

(1) Number of pages 36(2) Date of repair 21-5-13

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

G.O. No. <u>270</u>	Press
<u>521-524</u>	~~Mis.~~
	<u>Mis</u>
Dated <u>24</u> — <u>1</u> — <u>1868</u> .	

Not to be folded or roughly handled.

Handwritten signature

12/3/18.

1 Super Engineer office 6th D^o
Singapore 2nd December/67

From,

10.
Captain R. F. Baker. R.E.
Super Engineer 6th D^o

To,

Colonel J. C. Anderson R.E.
Chief Engineer for Irrigation
& Joint Secretary to Government
D. P. No.

Sir,

I have the honor to inform
you that Mr. Welch the Range Officer,
in whose Range the Aracalour and
Ternacholm Roads are situated
lately requested me to fix the sides
of the Regulating Dam sanctioned
in G.O. No. 775, dated 14th March -
I had supposed that this had been
done, and that Captain Mead & Esti-
mator provided for the actual re-
quirements of the spots selected as
the sides for the Dam - it appears
however that owing to the constant
changes in the Rivers at the points
of separation and to the fact that
the space between the Rivers seldom
or ever occupies precisely the same
position

position 2 years consecutively and that it was not possible to form an idea when the proposed works would be sanctioned for execution. Captain Innes prepared his Estimates for the average section of the River about 200 yards below the points of bifurcation where he proposed they should be placed:—

2 — If Regulating Dams are built some 200 yards below the points of separation and the stone is constantly shifting the River Heads above the Dams would shoal more or less according to the set of the stream above, much as it now does, & the contracted waterway at the Dam would throw back the stream, and the scour at the nose between the Rivers would probably be very strong and no temporary works such as are now used would probably be able to resist the force of the Current.—

3 — To render the regulation of the supply of water tolerably permanent and to save all further trouble and expense relative to the maintenance of

270
V
of the Spur or cross at the points of bifurcation it appears advisable to me to place the Dams at the points of separation of the two streams and to provide masonry boxes to connect the Wings of the Dams and for such works the enclosed Estimates provide.—

4 — These Estimates far exceed the original Estimates sanctioned partly on account of the new masonry boxes and partly on account of the increased section I have given to the Wings and to the increased depth given to the foundations and the consequent increase in the charge for baling — This section given to the Wings may be regarded as unnecessarily great, but it must be borne in mind that it is not proposed to protect these works with Rough Stone on account of the costliness of Rough Stone and that it is desirable that the work should be massive and the foundations should be carried as

as low as possible and as we have
succeeded in getting down foundations
10' & 10½ in the solid in the Coleroon
at the Lower Amicent I think we
may calculate upon being able to
do the same in a high level River
like the Canery! —

5 — I have not proposed to alter
the length of the Dam, but I have
altered the Wings to admit of their
effectually protecting the banks.
It will be observed
that the breadth of
the River is far
greater than the
length of the Dam,
and particularly in the Canery at the
Arasalaun. And here an Embankment
upwards of 100 yards long in the deep
bed will have to be constructed to
reduce the water way and to connect
the North Wing with the Padungay —
this bank must be protected with
Orbach Rollers and facing for, though
a canal will be planned above it, the
first set of the stream will be upon
it, and until the course of the deep
stream is diverted by a draught to
the

3 50
the centre of the Dam there will
be considerable action along the
bank and this will be in a some-
what less degree the case with all
the other connecting banks at first.
6 — In the Canery and Arasalaun
Dams the centre or lowest section
is raised at 156.5 above the datum
or 0.6' above the deepest portion of
the bed of the Canery and 1.8' above
that of the deep-
est portion of
the bed of the
Arasalaun — The deep bed of the
Canery and Arasalaun are about
3.1 and 6'
below the base
portion of the
Dam which are to be 126.5 above
datum — it will thus be observed
that the 10' foundation given to
the Dam & Wings are really only
about 8.2 and 6.9' below the deep-
stream in the bed of the Canery just
above the points of separation and
I propose to carry down the foundations
of the Dam & point wings to the full
depth of 10' & not to reduce the depth
to

to 7' as Captain Ince proposed.

