

0-7-36 III ✓

Public Works (189 ) Department.

✓

G.O., No. 678 - I  
DATED 25 August 1898

27/5/99

[Despatch Abstract.]

Munijeru Project -

Sanctioning, with remarks, the revised estimates, amounting to Rs 8,240/- for certain works in connection with the —  
Kistna northern D.

90  
24

252

29/8

Government {1899} of Madras.  
PUBLIC WORKS.

} 1899.

*Spare copies*

G.O., No. 735 I., 25th August 1899.

**AUGUST.**

Sanctioning, with remarks, the revised estimates, amounting to Rs. 8,240, for certain works in connection with the —, Kistna Northern division.

## GOVERNMENT OF MADRAS.

## PUBLIC WORKS DEPARTMENT.

Irrigation.  
Account.

READ—the following papers :—

From Captain W. M. ELLIS, R.E., Executive Engineer, Kistna Northern Division, to the Superintending Engineer, II Circle, dated 22nd February 1899, No. 581 S.E.

I regret to have to report that the last two undertunnels of the Muniyeru main channel, now under construction, will cost considerably more than the sanctioned estimates for the same owing to their being built, each two spans of 10 feet in place of single-span works provided for.

While I am of opinion that the works, as now being built, allow only the proper amount of waterway having in view the nature of the soil (black cotton), the alteration should undoubtedly have been made the subject of an application for sanction before we were committed to the design as we now are, both works being far advanced. The reason why this was not done was that it has only just come to my knowledge that the works sanctioned only provided for single span a tunnel.

2. The circumstances under which this oversight occurred were as follows :—

The estimates for both these works—viz., undertunnel at 23/2½, Rs. 2,880; undertunnel at 25/1, Rs. 3,080—made reference to a design of another work for type of design, no separate drawings being made.

This was convenient as the exact sites of the works and knowledge of soil and sub-soil were only known shortly before construction commenced.

When considering the matter of taking up the last 5 miles of channel in the latter part of 1896, I mentioned to the Sub-division officer that I thought a different type of work would be economical and serve the purpose. That officer drew up a design and submitted it for orders. The design so drawn was for a work of two spans of 10 feet.

After taking the opinion of the Chief Engineer for Irrigation when he visited Bezwada early in 1897, this type was abandoned and I drew designs for both works of the type sanctioned, adapting the designs to the circumstances of site.

These designs I drew with two vents, each 10-ft. span, being misled by the design originally submitted by the Sub-division officer, which provided for two vents.

It did not for a moment occur to me that the Sub-division officer's design provided for two 10-ft. spans where only one such span was sanctioned.

The quantities were not taken out as I knew the design followed the sanctioned type, and the calculated waterway required for the catchment area of cross drainage suited the two spans allowed; thus the alteration escaped notice altogether.

I only discovered it by noticing the expenditure on works in progress was heavy for the amount of work done and by making inquiry into the cause.

3. I now submit revised estimates for these works showing an excess over sanction of Rs. 990 and Rs. 1,290, and request that the same be sanctioned from the savings on the following cross drainage works which are completed and for which completion reports have been submitted, viz.—

|                                                           | RS.    | RS.   |
|-----------------------------------------------------------|--------|-------|
| 1. Constructing undertunnel at 6 mile 4 fur. 540 ft.—     |        |       |
| Estimate ... ..                                           | 10,270 |       |
| Actual cost ... ..                                        | 9,353  |       |
| Saving ... ..                                             |        | 917   |
| 2. (1) Constructing undertunnel at 2 mile 3 fur. 160 ft.— |        |       |
| Estimate ... ..                                           | 9,450  |       |
| Actual cost ... ..                                        | 8,781  |       |
| Saving ... ..                                             |        | 669   |
| (2) Constructing undertunnel at 7 mile 5 fur. 332 ft.—    |        |       |
| Estimate ... ..                                           | 11,000 |       |
| Actual cost ... ..                                        | 10,447 |       |
| Saving ... ..                                             |        | 553   |
|                                                           |        | 1,222 |

The rates in the revised estimates are based on the agreements entered into for the execution of the works and show a material reduction on those originally sanctioned.

