

(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.	2407	Press
B.P. No.		Mis.
Dated	28 - 8 -	4876 195

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
25th August 1874.*

Read the following papers:—

No. 615. From the Offg. District Engineer, Salem, dated 17th July 1874, No. 69.

No. 506-C.

No. 616. *Note by the Chief Engineer for Irrigation.*

The following repair estimates have been submitted for sanction by the District Engineer, Salem, with his letter of the 7th instant, No. 69:—

	RS.
1. Tripatore large Tank	7,800
2. Erranampet Yagalary Tank	3,965
3. Moothumpetty Reed Saib's Anicut	625
4. Gollangotta Vapalanathum Tank	350

The first tank breached badly in May last; 19 tanks surplus into it, and of these 14 breached. The estimate appears to need revision in several important respects, and the District Engineer has been informed that there must be some assurance that the large outlay proposed will not be rendered useless by the recurrence of breaches in the upper tanks before the estimate can be sanctioned. In the meanwhile he has been authorized to go on with such work as may be needed to secure as much of the current year's cultivation and revenue as may be practicable.

2. *Erranampet Yagalary Tank.*—Estimate Rupees 3,965.

Ayacut Area	Acres 137
Do. Revenue	Rs. 858
Average do.	" 785

Expenditure on repairs in the last four years—

1872-73	Rs. 1,052
1873-74	" 794

Total Rs. 1,846

This tank was breached in two places in May 1872, "where the bund was very weak in section." The breaches were closed and the tank repaired at the cost of Rupees 1,846 above shown, and in May of this year the tank breached in six places, one of the breaches being at the site of one of the two breaches of 1872. Some of the

revetment carried out at the breaches of

* *Vide Specification Report.* 1872 was not at all adapted* to the circumstances. Without great care in the execution of the earthwork it would be very likely to fail, and it was overturned when the tank filled. The section provided for in the present estimate is much more suitable.

If the drainage basin be, as stated in the report, about 25 square miles, it is very improbable that six feet of water could have passed over its escapes in May 1874, for this would represent a discharge equivalent to about 20 inches of drainage from the basin. The present escapes are 231 feet in length, and a supplemental escape of 120 feet in length should be provided. The requisite instructions have been sent to the District Engineer, and the estimate for this work can, when received, be sanctioned as a minor new work. In repairing the apron of the southern calingulah, the stones should be packed on end and not on the flat, and the largest or longest stones should be used for the surface, upon the integrity of which latter the security of the escape depends. It is not clear what is meant by

*Proceedings of the Madras Government, Public Works Department,
25th August 1874.*

the expression specifying that the largest stones are to be placed lowest. If this means with reference to the position on the slope, *i.e.*, if they are to be packed near the foot of the slope, the arrangement is unobjectionable, but if distance from the surface be referred to, the proper plan is to use the largest stones for the surface, and to place the smallest stone lowest.

The abstract estimate has not been properly prepared. The distinct items of work should have been shown separately. These items are—

	RS.	A.	P.
Earthworks	1,538	12	7
Watering and tamping earthwork, at five per cent.	76	0	0
	1,614	12	7
Revetment—new stone	1,244	11	0
Do. old do.	533	7	0
Do. jelly backing	355	10	0
	2,133	12	0
Repairing calingulah apron	9	0	0
Sundries	182	7	5
	3,910	0	0

which amount may be sanctioned. The District Engineer's attention has been called to the subject of the rates for earthwork and repacking old stone.

3. *Moothumputty Reed Saib's Anicut.*—Estimate Rupees 625.

Ayacut Area	Acres	93
Do. Revenue	Rs.	499
Average do.	"	435

Expenditure on repairs in last four years, Rupees 344.

