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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

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Dated 19-4-	1877.

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19

Proceedings of the Madras Government, Public Works Department,
19th April 1877. No. 1,333.

Read the following:—

No. 173-W.

No. 437. *Note by the Chief Engineer for Irrigation.*

The following estimates from the No. 3 or Chingleput Range are forwarded by the Superintending Engineer, Chingleput, with his letter marginally noted:—

No. 3,982, dated 15th February 1877.

Taluq.	Village.	Work.	Amount.
Madranticum ..	Vasandavadi ..	S. No. 213 V. Tank ..	Rs. 380
Do. ..	Ammayappah Nullur ..	" 10 " ..	810
Do. ..	Karanai ..	" 13 " ..	336
Do. ..	Sithundy ..	" 293 " ..	1,245
Do. ..	Pakkam ..	" 215 " ..	2,140
Do. ..	Olukkappakkam ..	" 195 " ..	625
Total ..			5,436

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.	Assessment.	Average Revenue for 5 years.	Highest Revenue for 6 years.	OUTLAY.			
					During the previous 4 years.	Proposed Ordinary Agricultural Irrigation.		
						Original Works.	Repairs.	Average annual proportion of Charges to Revenue.
	ACRES.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Vasandavadi Tank ..	27	116	111	126	Nil.	..	308	55.4
Ammayappah Nullur Tank ..	77	406	275	398	..	..	725	56.8
Karanai Tank ..	15	85	76	8	..	..	292	76.8
Sithundy ..	239	1,043	591	547	56	..	1,160	45.8
Pakkam ..	320	1,473	1,315	1,663	869	220	1,580	39.6
Olukkappakkam Tank ..	36	118	156	187	Nil.	..	420	53.8
Total ..	714	3,243	2,474	2,914	925	220	4,485	45.5

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.		
Vasandavadi Tank	sq. M. 0.5	C. FT. 371	C. FT. ..	FT. Nil.	FT. Nil.	FT. 2.5	FT. 1.0	C. FT. 0.0	No Not
Ammayappah Nullur Tank	1.0	562.5	..	E. 115	115	4.0	2.5	354.8	stated.
Karanai Tank	0.5	351	..	E. 26	26	4.0	2.5	561.6	..
Sithundy Tank	4.5	1,533	..	E. 182	182	4.0	2.5	370.3	..
Pakkam	6.0	1,614	..	N.L. Nil.	Nil.	2.5	1.0	400.6	..
Olukkappakkam Tank	0.25	223	..	E. 120	120	4.0	2.5	1530.6	15
				W. 33	30	2.5	1.0	540.1	
				E. 60	60	4.0	2.5	1644.0	
				W. 30	30	3.5	1.5	0.0	No Not
				E. 438	438	5.0	3.0	371.6	stated.
				C. 72	60	2.5	1.0		
				W. 72	173	4.0	2.5		
				W. 101	Nil.	..	..		
				Nil.	Nil.	..	..		
				E. 73	73	..	..		

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.—Chinguliah with dam stones. W.—Weir with flush cross. E.—Escape at ground level. B.—Bund of tank. S. Revenue Survey. V.—Village.

3. The following is a summary of the work proposed to be carried out in each case:—

Vasandaradi Tank.—This tank is situated in the catchment basin of the Mambakkam tank, latitude $12^{\circ}27'$ longitude $79^{\circ}56'$, which latter tank commands the South Indian Railway line at the 50th mile. The bund of the tank is in bad order. The tank has no surplus work except a temporary cut made in the bund.

The tank is provided with an irrigation sluice which is in need of repair. The estimate provides for repairing the bund, raising it to $2\frac{1}{2}$ feet above M.W.L., planting kuskus on the front slope to M.W.L. and turfing it above that level, for repairing the irrigation sluice and forming a grass planted escape.

The estimate is recommended for sanction with the following alterations, which will reduce it from Rupees 380 to Rupees 308:—

(1) The turfing (Rupees 32-7-3) is struck out.

• $\frac{1}{2}$ th of the turfing which is estimated for on vertical height of $2\frac{1}{2}$ feet, whilst the strip of planting here disallowed is on $1\frac{1}{2}$ vertical height.

(2) The kuskus grass need not be planted above F.T.L., which will reduce the quantity to be planted by about 1,245* square yards and the estimate for it by Rupees 39-3-6.

