M.R.O. 1—77,006—8-6-37.

(1) Number of pages 32

(2) Date of repair

(3) Initials of the Referencer

MADRAS RECORD OFFICE.

Government of Madras.

Public works **DEPARTMENT.**

G.O. No. 832. Press Mis.
495-97.

Dated 21. 3. 1871.

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department, 21st March 1871.

Read the following papers :—

No. 495. From the Special Executive Engineer, Wynaad, to the Secretary to Government, Public Works Department, dated Vythery, 14th February 1871, No. 71.

I HAVE the honour to forward a revised estimate for the Thalapoya bridge on that section of the road from Tambracherry ghaut and Mysore frontier that lays between Luckadi and Vythery, and as the circumstances which have necessitated the revision are likely to largely affect other estimates of like nature, I think it right to enter into a full explanation.

2. In a letter of mine, No. 338, dated 29th June 1868, I submitted a tender from Mr. Tipping for the erection of certain iron bridges; and, in reply thereto, the Government objected to his rate as too high, (*vide* G. O., No. 2,787, dated 31st August 1868,) having referred the tender to the late Mr. Moncrieff, then Superintendent of Public Works Workshops, for a comparative estimate. A copy of Mr. Moncrieff's estimate is herewith forwarded for reference. Mr. Tipping subsequently tendered afresh for the same description of bridges, and his terms having been much reduced were accepted, *vide* G. O., No. 3,721, dated 21st November 1868.

3. The proposed contract with Mr. Tipping having fallen through, I submitted estimates departmentally, basing them on Mr. Moncrieff's estimates, and also another obtained from Mr. Grainger, *vide* copy of the latter's letter attached.

No. 1,539, dated 24th September 1869.

4. A comparison with the bill furnished by Mr. Grainger after completion of the work will show the difference between estimate and actual execution.

5. The item for rejected piles has arisen from a misunderstanding between myself and Mr. Grainger. After the designs had been furnished to the latter, he wrote to me that he thought the large bolt holes weakened the flanges of the piles too much, and suggested an alteration; not thinking that the piles had already been cast in accordance with my designs, I consented to the change, which otherwise I should not have done, as I am not of opinion that the first design was weak to any material extent. After receipt of the bill and discovering of the item, the rejected piles might still have been utilized; but I find that on rejection they were broken up. The other items marked "not contemplated" did not appear in Mr. Moncrieff's estimate, and I was under the impression that, as the latter was used for comparison with Mr. Tipping's, all contingencies had been provided for.

6. I have lately been in communication with Mr. Maylor of Calicut, the gentleman who has lately constructed the Pier at Calicut, and whose execution of that work has been carried out, I believe, in a most satisfactory manner, and he informs me he is prepared to deliver at Calicut wrought iron piles of any length up to 32 feet, at the rate of Rupees 260 per ton, and the cast iron portions of the

work at Rupees 180. A comparison of these rates with those of the General Superintendent's bill shows the following result:—

	General Superintendent.		Mr. Maylor.	
	Cast Iron.	Wrought Iron.	Cast Iron.	Wrought Iron.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Cost at Madras	250 0 0	350 0 0	180 0 0	260 0 0
Carriage to Beypore	40 14 11	40 14 11	.....	.....
Do. to Calicut	4 8 0	4 8 0	.....	.....
Total per ton...	295 6 11	395 6 11	180 0 0	260 0 0

Mr. Maylor makes no charges for patterns or other extras, and the whole of the materials will be of the very best description and made up in England.

7. The use of wrought iron piles in place of cast iron I think an advantage, as there is less difficulty with regard to screwing down to the desired level. In the case of cast iron the depth must be perfectly uniform; whereas with wrought iron it need not, as the surplus portion can be easily cut off, and the tops of the piles made of uniform level. I therefore propose that in all the estimates submitted by me the charge may be made, and also that I may avail myself of Mr. Maylor's tender to such extent as funds will permit.

Namely, 5 inch solid wrought iron piles in place of 10 inch hollow cast iron.

8. I cannot close this letter without remarking on the very coarse and inferior description of the castings supplied from the Government Workshops; had such been furnished me by a private contractor, I should most certainly have rejected them. I presume such a course is not admissible in the present case.

