(1) பக்கங்களின் எண்ணிக்கை 100

(2) புதுக்கித் திருப்பிய நாள் 28.4.88

(3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம்

10/4/88

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

P.W.D துறை

அரசாணை எண்.	அச்சகம்
மு. கோப்புத் தாள் எண். 311	பல்வகை
நாள் : 26.1.	1989.

மடிக்கவோ கண்டபடி கையாளவோ கூடாது

ALD

ஆவண. கா-1—18,006—15-6-87.

311
1

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following letter from J. W. MARTIN, Esq., Officiating Superintending Engineer, IV Circle, to the Chief Engineer, Public Works Department, dated Coimbatore, 10th January 1888, No. 13 E.W. :—

Adverting to G.O., No. 152 W., of 18th January 1886, sanctioning the commencement of work for constructing the Sholadi bridge on the Vayitri-Gúdalúr road, I have the honor to inform you that the provision made for this bridge and its approaches in the general estimate of that road will be greatly exceeded, and that consequently a revised estimate has become necessary.

2. The general estimate of the Vayitri-Gúdalúr road was sanctioned in G.O., No. 2412 W., of 15th October 1885, and it provided Rs. 15,551 for the Sholadi bridge and Rs. 4,449 for the approaches.

3. Work was started in 1886, but stopped by the monsoons of that year. Early in the present year the iron-work arrived from England, and the work was again started. It was, however, soon found that the rate for masonry—roughly hammer dressed coursed rubble—was much too low; the reason being that the site is in the centre of the Wynaad, in an exceedingly feverish tract of country where no labor or carriage is available except what is imported from Mysore or the coast, and lime has to be carted up from Calicut. An increased rate had therefore to be given for the masonry which will cause an excess of Rs. 1,715.

4. Another cause of excess was the iron-work. This, as sent out from England, was totally different from, and about 50 per cent. heavier than, what was provided in the original estimate. This alone causes an excess of Rs. 2,456.

5. Again, the whole of the site and its approaches were so covered with dense jungle when the original estimate was framed that the sections of the ground taken appear to have been insufficient for the preparation of an exact estimate, and when the jungle was cleared it was found that the steepness of the hill sides necessitated the substitution of splayed for straight wings.

The splayed wings were necessary to reduce the heavy cutting for the approaches immediately adjoining the bridge, and in this way it was possible to found nearly the whole of the wings on rock. But the splayed wings contain a greater quantity of masonry, and this adds to the excess on the masonry which comes to Rs. 2,143.

6. Also, owing to the insufficiency of the sections originally taken in the thick jungle on the approaches, the quantities of earthwork for the approaches were greatly under-estimated. On this item there is an excess of Rs. 1,552.

7. No provision was made in the estimate, by oversight, for revetments (which will be indispensable in the neighbourhood of the bridge), nor for blasting rock, painting the iron-work, and hutting. These omissions have been rectified in the revised estimate.

8. Owing to the excesses and omissions above mentioned, together with a corresponding increase in contingencies and superintendence, the total of the revised estimate comes to Rs. 32,751 as explained in the comparative statement.

9. The different items of excess will be briefly as follows :—

	RS.
Excess on masonry partly due to extra quantity and partly to extra rate	3,858
Excess on iron-work owing to the design having been altered by the Consulting Engineer to the Secretary of State	2,456
Excess on earthwork in the approaches insufficiently estimated for.	1,552
Extra works of revetments, blasting rock, painting the iron-work, and hutting	2,636
Contingencies	954
Superintendence	1,295
Total Excess ...	12,751

10. The progress made up to date is as follows :—

I. The iron-work has been received and carted to site.
II. The left abutment and the centre pier have been completed.
III. The foundations of the right abutment have been commenced.
IV. And the approaches on both sides of the river are nearly completed.

The work has been stopped pending sanction to the revised estimate.

11. I should mention that the bridge has been built in the precise site selected for it by the Special Engineer who prepared the road estimate, and that the site was no doubt chosen because there only solid rock is met with in the bed ; at other places lower down the river and nearer the old bridge there is rock, but in the form of large boulders which have been carried down by this mountain torrent in great floods. The site and the position of the approaches were indicated by the trace cut through the jungle by the Special Executive Engineer.