Ammayappah Nullur Tank.—This tank is in the catchment basin of the Madranticum tank of the Tennalur group latitude $12^{\circ}34'$ longitude $79^{\circ}44'$; its bund was damaged by the cyclone in 1872 and again in 1874, and is in bad order. It has no provision for getting rid of surplus except a breach in the bund 26 feet in length.

The tank has two irrigation sluices and a channel which are in need of repair.

The estimate provides for repairing the bund, raising it to $2\frac{1}{2}$ feet above M.W.L., planting kuskus grass on the front slope to M.W.L.; and turfing it above that level, for repairing the sluices and a portion of the channel in connection with one and for forming a grass planted escape.

The plan of the proposed face wall which in the report is stated to accompany it did not do so.

The estimate is recommended for sanction with the following alterations, which reduce it from Rupees 810 to Rupees 725:—

(1) Turfing (Rupees 38-4-6) is struck out.

(2) The strip of kuskus grass planting between F.T.L. and M.W.L., taken as 1,470 square yards (Rupees 46), is struck out.

Karanai Tank.—This tank also is situated in the catchment basin of the Madranticum tank, latitude $12^{\circ}33'$ longitude $79^{\circ}44'$, and was damaged by the floods of 1872 and 1874. The injured portions were patched up by the villagers, but the tank bund is in bad order. The tank has one irrigation sluice which is in need of repair. The surplus of this tank escapes round the south end of the bund.

The estimate provides for repairing the bund, raising it to $2\frac{1}{2}$ feet above M.W.L., planting kuskus grass on front slope to M.W.L. and turfing it above that level, for repairing the irrigation sluice, and for forming a grass planted escape.

The estimate is recommended for sanction with the following alterations, which reduce it from Rupees 335 to Rupees 292:—

(1) Turfing (Rupees 25-1-3) is struck out.

(2) Planting kuskus grass between F.T.L. and M.W.L. is not necessary and of doubtful efficacy, as this grass does not thrive at a high level. This item has been reduced, therefore, by Rupees 17-10-0.

Sithundy Tank.—This tank is at about latitude $12^{\circ}42'$ longitude $79^{\circ}53'3''$ and was breached by the floods of 1872, and further damaged by those of 1874. Repairs costing Rupees 250, which are included in the estimate now submitted for sanction, have been carried out on emergency, but further repairs are required. The tank has three irrigation sluices, the face walls of two of them require reconstruction, and the third sluice requires slight repairs. This tank has a "fine masonry escape" 30 feet long, built ten or twelve years ago, which proving insufficient 60 feet of the bund have been removed since 1874.

The estimate provides for repairing the bund, raising it to $2\frac{1}{2}$ feet above M.W.L., planting kuskus grass on the front slope to M.W.L. and turfing it above that level; for repairing the three irrigation sluices and for forming an escape 436 feet long planted with grass. It is stated that the ayacut area of this tank is 239 acres, but that its shallowness is such that it can store water sufficient for the cultivation of only 99 acres.

In the estimate Rupees 250, stated to have been spent on this tank on emergency, are included. Emergent repairs should be specially sanctioned while the emergency exists by the Superintending Engineer.

The plan of new face wall stated to have been sent did not come. The estimate is recommended for sanction with the turfing, and kuskus grass planting above F.T.L. struck out, reducing it from Rupees 1,245 to Rupees 1,160.

The arrangements for the disposal of surplus are not considered suitable. It is stated that there is a masonry escape 30 feet long, that 60 feet of bund were cleared away after 1874, that 218 feet of bund at east end are to be cleared away, and that 436 feet of water-way in addition to the masonry escape are to be provided. These figures do not tally. The maximum flood discharge is about 1,400 cubic feet a second. The difference between F.T.L. and M.W.L. may be 2 feet, and the discharge per foot of clear water-way will then be 9 cubic feet a second; 270 cubic feet are provided for by the masonry escape leaving 1,130 cubic feet to be disposed of; 126 feet of clear escape would suffice, and 250 feet of grass planted escape will do; so 190 feet additional will be required. It may be necessary to dispose of surplus in this way to save expense, but, if stone be readily procurable; a pavement of 130 feet in length would be preferable.

Pakkam Tank.—This tank is situated in the catchment basin of the Mambakkam tank latitude $12^{\circ}28'$ longitude $79^{\circ}55'$. Its bund was much injured by the floods of 1872 and 1874, and narrowly escaped breaching, being only saved by cuts made in it. The inner slope has for a length of 572 feet a revetment up to about $1\frac{1}{2}$ feet below F.T.L., but the stones need repacking.