7 — The effect of the Dams will be to lower the beds of the Rivers immediately below them and it is quite probable that a Rough Stone Apron to the Anaxalan Dam in the Anaxalan River & to the Perashalan Dam in the Canery will be eventually required in rear of the lower step of the Dams; in rear of these Dams the apron it will be observed have a lower step 2' below the level of the Dams.

8 — The masonry Walls connect the Wings of the 2 Dams & the distance apart between the Wings is just sufficient to cover the foot of the bank required between the Rivers giving it a slope of 2 to 1 and a top breadth of 2 yards. this will admit of a fringe of Manal being provided at the foot of the slope of the bank if the slope is reduced to $1\frac{1}{2}$ to 1 after the bank has become consolidated.

9 — Reducing the waterway in the Rivers as the Dams do, it is possible that an extension of the river wings from the extremity of the Curves at the apron

aprons will eventually be necessary to prevent the Wings from being turned by the eddy formed by the bulkheads and to prevent the destruction of the narrow bank which will separate the Rivers near the Towers.

10 — Until the Course of the River has adapted itself to the new direction which will be given to the deep stream it is probable that there will be a considerable Current along the Towers between the Dams and it has struck me that the formation of a spur as shown in tracing No. III may have the effect of arresting the Current and of keeping the scum away from the face of the Towers. I propose to give this spur a cut-water and to face it with Stone to a depth of 5' below the level of the Dams & to raise it 2' above that level or to the level of the higher step of the Dams adjacent to the Wings. Should this be approved I beg that the Cost of the Spur Rs 470 may be added to each Estimate which will raise them to Rs 16,270 & Rs 10,770.

11 — I have not yet visited the
Cadamooty head but as Capt. Innes
there proposed to provide a masonry
Noe and he has given a good section
to the Works it is probable that the
only alterations which will be necessary
will be the deepening of the foundations
from 7' to 10' & a consequent increase
to the allowance for baling, these
alterations will add comparatively
little to the original Estimate of
Rupees 72,300. —

I have the honor to be

Sir,

Your most Obedt Servt

W. L. Bates Capt R.E.

Supr Engineer Bt & Co

No 1518
 P. of Govt. Engineer
 for Irrigation
 Madras

The Chief Engineer
 for Irrigation
 Madras

Dated 2nd Decr 1867
 Recd 7th Decr 1867
 No 1518

Recd 3rd Decr 1868
 No 270-21-1-1868
 Forwarding Estimates for
 Regulating Dams at the
 Head of the Aravalur
 and Venkateswara Rivers
 and reporting relative
 to certain details in
 connection with these
 works.

Disposal -
 No No. 10 Decr 1867

No 521

C. 622/16 (A. 11) F

Agricultural Tanjur District New work
Combaconum Talug.
Abstract Estimate

Work. — Constructing regulating Dams across the Cannery
 and Aravalur rivers at the Aravalur Head.

Quantity	Description of work.	Rate	Amount	Amount by each path.
<u>Cannery Dam and Wing</u>				
26228 ⁵ / ₁₆	Cft. Brickwork Churnam — at	2 0	3688 7 1	
2537 ³ / ₄	Square feet Plastering per sq. ft.	2 8	63 7 10	
2867 ² / ₉	Cyds. of excavation per cyd.	3	537 11 4	
36500	Sq. ft. of Canal Plastering per 100	8	102 8	
	<u>Baling</u>		<u>1457 13 9</u>	

5930

<u>Rose & Wing between Dams</u>				
15454 ³ / ₃₂	Cft. Brickwork Churnam — at	2 3	2773 3 8	
2726 ¹ / ₂	Sq. feet Plastering — per Sq. ft.	2 8	68 2 6	
1770	Cyds. of excavation — per Cyd.	3	331 14	
	<u>Baling</u>		<u>726 11 10</u>	

3300

<u>Aravalur Dam & Wing</u>				
20016 ¹ / ₁₆	Cft. Brickwork Churnam — at	2 3	2814 12 1	
2006 ³ / ₈	Sq. feet Plastering — per Sq. ft.	2 8	50 2 8	
2511 ⁷ / ₉	Cyds. of excavation — per Cyd.	3	470 14 8	
	<u>Baling</u>		<u>1024 2 7</u>	