It is explained that only a moiety of the cost of repairs is chargeable to Government, the rest being payable by a Muttadar. It is not clear whether the outlay on the tank supplied by the anicut as well as on the latter work has been reported. If there be only one ayacut under both, all expenditure on both should be bracketed. The only modification of the estimate which appears desirable is that the additions to the wings of the anicut should, if the wings themselves be tolerably substantial, be in rough stone masonry instead of in dry stone. There are 61½ cubic yards of work to be done, and 1 Rupee a cubic yard additional may be allowed, making the total of the estimate with sundries 690 Rupees. The tops of the wings need not be 3 feet thick; 1½ to 2 feet will be enough. The stone of the apron should be packed in the manner indicated for the Erranampet tank escape. I should estimate the maximum depth of water passing over this anicut at about 7 feet, or a little less, instead of the 10 feet reported. If the latter depth has been clearly ascertained from water-marks in the immediate neighbourhood, the wings as altered will not be high enough. If the water level both above and below the anicut can be obtained within a few inches, the discharge can be calculated with sufficient accuracy to be of some value in connection with the area of the catchment basin.

4. *Gollangotta Vepalanathum Tank.*—Estimate Rupees 350.

Ayacut Area	Acres	74
Do. Revenue	Rs.	367
Average do.	"	332

This tank does not appear to have breached, it has had no repairs executed to it within the last five years, and the estimate exceeds but slightly the average revenue.

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25th August 1874.*

The drainage basin is reported to be about eight square miles and is very hilly; the surplus water is discharged over rocky ground, the space being 26 feet in length. The maximum flood discharge would be about 2,700 cubic feet a second, and it is not clear how a tank situated about 13 miles only from the railway bridge near Vaniembady, which was washed away, and but nine miles from the Tripatore Tank which suffered so greatly, escaped being breached. Upwards of 200 feet waterway would apparently be required to discharge such floods as were experienced in the neighbourhood with the supposed 2½ feet passing over the rocky ground. On this point the Range Officer may, with advantage, make further inquiries.

5. Mr. Hiscox has prepared these estimates in a very creditable manner, and his illustrative sketches are well done. It would have been better had they been drawn to scale, and if section paper be used this will involve no additional trouble.

6. It must be remarked that the District Engineer should have carefully reviewed the two large estimates, and that a personal inspection by him of the irrigation works for which they have been prepared would have been desirable and proper. His letter transmitting the estimates is merely a covering letter; and, so far as can be judged, his responsibility for the correctness, completeness, and due economy of the proposals of the Range Officer has not been recognized.

OOTACAMUND,
18th July 1874.

(Signed) JOHN MULLINS, Lieut.-Colonel, R.E.,
Chief Engineer for Irrigation.

No. 617.

ORDER THEREON, 25th August 1874, No. 2,407.

IRRIGATION, No. 55.

The following agricultural repair estimates for irrigation works in the Salem District are sanctioned:—

	RS.
1. Erranampet Yagalary Tank	3,940
2. Moothumputty Reed Saib's Anicut	690
3. Gollangotta Vepalanathum Tank	350

2. The remarks of the Chief Engineer for Irrigation should receive the District Engineer's careful attention, and he will be informed, in connection with the last paragraph of the foregoing note, that a careful examination of all the details of estimates transmitted by him for sanction will be expected.

(True Extract.)

Lieut.-Colonel, R.E.,
Joint Secretary to Government.

To the District Engineer, Salem.
" Chief Engineer for Irrigation.
" Officiating Controller of Public Works Accounts.

Exd. S. T. Austin.
Spare Copies

*Furnished
18/9/74*

MEMORANDUM.

Required for transmission to the District Engineer, Salem.
~~Enclosed for reference the under-mentioned papers.~~

Estimates referred to in G. O. No. 2407 dated 25 Aug 71

JP No. 1241 of 17 July 74 with 1/2 sum received

OFFICE OF THE CHIEF ENGINEER
FOR IRRIGATION.

17th Sept 1874.

L. M. Huntington

Head Clerk:

To

The Registrar of the

P. H. Sestonick

N 506C

Note by the Chief Engineer for Irrigation

The following repair estimates have been submitted for sanction by the District Engineer, Salem, with his letter of the 7th instant N 69.

1. Tripators Large Tank Rupes 7,800
2. Enanampet Magalam do. — 3,965
3. Moothumpetty Reed. Sails ^{ancient} — 625
4. Gollangotta Papalanatham Tank — 350.