The tank is provided with four irrigation sluices which require only slight repairs to the cisterns and face walls. The tank has also a calingulah 72 feet long (60 feet available for discharge), which is insufficient.

The estimate provides for repairing the bund, raising it to 3 feet above M.W.L., repacking the existing stones as revetment and slope to $1\frac{1}{2}$ feet below F.T.L., planting

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kuskus grass above that to M.W.L.; and turfing above that level, for repairing the irrigation sluices, for converting the existing calingulah into a weir by removing the dam stones and raising the body wall to F.T.L., and for constructing a new masonry weir 101 feet length of crest.

The South Indian Railway crosses the bund of this tank west of the calingulah. If the rock at the site for the new weir is hard enough to stand the overfall without protection, the depth of the foundations of the work need not be more than 2 feet with $2\frac{1}{2}$ breadth, the body wall being only 2 feet thick. In the report it is stated, "the surface being rocky requires simply a crest wall raised to F.T.L., and the bank at the ends protected with loose stone." The plan does not tally with this, but it will be enough if the wall is stepped up two steps* to M.W.L., and continued at that level for $4\frac{1}{2}$ feet to allow the toes of the revetted slopes to fall beyond the ends of crest of the weir. With the reductions and dimensions given above, the cost of the work will at estimated rates be, instead of Rupees 340, Rupees 220, and that amount is recommended for sanction.

In the estimate for converting calingulah into a weir, which is recommended for sanction, it is noticed that for concrete is allowed a higher rate than for "stone in chunam." The useless masonry proposed to be added to the wings should as noted on the plan be omitted.

The estimate for repairing the bank is recommended for sanction reduced from Rupees 1,520 to Rupees 1,300 by striking out turfing and kuskus grass planting. The tank will be safe if the top be made $2\frac{1}{2}$ feet above M.W.L., and a further reduction in cost of repairs will therefore be feasible.

Olukkappakkam Tank.—This tank is also situated in the catchment basin of the Mambakkam tank latitude $12^{\circ} 29'$ longitude $79^{\circ} 53' 5''$. The surplus of this tank crosses the line of railway at the 55th mile.

The floods of 1872 and 1874 damaged the bund. The tank has an irrigation sluice which is in need of repair. The tank has no proper surplus work, and the surplus is passed off during floods round the south of the bund.

The estimate provides for repairing the bund, raising it to $2\frac{1}{2}$ feet above M.W.L., planting kuskus grass on front slope to M.W.L., and turfing it above that level, for repairing the irrigation sluice, and for forming an escape by removal of bund to F.T.L. for 73 feet where the surface is "rocky."

The plan for the alteration of the sluice does not show clearly the existing portion of work. The plug and its spear as shown in the drawing are clumsy. A drawing of a better form of plug will be found with memorandum No. 46 W, dated 20th April 1876, of Chief Engineer, printed with G.O., No. 1,300, dated 24th May 1876. As the surface of the proposed escape is not to have kuskus grass on it, 45 feet in length instead of 73 will be enough. This is a small tank and there is not much fear of wave injury to its bank. Turfing and kuskus grass planting are struck out of the estimate, which, reduced by the alterations from Rupees 525 to Rupees 420, is recommended for sanction.

The following statement shows the proposed distribution of the outlay recommended for sanction to the debit of the several heads of account involved.

*Proceedings of the Madras Government, Public Works Department,
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Name of Tank.	Items of Estimate.	FUND, ORDINARY AGRICULTURAL, IRRIGATION.		Total for each Tank, &c.
		Original Works.	Repairs.	
Vasundavadi Tank ..	Raising and repairing the bund, repairing the Irrigation sluice, and forming an escape planted with kuskus ..	Rs. ..	Rs. 308	Rs. 308
Ammayappah Nullur Tank ..	Raising and repairing the bund, repairing two Irrigation sluices and a channel, and forming an escape planted with kuskus ..		725	725
Karanai Tank ..	Raising and repairing the bund, repairing the Irrigation sluice, and forming an escape planted with kuskus ..		292	292
Sithundy Tank ..	Raising and repairing the bund, repairing three Irrigation sluices, and forming an escape planted with kuskus ..		1,160	1,160
Pakkam Tank ..	Raising and repairing the bund ..		1,300	1,800
	Repairing four Irrigation sluices ..		60	
	Converting calingulah into a weir ..		220	
Olukkappakkam Tank ..	Constructing a masonry weir ..	220 ..	..	
	Raising and repairing the bund, repairing Irrigation sluice, and forming an escape ..		420	420

FORT ST. GEORGE,
2nd April 1877.