4. While I must confess to oversight in the matter, I submit (a) that there was no negligence as I was most naturally misled by the circumstances explained; (b) that the works as now designed are suitable to the work they have to do and that the single-vent undertunnels originally sanctioned did not provide sufficient cross drainage area involving a dangerous velocity through and in rear of the vents. I consider that a head of 1 foot involving a velocity of about 6 feet per second is as great a velocity as these works in black cotton soil should be expected to withstand.

No. 117 I.

Copy forwarded to the Chief Engineer for Irrigation for favour of sanction of Government being obtained to the revised estimates for constructing undertunnels at 23/2½ mile and 25/1 mile of Muniyeru main channel.

2. The excesses over the original estimates may be met from the savings on other works of the project for which completion reports have already been forwarded to the Examiner, Public Works Accounts.

(Signed) J. HANNAN,  
Suptg. Engineer, II Circle.

12th April 1899.

To the Examiner of Public Works Accounts, dated 18th April 1899, No. 137.  
From the " " " " 28th " " " 1323 B./A.  
To the Superintending Engineer, II Circle, " 6th May " " 75 K.S.  
From the " " " " 29th June " " 222 I.  
To the Examiner of Public Works Accounts, " 6th July " " 224.  
From the " " " " 22nd " " " 2450 B./A.

## ENCLOSURE.

STATEMENT showing the excesses or savings on the following works up to 19th July 1899 on Muniyeru project for which completion reports have been received.

| Item No.                               | Authority.     | Description of work.                                                            | Amount of estimate. | Expenditure. | Excess or savings. |
|----------------------------------------|----------------|---------------------------------------------------------------------------------|---------------------|--------------|--------------------|
| G.O., No. 518 I., dated 8th July 1898. |                |                                                                                 |                     |              |                    |
| 1                                      | 60-8/1898-99.  | Muniyeru project.—Repairing rest-house, stables and cook-house at Polempally .. |                     |              |                    |
| 2                                      | 60-9/1898-99.  | Do. —Repairing lascars' shed at Polempally ..                                   | 212                 | 274          | • 62               |
| 3                                      | 60-3/1898-99.  | Do. —Rest-house at Polempally ..                                                | 70                  | 88           | • 18               |
| 4                                      | 60-4/1898-99.  | Do. —Store-shed at do. ..                                                       | 2,550               | 2,505        | — 45               |
| 5                                      | 60-5/1898-99.  | Do. —Lascars' shed at do. ..                                                    | 35                  | 34           | — 1                |
| 6                                      | 61-6/1898-99.  | Do. —Constructing undertunnel at 2 mile 3½ fur. ..                              | 1,360               | 1,462        | — 102              |
| 7                                      | 61-7/1898-99.  | Do. —Constructing undertunnel at 2 mile 7 fur. ..                               | 9,450               | 8,781        | — 669              |
| 8                                      | 61-8/1898-99.  | Do. —Constructing undertunnel at 3 mile 2 fur. 120 ft. ..                       | 2,330               | 2,205        | — 125              |
| 9                                      | 61-18/1898-99. | Do. —Constructing undertunnel at 18 mile 6 fur. 635 ft. ..                      | 4,500               | 4,245        | — 255              |
| 10                                     | 61-21/1898-99. | Do. —Constructing undertunnel at 21 mile ..                                     | 3,890               | 3,828        | — 62               |
| 11                                     | 61-16/1898-99. | Do. —Do. do. at 15 mile ..                                                      | 4,190               | 3,778        | — 412              |
| 12                                     | 61-9/1898-99.  | Do. —Constructing undertunnel at 4 mile 4 fur. 330 ft. ..                       | 2,610               | 2,423        | — 187              |
| 13                                     | 61-10/1898-99. | Do. —Constructing undertunnel at 6 mile 4 fur. 540 ft. ..                       | 3,150               | 3,023        | — 127              |
| 14                                     | 61-11/1898-99. | Do. —Constructing undertunnel at 7 mile 5 fur. 332 ft. ..                       | 10,270              | 9,353        | — 917              |
| 15                                     | 61-12/1898-99. | Do. —Constructing undertunnel at 8 mile 7 fur. 500 ft. ..                       | 11,000              | 10,447       | — 553              |
| 16                                     | 61-19/1898-99. | Do. —Constructing undertunnel at 19 mile 2 fur. 556 ft. ..                      | 3,410               | 3,039        | — 371              |
| 17                                     | 61-3/1898-99.  | Do. —Outlet at 10th mile ..                                                     | 2,250               | 2,147        | — 103              |
| 18                                     | 61-47/1898-99. | Do. —Repairs to Machintala rest-house ..                                        | 2,020               | 1,475        | — 545              |
| 19                                     | 61-38/1898-99. | Do. —Rest and tools shed at Vemavaram ..                                        | 80                  | 77           | — 3                |
| 20                                     | 61-39/1898-99. | Do. —Rest-shed at Machintala ..                                                 | 200                 | 200          | ..                 |
| 21                                     | 61-40/1898-99. | Do. —" at Gummadidurru ..                                                       | 1,650               | 1,721        | .. 71              |
| 22                                     | 61-4/1898-99.  | Do. —Constructing undertunnel or weir at 14 mile 4 fur. ..                      | 200                 | 200          | ..                 |
| 23                                     | 61-48/1898-99. | Do. —Repairs to rest-shed at Vemavaram ..                                       | 850                 | 649          | — 201              |
|                                        |                |                                                                                 | 60                  | 30           | — 30               |
|                                        |                | Total ..                                                                        | 66,337              | 61,984       |                    |
|                                        |                | Net savings ..                                                                  |                     |              | — 4,353            |

