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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

PUBLIC WORKS DEPARTMENT

G.O. No. / ~~B.P. No.~~		Press. / ~~Mis.~~
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Dated	16.12.1879	~~197~~ .

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32 36-37

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

16th December 1879, No. 3,236 W.

Buildings and Roads.
Civil Works

ad the following paper :—

From Major A. FILGATE, R.E., Officiating Deputy Secretary to the Government of India, Public Works Department, (Account—General,) to the Secretary to the Government of Madras, Public Works Department, dated Simla, 25th November 1879, No 601 A.—G.

In your telegram dated 24th October 1879 you estimate the outlay on the dras Harbour Works during 1880-81 at Rs. 12,37,600. But I am directed state that, with the restricted grant allowed by the Secretary of State for outlay Productive Public Works, the Government of India regrets it cannot assign a rger sum than seven lakhs for this purpose. This sum is hereby assigned and the dget should be prepared accordingly.

No. 68. ORDER THEREON, 16th December 1879, No. 3,236 W.

ORDERED that the Secretary of State b addressed, and that copy of these edings and of the Despatch be forwared to the Government of India for mation.

(True Extret.)

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

o. 69. (DOCKET No. 3,237 W., date 16th December 1879.)

COPY forwarded to the Government of India.

Colonel, R.E.,
Secretary to Government, P.W.D.

H. S. T. Austin.
are Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of [illegible] Madras

PUBLIC WORKS.

To

THE SECRETARY TO THE
GOVERNMENT OF INDIA

Dated December 16th.

Issued

Read. Ent

G. O., 16th December 1879, No. 3,237 W

DECEMBER.
Nos. 67-69.

MADRAS HARBOUR WORKS.
On the subject of the restricted grant for outlay during 1880-81.

All communications should be addressed to the Secretary.

No. 601. A. 9

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

ACCOUNT.

General

3226/33

To

The Secretary to the
Government of Madras.
Public works Department.

Simla 25th November 1879

Sir

In your telegram dated 24th October 1879 you estimate the outlay on the Madras Harbour work during 1880/81 at Rs. 12,34,600. But I am directed to state that, with the restricted grant allowed by the Secretary of State for outlay on Productive Public works, the Government of India regrets it cannot assign a larger sum than 7 lakhs for this purpose. This sum is hereby assigned and the Budget should be prepared accordingly.

I have the honor to be,
Sir
Your most obedt Servant
A. Telfer Secy
Offg: Secy to Govt of India

P.W.D.

20E079

Proceedings of the Madras Government, Public Works Department,
30th September 1874.

No. 613. Read the following Despatch from the Government of India, Public Works Department, (Civil Works—Miscellaneous,) to the Most Honorable the MARQUIS OF SALISBURY, Secretary of State for India, dated Fort William, 17th August 1874, No. 118:—

WE have recently received* from the Government of Madras a copy of Mr. Parkes' detailed estimate (marked private and confidential) of the cost of constructing the proposed harbour at Madras, and we have the honor now to offer some remarks thereon, and to forward a Note prepared by our Secretary in the Public Works Department, after consulting the Financial Department, from which your Lordship will perceive that it is deemed prudent to make considerable additions to the estimate. We also forward herewith all the papers which have not been already submitted to Her Majesty's Government.

* With a letter dated the 12th June last.

2. The advantages of giving protection to the shipping at Madras, and of affording facilities for the landing of goods and passengers, are undeniable, but the scheme involves three questions, which appear to us to demand consideration and discussion before coming to a final conclusion on the subject.

3. There is first the soundness or otherwise of providing a close harbour instead of an open breakwater. As your Lordship is aware there is some difference of opinion on this important point, but it is to be remarked, *first*, that a breakwater has been estimated to cost a sum so large that, in the opinion of the Madras Chamber of Commerce, it would be entirely beyond the power of the Port Trust to provide even the interest on the outlay, irrespective of the cost of future maintenance and repairs; and, *secondly*, that, on the whole, balance of the professional and nautical opinions obtainable is in favor of a close harbour rather than an open breakwater. Neither scheme is likely to afford complete or probably even material protection from the effects of very severe cyclones, but a close harbour would undoubtedly afford great accommodation to shipping in ordinary bad weather.

4. We believe that considerable uncertainty must always attend conjectures as to the effect of harbour works upon the movement of sand on an open foreshore like that at Madras, but we do not consider that the possibility of the proposed harbour being liable to silt up is a conclusive objection to the projected scheme, unless, indeed, the objection be considered sufficiently strong to negative any attempt to provide shelter for the port of Madras. Your Lordship has the means of consulting higher professional authority than is obtainable in this country, if you should consider it desirable to obtain further opinions on this point.

5. So far as we can form an opinion, we agree with the Government of Madras in recommending Mr. Parkes' scheme of a close harbour as the best that has yet been devised, having regard to all the conditions of the case.

6. The next point for consideration is, whether the details of the mode of construction advocated by Mr. Parkes are satisfactory, and whether the estimates of cost are likely to be sufficient. It is to be observed here that the proposed harbour is to consist of sea walls or breakwaters, composed of loose rubble-stone

at the base, and of solid concrete blocks resting thereupon, in the same manner as the breakwater recently constructed at Kurrachee. We should have been glad had we been able to show from further experience in this country what is the effect of heavy seas and severe storms upon this method of construction, for there is no question but that it will be very severely tested at Madras, but so far as we know there are no grounds for questioning its stability. Here, again, Her Majesty's Government may have better advice available than is at the disposal of this Government.

7. Mr. Parkes' estimate amounts to £565,000, and from a report enclosed it will be seen that the experience obtained from the works at Kurrachee shows that the rates for concrete blocks may be accepted as sufficient, but that some additions should be made to the estimate which raises the probable cost to £710,000; and if interest is to be charged upon this sum during the period of construction, then the amount of capital debt on the completion of the works will rise to £776,465, on the assumption that the time occupied will be four years, and that the advances are evenly distributed. It should also be noted that the scheme projected by Mr. Parkes does not provide accommodation for the landing of cargoes along the sea-walls forming the harbour, and that additional outlay on this account will ultimately be required. Cargoes may, however, be landed, meanwhile, at the existing pier.

8. The third and last point for consideration is, how to meet the interest of the money to be lent to the Government of Madras, and provide a sinking fund for extinguishing the Capital debt, without causing serious injury to the trade of Madras. The calculations of the estimates of charge and revenue are as follows :—

The Madras Government have taken a payment of 6 per cent. per annum on £600,000, or £36,000, as representing the annual charge for interest and sinking fund, and has proposed to raise the money as follows :—

	£
A rate of 8 Annas (1 Shilling) per ton on foreign steamers and ships, and 4 Annas (six Pence) a ton on coasting steamers and native crafts...	20,000
14 Annas (1s. 9*d*.) per ton on all goods landed and shipped ...	16,000
Total...	36,000

But it will be seen that higher dues will be required if the cost of the work rises as high as we have thought it prudent to estimate. Taking the calculations given in Colonel Dickens' Note, it will be necessary to obtain £42,196 per annum to cover interest at 4½ per cent., and provide for the re-payment of capital in 40 years. To this we add £10,650 per annum, on the average taking one year with another, for repairs and maintenance, and £4,000 for the Port charges as at present. The result is that a sum of £56,846 is required to be provided annually.

The following are the very highest dues we can expect to be paid, calculated on the existing trade :—

	£
440,000 tons of shipping, at 8 Annas, or 1 Shilling per ton ...	22,000
220,000 ,, of goods, at Rs. 1½, or 3 Shillings ,, ...	33,000
Total...	55,000

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9. We consider that the nature of the trade at Madras makes it evident that from steamers calling at the port, but a very moderate amount can be levied without running serious risk of driving them away altogether, and we agree with the Madras Government that the returns from tonnage dues cannot well be taken at a higher figure than £20,000 a year, leaving £36,846 to be annually provided for by a charge upon the goods landed in such manner as the Government of Madras, after further consultation with the Government of India, may consider proper.

10. We think it desirable to record our opinion that, if this loan be granted, there cannot fail to be considerable risk of loss to the revenues of India, both on account of the uncertainty of all harbour works, and also on account of the probability of pressure being put upon the Government of India to relieve the trade of Madras from the burden of paying the interest if the harbour does not prove to be a success, or if the port dues operate injuriously, and it is for Her Majesty's Government to consider whether these risks are, or are not, counterbalanced by the undoubted advantages that will accrue should the undertaking prove to be a successful one.

11. The Governor of Madras in Council having expressed his anxiety that the subject of this harbour should be referred for the decision of Her Majesty's Government with as little delay as possible, we have not waited to communicate our opinions to the Government of Madras, but have sent a copy of this Despatch, and requested that Government to communicate direct to your Lordship any observations or explanations which they desire to make.

12. The conclusions in this Despatch were arrived at before the Viceroy left the Presidency, and have his concurrence.

13. Since the above was written, we have received your Lordship's Despatch, No. 64, dated the 16th ultimo, forwarding a scheme for a harbour at Madras by Lieutenant Palmer, of the Turret Ship *Magdala*. These papers have been forwarded to the Madras Government for consideration.

We have the honour to be,
My Lord Marquis,
Your Lordship's most obedient and humble Servants,

B. H. ELLIS.
H. W. NORMAN,
A. HOBHOUSE.
E. C. BAYLEY.
J. F. D. INGLIS.

No. 391-M.

