M.R.O. 1—10,006—28-2-50.

(1) Number of pages _____

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public works DEPARTMENT

G.O. No. 363 Press

B.P. ~~No.~~ Mis.

271 & 274

Dated 14.2.1874. 195—.

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department,
dated 14th February 1874.

Read the following papers:—

No. 271. From the Inspecting Engineer for Ports and Communications, dated 25th July 1873, No. 112A.

No. 272. From Lieut.-Colonel W. T. F. FAREWELL, Inspecting Engineer for Ports and Communications, to Colonel G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Camp at Annamullay Hills, 20th August 1873, No. 119A.

In forwarding, for the formal sanction of Government, an estimate submitted by the District Engineer of Malabar for closing the Cruz Milagre Gap, including the maintenance of the work during the monsoon of 1872-73, amounting to Rupees 59,230, of which Rupees 30,277 have already been allotted, I have the honour to suggest the following transfers be made in order that funds may be provided to cover the cost of the work in 1873-74, as also to meet the cost of maintaining the groynes at Cochin, and constructing the sea wall between Groynes G and L^1, L^2, at Cochin, alluded to in your memorandum No. 282, dated 29th July 1873.

1 Estimate.
1 Specification.

2. The District Engineer of Nellore reports that, though he is in a position to spend the whole of this year's allotment for the Eastern Coast Canal, he is prepared to give up the sums noted below from the grants of the year in the Provincial Budget for Civil Buildings:—

	Item No.					Rs.
Provincial Budget for 1873-74.	29.	From grant	for 1st Class Cutcherry	at Kanigherry	... ...	4,000
	31.	,,	for 2nd ,,	at Venkatagherry	... ...	4,000
	32.	,,	for ,, ,,	at Sulurpet	... ...	3,000
	33.	,,	for 1st ,, ,,	at Atmakur	... ...	3,500
	34.	,,	for 1st ,, ,,	at Rapura ...	... ...	3,000
	35.	,,	for ,, ,,	at Udayagira	... ...	6,500
					Total...	24,000
	The District Engineer of Malabar reports Rs. 10,000 as transferable from Budget Item No. 114 for the West Coast Canal					10,000
						34,000

Of the estimate now submitted for Rupees 59,230, a balance of Rupees 28,953, or in round numbers 29,000, now requires to be allotted. In addition to this amount the cost of the sea wall above noted, Rupees 2,295, has to be provided, while the maintenance of the coast groynes at one rupee per foot, as recommended in my letter No. 112-A, dated 25th July 1873, viz., 2,600 running feet of stone groynes at one rupee per foot run, has also to be allotted; thus the aggregate amount requiring to be allotted is—

	Rs.
Balance of estimate for Rupees 59,230	29,000
Stone wall between groynes, G L^1 and L^2	2,295
Maintenance of groynes 2,600 feet at one rupee per foot run	2,600
Total...	33,895

which amount is covered by the transfers now proposed.

No. 273. From the same Officer, dated Chepauk, 11th December 1873, No. 418-32.

I HAVE the honour to submit, for the sanction of Government, a revised estimate for closing the Cruz Milagre Gap at Cochin, amounting to Rupees 72,310, together with specification, describing the manner in which the work has been executed; the present estimate is in substitution of the one forwarded with my letter, No. 119A, dated 20th August last, on which Government have as yet passed no orders. The latter estimate comprised only the items alluded to in paragraph 15 of my report printed with G. O., No. 2,138, dated 27th August 1873. After I left Cochin, the District Engineer from time to time reported to me that the Cruz Milagre dam had sunk much, and that there was a likelihood of its further sinking, and, under instructions, submitted a revised estimate for the work; but this estimate was so incompletely drawn up and wanting in detail that I was obliged to return it for revision and for clear explanation as to the cause of the excess over the original estimate. In the meantime I authorized the District Engineer to thoroughly secure the dam, and approved of the mode in which he proposed to do so, *i.e.*, by adding sand slopes outside the sand-bag dam, and pointed out to him that the safety of the work was of great importance and urged his immediately visiting it, and personally satisfying himself that the estimate being prepared under his orders provided for all that was necessary and would be a final one.