\* Excesses of Rs. 62 and 18 against items 1 and 2 sanctioned by Superintending Engineer in his No. 117 Exr., dated 21st April 1899.

(Signed) H. RAINIER,  
Offg. Exr., P.W. Accounts, Madras and Coorg.

No. 162 I.

Note by the Chief Engineer for Irrigation.

The Superintending Engineer, II Circle, submits revised estimates, amounting to Rs. 3,870 and Rs. 4,370, for the last two undertunnels of the Muniyeru main channel, involving excesses of Rs. 990 and Rs. 1,290, respectively, over the sanction accorded in G.O., No. 518 I., dated 8th July 1898. The revised estimates may be sanctioned as the original estimates did not provide for tunnels of sufficient waterway for the cross drainage.

12th August 1899.

(Signed) W. HUGHES,  
Chief Engineer for Irrigation.

ORDER—No. 735 I., dated 25th August 1899.

The following revised estimates are sanctioned in lieu of the provision of Rs. 2,880 and Rs. 3,080 made for the works in the revised estimate for the Muniyeru project sanctioned in G.O., No. 518 I., dated 8th July 1898, the total excess of Rs. 2,280 on both the works being met from the saving of Rs. 4,353 shown in the

statement submitted by the Examiner of Public Works Accounts to have been realized on completed works of the project. The balance of the saving will be added to the sum \* available for unforeseen works which will then be increased to Rs. 4,291 :—

\* Rs. 2,218.

Irrigation.  
43. Minor Works and Navigation.  
Minor Works for which Capital and Revenue Accounts are kept.  
Capital Account.  
Muniyeru Project.  
I. Works.  
(2) Main Canals and Branches.  
Muniyeru Main Channel.  
6. Other Cross Drainage Works.

|                                                  | RS.   |
|--------------------------------------------------|-------|
| 1. Constructing undertunnel at 23/2½ mile ... .. | 3,870 |
| 2. " " at 25/1 " ... ..                          | 4,370 |

2. This sanction is registered as No. 55 I. of 1899-1900.

(True Extract.)

Under Secretary to Government,  
Irrigation Branch.

To the Chief Engineer for Irrigation.  
" Superintending Engineer, II Circle, with eight enclosures.  
" Examiner of Public Works Accounts.

Exd. T. K. Narayana Aiyangar.

# Public Works (1899) Department.

CURRENT No. 6883

Order

From

The Chief Engineer for Irrigation

No. 162 J

Dated 12 - 8 - 99

Received

Registered

Enclosures

Spare copies.