The first tank breached badly in May last - 19 Tanks surplus into it, and of them 14 breached. The estimate appears to need revision in several important respects, and the District Engineer has been informed that there must be some assurance that the large outlay proposed will not be rendered useless by the recurrence of breaches in the upper tanks before the estimate can be sanctioned. In the meanwhile he has been authorized to go on with such work as may be needed to secure as much of the current year's cultivation and revenue as may be practicable.

2. Eranampet Magalari Tank Estimate
Rupees 3965

Area acres 137
Revenue Rupees 858
Average do 785

Expenditure on repairs in the last 4 years
1872-73. Rs 1052
1873-74. 794
Total Rupees 1846

This tank was breached in 2 places in May 1872, "where the bund was very weak in section". The breaches were closed and the tank repaired at the cost of Rupees 1846 above shown, and in May of this year the tank breached in 6 places, one of the breaches being at the site of one of the two breaches of 1872. Some of the revetment carried out at the breaches of 1872 was not at all adapted to the ^{wide specific} circumstances. Without great care ^{tion report} in the execution of the earthwork it would be very likely to fail, and it was overturned when the tank filled. The section provided for in the present estimate is much more suitable.

If the drainage basin be, as stated in the report, about 25 square miles, it is very improbable that 6 feet of water could

have

have passed over its escapes in May 1874, for this would represent a discharge equivalent to about 20 inches of drainage from the basin. The present escapes are 281 feet in length, and a supplemental escape of 120 feet in length should be provided. The requisite instructions have been sent to the District Engineer, and the estimate for this work can when received be sanctioned as a minor new work. In repairing the apron of the Southern Cahogulah the stones should be packed on end and not on the flat, and the largest or longest stones should be used for the surface, upon the integrity of which latter the security of the escape depends. It is not clear what is meant by the expression specifying that the largest stones are to be placed lowest. If this means with reference to the position on the slope i.e. if they are to be packed near the foot of the slope the arrangement is unobjectionable, but if distance from the surface be referred to, the proper plan is to use the

the largest stones for the surface,
and to place the smallest stone
lowest.

The abstract estimate has not been
properly prepared. The distinct items
of work should have been shown
separately. These items are

Earthworks Rupees 1538-12-7

Watering & tamping do at
5 per cent ————— 76-0-0
1614-12-7

Revetment new stone 1244-11-0

do old do 533-7-0

do jelly backing 355-10-0 2133-12-0

Repairing calupulak apron ————— 9-0-0

Sundries ————— 182-7-5
3940-0-0

which amount may be sanctioned.

The District Engineer's attention has
been called to the subject of the
rates for earthworks, and repacking
old stone.

3. Moothumpetty Red Saib's ancient
temple Rupees 625

Acres area acres 93

— revenue Rupees 499

Average do — 435

Expenditure on repairs in last 4 years Rupees 344

84

11
It is explained that only a moiety
of the cost of repairs is chargeable
to Government, the rest being pay-
able by a Muttadar. It is not
clear whether the outlay on the
tank supplied by the ancient as
well as on the latter work has
been reported. If there be only one
account under both, all expenditure
on both should be bracketed. The
only modification of the estimate
which appears desirable is that
the additions to the wings of
the ancient should, if the wings
themselves be tolerably substantial,
be in rough stone masonry instead
of in dry stone. There are $6\frac{1}{2}$
cubic yards of work to be done
and 1 Rupee a cubic yard addi-
tional may be allowed, making
the total of the estimate with
sundries 690 Rupees. The tops of
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The stone of the apron should be
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for the Irrainpet tank escape.
I should estimate the maximum
depth of water passing over the
ancient at about 7 feet or a little
less, instead of the 10 feet reported.
If the latter depth has been
clearly ascertained from water
marks in the immediate neigh-
bourhood, the wings as altered
will not be high enough. If
the water level both above and
below the ancient can be ob-
tained within a few inches,
the discharge can be calculated
with sufficient accuracy to be
of some value in connection
with the area of the catch-
ment basin.

