

(1) Number of pages _____

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.**Government of Madras.***Public Works* **DEPARTMENT.**

G.O. No. 2509	Press Mis.
185-186	
Dated 7. 8 1866	

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
9th August 1866.*

No. 185. Read the following letter from the Consulting Engineer for Irrigation and Canal Company, to the Secretary to Government, Department Public Works, dated Madras, 24th July 1866, No. 35:—

7 Estimates.
1 Letter in original from Agent, No. 120, dated 20th July 1866.

1. I have the honor to submit, for the consideration of Government, estimates for distribution works for the 1st, 2nd, and 3rd sections of the Main Canal.

1st Section, Estimate (revised)...	Rupees 8,380
2nd do. do. ...	" 6,000
3rd do. do. ...	" 9,320

The Agent's letter, No. 120 of the 20th instant, transmitting the estimates, and the Chief Engineer's Memorandum, dated 11th instant, are enclosed.

2. For the 1st section sanction to the extent of Rupees 5,520 has already been given, so that the additional sanction required is Rupees 2,860. For the 2nd and 3rd sections no sanction had previously been requested.

Proceedings Madras Government, No. 912,
2nd May 1862.

3. The causes of increase in the estimate for the distribution works of the 1st section are:—

1st.—The provision for closely fitting shutters with lifting gear to 19 sluices estimated to cost $19 \times 75 =$... Rupees 1,425

2ndly.—The arrangements, which the Chief Engineer has deemed it necessary to carry out, at sluice No. 19, Kurnool Town sluice, whereby the original estimate will be exceeded by, 1,115

Rupees 2,540

With regard to the former, the Chief Engineer, paragraph 3, doubts the necessity for making these very small sluices absolutely water-tight, and as to do so would entail the partial re-construction of the masonry already built, I agree with him. Leaving the sluices as they are, but providing them with fairly fitting shutters would effect a saving of $19 \times 50 = 950$, + 95 Rupees for contingencies, or altogether Rupees 1,045. From the note on the face of the estimate, it would appear also that 50 Rupees may be deducted from the provision for lifting gear of No. 19 sluice, so that altogether Rupees 1,095 out of Rupees 2,660, the difference between the original and revised estimates might be deducted; but as it is by no means certain that the arrangements for distribution in this section will not need modification and improvement, I would recommend that sanction be given for the amount of the estimate as it stands, and provision will thus be made for such minor alterations as may be found advisable.

4. The arrangements for the more accurate measurement of the water supplied to the Town of Kurnool from No. 19 sluice, are referred to at the end of paragraph 2 of the Chief Engineer's Memorandum. It seems to me that quite sufficient accuracy would have been obtained by the construction of a second sluice on the channel a short distance below that in the canal embankment, and by maintaining the water in the channel, above this second sluice, at a constant level. This was, if I am not

*Proceedings of the Madras Government, Public Works Department,
9th August 1866.*

mistaken, the intention when I was last at Kurnool, and a simple and inexpensive sluice was then under construction. I gather from the Chief Engineer's remark that the alterations provided for in the estimate have been carried out.

5. In paragraph 4, the Chief Engineer mentions that the cost of distribution in the 1st section will be about Rupees 2-6-0 an acre. The areas to be irrigated from the 20 sluices are, as noted on the estimate, 2,247 acres, *i. e.*, taking the area under No. 20 sluice at 150 acres, the total of the estimate is 8,380. From this

Rupees	1,545	amount, however, the cost of No. 19 sluice,
Share of contingencies	155	Rupees 1,700,* may be deducted, as also
Rupees...	1,700	the area 100 acres belonging to it, as it

is on a different footing to an ordinary sluice. It may be supposed also that the Rupees 1,095, referred to in paragraph 3 above, will not be needed, and if so the distribution in connection with the 19 sluices will cost Rupees 5,585 for an area of 2,147 acres, or Rupees 2-9-7 an acre. A very important point, however, is the question as to whether the area has not been very greatly over-estimated. As far as I can judge, it has been, for the most part, taken from the papers transmitted with the original estimate, and in the first place I doubt the existence of so much land, and in the next place the Collectors' Return for May of land for the irrigation of which application has been received is only 635-64 acres. This area may very likely be increased, but it seems to me very unlikely that it will ever exceed 1,000 acres, and if this supposition be correct, the distribution will cost 5½ Rupees an acre on the average, and this would not be very satisfactory, seeing that the lands are in no case more than a few hundred yards from the main canal.

6. As regards the trans-Hookry or Wokarri land in the village of Culloor, it rests with the Company to decide whether it is worth their while to irrigate it or not. The Chief Engineer can doubtless ascertain for what area water would be taken, were the Company to arrange to afford it, and then what outlay would be necessary, and it will then be seen whether the necessary works would yield a fair return. It is not, at any rate at present, advisable that the Company should look to the villagers to bear a part of the cost of supplying village lands, though it may be admitted that such exceptional cases may arise.

