

(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.	79	(2)	Press
~~B.P. No.~~			~~Mis.~~
Dated	14-1-	1876	

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
14th January 1876.*

Read the following:—

No. 7.

No. 155-A. *Note by the Chief Engineer for Irrigation.*

In the estimate for Ryres' Canal, Eastern Delta, Kistna, which was approved in
Correspondence. G.O., No. 2,543, of the 20th August 1867,
From Executive Engineer in charge, No. 80, a sum of Rupees 4,170 was provided for
dated 19th Oct. 1875.
To do. No. 1,338, dated 13th Nov. 1875. a bridge to carry the Ellore road across
From „ „ 108, „ 20th Dec. „ the canal. The bridge as designed was
to be of five arches of 20 feet span each. In G.O., of the 31st January 1868, No. 348,
a revised estimate, amounting to Rupees 6,153, was sanctioned, the design remaining
unchanged.

2. The bridge has not been constructed, because it appeared to be doubtful whether the road would not be superseded by one carried along the north bank of the Ellore canal, but it is now reported that the Local Fund Board cannot afford to make this new road, so the bridge will require to be built. It may be added that there being no bridge between the head and this point in the 8th mile, it is improbable that under any circumstances a bridge would have been found unnecessary. The canal is now approaching completion, and means of crossing it should be provided as soon as possible.

3. The design has been materially altered in conformity with the rules laid down for the dimensions of canal bridges.
Circular No. 14, G.O., dated 21st May 1869, No. 1,676.

1st.—The waterway has been increased from 100 feet to 114 feet lineal to avoid contraction, and the destructive effects on bed and banks therefrom resulting.

2nd.—The width of roadway has been increased from 12 to 13 feet.

The former design was defective as regards the foundations, the length of the wings, &c., and these defects have been attended to in drawing out the revised design, which substitutes three arches of 38 feet each for five of 20 feet, and by adding concrete foundations and lengthening the wings so as to allow of rather flatter slopes than $1\frac{1}{2}$ to 1.

4. The amount of the estimate for the revised design is Rupees 12,440, and the length of the bridge from end to end of wings being 207 feet, the cost will be Rs. 60 a foot run, which is not an extravagant rate. Certain details needing alteration or which it is desirable to alter have been noted on the plan. The most important is the addition of 3 inches to the thickness of the arches which are thinner than is altogether safe. Excavating foundations and forming approaches are estimated to cost Rupees 664, and fencing the approaches with iron railings Rupees 948. The latter would hardly be a satisfactory arrangement, and it will be better and probably considerably cheaper to widen the approaches 6 feet and add side ridging 18 inches or 2 feet high, which will be an effective protection. It is expected that the saving on this item will cover the cost, about Rupees 150 of increasing the thickness of the arches, and of raising the roadway 3 inches which this alteration will involve.

Proceedings of the Madras Government, Public Works Department,
14th January 1876.

5. It is reported that it is anticipated that there will be a saving of about half a lakh on the earthworks of the canal. At the end of 1873 a considerable saving on work done up to that time had been secured, and as two seasons work have since been done with equally satisfactory results, it may safely be assumed that the canal will be completed much under the estimate.

FORT ST. GEORGE,
3rd January 1876.

(Signed) JOHN MULLINS, Lt.-Col., R.E.,
Chief Engineer for Irrigation.

No. 155-B.

ORDER THEREON, 14th January 1876, No. 79.

IRRIGATION, No. 11.

Accounts.

UNDER the circumstances reported, His Excellency the Governor in Council approves of the revised design and estimate, amounting to Rupees 12,440, for constructing a bridge of three arches of 33 feet span each for the Ellore road on Ryves' canal. It is observed that this estimate exceeds by Rupees 8,270 the amount provided in the original estimates for the canal, and by Rupees 6,287 that subsequently sanctioned, but that the design has been materially and necessarily altered. The excess will be met from the savings on earthworks which, it is reported on apparently good grounds, will approximate to Rupees 50,000.

2. The several alterations made in the sanction for the Ellore canal are as follow:—

Original estimate ...	...	rs.
Increase on head-sluice, G.O., No. 3,342, 26th November 1874	6,260	4,06,110
Four iron punts, G.O., 31st May 1875, No. 1,507	...	7,840
Increase on Ellore road bridge	8,270	22,370

(True Extract.)

(Signed) G. W. WALKER, Major-General, R.E.,
Secretary to Government.

To the District Engineer, Kistna.
" Collector of do.
" Chief Engineer for Irrigation.
" Controller of Public Works Accounts.
" Financial Department.

Exd. E. C. Shunker.

Spare Copies

27
Note by the Chief Engineer for Irrigation
In the estimate for Ryves Canal
correspondence
from the Chief Engineer for Irrigation
in charge of the Eastern Delta, Kistna, which was approved
by the Government on 15th Dec. 1875, a sum
of Rupees 4,170 was provided for a bridge
to carry the Ellore road across the Canal.
The bridge as designed was to be of 3 arches
of 20 feet span each. In G.O. of the 31st January
1868, No. 3148, a revised estimate amounting
to Rupees 6,150 was sanctioned, the design re-
maining unchanged.