1 Statement marked A.
1 Memorandum.
1 Specification report.
1 Estimate amounting to Rs. 72,310.

2. The District Engineer assures me in the estimate now submitted provision has been, so far as can at present be foreseen, made for everything; but owing to the peculiar nature of the work, he notes it as being next to impossible to state positively that nothing further will be required, and I therefore solicit the sanction of Government to the estimate which provides for the following additional items:—

	Rs.	A.	P.
Raising and strengthening dam with sand bags to full height above tide level	3,006	9	0
Making sand slopes on sea and backwater sides of the dam ...	2,866	10	8
Sand and clay slopes for groynes, returns, and dam	2,002	8	0
Turfing with clay sides of groynes, returns, and dam	178	8	0
Driving piles	16	14	0
Laying planks to bottom of slopes	30	0	0
New Cocoanut piles	30	0	0
Rough stone revetting (labour only) for groynes and returns ...	290	10	0
Sundries and Superintendence	1,658	10	7
Total additional work...	10,080	6	3
Amount actually expended before the submission of the original estimate which was inadvertently omitted by the Range Officer to be included therein, and since discovered	2,999	9	9
	13,080	0	0
Amount of original estimate...	59,230	0	0
Total amount of revised estimate...	72,310	0	0

3. The Range Officer appears to be to blame for having omitted so large an item as Rupees 2,999-9-9 in the account of expenditure rendered to me in July last, but he subsequently satisfactorily explained the way in which the error had crept into the accounts; the chief cause of the remaining excess over estimate is due to the whole of the sand-bag work having, as the bags rotted, gradually subsided, and the dam still in a measure remaining exposed to wave action, the bay in front of it not having silted in as rapidly as at first anticipated; it has therefore been absolutely necessary to strengthen and maintain the dam at the height first determined above high water, and increase its section; had the whole bay in front of it rapidly silted in before the bags had rotted but a small expenditure would have been required simply to raise and secure the crest of the beach.

4. The delay which has taken place in the submission of this estimate is chiefly due to my being desirous that nothing should be lost sight of in its preparation, and that details of the several items comprising the excess should be carefully and correctly arrived at. I have consequently, I regret to say, had to return the estimate several times for revision and explanation, and I trust now it is as complete as it is possible to make it.

5. The enclosed Statement, marked A, gives the estimate, amount spent last year, and the amounts and months in which expenditure was incurred during 1873-74, together with allotments already made. An additional allotment of Rupees 24,209 is required to close the estimate, to meet a portion of which I can only at present propose transfers of funds from the following Budget items, leaving the balance still required to be allotted from other sources by Government as funds are available.

	Amount proposed to be transferred. Rs.
1. Improving groynes and dredging the Harbour at Cocanada (Provincial Budget Item No. 116, Rupees 10,000)	2,000
2. Dredging the Harbour at Negapatam (Provincial Budget Item No. 118, Rupees 3,000)	3,000
Total...	5,000

The District Engineer, Godavery, states that he is unable to spend more than Rupees 8,000 on the first item this year; the District Engineer of Tanjore has noted in the Progress Report for September last that no work on the second item can be undertaken owing to the dredge being out of order, so, I presume, the allotment cannot be utilized as proposed.

No. 274. ORDER THEREON, 14th February 1874, No. 363.

CIVIL WORKS, No. 21.

WITH his former letter, No. 119A of 20th August, alluded to as one on which the Government had not passed orders, the Inspecting Engineer for Ports and Communications submitted an estimate of Rupees 59,230 for closing the Cruz Milagre Gap. That estimate was not dealt with in consequence of Lieutenant-Colonel Farewell having, while at Ootacamund in September, intimated that it was not trustworthy. It is now shown, by the returns of expenditure submitted with his present letter, that it was nearly

Rupees 3,000 short of the actual outlay up to the end of July, the month in which it is dated; and an error to that amount is stated to have crept into the Range Officer's accounts. Of this sum a satisfactory explanation is said to have been received, but none has been offered to the Government. On the contrary, it is simply accounted for in comparing the two estimates before them by an increase in the rate for rough stone from Rupees 2-11-0 to Rupees 4-12-0 per cubic yard, and in the rate for sand bags from Annas 1-6 to Annas 1-11, resulting in a charge of Rupees 10,430 as against Rupees 7,434 for simple maintenance between May 1872 and January 1873, every detail of which should have been correctly known and shown in the accounts long before July 1873. Lieutenant-Colonel Farewell will adopt measures for promptly ascertaining which of the estimates, or rather bills, now before Government is really correct, and accounting for the discrepancy of rates. The manner in which the Range Officer has dealt with the matter is anything but satisfactory so far as at present appears.

2. In addition to the above discrepancy of Rupees 3,000 in the expenditure up to the end of July, an expenditure has been steadily going on under the authority of the Inspecting Engineer which is stated as likely to amount to Rupees 10,080 up to the end of December. The Inspecting Engineer explains that this course was necessitated by the sinking of the sand-bag dam, and states that it has consisted in adding sand slopes on both sides, and otherwise securing the dam by stakes, planks, turf, and clay. But he should have observed that Order of Government, No. 2,138, of 27th August, distinctly lays down that the paper of sections across the dam was to be re-submitted with fresh information up to the 1st October, and it was his duty to see that this information was duly supplied in good time. It is not even now forthcoming, and, for want of it, neither Lieutenant-Colonel Farewell, who has not revisited the work since July, nor the Government, are in a position to say whether the work was really required to the full extent charged for. The Government should have been supplied with the data they asked for, from which to form some judgment of their own on the subject, and Lieutenant-Colonel Farewell's neglect to see that it was supplied, and full details of expenditure past and prospective accurately given, is not only unsatisfactory in itself, but amounts to an assumption of personal responsibility which it is not prudent on his part to incur. It might be avoided by more strictly exacting from District Engineers and Range Officers the performance of their respective duties.

