M.R O. 1—4,002—16 9-48

(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.	1912	Press
B.P. No. 474-475		Mis.
Dated	30. 7.	1873.

Not to be folded or roughly handled

Read the following —

No 474 From Captain H. BAILEY, Acting District Engineer, Malabar, to Colonel G. W WALKER, R.E, Secretary to Government, Public Works Department, dated Calicut, 9th June 1873, No 59

WITH reference to Government Order, No 1,252, of the 2nd ultimo, I have the honour to submit the following explanation and trust that it will be sufficiently satisfactory to enable Government to exonerate me from the charges of neglect of duty and carelessness made by Captain Wood in his letter, No 22, of 22nd February 1873.

2 In September 1871, I submitted, for sanction, a plan and estimate for reconstructing the Muchitta Bridge at a better site, a set of the current having washed down one of the abutments during the previous monsoon

3 The Superintending Engineer having (as he informed me personally) disapproved of the square wing walls proposed by me, forwarded a revised plan and estimate for sanction

4 These were sent to me for execution, and are forwarded herewith

5 Had I noticed that the projection of the wing walls as shown on the plan was not sufficient to support an embankment with slopes of one to one, I would have referred the matter to the Superintending Engineer, but as only their length is marked on it, I did not notice it at the time.

6. When at the bridge site in February 1872, I pointed out to Overseer Mahoney where the new channel for the nullah was to be cut and how the bridge was to be built; and when sending him the copy of the plan (forwarded herewith) to carry out, made on it a rough sketch of the site to refresh his memory

7. In April 1872, I inspected the work for the first time after its commencement, and found that one abutment and wing walls had been built 7 feet high, that the excavation for the other was nearly completed, and the new channel for the nullah in progress, the work being carried out agreeably to the plan and estimate. This was noted in my diary for that month

8. My next visit was in August when I made the remark given in the first paragraph of Captain Wood's letter under reply.

9 In October I again inspected and measured the work and noted the quantity of masonry short executed.

10 I would beg to point out that paragraph 4 of Captain Wood's letter under reference is scarcely fair. On the margin of the copy of Overseer Mahoney's letter forwarded herewith, there is the remark in my own hand-writing "copy of plan enclosed" I believed that with the Overseer's letter and the copy of the plan, Captain Wood would have no difficulty in seeing why the Overseer could not make the embankment its full height

11 When further explanation was called for, I gave all I considered could possibly be required

12. Believing that it was one of the rules of the department that earthen embankments should have a slope of one to one at least, I did not think it necessary to point o ut that as the height of the embankment was 17½ feet, and the

projection of the wing walls only 12, the embankment could not be raised the height shown in the plan without great expense in tamping the earth, especially at the beginning of the monsoon when the work was being done, and even if this expense was incurred they would be sure to slip during the monsoon.

13. Captain Wood had the measurements on the plan (the splay and projection of the wing walls having been marked on it by Overseer Mahoney), and it seemed to me that with it before him he would have seen at once what I meant

14 My letter of explanation, No 1,181, of 13th February 1873, which Captain Wood says, in paragraph 7 of his letter, he is unable to understand, is forwarded herewith.

15 To prevent delay (being away from head-quarters at the time), I wrote it myself and sent it in to be copied and despatched, and find on referring to my office letter book that it has been correctly copied into it. The word "to" which Captain Wood marks as in the original being entered in the letter book as a figure 4.

16. I enclose my diaries for April, May, June, July, and August 1872 In that for April I have entered "one abutment and wing walls of bridge between Cootiaddy and foot of ghaut raised 7 feet Foundations for the other nearly excavated, and I made the remark given in the first paragraph of Captain Wood's letter under reference, when I again visited the work on the 11th of August; I was not near the place between those dates as my diaries show.

17 With reference to paragraph 9 of Captain Wood's letter, I hardly know what to say

18 He had the working copy of the plan showing who was responsible, and yet he tells Government that as I do not mention that any one else is responsible, he imagines it follows that I am

19 I could hardly suppose an officer of Captain Wood's standing knowing so little of the common routine of official work as to require to be told that the person who signs a paper is responsible for it

20. With reference to paragraph 11 of Captain Wood's letter, I have the honour to state that I was not aware till I had seen his letter that he considered he had any cause of complaint against me.

