

- (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.	2689	Press
B.P. No.		Mis.
Dated	5-10	6876
		195

Not to be folded or roughly handled

Read the following papers :—

No. 203-W.

No. 88. *Note by the Chief Engineer for Irrigation.*

THE Superintending Engineer, Chingleput, forwards, with his letter marginally noted, an estimate in connection with the Nemam Hissa tank, situated in the Sydapett taluq, Mount range.

2. The nature of the work proposed for execution and the heads of account to which it is chargeable are as follow :—

ORDINARY AGRICULTURAL.

Repairs.		RS.
Reconstructing Coothumbakum and north end irrigation sluices	...	1,540
Repairing the bund, south and north end calingulahs, and four irrigation sluices	...	6,550
Total	...	8,090

3. The following particulars of this tank are recorded :—

Ayacut area	...	Acres	1,605
Assessment	...	Rupees	7,178
Average revenue	...	"	9,223
Highest do.	...	"	9,744
Expenditure during the previous four years	...	"	593

The area of the catchment basin is 53 square miles ; the maximum flood supply is calculated at 8,150 cubic feet per second, for discharging which as surplus there are three outlets, i.e., two calingulahs, one at the north end 96 feet in length, and another at the south end 200 feet in length, and a flush escape at the north end 571 feet in length. The flush escape is in a ruinous condition, and it is proposed to close it ; the length available for the surplus discharge will then be reduced to 296 feet. It is also proposed to reconstruct the body-walls of the north and south calingulahs, the former to have ten, and the latter to have twenty-five, vents to be closed with self-acting shutters.

The northern sluice was washed away, and the Coothumbakum sluice is in a dilapidated state, the estimate provides for the reconstruction of these two irrigation sluices. The estimate also provides for repairing the bund and four irrigation sluices.

4. It will be seen that there has been much discussion of the best way of dealing with this tank, and especially as

From Superintending Engineer, No. 2,246, dated 3rd September 1875. To do. No. 1,072, dated 17th Sept. 1876.

to the means of providing for its safety by affording adequate water-way for surplus. The first estimate for repairs and improvements amounted to Rupees 18,340, and some of the arrangements then proposed were not considered altogether satisfactory. Under the circumstances of this tank, it is believed that the insertion of self-acting shutters in the escapes is desirable, the provision of a sufficient length of weir crest without sluice vents being impracticable without injury to the cultivation. Captain A. C. Smith has for some time past given much attention to the designing of revolving shutters, and his experiments appear to have settled the required details of effective shutters of this description which will be

of important service in cases like the present where long weirs cannot well be obtained. The Range Officer should give, however, special attention to the practical working of these shutters until their effectiveness has been demonstrated by two or three years' use, because woodwork, however carefully executed, is in this climate and when alternately wet and dry, liable to change its form to an extent sufficient to upset calculation, such as those upon which the action of such shutters depend. As regards details, it is to be noticed that it will probably be found preferable to make the axle iron continuous across the shutter, and that the sill level would be better if less flat. The Monegar at the Koratur anicut should be required to inspect the Nemam tank and its surplus works frequently, and to see that the latter are in proper order both in May and October of each year, and periodical reports should be sent in by him to the Range Officer at such times.

5. The estimates are recommended for sanction.

OOTACAMUND,
30th September 1876.

(Signed) A. DEC. SCOTT, Major, R.E.,
Dy. Chief Engineer for Irrigation,
for Chief Engineer for Irrigation.

To the Secretary to Government, Public Works Department.

No. 88-A. From Colonel F. J. MOBERLY, R.E., Superintending Engineer,
Chingleput, to Lieutenant-Colonel J. MULLINS, R.E., Chief Engineer for
Irrigation, dated Mount, 22nd July 1876, No. 1,329.

I HAVE the honor to reforward the estimates returned with your No. 1,072, 17th
September 1875, for Nemam tank, and
copy of a letter from the Executive Engi-
neer, Mount Range, replying to your
objections.

