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MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

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Dated	8. 3.		1876

Not to be folded or roughly handled.

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*Proceedings of the Madras Government, Public Works Department,
8th March 1876.*

Read the following:—
No. 223.

No. 86. *Note by the Chief Engineer for Irrigation.*
The following estimates from the Surooloor Range are forwarded by the Superin-
tending Engineer, Chingleput, with his
No. 3,716, dated 2nd December 1875. letter marginally noted:—

Taluq.	Estimate No. 187	Work.	Amount.
			RS.
Trivellore	...	Eacadoo Poothary Tank ...	830
Do.	...	Poonnapattoo Tank ...	305
Do.	...	Majankarandi small Tank ...	270
Do.	...	Kalianacoopum small Tank ...	520

2. The Financial and Hydraulic details of the irrigation works concerned are
exhibited in the following statement:—

I.—Financial Details.

Name of Work.	Ayant Area.	Assessment.	Average Revenue for 5 years.	Highest Revenue for 5 years.	Expenditure during previous 4 years.	AMOUNT OF ESTIMATE.		
						Capital.	Revenue.	Total.
	ACRES.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Eacadoo Poothary Tank	456	1,179	886	1,084	398	...	830	830
Poonnapattoo Tank	89	227	175	204	89	85	220	305
Majankarandi small Tank	86	262	389	621	305	...	270	270
Kalianacoopum small Tank	100	227	156	178	144	135	335	520

II.—Hydraulic Details.

Name of Work.	Catchment Basin Area.	MAXIMUM SUPPLY.		LENGTH OF ESCAPE.		AVERAGE HEIGHT OF BUND.		Surplus discharged at M.T.L. per Section.	Tanks above.
		Catchment per Second.	Channels per Second.	Total.	Effective.	Above F.T.L.	Above M.T.L.		
	SQ. M.	C. FT.	C. FT.	FT.	FT.	FT.	FT.	C. FT.	NO.
Eacadoo Poothary Tank	8	2,250	Not stated	C 60 E 305 W 60 E 305 E 12	48 305 365 12	3 3'37 3'25	1'5 1'87 75	908'1 1311'5 648 0'0	1 Not stated Do.
Poonnapattoo Tank	85	1,296	Do.	E 210	210	4'5	3'37	49'3	
Majankarandi small Tank	75	464	Do.	E 75 E 39	75 39	3'5 1'87	2'37	231'4 100'4	
Kalianacoopum small Tank	6	1,435	Do.	E 303	303	3'	1'5	935	5

NOTE.—The proposed dimensions of escapes and heights of bund are printed in large type. The existing dimensions in small type. The following abbreviations are used:—C.—Calingulah with dam stones. W.—Weir with flush crest. E.—Escape at ground level. B.—Bund of tank.

3. The following is a summary of the work proposed to be carried out:—
Eacadoo Poothary Tank.—This tank has breached, the bund is to be repaired, sectioned, and turfed, a surplus escape at the ground level is to be improved, the calingulah is to be repaired and the dam stones removed.

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8th March 1875.

Poonnapattoo Tank.—The bund is in bad repair and requires sectioning. Escapes at ground level are to be provided.

Majankarandi small Tank.—This work was breached by freshes from the Kusastala river. The bund is to be repaired, sectioned and turfed, and an escape at ground level is to be formed at the flank.

Kalianacoopum small Tank.—The bund is to be repaired and sectioned. An escape is to be formed at the flank, and an outlet sluice for the supply of Kalianacoopum large tank which is below constructed.

4. It will be noticed from the Statement No. II. above that the escape provided for the Eacadoo tank would hardly suffice with a head of $1\frac{1}{2}$ feet as proposed, but probably that head may on occasion be considerably increased.

The same remark applies to the Poonnapattoo tank.

The Kalianacoopum catchment basin has probably been over-estimated. The connection of the earthwork with the outlet sluice in the bund of the Kalianacoopum small tank should be shown and generally in all such cases. If the large tank was in the habit of deriving its supply partly, during rainfall, through the cut in the bund of the small tank and thus intercepting water that would otherwise surplus into the Eacadoo Poothary tank, the size of the outlet sluice should not be so much regulated by the amount of irrigation under the large tank as by a consideration of the maximum supply which the tank formerly received during rainfall by means of the cut which the sluice replaces.

5. The Superintending Engineer forwards with the estimates three designs for tank sluices, which he proposes as types to be adopted in the district generally. This is a step entirely in the right direction. The subject will however be dealt with separately and generally. In the meantime the drawings will be registered as Chingleput District type designs, Minor Works Irrigation, Tank Sluices Nos. 1, 2 and 3; and they may be so referred to by the Superintending Engineer in future estimates, but it is necessary that they should be revised before adoption for the works under review or for general use. The following are the defects noticed :—

First and Second class Sluices.—The head should be advanced horizontally a distance equal to from $\frac{1}{2}$ th to $\frac{1}{2}$ the height of the sluice, towards the tank bed. The wings should be adapted to a slope of $1\frac{1}{2}$ to 1; there should be a rough stone apron between the wings. The foundation from the face wall towards the ends of the wings and the outlet should be gradually and not suddenly shallowed, so as to correspond with the gradual diminution of superincumbent weight. Either the tunnel should be lengthened so as to clear the outer toe of the bund, or the wing walls at the outlet should be lengthened. The sluice would usually tail into an irrigation channel, and its connection with a channel might be shown. There should be some rough stone at the outlet. An average height should be assumed as that of F.T.L. and M.T.L., and the head on the tunnel vent due to the maximum discharge necessary for cultivation should be stated and *vice versa*. Hydraulic concrete should be specified on the plan. All the above observations, except the first, apply to the third-class sluice. As the alterations are not of much moment the present estimates may be sanctioned.