4360

5803 ³ / ₈	Cyds. Earthwork in embankment			
	at Cannery & Aravalur Head	4 9	634 12	

Carried over — 634 12 — 13590

Brought forward 63 1/2 135 70

2676	Cyards of earth work in embankment at Cannery & Tirunelveli head	10	209	1
245	Cyards of Durrah pollen half buried with pegs 1 yard a path	5	76	7
1465 3/4	Cyards of Durrah facing	3	274	11
	Front Embankment	250		1445
	Sundries & Contingencies			764

Total Estimate Rupees 15800

Supd. Engr. Office
Tanjore December 1877

M. F. D. A. Captain R.
Superintd. Engineer

Copied by M.S.

Agricultural

Tanjur District
Corubaconum Taluq.
Abstract Estimate.

New work

Work Constructing regulating Dams across the
Cannery & Tirunelveli rivers at the head of the latter

Quantity	Description of work.	Rate	Amount of each part	Amount
	<u>Cannery Dam and Wing</u>			
7198 37/48	Cft Brickwork Churnam per cft	2 3	2418	9 2
1918 7/16	Sq feet Plastering per sq ft	2 8	47	15 4
2194 7/7	Cyards of excavation per Cyd	3	411	6 4
	Baling		922	1 2
				3800

	<u>Work & Wings between Dams</u>			
11110 5/24	Cft Brickwork Churnam per cft	2 3	1562	5 11
2011 1/2	Sq feet Plastering per sq ft	2 8	50	4 7
1560	Cubic yards of excavation per Cyd	3	292	0
	Baling		594	13 6
				2500

	<u>Tirunelveli Dam & Wing</u>			
2880 1/2	Cubic feet Brickwork Churnam per cft	2 3	1811	5 1
1510 1/16	Sq feet Plastering per sq ft	2 8	37	12
1632 2/7	Cubic yards of excavation per Cyd	3	306	8
	Baling		744	14 3
				2900

2291 5/6	Cyards of earth work in embankment at Cannery & Tirunelveli head	19	250	10 8
----------	--	----	-----	------

378 2/3	Rs.	Rs.	Rs.	Rs.	13	29	9 7
---------	-----	-----	-----	-----	----	----	-----

Carried over 200 43 9200

Brought forward		200	43	9200
2 6 1/2	Yards of Durban roller half			
	lined with pegs 1 yard a pair	5	19	36
2 44 8/10	Sq. Yds of Durban facing	3	84	4
	Forth Embankment	200	500	86
	Sundries & Contingencies		516	76

Total Estimate Rupees 10300

Supg. Engrs. Office
Tanjore 14th Decr 1873

W. H. A. Captain R. E.
Superintending Engineer

Copied by A.S.

10.4.1899
10.4.1899
10.4.1899

1381-

Supg. Engrs. Office
Tanjore 14th Decr 1873

From

Captain R. H. Baker Esq.
Superintending Engineer

To

Colonel G. J. C. Anderson Esq.
Chief Engineer for Irrigation and
Joint Secretary to Government

Sir,

With reference to your
memo dated 10th Instant, I have
the honor to inform you that owing
to an investigation I have been
obliged to make relative to certain
malpractices on the part of an Over-
seer I have not been able to reply
to the C.O. of the 19th October or to
Colonel Strachey's memo nor can
I hope to do so before the Christmas
Holidays.

2 — My memo No 1354 dated
7th Instant with the Draft Official to
Colonel Orr which accompanied
it will have afforded you some
intimation of my views relative
to the proposed Regulation of the
waters of the Cauvery.

