête du pier.	
form at the head of the pier.	
Leur prix total est de	18,000—00
Their entire price is	£ 720
Une grue roulante de la force d'une tonne a coûté	4,500—00
One moveable crane of capacity of one ton cost	£ 180
Total ..	F. 478,723—56
Total ..	£ 19,149

La longueur des fiches des pieux dans le sol a été calculée à 4m. 50, mais les mouvements de sable font varier cette dimension en plus ou en moins. Le ras de marée de Novembre 1881 a creusé le fond de la mer, près de la tête du pier, d'une manière inusitée et inquiétante, car depuis cette époque les pieux extrêmes de la plateforme de la tête du pier sont plus que 3 mètres de fiche.

Pour copie conforme—Le Secrétaire General, pi.

J'ajouterai en terminant que pendant le mauvais temps, ce pont débarcadère n'a subi aucune dégradation dans sa structure en fer, ni dans son tablier en bois de teck.

L'Ingénieur Colonial,
Chef du service des ponts et chaussées,
(Signé) E. JUMCAN.

The beach surf at the port of Vizagapatam is insignificant. A terminus for passengers would be offered at a commodious position in the town and another at the northern extremity would provide for all passenger traffic. Vizagapatam is a straggling town in entirely a northerly direction.

It will be at once apparent that, supposing the terminus to be placed about as suggested in this letter, the expense and difficulty of rounding Ross Hill would be avoided and the pier and its approaches be a cheap substitute. A pier, such as described, would last a sufficient time to allow the future prospect of the trade to develop, and the question of a harbour could then be entertained. It will, in my judgment, be wiser not to clog the first railway enterprise with costly and doubtful harbour expenses, and not to confuse it with imaginary advantages that in all probability it will never be called upon to supply. I allude here to a suggestion thrown out by Mr. Goodrich, doubtless from remarks freely offered on the subject, to the effect that Vizagapatam will occupy a leading position between Europe and Bombay and Rangoon, China, Japan, &c. This argument was at the base of that which led to the selection of Beypore as a terminus for the Madras South-West line. Beypore is really in the direct line, and a saving of many days to Calcutta itself was offered before the railway was constructed, but Beypore has never received any attention; the expense and attendant disadvantages of transhipping cargo and passengers have destroyed the promised benefit.

Moreover, setting the railway aside, the expense of construction of a pier for present use could be met by a small toll on goods, such as is proposed at Cocanada and such as I hope to see accepted at Gopálpur. I would here draw attention to the concluding paragraph of the letter from Pondicherry, where it is mentioned that the pier at that port has never suffered any injury since its construction, and in conclusion I would beg His Excellency's attention to the two areas in black ink (XXIV and XXII).

They represent the pot-holes always exhibited at the mouth of such rivers in our Presidency as remain open throughout the year, the largest examples of which are at Cochin and Mangalore, but they are materially affected by any important changes in the direction of the river, and have no claim to be considered as the safe positions of harbours; that at Mangalore has now changed two miles from its former site, and that at Cochin would obey the common law of nature in those parts, if another opening to the sea was from any cause effected in its vicinity.

The protracted black-dotted lines are the approximate positions of the groynes contemplated by Mr. Addis, and the rough-stone colored groyne is suggested by me as a means of turning the ebb entirely on the bar and checking the escape of the large portion of it that is diverted along shore.

No. 303 E.

Referred to the Superintending Engineer, First Circle, who will, as soon as possible, have the requisite investigations made to ascertain whether laterite rock is met with at any depth less than 20 inches below the surface of the sand along the line of the proposed pier. If an outcrop be found in this precise position, the ground should be tested to some distance up and down the foreshore in the immediate vicinity.

2. The papers, including plan, are sent to the Superintending Engineer in original to save time. They should be returned, with the report now called for, as early as practicable.

OOTACAMUND, (Signed) R. H. SANKEY, Major-General, R.E.,
23rd August 1883. *Secretary to Govt., P.W.D.*

To the Superintending Engineer, First Circle.

No. 304 E.