FORT ST. GEORGE,
21st February 1876.

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

To the Secretary to Government, Public Works Department.

Proceedings of the Madras Government, Public Works Department,
8th March 1875.

No. 87.

ORDER THEREON, 8th March 1876, No. 606.

IRRIGATION, No. 9.

Account.

No. 223, of 21st February 1876.

THE following estimates for Irrigation Works in the Suroolloor Range, Chingleput District, forwarded by the Chief Engineer for Irrigation with his memorandum marginally noted, are sanctioned :—

Name of Work.	Provision of Estimate.	Fund.	Amount.	Irrigation Registry No.
Eacadoo Poothary Tank.	Repairing bund and calingulah.	Revenue (Repairs.)	830	36 I. of 1875-76
Poonnapattoo Tank ...	Repairing bund and forming an escape.	Do. do. ...	220	37 I. do.
Do. ...	Irrigation sluice ...	Capital (Ordinary.)	85	
Majankarandi small Tank.	Repairing bund and forming an escape.	Revenue (Repairs.)	270	38 I. do.
Kalianacoopum small Tank.	Repairing bund and sluice and forming an escape.	Revenue (Repairs.)	385	39 I. do.
Do. ...	Outlet sluice ...	Capital (Ordinary.)	135	

2. Sluice plans should be revised in accordance with the remarks of the Chief Engineer for Irrigation.

3. These sanctions have been registered as shown above.

(True Extract.)

(Signed) G. W. WALKER, 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. S. T. Austin.
Spare Bopics

S. L. George, Madras. 21st February 1876.

N. 223

Note by the Chief Engineer for Irrigation.

No. *3716*

Dated *2nd Decr. 1875.*

23 Suddis.

The following Estimates from the *Suroor* Range are forwarded by the *Superintending* Engineer *Chingleput* with his letter marginally noted:—

Talug.	Estimate No.	Work.	Amount. Rs.
<i>Sivellone</i>	<i>187</i>	<i>Pacados Pottery Tank</i>	<i>830</i>
"	"	<i>Pommapattor Tank</i>	<i>305</i>
"	"	<i>Majan Karandi Small Tank</i>	<i>270</i>
"	"	<i>Kalianacorum Small Tank</i>	<i>520</i>

2. The Financial and Hydraulic details of the Irrigation works concerned are exhibited in the following statement:—

I.—Financial Details.

Name of Work.	Ayacut Area. Acres.	Assessment. Rs.	Average Revenue for 5 years. Rs.	Highest Revenue for 5 years. Rs.	Expenditure dur- ing previous 4 years. Rs.	Amount of Estimate		
						Capital. Rs.	Revenue. Rs.	Total. Rs.
<i>Pacados Pottery Tank</i>	<i>456</i>	<i>1179</i>	<i>806</i>	<i>1084</i>	<i>398</i>	"	<i>830</i>	<i>830</i>
<i>Pommapattor Tank</i>	<i>89</i>	<i>227</i>	<i>175</i>	<i>204</i>	<i>89</i>	<i>85</i>	<i>220</i>	<i>305</i>
<i>Majan Karandi Small Tank</i>	<i>86</i>	<i>262</i>	<i>389</i>	<i>621</i>	<i>305</i>	<i>80</i>	<i>270</i>	<i>270</i>
<i>Kalianacorum Small Tank</i>	<i>100</i>	<i>227</i>	<i>156</i>	<i>178</i>	<i>144</i>	<i>135</i>	<i>385</i>	<i>520</i>

II.—Hydraulic Details.

Name of Work.	Catchment Basin Area.	Maximum Supply.		Length of Escape.		Average Height of Bund.		Surplus discharged at M. T. L. per Sec.	Tanks above.
		Catchment per Second	Channels per Second.	Total.	Effective.	Above F. T. L.	Above M. T. L.		
Sq. M.	C. ft.	C. ft.	Ft.	Ft.	Ft.	Ft.	C. ft.	No.	
Eacados Pothary Tank	8	2250	not stated	60	48	3	1.5	908.1	1
Poomapattor Tank	3.5	1296	do	12	12	3.37	1.87	49.3	not stated
Mayankarandi	7.5	464	do	nil	nil	2.25	.75	0.0	do
Bulall Tank									
Kaliana coo-pum	6	1485	do	39	39	1.87	.37	160.4	5.
Small Tank									

NOTE.—The proposed dimensions of escapes and heights of bund are entered in red. The existing dimensions in black. In the MS. the entries in red denote proposed dimensions. The following abbreviations are used:—C.—Calingulah with dam stones. W.—Weir with flush crest. E.—Escape at ground level. B.—Bund of tank.