2 Estimates.
2 Sluice Plans.
1 Plan of Calingulah.

1 Plan of Longitudinal Section.

1 Copy of Range Officer's letter, No. 758, of
12th June 1876.

much from the flood passing over the flush escape which carried down a considerable
quantity of sand.

3. The work now standing in ruins has no foundation, and only a portion of its
materials therefore can be used, nor is it long enough to carry off the drainage which
is beyond the power of the existing weirs to discharge.

4. A new work must be 692 feet long and cost Rupees 3,000, whereas the vents
and shutters cost only Rupees 1,111, and give us, if necessary, an earlier command of
the tank which fills very rapidly and surpluses into Chembrambakum.

5. If early sanction is accorded, a good deal of good work might be done
even now.

From Captain A. C. SMITH, R.E., Executive Engineer, Mount Range, to Colonel F. J.
MOBERLY, R.E., Superintending Engineer, Chingleput, dated Camp at Chingleput,
12th June 1876, No. 758.

I HAVE the honor to resubmit the estimate for the repairs of Nemam tank; the estimate has
been long delayed in my office on account of press of work, and also because I wished to get the

opinion of the Chief Engineer on the self-acting shutter (which I proposed for this and other
works) before making out the estimate again.

2. I have been obliged to reduce the head of water which was allowed in the original esti-
mate by 6 inches, so that M.F.L. is now only 2 feet 6 inches above F.T.L. instead of 3 feet as
before, and even this reduction will only give a height of 3 feet 6 inches of top of bund above
M.F.L. I consider 3 feet 6 inches is the minimum that should be allowed in so large a tank
where the waves rise so high during the monsoon storms.

3. The drainage running off the basin 53 square miles is (vide Chief Engineer's No. 1,072
of 17th September last) about 8,200 cubic feet per second, and I propose getting rid of this in
the following manner.

4. The existing north weir is 96 feet long, and that on the south is 200 feet long; this total
length of 296 feet will with a head of 2 feet 6 inches discharge 3,932 cubic feet per second.
The body-walls of these weirs will be pierced with vents 4 feet wide by 3 feet high 10 in the
north and 25 in the south weir, and these vents will, with a head of 4 feet above their centre,
discharge an additional 4,384 cubic feet per second, making a total discharge by the weirs and
vents of 8,316 cubic feet per second, which is little over that from the catchment basin.

5. The weirs will be altered as under; in each case the existing body-walls which have
now been cut into gaps for safety will be renewed.

North Weir.

	No.	Length.	Feet.
2 Half piers one at each end ...	2	1	= 2
9 Piers or portions of body-wall ...	9	6	= 54
10 Vents in body-wall ...	10	4	= 40
Total length ...			96

South Weir.

2 Half piers one at each end ...	2	2	= 4
24 Piers or portions of body-wall ...	24	4	= 96
25 Vents in body-wall ...	25	4	= 100
Total ...			200
Total of two weirs ...			296

I propose filling these vents with the self-acting shutter which was inspected by the Chief
Engineer and which has been approved of by him for the Red Hills Project upper supply
channel weirs.

These shutters will be made of wooden planking, the upper portion teak, the lower portion
acha or yepi wood (on account of its weight), so that when suspended on a horizontal iron axis a
little over 1/3rd from the lower edge the shutters shall remain perpendicular. The shutter will be
strengthened by two flat iron straps and will be suspended in a frame which will be let into grooves
in the body-wall and countersunk into the floor.

The frame will be composed of 3 inches by 3 inches teak wood, and will be provided with
side battens as per sketch plan and a levelled sill to prevent leakage.

The height of the shutter is 36 inches, and it is divided into two portions by the
horizontal axis, so that the upper portion is 22 inches, and the lower portion 14 inches high. By
these proportions it has been found by actual trial at the Polal sluice weir that the shutter will
not move until the water rises to a height of 16 inches head measured back in cistern, or of 14
inches immediately over the shutter.