3. As it is, an unsanctioned outlay of public funds has been deliberately continued month after month, in the face of standing orders of the department, without an opportunity being afforded to the Government of forming any opinion of its necessity, which is precisely one of the evils that it was the object of Government to prevent when they created the office of Inspecting Engineer. And they desire to impress upon the officers holding that office their great responsibility in this respect. It may be necessary that they shall authorize outlay, even on a large scale, in anticipation of sanction, but it must be immediately reported, and soon after accounted for. Whereas in Lieutenant-Colonel Farewell's letter of 20th August, submitting his first estimate, nothing was said of provision to be made for work then in progress, and to be carried out for several months subsequently. Even now it is asserted that the District Engineer cannot positively state that

nothing further will be required. Such doubts must be put a stop to, and the right method of doing so is by taking periodic sections across the dam and ascertaining whether any natural accretions of sand or clay are forming on either side of it. Such will accordingly be taken at once, and repeated in the last week of March, and the results submitted to Government without delay, each time. Without such information no further estimates need be sent up, and all further outlay without estimate is absolutely prohibited.

4. The following transfers will be made to cover the outlay not already provided for, viz.:—

		Rs.
Budget Item No. 112.	—New Potinghy Ghaut...	10,000
Do. ,, 114.	—Chetwye and Ponany Canal	4,000
Do. ,, 116.	—Improving south groyne and dredging Cocanada harbour	2,000
Do. ,, 118.	—Dredging harbour, Negapatam	3,000
Do. ,, 119.	—Closing Goorpoor Gap	6,000
	Total...	25,000

5. The sum of Rupees 2,300 required for strengthening between groynes G and L[a] is transferred from Budget Item No. 114.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Inspecting Engineer for Ports and Communications.
,, District Engineer, Malabar.
,, ,, Vizagapatam.
,, ,, Godavery.
,, ,, Tanjore.
,, ,, South Canara.
,, Officiating Controller of Public Works Accounts.

Exd. S. T. Austin.

Spare Copies

No. 12

MALABAR DISTRICT ENGINEER'S OFFICE,
Calicut 10th July 1873.

FROM,

THE DISTRICT ENGINEER

MALABAR.

TO,

THE Inspecting Engineer
for Ports & Communications
Madras.

SIR,

× Rs 2295.

I have the honor herewith to forward an Estimate and Specification for repairing and strengthening the Revetment between Groynes 8 & 9 at Vypeen and to request you will be good enough to sanction & provide funds for the same at your earliest convenience.

I have the honor to be,
Sir,
Your most obedient Servant;

W. Bailey Captain

District Engineer, Malabar.

Inspecting Engineer's Office
for Public Communications
Camp Cambaloxo
25th July 1873.

From

The Inspecting Engineer for
Ports & Communications.

To The Secretary to Government
Public Works Department
Calcutta.

Sir,

With letter No 12 dated
10th July 1873 from the
Divisional Engineer of
Malakal I have the
honor to forward an Estimate
and Specification for repairing
and strengthening the present
mud defences of the
magazine at Malakal
13 ft wide as per sketch No 1 dated
15th July 1873 in the
Quartermaster's Office at Cambaloxo
which I beg you will receive
the sanction of Government.

I have &c

Cambaloxo
Italy

Enclosure No 1 in a
letter from the Divisional
Engr for Ports & Communs
to the Secy to Govt.
C.P.W. D. No 412 A.
of 25th July 1873.

From,

The Divl Engr
Malakal

To The Insp Engr for Ports &
Communications

No 12.

Calo 10th
Recd 12th } July 1873.

Encls 2.

Forwarding Estimate &
Specification for repairing
& strengthening the present
mud defences Magazines
&c &c. abt 13 ft wide & requesting
sanction thereto.

P.W. 4193 A/73.

and allotment of funds
available by transfer from
the Provincial Budget
for 1873-74 item No 119
Mangalore Harbour works.

I have the honor to be
Sir
Your most Obedt Servt
W Bisset Lieut Col
Inspecting Engineer
for Ports & Harbours

P.W. 1873 Kalkulation.

Item No 41/93 d.

Riveting, replacing & repairing Rivets in Port-Commrs Go down the Lear Wharf. P. W. Office. Contractor.

Dated 25th July 1873.

Recd 26th " "

No 383-14 "

Estimate of the probable cost of repairing the Revetment between groynes G and L2 at Vypeen in Cochin Taluq in Cochin and West Coast Canal Range Malabar District.