21. I have already explained that I believed Captain Wood had all the information he could require, and as I was absent from range head quarters when his call for further information was sent, I consider that my reply having been received in his office on the seventh day from the date of his letter showed my willingness to supply him with any information he required at the very earliest possible date

22 The sum of Rupees 30 referred to in paragraph 5 of the G O. under reference was re-credited to the Muchitta Bridge, and does not form a part of the final expenditure

23 I have to express my regret that measurements for works under 2,500 Rupees should not have been entered in the station books

24 The mistake has arisen from the forms of accounts sent by the Controller for such works having the columns for measurements [illegible] I also beg to

the orders are that expenditure on such works is not to be charged to sub heads of estimates, but under the headings of materials and labour.

25. Such being the case measurements would not give the check over expenditure on such works Captain Wood supposes they would

26 The accounts afford no means of telling what proportion of the expenditure should be charged to materials at site, and without this the working rates cannot be made out while the work is in progress

27 Measurements will, however, be entered in future in the station books for such works

28. If Government consider the bridge should be raised to the estimated height, there is almost sufficient balance remaining unexpended to carry it out, but if that were done there would be no permanent support for the upper part of the embankment The wing walls will, therefore, have to be raised 5 feet for their whole length, and for this additional masonry will be required. By tamping and turfing the embankment could be got to stand for a time, but I find that slopes of less than one to one will not stand permanently.

29 As reported in my letter, No 789, of 4th November 1872, to the address of the Superintending Engineer, one flood which has occurred since I joined the range, would, I believe, reach the beams, if it would not quite cover the bridge.

30 This, however, was such a flood as had never been experienced previously, and even if there should be another of the same kind, I do not think the bridge would get damaged, as it is the backwater from the large river which raises that in the nullah the bridge is over. There would, therefore, be no current to do any injury

31. The wood-work of the old bridge was about 1½ feet lower, and it never was carried away, it used to get covered with water occasionally and that was all

32 Captain Wood has it seems to me not acted fairly in the way he has laid this matter before Government.

33 He states that I forwarded Overseer Mahoney's letter without remark, this I have shown in paragraph 11 is not correct.

34. He does not let Government know that a copy of the plan had been sent him

35. He charges me with gross neglect of duty in April, May, June, and July, when my diaries in his office showed that such a charge was quite unfounded.

36. And he leads Government to suppose that I am responsible for the design, when the copy of the plan in his possession showed it was not the case

37 I have to apologize for the length of this letter, but have thought it better to leave nothing unexplained.

Memorandum by the Chief Engineer, Department Public Works

I HAVE to remark on the papers relating to the Muchitta Bridge as follows, viz —

1*st*.—That the Superintending Engineer would appear to have overlooked the entries in the estimate which show that a new channel averaging nearly five yards in depth was to be cut, in which the bridge was to be

placed, when he substituted oblique for straight wing walls, and that he is to blame for having passed any plan of a bridge without a section showing its proposed site and approaches

2nd—That the cause alleged by the Overseer, and acquiesced in by the Range Officer, for the reduction in height of the bridge, namely, that the slope given to the wing walls was inconsistent with that required for the embanked approaches, is unintelligible, when the bridge is found to have been built in a cutting nearly five yards deep, and thus apparently involving little or no embankment

3rd—That Captain Bailey has undoubtedly given cause of offence by his failure throughout to give full report of the circumstances which led his Overseer to build a bridge 4 feet lower than he had planned it. The statement to that effect in his Inspection list, of 11th August, does not appear to have been followed up by proper inquiry and report, and the want of remark in forwarding the Overseer's explanation, to which Captain Wood objects, is not compensated for, as he would have it, by copy of the plan being inclosed, for, with plan and estimate before him, Captain Wood must have been quite as unable as I am at present to see any sufficiency in the Overseer's reason for reducing the height of the bridge, which might have been built exactly as planned, failing intelligible cause to the contrary