Copy forwarded to the Government of Madras for information, with reference to correspondence ending with their letter, without number, of 12th June last, and with a request that the Government of India may be furnished with six more copies of the proposed Port Trust Bill.

(Signed) C. H. DICKENS, Colonel, R.A.,
Secy. to Govt. of India.

Note by Secretary on the projected Madras Harbour on Mr. Parkes' design.

1. Mr. Parkes' estimate amounts to £565,078.

2. The Madras Committee recommend an addition for rubble work of £20,000.

3. The rate for concrete blocks has been tested by the rates of work at Kurrachee, and seems ample.

4. Mr. Parkes' estimate allows 10 per cent. for contingencies, which, I presume, is meant to cover cost of repairs from ordinary wear and tear and from storm damages while under construction. I think it would be only prudent to allow this 10 per cent. to stand for the contingencies of construction only, and to add 10 per cent. more, or a round sum of £50,000, for repairs of damages while under construction.

5. Next, there is an allowance of only 5 per cent. for superintendence. This might suffice if a contractor could be got to take the work at a lump sum contract on the estimate. But if the work is to be done departmentally as at Kurrachee, though there may be saving on the rates of work, there will certainly be excess in supervising establishment. The rate for executive establishment at Kurrachee has been on the average 13·8 per cent. on the cost of work done. To this has to be added the cost of auditing the accounts and the general direction to the work, afforded by the superior officers of the department, and besides this there are the payments to Mr. Parkes for professional advice prior to and during construction. On the whole, I do not think it will be safe to take the total cost of supervising establishment at less than 20 per cent., or say £75,000 in excess of Mr. Parkes' estimate.

6. Thus the total of the estimate may be taken at—

	£
Mr. Parkes' original sum	565,078
Add for rubble work extra	20,000
,, for repair of damages during construction	50,000
,, for supervising establishment	74,922
Total ..	710,000

This may, I think, be considered an outside estimate.

7. But there is an addition yet to be made, viz., for interest during construction, as increased harbour dues cannot be collected till the trade begins to reap the benefit of the works.

Thus we shall have—

	£
First year's expenditure	177,500
Interest at 4½ per cent. (taken for half the year on average) ...	3,993
Loan at end of first year	181,493
Add second year's expenditure...	177,500
	358,993
Interest at 4½ per cent.	12,161
Loan at end of second year	371,154
Add expenditure in third year	177,500
	548,654
Interest on this	20,696
Loan at end of third year	569,350
Add expenditure in fourth year	177,500
	746,850
Interest	29,615
Loan at end of fourth year	776,465

Proceedings of the Madras Government, Public Works Department,
30th September 1874.

Thereafter the interest will be £34,941; but making arrangements to pay off the debt by equal instalments, including interest in forty years, the annual payment should be £42,196. To this again has to be added the cost of repairs and maintenance, which on the average may, perhaps, be assumed at 1½ per cent. on the estimate of £710,000 = £10,650. Further the present cost of the port establishment must be added £4,000. Altogether, then, the payment of £56,846 per annum should be looked for to make the project safe.

8. This is a much larger sum than has been provided for in the Madras estimates, and it will be necessary to raise higher dues accordingly. In round numbers the trade of the port may be taken at 440,000 tons of shipping, and 220,000 tons of goods. If the port dues be taken at 8 Annas (1 Shilling) per ton on the former, and Rupees 1½ (3 Shillings) per ton on the latter, the result would be—

	£
440,000 tons of shipping, at 8 Annas or 1 Shilling	22,000
220,000 ,, of goods, at Rs. 1½, or 3 Shillings	33,000
Total ..	55,000

The Chamber of Commerce would reduce the ship tonnage for the coasting trade to half the sum, making the total revenue from tonnage of shipping £26,000.

But the rate of Rupees 1½ a ton on goods is high. At Bombay the limit is Rupees 1½; and as the harbour at Madras will admit of ships loading and unloading at the pier, this may be considered to be a reasonable rate according to Bombay experience. The Rupees 1½ rate is perhaps admissible, being 20 per cent. only in addition to the Bombay rate.

9. If the extinction of the debt were not looked for, but only interest and repairs, the charges to be met would be—

	£
Interest	34,941
Repairs	10,650
Port expenses	4,000
Total...	49,591

And the rates of dues might be fixed on shipping as proposed by the Chamber of Commerce	20,000
On goods at a trifle above the Bombay rate, viz., 1¾ instead of Rupees 1½ per ton	30,250
Total...	50,250

In both these and the former calculations, it is presumed that there will be no increase in port establishment, except for the maintenance and repairs of the harbour works.

10. Considering the high estimate taken for the works, and the results of the calculations of the two last paragraphs, with the facts that the harbour may increase the resort of shipping to the port, and that the object in view is worth some risk, perhaps the Government of India may be justified in advising the Secretary of State to grant the loan; if on further professional examination in England the project and estimate be accepted as good.

11. I will only add a suggestion that the duty on goods should be by weight, and not by boat load. Landing at the pier is essential to the realization of the duty on goods; and the inconvenience of weighing is easily got over by the use of weigh-bridges.

CALCUTTA,
10th August 1874.

(Signed) C. H. DICKENS, Colonel, R.A.,
Secy. to Govt. of India.

Proceedings of the Madras Government, Public Works Department,
30th September 1874.

No. 614. ORDER THEREON, 30th September 1874, No. 2,758.

CIVIL WORKS, No. 50.

* No. 32, dated 14th September 1874.

ORDERED that the Home Government be addressed and that the Govern^t. ment of India be furnished with a copy of the Despatch.*

(Here enter No. 2,759, dated 30th September 1874.)

(True Extract.)

(Signed) G. W. WALKER, Colonel, R.E.,
Secretary to Government.

Ex^d. T. O'Connor.
Spare Copies

Govt. of {1874} Madras.

PUBLIC WORKS.

Dated September 30th.

Recd. Encl.

G. O., 30th September 1874, No. 2,758.

SEPTEMBER.

Nos. 613-614

Madras Harbour.—Copy of Despatch addressed to the Home Government on the subject of Mr. Parkes' estimate, furnished to the Government of India.

PUBLIC WORKS DEPARTMENT,

OOTACAMUND, 30*th September* 1874.

No. 615.

No. 2,759.

FROM

COLONEL G. W. WALKER, R.E.,

Secretary to the Government of Madras,

Public Works Department,

TO

THE SECRETARY TO THE GOVERNMENT OF INDIA,

Public Works Department.

CIVIL WORKS, No. 51.

SIR,—As suggested in paragraph 11 of the Despatch from the Government of India to the Secretary of State, No. 118,* dated 17th August 1874, His Excellency the Governor in Council has laid before the Secretary of State the observations and explanations which he had to offer in reference to that Despatch. And I am now directed to transmit a copy of those remarks for the information of the Right Honorable the Governor General in Council.

I have the honor to be,

Sir,

Your most obedient servant,

(Signed) G. W. WALKER, Colonel, R.E.,

Secretary to Government.

* Docket No. 391 M.

Erd. T. O'Connor.

Spare Copies

Govt. of 1874 Madras

PUBLIC WORKS.

To

THE SECRETARY TO THE GOVERNMENT

OF INDIA

Dated September 30th.

Read. Encl.

G. O., 30th September 1874, No. 2,759.

SEPTEMBER.

No. 615

TRANSMITTING copy of a Despatch addressed to the Home Government on the subject of Mr. Parkes' estimate for the construction of a Harbour at Madras.

3296-3
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PUBLIC WORKS DEPARTMENT.

No. 32 of 1874.

TO THE MOST HONOURABLE THE MARQUIS OF SALISBURY,

SECRETARY OF STATE FOR INDIA.

MY LORD MARQUIS—The Despatch addressed to your Lordship by His Excellency the Viceroy and Governor General in Council on the 17th August last, respecting the scheme of Mr. Parkes for the construction of a Harbour at Madras, and for which we have recommended that a loan should be sanctioned, has been communicated to us in order that we might furnish your Lordship with any observations or explanations upon the subject which we might desire to make.

We are glad to observe that the opinion expressed by the Government of India is on the whole favorable to the sanction of a Loan for the purpose in view,—the risk to the Imperial Revenue to which they refer (in para 10 of the Despatch) being a risk which is necessarily incidental to every such work, however satisfactory may be the scientific and financial conditions under which it is proposed—a risk, therefore, which cannot be considered as in itself a conclusive reason against the execution of a project of which it is admitted that the need is so great and that the advantages will be so important.

This opinion of the Government of India is expressed notwithstanding that they have considered it necessary to add largely to Mr. Parkes' estimate of capital expenditure, and on the other hand to our estimate of the annual charge on account of the harbour. We cannot but think that the estimate thus increased (which we observe is spoken of in the Note of the Secretary in the Public Works Department as a "high estimate") is much higher than is warranted by the circumstances of the case.

As regards capital expenditure, the additions to our estimate are, (i.) of £20,000 for Rubble-work extra; (ii.) £50,000 for Repairs of Damages during construction; (iii.) £74,922 for Supervising Establishment.

As regards the first addition, we were of opinion that this sum might be included in the very liberal estimate of £49,000 which Mr. Parkes had made for contingencies, and we are disposed to retain that opinion. It may however perhaps be desirable to treat this as a separate charge.

