MRO 1—77,006—8 6-37.

(1) Number of pages

(2) Date of repair

(3) Initials of the Reference

# MADRAS RECORD OFFICE.

---

## Government of Madras.

Public works DEPARTMENT.

G.O. No. 1600-01 Press Mis.

34 mts 9

Dated 15. 5 1899.

M.V.

**Not to be folded or roughly handled**

No. 347 Read the following Endorsement of the Acting Chief Engineer for Irrigation, dated Fort St. George, 29th April 1869, No. 189 —

Read the following letter from the Officiating Superintending Engineer, 8th Division, to the Acting Chief Engineer for Irrigation, dated Camp at Yepothovendan, 21st April 1869, No 162

1 With reference to your Memorandum No 171, of the 3rd April 1869, I have the honour to state that, as under different circumstances channels have been designed to discharge a varying proportion of water to that actually required for cultivation, we have considered, in the Streeviguntum project, that the northern head sluice shall give twice the volume of water calculated for the irrigable area, so as to make good what is deducted by storage, by evaporation, and other losses

In the Survapilly project, the channels have capacity sufficient to carry five to six times the water which would be necessary, if the lands were cultivated direct from the channels In this case the principal object is to obtain storage, and the proportion is great, but while in Tinnevelly we have many sluices out of the channel bank, and cannot depend on water not being wasted from them, while too the channel falls into the Paycolum tank, and thence runs through a chain of tanks northwards, I do not think twice the volume of water necessary, for the land is too much to allow for the discharge of the head sluice There is, moreover, the possibility of more land being brought under cultivation than has been reckoned on, the people in Tinnevelly are wealthy, and land has been taken up all along within the influence of the Tambrapoorney water; the natural level of the country being, in many instances, considerably brought down, so that the channel water may be led over it The Collector, Mr. Puckle, used to say that it was of no consequence if plots of land were two or three feet above the water surface, that the people would soon level them down, and Colonel Anderson remarks* what labour and expense the ryots have been put to, in bringing the land within the command of the water Thus, if we have underestimated the additional irrigable area, it is advisable that we should be prepared beforehand to furnish more water, without altering our head works.

* Paragraph 6 in his Endorsement of 4th September 1868 —G O No 3,052

2. Supposing the height of the anicut to be reduced one and a half feet, (the Government of India suggest two feet,) then, with the river water standing at a depth of four and a half feet, the water-way of the head sluice must be forty-five feet in length, for, to allow a discharge of four and a half feet depth down the channel, or 567 cubic feet per second, there will be no head of water, and the average width of water-way in the channel will be forty-five feet, (the bottom width being thirty-six feet, and side slopes two to one )

Thus the height of the anicut cannot be less than four and a half feet, and then the head sluices must be very materially enlarged; the head sluice on the south side has already been completed in last year, and as in practice the heights of other anicuts have been, in the first instance, fixed too low by calculations, I do not think the height of six feet will, when viewed economically, be found too great

3. ROADWAY ALONG BANK —The top width allowed for the channel banks, six feet, is sufficient for inspections on horse-back, but there would be involved considerably greater expenditure if a cart road of fifteen feet width were to be provided.

For the first two miles along the southern main channel the road runs very near the bank, and another road along the bank is not at all required

In the next four miles, as far as the Cadamba tank, the road is not more than half a mile from the channel, and there are two cross roads, with bridges leading from villages to the south, the nunjah land along the channel is very valuable, and the formation of a cart road would be costly From the Cadamba to the Ammenpuram tank there would not be so much difficulty, but along the Ammenpuram and Kanam tank bunds, the high embankment for a road would again involve much expense Beyond, down to Tritchendoor, there is very little cart traffic over the sandy soil, bandies were not to be obtained in the villages in those parts when we were surveying last year, and although the existing road between Palamcottah and Tritchendoor is, towards the coast, only a bandy track, and, in other parts, unmade to the east of the anicut site, still the thousands of people who flock to the feasts at Tritchendoor would take the old well known route, in preference to going along the more circuitous line taken by the channels

4 On the north main channel the bank might be widened without much extra expense as far as Yarel, though, in this case too, there is the ordinary road along the river bank, but the widening the tank bunds as far as the Oopaur Ooday would again involve heavy raising and cost Beyond the Oopaur there will be no advantage in making a bank road, as the Palamcottah new road runs parallel to, and close by, the line of channel

5 Tuticorin Channel —If the channel from the last of the tanks to Tuticorin had been taken along the contour line, there would have been scarcely anything but pure sand found, and if this were used, so as to equalize as near as possible the excavation and embankment, there would be the danger of considerable leakage. The line estimated having the advantage of directness, also comes upon firm soil where an embankment is required, and where sand is met with, the surface of water in the channel is kept below the level of the ground Again, if the channel were taken along the contour line, at a greater depth, and kept below the natural soil, it would cost more than in the direction that has been chosen.