SUBJECT.

Muniyuru Main Channel  
— Revised estimates amounting  
to Rs 3870 and 4370 for the  
last two under tunnels of the  
— Note recommending that  
the — maybe sanctioned.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the

READ the following

*Note by the Chief Engineer for Irrigation*

The Supg. Engineer, 2<sup>nd</sup> Circle, submits revised estimates amounting to Rs 3870 and Rs 4370 for the last two under-tunnels of the Mumiyeru main channel involving excesses of Rs 990 and Rs 290, respectively, over the sanction accorded in G.O. No 518. I. dated 8<sup>th</sup> July 1898. The revised estimates may ~~excesses are due to the~~ be sanctioned as the ~~under-tunnels being built~~ original estimates with two vents of 10 feet

Issue

15.899 NA  
I

7.3.5.

did not provide for  
~~span each instead of the~~  
~~tunnels of~~  
~~single span works originally~~  
~~sanctioned, which did not~~  
~~provide sufficient water-~~

- way for the cross drainage.

The revised estimates may  
be sanctioned.

Order Hereon No: 735 Dg 25-8-99

The following revised esti-  
- mates are sanctioned in  
lieu of the provision of -  
Rs 2880 and Rs 3080 ~~for~~ made  
for the works in the revised  
estimate for the Munjere  
project sanctioned in G.O.

No 518-D dated 8<sup>th</sup> July 1898,  
the <sup>total</sup> net excess of Rs 2280 on  
both the works being met

from the saving of Rs 4353  
shown in the statement submitted by the Examiner of P.W.  
on completed works of the  
project, ~~and~~ The balance of  
the saving <sup>will be</sup> added to the  
sum available for unforeseen  
works which will then be  
increased to Rs 4291 :-

Irrigation

43 Minor works and Navigation

\* Rs 2218.

Minor works for which Capital  
and Revenue Accounts are  
Kept

Capital account  
Munjere project

I. works.

(2) Main canals & branches.

(b. Other cross drainage works.

Munjere main channel.

1. Constructing undertunnel Rs  
at  $\frac{23}{2\frac{1}{2}}$  mile 3870
2. — do — do —  $\frac{25}{1}$  mile 4370

2. This sanction is registered  
as No 55 D of 1899-1900.

H  
11/8/99

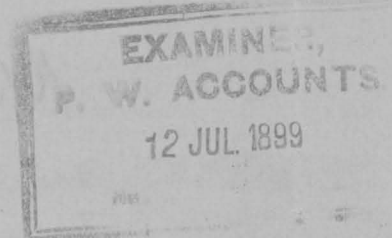
H.H.  
12.8.99

To

The Chief Engr for Srinagar  
a Supp: Engr II Circle with 8 enclosures.  
a Examiner of P.W. accounts

R. W. G.  
7.8.99.

Public Works (1899) Department.



CURRENT No. 162 N.S.

From

The Superintending Engineer  
M. S. Nile.

Order

No 224 of 6. 7. 99

To <sup>C</sup> with reference to para. 3  
of his office - Note No 1323 <sup>B</sup><sub>A</sub>  
dated 28<sup>th</sup> April 1899, and with  
a request to state the savings  
effected on completed work of  
the Muniyera Project up to  
date.

No. 222 I.

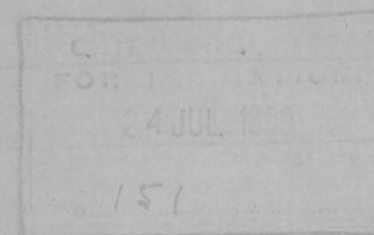
Dated 29<sup>th</sup> June 1899.

Received } 3. 7. 99

Registered

Enclosures - -

Spare copies - -



H. S.

D. E. ?

6/7/99

No. 2450 <sup>B</sup><sub>A</sub> dated 22<sup>nd</sup> July 1899.

To

I

Herewith a list of works of the  
Muniyera Project for which completion Re-  
ports have been received in this office  
up

SUBJECT.