Referred to the General Superintendent of Public Works Stores and Workshops, with a view to his reporting on the excessive cost of the iron work supplied for the Thalapoya bridge, and on the alleged inferiority of the castings.

Fort Saint George,
21*st February* 1871.

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

No. 496. From the General Superintendent of Public Works Stores and Workshops, to the Secretary to Government, Public Works Department, dated Chepauk, 2nd March 1871, No. 2,226.

With reference to Major Kennedy's letter, referred to me for report, I have the honour to enclose a copy of letter* and specification received from Major Kennedy when ordering the iron work for the Thalapoya bridge; also a comparative statement of the estimate made upon that specification, (the amount of which was intimated to that officer in my letter, No. 2,498, of 18th January 1870,) and the detailed bill submitted for payment by the workshops in letter, No. 1,482, of 16th November 1870, from which it will be seen in the column of remarks that a saving of Rupees 20-3-6 was effected; but, owing to the rejection of certain piles by alteration

* No. 380, dated 16th October 1869.

from the form specified in the specification, an amount of Rupees 264-0-5 was incurred, so that the increase not contemplated was Rupees 243-12-11.

2. I regret that Major Kennedy has had to find fault with the nature of the castings supplied by the workshops, but every endeavour is made to obtain the best possible.

No. 497. Order thereon, 21st March 1871, No. 832.

CIVIL WORKS, No. 28.

The foregoing letter from the General Superintendent of Public Works Stores and Workshops will be communicated to Major Kennedy, who will be informed that arrangements are in contemplation for supplying iron work at reduced rates according to a schedule of prices which will be circulated.

(True Extract.)

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

To Major R. B. Kennedy.
To the General Superintendent of Public Works Stores and Workshops.

Ed. E. C. Shunker.

Govt. of {1871} Madras.

PUBLIC WORKS.

To

MAJOR B. B KENNEDY.

&c., &c. &c

Dated March 21st.

Read

Read

G. O., 21st March 1871. No. 832

MARCH

Nos. 495-497

Thalayar Bridge.—Letter from the General Superintendent of Public Works Stores and Work-shops reporting on the cost of the iron work supplied for the Thalayar bridge, communicated to Major Kennedy with remarks

5a

Public Works Workshops
Chepauk 24 Septr 1869

No 1534

From

The Genl Supt Public Works
Workshops & Stores

To

The Spl Ex. Engr Irrigd Works

Sir

I will reference to your letter No 30. dated 21st instant, I do the honor to state that cast iron piles, with projecting screw flanges, can be supplied within the time specified say 6 months at Rs 225-0-0 per ton. The screws are cast with the piles on one length. The only extra cost will be for binding, facing and boring the flanges for bolting the piles together which will amount to about Rs 22-0-0 each.

I have &c.
sign'd J. H. Grainger
Genl Supt Public Works
Stores

True Copy
R B Kennedy Major
Spl Ex. Engr Irrigd

Communication

Section No. 2.
Between Luckadie and Nytherry.

New Work

9a

Comparative Statement shewing excess of Revised over the Original Estimate for constructing a Wooden Bridge of 52¼ feet span with Iron screw piles over Thalapoya River on the Road from Tamberchery ghaut to Mysore frontier via Nytherry, Culpetty and Sultan's Battery.

Description of Work	Original Estimate Quantity	Rate		Amount	Revised Estimate Quantity	Rate		Amount	Increase	Decrease	Remarks
Teakwood in trusses wrought	Cft. 272 3/16	4		Cft. 1088 12	272 3/16	4		Cft. 1088 12			
Junglewood joists and planking	do. 334½	2	8	do. 836 4	334½	2	8	do. 836 4			
Earthwork in embankment	Cyds. 222 7		5	Cyds. 69 7	222 7		5	Cyds. 69 7			
Revetment of loose Stones				200				200			
Wrought Iron for Braces and Bolts &c.	lbs. 1552	275		Tons 191 4 4	2295	350		Tons 357 6 4	165 12 2		Excess in quantity & rate.
Cast Iron for piles	lbs. 11554	225		do. 1160 9 1	13755	250		Tons 1535 2 5	374 9 5		Do. Do. Do.
Nuts and washers of sizes								22 10 6	22 10 6		
Pattern Charges								141 10 7	141 10 7		Not contemplated
Payment for pricked Poles								264 5	264 5		Do. Do.
Cost of Carriage from Madras to Beypoor					7/16	40	14 11	Tons 293 6 6			
Do. Beypoor to Calicut	5 Tons 50			Tons 250				32 9	183 3 6		
Do. Calicut to Site					143	13	6	Cwt. 107 4			
Iron work in Trusses				800				800			
Charges for screwing up gearing, boring & driving pegs								30	30		Not contemplated.
Guard stones for parapets	No. 10	3		ea 24	10	3		ea 24			
Painting wood and Iron Work				135				135			
Scaffolding				100				100			
Sundries				404 11 6				602 21	1100	15	
Total Estimate Rupees				5340				6640	1300		