Gen.l No 226 of 1873-74 and strengthening

No 12 D.O

Taluq Cochin

Name of Work Repairing Revetment between groynes G and L2

Date 2nd July 1873

Measurement in Yards L.	B.	D.	No	Contents Superl.	Cubic.	Particulars of Work	Rate	Amount	Total	Remarks
116	1/3	1 1/3	"	"	51 5/9	Making inner slope to the Revetment				Prepared by the order of the Inspecting Engineer for Port and Communications.
116	1	2/3	"	"	77 1/3	from groynes G to L1 and raising do				
67	1/3	1 1/3	"	"	29 7/9	do from groynes L1 to L2				
67	1	2/3	"	"	44 2/3	Raising do do			965 13 4	
					203 1/33	Total C. yards of rough stone	@ 4 12 "	by 1/4	966 14 8	
116	2 1/3	1 1/3	"	"	360 5/9	Rebuilding the old revetment between				
67	2 1/3	1 1/3	"	"	208 4/9	groynes G and L2				
					569 1/3	Total C. yards of rebuilding with old stone	1 " "	do	569 5 4	
183	1	2	"	"	366	do oyster shell for backing	@ " 10 "	do	228 12 "	
183	5	2	"	"	1830	do earth to be filled in behind	@ " 1 6	do	171 9 "	
900ft	12"	2"	2	"	300	do plank 1/4 for Tramway	@ " " 8 "	do	150 " "	2085 7 8
						Smdries	@ 10 " "	cwt	208 7 "	2086 9 "
										208 7 1/2
									Total Rupees	2295 " "

Approved

W. Gaisford Colonel
Superintending Engineer
for Port

W. Bailey Captain
Asstt Executive Engr

Date of last repair.

Cochin
2nd July 1873

C.C.

Examined

Assistant Engineer D.P.W.

P.W. 1873 Register No. 41/93 A.

From
The Executive Engineer
South Malabar
To
The Secretary Board
of Public Works
Ootacamund.

Dated Calicut 25th July 1873.
Received 26th " "
No. 303-114 "Public Works"

Sir,

I have the honor to submit herewith, with Letter No. 12 dated 23rd instant from the Divisional Officer Cochin Irrigation, Estimate No. 1 for Rupees 2295 for the above mentioned Work, and to request that the same may be submitted for the sanction of Government.

I am, Sir,
Your most obedient Servant
Executive Engineer
for Date

Cochin
3rd July 1873

C.C.

Gen. No. 226 of 1873-74 and strengthening

No. 12 Dated 23rd July 1873

Estimate of the probable cost of repairing the Revetment between groynes G and L2 at Tyseen in Cochin Taluq in Cochin and West Coast Canal Range Malabar District.

Taluq: Cochin

Name of Work: Repairing Revetment between groynes G and L2

Measurement in Yards L.	B.	D.	No.	Contents Superl.	Cubic.	Particulars of Work	Rate	Amount	Total	Remarks
116	1/3	1/3	"	"	51 5/9	Making inner slope to the Revetment				Surveyed by the order of the Inspecting Engineer for Public Communications.
116	1	2/3	"	"	77 1/3	from groynes G to L1 and raising do				
67	1/3	1/3	"	"	29 7/9	do from groynes L1 to L2				
67	1	2/3	"	"	44 2/3	Raising do do			965 13 4	
					203 21/33	Total C. yards of rough stone	@ 4 12 " C.yds		966-14-8	
116	2 1/3	1/3	"	"	360 5/9	Rebuilding the old revetment between				
67	2 1/3	1/3	"	"	208 4/9	groynes G and L2				
					569 1/3	Total C. yards of rebuilding with old stone	1 " " do		569 5 4	
183	1	2	"	"	366	do water shell for backing	@ " 10 " do		228 12 "	
183	5	2	"	"	1830	do earth to be filled in behind	@ " 1 6 do		171 9 "	
900ft	12"	2"	2	"	300	do plank 4" for Tramway	@ " 8 " do		150 " "	2085 7 8
						Sundries	@ 10 " " cent		208 7 "	2086-9 "
									208-7-1 209 7/8	
									Total Rupees	2295 " "

Approved

W. Bailey Captain
Asstt. Executive Engrs.

Executive Engineer
for Date

Date of last report.
April

Cochin
3rd July 1873

C.C.

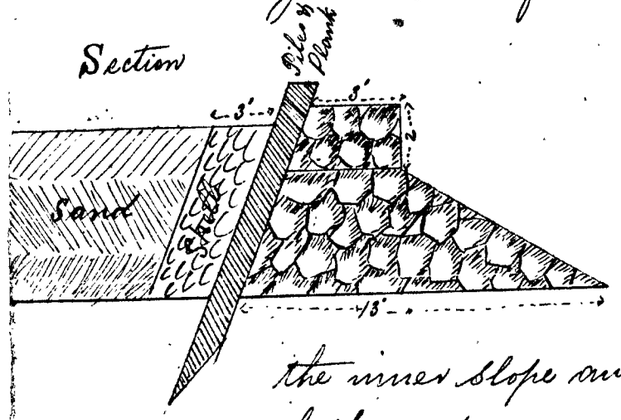
D. Gunnes
Assistant Engineer D.P.W.