4th—Again, though the plan might show Lieutenant-Colonel Farewell's responsibility for it, an error of plan, if existent, should have been detected by the officer who sent in the original, who knew the site, and who inspected the work when the abutments and wing walls had been raised 7 feet high on one side. That he did not detect it I attribute to there having been none to detect, seeing that the bridge was in a cutting and not approached by embankments 15¼ feet high, as appears to have been imagined by Captain Wood from the plan, (see paragraph 8 of his first letter with G. O, No. 1,252, of 2nd May) Captain Bailey appears to me to have been too easily satisfied with his Overseer's excuse for taking a most extraordinary liberty with the plan sent for his guidance, and to have failed to apprehend and confess his own responsibility, incurred by acquiescence in the mistake, to an extent which created a not unreasonable prejudice against him in the mind of his District Engineer to whom he was personally unknown.

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

10th *July* 1873

No. 475 ORDER THEREON, 30th July 1873, No 1,912.

CIVIL WORKS, No. 27.

ORDERED that the Chief Engineer's Memorandum be communicated through the Revenue Department to the Malabar Local Fund Board, together with previous Order, No 1,252, of 2nd May, for their consideration and decision whether the Muchitta Bridge shall be allowed to stand as at present erected, or raised to the height originally planned and sanctioned. It is some satisfaction to learn from Captain Bailey that the mistake committed of

Proceedings of the Madras Government, Public Works Department,
30th *July* 1873.

building it 4 feet lower than it was planned is not likely to lead to its destruction, or render it useless even in excessive floods, there being no current except when they begin to recede and consequently cease to be in contact with its timbers as they are floods of the adjacent river, not of the jungle stream itself, and the former bridge timbers 1½ feet less in height were never carried away.

2. In their former order the Government indirectly absolved Captain Bailey from the charge of negligence in inspections by pointing out the facts of the work having been closed on the 24th May, and of his having seen it within a month previous to that date. But they cannot absolve him of responsibility for his Overseer's proceedings, nor do they consider that his explanations were so full and complete as they should have been.

3. The Inspecting Engineer for Communications will take note of the Chief Engineer's remarks as to the necessity of insisting on every bridge plan being accompanied by a section of its site and approaches.

(True Extract.)

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

To the District Engineer, Malabar.
" Revenue Department.
" Financial "
" Inspecting Engineer for Ports and Communications.
" Officiating Controller of Public Works Accounts.

Exd. W. H. French.

Spare Copies.

No 57.

Malabar District Surveyor's Office
Calicut 9th June 1873.

From

Captain H. Bailey
Dy. District Engineer
Jn Malabar

To
The Secretary to Government
Department Public Works
Madras.

Sir,

With reference to G.O. No 1262 of the 2nd Ultimo, I have the honor to submit the following explanation and trust that it will be sufficiently satisfactory to enable Government to exonerate me from the charges of neglect of duty and Carelessness made by Captain Wood in his letter No 22 of 22nd February 1873.

2. In September 1871 I submitted for sanction a Plan and Estimate for Reconstructing the Kuckitta Bridge at a better site, a part of the current having washed down over the abutments during the previous monsoon

3. The Superintending Engineer having (as he informed me personally) disapproved of the Iguana Wing Walls proposed by me, forwarded a revised Plan and Estimate for sanction

4

4. These were sent to me for execution and are forwarded herewith.

5. Had I noticed that the projection of the Wing Walls as shown on the Plan was not sufficient to support an Embankment with Slopes of 1 to 1 I would have referred the matter to the Superintending Engineer but as only their length is marked on it I did not notice it at the time.

6. When at the Bridge site in February 1872, I pointed out to Overseer Mahoney where the New Channel for the Stillah was to be cut and how the bridge was to be built, and when handing him the Copy of the Plan (forwarded herewith) to carry out, made on it a rough sketch of the site to refresh his memory

7. In April 1872 I inspected the work for the first time after its commencement and found that one Abutment and Wing Walls had been built 7 feet high, that the excavation for the other was nearly completed and the new Channel for the Stillah in progress, the work being carried out agreeably to the Plan and Estimate. This was noted in my Diary for that month.