As regards the second addition, we can hardly suppose that Mr. Parkes would have taken no account of this serious charge if there was any probability that it would be incurred, or that from actual experience on the similar work at Kurrachee he had not every reason to be satisfied that the £49,000 which he has assigned to "Contingencies" would cover any probable need of repairs or any risk of accident during the progress of the work. We must express our opinion that both the circumstances of the case, and the reputation and professional knowledge of Mr. Parkes, are against the addition of this sum to the Estimate.

As regards the third addition, that of no less a sum than £74,922 for "Supervising Establishment," your Lordship will observe that it is proposed only on the supposition that the work is to be done *departmentally*. This, however, will not be the case. The work will be done—if not by contract (which appears now to be out of the question) by Mr. Parkes himself: and his Estimate of £24,500 for supervision, and all other personal charges may (we may have little doubt) safely be accepted.

By this large sum, therefore, as well as by the £50,000 which was the second head of addition, we submit that the Estimate of the Government of India (in para 10 of their Despatch) of £710,000 for the probable cost of the work may properly be diminished.

The estimate will then stand thus:	£
Mr. Parkes' original sum	565,078
Add for Rubble-work	20,000
	£585,000

To this must be added the Interest on the Loan for the four years of its construction, and taking this at the rate adopted in the Despatch of the Government of India, the charge on this account will be £65,087. But it is certain that as the work advances dues may fairly be levied on account of it upon shipping resorting to the Port, and we think therefore that one-third of the sum thus estimated for interest may, at the very least, safely be deducted from it, and that in round figures the charge for interest during the four years may be taken at £43,000.

The Total Charge for Capital Expenditure will therefore be—	£
Construction of Work	585,000
Interest for four years	43,000
	£628,000

Next in regard to the annual charge for which it will be necessary to provide on account of the work, taking the rate of Interest and Sinking Fund adopted by the Government of India, (nearly 5·44 per cent) the annual charge for Interest and Sinking Fund on a Capital Expenditure of £628,000 will be £34,163.

To this charge the Government of India has added £4,000 for Port Dues, and this may be conceded. But they have also added a sum of no less than £10,650 annually for "Repairs and Maintenance." No reasons are given for this addition, which it is said (in the Note of the Secretary Public Works Department) "may perhaps be assumed." From our own estimate we felt justified in excluding, in accordance with Mr. Parkes, any charge on this account. We find however that the annual expenditure on this account which has been incurred in connection with the similar work at Kurrachee has been somewhat less than ½ per cent. on the cost of construction. We are satisfied that £2,000 would be the utmost amount which need be added on this respect to the annual liabilities on account of the work: and we would request that your Lordship should communicate with Mr. Parkes himself respecting this charge.

If then for the sum of £10,650, £2,000 be substituted on this account, the total annual charge in respect of the Harbour will be as follows:

	£
Interest and Sinking Fund	34,163
Port Dues	4,000
Maintenance and Repairs	2,000
	£40,163

This amount would be raised as follows:—	
On 440,000 Tons of Shipping, at 8 annas (or 1 shilling) a ton	22,000
On 220,000 Tons of Goods, at 13½ annas (or 1s.8d.) a ton	18,333
	£40,333

The charges which would thus be necessary must certainly be considered very moderate (we may remark that the Charge on Goods in Bombay is Rs.1½ per ton); and there can be no danger whatever that it will in any degree diminish the trade of the Port.

It will be seen that if the estimate submitted to your Lordship by the Government of India is to be accepted, Rs.1½, or 3 shillings, per ton must be charged upon Goods. There can be no doubt that this charge is somewhat high. We are convinced that, as we have endeavoured to show, the estimate of the Government of India is excessive: but should your Lordship be of a different opinion, we think that the case is one in which, looking to the great and undoubted importance, as well as to the permanent character of the work proposed, it might be unnecessary to insist on the extinction of the debt by annual payments. If this were not required, it will be seen (from the enclosures in the Despatch to your Lordship from the Government of India) that the Tax upon Goods, even if the Estimate of the Governmen of India be adopted, need not be more than Rs.1½, or 2*s.* 9*d.* per ton. We must repeat however that we are unable to accept that estimate, or to consider that the full amount necessary not only to defray the interest of the Loan, but also for its extinction in 40 years, cannot be provided by a tax upon shipping and goods which would be entirely free from objection.

We have the honour to be,
My Lord Marquis,
Your Lordship's most obedient,
humble Servants,

OOTACAMUND,
September, 1874.

3236 33
9

OOTACAMUND

PUBLIC WORKS DEPARTMENT.

Despatch to the Most Honourable the Marquis of Salisbury, Secretary of State for India.

Dated 14th September

No. 32 of 1874.

SUBMITTING further observations in connection with Mr. Parkes' project for a Harbour at Madras.

No. 2060 - 20th July 75

3. As regards some of the cylinders which have cracked in the bottom segments owing to having been heavily weighted, probably no injury will result to the pier from this circumstance. It is not an unfrequent occurrence especially where loose stones are met with in the material penetrated, but if the hard stratum, alluded to by Mr. Going, immediately above the rock be really a good material it may be better to stop them a foot or two into it rather than run the risk of breaking the cylinders, provided this hard stratum is met with at a good depth from the surface and cannot be gone through without excessive weighting. The bottom segments have been cast half as thick again as the upper segments, so it will require very heavy weights to crack them.

No. 489. ORDER THEREON, 20th July 1875, No. 2,058.

RAILWAY, No. 43.

ORDERED to be recorded and communicated for the information of the Government of India in continuation of previous correspondence.

(True Extract.)

(Signed) J. O. HASTED, Major, R.E.,
Officiating Joint Secretary to Government.

No. 490. (DOCKET No. 2,059, dated 20th July 1875.)

COPY of the above forwarded to the Government of India in continuation of letter No. 1,091, dated 19th April 1875, paragraph 2.

(Signed) J. O. HASTED, Major, R.E.,
Officiating Joint Secretary to Government.

No. 491. Read the following Proceedings of the Government of India in the Public Works Department, (Civil Works—Miscellaneous), dated Simla, 27th April 1875, Nos. 129—31 M. :—

Proposed Harbour at Madras.

Read again—

Public Works Despatches to Her Majesty's Secretary of State for India, Nos. 4 and 118, dated respectively 8th January and 17th August 1874.

Read also the following reply :—

From the Secretary of State for India, to the Government of India, dated 11th March 1875, No. 20 P.W.

I HAVE considered in Council Your Excellency's Despatches, Nos. 4 and 118, dated 8th January and 17th August 1874, referring to the proposed harbour at Madras, together with the despatches of the Madras Government of the numbers and dates noted on the margin relating to the same subject.

No. 36, dated 16th December 1873.
„ 1, „ 9th January 1874.
„ 7, „ 12th February „
„ 23, „ 29th June „
„ 26, „ 13th July „
„ 32, „ 14th September „

2. In accordance with the suggestions of Your Excellency's Government, I have caused Mr. Parkes' plans to be submitted for consideration to J. F. Bateman, Esq., C.E. Mr. Bateman has been asked to give his opinion in reference to the three points raised in your despatch No. 118, dated 17th August 1874. The following questions were put to him :—

1*st.*—Whether the proposed method of constructing the breakwaters, as described in the Report, dated 4th November 1873, affords promise of stability.

2*nd.*—Whether the obstruction to the littoral currents offered by the breakwater is likely to cause an accumulation of sand, and, if so, within what period such accumulation is likely to impede the entrance to the harbour.

3*rd.*—Whether the proposed harbour, being enclosed by breakwaters only 3 feet 6 inches above high-water mark, and having an opening 150 yards wide exposed to the sea, would afford sufficient protection to the shipping moored within it during the prevalence of high winds blowing inshore.

3. Upon all these points Mr. Bateman's answer, as Your Excellency will see from the enclosed report,* is in accordance with the opinion of Mr. Parkes. The Madras Government are also confident in the soundness of his proposals; nor do I understand you to feel any hesitation in acceding to their view, except upon the points which you wished to be submitted to the examination of an English Engineer.

* Dated 3rd December 1874.

4. Considering these favorable judgments in conjunction with the experience of Mr. Parkes' mode of construction which has been furnished by the harbour of Kurrachee, I am satisfied that his plans are likely to be suitable for their purpose, and may be safely sanctioned.

5. The question of expense is, as might be expected, a matter of some controversy. Your Government is disposed to place it at as high as £776,465; Mr. Parkes' own original estimate did not exceed the sum of £565,000. The Madras Government have adopted an intermediate view, and are of opinion that £628,000 will be amply sufficient. A similar discrepancy exists with respect to the estimate for maintenance, which is placed by your Government and that of Madras at the sums of £10,000 and of £2,000 a year respectively.

6. The contingencies upon which the cost of constructing and repairing a harbour depends are so uncertain, that it would be hazardous to express a confident opinion in respect to these conflicting estimates. But the question is too large to be dealt with only upon financial grounds. Many human lives are sacrificed in the tempests which annually ravage the Coromandel Coast, and it is probable that a large proportion of these might be saved if the vessels which are now surprised in the roadstead could seek the shelter of a harbour. The material interests of the vast population that inhabits the Presidency of Madras are not less deeply affected by the unsheltered condition of the port. It can hardly be doubted that if a safe and regular access to the sea could be secured to them, their industry and trade would be greatly stimulated. The public utility of a harbour can seldom be measured by the actual return in the shape of dues which it can be made to pay, and in the Presidency of Madras, where the destitution of shelter upon the seaboard is so remarkable, such a principle of valuation would be specially misleading.