12. As regards quantities those for the earthwork are the actual measurements of work done, as checked by the present Executive Engineer, and the solid rock at the site of the bridge having been laid bare, there can now be no error in regard to the quantities of the masonry work.

13. In reference to the description of work, it was necessary to adopt the most substantial kind readily obtainable, as the stream in flood often brings down large trees, which, as the Local Fund Engineer informed the Superintending Engineer, had more than once severely damaged the present wooden bridge.

14. The insufficiency of the rates provided in the original estimate is also partly accounted for by the fact that this one isolated work out of the whole line from Vayitri to Gúdalúr (about 45 miles) has been taken up, and that it is about equidistant from both ends; it is also about 57 miles from Ooty and 62 from Calicut, the nearest large centres of population. If the whole line of road from Vayitri to Gúdalúr had been taken up instead of only this one work, some experienced contractor from a distance might have come forward, and, being able to give continuous work for a year or two, could have imported his own labor, both skilled and unskilled.

15. That the rates provided for masonry are not unreasonable for such an exceptional case as that of Sholadi bridge has been proved by the experience lately gained on the Barliyár bridge of the Coonoor ghât. There very similar work in an equally unhealthy locality but more favorably situated in being within 9 miles of a railway station is estimated to have cost Rs. 53 per 100 cubic feet.

ORDER—dated 26th January 1888, No. 311 W., Public Works.

The estimate, amounting to Rs. 32,751, for constructing the Sholadi bridge and its approaches on the Vayitri-Gúdalúr road, as revised by the Superintending Engineer, is sanctioned; and, as the general estimate for the road sanctioned in

311/2

G.O., No. 2412 W., dated 15th October 1885, is said to include a provision of Rs. 20,000 only for this bridge, the excess Rs. 12,751 will be added to the general estimate, which will now amount to Rs. 4,22,751.

2. This sanction has been registered as Provincial, No. 155 W. of 1887-88, and classified as Communications, Original Works.

(True Extract.)

Captain, R.E.,
Under Secy. to Govt., P.W.D.

To the Superintending Engineer, IV Circle, with six enclosures.
" Examiner, Public Works Accounts, with the general abstract estimate.
" Local and Municipal Department.

Exd. J. Moses.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1888} Madras.

PUBLIC WORKS.

Dated January, 26th.

Read.

Encl.

G.O., 26th Jan. 1888, No. 311 W.

JANUARY.

Sholadi Bridge -

Estimate for constructing the — and its approaches on the Vayitri-Gúdalúr road, sanctioned.

311/W

311/3

Public Works Department.

Current No. 295

Letter No. 13 S.W.

Dated the 10th January 188

From the Offg S.E. IV Circle

Sanction 30.1.88

NOTE OF REMARKS.

1. The accompanying revised estimate & plan of bridge provide for constructing the Sholadi Bridge on the Vayitri Gudalur road.

The amount of the estimate is Rs 32,751, or Rs 12,751 in excess of the original estimate of Rs 20,000 included in the general estimate for the Vayitri Gudalur road sanctioned in G.O. No 2412 W of 15th October 85.

2. The amount of Rs 32,751 is divided as follows:—

Wrought iron girder bridge of 2-50 ft span	Rs 25,965
Forming approaches on both side of the bridge	6,786
Total Rs	32,751

3. The cause of excess of Rs 12,751 is

is explained and will be seen below:—

(a) Excess on masonry partly due to extra quantity and partly to extra rate Rs 3867,

(b) Excess on iron work owing to the design having been altered by the Consulting Engineer to the Secretary of State Rs 2156,

(c) Excess on earth work in the approaches insufficiently estimated for. —— Rs 1552,

(d) Extra works of revetments, blasting rock, painting the iron work, & buttings Rs 2636,

(e) Contingencies — Rs 954,

(f) Superintendence — Rs 1295,

Total Excess Rs 12761.

4. The cross section of the river at the bridge, showing high water level, level of roadway, level at top of railings &c are marked on the plan.