8. My next visit was in August when I made the remarks given in the first para of Captain Wood's letter under reply:

9. In October I again inspected and measured the work, and noted the quantity of masonry then executed.

10. I would beg to point out that para 4 of Captain Wood's letter under reference is scarcely fair. On the margin of the Copy of Overseer Mahoney's letter, forwarded herewith, there is the remark in my own hand-writing "Copy of Plan enclosed." I believed that with the Overseer's letter and the copy of the Plan, Capt. Wood would have no difficulty in seeing why the Overseer could not make the Embankment to its full height.

11. When further explanation was called for, I gave all I considered could possibly be required

12. Believing that it was one of the rules of the Department that earthen Embankments should have a slope of 1 to 1 at least, I did not think it necessary to point out that as the height of the Embankment was 17½ feet, and the projection of the Wing Walls only 12, the Embankment could not be raised the height shown in the Plan without great expense in ramming the earth, especially at the beginning of the monsoon when the work was being done and even if this expense was incurred they would be sure to slip during the monsoon

13. Captain Wood had the amendments on the Plan (the splay and projection of the wing walls having been marked on it by Overseer Mahoney) and it seemed to me that with it before him he would have seen at once what I meant

14. My letter of explanation of 181 of 13th February 1873, which Captain Wood says in para 7 of his letter he is unable to understand is forwarded herewith.

15. To prevent delay (being away from Head Quarters at the time) I wrote it myself and sent it in to be copied and despatched and find on referring to my Office Letter Book that it has been correctly copied into it. The word "to" which Captain Wood marks as in the original being entered in the Letter Book as a figure 4.

16

17. With reference to para 9 of Captain Woods letter, I hardly know what to say.

18. Nor had the working copy of the Plan shewing who was responsible, and yet he tells Government that as I do not mention that any one else is responsible, he imagines it follows that I am.

19. I could hardly suppose, an Officer of Captain Woods standing & Assistant Engineer to be ignorant of the common routine of Official work as to require to be told that the person who signs a paper is responsible for it.

20. With reference to para 11 of Capt Woods letter, I have the honor to state that I was not aware till I had seen his letter that he considered he had any cause of complaint against me

No 59. 2nd February 1873.

From

Mr J. Anthoney
Overseer D. D.

To

Captain H. Bailey
Executive Engineer Dumaha

Sir,

With reference to your Memo: No 778 I respectfully beg to state, that owing to an error in the setting of the wing walls given in the plan I passed when I had built them up to their present height that if I continued building any higher I would have no support for the earthwork forming the road way.

I beg to remain &c

Sig.d Anthoney.
"Overseer D. D.

H Bailey Captain
Assistant Executive Engineer Dumaha

Dispatched
16th February 1875

Diary of Captain H.H. Bailey Executive Engineer & Commandant Range for the month of April '72

1st Cannanore ——
2nd Central Jail & Do } Inspection & Work at Cannanore & Central Jail, and Office Work.
3rd Cannanore ——
4th Chalote —— Repairs of Bandy Bathing Shed completed.
5th Sprity —— " " Chandelang " " " "
6th Gunnoth —— Earthwork of 2 Alterations East & 2 West of Gunnoth almost completed.
7th Sprity —— One additional Jack beam to 1st Span put up the other ready for putting up struts
8th " —— } being given
9th Pyeeby —— Placing wing walls to abridge between Brickpaumba & Muttanoor built and bridge
finished with Cement.
10th Panniany —— Abutments of W. Vadakara Bridge 15 x 10 feet in Cumbrum & Anjuvakundy built
11th Cannanore —— } Office Work
12th " ——
13th Central Jail & Do — Completed except some Iron Work
14th to 20th Cannanore — Office Work. Rotwell
21st Tellicherry ——
22nd Poddaghera —
23rd Dharmady —— Out houses to Sub magistrate's Cutcherry Completed except a Door & Lock & Shed and
Asphalting Ring Plate.
24th Mahe —— } 4 Paddy Fields on this Road have been embanked & Bridge built on them, Woodwork
25th Cotiady —— } of this still required.
26th Cottiyoor —— One abutment & Wingwall of Bridge between Cotiady & Post of Ghaut passed
27th Panniany —— Commencing for the above measing received.
28th Tellicherry —— Replacing Woodwork of Bridges & Rods from Poddaghera to Cotiady Completed.
Road from Bungalow to Cutcherry in very fair order one wooden Bridge requires repair.
This Road repaired by Revenue Authorities.
29th " —— Inspecting Overseers Accounts & Work at Tellicherry. When passing through on the 23rd
pointed out to Inspector at Cutcherry how some brick work was to be done, but found on enq
ordered the same temporary Inspector to do the work agreeably to my orders before I saw
it on 21st but that in that case also he had not attended to them. ordered his dismissal.
30th Cannanore —— Returned to Head Quarters.