No. 12 D. D

Specification

The Revetment made between groynes G. and L 2, with sheet piling and planking in the hot season was undermined by the backwash of strong waves during the monsoon and has slipped down. The Inspecting Engineer for Ports and Communications has therefore proposed to rebuild it with a slope of 2 to 1 on the seaside and ½ to 1 inside with a backing of oyster shells, 3 feet wide behind the same as per section.

Section



the present rough stones on the work are to be used for rebuilding the revetment with slope on the seaside, and the additional rough stones are required for the inner slope and to raise the revetment 2 feet high in perpendicular.

Cochin
3d July 1873

J. Gimes.
Assistant Engineer D.P.W.

C.H. W. Harley Captain,
Assistt Engineer

From The Officer in charge
Cochin M.S. Canal
Cochin

To The District Engineer
Malabar

Dated 3d July 1873

P.W. 4193 / 73
12

Estimate for repairing the Revetment of Groynes G and L 2. Rs 2295-0-0

Sanctioned

No 2

Inspecting Engineer's Office
for Ports & Communications
Camp Ootacamund
26th August 1873.

From

Lieut.t Colonel W. T. T. Farewell.
Inspecting Engineer for
Ports & Communications.

To

Colonel G. W. Walker R.E.
Secretary to Government
Public Works Department
Ootacamund.

Sir,

I am forwarding, for the formal sanction of Government, an Estimate, submitted by the District Engineer of Malabar, for closing the Cross Milagre Gap including the maintenance of the work during the monsoon of 1872-73, amounting to Rupees 59,230 of which Rs 30,247 have already been allotted. I have the honor to

Enclosures:-
1. Estimate
1. Specification
Letter
[illegible]

P.W. 419 5/73

to suggest the following transfers be made in order that funds may be provided to cover the cost of the work in 1873-74, as also to meet the cost of maintaining the groynes at Cochin and constructing the sea wall between groynes G and L^1, L^2, at Cochin, alluded to in your memo No 282 dated 29th July 1873.

2 The District Engineer of Nellore reports that though he is in a position to spend the whole of this year's allotment for the Eastern Coast Canal, he is prepared to give up the sums noted below from the grants of the year in the Provincial Budget for Civil Buildings -

Item No.		Rs.
29	From grant for 1st Class Cutcherry at Kamigherry	4,000
31	From grant for 2nd Class Cutcherry at Venkatagherry	4,000
32	Do Do Do at Sulurpet	3,000
33	From grant for 1st Class Cutcherry at Attmakur	3,500
34	From grant for 1st Class Cutcherry at Rapura	3,000
35	Do Do Do at Udayagiri	6,500
	Total	24,000

The District Engineer of Malabar reports Rs 10,000 as transferable from Budget item No 114 for the West Coast Canal ——— 10,000

34,000

Of the estimate now submitted for Rs 59,230, a balance of Rs 28,953, or in round numbers 29,000 now requires to be allotted. In addition to this amount the cost of the sea wall above noted Rs 2295 has to be provided

Provincial Budget 1873-74

1872

31

provided, while the maintenance of the coast groynes at 1 Rupee per foot as recommended in my letter No 1124 dated 25th July 1873 viz. 2600 running feet of stone groynes at one rupee per foot run. has also to be allotted, thus the aggregate amount requiring to be allotted is.

Balance of Estimate for Rs 59,230.	29,000
Stone wall between groynes G. L. & L.	2295
Maintenance of groynes 2,600 feet at one rupee per foot run	2,600
Total	Rs 33,895

which Amount is covered by the transfers now proposed

I have the honour to be
Sir
Your Most Obdt Servt
Executive Engineer
Inspecting Engineer for
Ports and Steam Vessels

the beach more quickly, and to form an improved
formed

provided, while the maintenance

P. W. 1873 Department.

From No. 4702.

The Insp.g Engr. for
Carts Commr.
To The Secretary to Govt.
P. W. Dept.
Calcutta

Dated 21st August/73
Despatched - 22d
Read. 26th

Forwards for the sanction of Government an Estimate & Specification submitted by the Dist. Supt Malabar, for closing the Gap at Pilligiri Gap at Cochin, & requests that a sum of Rs. 363-14-0 may be transferred from the Imp. Budget for 1873-74 to meet the cost of the work.

Cir Slip 5/74
Ltr Rd to Cal 27 Oct 1873

23

Specification for work at the Drug Milagre Gap, for revetting sides, and lining bottom of Gap in last monsoon, and for closing the Gap with sand bag groynes returns and dam.