6. Having furnished explanations, now, on the suggestions in paragraph 10 of letter* from the Government of India, I will give my attention to the other points noticed in your Memorandum, and will only add, at present, that syphon sluices being carried below the bed of the channel, the water way has no obstruction, such as an aqueduct might cause to canoes conveying, say, a high load of straw, when the channel was full, that the idea of building the bridge over the anicut has not been abandoned, for there having been a large subscription raised by the villagers (I believe exceeding 50,000 Rupees) towards the cost of the project, it is intended to refund to the Collector the expenditure he incurred last year on the head sluice, and channel on the south bank, cartage of stone, &c, and there seems no better way of utilizing this fund locally, than in constructing the bridge, and also that the bed of stiff clay on which the foundations of the head sluice have been built is found to run to a considerable distance into the bed of the river, and the foundations are, therefore, being built solid on this firm sub-soil, instead of being laid on wells.

* G O, No 844, of 16th March 1869



Submitted for the information of Government, with reference to their Order No 844 of the 16th ultimo.

2. With regard to the level of the Streeviguntum Anicut, the Superintending Engineer explains that it is desirable to have the power of sending down the north channel at least double the actual quantity required for direct irrigation, in order that a reserve may be stored in the tanks, and that consequently the crest of the weir could at most be lowered but one and a half feet, and to allow of this the head sluice would have to be widened to the average breadth of the channel. The southern head sluice was built last year with reference to the height of anicut shown in the plans, and it would not, therefore, be advisable now to make an alteration

One letter from Superintending Engineer, 8th Division, No. 162, dated 21st April 1869

3. Captain Prendergast explains that the Tuticorin channel was laid out on the present, instead of on the contour, line, in order to avoid pure sand, and to obtain firm soil

4. The Superintending Engineer thinks that a top width of six feet to the channel banks will be sufficient for inspection purposes, and he points out that, owing to existing roads, there will not be a necessity for a cart track along the banks. Where a greater width than six feet is not required to dispose of spoil, and where valuable nunjah land would be taken up in obtaining a greater top width than six feet, this latter may be considered sufficient, but elsewhere it will be advisable to increase the width of one bank to nine or ten feet, so as to make a more convenient bridle-road.

(Signed) J. MULLINS, Major, R. E,
*Acting Chief Engineer for Irrigation*

---

No 348

Order thereon, 15th May 1869, No 1,600.

IRRIGATION, No 22.

Ordered that these papers be forwarded to the Government of India

(True Extract)

Colonel, R E.,
*Secretary to Government.*

To the Superintending Engineer, 8th Division
,, Chief Engineer for Irrigation.

Exd S T Augustin.

Govt. of (1869) Madras

PUBLIC WORKS.

To

THE SUPERINTENDING ENGINEER

Date[illegible]

Read

G O, [illegible] (1869), No 1,603

MAY.

Nos. 347-349

*Streaming an Anicut Project*—Passing orders on the Lower Circuit of the Chief Engineer for Irrigation submitting, with remarks, certain explanations furnished by the Superintending Engineer in connection with the Streeviguntum Anicut Project, Tinnevelly District

*Proceedings of the Madras Government, Public Works Department, 15th May 1869*

No 347. Read the following Endorsement of the Acting Chief Engineer for Irrigation, dated Fort St. George, 20th April 1869, No 189 —

Read the following letter from the Officiating Superintending Engineer, 8th Division, to the Acting Chief Engineer for Irrigation, dated Camp at Yepothovendan, 21st April 1869, No 162