Completion Reports  
stating that the — of certain  
works of the Muniyera Project  
which were omitted to be sent  
have now been forwarded to  
the Exam<sup>r</sup>.

F. E. I.

BACK PAPERS.

| No.      | Date.   |
|----------|---------|
| 275 K.S. | 6-5-99. |
| R59      | 28-4-99 |
| R88K     | 12-4-99 |

up to 19th: Instant showing a net --  
savings of Rs: 4,353/-.

H.R

Offg: C.

22-7-99

FURTHER PAPERS.

| No.  | Date.   |
|------|---------|
| R157 | 22-7-99 |

Superintending Engineer's Office, II Circle,

EXAMINER  
BEZWADA,  
ACCOUNTS.

12 JUL 1899

29<sup>th</sup> June 1899

No. 2229

From

Captain W. M. Ellis R.E.  
SUPERINTENDING ENGINEER,

II CIRCLE,

To

THE Chief Engineer,  
For Irrigation

3-JUL 1899

162 K.S.

SIR,

Enclosures. —

Your Endorsement No. 75 K.S. of 6-5-99  
The Completion reports of the  
works mentioned have now been sent  
to the Examiner —

The delay was due to oversight.  
The savings on the three works  
amount to Rs. 2200/. or Rs. 61/-  
more than originally reported.

I have the honor to be,  
Sir,

Your most obedient servant,

W. M. Ellis  
Captain R.E.  
Superintending Engineer,  
II Circle.

CHE  
FOR IRRIGATION

24 JUL 1899

1/151

28/6/99

Statement showing the excesses or savings on the following works up to 31-3-99 on Mamam Project for which Completion Reports have been received.

| Sl. No.                                                                                                    | Authority                    | Description of Work                           | Amount of Estimate | Expenditure | Excess or Savings |
|------------------------------------------------------------------------------------------------------------|------------------------------|-----------------------------------------------|--------------------|-------------|-------------------|
|                                                                                                            |                              |                                               | Rs.                | Rs.         | Rs.               |
|                                                                                                            |                              | <u>S.O. No. 5183 of 8-7-98</u>                |                    |             |                   |
| 1                                                                                                          | <u>60-5</u><br><u>698-99</u> | Constructing 3 Escoria huts at head Works     | 1360               | 1462        | 102               |
| 2                                                                                                          | <u>61-39</u><br><u>98-99</u> | - do. rest house at Machinkala                | 1650               | 1721        | 71                |
| 3                                                                                                          | <u>61-47</u><br><u>98-99</u> | Repairs to Machinkala rest house              | 80                 | 77          | -3                |
| 4                                                                                                          | <u>60-4</u><br><u>98-99</u>  | Constructing Store-shed at Polempally         | 35                 | 34          | -1                |
| 5                                                                                                          | <u>61-38</u><br><u>98-99</u> | do. rest house and tools shed at Veema        |                    |             |                   |
|                                                                                                            |                              | - varan                                       | 200                | 200         | -                 |
| 6                                                                                                          | <u>61-40</u><br><u>98-99</u> | - do. rest shed at Gummadiiduvu               | 200                | 200         | -                 |
| 7                                                                                                          | <u>60-3</u><br><u>98-99</u>  | - do. rest house and outhouses at Po.         |                    |             |                   |
|                                                                                                            |                              | - Kempally                                    | 2550               | 2505        | -45               |
| 8                                                                                                          | <u>60-8</u><br><u>98-99</u>  | Repairing rest house & cook house at          |                    |             |                   |
|                                                                                                            |                              | - Polempally                                  | 212                | 274         | -62               |
| 9                                                                                                          | <u>60-9</u><br><u>98-99</u>  | do. Escoria shed at Polempally                | 70                 | 88          | -18               |
| 10                                                                                                         | <u>61-18</u><br><u>98-99</u> | Constructing under tunnel at $\frac{18}{6}$ m | 3890               | 3828        | -62               |
| Total                                                                                                      |                              |                                               | 10,247             | 10,389      | 142               |
| Net excess                                                                                                 |                              |                                               |                    |             | 142               |
| <p>-x- These excesses have since been passed by the Superintending Engineer in his No. 117 of 21-4-99.</p> |                              |                                               |                    |             |                   |

H. R.

Offs: C.