7. I do not therefore propose to make the construction of the harbour of Madras depend upon the accuracy of the estimates submitted by the Government of Madras. Those estimates may, however, properly serve as a guide in determining the sum which is to be advanced for the work out of the Extraordinary Public Works Fund. The principles upon which that Fund was constituted, and of which I reminded you

in my Financial despatch of the 23rd July 1874, No. 387, forbid its application to any work except so far as the yield of that work is likely to repay the interest upon its cost.

8. Looking to the tonnage both of the ships which visit the port and of the goods which pass through it, and also to the burdens which are borne without injury to the trade of other ports, I am disposed to concur with the opinion of the Government of Madras, that dues raised upon shipping and upon goods in that port may be trusted to repay interest upon the £628,000, which they estimate as the outlay necessary in addition to the annual sum which, in their opinion, they will have to provide for the maintenance and working expenses of the harbour. I do not conceal from myself that circumstances now unforeseen may render inevitable an excess either upon the capital outlay or the annual expenditure in maintenance. But the Imperial character of the undertaking, and the high interests involved in it, do not permit me to look upon the existence of that contingency as an insuperable obstacle to the prosecution of the work. If the excess should arise, it must be borne upon the ordinary budget; but until the probability of its being incurred is ascertained the necessity for providing for it will not arise. I desire, however, to record the opinion, that if the full amount of the highest estimate formed by your Government should be reached, the expenditure will still have fallen short of the benefits which the work may be confidently expected to confer upon the people of Madras.

9. I have therefore, in conclusion, to request that the Government of Madras may be directed to introduce Bills into the Legislature providing for the levy of dues, either on shipping or on goods in the port of Madras, upon the construction of a harbour there, which will be sufficient to defray interest at 4 per cent. of a loan of £628,000, and a yearly expenditure of £6,000; and further, that Your Excellency's Government will, on the passing of those measures, advance the sum of £628,000 out of Extraordinary Funds to the Government of Madras for the construction of a harbour in accordance with the plans of Mr. Parkes and under his superintendence.

From J. FRED. BATEMAN, Esq., C.E., to the Under Secretary of State for India, dated 3rd December 1874.

I HAVE the honor to answer the questions submitted to me by direction of the Secretary of State for India in Council on the important subject of the proposed harbour for Madras designed by Mr. Parkes.

I have given it my most careful consideration, and have had the advantage of obtaining from Mr. Parkes, to whom I was referred, all the information which appeared to me desirable, and of much of which, especially of a local character, I was necessarily ignorant. I have also obtained from him full particulars of the breakwater at Kurrachee, and the nature and extent of the injuries which it received during its construction and during the two following monsoons. This information is most valuable as bearing directly upon the question now under consideration, as the proposed mode of constructing the breakwater piers at Madras is the same in principle and to a great extent the same in design.

On the important point of the stability of such a work, I have also brought into consideration and under review all the circumstances of breakwaters, either similar or dissimilar in their construction, with the object of well weighing the proposal of Mr. Parkes before I ventured to incur the responsibility of either approval or disapproval.

The expression of my opinion is strictly limited to the three questions submitted, and, as the most convenient form of answering them, I have arranged the questions and answers in the following parallel columns:—

Questions.	*Answers.*
1. Whether the proposed method of constructing the breakwater, as described in the report, dated the 4th November 1873, affords promise of stability?	1. I am of opinion, after the full information I have received of the mode of construction adopted at Kurrachee and the success and stability of the breakwater there, exposed, as it is alleged to be, to as heavy or a heavier sea than the breakwater at Madras can be, that the mode of constructing the breakwater as described in Mr. Parkes' Report of 4th November 1873 does afford promise of stability. It is, however, very probable that, both during construction and subsequently to completion, very severe storms may disturb and injure the work, but this contingency is not, in my opinion, sufficient to prevent the execution of the breakwaters in the manner proposed by Mr. Parkes.
2. Whether the obstruction to the littoral currents offered by the breakwater is likely to cause an accumulation of sand, and, if so, within what period such accumulation is likely to impede the entrance to the harbour?	2. A breakwater or pier projecting at right angles from the coast must of necessity obstruct littoral currents and arrest travelling sand or shingle, but I have no information as to the quantity of sand which would be thus arrested in a year, and cannot therefore make any calculation of the period within which the accumulation would extend as far out as the points of the piers, or impede the entrance to the channel.
	The piers or sides of the enclosed harbour are proposed to be extended nearly two-thirds of a mile from shore, and I am of opinion that, whatever may be the quantity of sand which will be arrested, a very long period will elapse before the accumulation behind the walls can have an injurious effect, so long indeed that it may be disregarded.
3. Whether the proposed harbour, being enclosed by breakwaters only 3 feet 6 inches above high-water mark, and having an opening 150 yards wide exposed to the sea, would afford sufficient protection to the shipping moored within it during the prevalence of high winds blowing inshore?	3. The breakwater, though the top be only 3 feet 6 inches above high-water, will very effectually stop the progress of driving waves, and will afford material shelter within the harbour. It will not prevent water rolling over in heavy seas, but the destructive effect of such water will be destroyed, and no injurious wave can be propagated within the space of the harbour.
	I consider an opening of 150 yards will afford easy ingress and egress to vessels, and that any waves entering this space from high winds blowing inshore will, as soon as they have entered, spread out in all directions with such rapidity as to be wholly dissipated as objectionable waves within a short distance of the entrance.
	The water within the harbour in all winds, however high, will be comparatively quiet.

ORDER.—Ordered that a copy of the foregoing be forwarded to the Government of Madras in the Public Works Department for information, in continuation of Public Works Department No. 391 C—W., dated 17th August 1874; and to the Financial and Revenue, Agriculture and Commerce Departments for information.

_____ Captain, R.E.,
Asst. Secy. to the Govt. of India.

No. 492. ORDER THEREON, 20th July 1875, No. 2,060.

CIVIL WORKS, No. 38.

COMMUNICATED to the Legislative Department with a view to the necessary Bills being framed and passed, and to the Financial and Revenue Departments for information.

(Signed) J. O. HASTED, Major, R.E.,
Officiating Joint Secretary to Government.

No. 493. Read the following docket from the Controller of Public Works Accounts, to Lieutenant-Colonel J. MULLINS, R.E., Officiating Secretary to Government, Public Works Department, dated Fort St. George, 2nd July 1875, No. 33 W:—

COPY of the following, together with a copy of the monthly return of capital expenditure, is forwarded to the Secretary to Government, Public Works Department, for information.

(Signed) L. CONWAY-GORDON, Captain, R.E.,
Controller of P. W. Accounts.

From Captain L. CONWAY-GORDON, R.E., Controller of Public Works Accounts, to Lieutenant-Colonel J. McLEOD-INNES, R.E., Accountant-General, Public Works Department, Simla, dated Fort St. George, 2nd July 1875, No. 9 A.

IN forwarding the monthly return of capital expenditure for March 1875, I have the honor to state that as the interest charges to be included in these returns should apparently be the charges accruing previously to the works coming into operation (and not, as has hitherto been assumed, the total interest charges up to date), which charges are only known in the case of two projects (*viz.*, the Perryaur and Rooshkoolia), the interest charges have, for the present, been omitted in respect of all projects other than those two.

Return of Capital Expenditure on Irrigation Works in the Madras Presidency, for the month of March 1875, for which Capital and Revenue Accounts are maintained.

	Outlay to end of previous month as per last Return.			Outlay during the month mentioned in heading.			Estimated cost of the works embraced in the outlay.						Probable amount of estimate that will still have to be submitted to complete project.
	Extraordinary.	Ordinary.	Total.	Extraordinary.	Ordinary.	Total.	Aggregate of estimates sanctioned by competent authority.	Aggregate of estimates approved but for which detailed estimates have still to be submitted.	Outlay on works that were completed to end of 1866-67 being previous to the year in which expenditure from Loan Funds was incurred.	Total.			
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.			
ROOSHKOOLIA PROJECT.													
Works	...	2,090	2,090	...	2,090	2,090	...	...	...	...			...
Establishment	...	34,703	34,703	...	30,641	65,344	...	...	...	...			...
Tools and Plant	...	81	81	...	4	85	...	...	...	...			...
Total ...	...	36,874	36,874	...	30,645	67,519	...	...	...	...			...
Less receipts on Capital Account ...	...	...	...	...	...	...	...	...	...	...			...
Net Capital charge ...	...	36,874	36,874	...	30,645	67,519	...	...	...	...			...
Charges for interest ...	...	9,115	9,115	253	4,170	13,538	...	...	...	...			...
Total ...	...	45,989	45,989	253	34,815	81,057	...	...	...	...			...
GODAVERY DELTA PROJECT.													
Works	42,94,147	56,92,536	99,86,683	74,883	18,23,163	1,18,83,729	...	...	...	...	O	42,77,408	...
Establishment	5,09,310	8,60,897	13,70,207	18,787	1,02,485	14,91,479	...	...	...	...	E	28,51,123	...
Tools and Plant	1,18,702	1,67,899	2,86,601	9,476	...	2,96,077	...	...	...	...			...
	2,74,351	3,28,548	6,02,899	...	...	6,02,899	...	...	...	...	O	42,77,408	...
Total ...	49,16,159	67,49,332	1,16,65,491	1,02,485	19,25,648	1,36,93,624	...	...	...	...	E	28,51,123	...
Less receipts on Capital Account ...	50,76,788	69,00,971	1,19,77,759	...	...	1,19,77,759	...	...	...	...			...
	17	17	34	...	...	34	...	...	...	...			...
Net Capital charge ...	49,16,159	67,49,315	1,16,65,474	1,02,485	19,25,648	1,36,93,590	...	...	...	...			...
Charges for interest ...	50,76,788	69,00,954	1,19,77,742	...	...	1,19,77,742	...	...	...	...			...
Total ...	...	...	...	...	...	...	...	...	...	...			...