4. Gollan golla Tepalanathum Tank
Estimate Rupees 350.

Area	acres 74
— revenue	Rupees 367
Average do	— 332

This tank does not appear to
have breached: it has had no
repairs executed to it within
the last 5 years, and the
estimate

estimate exceeds but slightly the
average revenue. The drainage basin
is reported to be about 8 square
miles and is very hilly, the sur-
plus water is discharged over
rocky ground, the space being
26 feet in depth. The maximum
flood discharge would be about
2,700 cubic feet a second, and
it is not clear how a tank
situated about 13 miles only
from the Railway bridge near
Tannimbady, which was washed
away, and but 9 miles from
the Trepator Tank which suf-
fered so greatly, escaped being
breached. Upwards of 200 feet
waterway would apparently be
required to discharge such
floods as were experienced
in the neighbourhood with
the supposed $2\frac{1}{2}$ feet passing
over the rocky ground. On this
point the Range officer may
with advantage make further
enquiries.

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these estimates in a very creditable manner, and his illustrative sketches are well done. It would have been better had they been drawn to scale, and if section paper be used this will involve no additional trouble.

6. It must be ^{remarked} ~~remembered~~ that the District Engineer should have carefully reviewed the two large estimates, and that a personal inspection by him of the irrigation works for which they have been prepared would have been desirable and proper. His letter transmitting the estimates is merely a covering letter; and, so far as can be judged, his responsibility for the correctness, completeness and due economy of the proposals of the Range officer has not been recognized.

Ostacumund Wundwinis Lt Col R.E.

18th July 1874

Chief Engineer for Irrigation

To The Secretary to Govt P.W.D.

P. W. 1874 Dept.
No: 4902

From

The Chief Engr.
for Irrigation
E. 506C.
Dated 18 July 1874
Recd 5 August 1874

E. 5.

Note on the estimates
for irrigation works
submitted by the
Dist. Engr. Salem.

El. No: 2407. 25-8-74.

Ok. 616

Public Works Department
Proceedings of the Madras Government
Read the following
The Offg Dy. Engr. Salem (H. B. C. 69 dated 17 July 1874)
" Blueprints for Luv. (H. B. C. 60- dated 18 July 1874)

2407

The following a-
gricultural repair es-
timates for irrigation
works in the Salem
District are sanctioned

1. Aranampet & a galaxy Tank Rs 3940
2. Mootthumpetty Reed Tank's amount - 690
3. Gollamgotta & Palanatham Tank - 350

2. The remarks of the
Chief Engineer for Irriga-
tion should receive
the District Engineer's
attention, and he will
be informed in conse-
quence with the last pa-
ra. of the foregoing
note that a careful
examination of all
the details of estimates
transmitted by him
for

Some of the C.E. I am particu-
larly in point with ref. to the
want of money that is made
when the lower banks of a
series are treated with out
ref. to those above them and
have an immediate effect
on the unsuitability of submitting
an estimate of the repairs
apparently at all. The full part of the

for sanction will be expected.

3. The Government notice with satisfaction the creditable way in which Mr Supervisor Hiscox has prepared the estimates, which, notwithstanding some defects, indicate that he has endeavoured to deal in an intelligent and careful manner with the works to which they refer.

Govt. audit - Mr. Auditor
denies some of his work
to be acknowledged
that in the Ch. of P. is memo
that a go. of the committee
on the depart. matters I
think 2677 174

Wm. 24/7/74
G.M.M.

361
To The D.R. Salem
--- Chief Eng^r for P.W.
--- Controller of P.W.
with the Estimates
J. Capin despt 4/7/74.

615-617

On 20/7/74 Rb 2/8/74

4902 ✓

Govt. of 1874 Madras.
PUBLIC WORKS.



To
The Dist. Supt.
Salem

Dated

Encl.

Encl. 5

G. O. 25 Aug 74, No. 2407

Nos. 615-618.

Irrigation Works -
Salem District

Certain Agricultural
repair Estimates for
Irrigation Works, sanctioned
with remarks —