

Public Works (1893) Department.

RAILWAY BRANCH.

G.O., No. 149 R

DATED 23rd January

[Despatch Abstract.]

Kistna Bridge.

Sanction of the Govt. of India to the revised design for the abutment of the — at Bezamara, E. C. Ry, communicated to the Engineer-in-Chief of that line.

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Rev. S. J. Pereira.
Spare Copies

RAILWAY.

Govt. of {1893} Madras.
PUBLIC WORKS.

Dated January, 23rd.

Recd.

Encl.

G.O., 23rd Jan. 1893, No. 149 R.

JANUARY.

Kistna Bridge

Sanction of the Government of India to the revised design for the abutments of the — at Bezvada, East Coast Railway, communicated to the Engineer-in-Chief of that line.

All communications
should be addressed to
the Secretary.

No. 64 R.C.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

RAILWAY Construction.

To

The Joint Secretary to the Government of Madras,

Public Works Department, Railway Branch.

Calcutta, the 17th January 1893.

Sir,

I am directed to acknowledge the receipt of your letter No. 3098 R., dated 24th December 1892, and in reply to communicate the sanction of the Government of India to the revised design submitted therewith for the abutments of the Kistna bridge at Bezvada, East Coast State railway.

I have the honour to be,

Sir,

Your most obedient servant,

J. D. Whitaker M. Inst. C.E.

Under Secretary.

24TH DECEMBER 1892, No. 3097 R., PUBLIC WORKS:

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read the following paper:—

From the Engineer-in-Chief, East Coast Railway, to the Joint Secretary to Government, Public Works Department, Railway Branch, dated Waltair, 16th December 1892, No. 8937/4.

In compliance with the orders of the Government of India as conveyed in their letter No. 1034 R.C., dated 14th September 1892, which were communicated to me in your No. 2329 R., dated 28th September 1892, I now have the honour to forward a design and estimate for the Kistna bridge abutments, which I hope may be fortunate enough to be a final one.

2. This design has, in compliance with orders, been prepared so as to accord with the suggestions made in para. 8 of my letter No. 31 W., dated the 19th July 1892. It is the third design that has been submitted since the 7th July 1891. I shall endeavour to explain it in detail.

3. It is of course understood that the object of the design is to allow of access to the upper boom footways, whereby it is expected that fully nine tenths of the traffic will be diverted from rail level, which would otherwise be a constant obstruction to the working of trains. The footways are a part of the girder design. They have been supplied and are being erected simultaneously with the girders. They are, I consider, a very great convenience and it would be shortsighted to prevent their being used; hence arises the staircase design.

4. But whether or not a staircase design had been accepted, it would have been necessary to have built houses of some sort at each end of the bridge for the use of telegraph signallers and traffic jemadars for the safe working of the combined road and rail traffic. At Sher Shah, these people are accommodated in the lower part of the block houses and around the spiral stairs. Similarly, at the Kistna, no better position presented itself than that flanking the entrance of the bridge, and this position was found to lend itself to the designing of more suitable abutments than the roughly sketched ones which formed part of the first preliminary bridge design.

5. The necessity for building these houses accounts for about 14 feet of the height of the structure above the level of formation. The question then was whether to fix ugly iron ladders on top of these houses or to continue the design in stone another 17 feet upwards with some sort of architectural pretensions. The latter alternative is what has been attempted in the present design. The accompanying photograph shows the present condition of one pier and abutment and it will, I venture to hope, convince the Government of India that to match the solid and shapely pier some sort of heavy architectural finish is needed on the ends of the bridge.

6. The drawings appear to show that the design is a little complicated in detail, but such is not the case for the stone that is available, and the men whom I have been employing are quite able to make a good job of it. The whole of the necessary materials are on the ground and paid for; they form so petty a proportion of the whole material required for the bridge itself that it was impracticable to avoid so small a surplus and they may as well be utilized as wasted. I am very anxious to finish them now while labour and supervision is still available. Soon it will have begun to scatter. The best time of the year, when the girder work was slack, has already been lost.

I despatch
A No. 149 R & 23 Jan'y 1903.
Communicated
to the Engineer-in-Chief
East Coast Railway with
reference to Propo. No.
3097 R dated 24 Decr. 1892.

F.H.W.

J.S. R.

No. 3097 R & 24-12-92 ✓
- 3098 R - 24-12-92 ✓

In the Comptroller's office
- Engr. in Ch. G.C.R.
- Engr. in Ch. C.R.
Inf. despatched 23.1.93.