So that in case of merely moderate floods which might be passed off by the weir walls the
vents will remain closed, but in heavy floods directly the water rises over 16 inches above F.T.L.
the shutters will fall and the vents commence discharging.

*Proceedings of the Madras Government, Public Works Department.
5th October 1876. No. 2,639.*

Directly the flood subsides to an inch or so above the level of the axle or about 15 inches above vent floor, the shutters will close and will not again fall unless the floods again become excessive. The closing is a dead certainly (shutters now on view at Polal sluice and can be made to act at any time by opening two or three plugs in the sluice).

The only drawback to these shutters may be that they can be made in two methods:—

The only drawback to these shutters was the leakage, but this has been greatly reduced by two methods; firstly, by placing the axis higher in the shutter, and thereby gaining a greater pressure on the lower portion than on the upper till the water rises to 16 inches above F.T.L. when the shutter is in equilibrium, so that with water only at F.T.L. the shutter is jammed to by pressure; secondly, by having a levelled sill at bottom and battens at the sides of the frame by which means the shutter is jammed home to close fittings all round.

Further, I have ascertained by experiment that the pressure of water against the shutter is equal to the pressure of the atmosphere against the plug in the sluice.

Further, I have ascertained by experiment that no amount of jamming of the lower edge against the levelled sill will prevent the shutter from falling when the water rises. With the greatest amount of jamming produced by the shutter hanging to violently directly the water falls near the axis, I found an extra head of 3 inches or 19 inches over F.T.L. was all that was necessary to re-open the vent.

In his memorandum No. 1072, the Chief Engineer states that the weir at the head of the canal is 19 inches over F.T.L. was all that was required to re-open the vent. Also, as regards leakage, there are two small irrigation sluices one in each weir which supply respectively 195 and 285 acres, so that no leakage through vents will be wasted.

In his memorandum No. 1,972, the Chief Engineer stated that he thought the doing away with the flush escape of the north end was unnecessary; but when the floods do surplus over it the lands below the north sluice get so cut up that the crops are almost destroyed (*vide* petition from the villagers attached and report thereon). Besides, if this escape (which at present is in ruins, and the portion that is standing never had any foundation) is renewed at a level of 1 foot 6 inches above the F.T.L., which will give a maximum head of 1 foot for discharge, it will require a length of 692 feet to carry off the balance of discharge from the existing sluice, whereas the sluice had no vents.

This would cost considerably over Rupees 3,000 to construct; whereas the shutters will only cost Rupees 1,111, and will do away with all complaints from villagers of being flooded when water is least required.

In addition to the above reasons for the adoption of the shutters, I beg to bring to your notice that in my No. 1,523 I have already reported that mistaking your No. 678 of 25th May 1875, I had ordered these shutters to be put in hand, and before I discovered my error I found them all commenced in the rough, and they now only require frames and proper fitting, the expense incurred up to date being Rupees 875.

Finally, with regard to shutters, as Nenam is between Chembrumbakum and Korattoor and within 1½ miles of the latter place, the Mongar there might be put in charge of these weirs and held responsible that no damage is done to the shutters by mischievous persons, and that the vents are always kept clear.

With regard to paragraph 2 of the Chief Engineer's memorandum No. 1,072, the level of the floor of the north sluice is obliged to be no lower than 98.36 or 3½ feet below F.T.L., because the lands that it waters are very high as the tank falls, picottals are used to bale into the sluice. The Coothumbakum sluice is now modified in accordance with instructions. Longitudinal and cross sections of the land are attached.

Longitudinal and cross sections of the lund are also forwarded in support of the estimates and all details called for are given thereon.

In conclusion, I have to report that the earthwork is completed in accordance with your No. 678 of 25th May last, and that the expenditure up to date on the estimate is as follows, viz. :—

Earthwork	...	...	...
...	...	...	...