Cannanore
4th May 72

H.H. Bailey Captain
Executive Engineer Commandant Range

Extract of Captain H. Mackay Executive Engineer Cawnpore Range for the month of May 1854

Office work

Making Embankments Spurs &c. Bays of Bridge

Making and Abstracts of Establishment Contingencies pass Another

pass to the Bank

Making and Abstracts pass to Bank.

Making and Office Work in the Subdivision Store of the Bridge Ghaut

Men employed in Lady Canningsgunge, Cawnpore Bridge Drawings Completed

Measuring and in Lady Canningsgunge, Cawnpore Bridge Drawings Completed

Drawings and Estimates for Cawnpore as this Bridge is finished

Office work

Office work

Allowing Leave & Sick Leave Drawings

Inspected Cawnpore Accounts

Office work.

Charge on Charge of Bridge Stores

Office Work

Superintending Repairs required to be made

" " " "

Diary of Captain H Bailey Executive Engineer & Lt Col Commanding Ranges for the year 1872

1st Kallisaramba	Returning to Head Quarters
2nd Kapamakonga	
3rd Ganeanee	
4th ——— Do ———	
5th ——— Do ———	Office work
6th ——— Do ———	
7th Mukkaroy	Inspecting Canal & Road in every good order
8 Chelabe	——— Road from Mambarum to Chelabe & Bridges Drill pier as last dispatch
9th Mullaum & Do	Marking on alteration near 16th & another near 17th mile on Trunk Road
10th Gannanee	to much of Trunk Road in very good order
11th Do	Inspecting repairs of Salt Chelabe Granted by Revenue Dept Completed
12th ——— Do ———	——— Road from Tellicherry to Cannanore Tower Granted by Rev Dept Completed
13th Kakkat & Do	——— Kakkat
14th Tellicherry	
15 Guddaylore	
16th Mowat & Do	Inspecting Mowat Bridges to see if safe to be lifted open for Traffic & Culvt Revenue Granted enough to last some time longer, on the cross Gudalore Ranges
17th Tellicherry	Repairing Planking of Mahe Bridge when required on Progress
18 Cotthparamba	Inspecting road Tellicherry to Cotthparamba in very fair order
& Panur	——— repairs of Cross Roads through Nileswar from Palacherial to road from Cotthparamba to Cannanore. Not done by Revenue Dept Completed.
19th Tellicherry	
by Virangolam	Inspecting repairs of Panur & Virangolam Road Granted by Revn Dept Completed.
20 Blanchanee	Alteration of Tellicherry Hutments Road & Buffalo Hill in Progress
21st ——— Do	
22 ——— Do	
23 ——— Do	Office Work
24 ——— Do	
25 Cutcherry jail & Panamakonga	A good many of the Roofs of the Cutcherry Jail Buildings have been very seriously damaged by a Squall. I find that the Drainage of the Walls of the Buildings are not sufficient & where they are liable to at the Jail also, the many Domes to me to plaster under the Eaves on the portions of the Roof as there are sufficient balances remaining from the Estimate to carry out the Works, have ordered the Planks to be prepared while fine weather as the Labour which is suitably for which is the Labour as the loss of the Roof in this case. Will commencing a clear ceiling shall be got in under the Roof in the first Domes & Quarters of Tellicherry on the Hill side are fast off without, a Tile being displaced.

30.