Proceedings of the Madras Government, Public Works Department, 7th August 1875.

No. 127. Read the following docket of the Government of India in the Public Works Department, (Civil Works—Miscellaneous,) dated Simla, 26th July 1875, No. 219 M :—

COPY of the following forwarded to the Government of Madras in the Public Works Department with reference to its letter marginally noted, and with the remark that the draft Bill for creating a Port Trust in connection with the Madras Harbour Works is awaited by the Government of India.

No. 1,569, dated 4th June 1875.

By Order,

(Signed) G. T. SKIPWITH, Captain, R.E.,
Asst. Secy. to the Govt. of India.

Proceedings of the Government of India in the Financial Department, dated Simla, 25th June 1875, No. 1,716.

READ a letter from the Government of Madras to the address of the Secretary in the Public Works Department, No. 1,569, dated 4th June 1875, asking for an advance of 5 lakhs of Rupees for such preliminary operations connected with the proposed Harbour at Madras as may be necessary, pending the grant of a loan for its construction.

RESOLUTION.—Sanctioned, on the understanding that the Government of Madras will be responsible that a Port Trust is formed for Madras, and that due arrangements will be made to raise a revenue sufficient for payment of interest at 4 per cent. per annum on an eventual loan of £628,000.

ORDER.—Ordered that the foregoing Resolution be communicated to the Public Works Department for information and further orders, and to the Comptroller-General and the Accountant-General, Madras, for information and guidance.

(Signed) R. B. CHAPMAN,
Secy. to the Govt. of India.

No. 128. ORDER THEREON, 7th August 1875, No. 2,285.

CIVIL WORKS, No. 7.

COMMUNICATED to the Legislative Department and to the officers concerned.

(True Extract.)

(Signed) J. O. HASTED, Major, R.E.,
Offg. Joint Secretary to Government.

To the Legislative Department,
with remark by the Hon. W. Hudleston.
„ Marine Department.
„ Controller of Public Works Accounts.
„ Superintendent, Madras Harbour Works.

Ext. S. T. Austin.
Spare Copies

Govt. of (1875) Madras.

PUBLIC WORKS.

THE LEGISLATIVE DEPARTMENT.

&c. &c. &c.

G. O., 7th August 1876, No. 985.

AUGUST.

Nos. 127-128.

Madras Harbour Works.—Letter of the Government of India sanctioning an advance of 5 lakhs of Rupees on condition that a Port Trust is formed for Madras, and that due arrangements be made to raise a revenue sufficient for payment of interest at 4 per cent. per annum on an eventual loan of £1,28,000, communicated to the Legislative Department and to the officers concerned.

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PUBLIC WORKS DEPARTMENT.

No. 16 of 1876.

TO THE MOST HONORABLE THE MARQUIS OF SALISBURY,

SECRETARY OF STATE FOR INDIA.

My Lord Marquis,—We have taken into consideration the objections to the adoption of Mr. May's detailed estimate for the Madras Harbour Works made in Mr. Parkes' letter which accompanied your Lordship's despatch, No. 21, of 30th November 1875, and we have the honor to submit the following remarks on the subject.

Procs. of Govt., No. 207 dated 26th January 1876

2. It is satisfactory to be assured by Mr. Parkes that the difficulties and misunderstandings alluded to in paragraph 5 of his letter have been removed; but we are under the impression that the nature and extent of these difficulties, as leading to the submission of the estimate in question, have been misconceived and exaggerated by Mr. Parkes. As stated in the 1st paragraph of Mr. May's letter of the 18th August giving cover to the estimate, its submission is directly due to a call made by the Officiating Chief Engineer in his memorandum, No. 126, of 25th June, of which the following is an extract of the paragraphs relating to the subject. It will be seen that all that was required was that the estimate might be thrown into a form such as would enable the Controller of Public Works Accounts to deal with the monthly returns of expenditure in the manner prescribed by the Government of India:—

Extract from memorandum from Lieutenant-Colonel J. MULLINS, R.E., Officiating Chief Engineer, Public Works Department, to J. MAY, Esq., Superintendent, Madras Harbour Works, dated Ootacamund, 25th June 1875, *No.* 126.

* * * *

2. "It is of importance on all accounts that a working estimate, showing quantities and rates of the several descriptions of work to be carried out, providing for work or petty establishments, tools and plant, &c., should be drawn up as soon as possible. This estimate in abstract is the foundation on which accounts of expenditure will have to be based, and unless it be soon prepared, it would be impracticable to start these in a satisfactory manner, and afterwards the re-casting of the accounts will give rise to a good deal of trouble and correspondence. In the accounts required by Government the principal heads of charge are—

"1. Works (construction with all subsidiary works.)

"2. Tools and plants.

"3. Establishment.

"Works will naturally include—

"1. The Harbour Works Proper.

"2. The various subsidiary works not forming part of the harbour itself. The Controller of Public Works Accounts will be able to furnish the Superintendent's office with all necessary details, but it is thought that the leading features in the accounting will be useful to Mr. May at once.

"3. Establishments will include those for the office and those for the works. The former will keep the accounts and the correspondence, and Captain Conway-Gordon's assistance in drawing up a scale for the sanction of Government will no doubt be found valuable. The total of this scale will be one item of the estimate for the harbour; much of the engineering establishment has been already approximately determined upon. The subordinate establishment may be provided for by a lump sum calculated upon the probable monthly charge, and the time the project will occupy. Within the amount thus provided and sanctioned, the Superintendent will be at liberty to arrange the details of this petty establishment at his discretion.

"4. The general principle to be attended to is that for each principal description of outlay there should be a fixed and duly authorized estimate of cost. In this country these descriptions are indicated under the names of heads and sub-heads of estimates."

* * * *

3. There was ample time between the dates of this call and the submission of Mr. May's estimate for Mr. May to have consulted Mr. Parkes on the subject, when the discrepancies alluded to in paragraphs 7 to 9 and paragraph 12 of Mr. Parkes' letter now under notice would have been obviated. But unless Mr. Parkes had access to the despatch of this Government to your Lordship's address, No. 32, of 14th September 1874, and to the despatch of His Excellency the Viceroy and Governor-General alluded to in its 1st paragraph, the real defect of the revised estimate would still have remained undetected. It was not suspected when that estimate was forwarded with Proceedings, No. 2,610, of 10th September 1875, for Mr. Parkes' approval, and it is of a nature that amply justifies his remonstrance against its detailed excesses over his own abstract estimate.

4. The fact is that neither the Controller of Public Works Accounts who had to check the expenditure nor Mr. May who had to incur it were aware of the details of the sums by which Mr. Parkes' estimate of £565,090 was increased to £628,000, the sum sanctioned in your Lordship's despatch to the Government of India, No. 20, of 11th March 1875. That increment is made up of two items only, *viz.*, £20,000 added for extra cost of rubble work in deference to the opinion expressed by the Government of India, and £43,000 to make up the interest on the loan. Of which the former sum can alone be added to the estimate with which Mr. May had to deal. This is the real root of the misunderstanding in the matter; and it appears to have escaped attention when Mr. May's estimate was forwarded for Mr. Parkes' approval, owing to information regarding the details of the increase not having, by an inadvertence which we regret, been embodied in any Proceedings of our Government.

5. The Chief Engineer has now prepared, with Mr. May's assistance for Mr. Parkes' approval, a fresh estimate, which we are sanguine will be acceptable to Mr. Parkes in its abstract form; while conforming in its details to the items of Mr. May's estimate, prepared to suit the demands of the Control Department. We do not appreciate Mr. Parkes' objections to the details of establishment being given, as those are recorded in the 18th paragraph of his letter. For, excepting the store and medical establishments, each item had been separately discussed between Mr. Parkes and our Chief Engineer, and the result already recorded in our Proceedings, No. 1,433, of 25th May 1875, of which copy was forwarded with our despatch, No. 35, of 20th August. The items of pier construction are identical with those of Mr. Parkes' estimate; while with reference to paragraph 20 of his letter, nothing can be easier or more satisfactory to all

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MADRAS HARBOUR.

Estimate of Works.