7. As the photograph will show, the abutment is already completed up to what is shown on the drawing as reduced level 78.00. This was a necessity so as to keep back the earthwork of the combined road and railway bank 50 feet wide on top with slopes 2 to 1. In the east abutment this carrying up of the masonry is hollow as part of the water-supply design. In the west abutment it is solid and possibly a few hundred rupees worth of masonry might have been saved if it had been so built as not to have afforded a base for any sort of useful superstructure.

8. The cost of the present design is estimated at Rs. 5,500 per tower, that is, Rs. 22,000 for the whole thing. Of this I reckon that more than half has already been paid for, being spare material lying around the stone yard and lime sheds. The substitution of an iron railing in place of the proposed light stone parapet rising 5 feet above the top floor level would only effect a saving of one hundred rupees per tower.

9. The Kistna bridge estimate is not, I believe, going to be exceeded and I already foresee in the girder erection a saving more than sufficient to carry out the present design. I shall be very glad if the present proposal can be sanctioned, so that I may see my way to the remaining programme of work and of establishment on the bridge.

ENCLOSURE.

ESTIMATE for one staircase tower to drawing of above date (Kistna bridge abutments).

Quantities.	Description.	Rate.	Units.	Amount.
6,400 cubic feet	Rubble masonry walling	Rs. 65	%	Rs. 2,520
210 "	Rough-cut corbelling, &c.	65	"	136
430 "	Do. arching and centres to same	75	"	322
460 "	Fair-cut paving steps, landings, &c., chiefly 6" thick. Note the steps can be alternately in 2 and 3 stones	85	"	391
640 "	Fair-cut and part-moulded ashlar	120	"	768
6,500 square feet	External and internal pointing to all masonry with neatly-ruled mortar joint	2	"	130
47 "	Teak joinery in doors and windows including painting and fittings	1	Sq. ft.	47
	Contingencies at 5 per cent.			261
	Estimate total			6,575
	Add for three more			16,725
	Total for four staircases and towers			22,300

ORDER—dated 24th December 1892, No. 3097 R., Public Works.

Ordered that the above letter, with enclosures, be forwarded for the early orders of the Government of India.

[Here enter No. 3098 R., Public Works, dated 24th December 1892.]

(True Extract.)

(Signed) F. B. WALKER,
Offg. Joint Secy: to Govt., P.W.D.,
Railway Branch.

To the Consulting Engineer for Railways.
" Engineer-in-Chief, East Coast Railway.
" Examiner, East Coast Railway Accounts.

Exd. A. D. Xavier.
Spare Copies

RAILWAY.

Govt. of {1892} Madras.
PUBLIC WORKS.

Dated December, 24th.

Recd.

Encl.

G.O., 24th Dec. 1892, No. 3097 R.

DECEMBER.

Kistna Bridge Abutments

Letter from the Engineer-in-Chief, East Coast Railway, forwarding a design and estimate for the —, ordered to be forwarded for the early orders of the Government of India.

24TH DECEMBER 1892, No. 3098 R., PUBLIC WORKS.

PUBLIC WORKS DEPARTMENT.

Railway.

LETTER—from

F. B. WALKER, Esq.,

Offg. Joint Secretary to the Government of Madras,

Public Works Department,

Railway Branch,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,

PUBLIC WORKS DEPARTMENT.

SIR,

With reference to para. 2 of your letter No. 1034 R.C., dated 14th September 1892, I am directed to forward, herewith, for favour of early orders, copy of Proceedings of this Government No. 3097 R., dated 24th December 1892, embodying a letter from the Engineer-in-Chief, East Coast Railway, together with a design and estimate for the Kistna bridge abutments. I enclose a photograph also of the abutment as already completed.

I have the honour to be,

Sir,

Your most obedient servant,

(Signed) F. B. WALKER,

Offg. Joint Secy. to Govt., P.W.D.,

Railway Branch.

FORT ST. GEORGE,
24th December 1892.

Exd. A. D. Xavier.
Spare Copies

RAILWAY.

Govt. of {1892}. Madras.

PUBLIC WORKS.

Dated December, 24th.

Recd.

Encl.

24th December 1892, No. 3098 R.

DECEMBER.

Kistna Bridge Abutments

Forwarding, for early orders, copy of Proceedings embodying a letter from the Engineer-in-Chief forwarding a design and estimate for the Kistna bridge abutments.