

G.O., No. 613 Marine

DATED 15th July 98

[Despatch Abstract.]

Lighthouse at Mulki - Pro: P.W. Dept
Sanctioning, with remarks, an estimate of
Rs 68600 for the construction of a lighthouse
with subsidiary buildings, at Mulki in the
S. Canara, Communicated to the
Resd Port Officer.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.
80	135	Mar.	19-2-20				

207/18

Estimate of Rs. 68,600 for the construction of a lighthouse, with subsidiary buildings, at Mulki in the South Canara district, sanctioned with remarks.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads,
Civil Works.

READ—the following papers :—

From F. W. ASHPITEL, Esq., Superintendent of Works, Lighthouse Division, Madras, to the Chief Engineer, Public Works Department (through the Presidency Port Officer, Madras), dated 14th January 1898, No. 833.

I have the honour to forward, herewith, plans and estimates as noted below for a lighthouse and other necessary buildings at Kaph Rock on the West Coast (entered as Mulki rock in table I printed with G.O., No. 245, Marine, dated 8th April 1896). *pag 13*

2. This is the only large lighthouse proposed to be constructed north of Mangalore and is designed for a range of 18 miles in accordance with the proposals approved in G.O., No. 245, Marine, 8th April 1896. The other lights, all of which it is proposed to deal with during 1898-99, are : Kundapur, Hangarikotta (Barkur), Malpi and Mangalore.

3. At Kundapur all that is required is to construct quarters for keepers, and the estimate is only delayed because there is no one available to make the necessary survey. This will not take long.

4. At Hangarikotta the existing light is a 6th-order port light placed as a temporary measure on the boundary pillar of the port and the range required does not exceed 6 miles. It is proposed to move the cabin and mast now at Malpi to this port.

5. As stated in Appendix B, page 30, of G.O., No. 245, Marine, dated 8th April 1896, a better sight for Malpi light is on one of the islands, and Captain Street has suggested that the change should be made. The light now at Hangarikotta will be exhibited from the roof of a small building.

6. At Mangalore it is proposed to exhibit a light from a small building in the marine yard and to use the existing apparatus with a burner which will run the whole night without attention.

7. A tracing from the chart showing the proposed lights accompanies this letter. They are all, with the exception of Kaph Rock, very petty lights though extremely useful to navigation as anchoring lights.

8. The estimate for the lights mentioned in paragraphs 3, 4, 5, 6 of this report will be submitted when a subordinate is posted to No. 3 sub-division of this division.

9. Early sanction is requested to enable a start to be made before the south-west monsoon.

No. 61 W.

Forwarded, observing that I concur in Mr. Ashpitel's proposals as specified in this letter.

MADRAS,
15th January 1898.

(Signed) H. A. STREET, Comdr., R.I.M.,
Presidency Port Officer.

Note by the Chief Engineer, Public Works Department.

These estimates were received in this office in January 1898, and as the details required careful scrutiny, they have been left back in favour of other work, instead of being disposed of as quickly as possible. This will not be allowed to occur again.

2. The estimates would, under ordinary circumstances, have been returned for revision in some minor points, but owing to the above-mentioned delay, they are recommended for sanction as they stand, and attention is called below to the points in question which can be rectified during construction.

3. *Lighthouse tower.*—The wind pressure allowed in calculating the stability of the tower is ample, and it is considered that Basel Mission bricks in cement can withstand with safety the maximum intensity of pressure to which they are ever likely to be exposed during a cyclone, or heavy storm, which is calculated to be 8.6 tons on the square foot. The tower is therefore considered stable. The bricks will be plastered with portland cement outside and in, and will therefore be in no danger of deterioration from exposure to sea air. The tower is likewise founded on rock, so damp cannot rise from the foundations.

4. The girders provided in the estimate are in some cases rather heavier than calculation shows to be necessary, but as stiffness in the floors of a lighthouse is essential, they are allowed to stand. The increased cost involved is small.