(Signed) G. T. WALCH,
Ag. Dy. Chief Engineer for Irrigation,
for Chief Engineer for Irrigation.

To the Secretary to Government, Public Works Department.

No. 438.

ORDER THEREON, 19th April 1877, No. 1,333.

IRRIGATION, No. 40.
Account.

No. 173 W, dated 2nd April 1877.

THE following estimates for Irrigation Works in the No. 3 or Chingleput Range, Chingleput District, forwarded by the Chief Engineer for Irrigation with his memorandum marginally noted are sanctioned:—

Name of Work.	Item of Estimate.	FUND.		Irrigation Registry No.
		Ordinary Agricultural, Irrigation.	Amount.	
Vasundavadi Tank ..	Repairing bund and sluice and forming an escape ..	Repairs	Rs. 308	12 I.
Ammayappah Nullur Tank ..	Repairing bund, two sluices and channel and forming an escape ..	Do.	725	13 I.
Karanai Tank ..	Repairing bund and sluice and forming an escape ..	Do.	292	14 I.
Sithundy Tank ..	Repairing bund and three sluices and forming an escape ..	Do.	1,160	15 I.
	Repairing bund ..	Do.	1,300	1
	Repairing four sluices ..	Do.	60	2
Pakkam Tank ..	Repairing four sluices ..	Do.	220	3
	Converting calingulah into weir ..	Do.	220	4
Olukkappakkam Tank ..	Repairing bund and sluice and forming an escape ..	Original Works ..	420	17 I.

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2. These sanctions are registered as shown above.

(True Extract.)

(Signed) JOHN MULLINS, Lieut.-Col., R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

F. I. Form No. 1.

No. 173 W.

OFFICE OF CHIEF ENGINEER FOR IRRIGATION,

Fort St. George 2^d April 1877.

Note by the Chief Engineer for Irrigation.

No. 3982

Dated 15th Feb 1877.

The following Estimates from the *W. S. of Chingleput* Range are forwarded

by the *Superintending Engineer Chingleput* with his letter

Enclosures 30.

marginally noted:—

Talug.	Village.	Work.	Amount.
Madurantivu	Vasandavadi	S. W. 213 V. Tank	Rs. 380
Do	Ammayappa	S. W. 12 V. Tank	810
Do	Mullur	S. W. 12 V. Tank	810
Do	Karanai	S. W. 13 V. Tank	335
Do	Sithundy	S. W. 293 V. Tank	1245
Do	Pakkam	S. W. 215 V. Tank	2140
Do	Chukkupakkam	S. W. 195 V. Tank	520
Total Rupees			5435

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

I.—Financial Details.

Name of Work.	Ayacut Area.	Assessment.	Average Revenue for 5 years.	Highest Revenue for 5 years.	During the previous 4 years.	OUTLAY.		
						Ordinary Annual Charges.	Extraordinary Charges.	Proportion of Revenue.
	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Vasandavadi Tank	27	116	111	126	Nil		308	55.4
Ammayappa Tank	77	408	255	306			725	56.8
Mullur Tank	15	85	76	85			292	76.8
Karanai Tank	237	1043	531	527	56		460	45.8
Sithundy Tank	320	1473	1345	1663	869	220	1580	39.6
Pakkam Tank	36	718	156	187	Nil		420	53.8
Chukkupakkam Tank	712	3243	2474	2914	925	220	4485	45.5

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.
Vasandavadi Tank	0.5	354		Nil	Nil	2.5	1.0	0.0	
Anmayappah Villur Tank	1.0	562.5		E 115	115	4.0	2.5	354	Not stated
Karandai Tank	0.5	354		E 26	26	2.5	1.0	132.5	
Pithundiy Tank	4.5	1533		W 30	30	2.5	1.0	0.0	
Pakkam Tank	5.0	1644		W 72	60	3.5	1.5	510.4	15
Olukhpakkam Tank	0.25	223		Nil	Nil	2.5	1.0	0.0	Not stated

NOTE.—The proposed dimensions of escapes and heights of bund are entered in red. The existing dimensions in black. The following abbreviations are used:—K.—Kalingulah with dam stones. W.—Weir with flash creel. E.—Escape at ground level. B.—Bund of tank. *S. Revenue Survey - V. Village.*

3. The following is a summary of the work proposed to be carried out in each case—

Vasandaradi Tank.