5. Concrete in cement is used under piers, under right & left abutments & wings & coping over wings.

311/4

6. Pier, Cutwaters, abutments, wings & backing over abutments are to be built of rough stone in kurki mortar, & to be pointed with Cement. Cut granite bed stones are allowed over abutments & piers.

7. Joists over girders, planking over joists & wheel guards are to be of teak. Post wheel guards, middle rails & top rails at the both ends of the bridge are to be of Iyoni wood. The above mentioned wood works are to be painted with tar.

8. Iron work is to be painted with 2 coats of light lead

9. The rates are fair, except the

the rate of Rs 50, for 100 cft (item No 5 in the comparative statement) allowed for masonry i.e. rough stone in kutcha mortar. This item No 5 is about Rs 15 in excess of that allowed in the origl estimate, but the offg S.E. states in para 15 of his letter No 13/3rr of 10th January/88, that this rate is not unreasonable for such an exceptional case of that of Sholadi Bridge.

10. Provision of Rs 300 is made in the estimate for huts for Superintendent + Rs 40 for bailing water.

11. Contingencies + Superintendence are separately charged at 5 + 6 percent respectively.

—

H.
18.1.88

DW

Supdt. Engineer's Office 4th Circle,
Coimbatore 19 January 1888.

No. 19
Ten

From, J. W. Martin Esq.
Offg. Superintending Engineer,
Fourth Circle.

To,
The Chief Engineer
P. W. Department.

Sir,

Adverting to G.O. No 1527 W. of enclosures 5 13th January 1886 sanctioning the Commence-
1 Plan of ment of work for constructing the Sholadi
Bridge bridge on the Vayitri Gudalur road, I
1 Estimate for Bridge have the honor to inform you that the
1 Estimate provision made for this bridge and its
for approach approaches in the general estimate of that
1 General Abstt. road will be greatly exceeded, and that
1 Comparative consequently a revised estimate has become
statt necessary.

2. The general estimate of the Vayitri Gudalur road was sanctioned in G.O. No 2412 W. of 15th October 1885, and it provided Rs 15,557 for the Sholadi bridge and

and Rs 44449 for the approaches.

3. Work was started in 1886, but stopped by the monsoons of that year.

Early in the present year the iron work arrived from England, and the work was again started. It was however soon found that the rate for masonry — roughly hammer dressed coursed rubble — was much too low; the reason being that the site is in the centre of the Wynaad, in an exceedingly feverish tract of country where no labor or carriage is available except what is imported from Mysore or the coast, and lime has to be carted up from Calicut. An increased rate had therefore to be given for the masonry which will cause an excess of Rs 1715.

4. Another cause of excess was the iron work. This, as sent out from England was totally different from and about 50 per cent heavier than what was provided in the original estimate. This alone causes an excess of Rs 2456.

5. Again the whole of the site and its

311/A

its approaches were so covered with dense jungle when the original estimate was framed that the sections of the ground taken appear to have been insufficient for the preparation of an exact estimate, and when the jungle was cleared it was found that the steepness of the hill sides necessitated the substitution of Splayed for Straight wings.

The Splayed wings were necessary to reduce the heavy cutting for the approaches immediately adjoining the bridge, and in this way it was possible to found nearly the whole of the wings on rock. But the Splayed wings contain a greater quantity of masonry and this adds to the excess on the Masonry, which comes to Rs 2143.

6. Also, owing to the insufficiency of the sections originally taken in the thick jungle on the approaches, the quantities of earthwork for the approaches were greatly underestimated. On this item there is an excess of Rs 1852.

7. No provision was made in the

estimate, by oversight, for revetments (which will be indispensable in the neighbourhood of the bridge) nor for blasting rock, painting the iron work, and hutting. These omissions have been rectified in the revised estimate.

8. Owing to the excesses and omissions above mentioned, together with a corresponding increase in Contingencies and Superintendence, the total of the revised estimate comes to Rs. 32751 as explained in the Comparative Statement.