Yours

You will observe that I am very much opposed to a reduction in the supply which can be passed down the Del Rio River with safety -

3 - If the supply which is to enter the Canery is to be limited at all times & seasons to 3 or 5 Cgd. Mr. Thompson is of opinion that the regulating works at the head of river the larger branches such as the Tannan, Codamooty & should be provided with works which would admit of the whole or nearly the whole supply being thrown down either branch at occasion may arise & in connection with the regulating works for the branches of the Tannan & had determined that they should be so constructed as to admit of the complete regulation of the supply when the River were low -

This is the more necessary in the Tannan branches because the supply that River receives is defective & will be so for some years at

Any regulating works that will be required should be so arranged as to admit of as large a supply as may be wanted being thrown down when it is required

at least as the large works which would be required for the Canery regulation will probably be commenced for years & will be 3 or 4 seasons under construction as our working seasons are so very short when work has actually to be performed in the bed of one of the Del Rio Rivers & it is on this account that I reply at once to your Memo as it must be determined at once what is to be the form of the regulating works at the Tannan & Veracholen heads or the working season will be lost - These works should be commenced early in January -

4 - With regard to the work proposed the Plan of which is returned I have to observe that it is unsuited to any of the Rivers which are made use of for navigation for the basket roads are 12 and sometimes 14 or 15 in diameter - It is therefore unsuited to the Veracholen which is often used for the conveyance of grain to Lainguebar & from which Col. Lawford removed

This difficulty might be got over by making the side bay 16 ft. deep & by working two flaps day 16 ft. 11" by 2' + 4" - by a jet crane in the bottom. It would only be when the channel was pretty full that boats would pass & these boats would probably only be used at times when the channel had been closed recently -

removed all the Dams, or opened
 Lambogies in them, to admit of Na-
 vigation & more particularly to
 convey stone from Trichinopoly to
 Tranquebar for frigates there - If
 therefore regulating works are to be
 built so as to admit of water being
 thrown into either River & thereby
 when the freshes are low they should
 take the form of Bridges with
 30' spans or thereabout with Sluices
 under them one or more Arches
 being left open for navigation -

5 — Bridges are not required
 for Communication either at
 the Verracholen or Aracalan
 heads though at the latter were
 a Bridge provided Papanaferim
 might eventually be connected
 with Road No 2 by carrying a
 Road along the South bank of the
 Aracalan & by providing a Bridge
 in Connection with the Codamoorthy
 and Moodicondamam regulating
 Dams, but the proper and more
 convenient line between Papa-
 naferim & Road No 2 is that direct
 to

to Kattistalam & on it 4 Bridges
 will be required: under the Cir-
 cumstances I would not advocate
 any provision being made in the
 Dams at the Aracalan or Verracholen
 heads to regulate the supply
 by means of Planks & unless a
 Platform of some sort were pro-
 vided over the Piers, with the proposed
 Plan, access to the Shuttles would
 be impossible were more than a
 foot or a foot & a half of water flowing
 over the Dams. —

6 — With reference to the level
 Estimated relative to the regulation
 of the water according to the Standard
 supply the numbers 127' & 159' refer
 I presume, to the level of the Dam
 this would give a fall of 2.5' on to
 the Apron of the Canery @ and at
 the Verracholen head & of 4.5' at
 the Aracalan head on the Aracalan
 Apron and these levels are above
 those of the deep heads of the Rivers -
 If I understand correctly, the
 Dam, or floor as it is termed is
 to be of one uniform level and the
 Aprons must be far more massive
 than

I have intended
 to state &
 sent to apply
 to the Commission
 It was only intended
 to be an idea
 of the arrange-
 ment I proposed.
 It was specially
 noted that the
 dimensions
 of all the work
 must be
 to be modified
 in accordance
 with the
 localities.

than that proposed; under any circumstances. I regard the proposed section as far too slight & the stability of the whole work would depend upon the two retaining walls & I should apprehend that the $\frac{1}{2}$ of brick work over the concrete would soon be torn up with a fall of $4\frac{1}{2}$ upon it.

The standard supply should in my opinion be regulated by means of steps in the dam so that there may be some back water to form a cushion on the apron before the water rose to the height of the dam.

7 — The construction of dams across the Canery below the Venasholen Head with Rajah Voikals taken from them would doubtless be advantageous to the people but they would I fear tend to raise the bed of the Canery.