This tank is situated in the catchment basin of the Mambakkam tank, Latitude $12^{\circ}-27'$ Longitude $79^{\circ}-56'$, which latter tank commands the South India Railway line at the 50th mile.

← The bund of the tank is in bad order

The tank has no surplusage work except a temporary cut made in the band. The tank is provided with an irrigation sluice, which is in need of repair.

Notes for Points - Red entries in this list are blue printed and
classified in type & note to page 2. 10/15/50. The

The estimate provides for repairing the bund, raising it to $2\frac{1}{2}$ feet above M.W.L., planting kuskus on the front slope to M.W.L. and turbing it above that level, for repairing the irrigation sluice and forming a grass planted escape.

The estimate is recommended for
sanction with the following alterations
which will reduce it from Rupees 380 to
Rupees 308.

(1) The turfing (Rs. 32-7-3) is struck out.
(2) The Huskies grafts need not be planted above F. T. L., which will reduce the quantity to be planted by about 1245 square yards and the estimate for it by Rupees 39-3-6.-

* $\frac{3}{5}$ of the tur.
fing which is esti.
mated for on
vertical height of
 $2\frac{1}{2}$, whilst the
strip of planting
here disallowed
is on $1\frac{1}{2}$ vertical
height.

Ammayappa Nallur Tank.

This tank is in the catchment basin of the Madranticum tank of the Tennalur group. Latitude $12^{\circ}-34'$, Longitude $79^{\circ}-44'$; its bund was damaged by the cyclone in 1872 and again in 1874, and is in bad order. It has no provision for getting rid of surplus except

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except a breach in the bund 26 feet in length.

The tank has two irrigation sluices and a channel which are in need of repair.

The estimate provides for repairing the bund, raising it to $2\frac{1}{2}$ above M.W.L., planting kuskus grafts on the front slope to M.W.L. and turbing it above that level, for repairing the sluices and a portion of the channel in connection with one and for forming a grafts planted escape.

The plan of the proposed face wall which in the report is stated to accompany it did not do so.

The estimate is recommended for sanction with the following alterations which reduce it from Rupees 810 to Rupees 725.

- (1) Turbing (Rs 38-4-6) is struck out.
- (2) The strip of kuskus grafts planting between F.T.L. and M.W.L. taken as 1470 square yards (Rs 46) is struck out.

Karanai

Karanai Tank

This tank also is situated in the catchment basin of the Madranticum tank Latitude $12^{\circ} 33'$ Longitude $70^{\circ} 44'$ and was damaged by the floods of 1872 and 1874. The injured portions were patched up by the Villagers, but the tank bund is in bad order. The tank has one irrigation sluice which is in need of repair. The surplus of this tank escapes round the south end of the bund.

The estimate provides for repairing the bund, raising it to $2\frac{1}{2}$ above M.W.L., planting kuskus grafts on front slope to M.W.L. and turbing it above that level, for repairing the irrigation sluice, and for forming a grafts planted escape.

The estimate is recommended for sanction with the following alterations which reduce it from Rupees 335 to Rs 292.

- (1) Turbing (25-1-3) is struck out.

(2)

(2) Planting Kuskus grass between F.T.L. and M.W.L. is not necessary and of doubtful efficacy as this grass does not thrive at a high level. This item has been reduced therefore by Rupees 17-10-0.

Sithundi Tank.

This tank is at about Latitude $12^{\circ} 42'$, Longitude $79^{\circ} 53' 3''$ and was breached by the floods of 1872 and further damaged by those of 1874. Repairs costing Rs. 250 which are included in the estimate now submitted for sanction, have been carried out in emergency, but further repairs are required. The tank has 3 irrigation sluices, the face walls of two of them require reconstruction, and the third sluice requires slight repairs. This tank has a fine masonry escape 30' long built 10 or 12 years ago which proving insufficient 60 feet of the bund have been removed since 1874.

The estimate provides for repairing

the bund, raising it to $2\frac{1}{2}'$ above M.W.L., planting Kuskus grass on the front slope to M.W.L. and turfing it above that level, for repairing the three irrigation sluices, and for forming an escape 436 feet long planted with grass. It is stated that the Ayanat area of this tank is 239 acres, but that its shallowness is such that it can store water sufficient for the cultivation of only 274 acres.