3. The following is a summary of the work proposed to be carried out.

Eacados Pothary Tank. This tank has breached, the bund is to be repaired, sectioned, and turfed, a surplus escape at the ground level is to be improved, the calingulah is to be repaired and the dam stones removed.

Poomapattor Tank. The bund is in bad repair and requires sectioning. Escapes at ground level are to be provided.

Mayankarandi Small Tank. This work was breached by freshes from the Kusastata river.

The bund is to be repaired, sectioned and turfed, and an escape at ground level is to be formed at the flank.

Kaliana coo-pum Small Tank. The bund is to be repaired and sectioned. An escape is to be formed at the flank and an outlet sluice for the supply of Kaliana coo-pum large tank which is below constructed.

It will be noticed from the statements above that the escape provided for the Eacados Tank would hardly suffice with a head of $1\frac{1}{2}$ feet as proposed, but probably that head may on occasion be considerably increased.

The same remark applies to the Poomapattor Tank.

The Kaliana coo-pum catchment basin has probably been over-estimated. The connection of the earthwork with the outlet sluice in the bund of the Kaliana coo-pum Small Tank should be shown and generally in all such cases. If the large tank was in the habit of deriving its supply partly, during rainfall, through the cut in the bund of the small tank and thus intercepting

water that would otherwise ~~run~~ into the
Sacados Pottery Tank, the size of the outlet
sluice should not be so much regulated by
the amount of irrigation under the large
tank, as by a consideration of the maximum
supply which the tank formerly received
during rainfall by means of the cut which
the sluice replaces.

5. The Superintending Engineer for works
with the estimates, three designs for tank
sluices which he proposes as types to be adopted
in the District generally. This is a step
entirely in the right direction. The subject will
however be dealt with separately and generally.
In the mean time the drawings will be
registered as Bangalore District type designs,
minor works irrigation, tank sluices Nos. 1, 2 & 3
and they may be so referred to by the Super-
intending Engineer in future estimates.
But it is necessary that they should be revised
before adoption for the works under review
or for general use. The following are the
defects noticed.

1. 1/2³ Class sluices. The head should be ad-
-justed horizontally. Distance equal to from
3/8 to 1/2 the height of the sluice, towards the
tank bed. The wings should be adapted
to a slope of 1 1/2 to 1; there should be a rough
stone apron between the wings. The foundation
from the free wall towards the ends of the
wings and the outlet should be gradually
^{or kept suddenly} shallowed, as to correspond with the gradual
diminution of superincumbent weight. Either
the tunnel should be lengthened so as to
clear the outer toe of the head or the wing
walls at the outlet should be lengthened.
The sluice would usually tail into an irriga-
-tion channel and its connection with a
channel might be shown. There should
be some rough stone at the outlet. An average
height should be assumed as that of F.T.L.
and M.T.L. and the head in the tunnel
due to the maximum discharge necessary
^{or via} for cultivation should be stated. Hydraulic
concrete should be specified on the plan.

all

B. W. 1876 Sept.
No: 1571

From

The Chief Engr.
for Irrigation

Dated 21st Feb:
Recd. 3rd March 1876.
E 23 No: 223.

Note on Estimates
for Irrigation Works
in the Suroor Range,
Chingleput Dist.

No: 8 March 76 D.W. 86

No 606 Public Works Dept
Proceedings of the Madras Government

Under date the 8th March 76.
Read the following:-

The Chief Engineer
for Irrigation } (No. 223 d/21 Feb 1876)

The following Estimate for Irrigation Works in the Suroor Range, Chingleput District, forwarded by the Chief Engineer for Irrigation with his Memorandum marginally noted, are sanctioned:

Source of Work.	Particulars of Estimate	Fund	Amount.	Irrigation Register
Readers Cothary Tank.	Repairing bund & Calugio lat.	Revenue (repairs)	830-	36 1/2 1876
Ponnappattur Tank.	Repairing bund & forming an escape	do -	220-	
do	Irrigation sluice	Capital - Building	85-	
Mayankarandi Small Tank.	Repairing bund & forming an escape	Revenue (repairs)	270-	
do	Capital Building	do	33-	
Kalidimarapudi Small Tank.	Repairing bund & sluice & forming an escape	Revenue (repairs)	385-	
do	Capital Building	do	135-	

2 Sluice Plans should be

revised in accordance
with the remarks of the
Chief Engineer from
Irigator.

These drawings of the
have been registered 25.2.76
as shown above -

Ching

D. E. Ching
Collector I do
for J. with 23 Oct 1906
Rem - Dept 15 17

Aspd - 24.3.76

1571
Govt. of 1876 Madras.
PUBLIC WORKS.

To

The Engineer
Chingleput
10/3

Filed

Issued

Recd

Encl.

No. 8 March 1876, No.

Nos. 86-87.

F.S.
Repair of certain tanks
in the Purooloo Range,
Chingleput Dist—
Revised for the same
—honed.