*[Signature]*  
26.4.99

# Public Works (1899) Department.

CURRENT No. 89.

From  
The Examiner P.W. Accounts,  
Madras Coorg

Order No 75 K.S. 6-5-99

No. 1323 B/A

Copy forwarded to the Supg:  
Engineer, II Circle, with reference  
to para 2 of his endorsement  
No 117, I, dated 12<sup>th</sup> April 1899,  
and with a request that he  
will be so good as to have  
the completion reports referred  
to in para 3 of the Executive

Dated 28<sup>th</sup> April 1899.

Received } 1-5-99  
Registered }

Enclosures 2. one file  
Spare copies.

SUBJECT.

Engineer's letter forwarded to the  
Examiner of P.W. Accounts to  
admit of the sanction  
of cost being obtained  
to the revised estimates  
for the under tunnels at  
23 m + 25 m of the  
Munnigern main channel

Savings effected on Completed  
Works of the Munnigern Project.  
States that — cannot  
be checked in the absence of  
Completion Reports —

789

As per 6/5/99  
4/5/99 to 33-2  
M 6.599 Xces  
K 1199

Madras + Coorg

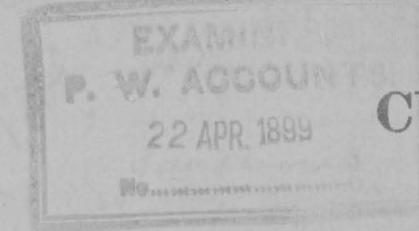
BACK PAPERS.

| No.    | Date.   |
|--------|---------|
| 1137   | 18.4.99 |
| R88 HS | 14.4.99 |

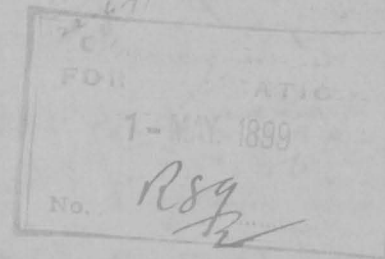
FURTHER PAPERS.

| No.     | Date.   |
|---------|---------|
| 275 KS  | 6.5.99. |
| R162 KS | 29.6.99 |
| R157    | 22.7.99 |

Public Works (1899) Department.



CURRENT No. 88 KS



From The Superintending Engineer  
II circle

Order No 137 d/18-4-99  
Please state the savings effected on completed works of the Munnigern Project up to date.

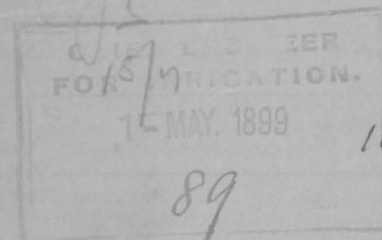
No. 117 I

Dated 12<sup>th</sup> April 1899.

Received } 14 do  
Registered

Enclosures 8 only.

Spare copies



No: 1323  $\frac{B}{A}$  dated 28<sup>th</sup> April 1899.  
To E.I.

Herewith a List of completed works to 31st March 1899 of the Munnigern Project for which completion Reports were submitted by the Executive - Engineer Kistna Northern Division, showing the "amount of estimate", the outlay to completion, and the difference on each work.

SUBJECT.

Revised estimates for constructing under tunnels at  $\frac{23}{2\frac{1}{2}}$  m &  $\frac{25}{2\frac{1}{2}}$  m of Munnigern main channel.  
Forwards for sanction the

R. S. S.

15/5/99

15/4/99

15/4/99

BACK PAPERS.

FURTHER PAPERS.