Spl. Engrs. Engrs office
Wynaad Luckadie
14th February 1871.

Rt. H. Keane Lt. Major
Spl. Engrs Engrs Wynaad

Detailed list of Articles supplied for Thalaperja Bridge

Description				weight	Rate	Rs	Amount	
				lb				
4	Cast Iron	Long screw piles		3763				
8	"	Short	do.	5205				
4	"	Bed Plates		810				
4	"	Pillars		3867				
16	"	Brackets Plates		1204				
				18755	250	in	Rs 1535	2 6.
	Wrought Iron	Bolts & keys		680				
16.	"	Clamps for Pillars		320				
4	"	Diagonal Braces		654				
4	"	Horizontal do		467				
20	"	Hooks for Piles		264				
				2285	350	"	"	357 " 6
	Struts and brackets of stages						22 10	6
	Pattern charges						141 10	7.
	Payment for Rejected Piles						264 "	6
	Total Rupees						2320 8	6 6

Public Works Workshops
Chepauk 8th October 1870

3 dy/ F. H. Grainger
Offg. Supdt P.W.D. Madras

/True Copy/

W. T. Kennedy Major
Offg. Ex. Engr Dy maid.

Estimate of the probable cost of making one set of Wrought Iron Braces (2 horizontal and 2 Diagonals)

No	Particulars	Weight	Rate Per	Amount
33	Running ft of T Iron 4"x2"x1/2"	lbs 477	.10 lbs	24 13 6
16	" of Flat Iron 4"x3/8"	" 160	.1. "	10 " "
4	Bolts and Nuts at 4 lbs each	" 16	.3. "	3 " "
3	Coils of Coal Europe		19. Coolies	4 11 "
30	Mooreum of Husks Paddy		.2 Rs	. 5 "
1/2	Viss of Lamp oil		.8. Viss	. 4 "
				43 1 6
	Allowance for Wastage at 10 p Cent			4 4 11
				47 6 5
	Labor and Centage at 50 per Cent			24 . 4
	Total Estimate Cost Rupees			71 6 9

Castings.

4	Cast Iron screw piles 10" outside diameter each 27 feet long in 3 lengths including boring, turning drilling and fitting	Rft 108	9	43 Rft	1000 11 "
	charges	216	" 3. lbs		40 8 "
48	Bolts and Nuts for Piles at 4 p lbs each lbs				58 15 6
	Coolly hire for removing Castings from Foundry to Workshop Rs				
	Total Estimated Cost of Piles & Bolts complete Rupees				1,100 2 6

(True Copy)

R. L. Rennie Major

Spl. Lt. Engineer Wynaad.

Abstract Estimate of the probable cost of Constructing in the Public Works Workshop Madras a Wrought Iron Warren Girder Bridge 60 feet span and 12 feet wide supported by cast Iron Screw piles for the River Hargoy a Nynaad

No	Particulars	Weight	Rate	Per	Amount
2	Wrought Iron Warren Girders 60 feet span and 4 feet 9 inches deep each weighing 6626 lbs	lbs 13248	18	lbs	1,380 - -
2	Sets of Wrought Iron Braces each set consisting of 2 horizontal and 2 diagonal braces and weighing 653 lbs each set	lbs 1306	1	9 -	142 13 6
4	Cast Iron Screw Piles 27 feet long and 10" outside diameter in shafts each, including hooping, turning drilling and fitting charges	Rft 108	9	43	Rft 1,000 11 -
48	Wrought Iron bolts and nuts for Piles turned and tapped each weighing 4½ lbs	216	3.	lbs	40 8 -
	Coly hire for removing Castings &c from Foundry and about the yard into the shop				58 15 6
	Total Estimate Cost of Bridge				Rs 2,623 - -

Public Works Workshops
Chepauk 25th August 1868

Signed Moncrieff C.E.
Genl Supt. P.W. Workshops & Stores

R.N.S. Keane Major
Spl. Bn. Engs Wynaad.