Number or Quantity.		Rate.	One year.	Five years	Total.
	Preliminary Works.		Rs.	Rs.	Rs.
	Detailed survey	...	...	5,000	
	Forming railways, including materials, rails, chairs, sleepers, &c.	...	...	1,50,000	
	Open quarries	...	...	10,000	
	Preparing block ground	...	...	65,000	
	Rubble stone jetties	...	...	45,000	
	Land	...	...	80,000	2,75,000
					80,000
	CONSTRUCTION OF PIERS.				
	North Pier.				
479,909	Tons of rubble stone deposits in approach and in foundation				
11,786	Cubic yards of Portland cement blocks built from 2½ to 4 fathoms water	at Rs. 70 per	...	7,19,860	
90,211	Cubic yards of Portland cement blocks built from 4 fathoms outwards	at ,, 132 ,,	...	1,51,250	
1	Lighthouse	at ,, 120 ,,	...	11,55,750	
		...	...	30,000	
	Add for rubble work (if found necessary) ...	...	...	1,00,000	20,56,860
	South Pier.				1,00,000
479,909	Tons of rubble stone deposits in approach and in foundation				
11,786	Cubic yards of Portland cement blocks built from 2½ to 4 fathoms water	at Rs. 60 per	...	7,19,860	
90,211	Cubic yards of Portland cement blocks built from 4 fathoms outwards	at ,, 132 ,,	...	1,51,250	
1	Lighthouse	at ,, 120 ,,	...	11,55,750	
		...	...	30,000	
	Add for rubble work (if found necessary) ...	...	...	1,00,000	20,56,860
	Buildings	...	...	75,000	1,00,000
					75,000
	Plant.				
	Locomotive engines	...	...	60,000	
	Rolling stock	...	...	35,000	
	Floating plant	...	...	1,45,000	
	Engines, cranes, concrete machines, stone breakers, &c.	...	...	1,25,000	
	Quarry and general tools	...	...	50,000	
	Buoys and beacons	...	...	3,000	
	Office furniture	...	...	2,000	
					4,20,000
	ESTABLISHMENT.				
	Direction.				
	Engineer-in-Chief (G.O.) ...	...	5,000	25,000	
	Bonus (G.O.)	...	...	5,000	
	Engineering.				
	Superintendent of Works	...	15,000	75,000	
	Office establishment	...	2,052	10,260	
	European Assistant	...	6,000	30,000	
	Office establishment	...	1,092	5,460	
	Native Sub-Engineer (G.O.)	...	3,600	18,000	
	Office establishment (G.O.)	...	468	2,340	
	Native Superintendent of Quarries (G.O.) ...	...	2,400	12,000	
	Office establishment (G.O.)	...	324	1,620	

Estimate of Works.—(Concluded.)

Number or Quantity.		Rate.	One year.	Five years.	Total.
	Store.		Rs.	Rs.	Rs.
	Native Store-keeper	...	4,200	21,000	
	Office establishment	...	324	1,620	
	Medical.				
	Native Apothecary	...			
	Medicines	...	1,800	9,000	
	... ...	...	500	2,500	
	Office contingencies, telegrams to and from England, postages, carriage of parcels, &c.	...	1,378	6,890	2,18,800
	Travelling allowances of staff	...	4,000	20,000	26,890
	Maintenance during construction				2,45,690
					2,45,690
	Contingencies at 5 per cent. ... ... Total ...				56,05,100
	... ...				2,45,690
	Grand Total ...				58,50,790

The extra charge of Rupees 2,00,000 on account of rubble work may, if preferred by Mr. Parkes, be struck out from the above and shown as a separate supplemental estimate.

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

Abstract of Estimate, Madras Harbour.

		RS.
Plant		4,20,000
Buildings		75,000
Preliminaries		2,75,000
	Total ...	7,70,000
Land		30,000
Rubble stone-work		16,39,720
Concrete block-work in 2½ to 4 fathoms		3,02,500
Do. do. from 4 fathoms outward		23,11,500
Two lighthouses		60,000
Establishments, &c., 5 per cent.		2,45,690
Maintenance and contingencies		4,91,380
	Grand Total ...	58,50,790

concerned than for him to make his own corrections of the details under preliminary works and plant. It was with the intention that he should so deal with the details of Mr. May's estimate that we withheld our sanction of it until it should have received his formal approval.

We have the honor to be,
My Lord Marquis,
Your Lordship's most obedient,
humble servants,

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FORT ST. GEORGE,
6th *February* 1876.

Exd. E. C. Shunker.

FORT ST. GEORGE.

PUBLIC WORKS DEPARTMENT.

Letter to the Most Honorable the Marquis of Salisbury, Secretary of State for India.

Dated 8th February.
No. 6 of 1876.

SUBMITTING certain remarks on the revised estimate for the Madras Harbour.

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

6th November 1878, No. 4,258 W.

Buildings and Roads.
Civil Works.

Read the following paper :—

No. 50. Proceedings of the Madras Government in the Financial Department, dated 14th October 1878, No. 1,835.

Resolution of the Government of India, Financial Department, (Accounts and Finance), dated Simla, 30th August 1878, No. 2,649.

IN a Despatch, No. 20 P.W., dated 11th March 1875, the Secretary of State sanctioned the construction of a Harbour at Madras at a cost of £628,000, which the Government of Madras thought would be "amply sufficient," and requested that the Government of Madras might—

> "be directed to introduce Bills into the Legislature providing for the levy of dues, either on shipping or on goods, in the Port of Madras, upon the construction of a Harbour there, which will be sufficent to defray interest at four per cent. on a Loan of £628,000, and a yearly expenditure of £6,000";

and, further, authorised the Government of India—

> "on the passing of those measures, to advance the sum of £628,000 out of Extraordinary Funds to the Government of Madras for the construction of a Harbour in accordance with the plans of Mr. Parkes, and under his superintendence."

2. On the 4th June 1875, the Government of Madras reported, in a letter (No. 1,569), that the question of the legislation thus directed was under consideration in the local Legislative Department, and asked for an advance of five lakhs of Rupees for preliminary operations, pending the grant of the proposed loan.

3. By resolution of the Government of India in this department, No. 1,716, dated 25th June 1875, this advance was sanctioned on the understanding that the Government of Madras would be responsible—

> "that a Port Trust would be formed for Madras, and that due arrangements would be made to raise a revenue sufficient for payment of interest at four per cent. per annum on an eventual Loan of £628,000."

4. The Government of Madras reported that the local Chamber of Commerce, the Collector of Sea Customs, and the Board of Revenue had been fully consulted upon the subject of the proposed Harbour, and had given their opinions as to the port dues necessary to provide for interest on its capital cost and for its efficient maintenance.

5. But the Government of Madras having been advised that the Port Trust could only be constituted by an Act of the Legislative Council of the Government of India, delays ensued in the arrangements for obtaining such an Act which have not yet been overcome.

6. The expenditure on the works has, however, gone on under the orders and upon the responsibility of the Government of Madras. Altogether, the sum of Rupees 19,64,178 was thus spent to the end of 1877-78, as follows:—

	RS.
In India	11,63,530
In England (at the annual average rate obtained for the Secretary of State's bills on Madras)	8,00,648
Total ...	19,64,178

and it is estimated that a further sum of Rupees 6,77,071 will be spent in 1878-79, as follows:—

	RS.
In India	5,39,424
In England (at the annual average rate obtained for the Secretary of State's bills)	1,37,647
Total ...	6,77,071

7. The Governor-General in Council has authorised no advance, except that of Rupees 5,00,000 in June 1875; but it has been generally cognisant that these advances were being made, and may be held to have, to some extent, condoned the irregularity of the Local Government in ordering these large disbursements without the formal permission of the Government of India, either in the Public Works or Financial Department.

8. It is, however, necessary to put an end to the unsatisfactory irregularity of the existing financial arrangements affecting the prosecution of the works.

9. The Secretary of State authorised the advance of £628,000 in all, and the levy of port dues sufficient to provide interest thereon at four per cent. per annum, together with an annual expenditure of £6,000, the estimated charge for maintenance. As the Government of India can no longer borrow at four per cent. per annum, it is plain that, unless some modifications of the Secretary of State's orders are made, the General Revenues will not be protected from loss in respect to the advances made, and to be made, for the construction of the Madras Harbour, which, no doubt, was the intention of the Secretary of State. There appears to be no *primâ facie* reason why, within the limits shown by experience to be practicable without undue pressure on the trade of Madras, the proposed Port Trust should not be responsible for the entire amount of the interest on the capital cost, as also for the maintenance of the works. This interest cannot be reckoned at less than four and a half per cent. per annum.

10. The Government of India will consequently move the Secretary of State to provide for the complete protection of the General Revenues by imposing on the Port Trust the whole liability on account of the Madras Harbour. A Schedule of maximum dues, sufficient for this purpose, should be prepared for adoption in the Bill to constitute the Port Trust.

11. In any case, also, it seems necessary that the interest charge at four and a half per cent. per annum on the whole capital expenditure should be guaranteed from the provincial resources of Madras, in a manner analogous to that in which the interest on the capital invested upon Productive Public Works in Bengal and the North-Western Provinces is secured upon the Provincial Revenues of those Provinces. If the Government of Madras agree in thinking this reasonable, the interest paid by the Port Trust, when that body is constituted, would be treated as a Provincial asset, and the Imperial Government would recover from the Provincial Revenues the full interest due upon the capital spent upon the works. In the peculiar circumstances of the case, the Government of India will propose to the Secretary of State that interest during the construction of the works, or until the Trust commences to realise an income, shall not be recovered by the Imperial Treasury.

12. Meanwhile, upon the understanding that the Government of Madras will, on behalf of the Port of Madras and the Madras Provincial revenues, respectively, be bound to secure the General Revenues of India against ultimate charge on account of these works, the Government of Madras is authorised to proceed with the construction of the Harbour at a maximum cost of Rupees 62,80,000 in all; disbursements from the Home Treasury of the Government of India being converted into Rupees at the average rate of exchange obtained for the Secretary of State's bills during the year in which the advances are made.

