

MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No. 870	<u>Press</u> <u>Mis.</u>
186 187	
Dated	10 June 1862

Not to be folded or roughly handled

*Proceedings of the Madras Government, Revenue Department,
10th April 1862.*

No. 186. Read the following Proceedings of the Madras Government in the Public Works Department, dated 4th April 1862, No. 678 :—

Reviewing the Chief Engineer's reports on the Ponnaiy channel and Murthyaur under-tunnel. Noticing the expenditure incurred on these projects and the expected increase on Revenue. } (Vide Public Works Proceedings, 4th April 1862, Nos. 89—93.)

No. 187. ORDER THEREON, 10th April 1862, No. 810.

Forwarded to the Board of Revenue, who will obtain from the Collector of Trichinopoly and furnish the information required in paragraph 9 of the foregoing order.

(Signed) C. G. MASTER,

Deputy Secretary to Government.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read the following papers:—

From Lieutenant-Colonel W. H. HORSLEY, Chief Engineer, Department Public Works, to
J. D. SIM, Esq., Secretary to Government, dated Chepauk, 8th May 1861, No. 317.

SIR, .

1. With reference to Proceedings Madras Government marginally noted,* I have the honor to forward Lieutenant Palmer's report† on the Ponnairry project on the work as it stood after the damage done to it during the heavy floods in August and November 1858, together with a survey, plans and estimates, amounting to Rupees (19,170) nineteen thousand one hundred and seventy:—

- * Nos. 1,532 and 1,710, dated 18th July and 13th August 1860.
- Nos. 1 and 11, dated 1st October 1860, and 28th January 1861.
- † No. 683, dated 1st October 1860.
- 3 Letters from District Engineer, Nos. 633, 870 and 1,491, dated 1st October and 1st November 1860, and 20th March 1861.
- 6 Plans.
- 2 Specifications.
- 7 Abstract estimates.

	RS.
Providing for repairing the Murthyaur under tunnel	7,230
Constructing a head sluice to regulate the supply of water in the Ponnairry channel... ..	3,660
Strengthening the Murthyaur river and Ponnairry channel banks ...	600
Protecting the head of the channel with a masonry wall... ..	1,400
Putting in order and clearing out the supplying channels, the main channel 16½ miles, and the broad and minor channels 32 miles in length... ..	6,280
Total... ..	19,170

for the supply of water for the irrigation of 2,223 cawnies, or 2,940 acres, yielding an annual Revenue of Rupees 18,112, all of which has been taken up, already cleared, and will be brought under cultivation on the first year, after the completion of the work.

2. The District Engineer reports that he found the two arches of the under-tunnel on the stream-ward side in good order, but that the foundation of the arch nearest the Coleroon had been undermined for a distance of 40 feet from the south face walls, and had sunk considerably, carrying with it one-half of the arch; and that the abutment wall and arch for the next 43 feet were in good order, but that the arch beyond that had been torn open for a length of 48 feet.

3. The deep stream of the river and the force of water has widened the channel from 8 yards, its original breadth, to 14 yards, and the Acting District Engineer considers it absolutely necessary, that some permanent work, in the shape of a masonry wall, should be constructed at the head of the channel, so that the island between it and the Coleroon should not be further destroyed, modussils, &c., having heretofore been of no avail in protecting it, he has therefore entered an item of Rupees 1,400 in the estimate for that purpose which has my approval.

4. The banks of the channel between it and the Coleroon river being sandy, narrow and not sufficiently strong to resist the uncontrolled force of the water during the high freshes,

Lieutenant Palmer has, with my permission, further inserted an item‡ for the construction of a head sluice to the Ponnairry chan-

nel, for the purpose of regulating the supply and arresting the erosion of the channel banks, that is at present going on.

5. For restoring the banks of the Ponnairry channel and Murthyaur, adjoining the under tunnel, Rupees 600 are allowed, and for clearing and putting in order the main channel and certain minor branches, an aggregate sum of Rupees 6,280 is the estimated cost; and for this, we shall have 10½ miles of main channel and 32 miles of branch and minor channels supplying

water, as above stated, for 2,223 cawnies or 2,910 acres of land; and, allowing at the rate of 4 cubic yards per hour per cawny, requiring 8,892 cubic yards per hour.