Earthwork	...	...	...	...	...	Rs.	A.	P.
Tamping	...	...	...	...	...	...	...	...
Sundries	...	...	...	...	...	...	...	...
Calingalaha, including cost of chertons	...	...	...	...	...	...	...	...
Total ...	...	...	...	...	...	1,590	8	2

*Proceedings of the Madras Government, Public Works Department,
5th October 1876. No. 2,689.*

No. 89. ORDER THEREON, 5th October 1876, No. 2,689.

IRRIGATION, No. 11.

Account.

THE following estimate from the Mount Range, forwarded by the Superintending Engineer, Chingleput, is sanctioned :—

NEMAM HISSA TANK.
Irrigation.

Group or Project.	Fund.	Class.	Name of Tank, Canal, or Channel.	Particulars of Work.	Amount.
...	Ordinary Agricultural.	Repairs.	Nemam Ilissa Tank.	1. Reconstructing Coothumbakum and north end irrigation sluices. 2. Repairing the bund, south and north end calingulahs and four irrigation sluices.	Rs. 1,540 6,550 To be carried out by the Public Works Department Officer in charge Mount Range.

2. This sanction has been registered as No. 162 I. of 1876-77.

(True Extract.)

Major-General, R.E.,
Secretary to Government.

To the District Engineer, Chingleput.

Collector of do.

Chief Engineer for Irrigation.

Examiner of Public Works Accounts.

Revenue Department.

Exd. E. C. Shunker.

Spare Copies

N/V No 1329

Ching's Supg. Engr. Office
Mount 22nd July 1876
Despd 24 — " —

From,

The Superintending Engineer
Ching'sat District.

To,

The Chief Engineer
for Irrigation

Sir,

Enclosures. 7

I have the honor to reforward

2. Estimates

the estimates returned with your No 1072

2. Survey Plans

17th September 1875 for Namam Tank and

1. Plan of Location

copy of a letter from the Executive Engineer

1. Plan of Long & Short

Mount range replying to your objections.

Copy of Range

Official Letter No 758. 2

of 12 June 1876

The villagers having land under the tank at its north end suffered very much from the flood passing over the flush escape which carried down a considerable quantity of sand.

3

The work now standing in ruins has no foundation and only a portion of its materials therefore can be used nor is it long enough to carry off the drainage which is beyond the power of the existing weirs to discharge.

4.

A new work must be 692 ft long and cost Rs. 3000 whereas the vents

and

and shutters cost only Rs. 1111 and give
us if necessary an earlier command
of the tank which fills very rapidly
and surpluses into Chemburumbakam.

If early sanction is accorded
a good deal of good work might be done
even now.

I have the honor to be

Sir

Your most obedient servant

Yours truly
Capt. C. C. Ching

and if necessary an earlier command
of the tank which fills very rapidly
and surplus into Chemburamkam.

If early sanction is accorded
a good deal of good work might be done
even now.

I have the honor to be

Sir

Your most obedient servant

W. B. C. C.
Supy Eng Chief



F.V.D.

7 OCT 76

720

10

Remane Blank -
Referring to the
estimate for - and
copy of a letter from
the Executive Engineer
- more than 10 days
referring to estimate.

From
The Chief Engineer
The Chief Engineer
No. 1329
Dated 22nd
July 1976
Recd

No. 1

cu - 2.10.76 Ptd 5.10.76
O.L. Sheet 3/4 Sht

No. 2 Range Office
Camp Chapak 12 June 1876
Desp 13 - -
No. 758

From,
The Executive Engineer
Mount Range
To, The Superintending Engineer
Chingpat
Sir,

I have the honor to resubmit
the estimate for the repair of Remane
Tank, the estimate has been long
delayed in my office on account of
press of work and also because I
wished to get the opinion of the
Chief Engineer on the self acting shutter
(which I proposed for this and other
works) before making out the esti-
mate again.