1. With reference to your Memorandum No 171, of the 3rd April 1869, I have the honour to state that, as under different circumstances channels have been designed to discharge a varying proportion of water to that actually required for cultivation, we have considered, in the Streeviguntum project, that the northern head sluice shall give twice the volume of water calculated for the irrigable area, so as to make good what is deducted by storage, by evaporation, and other losses

In the Survapilly project, the channels have capacity sufficient to carry five to six times the water which would be necessary, if the lands were cultivated direct from the channels In this case the principal object is to obtain storage, and the proportion is great, but while in Tinnevelly we have many sluices out of the channel bank, and cannot depend on water not being wasted from them, while too the channel falls into the Payeolum tank, and thence runs through a chain of tanks northwards, I do not think twice the volume of water necessary, for the land is too much to allow for the discharge of the head sluice There is, moreover, the possibility of more land being brought under cultivation than has been reckoned on, the people in Tinnevelly are wealthy, and land has been taken up all along within the influence of the Tambrapoorney water, the natural level of the country being, in many instances, considerably brought down, so that the channel water may be led over it The Collector, Mr Puckle, used to say that it was of no consequence if plots of land were two or three feet above the water surface, that the people would soon level them down, and Colonel Anderson remarks* what labour and expense the ryots have been put to, in bringing the land within the command of the water Thus, if we have underestimated the additional irrigable area, it is advisable that we should be prepared beforehand to furnish more water, without altering our head works

* Paragraph 6 in his Endorsement of 4th September 1868—G O No 3,052

2. Supposing the height of the anicut to be reduced one and a half feet, (the Government of India suggest two feet,) then, with the river water standing at a depth of four and a half feet, the water-way of the head sluice must be forty-five feet in length, for, to allow a discharge of four and a half feet depth down the channel, or 567 cubic feet per second, there will be no head of water, and the average width of water-way in the channel will be forty-five feet, (the bottom width being thirty-six feet, and side slopes two to one)

Thus the height of the anicut cannot be less than four and a half feet, and then the head sluices must be very materially enlarged; the head sluice on the south side has already been completed in last year, and as in practice the heights of other anicuts have been, in the first instance, fixed too low by calculations, I do not think the height of six feet will, when viewed economically, be found too great.

3. ROADWAY ALONG BANK —The top width allowed for the channel banks, six feet, is sufficient for inspections on horse-back, but there would be involved considerably greater expenditure if a cart road of fifteen feet width were to be provided.

capacity sufficient to carry 5 to 6 times

For the first two miles along the southern main channel the road runs very near the bank, and another road along the bank is not at all required.

In the next four miles, as far as the Calamba tank, the road is not more than half a mile from the channel, and there are two cross roads, with bridges leading from villages to the south, the nunjah land along the channel is very valuable, and the formation of a cart road would be costly From the Calamba to the Ammenpuram tank there would not be so much difficulty; but along the Ammenpuram and Kanam tank bunds, the high embankment for a road would again involve much expense Beyond, down to Tritchendoor, there is very little cart traffic over the sandy soil, bandies were not to be obtained in the villages in those parts where we were surveying last year, and although the existing road between Palamcottah and Tritchendoor is, towards the coast, only a bandy track, and, in other parts, unmade to the east of the anicut site, still the thousands of people who flock to the feasts at Tritchendoor would take the old well known route, in preference to going along the more circuitous line taken by the channels

4 On the north main channel the bank might be widened without much extra expense as far as Yarel, though, in this case too, there is the ordinary road along the river bank, but the widening the tank bunds as far as the Oopaur Colay would again involve heavy raising and cost. Beyond the Oopaur there will be no advantage in making a bank road, as the Palam road [illegible] road runs parallel to, and close by, the line of channel.

5 TUTICORIN CHANNEL.—If the channel from the head of the tanks to Tuticorin had been taken along the contour line, there would have been scarcely anything but pure sand found, and if this were used, so as to equalize as near as possible the excavation and embankment, there would be the danger of considerable leakage The line estimated having the advantage of directness, also comes upon firm soil where an embankment is required, and where sand is met with, the surface of water in the channel is kept below the level of the ground Again, if the channel were taken along the contour line, at a greater depth, and kept below the natural soil, it would cost more than in the direction that has been chosen