Copy of the above forwarded to the Master Attendant (Administrative Department), Madras, for information, and with remark that the Government approve generally of the scheme for the proposed pier with a T head at Vizagapatam in the position indicated. It is understood that the site selected for the Railway Station will conform sufficiently to this.

2. The plan will, on return by the Superintending Engineer, be sent back to the Master Attendant, after a copy has been taken for the Chief Engineer's Office.

3. It is requested that an additional copy of the printed letter may be supplied for reference.

OOTACAMUND, (Signed) R. H. SANKEY, Major-General, R.E.,
23rd August 1883. *Secretary to Govt., P.W.D.*

To the Master Attendant, Administrative Department, Madras.

From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Madras, to the Secretary to Government, Public Works Department, dated Madras, 31st August 1883, No. 8474.

Administrative Department.

With reference to your No. 304 E, dated 23rd August 1883, I have the honor to request you will be pleased to inform me if I may communicate with Engineers in India, in view to plans and estimates being prepared for the erection of the proposed pier at Vizagapatam through local agency.

No. 337 E.

Transferred for disposal to the Marine Department, with copies of Nos. 303 E and 304 E, dated 23rd August 1883, and with expression of opinion that if plans and estimates are prepared for the proposed pier at Vizagapatam, they should be referred for consideration to the Public Works Department.

OOTACAMUND, (Signed) J. SHAW-STEWART, Colonel, R.E.,
6th September 1883. *Joint Secretary to Govt., P.W.D.*

To the Marine Department, with copies of papers.

ORDER—dated 12th September 1883, No. 458, Marine.

There is no objection to Captain Taylor's consulting Engineers as proposed.

2. Any plans and estimates should be submitted to Government in the Marine Department.

3. The Public Works Department will be consulted in regard to the plans and estimates when prepared.

(True Extract.)

E. F. WEBSTER,
Acting Chief Secretary.

To the Master Attendant, Madras.
„ Public Works Department.

Exd. J. Henricus.

10 a 71

Govt. of {1883} Madras.

MARINE.

Issued

Recd. *Encl.*

G.O., 12th September 1883, No. 458.

2853 W
11/10/83

SEPTEMBER.

Vizagapatam Pier.

Informing the Master Attendant, Madras, that there is no objection to his consulting Engineers in India, in view to plans and estimates being prepared for the erection of the proposed pier at Vizagapatam.

GOVERNMENT OF MADRAS.

MARINE DEPARTMENT.

READ—the following papers:—

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Copie.

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Directeur de l'Intérieur, Pondichéry.

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Chef du service des ponts et chaussées,
(Signé) E. JUMCAN.

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2. The papers, including plan, are sent to the Superintending Engineer in original to save time. They should be returned, with the report now called for, as early as practicable.

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From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Madras, to the Secretary to Government, Public Works Department, dated Madras, 31st August 1883, No. 8474.

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OOTACAMUND, *6th September* 1883. (Signed) J. SHAW-STEWART, Colonel, R.E., *Joint Secretary to Govt., P.W.D.*

To the Marine Department, with copies of papers.

ORDER—dated 12th September 1883, No. 458, Marine.

There is no objection to Captain Taylor's consulting Engineers as proposed.

2. Any plans and estimates should be submitted to Government in the Marine Department.

3. The Public Works Department will be consulted in regard to the plans and estimates when prepared.

(True Extract.)

for Acting Chief Secretary.

To the Master Attendant, Madras.
" Public Works Department.

Exd. J. Henricus.

No. 2853 Marine 11th Oct/83

B

Communicated to officers Concerned

Cy. 11/10

Dr. Cn. 8395

Govt. of {1883} Madras.

MARINE.

8.1.C

Issued

Recd. 28/9/83 *Encl.*

G.O., 12th September 1883, No. 458.

No. 2853 Marine 11th Oct/83

SEPTEMBER.

Vizagapatam Pier.

Informing the Master Attendant, Madras, that there is no objection to his consulting Engineers in India, in view to plans and estimates being prepared for the erection of the proposed pier at Vizagapatam.

2 Copies Sent to Govt Written dep

Sub-in Records Keeper.