13. Pending the constitution of the Port Trust, the Government of Madras will conduct the operations on behalf of the intended Trust; and, in this view, it deserves the consideration of that Government whether it would not be right to anticipate legislation by associating with itself a committee constituted as nearly as possible upon the model of the eventual Port Trust, with powers and duties assimilated to those which will be eventually entrusted to the Port Trust, in order to watch and supervise the construction of the Harbour in consultation with the Government of Madras.

14. Whether such a committee be constituted or not, the Governor-General in Council is pleased to direct that the outlay on the Harbour Works to be incurred on behalf of the future Port Trust, shall henceforth be audited and recorded by the local Examiner of Public Works Accounts, subject to the instructions and supervision of the Accountant-General, Public Works Department, under a Debt Head outside of, and apart from, the accounts of public expenditure. The estimates of expenditure on the works must be submitted for sanction, if this has not already been done, and the accounts kept, and the operations supervised, in the Public Works Department, and all future supply of funds obtained, in strict accordance with the rules of that department, exactly as if the outlay on the Harbour were Provincial expenditure on work of Miscellaneous Improvement.

ORDERED that this Resolution be communicated, for information and guidance, to the Public Works Department, and the Department of Revenue, Agriculture, and Commerce, and to the Comptroller-General, and Accountant-General, Madras; also that copy be forwarded to the Government of Madras for information and guidance.

(Signed) R. B. CHAPMAN,
Secretary to the Government of India.

IN regard to the expenditure connected with the Madras Harbour Work the Government of India observe that the Secretary of State originally authorised the advance of £628,000, the charge of four per cent. for interest on this amount being provided by the levy of Port dues; but that as money cannot now be obtained at less than $4\frac{1}{2}$ per cent., and as there appears to be no reason why within practicable limits the Port Fund should not be made responsible for the entire amount of the interest on the capital cost as also for maintenance, the Secretary of State will be moved to provide for the complete protection of the general revenues by imposing on the Port Trust the whole liability on account of the Madras Harbour.

The Government of India further observe that it seems also necessary that the interest charge at $4\frac{1}{2}$ per cent. on the whole capital expenditure should be guaranteed from the provincial resources of Madras, and that if the Madras Government consider this reasonable, the interest to be paid by the future Port Trust would be treated as a provincial asset, and the Imperial Government would recover from provincial revenues the full interest due upon the capital spent upon the works.

On the understanding that Madras will thus be bound to secure the general revenues of India against ultimate charge on account of these works, the Government of India give authority to proceed with their construction at a maximum cost of Rupees 62,80,000 in all.

2. His Grace the Governor in Council observes that the Secretary of State, in his Despatch of 11th March 1875 to the Government of India, remarked that unforeseen circumstances might render inevitable an excess either in the capital outlay or in the

annual maintenance expenditure; but that the Imperial character of the undertaking and the high interests involved in it did not permit him to regard such contingency as an insuperable obstacle to the prosecution of the work, and that if the excess should arise, it must be borne upon the ordinary budget. He, therefore, desired that the Government of Madras should be required to provide for the levy of Port dues sufficient to defray interest at four per cent. on a loan of £628,000 and a yearly expenditure of £6,000, and that on the passing of the necessary legislative measures to secure this amount of income, the sum of £628,000 should be advanced by the Government of India to the Government of Madras out of Extraordinary Funds for the construction of a Harbour in accordance with Mr. Parkes' plans and under his superintendence.

3. A first advance of five lakhs of Rupees was sanctioned by the Government of India expressly on condition that due arrangements would be made to raise a revenue sufficient for payment of interest at four per cent. on an eventual loan of £628,000, and the subsequent annual budget estimates for expenditure in excess of this advance have been periodically sanctioned by the Government of India; but as noticed in the Government of India Resolution now under consideration, it has been found that the legislation prescribed by the Secretary of State needs to take place in the Governor-General's Council, and this fact was brought to the notice of the Government of India by Proceedings of this Government, Public Works Department, No. 2,582, dated 27th September 1876, and letter No. 369 W, dated 7th July 1877.

In September 1876, and again in July 1877, the Government of India were requested to make additional grants, should such be deemed necessary, to cover the current expenditure pending their legislation, but to these applications it does not appear that any reply has been received until the present Resolution.

4. His Grace the Governor in Council is not in possession of any reasons for questioning the original calculations of cost referred to in the Government of India Resolution or for desiring to withdraw from the conditions which were imposed by the Secretary of State when sanctioning the work, and, in the absence of any intimation to the contrary from the Government of India, His Grace in Council must assume from the repeated reference in the present Resolution to the amount of the sanctioned estimate that His Excellency the Governor-General in Council intends by the expression "the whole capital expenditure" to mean no more than the amount of Rupees 62,80,000 or £628,000.

Assuming this to be the intention of the Government of India, His Grace the Governor in Council, however, regrets that, in justice to the Presidency of Madras, he is unable to agree to the suggestion that the Port Funds, *i.e.*, the trade of Madras, should be charged with liabilities in excess of what was originally desired by the Secretary of State, or that the future administration of its provincial resources should be hampered by a guarantee for payment of 4½ per cent. interest on the whole capital expenditure, the Port Trust income being treated as a provincial asset.

His Grace in Council sees no reason to doubt the adequacy of the proposed special source of revenue to meet the charge which the Secretary of State imposed upon it; but he is unable to accept for Madras more extended liabilities or to deprive this Presidency of the prospective protection afforded by the Secretary of State's recognition of the Imperial character of the work which he sanctioned on express conditions. From these conditions the Madras Government have no desire to withdraw, but beyond them they are not prepared to hypothecate local resources.

With reference to paragraph 13 of the Government of India Resolution, it is observed that a Committee was constituted shortly after the Harbour Works were commenced, and that it is now in regular working order.

Ordered that these Proceedings be forwarded to the Government of India, and that copy be transmitted to the Secretary of State.

(True Extract.)

(Signed) C. G. MASTER,
Acting Chief Secretary

No. 51. ORDER THEREON, 6th November 1878, No. 4,258 W.

COMMUNICATED to the Examiner of Public Works Accounts.

(True Extract.)

(Signed) E. A. FOORD, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Examiner of Public Works Accounts.

Exd. T. D. Ryan.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1878} Madras

PUBLIC WORKS.

To

THE EXAMINER OF PUBLIC
WORKS ACCOUNTS.

Dated November 5th.

Issued

Rec'd.

G. O., 6th November 1878, No. 1,258.

NOVEMBER.
Nos. 50-51.

Madras Harbour.—Proceedings, Financial Department, passing orders on a Resolution of the Government of India respecting the outlay on the —— communicated to the Examiner of Public Works Accounts.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

6th January 1879, No. 41 W.

Buildings and Roads.
Civil Works.

Read the following paper:—

No. 65. From Colonel J. J. McLEOD-INNES, R.E., Deputy Secretary to the Government of India, Public Works Department (Account—General), to the Secretary to the Government of Madras, Public Works Department, dated Fort William, 9th December 1878, No. 810 A.—G.

WITH reference to Resolution of the Government of India in the Financial Department, No. 2,649, dated 30th August 1878, I am directed to say that, subject to the conditions already therein laid down, the President in Council has been pleased to sanction the sum, viz., Rupees 6,56,424, for which the Madras Harbour Works Budget for 1878-79 has been prepared.

No. 66. ORDER THEREON, 6th January 1879, No. 41 W.

ORDERED that the Government of India be addressed and that copy of these Proceedings and of the letter be sent to the Secretary of State.

(Here enter No. 42 W, dated 6th January 1879.)

(True Extract.)

(Signed) E. A. FOORD, Colonel, R.E.,
Secretary to Govt., P.W.D.

Exd. E. C. Shunker.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1879} Madras.

PUBLIC WORKS.

To

Dated January 6th.

Answd

Recd. Encl.

G. O., 6th January 1879, No. 41 W.

JANUARY.

Nos. 65-66.

Madras Harbour Works Budget Estimates for 1878-79.—Passing orders on letter from the Government of India sanctioning conditionally the — .

328(32)
21

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

No. 42 W.

No. 67.

FROM

THE SECRETARY TO THE GOVERNMENT OF MADRAS,
Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
Public Works Department.

SIR,—I am directed to acknowledge the Deputy Secretary's letter, dated 9th December, No. 810 A.—G., intimating that, *subject to the conditions* laid down in Financial Resolution, No. 2,649, dated 30th August 1878, the Government of India sanction the Harbour Budget Estimates for 1878-79. These new conditions, however, His Grace the Governor in Council, in the Proceedings marginally noted which have been forwarded to the Government of India, has already stated his inability to accept, abiding entirely by the original conditions.

Proceedings of the Madras Government, No. 1,835, dated 14th October 1878, Financial Department.

2. To this Resolution His Grace in Council feels it incumbent on him to adhere; under these circumstances it of course rests with the Government of India to decide whether they will continue to provide the funds in accordance with the original understanding, viz., at 4 per cent. on the security of the Port Funds to the extent of the estimated cost, or whether they are pleased to refuse further funds, which will be tantamount to directing the immediate stoppage of the work.

3. His Grace the Governor in Council will be glad to have the final decision of the Government of India communicated to him by telegram.

I have the honor to be,

Sir,

Your most obedient servant,

(Signed) E. A. FOORD, Colonel, R.E.,
Secretary to Govt., P.W.D.