2 I have been obliged to reduce
the head of water which was allowed
in the original estimate by 6 inches
so that M.F.L. is now only 2'-6"
above E.T.L. instead of 3 feet as
before and even this reduction
will

will only give a height of 3' - 6" of top of bund above M. F. L. I consider 3' - 6" is the minimum that should be allowed in so large a tank where the waves rise so high during the monsoon storms.

3 The drainage running off the basin 53 sq. miles is (vide Chief Engineer No. 1072 of 17th September last) about 8200 cft. per second and I propose getting rid of this in the following manner.

4 The existing North weir is 96 feet long and that on the South is 200 feet long, this total length of 296 feet will with a head of 2' - 6" discharge 3932 Cft. per second. The body walls of these weirs will be pierced with vents 4 feet wide by 3 feet high 10 in the North and 25 in the South weir, and these vents will with a head of 4 feet above their centre, discharge an additional 4384 Cft. per second making

132

making a total discharge by the weirs and vents of 8316 Cft. per second which is little over that from the catchment basin.

5 The weirs will be altered as under - in each case the existing body walls which have now been cut into gaps for safety will be renewed.

North weir.

No.	length	ft
2 half piers one at each end	$2 \times 1 =$	2
9 piers or portions of body wall	$9 \times 6 =$	54
10 vents in body wall	$10 \times 4 =$	40
Total length		96 ft

South weir

2 half piers one at each end	$2 \times 2 =$	4
24 piers or portions of body wall	$24 \times 4 =$	96
25 vents in body wall	$25 \times 4 =$	100
Total		200

Total of 2 weirs - 296 feet

I propose filling these vents with the self acting shutter which was inspected

inspected by the Chief Engineer
and which has been approved of by
him for the Red Hills Project.
Upper Supply Channel weirs.

These shutters will be made
of wooden planking, the upper portion
tark, the lower portion acha or yapi
wood (on account of its weight)
so that when suspended on a hori-
zontal iron axis a little over 3'
from the lower edge the shutters
shall remain perpendicular. The
shutter will be strengthened by
2 flat iron straps and will be
suspended in a frame which will
be let into grooves in the body wall
and countersunk into the floor.

The frame will be composed of
3" x 3" tark wood and will be pro-
vided with side battens as per
sketch plan, and a bevelled sill
to prevent leakage.

The height of the shutter is
36 inches and it is divided into
two

15 P
two portions by the horizontal axis
so that the upper portion is 22 inches
and the lower portion 14 inches high.
By these proportions it has been
found by actual trial at the Polal
sluice weir that the shutter will not
move until the water rises to a height
of 16 inches head measured back in
cistern or of 14 inches immediately
over the shutter.

So that in case of merely mode-
rate floods which might be passed
off by the weir walls the vents will
remain closed but in heavy floods
directly the water rises over 16 inches
above F.T.L. the shutters will
fall and the vents commence
discharging.

Directly the flood subsides
to an inch or so above the level
of the axle or about 15 inches above
vent floor the shutters will close
and will not again fall unless the
floods again become excessive.
The

The closing is a dead certainty (shutters now on view at Polal Sluice and can be made to act at any time by opening 2 or 3 plugs in the sluice.)

The only drawback to these shutters was the leakage, but this has been greatly reduced by 2 methods, firstly by placing the axis higher in the shutter, and thereby gaining a greater pressure on the lower portion than on the upper till the water rises to 16" above F. T. L. when the shutter is in equilibrium so that with water only at F. T. L. the shutter is jammed to by pressure, secondly by having a bevelled sill at bottom and battens at the sides of the frame by which means the shutter is jammed home to close fittings all round.

Further I have ascertained by experiment that no amount of jamming of the lower edge against the bevelled sill will prevent the

173
shutter from falling when the water rises. With the greatest amount of jamming produced by the shutter banging so violently directly the water falls near the axis. I found an extra head of 3 inches or 19" over F. T. L. was all that was necessary to re-open the vent.