6. The head sluice allowed for in the accompanying estimate has three vents, 5 feet by 4 feet each, and with a depth of water 2 feet 6 inches in front, the discharge, the Acting District Engineer calculates, will average between 10 and 12,000 cubic yards per hour; but 2 feet 6 inches is less than the average depth of water in the river during the season, and on ordinary freshes, the discharge will be cubic yards 20,000 per hour; should the river fall so low as not to give a depth of 2 feet 6 inches, a corumboo could be raised which would soon supply the deficiency; the first freshes will fill the old Ponnair tank, forming a reservoir 3 miles long from 50 to 70 yards wide and from 4 to 5 feet deep, and containing 200,000 cubic yards of water.

7. The extreme difference of level between the water in the Ponnair channel and that in the Murthyaur will be 3 feet, the upward pressure on the arch of the tunnel would be 187 lbs. per square foot, to resist which there is a weight of masonry of 263 lbs.

8. If then to the present estimate of Rupees 19,170 the cost of the work up to date, viz., Rupees 63,000, be added, the probable aggregate expenditure will be Rupees 82,170, the return for which, supposing the Revenue to be as above stated, Rupees 18,112, will be about 22 per cent. per annum.

9. Every endeavour has been made to procure for Lieutenant Palmer efficient aid in carrying out the work, and with this and his own energetic exertions, I think there is no doubt of his being able to carry the project to completion in the course of the present working season.

10. In my letter of the 2nd November 1860, No. 6,584, paragraph 9, intimation is given that provision had been made for Rupees 15,000 to be spent in the past year on the above mentioned work; this sum will, I expect, be fully expended, as the work is now well advanced, but as no provision exists in the Budget for 1861-62, for the balance of the estimate now forwarded, viz., Rupees 3,010, I would recommend its being sanctioned from the Reserve Fund for the current official year.

Estimate.....	Rs.
	18,010
	15,000
	3,010 balance.

11. I regret the delay that has taken place in the submission of the accompanying papers, but the estimate had to be returned to the District Engineer for some information, and for the addition thereto of a head sluice proposed by him, and were not again received in this office, until late last year, when the estimate Department were fully occupied in examining the estimates for Military buildings and other works proposed for entry in the Budget of the year 1861-62; and on taking up the estimate subsequently, additional information was found to be required, necessitating further reference to the District Engineer.

Endorsement of the Chief Engineer, dated Chepauk, 13th August 1861, No. 3,838.
From Lieutenant W. C. PALMER, Acting District Engineer of Trichinopoly, to the Deputy Chief Engineer, Southern Circle, dated Trichinopoly, 3rd August 1861, No. 532.

SIR,

1. I have the honor to report to you that on inspecting the works of the Ponnair Project this week, I find they are far advanced towards completion.
2. The Murthyaur under tunnel is finished.
3. The arch of the head sluice is turned, and the masonry is all built with the exception of a small portion of the front parapet wall.
4. The excavation of the main channel has been commenced, and half of the work required to Nos. 1 and 2 branch channel has been done, and I expect the greater portion, if not the whole, of the earthwork will be completed in another month, when the water can be let into the channel for the irrigation of the land under it.

5. The season has been an unpropitious one from the floods in the Murthyaur and the constant presence of water in the Coleroon. This has increased greatly the baling, and excavating foundations, and the difficulty in procuring firewood and coolies has also added to the cost of brickwork so that the estimates for masonry will be exceeded, but I hope there will be a saving in the items allowed for earthwork, and that the total estimate for completing the project will not be greatly, if at all, exceeded.

Submitted to Government for information, with reference to the Chief Engineer's letter No. 317, dated 8th May 1861, with a request that the balance of the estimate, Rupees 4,170, as shown in paragraph 10 thereof, may be sanctioned from the Reserve Fund.

(Signed) W. H. HORSLEY, Lieut.-Colonel,
Chief Engineer.

Endorsement of the Chief Engineer, dated Chepauk, 9th October 1861, No. 5,747.
From Captain W. C. PALMER, Acting District Engineer of Trichinopoly, to the Deputy Chief Engineer, Southern Circle, dated Trichinopoly, 28th September 1861, No. 907.