6. Having furnished explanations, nos, on the suggestions in Paragraph 10 of letter* from the Government of India,

I will give my attention to the other points noticed in your Memorandum, and will only add, at present, that syphon sluices being carried below the bed of the channel, the water way has no obstruction, such as an aqueduct might cause to carts conveying, say, a high load of straw, when the channel was full, that the idea of building the bridge over the anicut has not been abandoned, for there having been a large subscription raised by the villagers (I believe exceeding 50,000 Rupees) towards the cost of the project, it is intended to refund to the Collector the expenditure he incurred last year on the head sluice, and channel on the south bank, cartage of stone, &c., and there seems no better way of utilizing this fund locally, than in constructing the bridge, and also that the bed of stiff clay on which the foundations of the head sluice have been built is found to run to a considerable distance into the bed of the river, and the foundations are, therefore, being built solid on this firm sub soil, instead of being laid on wells

* G O, No 544, of 16th March 1869



SUBMITTED for the information of Government, with reference to their Order No 844 of the 16th ultimo

One letter from Superintending Engineer, 8th Division, No 162, dated 21st April 1869

2 With regard to the level of the Streeviguntum Anicut, the Superintending Engineer explains that it is desirable to have the power of sending down the north channel at least double the actual quantity required for direct irrigation, in order that a reserve may be stored in the tanks, and that consequently the crest of the weir could at most be lowered but one and a half feet, and to allow of this the head sluice would have to be widened to the average breadth of the channel The southern head sluice was built last year with reference to the height of anicut shown in the plans, and it would not, therefore, be advisable now to make an alteration

3. Captain Prendergast explains that the Tuticorin channel was laid out on the present, instead of on the contour, line, in order to avoid pure sand, and to obtain firm soil

4. The Superintending Engineer thinks that a top width of six feet to the channel banks will be sufficient for inspection purposes, and he points out that, owing to existing roads, there will not be a necessity for a cart track along the banks Where a greater width than six feet is not required to dispose of spoil, and where valuable nunjah land would be taken up in obtaining a greater top width than six feet, this latter may be considered sufficient, but elsewhere it will be advisable to increase the width of one bank to nine or ten feet, so as to make a more convenient bridle-road

(Signed) J MULLINS, Major, R E,
*Acting Chief Engineer for Irrigation*

---

No 348 ORDER THEREON, 15th May 1869, No 1,600

IRRIGATION, No 22

ORDERED that these papers be forwarded to the Government of India

(True Extract)

(Signed) CHARLES A. ORR, Colonel, R. E,
*Secretary to Government.*

To the Superintending Engineer, 8th Division
,, Chief Engineer for Irrigation

---

No 349. (Docket No 1,601, dated 15th May 1869)

COPY of the above forwarded to the Government of India, with reference to paragraph 10 of their letter No 53 I of the 11th February 1869.

(True Extract)

Colonel, R. E.,
*Secretary to Government.*

Exd S T Augustin.

# Govt. of (1869) Madras.

## PUBLIC WORKS.

*To*

THE SECRETARY TO THE GOVERNMENT

OF INDIA

*Dated May, 15th*

*Read* ...

G O, 15th May 1869, No 1,601

**MAY.**

**Nos. 347-349**

*Streevigunlum Anicut Project*—A copy of Proceedings relative to the Streevigunlum Anicut Project in the Tinnevelly District, forwarded to the Government of India.

the water which would be necessary, if the lands were cultivated direct from the Channel; in this case the principal object is to allow storage, and the proportion is great, but with [illegible] [illegible] we have many sluices out of the Channel bank, and cannot depend on water not being wasted from them, while too the Channel feeds into the [illegible] tanks and thence runs through a Chain of tanks Northwards, I do not think twice the volume of water necessary for the lands is too much to allow for the discharge of the head sluice. There is moreover the possibility of more land being brought under cultivation than have been reckoned on; the people in [illegible] generally are wealthy, and lands has been taken up all along within the influence of the [illegible] water; the natural level of the Country being in many instances considerably brought down, so that the Channel water may be led over it. The Collector Mr. [illegible] used to say, that it was of no consequence, if plots of land were 2 or 3 feet above the water surface, that the people would

* See also his endorsement of 4th September 1868. G.O. No 3032.



would soon level them down: and Colonel Anderson remarks what labor and expense the ryots have been put to, in bringing the lands within the command of the water. [illegible] if we have under-estimated the additional irrigable area; it is advisable that we should be prepared beforehand, to furnish more water without altering our head works.