5. The specification has been amended in some particulars, which shall be attended to during execution. Data for the rate for brickwork in cement should be supplied.

6. *Lightkeepers' quarters.*—The estimate for each set of quarters amounts to Rupees 6,250, or nearly Rs. 4 per square foot of plinth area. This is very high, and must be reduced in construction. In the first place, the soil being stated to be pure sand, 6 feet of foundations is unnecessary. It should be reduced to 4 feet. Secondly, cement plastering inside and out $\frac{3}{4}$ " thick is not required. It will be sufficient if the laterite is pointed with cement; the lower 2 feet of the walls outside alone being plastered $\frac{1}{2}$ " thick. The floors should be of Mangalore flooring tiles, not cement. Thirdly, the wood work need not be all teak. There are many excellent woods obtainable from Messrs. Brown & Co., Calicut, sufficiently good for the purpose both of roof and doors and windows at much less cost than teak. A circular on this subject is just issuing.

The ceiling plaster should be $\frac{1}{2}$ ", not $\frac{3}{4}$ " thick. Some of the rates are also already high. It seems impossible that concrete of laterite in surki can cost Rs. 26 per 100 cubic feet, especially when laterite in surki in basement and superstructure only cost Rs. 22-8-0. Explanation is required here, and data should be submitted for all items in excess of local rates.

7. *Oil store.*—The same remarks apply with regard to cement plastering and wood work.

(Signed) W. B. DEWINTON,
24th June 1898. Chief Engineer.

ORDER—No. 1670 W., dated 4th July 1898.

The estimate, amounting to Rs. 68,600, for the construction of a lighthouse with subsidiary buildings, at Mulki in the South Canara district, is sanctioned.

2. A sum of Rs. 68,000 has been provided for the work in the current year's Excluded Local Fund budget.

3. Attention is drawn to the Chief Engineer's note recorded above, and the estimates for lighthouse keepers' quarters and oil store should be revised in accordance therewith.

4. It is observed that the lightkeepers' quarters are far away from the light-house. The Superintendent of Works will report whether this defect can be remedied.

5. The sanction accorded in paragraph 1 has been registered as Excluded Local, No. 10 W. of 1898-99, and classified as Miscellaneous Public Improvements—Original Works.

(True Extract.)

A. K. M. S.

Under Secretary to Government.

To the Superintendent of Works, Lighthouse division, with enclosures.

„ Examiner, Public Works Accounts.

„ Marine Department.

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Presidency Port Officer.

Marine (1898) Sept.

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2. The estimates would, under ordinary circumstances, have been returned for revision in some minor points, but owing to the above-mentioned delay, they are recommended for sanction as they stand, and attention is called below to the points in question which can be rectified during construction.

3. *Lighthouse tower.*—The wind pressure allowed in calculating the stability of the tower is ample, and it is considered that Basel Mission bricks in cement can withstand with safety the maximum intensity of pressure to which they are ever likely to be exposed during a cyclone, or heavy storm, which is calculated to be 8.6 tons on the square foot. The tower is therefore considered stable. The bricks will be plastered with portland cement outside and in, and will therefore be in no danger of deterioration from exposure to sea air. The tower is likewise founded on rock, so damp cannot rise from the foundations.

4. The girders provided in the estimate are in some cases rather heavier than calculation shows to be necessary, but as stiffness in the floors of a lighthouse is essential, they are allowed to stand. The increased cost involved is small.

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No. 1670 W., 4TH JULY 1898.

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(True Extract.)

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W. B. DEWINTON,
Secretary to Government.

To the Superintendent of Works, Lighthouse division, with enclosures.
" Examiner, Public Works Accounts.
" Marine Department.

Exd. T. K. Narayana Aiyangar.

Marine (1898) Septt.

BUILDINGS AND ROADS.
CIVIL WORKS.

Government (1898) of Madras.
PUBLIC WORKS.

Recd.

Regd.

1898.

Enclosures

Spare copies

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No. 613 Marine of 15th July 1898.
Communicated to the
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JULY. (Id) A. S. R.

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