9. The different items of excess will be briefly as follows:—

Excess on Masonry partly due to extra quantity and partly to extra rate.	Rs. 3858.
Excess on iron work owing to the design having been altered by the Consulting Engineer to the Secretary of State.	2456.
Excess on earth work in the approaches insufficiently estimated for	1552
Extra works of Revetments blasting rock, painting the iron work, and hutting	2636
Contingencies	954
Superintendence	1295
Total excess	Rs. 12751.

32751
20577
12200

10. 3/11/A The progress made up to date is as follows:—

I. The iron work has been received and carted to site;

II. The left abutment and the centre pier have been completed.

III. The foundations of the right abutment have been commenced.

IV. And the approaches on both sides of the river are nearly completed.

The work has been stopped pending sanction to the revised estimate.

11. I should mention that the bridge has been built in the precise site selected for it by the Special Engineer who prepared the road estimate, and that the site was no doubt chosen because there only solid rock is met with in the bed; at other places lower down the river and nearer the old bridge there is rock, but in the form of large boulders which have been carried down by this mountain torrent in great floods. The site and the position of the approaches were

indicated by the trace cut through the jungle by the Special Executive Engineer

12 As regards quantities those for the earthwork are the actual measurements of work done, as checked by the present Executive Engineer, and the solid rock at the site of the bridge having been laid bare, there can now be no error in regard to the quantities of the masonry work.

13 In reference to the description of work, it was necessary to adopt the most substantial kind readily obtainable, as the stream in flood often brings down large trees, which, as the Local Fund Engineer informed the Superintending Engineer, had more than once severely damaged the present wooden bridges.

14 The insufficiency of the rates provided in the original estimate is also partly accounted for by the fact that, this one isolated work out of the whole line from Vayitri to Gudalur (about 45 miles) has been taken up, and that it

is about equidistant from both ends; it is also about 57 miles from Ooty, and 62 from Calicut, the nearest large centres of population. If the whole line of road from Vayitri to Gudalur had been taken up, instead of only this one work, some experienced Contractor from a distance might have come forward and being able to give continuous work for a year or two, could have imported his own labor both skilled and unskilled.

15 That the rates provided for masonry are not unreasonable for such an exceptional case as that of Sholadi Bridge has been proved by the experience lately gained on the Burliar bridge of the Coonoor ghat. There very similar work in an equally unhealthy locality but more favorably situated in being within nine miles of a railway station is estimated to have cost Rs. 53 per 100 C feet.

I have the honor to be,
Sir,
Your most obedt. Servt.

Offg. Superintending Engineer IV Circle

M

N° 1524 a/ 12.1886

N° 1624 a/ 30.12.1885

1879 W a/ 13.7.87

From

J. W. Martin Esq;

Offg. Supg. Engineer

Fourth Circle.

Dated 10th

Recd. 13 Jany: 188

No: 13

Ew

Encls. 5.

Sholadi Bridge

Forwarding with his observations a revised estimate of Rs: 32,751 for constructing a Wrought Iron Girder Bridge, and forming its approaches

Public Works Department.

No. 311 W 3/11/9

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 26th January 1888.

Read the following

From the Supty Engineer IV Circle N.E. No. 13 Ew. a/ 10th January 1888.

The estimate amounting to Rs 32,751 for constructing the Sholadi Bridge, and its approaches on the Vayitri - Gudalur road, as revised by the Superintending Engineer, is sanctioned; and, as the general estimate for the road sanctioned in G. O. No. 2412 W dated 15th October 1886, is said to include a provision of Rs 20,000 only for this ~~Sholadi~~ Bridge, the excess Rs 12,751 will be added to the general estimate ~~for the road~~ which will now amount to Rupees 4,22,751.

2. This sanction has been registered as Provincial No. 1524 W of 1887-88, and classified as Communications, Original Works.

Ordered
11/2/88

To
The Supty. Engr. IV Circle with 6 enclosures.
Exam. No. of P. W. Accounts with the general abstract estimate
" Local & Municipal Dept.

Secd
23.1.88

27/1/88

295

Govt. of 1888 Madras.

PUBLIC WORKS.

Dated 12 March

Rect. Encl.

G.O., 26 Jan 1888 No. 311

Sholadi Bridge

=

Estr for constructing
the — & its approaches
on the Vayattri - Pudalur
road, Sanctioned

90/6