After the stone Groyne projected by Mr Robertson, the Harbour Engineer, (cost Rs 24224) was completed in May 1872, the sides and bottom of the Gap was revetted and lined, to prevent damage during monsoon, and the work maintained at a cost of Rs 7434-4-10.

In January 1873, the Sand bag groyne No 1 was commenced, the bags were filled and strewn up, on the beach about 300 yards north of the Gap, loaded on carts (six on each cart) and drawn by six coolies, on a tramway of planks to the commencement of the groyne, where they were dropped into the water. as the bags appeared above water, they were pushed down on each side, so as to take their own slope, (in length of about 15 feet) and leave a proper breadth for the superstructure, which was built up to about 4 feet above high water mark. The tramway was then pushed out on this portion, and the work continued as before, till the groyne was made the full length of 100 feet.

Return No 1 was constructed at right angles to the groyne, in a similar manner on the sand slope of the beach, which had formed up under the lee of groyne No 1, in order to raise the beach more quickly, and to form an yielding foundation

for the tramway to the commencement of groyne
№2, it was necessary to lay a double line of bags
from the land end of groyne №1 to end of Return №1,
these bags were gradually raised to high water mark,
while the groyne №2 was being carried on. The tram-
way from commencement of groyne №1 to end of
Return №1, and commencement of groyne №2, was
raised on piles about 9 feet above high water mark, as
that the sea was pushing the sand in under ~~work~~ neath
while the work was being extended beyond, and so
prevented any delay. Groyne №2 and Return №2
were executed, in the same manner as were groyne
№1 and Return №1, except that for Return №2 bags
were deposited from jangadams, (two boats with a plat-
form across them) where weather and tides permitted.

The Dam was commenced by mov-
ing a hawser across the gap (300 feet) and when the
current was not too strong jangadams were despatch-
ed from either sides, after being loaded with bags on
(from 12 to 24 each) from temporary jetties constructed
for the purpose; the bags were then dropped into
the gap under the hawser, and so the work progress-
ed, care being taken to keep the bags as level as
possible all across the gap, until the bags came
within a few feet of low water mark, when the
work was pushed on by means of cant frame
each side, and by jangadams for the centre, the
Dam is now level with high tide of Springs, and
so it will be kept, till the sand forms a beach on
the sea side, when it should be raised 4 feet above
high

high water mark.

Some protective work was necessary
North and South to prevent being outflanked.

Cochin
July 1873

A. Ginnes.
Assistant Engineer R.N.

H. Bailey Captain
Ag. Dir. Eng. Surveys.

No 3

Inspecting Engineer's Office for
Ports & Communications
Chepauk. Madras.
11th December 1873.

From

The Inspecting Engineer for
Ports & Communications.

To

The Chief Engineer and
Secretary to Government
Public Works Department.

Sir,

I have the honor to submit for the sanction of Government a revised estimate for closing the Cross Milagre Gap at Cochin amounting to Rs. 72,310: together with a Specification describing the manner in which the work has been executed; the present estimate is in substitution of the one forwarded with my letter No 119 dated 20th August last, on which Government have as yet passed

Estimate for the Closing the Cross Milagre Gap at Cochin. Rs. 72,310.

Submitted with my letter No 3 dated 11th December 1873.

Received 16th December 1873.

Registered.

B.G. 18-12-73.

C.P.W. Sds. 18-12-73. Ill-2-74.

passed no orders. The latter Estimate
comprised only the items alluded
to in para 5 of my report printed
with G.O. No 2,130 dated 24th August
1893. After I left Cochin, the District
Engineer, from time to time, reported
to me that the Cross Milagre dam
had sunk much, and that there
was a likelihood of its further
sinking, and, under instructions
submitted a revised Estimate
for the work, but this Estimate
was so incompletely drawn up
and wanting in detail, that
I was obliged to return it for
revision and for clear explanation
as to the cause of the excess over
the original Estimate. In the
meantime, I authorized the
District Engineer to thoroughly
secure the dam and approved
of the mode in which he
proposed to do so i.e. by adding
sand slopes outside the sand
bag

bag dam, and pointed out to him
that the safety of the work was
of great importance and urged
his immediately visiting it,
and personally satisfying himself
that the Estimate being prepared
under his orders
provided for all that was necessary
and would be a final one —
2. The District Engineer assures
me in the Estimate now sub-
-mitted provision has been, so
far as can at present be fore-
-seen, made for everything,
but owing to the peculiar nature
of the work, he states it as
being next to impossible to
state positively that nothing
further will be required, and
therefore solicit the sanction
of Government to the Estimate
which provides for the following
additional items:—

Raising and strengthening
dam

dam with sand bags to full Rs. a.p
height above tide level — 3006-9-.
Making sand slopes on
sea and backwater sides
of the dam ——— 2866-12-8
Sand and clay slopes for
groynes, returns, and dam 2002-8-.
Surfing with clay sides of
groynes, returns and dam — 198-8-.
Driving piles ——— 16-14-.
Laying planks to bottom
of slopes ——— 30-.-.
New Cocoanut piles ——— 30-.-.
Rough stone revetting (labor
only) for groynes and returns — 290-10-.
Sundries and Superintendence 1658-10-7
Total additional work — 10000-6-3
Amount actually expended
before the submission of the
original estimate which was
inadvertently omitted by the
Ranger Officer to be included
therein, and since discovered — 2999-9-9
Rs. 13,000-.-.
Amount of original Estimate " 59,230-.-.
Total amount of revised Estimate } 72,310-.-.