8 — The construction of these dams would be much opposed by the Villagers deriving their supply from sluices below the dam for while recognizing the advantage of

8
27
If Dams & Rajah Voikals the Villagers would wish the Dams to be placed just below the heads of their own Channels so that they might enjoy the full benefit of the Dams while the Proprietor of every sluice below the dam would oppose its construction even if assured that the Rajah Voikal should be extended to his Channel which was to form a portion of the Rajah Voikal. It is on account of opposition of this nature I have not been able to improve the supply to certain lands under the Corn Bogies. The people are most jealous & distrustful of each other & would prefer having their separate sluices in the Canery to drawing a supply from a Raja Voikal unless they drew the first supply or their sluices were near the head & if the supply were reduced to the standard supply unless every sluice were kept under lock & key much water would be wasted by the Proprietors of lands first supplied and the lands deriving a supply near the

the Sails of the Rajah Boikalamund
undoubtedly suffer. —

9. Before any material changes
can be made on the regulation of the
water on a large scale, can be
undertaken. An Act must be
passed vesting the business of
the Corporation with power to
interfere in the regulation of the
supply of water. —

I have the honor to be

Yours most obedt servant

W. F. A. P. Esq. 12.3.

Superintendent of the

Agricultural
(1)

New Works

Tanjur District

Coimbatore Taluk

Chesham Estate

Works — Constructing & Regulating Dams across the Cauvery &
Peerasholow Rivers at the head of the latter.

Quantity	Description of the work	Rate	Amount	per cent
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Cauvery Dam & Wings

18999	(3 1/2 ft) Bricks in Chuanaw — per cent	2.5	236711.9	
2081 1/2	(2 ft) Plastering — " per cent	2.8	5074	
2439	(1/2 ft) Occupation — " per cent	3.0	4573	
	<u>Total</u>		920711	1100

Peerasholow Dam & Wings

11110 1/2	(3 1/2 ft) Bricks in Chuanaw — per cent	2.5	1562511	
2011 1/2	(2 ft) Plastering — " per cent	2.8	5074	
1560	(1/2 ft) Occupation — " per cent	3.0	2928	
	<u>Total</u>		574136	2500

Peerasholow Dam & Wings

4440	(3 1/2 ft) Bricks in Chuanaw — per cent	2.5	202010	
1610 1/2	(2 ft) Plastering — " per cent	2.8	4074	
1817 1/2	(1/2 ft) Occupation — " per cent	3.0	34011	
	<u>Total</u>		70871	3120

2121	(1/2 ft) Earthwork in embankment at Cauvery & Peerasholow Head	19	23339	
2183	" " " " " " " "	13	1717	

Grand Total — 250549720

No. 522
629 May 12 1868 B. 177

1. I hereby certify
that the Commission
has been appointed
to regulate the
Cauvery river for the
benefit of the
people of the
Taluk of Coimbatore
and the Taluk of
Salem. —
12th 270-2149 July 1868

W. F. A. P. Esq. 12.3.
Superintendent of the

Quantity	Description of Work	Date	Amount of each part	Amount
	Brought forward		750 54	9700
48 1/2	Yds of Dark blue roller half lined with paper 1 yard apart	" 52	15	10
365	Sqrs yds of Dark blue facing	" 3	68	7
	Lincoln, each amount		200	
	Amounts & Contingencies			553 132
				546 210
	Total Estimate Expenses			10800

1911/12/14

Sup. Engr. Office to "D"
 Jan 20th December 1867

M. F. Drake
 Captain
 Sup. Engr. Office to "D"

Quantity	Description of Work	Date	Amount of each part	Amount
	Brought forward		750 54	9700
48 1/2	Yds of Dark blue roller half lined with paper 1 yard apart	" 52	15	10
365	Sqrs yds of Dark blue facing	" 3	68	7
	Lincoln, each amount		200	
	Amounts & Contingencies			553 132
				546 210
	Total Estimate Expenses			10800

Quantity	Description of Work	Date	Amount of each part	Amount
	Brought forward		750 54	9700
48 1/2	Yds of Dark blue roller half lined with paper 1 yard apart	" 52	15	10
365	Sqrs yds of Dark blue facing	" 3	68	7
	Lincoln, each amount		200	
	Amounts & Contingencies			553 132
				546 210
	Total Estimate Expenses			10800