Also as regards leakage there are 2 small irrigation sluices one in each weir which supply respectively 195 and 285 acres so that no leakage through vents will be wasted.

In his memo. No. 1072 the Chief Engineer stated that he thought the doing away with the flush escape at the North end was unnecessary, but when the floods do surplus over it the lands below the North sluice get so wet up that the crops are almost destroyed (vide petition from the villagers attached and report thereon). Besides if this escape (which at present is in ruins, and the portion that is standing

standing never had any foundation) is renewed at a level of 1'-6" above the F.T.L. which will give a maximum head of 1 foot for discharge it will require a length of 692 feet to carry off the balance of discharge from the existing weirs supposing they had no vents.

This would cost considerably over Rupees 3000 to construct whereas the shutters will only cost Rs. 1111 and will do away with all complaints from villagers of being flooded when water is least required.

In addition to the above reasons for the adoption of the shutters I beg to bring to your notice that in my No. 1523 I have already reported that mistaking your No. 678 of 25th May 1875 I had ordered these shutters to be put in hand and before I

1913 18
I discovered my error I found them all commenced in the rough and they now only require frames and proper fitting the expenses incurred up to date being Rs. 875.

Finally with regard to shutters, as Nemun is between Chembumbakam and Korattor and within 1 1/2 miles of the latter place, the Monigar there might be put in charge of these weirs and held responsible that no damage is done to the shutters by mischievous persons and that the vents are always kept clear.

With regard to para 2 of the Chief Engineer's Memo No. 1072 the level of the floor of the north sluice is obliged to be no lower than 98.36 or 3 1/2 feet below F.T.L. because the lands that it waters are very high as the tank falls, picottahs are used to bale into the sluice. The

The Kuthambakam Sluice is now modified in accordance with instructions.

Longitudinal and cross sections of the bund are also forwarded in support of the estimates, and all details called for are given thereon.

In conclusion I have to report that the earth work is completed in accordance with your No. 678 of 25th May last and that the expenditure up to date on the estimate is as follows - Viz:

Earthwork	Rs 503-4-6
Damging	" 64-14-6
Sundries	" 36-7-6
Calungulaks including cost of shutters	" 985-14-3
Total	Rs 1590-8-9

I have the honor to
Signed / A. C. Smith Capt. R.E.
/ True Copy / Executive Engr.
/ H. S. / Col. R. E.
Sup. J. Engr. Ching

E. I. Form No. 9.

OFFICE OF THE CHIEF ENGINEER
FOR IRRIGATION,

1218-1
Dated 30th Sept 1876.

No. 203-W.

Note by Chief Engineer for Irrigation.

Encl. 12
No 2246
Dated 3rd Sept 1875
THE Superintending Engineer, Chingleput
forwards, with his letter marginally noted, an Estimate in connection with the Naman Kissa Tank situated in the Sydapett Taluq, Mount Range.

2. The nature of the work proposed for execution and the heads of account to which it is chargeable are as follow:-

Ordinary Agricultural Repairs
Reconstructing Kuthambakam & North end Irrigation Sluices Rs 1540
Repairing the bund, South & North end Kalingulaks and some Irrigation Sluices - Rs 6550
Total Rupees 8090

3. The following particulars of this Tank are recorded -

Ayacut area.	1605 Acres
Assessment.	7178 Rupees
Average revenue.	9223 Rupees
Highest do.	9744 Rupees
Expenditure during the previous four years.	593 Rupees

The area of the catchment basin is 53 square miles; the maximum flood supply is calculated at 8160 cubic feet per second for discharging which, as surplus there are three outlets i.e. two Kalingulaks, one at the north end 96 feet in length and another at the south end 202 feet in length, and a flush escape at the north end 571 feet in length. The flush escape is in a ruinous condition and it is proposed to close it, the length available for the surplus discharge will then be reduced to 296 feet. It is also proposed to reconstruct the body walls of the north and south Kalingulaks the former to have ten, and the latter to have twenty five vents to be closed with self acting shutters.