In the estimate Rupees 250 stated to have been spent on this tank on emergency are included. Emergent repairs should be specially sanctioned, while the emergency exists, by the Superintending Engineer. The plan of new face wall stated to have been sent did not come. The estimate is recommended for sanction with the turfing, and Kuskus grass planting above F.T.L. struck out, reducing it from Rupees 124.5 to Rs. 1160. The arrangements for the disposal of surplus

Surplus are not considered suitable. It is stated that there is a masonry escape 30 feet long, that 80 feet of bund were cleared away ^{M.W.L.} after 1874, that 218 feet of bund at East end are to be cleared away and that 436 feet of water way in addition to the masonry escape are to be provided. These figures do not tally. The maximum flood discharge is about 1400 Cub. Feet a second. The difference between F.T.L. and M.W.L. may be 2 feet and the discharge per foot of clear waterway will then be 7 Cub. Feet a second. 270 Cub Feet are provided for by the masonry escape leaving 1130 Cub Feet to be disposed of. 126 feet of clear escape would suffice and 250 feet of grafts planted escape will do. So 190 feet additional will be required. It may be necessary to dispose of surplus in this way to save expense, but if stone be readily procurable a pavement of 130 feet in length would be preferable.

Pakkam

Pakkam Tank. *JP*

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This tank is situated in the catchment basin of the Mambakkam tank. Latitude $12^{\circ}-28'$ Longitude $79^{\circ}-55'$. Its bund was much injured by the floods of 1872 and 1874, and narrowly escaped breaching, being only saved by cuts made in it. The inner slope has for a length of 572 feet a revetment up to about $1\frac{1}{2}'$ below F.T.L., but the stones need repacking.

The tank is provided with 4 irrigation sluices which require only slight repairs to the cisterns and free walls. The tank has also a Kudingalah 72' long (60' available for discharge) which is insufficient.

The estimate provides for repairing the bund, raising it to 3' above M.W.L., repacking the existing stones as revetment and slope to $1\frac{1}{2}'$ below F.T.L., planting Kuska grafts above that level, to M.W.L., and sturfing above that level, for

for repairing the irrigation sluices, for converting the existing Kalingulah into a weir by removing the dam stones and raising the body wall to F.T.L. and for constructing a new masonry weir 101' length of crest.

← The Southern India railway crosses the bund of this tank west of the Kalingulah. If the rock at the site for the new weir is hard enough to stand the overfall without protection the depth of the foundations of the work need not be more than 2' with 2½ breadth the body wall being only 2' thick. In the report it is stated, the surface being rocky requires simply a crest wall raised to F.T.L. and the banks at the ends protected with loose stones. The plan does not tally with this, but it will be enough if the wall is stepped up 2 steps to M.W.L. and continued at that level for 4½' to allow the tops of the revetted slopes to fall beyond the ends of crest of the weir. With the reductions and dimensions given above the cost of the work will at estimated rates be instead

95 0
instead of Rupees 340 Rupees 220 and that amount is recommended for sanction.

In the estimate for converting Kalingulah into a weir, which is recommended for sanction, it is noticed that for concrete is allowed a higher rate than for stone in "Chinam". The useless masonry proposed to be added to the wings should as noted on the plan be omitted. The estimate for repairing the bank is recommended for sanction reduced from Rupees 1520 to Rupees 1300 by striking out turfing and Kuskus grass planting. The tank will be safe if the top be made 2½ feet above M.W.L. and further reduction in cost of repairs will therefore be feasible.

Olukkappakkam Tank.

This tank is also situated in the catchment basin of the Mam. bakkam tank Latitude $12^{\circ}-29'$, Longitude $79^{\circ}-53'-5''$. The surplus of this tank crosses the line of Rail. way at the 55th mile.

The floods of 1872 and 1874 damaged the bund. The tank has an irrigation sluice which is in need of repair. The tank has no proper surplusage work and the surplus is passed off during floods round the south of the bund.

The estimate provides for repairing the bund raising it to $2\frac{1}{2}'$ above M. W. L., planting Kuskus grafts on front slope to M. W. L. and turfing it.

it above that level; for repairing the irrigation sluice and for forming an escape by removal of bund to F.T.L. for 73 feet where the surface is rocky.