Statement showing the excesses or savings on the following works up to 19-7-99 on Manneru Project for which Completion Reports have been received.

| Sl. No. | Authority      | Description of Work                                                    | amount<br>of<br>Estimate | Expenditure | Excess or Savings |
|---------|----------------|------------------------------------------------------------------------|--------------------------|-------------|-------------------|
| 60-518  | 978-7-98.      |                                                                        |                          |             |                   |
| 1       | 60-8<br>98-99  | Mannam Project Repairing rest house stables & cook house at Polempally | 212                      | 274         | * 62              |
| 2       | 60-9<br>98-99  | - do - Repairing lascar shed at Polempally                             | 70                       | 88          | * 18              |
| 3       | 60-3<br>98-99  | - do - Rest house at Polempally                                        | 2550                     | 2505        | -45               |
| 4       | 60-4<br>98-99  | - do - Store shed at - do -                                            | 35                       | 34          | -1                |
| 5       | 60-5<br>98-99  | - do - Lascar shed at - do -                                           | 1360                     | 1462        | 102               |
| 6       | 61-6<br>98-99  | - do - Constructing under tunnel at 2 m 3 1/2 fur                      | 9450                     | 8781        | -669              |
| 7       | 61-7<br>98-99  | - do - do - do - at 2 2/7 m                                            | 2330                     | 2205        | -125              |
| 8       | 61-8<br>98-99  | - do - do - do - at 3/2 120'                                           | 4500                     | 4245        | -255              |
| 9       | 61-18<br>98-99 | - do - do - do - at 18/6 m 635'                                        | 3890                     | 3828        | -62               |
| 10      | 61-21<br>98-99 | - do - do - do - at 21 m                                               | 4190                     | 3778        | -412              |
| 11      | 61-16<br>98-99 | - do - do - do - at 15 m 4 fur                                         | 2610                     | 2423        | -187              |
| 12      | 61-9<br>98-99  | - do - do - do - at 4/4 330'                                           | 3150                     | 3023        | -127              |
| 13      | 61-10<br>98-99 | - do - do - do - at 6/4 540'                                           | 10270                    | 9353        | -917              |
| 14      | 61-11<br>98-99 | - do - do - do - at 7/5 332'                                           | 11000                    | 10447       | -553              |
| 15      | 61-12<br>98-99 | - do - do - do - at 8/7 500'                                           | 3410                     | 3039        | -371              |
| 16      | 61-19<br>98-99 | - do - do - do - at 19/2 m 556'                                        | 2250                     | 2147        | -103              |
| 17      | 61-3<br>98-99  | - do - Outlet at 10' mile                                              | 2020                     | 1475        | -545              |
| 18      | 61-47<br>98-99 | - do - Repairs to Machintala rest house                                | 80                       | 77          | -3                |
| 19      | 61-38<br>98-99 | - do - Rest and Tools shed at Vemavararam                              | 200                      | 200         | -                 |
| 20      | 61-39<br>98-99 | - do - Rest shed at Machintala                                         | 1650                     | 1721        | 71                |
| 21      | 61-40<br>98-99 | - do - do - at Gummadiwum                                              | 200                      | 200         | -                 |
| 22      | 61-4<br>98-99  | - do - Constructing under tunnel or weir at 14/4 m                     | 850                      | 649         | -201              |
| 23      | 61-48<br>98-99 | - do - Repairs to rest shed at Vemavararam                             | 60                       | 30          | -30               |
| Total   |                |                                                                        | 66337                    | 61984       |                   |
|         |                |                                                                        | Net Savings              |             | 4353              |

x. Excesses of Rs 62518 against items 1 & 2 Sanctioned by Superintending Engineer in his N<sup>o</sup> 117 Exr of 21-4-99.

H Rainier

Offg: Examiner. P.W. Accounts  
16 Madras + Co

From Captain W. M. Ellis R.E. Executive Engineer, Kistna Northern Division & the Superintending Engineer II Circle, No. 581 S.E. dated 22-2-99.

EXAMINER,  
P. W. ACCOUNTS,  
22 APR 1899

I regret to have to report that the last two under tunnels of the Manjeru Main Channel now under construction will cost considerably more than the sanctioned estimates for the same owing to their being built each 2 spans of 10 ft. in place of single span works provided for.

While I am of opinion that the works as now being built - allow only the proper amount of water way having in view the nature of the soil (Black cotton) the alteration should undoubtedly have been made the subject of an application for sanction before we were committed to the design as we now are both works being far advanced.