Diary of Executive Engineer Bailey Commanding Ranges for Diary 72

Diary of Captain H Bailey Executive Engineer of Portlaoise Ranges, Wicklow Dist. for July 1872

1st Wk 2nd Clonaneen — Very heavy Rain, too unwell to travel being suffering from a very bad attack of Influenza

11th Ballybane
12th Clash & Do.
13th Ballycumber — Repairing Dett. Jail completed, Inspected Drain bridge, and Culvert Waterside. Inspected Road to Lumbreen, Filling Repairs Executed throughout — Commenced at Thebiddaroon Bridge finished for the 2 Barrels can pass on the Bridge also repairing and repr. an Estimate for the repair submitted.

15th Ryeberry
16th Esker — Inspecting repairs of Road Ballycumber to Mullingar, per Corp. Ford order Thos. Smith
15th Clonaneen — Returned to Head Quarter

17th Do
18th Do — Office work
19th Do

20th Ballycumber — Inspecting Works on Spunkhead Alteration at 14th Mile in progress at 17th Earthwork nearly done — at 29th Do. and on Bridge 16x6 built at 31 Earthwork almost Completed at 32nd Do. and 2 between 32nd & 33rd Do. Petty
21st Wilson — repairs Executed to road throughout and gravel being collected where required
23rd Summerhill — near Corp Sundays 688 Rods of the road has been metalled with broken stone
Do — the Roads in fairly passable all through but if the heavy rain continues much longer it will wash up in many places Springs in the Cuts being keeping open in many places
24th Galbally — Inspected Culverts near 38 Mile
26th Walsh
Sgt Mullingar & Do — Inspected that part of the Old Corp road which was not previously enumerated
Sgt Coates — in it, it appears a pity that the Corp for the future to take
Sgt Errocent — Errocen through Cathcart should not be kept up the Country at present through me
much stock by frequented them at now is the Spunk road by Spinkhill and Ullard having taken away the gates of the Corp and drawn Traffic which used to pass along this line, which at times to me was all the most reason for the road being kept open so as to do the most possible for the abandoned line of appears however neither to have been touches since the Spunk Road was made. Send therefore hardly say the almost impassable state the most part of it are now in.

30th Esker — Petty repairs to Errocen & Charleville Road executed parties repairing, stone being to be got for the
31st Clonaneen — road drains still to be built on it, steps should be taken to remove one large granite Rock from the bed of the River which at present Errocen down, must not leave, as it enables the River dangerous to Cross with the progress of heavy floods
Returned to Head quarters

H Bailey Captain
Executive Engineer Portlaoise

Clonaneen
5 Aug 1872

Diary of Captain Hl Bailey Garrison Engineer, Cannanore Range of Malabar, for the month of August 1792

1st Cannanore
2nd ___ do ___
3rd Cottiat Jail & Do ___
5th Dharmanore ___
6th Tellicherry ___
7th Puddagherra ___
8th Cantonments ___
9th Mahé ___
10th Calastry ___
11th ___ do ___
12th Mangalum & Tyring ___
13th Puddagherra ___
14th Tellicherry ___
15th ___ do ___
16th Cannanore ___
17th ___ do ___
18th ___ do ___
19th Cottiat Jail & Do ___
20th Cannanore ___
21st Tiruvangy ___
22d Cannanore ___
23 Dharmam ___
24th Mahé ___
25th ___ do ___
26th Mahé & Do ___
27th Tellicherry ___
28th Cannanore ___
29th Cannanore ___
30th Mahé ___
31st Cannanore ___

Office duty

Inspecting Cottiat Jail & Do Cantonments & Office nearly completed

Inspecting part of Road, Bridging made part as per plans, that between Puddagherra & Tiruvangy the Road being soft & Sandy, almost impossible to keep the road from breaking up

Mahé at Pandy Harbour plans, & Estimate received by Colonel Department Completed

Road from Cantonments to Mahé

Inspecting part of Road to Mangalum Road on my last tour

Inspecting Repairs of Road to Mangalum Road on my last tour

Office duty

Inspecting Bridges Accounts & Office plans & Sketch Compound for Estimate for mahé

Office duty

Inspecting Repairs of Road to Mahé & that the road being possible Considering the immense heavy showers, side drains & Stone Gravel being collected for repairs