FORT ST. GEORGE,
6th January 1879.

Exd. E. C. Shunker.
Spare Copies

BUILDINGS AND ROADS
CIVIL WORKS.

Govt. of {1879} Madras

PUBLIC WORKS.

To

THE SECRETARY TO THE
GOVERNMENT OF INDIA

Dated January 6th.

Issued

Recd. *Encl.*

G. O., 6th January 1879, No. 42 W.

JANUARY.

No. 67.

MADRAS HARBOUR WORKS.

PUBLIC WORKS DEPARTMENT.

No. 8.

TO THE RIGHT HONORABLE THE SECRETARY OF STATE FOR INDIA.

MY LORD,—We have the honor to forward copy of our Proceedings, No. 608 W, dated 27th February 1879, on a letter from the Engineer-in-Chief of the Harbour Works, submitting his estimate for the Harbour Works in a re-arranged form, together with comparative statements of the actual and estimated cost of the work up to the 31st December 1878.

2. The statements are interesting and satisfactory.

3. It is evident that up to the present time the cost of the works has been within the estimate; and, looking to the fact that the harbour has now passed through a very difficult stage of its construction, there seem to us to be good grounds for hoping that the intended work may be carried to completion within the sanctioned cost.

We have the honor to be,
My Lord,
Your Lordship's most obedient, humble servants,

FORT ST. GEORGE,
4th March 1879.

Exd. G. Freeman.

FORT ST. GEORGE.

PUBLIC WORKS DEPARTMENT.

G.O. No. 3236 W. of 16-12-79

Letter to the Right Honorable the Secretary of State for India.

Dated 4*th March.*

No. 8 *of* 1879.

MADRAS HARBOUR WORKS.

FORWARDS copy of Proceedings on letter from the Engineer-in-Chief of the Madras Harbour Works submitting his estimate for the Harbour Works in a re-arranged form together with comparative statements of the actual estimated cost of the works to the 31st December 1878.

P. W. DEPARTMENT.

3236/32 29

READ the following :—

Letter from the Govt. of India, No. 601 P.G. dated 25th Nov. 1879.

FOR ORDERS.

× Mis No 2147 W. of 15th Aug/79

I think Sec. of S. [illegible] [illegible] [illegible] exceptionally - [illegible]

certainly - but the reduction is not owing to reduced provincial grant. but to reduction in total Imperial

2. The Harbour Works were classified× as Provincial Public Works solely as a matter of account.

3. It is submitted that they stand by themselves, and that the grant made for them, which will, it is hoped, eventually be recouped by the dues levied on shipping and goods must not be made to depend on the amount of the

total grant for Productive Works in India

4. It is essential that they should be completed at the earliest practicable date and the expensive Establishment set free.

5. It is suggested that the Secretary of State be addressed on the subject.

Rd. H. Sankey Col. R.E.
Secy to Govt P.W.D.

[illegible]
2/12

grant for productive works — the distribution [illegible] Govt the steps in view in writing — [illegible] so reduce the matter is simply to waste a large portion of the money — & endanger the result of leaving an incomplete work exposed an unnecessary long time

[illegible] 7/12

FOR ORDERS.

Hon. W. Huddleston
Hon. Pres. the Council
Hon. D. F. Carmichael

Special

G.O. No. 3236 W. d/16-12-79

Retd. from cir. 9/12/79

P. W. D.

Proceedings of the Madras Government

Under date the

Read the following

From
The Govt. of India (H.E. No. 601 A.G. d/25th Nov. 1879)

Ordered that the Secretary of State be addressed and that copy of these proceedings and of the despatch be forwarded to the Govt. of India for information.

(H.E. Docket No. d/

Copy forwarded to the Govt. of India.

(H.E.

JM

B.M. 12/12

again 6th. St.
See
Demand JM

Circ. 12/12 – 12–

(H.E. No. 4

To

The Right Honble the
Secy. of State for India

My Lord,

We have the honor to
forward copy of our proceedings
under date the
No. 4, from which it
will be seen that, having in
view the restriction by your
Lordship of the grant for
outlay on Productive Public
Works in India, the Supreme
Govt. have been unable to
assign a larger sum than
seven lakhs for the Madras
Harbour Works in 1880-81.

2. The Govt. of India, for
the convenience of the Accounts
Department, decided this year
to classify the work in question
as a Productive Public Work,
but we feel confident that
your Lordship, when fixing
the amount to be expended
on Productive Public Works
in India during the coming
official year, cannot have
intended that the progress
of the Madras Harbour
should be in any way impeded
by ~~your~~ these orders. The work in
question stands on a different
footing from any now in
course of construction, and, as
remarked by Lord Salisbury
in his Despatch of the 11th
March 1875, No. 20 P.W. to
the Govt. of India, the question
is one "too large to be dealt
"with only on financial grounds".

3\. It is obviously of the greatest importance that the harbour should be completed at the very earliest practicable date, in order that the services of the expensive staff necessarily maintained may be fully utilised. and Although a fixed amount of estimated outlay is yearly named, it ~~would be~~ is for in the interests of the State to sanction expenditure ~~greatly~~ even in excess of the budget grant, should exceptionally favorable weather permit of more rapid progress than that estimated. It must not be overlooked that the work is one the progress of which is dependant on state of sea & weather. To reduce the outlay as now proposed (by the Govt. of India) will ~~inevitably result in the~~ ~~only to~~ waste ~~of a~~ large portion of the money provided the non employment by ~~maintaining~~ [illegible] of the staff — and deterioration by time & weather of materials stayings &c. which would suffice to complete the work if it be pushed forward — but will require costly replacement if operations be prolonged — and ~~may seriously~~ ~~to~~ endanger the ultimate result by leaving an incomplete work exposed to the action of storms for a needlessly long period.

4\. We have therefore the honor to request that your Lordship will be pleased to authorise the Govt. of India to advance funds on account of the harbour works to the full extent of the estimated outlay, and that the yearly grant may in no wise be made to depend upon the sum which is provided for other Productive Public Works.

~~[illegible]~~

10/12/79

[illegible] 10/12

No. 3236 Ir.

P. W. Department.

PROCEEDINGS of the MADRAS GOVERNMENT.

Under date the 16th Decr/79.

READ the following

From
The Govt. of India (H.C. No. 601 A.G. d/25th Nov/79)

Ordered that the Secretary of State be addressed and that copy of these proceedings and of the despatch be forwarded to the Govt. of India for information.

No. 3237 Ir. of 16th Decr/79.
(H.C. Docket No. 3237 A d/16th Decr/79)

Copy forwarded to the Govt. of India.

Despd. to G of India with Copy of Despatch No 72 to the Home Govt. 20-12-79.

H.C. No. d/

To,
The Right Hon'ble the Secy. of State for India.

My Lord,

We have the honor to

12 / Div: 12

forward copy of our proceedings under date the 16th December 1875, No. 3236 W, from which it will be seen that, having in view the restriction by your Lordship of the grant for outlay on Productive Public Works in India, the Supreme Govt. have been unable to assign a larger sum than seven lakhs for the Madras Harbour Works in 1880-81.

2. The Govt. of India for the convenience of the Accounts Department, decided this year to classify the work in question as a Productive Public Work, but we feel confident that your Lordship, when fixing the amount to be expended on Productive Public Works in India during the ensuing official year, cannot have intended that the progress of the Madras Harbours should be in any way impeded by those orders. The work in question stands on a different footing from any now in course of construction, and, as remarked by Lord Salisbury in his Despatch of the 11th March 1875, No. 20 P.W. to the Govt. of India, the question is one "too large to be dealt with only on financial grounds."

3. It is obviously of the greatest importance that the harbour should be completed at the very earliest practicable date, in order that the services

of the expensive staff necessarily maintained may be fully utilized: Although a fixed amount of estimated outlay is yearly named, it must not be overlooked that the work is one the progress of which is dependant on circumstances of sea and weather, and it is for the interests of the State to sanction expenditure even in excess of the budget grant, should exceptionally favorable weather permit of more rapid progress than that estimated. To reduce the outlay as now proposed (by the Govt of India) will inevitably result in the waste of a large portion of the money provided, by the non employment of the staff and

deterioration by time and weather of materials, stagings &c. which would suffice to complete the work if it be pushed forward; but will require costly replacement if operations be prolonged, and may seriously endanger the ultimate result by leaving an incomplete work exposed to the action of storms for a needlessly long period.

4. We have therefore the honor to request that your Lordship will be pleased to authorise the Govt of India to advance funds on account of the harbour works to the full extent of the estimated outlay, and that the yearly grant

may in no wise be made to
depend upon the sum which
is provided for other Productive
Public Works.

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15/12/77

Draft [illegible] [illegible]
by [illegible]
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the [illegible]
[illegible] 15/12

G. O. No 3226 [illegible] 16-12-77

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Govt. of (1879) Madras.

PUBLIC WORKS.

To

Dated

Issued

Recd. Encl.

G. O., 16 Decr 1879, No. 3236 / 3237

Nos. 67 - 69

Madras Harbour Works

The Secty of State addres[ses] on the subject of the restri[cted] grant allowed for the har[bour] outlay during 1880-81 an[d] the + and copy of the Procs of the despatch [for]warded to the Govt for i[n]formation.

Regd & Copy

Madras Harbour Works

On the subject of the restri[cted] grant for outlay during 18[80-81]

Dec 12 79