The reason why this was not done was that it has only just come to my knowledge that the works sanctioned only provided for single

ENGINEER  
GATION  
14 APR 1899  
88 KS

span a tunnel

2. The circumstances under which this oversight occurred were as follows.

The estimates for both these works  
viz Under Tunnel at  $\frac{23}{2\frac{1}{2}}$  - Rs 2880

" " "  $\frac{25}{1}$  - Rs 3080  
made reference to a design of another  
work for type of design no separate  
drawings being made.

This was convenient as the exact sites  
of the works and knowledge of soil  
and subsoil were only known shortly  
before construction commenced.

When considering the matter of taking  
up the last 5 miles of channel in  
the latter part of 1896 I mentioned  
to the Sub Division officer that I  
thought a different type of work  
would be economical and serve  
the purpose. That officer drew  
up a design and submitted it for orders.  
The design so drawn was for a work  
of 2 spans of 10 feet.

After taking the opinion of the  
Chief Engineer for Irrigation when  
he visited Borwada early in 1897

nothing in record  
in S.D. Office  
M.H.W. 1899

p. 2

this type was abandoned and I drew  
designs for both works of the type sanc-  
tioned adapting the designs to the  
circumstances of site.

These designs I drew with 2 vents  
each 10 ft span being misled by the  
design originally submitted by the Sub-  
Division officer - which provided for 2 vents.

It did not for a moment occur to  
me that the Sub Division officer's design  
provided for 2 ten foot spans where  
only one such span was sanctioned.

The quantities were not taken out  
as I knew the design followed the  
sanctioned type and the calculated  
water way required for the catch-  
ment area of cross drainage suited  
the 2 spans allowed thus the altera-  
tion escaped notice altogether.

I only discovered it by noticing the  
expenditure on works in progress was  
heavy for the amount of work done  
and by making inquiry into the cause.

3. I now submit revised estimates  
for these works showing an excess  
over sanction of Rs. 990 and Rs 1140

and request that the same be sanctioned from the savings on the following cross drainage works which are completed and for which completion Reports have been submitted viz.

1. Constructing under tunnel at  $\frac{6 \text{ mile}}{4 \text{ f. } 54 \text{ ft}}$ 
  - Estimate Rs 10270/- actual cost Rs. 9353/- saving Rs 917.
2. Constructing under tunnel at  $\frac{2 \text{ mile}}{3 \text{ f. } 160 \text{ ft}}$ 
  - (1) Estimate Rs. 9450/- actual cost 8781/- saving Rs. 669.
  - (2) - 2 $\frac{1}{2}$  - do - at  $\frac{7 \text{ mile}}{5 \text{ f. } 332 \text{ ft}}$ 
    - Estimate 11000 actual cost 10447/- saving 553/-

In program  
in schedule for  
Aug 98

In program  
in schedule for  
March 1899  
and Nov. 98  
Rs 1222.

In program  
in schedule for  
Aug 1898

The rates in the revised Estimates are based on the agreements entered into for the execution of the works and show a material reduction on those originally sanctioned.

4. While I must confess to oversight in the matter I submit (a) that there was no negligence as I was most naturally misled by the circumstances

explained.

Page 3

(b) That the works as now designed are suitable to the work they have to do and that the single vent under tunnels originally sanctioned did not provide sufficient cross drainage area involving a dangerous velocity through and in rear of the vents. I consider that a head of 1 foot involving a velocity of about 6 ft per second is as great a velocity as these works in black cotton soil should be expected to withstand.

$$N^{\circ} = \frac{117.9}{12.4.99}$$

Enclos: 8

Copy forwarded to the Chief Engineer for Irrigation for favor of sanction of Government being obtained to the revised estimates for constructing under tunnels at  $\frac{23}{2\frac{1}{2}}$  m and  $\frac{25}{1}$  m of Munigow Main Channel.

2. The excesses over the original estimates may be met from the savings on other works of the project for which

Completion reports have already been  
forwarded to the Examiner P. H. Acquinto.

W. H. H. H.  
Superintending Engineer,  
H. Circle.

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