Inspecting Repairs of Stone Bridges & Road, side drains & Gravel

From Cottiat to Cannanore Road at large

Inspecting old part of Road to Cannanore & that part of the Road to Mahé through a very Lazy Country the old Road is very bad but as far as Mahé Judge no worse than any of the latter Stages & at one time some what bad, on Increase Hassle ___

Road from Cottiat to Cannanore Inspected from Mahé to Cannanore, allowance from Mahé to Cannanore in Repair & that Bridge finished on my last tour 29th Feb & Estimate received from Colonel Department

Road from Cannanore to Boundary very fair for the most part, the part near the boundary that part to be repaired, a Coat of the lowest Coolies

do, at my former tours Stony hard Gravel

about 6 years Estimate allowance

Road from Cannanore to Cottiat & Mahé Inspected a very heavy Land Slip carrying away nearly half the road also Inspected at Cannanore Bank of the River

Office duty

Inspecting Repairs of Road

Cannanore
20th September
1792

H. Bailey Captain
Cannanore Garrison Engineer

Estimate of the probable expence of Constructing a Bridge over the Road from Cottabady to the Sea of the Ghat, instead of the old Puchilla Bridge which has fallen

Amount of each Description of Work

Length Breadth Depth Contents Rate Each Sum

Foundation to Abutments	60	3	2	60	0
Abutments above	40	7	3	330	0
Foundation of Wing walls	32	6½	11	2432	0
Wing walls to bottom of Roadway	20	2½	11	360	0
Roadway	60	5½	2	700	0
Parapets	60	3	11	2178	0
	40	2½	1½	270	0
	80	1½	3	360	0
				1520	0

Cubic feet of Solids in Masonry ——— 30 per hund 456 0

Woodwork

Planks	21	13	1
Planking	21	3	2½
Bed Posts	2	6	6
Bracing ends of planks & Offset Studs of Hand Rails	1	1	2½
Studs of Hand Rails	6	6	5
Top and Bottom Rails of Hand rails	21	6	4
Cubic Feet of	21	3	2
Cubic feet of Mus Timber wrought on 3 Sides			

Wing and Old Timber

Sleepers	21	13	1
Planking	21	1	2½
Cubic feet of old Timber Sleepers & Planking			

Cubic Contents Masonry & Timber

Cutting near Channel	306		
	224		
	176		
Filling Old Channel	266		
Cubic yards of earth work	1040		

Excavating foundations &c ——— 20 00

Pitching Slopes ——— 20 00

1803 51

Sundries and Superintendance at 10 per Cent 176 00

Total Estimate Rupees ——— 1950

Examined & Passed 28th February 1872

Superintending Engineer

Estimate of the probable expence of Constructing a Bridge over the Road from Cottabady to the Sea of the Ghat, instead of the old Puchilla Bridge which has fallen

Examined & Passed 28th February 1872

Superintending Engineer

Calicut 11th September 1871

Executive Engineer

Malabar

his guardianship, and to have finished his apprenticeship and confess his competency, incurred by acquiescence in the decision taken, does not entail which contract is not enforceable against him in the usual District Superior Court, he was personally, [illegible]

E.W. Walker Col. R.E.
Chief Engineer

10th July 1893.

Memorandum by the Chief Engineer Dept. Pub. Works.

I have to remark on the papers relating to the Umsikita Bridge, as follows, viz.

1st That the Sketch &c. would appear to have overlooked the surface in the Estimate which then state a new Channel averaging nearly 5 yds in depth was to be cut, in which the Bridge was to be placed, when he substituted oblique for straight Wing Walls. And that he is to blame for having passed any Plan of a Bridge without previously viewing the proposed Site and Approaches.

2nd Dy - That the cause alleged by the Owners, viz. acquiesced in by the Bridge

Officer, for the reduction
in height of the Bridge, on
that the slope given to the
Wing Walls was inconsistent
with that required for the
embanked approaches, is
unintelligible when the
Bridge is found to have
been built in a Cutting
nearly 5 yards deep, and
thus apparently involving
little or no embankment.