SIR,

1. I have the honor to report to you that on my inspection of the Ponnair Project Works, I found them sufficiently advanced to enable me to open the channel and pass the Coleroon water down, which I did on Wednesday the 25th instant.

2. I then made an opening 3 yards wide in the embankments at the head through which the water flowed freely and well, and by this day the whole of the embankment will have been cleared away and a full body of water passed down.

2. At the head sluice the masonry was completed, with the exception of plastering to the lower part (3 feet) of the abutment wings and piers, which could not be carried out owing to the large body of water that percolated through the banks, and the springs under the foundations which rose 3 feet on the first fresh coming down in June, and since then the water within the embankment has continued from 3 to 4 feet in height, and the water poured in as fast as it could be baled out. These strong and copious springs under the work has caused me some anxiety, but as sluices similarly situated in Tanjore have stood well, and our mortar is good, I trust this sluice will stand equally well. The masonry is good; and at present there are no signs of cracks at all.

4. At the under tunnel below the Murthyaur river, the high freshes have tried the work, and cracks have appeared at the points where the new foundations have been this year added to those previously built. The foundation is sand, and these cracks are caused by the sinking of the new parts, whilst those built three years ago had already settled.

5. This could hardly have been avoided in making additions to an old building with only sand foundations—it will not however prevent the under tunnel from acting as the cracks do not extend to the arch work.

6. The constant freshes and presence of water, as previously reported, have added to the cost of embankment and baling, and there has been an excess in the estimates for the under tunnel and head sluice; but I hope to complete the whole project for the amount originally asked for, at most with an excess less than 5 per cent. on it.

7. The main channel has been cleared out in places where most needed, but some work is still required towards the end of the channel. The local rains bring in the drainage of the adjacent lands which silts up the bed, but this will be greatly modified as soon as a steady body of water flows down the channel, and until the effect of this is seen, I cannot judge how many side dams will be required, but I think about ten will have to be built.

8. The longest and most important of the branch channels, Nos. 1 and 2, are excavated, and on my inspection a good body of water was passing down them. The other channels as well as the minor ones are now being excavated.

9. I have acquainted the Collector with the progress of the works and I believe much land will be cultivated this year, and be the prelude to more extended cultivation next year.

10. I regret the channel could not have been opened earlier in the season, but as you are aware the special superintendence which I applied for and which was allowed by the Chief Engineer to be so essentially necessary for the prosecution of the work could not be given me, and I therefore had to make the best arrangement I could for the execution of the project.

1 Original letter.

1. Submitted to Government for information, with reference to the Chief Engineer's letter No. 317, dated 8th May 1861.

2. It will be observed that cracks have appeared at the points where the new foundations have been added to the under tunnel this year. The sub-soil being sand, these cracks are occasioned by the partial settlement of the new portions of the work. As the cracks do not extend to the arch work, the under tunnel will be none the less efficient.

3. The constant freshes and presence of water have contributed to the cost of embankment and baling, and there has in consequence been an excess, it would appear, over the estimates for the under tunnel and head sluice; but the District Engineer hopes to complete the whole project for the amount originally applied for, viz., Rupees 19,170, or at most for a sum less than 5 per cent. in excess of the same.

4. In consequence of the advanced state of the works, much additional land will be cultivated this year, and more will be brought under cultivation next year, when the project shall have been fully completed.

(Signed) W. H. HORSLEY, Lieut.-Colonel,
Chief Engineer.

Memorandum from Lieutenant-Colonel W. H. HORSLEY, Chief Engineer, to J. D. SIM, Esq.,
Secretary to Government, dated Chapauk, 23rd October 1861, No. 6,307.

The Chief Engineer has the honor to request that the sum of Rupees 18,010 entered in the margin of his letter of the 8th May last, No. 317, paragraph 10, may be corrected to Rupees 19,170, to tally with the total shown in paragraph 1 of the same letter, and that the balance of Rupees 3,010 entered in the margin of the former paragraph may be altered to Rupees 4,170 in consequence of the correction now requested to be made.

ORDER THEREON, 4th April 1862, No. 678.