No 71.

Assist Engineer's Office, Wyman's Station, Mississippi, 1871.

From: The Assistant Executive Engineer, Upriver.

To: The Secretary to Government, Department of Public Works, Madras.

Sir,

I have the honor to forward herewith estimate for the Malapuram anicut, so that steps may be taken for the Annual Grant and Supreme Sanction thereto. I have &c.

Assistant Executive Engineer.

And Agreement executed by the ryots who have received the water, and likely to benefit by the anicut, attested by the Assistant Executive Engineer.

Estimate for the repairs to the Malapuram anicut across the Mississippi River.

Rupees

1. For the repairs to the body of the anicut, as per detailed estimate No 238 dated 29th June 1868 submitted & tendered by Mr. Stephens for the execution of the same, which estimate has been approved by the Superintending Engineer, Southern Circle, Madras, in his letter No 985 dated 14th March 1871 ... 1,00,000

2. For the repairs to the Head Sluices, as per detailed estimate No 239 dated 29th June 1868 submitted & tendered by Mr. Stephens for the execution of the same, which estimate has been approved by the Superintending Engineer, Southern Circle, Madras, in his letter No 985 dated 14th March 1871 ... 50,000

Total ... 1,50,000

Copy of Estimate of Dam anicut, furnished by late Asst. Branscriff.—

thereto, the Government objected to his rate as too high, (vide G.O. No 2787 d/31. Aug.t/68) having preferred the tender to the late Mr. Mouriceff, then Superintendent of Public Work Workshops, for a comparative estimate. A copy of Mr. Mouriceff's estimate is herewith forwarded for reference. Mr. Tipping subsequently tendered afresh for the same description of Bridges, and his terms, having been much reduced were accepted; vide G.O. No 3721. d/21. Nov.r 1868

3. The proposed contract with Mr. Tipping having fallen through, I submitted estimates departmentally, basing them on Mr. Mouriceff's estimates, and also another obtained from Mr. Grainger, Vide copy of the latter's letter attached. No 1639. d/26. Aug.t 1869.

4. A comparison with the Bill furnished by Mr. Grainger after completion of the work, will show the difference between estimate and actual execution.

The

5. The item for rejected Piles has arisen from a misunderstanding between myself and Mr. Grainger. After the designs had been furnished to the latter, he wrote to me that he thought the large bolt holes weakened the flanges of the Piles too much, and suggested an alteration; not thinking that the Piles had already been cast in accordance with my designs, I consented to the change, which otherwise I should not have done, as I am not of opinion that the first design was weak to any material extent. After receipt of the Bill, and discovering of the item, the rejected Piles might have been utilized but I found that on rejection they were broken up, The other items marked "not contemplated" did not appear in Mr. Mouriceff's estimate and I was under the impression that as the latter was used for comparison with Mr. Tipping's all contingencies had been provided for. I have lately been in

6. com=

communication with Mr Maylor of Calicut, the gentleman who has lately constructed the Pier at Calicut, whose operation of that work has been carried out, I believe, in a most satisfactory manner; and he informs me he is prepared to deliver at Calicut, wrought Iron piles of any length up to 32 feet at the rate of Rupees 260 per Ton, and the Cast iron portions of the work at Rs 180: a comparison of these rates with those of the General Superintendents bill shows the following result

	General Superintendt		Mr Maylor	
	Cast Iron	Wrought Iron	Cast Iron	Wrought Iron
Cost at Madras	250 "	350 "	180 "	260 "
Carriage to Beypore	40 14 11	40 14 11	" "	" "
Dr to Calicut	48 "	48 "	" "	" "
Total per Ton	295 6 11	395 6 11	180 "	260 "

Mr Maylor makes no charges for patterns or other extras, and the whole of the materials will be of the very best description, and made up in England.