3rd. That Captain Bailey
has undoubtedly given
cause of offence by his
failure throughout to give
full report of the circum-
stances which led his Over-
seer to build a Bridge 4
ft. lower than he had plan-
ned it. The Statement
to that effect in his Inspec-
tion Note of 11th August does
not appear to have been fol-
lowed up by proper inquir-
y and report. And the
want of remark in for-
warding the Overseer's
plan[illegible], but[illegible] Capt.
Ward objects, is not con-
sidered for, as he would
have it, by copy of the Plan
being inclosed. But, with
Plan and Estimate before
him, Captain Ward must
have been quite as unable
as I am at present to see
any sufficiency in the Over-
seer's reason for reducing
the height of the Bridge
which might have been built
exactly as planned, follow-
ing intelligible command to
the contrary —

4thly Again, though the
Plan might then Lt. Col. Jones
will[illegible] responsibility for it,

... error of Plan ... if existed, should have been detected by the Officer who sent in the original; who knew the site, and who inspected the work when the Abutments and Wing Walls had been raised 7 ft high on one side - That he did not detect it I attribute to there having been room to detect, seeing that the Bridge was in ... Cutting & not approached by embankments 15½ ft high; an appearance to have been remedied by Capt. Wood from the plan: (see from S. of ... first letter with G.O. No. 1252 of 2d. Aug.) - Capt. Bailey appears to have been too easily satisfied with his Contractor for taking a most extraordinary liberty with the Plan sent for

No. 1962

Rec'd.

No. of the Road Cas Book

Read this Morning.

From the Asst. Engr. } No. 59 of 9 June/73.
Forwarded } No. 10 July/73
Minuted by Chief Engr. }

Ordered that the Chief Engineer Inspr. ... proceed to the Coast ... visit the Bridge ... (Revenue Department) to the Mr Labour Local Board together with ... provisions of Order No. 1252 of 2d Aug., for their consideration and decision whether the Bridge shall be ...

to which no additional
credit or reward to the
Regt originally planned
and sanctioned, can
succeed in the Construc-
tion of Roads being
borne by the Regt
Officers and Overseers
who carried out the
works, and such pro-
portion as the District
Engineer shall deter-
mine. It is earnestly
satisfaction to learn
from Captain Bailey
that the Inhabts. com-
menced of building it
to feel lower than it
was planned to not

I do not think
there is a case in
which Government
would be justified
in enforcing any law
of land
the Inhabitants
or he should
the Island Lol

likely to lead to
dissatisfaction, or render
it impossible since in
ordinary floods, that it
being our current exc-
ept when they begin
to recede and conse-
quently cease to be in
contact with its timbers
as they are floated of the
adjacent river mate-
rials the Jungles adjacent
thereto and the former
Bridge thrown to fall
how an knife were
never carried away.
In their former
order the Government
indirectly absolved
Captain Bailey from

the [illegible] engineer
in consideration of his
services and sufferings
of the work having
been closed on the 31st
May, and of his having
taken it without a
regular survey and
final data - But this
cannot absolve him
from responsibility for
the [illegible] [illegible]
[illegible] [illegible]
[illegible] [illegible]
Mr Macdonald and
[illegible] of them and
proceeds which are
apparently untenable,
or [illegible], than the

to order to have
for the termination
of the [illegible] should
[illegible] - [illegible]
by them on the
[illegible] [illegible]
to [illegible] [illegible]
on they should have
been

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error into which they
are known should
have been detected
by him, and which
in time - And that
in giving the
Assistant Engineer
reasons for any
[illegible] they
may submit
their [illegible]
to the undoubtedly
good reasons for
them by his remis-
sion in affording
necessary explana-
tion, duly noticing
his subordinate fault

Read & referred to
Insurance Returns of
Responsibility -

Re Superintending Engineer
for Examinations
with Detailed Reports of the
Chief Engineer thereto
as to the necessity of
erecting new screw
bridges for Arches having
accompanied by or
Centres of the Arches.
Read & referred.

Chw

Ch Inclosure
Rem Detailed
Final Detailed
Insp Engr for Publication
Centre
Dated 6/8/73

N° 474-475

Gobt. de Cuba
PUBLIC WORKS

To the District Engineer
Habana

30 Julio 1912.