1. With the first of the above letters the Chief Engineer forwarded the report on the Ponnair channel and Murthyaur under tunnel called for in the Proceedings of Government marginally noted, together with plans and estimates for the restoration and completion of the works connected therewith amounting to Rupees 19,170, as follows:—

	RS.
Providing for repairing the Murthyaur under tunnel...	7,250
Constructing a head sluice to regulate the supply of water in the Ponnair channel.	3,600
Strengthening the Murthyaur river and Ponnair channel banks ..	600
Protecting the head of the channel with a masonry wall...	1,400
Putting in order and clearing out the supplying channels, the main channel 16 1/2 miles, and broad and minor channels 32 miles in length ..	6,250
	<u>19,170</u>

2. From the Acting District Engineer, two arches on the stream-ward side were in nearest the Coleroon was undermined for 40 the next 43 feet were in good order, but the length of 48 feet. The force of the stream 1 1/2 yards and proportionately reduced the brick In order to arrest this encroachment and at the Acting District Engineer proposed to c,

3. The banks of the Ponnair channel in need of restoration, and the main channel required to be carried out to completion.

4. The date* of the present estimate raised to Rs. 32 miles of branch canals or 2,94

Rupees 18,112, all of which is reported to have been under cultivation in the first year after the completion about 22 per cent. on the outlay.

5. For Rupees 15,000 allotment of Government in their Proceedings noted in the margin.

6. On the 28th March 1861, the Chief Engineer, reporting damages to the amount of Rs. 1 of rain, and stated that permission had been given mission of the report and estimate now under review.

7. In paragraph 10 of the first letter note reported that the he expected, be well advanced, and as 62 for the balance of mended that it should be met by a grant from the reserve.

8. With his endorsement, No. 3,838, dated 13th above noted papers, the Chief Engineer submitted a letter ing that the Murthyaur under tunnel was finished tion of the main channel had been commenced channels done, and it was expected that in another month, when water would be let it. The Acting District Engineer further estimate for brick work would probably work would, he hoped, compensate for it would not be greatly, if at all, exceeded.

A later report by the same Officer was Endorser

Dated 28th September 1861. it is least allow of water being passed down the channel this year, and more brought under the project completed. At the Murthyaur under tunnel and old work joined, but as they did not exist less efficient.

guine of completing the project for the amount
ost for a sum less than five per cent. in excess of

Chief Engineer pointed out an error in his letter
8th May 1861, and requested that the sum of
might be corrected to Rupees 19,170, to tally
letter, and that the balance of Rupees 3,010
red to Rupees 4,170.

ght these papers were not disposed of at the
ed by the Chief Engineer they now accord
estimate† submitted with his letter of the
No. 317, for completing the project, which
idents that have occurred is still likely to prove
a grant of Rupees 4,170 from the Reserve Fund
the exact sum that was spent on this estimate
Rupees 15,000 made in the Budget of 1860-61
y has taken place since then, and how this latter

bssequent reports that the Murthya under tunnel
the submission of the plans and estimates for its
2, dated 11th March 1862. They would also wish
the extent of cultivation to which water has been
anding the accident which happened to the under
alized therefrom.

requested to report whether the above sum of
Fund of the current year, should it be required

(tract.)

W. J. Hill Lieut.-Colonel,
Secretary to Government.

*of Revenue who
Collector of L. & C.
the information
of the foregoing*

*From J. L. George
102 Apr 1862*

*18 April
To the Secy of Rev.
with the Secy*

Revenue 1862 (N^o 1015)
Pro. of Govt. for April.

N^o 1015.

Proceedings of the Madras
Govt. in the N^o 1015.

Filed N^o 3 at N^o 1862.
Received N^o 7

N^o 678.

From B. of Madras 8 May 1862
N^o 1343. (reporting on the Supply of water
from Ponnaiy Channel)
Per 13 May 1862 N^o 244-245

Reviewing the Chief
Engineers reports on the
Ponnaiy Channel and
Muthur under tunnel,
showing the expenditure
incurred on these projects
and the expected increase
in Revenue.

N^o 810 - 10 April
at N^o 1015.

Available
Papers are
listed.