2° Suppose, if the height of the Anicut to be reduced 1½ feet; the Government of India suggest 2 feet; then with the river water [illegible] standing at a depth of 4½ feet, the water [illegible] of the head sluice must be 45 feet [illegible] feet, to allow a discharge at 4½ depth down the Channel, or 567 Cubic feet per second, there will be no lead of water, and the average width of water way in the Channel will be 45 feet. (the bottom width being 36 feet, and side slopes 2 to 1.)

Thus the height of the Anicut cannot be less than 3½ feet, and then the head sluices must be very materially enlarged, the

the head sluices on the South side has already been Completed in last year; and as in forming the heights of other Canals have been in the first instance fixed too low by Calculations, I do not think the height of 6 feet will when even economically be found too great.

3 One thousand is allowed for the Channels, banks, &c. which is sufficient for inspections on horseback, but there would be incurred a Considerably greater expenditure, if a Cart road of 15 feet width were to be provided.

(Mending the banks.)

For the first 2 miles along the southern main Channel the road runs very near the banks, and another road along the bank is not at all required.

For the next 4 miles, as far as the Cadamba bank: the road is not more than half a mile from the Channel, and there are 2 Cross roads, with bridges leading from the villages to the south: the ground between along the Channel is very valuable, and the formation of a Cart road would be Costly

7 3

Costly. From the Cadamba to the Immenseram bank, there would not be so much difficulty, but along the Immenseram and Ramme bank lands, the high embankment for a road would again involve much expense. Beyond, near to Pritchendoor, there is very little Cart traffic over the sandy soil: bandies were not to be obtained in the villages in those parts, where no inquiries surveying last year. and although the existing road between Palamcottah and Pritchendoor, is known as the least only as bandy track, and in other parts unmade, to the east of the Cannicul ridge, the thousands of people who flock to the fairs at Pritchendoor, would take the old well known routes in preference to going along the more circuitous line taken by the Channel.

4 On the North main Channel, the banks might be widened without much extra expense as far as Vareb, though in this case too, there is the ordinary road along the river bank, but the widening the bank lands as far as

the

11th The Captain Colby would again direct
heavy raising and Cast Road the Captain
there will be no advantage in making a
canal road, as the Salem Canal pursued
nearly parallel to, and close by the line of
the Channel.

3 5 If the Channel from the last of the Locks
to Gardiners had been taken along the Course
there would have been scarcely any thing
but Sand and Gravel, and of this consisted,
we are to consider as near as possible the Ex-
cavation under Contract, there would not
danger of Considerable Leakage. The time
eliminated having the advantage of the Stream
also Comes in from side where an enlarge-
ment is required; and where sand is met with
the surface of water in the Channel is kept
below the level of the ground. Channel
Channel were taken along the Contour lines
at a greater depth, and kept below the
natural soil, it would Cost more than on
the direction that has been chosen.

Having

6 I have perused the copies of the
Correspondence from page 10 of letter from the
Commissioners of India, I will give my
attention to the other points noticed in your
Memorandum, and will only add that from
what is there shewn being Carried below the bed
of the Channel, the Water may have no obstruc-
tion, such as an Aqueduct would Cause to
Canoes Entering by a high Road or Street,
under the Channel would fall: that the Ideas of
Tunnelling the bridge over the Channel have not
entered the bridge over the Channel have not
been adopted, for there having been a large
Subscription raised by the Villagers (I believe
Rupees 30,000) towards the Cost
of the Project, it is intended to refund to the
Collectors the expenditures be incurred last
year on the Heads, Sluices, and Channels
on the South Coast, Cutting of stone &c. &c.
there seems no better way of intelligence
than personally, than in Construction the
bridges - and also that the Level of the Cliff Clay
on which the foundations of the Heads

Sluices

above have been built, is found to run to a
considerable distance into the bed of the
river, and the foundations are therefore
being built solid on this firm subsoil,
instead of being laid on piles.

(Sgd) Harcourt

Chief Engineer past. Captain &c.
Officiating Engineer
St Division

mation
order
b of the
ding) be-
have the
ub at
ired for
e may
ventily
were but
sluice
50 breadth
sluice was
height
it would

built last year
of ancient phoenix in Tho
not therefore be advisable now to make an
alteration.