Quantity	Description of Work	Date	Amount of each part	Amount
	Brought forward		750 54	9700
48 1/2	Yds of Dark blue roller half lined with paper 1 yard apart	" 52	15	10
365	Sqrs yds of Dark blue facing	" 3	68	7
	Lincoln, each amount		200	
	Amounts & Contingencies			553 132
				546 210
	Total Estimate Expenses			10800

Total Estimate Rs 16500
 16500
 Sup. Engr. Office to "D"
 Jan 20th December 1867
M. F. Drake
 Captain
 Sup. Engr. Office to "D"

No. 1413.

Supg Engineer Office to Division
Panaji 20th December 1867

From Captain P. F. Carlos P. E. & M.
Supg Engineer to Division
To Maj (Colonel) H. Anderson P. E.
Chief Engineer and Joint
Secretary to Government P. E.

Sir
With reference to the instructions contained in your demi Official letter 17th Instant I have the honor to enclose Revised Estimates in Abstract for the Aracalur and Veerachalur Dams providing for an extra linea Waterway of 30' in the former and 20' in the latter. The length of the dams will now be as per margin and the Estimates have been raised by Rs 700 & Rs 500 respectively and now amount to Rs 16,500 & Rs 10,800-

Quarry 250
Aracalur 170
Quarry 140
Veerachalur 125

I have the honor to be

Sir
Your most obedt Servant

W. F. Drake Captain R.
Supg Engineer to Division

1449/11/67

From The Sup^g Engineer. 6th Dec^r - / M. E. No 1318 Dated 2nd December 1867 /
From _____ 2nd - / M. E. No 1381 Dated 14th December 1867 /
From _____ 2nd - / M. E. No 1413 Dated 20th December 1867 /

Dams, with Bridges, for Cauvery
and Godamosty - at an estimated cost of. 72,350

Cauvery and Arasalar Dams —	10,000
Cauvery and Veerasholeu Dams —	7,300
Minor Masonry Works —	9,550
	99,150

2 The Super. Engineer,
in his letter dated 20th
December, reports that
the

To the Chief Engineer
for Conifiration.

Feb 20. 3. December 1867.
 Dec. 21. 3.
 Dec. 22. 3.
 Dec. 23. 3.
 Dec. 24. 3.
 Dec. 25. 3.
 Dec. 26. 3.
 Dec. 27. 3.
 Dec. 28. 3.
 Dec. 29. 3.
 Dec. 30. 3.
 Dec. 31. 3.

Mr. 2

五

Foundling Society
 Bloomsbury Stationers
 for the Warehousemen
 and Warehousemen
 No 270 - 24th May 1868

2. 6th Jan 1865 OZ. 175

where the stream may
set against the abutments.

4 Looking also to
the great width of the
channels, and to the
considerable increase
of velocity which would
be produced by con-
tracting the waterway
of the dams to the extent
proposed in the first
instance by Captain
Mead, and adhered to in
the designs now submitted,
the Govt. consider it ex-
pedient to allow for an
extension of the dams
to the following amount.

{ Cauvery - from 220 ft. to 250 ft.
{ Brasalar — 140 — 166.

{ Cauvery — 120 — 140.
{ Veerasholeu — 105 — 125.

5 These additions
will add 1200 Rs. to
the

for masonry on the
proposed dam
Y R

12 330

to the amount of Capt.
Pakes estimates, which
will then stand as follows.

Dams across Cauvery and
Brasalar. At head of
latter ————— 16,970 Rs.

do. at head of
Veerasholeu ————— 11,270...
28,240.

or 10,940 Rs. in excess of the
original estimates: which
amount is hereby
sanctioned.

To Supergr. S. D.
Controller
Acct. Genl.
Res. Dept.

Y R

Desp. 27/1/88

Pub. Works 1868 Septh

Pro: of Govt. for January

N^o 270

Pro: of the Madras Govt.

Of 24th January 1868

Passing orders on
correspondence & connected with
Regulating works for the Canals &
its larger branches in the Empire

N^o 521 @ 524

2.6 Jan 1868 Q. 17A