2/26

3. The Range Officer appears to be to blame for having omitted so large an item as Rs 2999-9-9 in the account of expenditure rendered to me in July last, but he subsequently satisfactorily explained the way in which the error had crept into the Accounts. The chief cause of the remaining excess over estimate is due to the whole of the sand bag work having, as the bags rotted, gradually subsided, and the dam still in a measure remaining exposed to wave action, the bay in front of it not having silted in as rapidly as at first anticipated; it has therefore been absolutely necessary to strengthen and maintain the dam at the height first determined above high water, and increase its section; had the whole bay in front of it rapidly silted in before the bags

bags had rotted but a small ex-
-penditure would have been required simply
to raise and secure the crest of
the beach.

4. The delay which has taken
place in the submission of
this estimate is chiefly due
to my being desirous that nothing
should be lost sight of in its
preparation and that details
of the several items comprising
the excess should be carefully
and correctly arrived at.
I have consequently, I regret
to say, had to return the
Estimate several times for
revision and explanation
and I trust now it is as complete
as it is possible to make it.

5. The enclosed statement
marked A, gives the Estimate,
amount spent last year and
the amounts and months in
which expenditure was incurred
during

during 1913-14, together with allotments
already made. An additional
allotment of Rs 24,209 is required to
close the Estimate, to meet a portion
of which, I can only at present
propose transfer of funds from
the following Budget items, leaving
the balance still required to be
allotted from other sources by
Government as funds are available.

		Amount proposed to be transferred.
1	Improving Jetties and dredging the Harbour at Coconada (Provincial Budget Item No 116 Rs 10000)	2,000.
2.	Dredging the Harbour at Negapatam (Provincial Budget Item 118 Rs 3.000)	3,000
		Rs. 5.000

The District Engineer Godavery
states that he is unable to
spend more than Rs 000. on
the 1st item this year; the
District Engineer of Tanjore
has

has noted in the Progress Report for September last that no work on the 2nd item can be undertaken owing to the dredge being out of order, &c. I presume, the allotment cannot be utilized as proposed.

I have the honor to be
Sir
Your most Obedt Servt

W Hewett Lieut. Col.
Inspecting Engineer for
Ports & Communications.

35-0

P. W. 1873. Despatch
No 6709
From
The Inspecting Engr
for Ports & Comms
To The Chief Engineer &
Secretary to Govt.
Public Works Dept.

Dated 11 December 1873
Recd. 12 "
No 418

Submitting for
the sanction of Govt.
a revised estimate
for closing the Cruz
Bilagre Gap amounting
to Rs 72,310. with remarks.

A Forbes Lieut. R.E.

No 363 - 14 " Feby 1874

Cir 5 Jany/74

No 363 Pr. D.

Rec'd the following:-

From the Inspecting Engr for Ports & Communications
No. 112 A dy 25 July/73
No. 119 A dy 20 Aug/73
No. 418/32 dy 11 " Dec/73

With his former letter No 119 A of 20 August, alluded to as one in which the Government had not passed orders, the Inspecting Engineer for Ports and Communications submitted an estimate of Rs: 59,230 for closing the Cruz Bilagre Gap. That estimate has not dealt with in consequence of Col: Farewell having

while at Cotacamund in September intimated that it was not trustworthy. It is now shown by the returns of expenditure submitted with his present letter, that it was nearly Rs: 3000 short of the actual outlay up to the end of July, the month in which it is dated; and an error to that amount is stated to have crept into the Range Officer's accounts. Of this sum a satisfactory explanation is said to have been received, but nothing of the kind has been supplied to None None offered

the government. On the contrary, it is simply accounted for in comparing the 2 Returnes before them by an increase in the rate for rough stones from Rs: 2-11 to Rs: 4-12 per Cubic yard, and in the rate for hand kagal from Rs: 1-6 to Rs: As: 1-11; resulting in a charge of Rs: 10430 as against Rs: 7434 for simple maintenance between May 1872 and January 73, every detail of which should have been correctly known and shown in the accounts long before July 73. Lt Col.

Farewell will adopt measures for promptly ascertaining which of the estimates, or rather Bills, now before Government is really correct, and accounting for the discrepancy of rates:- The manner in which the Range Officer has dealt with the matter is anything but satisfactory, so far as at present appears.