The use of wrought iron Piles in place of Cast iron I think an advantage, as there is less difficulty with regard to screwing down to the desired level. In the case of Cast iron the depth must be precisely uniform: whereas with wrought iron it need not, as the surplus portion can be easily cut off, and the tops of the Piles made of uniform level. I therefore propose that in all the estimates submitted by me the charge may be made, and also that I may avail myself of Mr Maylors tender to such extent as funds will permit.

wt 5 inch solid wrought iron piles in place of 9 inch hollow cast iron

I cannot close this letter without remarking on the very coarse and inferior description of the castings supplied from the Government Workshops that have been furnished me by a private contractor I should most certainly have pre

rejected them, I presume such a course is not admissible in the present case—

I have the honor to be
Sir,
Your most Obt Servt

R. S. Williamson Major
Special Corps Engineers
Wynaud—

23a

Rec'd 31st Augt 68 pp 657-658
" 6th Octr " 124-125
" 27 Novr " 601-602

Referred to the General Superintendent P.W. Stores and Workshops with a view to his reporting on the excessive cost of the iron work supplied for the Thalaperoya bridge and on the alleged inferiority of the Castings.

Colr.

Secy to Govt PWD
24th Feby 1871 to Colr 67 Enclosures

Rec'd 1871 Dept
From Superintendent Stores & Workshops
No 731.

The Offg Ex. Engr
Coimbatore

To,
The Secy: to Govt
P.W.D.

Dated 14th Feb.
Rec'd 17th "

Con 4 P.W. 985/71
No 71.-

Submit a revised Estimate for Thalaperoya bridge, and the Correspondence connected therewith with regard to the Cost of Iron work

No 932-20 Feby 71.

Referred

25th Public Works Workshops
Chepauk 2nd March 1871.

No 2226.

From
The General Superintendent
Public Works Workshops and Stores.

To
The Secretary to Government
Public Works Department
Fort St. George.

Sir,

With reference to Major Kennedy's letter referred to me for report, I have the honor to enclose a copy of letter and Memo to enclose a copy of specification received from Major Kennedy specification ordering the iron work for the above ordering the iron work for the Thalaperoya Bridge, also a Comparative statement of the Estimate made upon that specification (the amount of which was intimated to that Officer in my letter No 2498 of 18th January 1870) and the detailed bill submitted for payment by the Workshops in letter No 1482 of 16th November 1870, from which it will be seen in the column of remarks that a saving of Rupees 20-3-6 has effected, but owing to the rejection of certain piles by alteration from the form specified in the specification an amount of Rupees 264-0-5 was incurred so that the increase not contemplated was Rupees 243-12-11.

I regret that Major Kennedy has

has had to find fault with the nature of the Castings supplied by the Workshop but every endeavor is made to obtain the best possible

I have the honor to be
Sir
Your most obt Servant

J Spencer
Lieut Col Commdg Woolwich Sub Div

Public Works Department

No. 832

Proceedings of the Madras Government

Under date the 21st March 1871

Read the following

From The Special Executive Engineer Wynaad, No. 6. dated 14th February 1871.

From The General Superintendent Public Works Workshops & Stores, No. 2226 dated 2nd March 1871.

The foregoing letter from the General Superintendent of Public Works Stores and Workshops will be communicated to Major Kennedy, who will be informed that arrangements are in contemplation for supplying iron work at reduced rates according to a schedule of prices which will be circulated.

No.

20

3

To

Major Kennedy

Executive Engineer

Wynaad

Dated 22nd March 1871

Dept.

No. 985.

From The General Superintendent Public Works Workshops & Stores.

To The Secretary to Government Public Works Department Fort Saint George.

Dated 2 March 1871.

Rec'd 3d

No. 2226 dated

No.

Enclosures. 11.

Reports on the cost of the Iron work supplied for the Thalapoya bridge referred to in the Order of Government dated 21st February 1871. hereunto returned.

No. 832. 21st March/71

495-4

No. 496

6th March/71 Ex. 10s

Govt. of {1871} Madras.

PUBLIC WORKS.

To Major R B Kennedy

Dated

Recd. 6-

G. O. 21 Inscribed, No. 882

Nos. 495 & 497

Chalapuya Bridge. Letter
from the Superintending
Engineer & work charges
reporting on the cost of
the iron work supplied for
the Chalapuya bridge,

Cond'd to Major Kennedy
with remarks.

67 Inscribed 7 Oct. 10