The northern sluice was washed away and the Cothumbakum sluice is in a dilapidated state, the estimate provides for the reconstruction of these two irrigation

23¹⁵ 2
sluices. The estimate also provides for repairing the bund and four irrigation sluices.

4. It will be seen that there has been much discussion of the best way of dealing with this tank and especially as to the means of providing for its safety by affording adequate water way for surplus. The first estimate for repairs and improvements amounted to Rs 18,340, and some of the arrangements then proposed were not considered altogether satisfactory. Under the circumstances of this tank it is believed that the insertion of self acting shutters in the escapes is desirable, the provision of a sufficient length of weir crest without sluice vents being impracticable without injury to the cultivation. Captain R. C. Smith has for some time past given much attention to the designing of revolving shutters and his experiments appear to have

settled the required details of effective
shutters of this description which will
be of important service in cases
like the present where long weirs cannot
well be obtained. The Range Officers should
give however special attention to the
practical working of these shutters and if
their effectiveness has been demonstrated
by 2 or 3 years' use because wood work
however carefully executed is in this
climate and when alternately wet
and dry liable to change its form
to an extent sufficient to upset cal-
culation such as those upon which
the action of such shutters depend. As
regards details it is to be noticed that
it will probably be found preferable
to make the axle iron continuous
across the shutter and that the sill
bevel would be better if less flat.
The Monegar at the Kharatur amicut
should be required to inspect the
Kharatur Tank and its surplus works
frequently and to see that the latter

25 P 3
are in proper order both in May
and October of each year and
periodical reports should be sent
in by him to the Range Officer
at such times.

5. The estimates are recom-
mended for sanction.

Amulke.

Majord.

Dy. Chief Engineer for Irrigation
for Chief Engr. for Irrigation.

To
The Secretary to Govt P.W.D.

1878 W.D.

7 OCT 76

7200

From the Chief Engineer for Irrigation

To The Secretary to Govt.
P. W. D.

Dated 30th Sept 76

Encls 10.

N. 203 - W. 11

Kemam Nisica Tank -
Chingleput District - Note
forwarding, for sanction, esti-
-mate for Rs. 8,090 for certain
works to the —.

N^o 38

A.L. Form No. 22.

*Irrigation
Dept*

No 2689

Public Works Department.

27B 12

PROCEEDINGS of the MADRAS GOVERNMENT.

UNDER date the 5th Octr 1876.

Read the following:—

Note by the Ch. Engr. G. H. E. D. 2023 W of 30th Sept 1876
for Irrigation

The following Estimate
from the Mount Range
forwarded by the Superin-
tending Engineer, Chingleput,
is sanctioned:—

Kemam Nisica Tank
Irrigation

Group or Project	Fund	Class	Name of Tank, Canal or channel	Particulars of Work	Amount Rs.
—	Ordinary Agricultural	Repairs.	Kemam Nisica Tank	Reconstructing Coor Thum bankum and earth and irrigation sluices.	1,540
—	—	—	—	Repairing the bund, earth and north and Kalaignalahs & four irrigation sluices.	6,550

To be carried out by the
P.W.D. Officer in charge
Mount Range.

2. This sanction has been
registered as N. 162-I of
1876-77
Aug 8

Ms 88-89

Dr. Ching Lee
Collector - do -
C. Spr. J. with 8 Orig Enclor.
Ex. P. L. W.
Recd Sept
Drpd 28-10-78

7206 CH

Govt. of 1876 Madras.
PUBLIC WORKS.

To

The N. & Chingleput

Dated

Received

Recd

Encl.

G. O. 5th October 1876, No. 2687

Nos. 55/89

Nemam Arisai Tank

Chingleput Dist.

Estimate for certain
works to the _____
sum of -

10/10/89
20-10-89

N^o 55-89

25-10-10