In addition to the above discrepancy of Rs. 3000 in the Expenditure up to the end of July, an Expenditure has been steadily going on under the authority of the Inspecting Engineer which is stated as likely to amount to Rs. 10,000 up to the end of December. The Inspecting Engineer justifies such action as necessitated by the sinking of the said log dams, and states that it has coincided in adding said slopes on both sides, and otherwise securing the dam by stakes, planks, turf, and clay. Had he attentively perused the order of Govt. No 2138 of 27th Augt. he would have seen that he was not expected to take upon himself such responsibility, for in para. 3

it is distinctly stated
drawn that the paper of
Sections across the
Dam was to be resub-
mitted with fresh in-
formation up to the
1st October, and it was
his duty to see that this
information was duly
supplied in good time.
It is not even now
forthcoming, and for
want of it, neither
Lt/Col. Farewell, who
has not revisited the
work since July, nor
the Government, are
in a position to say
whether the work they
are now called upon

to pay for, was really
required to the full ex-
tent charged for. The
Government certainly
expected to have been
supplied with data
from which to form
some judgement on the
subject; & Lt/Col.
Farewell's neglect
to see that it was
supplied, & full
details of expen-
diture past &

The Govt should
have been supp-
lied with fresh
data they asked
for, prior to
to form some
judgement of
their own on the
subject; & Lt/Col.
Farewell's neglect
to see that it was
supplied, & full
details of expen-
diture past &

outlay incurred previously or subsequently to his visit to Cochin. It was long enough to have enabled him to have thoroughly examined the Rough Officer's accounts

and to have instructed him as to his estimate of further expenditure. Where such a heavy expenditure was involved it was incumbent on an Inspecting Engineer to make sure that he was well informed of all its details, and to lay them before Govt. in good time, whereas 5 months elapsed between his leaving Cochin and sending in his final Statement, which after all is not as satisfactory as it might have been.

This unsanctioned

Inspective accurately given, is not only unsatisfactory in itself, but amounts to an assumption of personal responsibility which it is not prudent on this part to incur. It ought to be avoided by more strictly observing the District Engineers & Assistant Officers, the performance of their respective duties.

As it is, an unsanctioned

outlay of public funds has been deliberately continued month after month, in the face of standing orders of the Department, without an opportunity being afforded to the Government of forming any opinion of its necessity; which is precisely one of the evils the object of Government to prevent when they created the Office of Inspecting Engineer. And they desire to impress upon the Officers holding that Office their great responsibility in this respect. It may be necessary that they

shall authorize outlay,
even on a large scale,
in anticipation of sanc-
tion, but it must be
immediately reported,
and soon after accounted
for. Whereas in Lt Col.
Farewell's letter of 20th
August submitting his
first estimate, nothing
was said of provision
to be made for work
then in progress, and
to be carried out for
several months subse-
quently. Even now
it is asserted that the
District Engineer cannot
positively state that
nothing further will

This object [illegible]
[illegible]

be required. Such doubts
must be put a stop to,
and the right method of
doing so is by taking
periodic sections across
the dam and ascertain-
ing whether any natu-
ral accretions of sand
or clay are forming
on either side of it.
Such will accordingly
be taken at once, and
repeated in the last week
of March, and the re-
sults submitted to you
without delay, in order
time. Without such
information no further
estimates need be sent
up, and all further
outlay without estimate,

is absolutely prohibited.

The following transfers will be made to cover the outlay not already provided for, viz:-

Budget Item No 112	New Pottinghy Ghat	Rs	10,000
" " 114	Chetwye & Penang Canal		4,000
" " 116	Improving south groyne & dredging Cocanada Harbour		2000
" " 118	Dredging Harbour Negapatam		3000
" " 119	Closing Groyne Ghat		6000
		Rs	25,000

The sum of Rs 2300 required for strengthening groynes between Ghat & L2 is transferred from Budget Item No 114.

Approved

Spirit vessel & the Pottinghy Ghaut amongst the works for which transfer of the sum is not made - Can it not be worked out?

The Commissioner of Works and the Superintending Engineer, Northern Circle, Vizagapatam.

18/ Copy of this forwarded to the Supt Engr for Ports & Canals 16/2/76

" The Supt Engr for Ports & Canals
" Executive Engr Nagapatam
" " Vizagapatam
" Accountant Godavery
" " Tanjore
" " S. Canara
" Offg Executive Engr Cocanada

Despatched 16/2/76

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Despatched 16/2/76

C/Nos 4702, 4193 & 4709

Govt. of [1874] Madras.

PUBLIC WORKS.

To

Dated

Recd. Encl.

G. O., 14 Feby No. 363.

Hon.

Cum Bilagre Sep. Papers

Revised

ters on the estimate for

closing the Cum Bilagre

and Sanctioning Certain

nsfers of funds.