2. The bridge has not been constructed,
because it appeared to be doubtful whether
the road would not be superseded by one
carried along the north bank of the Ellore
Canal, but it is now reported that the Local
Land Board cannot afford to make this new
road, so the bridge will require to be built. It
may be added that there being no bridge be-
tween the head and the point on the 8th mile
it is improbable that under any circumstances
a bridge would have been found unnecessary.
The Canal is now approaching completion
and means of crossing it should be provided

as soon as possible.

3. The design has been materially altered in conformity with the rules laid down for the dimensions of Canal bridges.

Circular No. 114
G.O. 21st May 1874
1st 1876

1. The waterway has been increased from 100 feet to 114 feet clear to avoid contraction and the destructive effects on bed and banks therefrom resulting.

2. The width of roadway has been increased from 12 to 16 feet.

The former design was defective as regards the foundations, the length of the wings & and these defects have been attended to in drawing out the revised design, which substitutes 3 arches of 38 feet each for 5 of 20 feet, by adding concrete foundations and lengthening the wings so as to allow of rather flatter slopes than $1\frac{1}{2}$ to 1.

4. The amount of the estimate for the revised design is Rspees 12,440 and the length of the bridge from end to end of wings being 207 feet, the cost will be 60 Rspees a foot run which is not an extravagant rate. Certain details needing alteration or which it is desirable to alter have been noted on the plan. The most important is the addition of 3 inches to the thickness of the arches which

which are thinner than is altogether safer. Excavating foundations and forming approaches are estimated to cost Rspees 664 and fencing the approaches with iron railings Rspees 948. The latter would hardly be a satisfactory arrangement and it will be better, and probably considerably cheaper to widen the approaches 6 feet and add side riding 18 inches or 2 feet high, which will be an effective protection. It is expected that the saving on this item will cover the cost about 150 Rspees of increasing the thickness of the arches, and of raising the roadway 3 inches which this alteration will involve.

5. It is reported that it is anticipated that there will be a saving of about half a lakh on the earthwork of the Canal. At the end of 1873 a considerable saving on works done up to that time had been secured, and as 2 divisions more have since been done with equally satisfactory results, it may safely be assumed that the Canal will be completed much under the estimate.

Para. 29 of Memo. in P.M. G. No. 2732 of the 29th Sept. 1874 also refers in P.M. G. No. 26 November 1874 No. 3342.

Fort Saint George
3rd January 1876

Wm. Lindsay Smith Col. R.E.
Chief Engineer for Irrigation.

To The Secretary to Government
P.M.D.

By M.L.

FORMER CASES.

Current No. of 187

"
"
"
"

M. WORKS FORM No. 3

Current No. 166

From
Ch. Eng^r for
Irrigation

No. 7
Dated 3rd Jan^y 1876
Rec^d 10th Jan^y 1876

Subject:—

Remarks on plan and
Est^t for a bridge to be constructed
across Ryer's channel on road
from B. Guadalupe to Ellore for
Rs. 12,440; submitted by: the
Eng^r in charge of Kistna Dist^t.

ENCLOSURES. 4.

From
" to
" "
" "

G.O. No 79. 14. 1. 76
Orders and Proceedings in file.

Depart- ment.	No.	Date.	ENDORSEMENTS.		
			Depart- ment.	No.	Dated.
P.W.	466	20 th Aug ^t			
"	468	18 th 76			
"	166				
"	107	7 th Dec ^r			
"	672	31 st Jan ^y 76			
"	680				
"	468	26 th Jan ^y 76			
"	467				
"	582	31 st Jan ^y 76			
"	670				
"	768	10 th 7/5			
"	284				

1552

Ar 11-1-76.

No 79

Proceedings of the Madras Government
Read the following

From
The Ch. Eng^r for Irrigation (16th Dec^r & 3rd Jan^y 1876)

Under the circum-
stances reported, His Excellency
the Governor in Council approves
of the revised design and es-
timate amounting to Rs. 12,440 for constructing a bridge
of 3 arches of 38 feet spans each
for the Ellore road on Ryer's
Canal. It is observed that the
estimate exceeds by Rs. 5,270 the amount provided
in the original estimates for
the Canal and by Rs. 4,287
that subsequently sanctioned
but that the design has been
materially

G.O. No 3148. 31 Jan^y 1876.

materially and necessarily altered. The excess will be met from the savings on earthworks which, it is reported on apparently good grounds, will approximate to Rs. 50,000.

2. The several alterations made in the sanction for the Ellore Canal are as follows.

Original estimate Rs. 4,06,110.
 Increase on head sluice G.O. No. 3342
 26th November 1874 Rs. 6,260
 Four iron points G.O. No. 11507 - 7,840
 Increase on Ellore Road bridge - 8,270.
22,370.

by 6/1

Q.W.

Obt. by: Kistuck
 Collection do
 Ch. Page for L. X
 Controller of P. M.
 H. P. Dept.

X with 4 Enclosures
 No. 25-1-76

27/1/66

Obt. of 1876 Madras.

PUBLIC WORKS.

To
The D. & Lister

17/1/66

Dated

For

Per

Per

G. O. 14 Jan 1876. No.

7

Nos. 1557 - 1558

Bridge for the Ellice Road
on Byres' Canal, District

1st — The revised design
& estimate amounting to
Rs 12,440 for constructing
a — approved with
Remarks