3 Captain Prendergast explains that
the

No 189.

Submitted for the information of Government with reference to their order No 8114 of the 16th Ultimo.

2 With regard to the level of the Srivigiuntum Anicut, the Superintending Engineer explains that it is desirable to have the power of sending down the North channel at least double the actual quantity required for direct irrigation, in order that a reserve may be stored in the tanks; and that consequently the crest of the weir could at most be lowered but 1½ feet, and to allow of this the head sluice would have to be widened to the average breadth of the channel. The Southern head sluice was built last year with reference to the height of anicut shown in the plans, and it would not therefore be advisable now to make an alteration.

3 Captain Prendergast explains that the

inclosure letter from Engineer No 1162 21st April 69

No. 1162

From
The Officiating Secretary
Southern Division
To
The Secretary to Government
Public Works Department

Dated 21st April 1869.

Received 28th April 1869.

From 15th May 69 Lr No 347.

Letter with plans & estimate regarding the proposed repairs to the Srivigiuntum Anicut.

Memorandum No 189 dated 3rd April 1869, in connection with the above-quoted letter from the Chief Engineer.

Subject.

Letter to the Secretary to Government P.W.D.

(2) The Suticorin channel was laid out on the present, instead of on the contour line, in order to avoid pure sand and to obtain firm soil.

4. The Superintending Engineer thinks that a top width of 6 feet to the channel banks will be sufficient for inspection purposes, and he points out that, owing to existing roads, there will not be a necessity for a cart track along the banks. Where a greater width than 6 feet is not required to dispose of spoil, and where valuable munjah land would be taken up in obtaining a greater top width than 6 feet, this latter may be considered sufficient, but elsewhere it will be advisable to increase the width of one bank to 9 or 10 feet, so as to make a more convenient bridle road.

Fort St George
29th April 1869.

W. Cullen Major R.E.
Actg Chief Engineer for Irrigation

The Secretary to Government P.W. Dept

Public Works Dept
Received
12 May 1869
Entered
Vol 863 p

d these
orded
India.

Label May
1869

e above for.
the Govt
with reference
of their letter
No 53. dated the 11th Feb
1869 —

Recd 17/5/69

the Suta
present,
to avoid
to
thinks
channel b
purposes,
ting roa
a cart tra
er width
of spoil, an
be taken
thaw to fut
ficient, but
increase th
so as to make a more convenient bridle road.

Fort St George
29th April 1869.

Wm Cullen Major. Chief Engineer for Irrigation

The Secretary to Government Pub. Dept.

Pub. Dept. Dated 30th April 1869. Rec'd 1st May

No. 189
Enclosure
Submits explanation of the Superintending Engineer 8th Division in connection with the Periyakulam Irrigation Project.

No. 1800/1869 Chief Engineer for Irrigation

To the Secretary to Government

Dated 20th April 1869
Rec'd 30th April 1869

No. 189
Enclosure
Submits explanation of the Superintending Engineer 8th Division in connection with the Periyakulam Irrigation Project.

No. 1800/1869 Chief Engineer for Irrigation

Ch. 347
Ch. 5th May 1869 (R. 7a)

Pub. Works Dept.

No. 1800

Proceedings of the Madras Government
Under date the 15th May 1869
Read the following

re Chief Engr for Irrigation's letter No. 189 dated 20th April 1869

Ordered that these papers be forwarded to the Govt. of India.

Engr. 8th Dn
Chief Engr for Irrign

Docket No. dated May 1869

Copy of the above forwarded to the Govt. of India with reference to para 10 of their letter No. 653. J. of the 11th Feb 1869.

Dispatched 17/5/69

Rec 1867

Cert. of 1869; Madras.

PUBLIC WORKS.

To The Superintending Engr
8th Division

Dated

Rec'd

Rec'd

C. O. 15th January 1869, No 1600 & 1601

Nos 347-348 & 349

Shevaroy tanks Amount Boyce Report
& Estimate on the Endorsement of the
Chief Engr for Secy submitting for
Remarks certain Explanations
furnished by the Supdg Engr in
connection with the Shevaroy tanks
Amount Report, Limerick
&c.

Shevaroy tanks Amount Report.
& Copy of Govt. relative to the
Shevaroy tanks Amount Report
in the Limerick &c, forwarded
to Supdg Engr.

C 5