The plan for the alteration of the sluice does not show clearly the existing portion of work. The plug and its spear as shown in the drawing are clumsy. A drawing of a better form of plug will be found with memo: No 46 W dated 20th April 1876 of Chief Engineer printed with G. O. No 1300 dated 24th May 1876. As the surface of the proposed escape is not to have Kuskus grafts on it, 45' in length instead of 73 will be enough. This is a small tank and there is not much fear of wave

wave injury to its bank. Surfing
 and Kuskus ^{grass} planting are struck
 out of the estimate which reduced
 by the alterations from Rupees 525
 to Rupees 420, is recommended
 for sanction.

The following Statement shows the proposed distribution of the outlay
 recommended for sanction, to the debit of the several heads of account involved:—

Name of Tank	Items of Estimate.	FUND. Prodi- mary Agr. cultural Irrigation		Total for each Tank &c.
		Original works.	Repairs.	
Vasandavadi Tank	Raising and repairing the bund, repairing the Irrigation sluice and forming an escape plant ed with Kuskus		308	308
Ammayappa Nellur Tank	Raising and repairing the bund, repairing two Irrigation sluices and a channel, and forming an Escape planted with Kuskus		725	725
Karanai Tank	Raising and repair- ing the bund, repair- ing the Irrigation sluice and forming an Escape planted with Kuskus		292	292
Sithumdy Tank	Raising and repair- ing the bund, repair- ing three Irrigation sluices and forming an escape planted with Kuskus		1160	1160

The

Raising

Pakkam Tank	Raising and repair-		
	-ing the bund, - - -	1311	
	Repairing four Irriga-	50	
	-tion sluices, - - -		1500
	Converting Kulingu-		
Olukkupakkam Tank	-lah into a weir - -	220	
	Constructing a ma-		
	-sonry weir - - -	220	
	Raising and repair		
	-ing the bund, repair		
	-ing Irrigation sluice	420	420
	and forming an es-		
	-cape - - -		

Consul

Chief Engineer for Irrigation
For Chief Engineer for Irrigation

The Secretary to Govt

P. W. D. and
Public Works Department
Madras

Encl.

1888
1888
1888

Irrigation.

P.W.D. 1877
11 APR 77

Form 3780

The Chief Engineer for Irrigation,

To

The Secretary to Govt.
P. W. D.

Dated 2nd April 1877.
Received

ENCLOSURES. 30.

W. 173-W.

Tank Repairs - Chingleput Dis.
- Dist. - Note forwarding for sanction
estimates for Rs. 5435 for repairs

E. I. Form No. 3.

No 1333 719 apl 77
The following Estimates for Irrigation
works in the No. 3 of Chingleput Range,
Chingleput District, forwarded by the
Chief Engineer for Irrigation with his Memo.

No. 173. W
dated 2nd April 1877. marginally noted are sanctioned:—

Name of Work.	Item of Estimate.	Fund. ordinary, Agricul- tural & Irrig.	Amount	Irrigation Registry No.
Vasandaradi Tank	Repairing bund & sluice & forming an Escape -	Repairs	308	12 I
Ammayappett Kullur Tank	Repairing bund two sluices and channel & forming an Escape - -	Repairs	725	13. I
Karanai Tank	Repairing bund & sluice & forming an Escape - -	Repairs	292	14. I
Sithumdy Tank	Repairing bund & sluices & forming an Escape -	Repairs	1160	15. I
Pattanam Tank	Repairing bund	Repairs	1300	1
	Repairing sluice	do	60	2
	Converting kalingal into weir -	do	220	3
	weir - - - orig. works		220	4
Alukkapakkam Tank -	Repairing bund & sluice and forming an Escape - - -	Repairs	420	17. I

These

2. These sanctions are
registered as shown
above.

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S. L. Chausseput ^{quinto}
 Collectio ^{do. 11. 11. 11}
 R. S. for S. ^{11. 11. 11}
 L. P. W. A.
 Dec. Dept.
 Sep. 26. 4. 77

Chausseput

6. 11. 4. 77

103986

Govt. of 1877 Madras.

PUBLIC WORKS.

To The S. E. Chingleput

27/4

Dated

Issued

Recd.

Encl.

G. O. 19 April 1877, No. 1333

Nos. 437-438

Sanku Chingleput Dr.

The following correspondence
as to certain — sanctioned

Entd. in Reg.