7. The estimate, Rupees 6,000, for the second section provides only for twenty-five sluices. The Chief Engineer states (paragraph 9) that the more important channels have been surveyed, and that drawings when prepared will be sent in. As yet no information is forthcoming, either as to the total irrigable area of the section, or the area under each sluice, and Mr. Lathan says that, owing to the nature of the ground, it has been thought better to wait for the Government Surveys, which it appears are not yet ready. I do not think that such a course was necessary, or that it is satisfactory that the scheme for distribution for such a small area should be thus postponed at a time when every acre almost ought to be ready to be supplied. The main canal runs quite close to the Toombuddra; almost every bit of the narrow strip of land can, with the peculiarities of the ground, be seen from the canal bank, and I should have thought that nothing would have been easier than to lay out the channels, ascertain the areas under each, make the estimates, and show the whole, or as much as might be necessary, on paper.

*Proceedings of the Madras Government, Public Works Department,
9th August 1866.*

8. The Abstract Estimate shows that Rupees 3,371-11-4 have been expended, and the greater part of the balance is required for fitting the sluices with shutters and their gearing, and the latter cannot well be postponed if the sluices are to be made use of at all this season. Most probably also many of the shutters have been made up in the Workshops, though the cost does not yet appear to the debit of the sluices.

9. The third section, estimate Rupees 9,320, provides for—

	RS.	A.	P.
Fifteen Sluices	4,137	3	10
Fifteen Channels	4,337	8	0
Contingencies, 10 per cent	845	4	2

Here also no information is given as to areas to be irrigated, and the channels have not been planned at all. For small channels detailed estimates are not, I think, necessary, and it is enough to provide for them at so much an acre; but it is essential that the scheme of distribution, whether for small or large areas, should be definitely arranged, and this can and should be done before, instead of after, sanction for expenditure is asked for. I would recommend, therefore, that, for this section, sanction be at present given only for the sluices, *viz.* :—

	RS.	A.	P.
Fifteen Sluices	4,137	3	10
Contingencies	412	12	2
	4,550	0	0

10. Special rules for the preparation of distribution estimates and their explanatory documents have not been drawn up; but I have had some correspondence on the subject with the Chief Engineer, through the Agent, and I subjoin an abstract of the views I have expressed, in order that Government may approve of their adoption, or direct such alterations as may be deemed advisable. I have said,

1st.—That it will be quite sufficient to show the centre lines only, and capacity at critical points of all minor distribution channels, designed to carry not more than 2,000 cubic yards an hour, or in other words, about 1,000 acre channels.

2nd.—That it is absolutely necessary that all channels, up to the point where they cease to carry water for the lands of more than one village, should be accurately shown on the Surveys, as also all channels whatever, so long as they are within the boundaries of villages other than those which they are designed to supply, because it is certain that the land which such channels will occupy must be regularly made over before the work can be commenced.

3rd.—That to prevent delay in obtaining sanction for distribution estimates, surveys may, in the first instance, be so prepared as to shew the main irrigation channel, and the primary and secondary branches, with the position of masonry works, &c., and the direction of the subsidiary branches can afterwards be shown on separate sheets, as the country to be irrigated has the details of the arrangements decided on.

4th.—That the subsidiary channels can be estimated for at so much an acre.

*Proceedings of the Madras Government, Public Works Department,
9th August 1866.*

5th.—That distribution channel surveys may be plotted on a scale of eight chains to the inch, instead of the four chains scale, as, unlike the main canal, a large breadth of land will have to be shown, and it would make the sheets either inconveniently large, or too numerous, were the larger scale adhered to. This modification was to be subject to the approval of Government.

Same letter, paragraph 6.

Same letter, paragraph 8, and letter No. 1, paragraph 3, 2nd May 1865.

6th.—That it would be a good plan to furnish a tabulated statement with all projects for distribution channels showing—

- a. The name of the channel.
- b. The length of do.
- c. The fall per mile.
- d. The square section of water-way.
- e. The bottom breadth.
- f. The discharge in cubic yards per hour.
- g. The acreage (a reasonable approximation not necessarily based on fully completed surveys).
- h. The name of the village in which land is situated.
- i. The source of supply, i. e., the major channel from which it takes off.

7th.—That, in accordance with the Chief Engineer's suggestions to that effect, there would be no objection to the expenditure being confined to the supply tract, the works being designed for the full selected area commanded, but carried out only as required. The Chief Engineer proposed to obtain sanction only for the works as required.

11. Estimates for distribution works under the 4th Section main canal were received last month; but they were for only an incomplete fraction of the works required, and they have been returned for revision.

12. The sanctions recommended in this letter are for Distribution works, 1st Section (additional)

Do.	2nd	do.	RS.
Do.	3rd	do.	2,860
		do.	6,000
		do.	4,550

From the Agent and Manager Madras Irrigation and Canal Company, to the Consulting Engineer Madras Irrigation and Canal Company, dated Madras, 20th July 1866, No. 120.

I have the honor to transmit, for the sanction of Government, the following estimates for distribution works in the 1st, 2nd, and 3rd Sections together with an explanatory Memorandum by the Provisional Chief Engineer:—

Dated 11th July 1866.

- 1st Section.
- 1 Detailed Estimate in duplicate.
 - 1 Comparative Statement do.
 - 1 Abstract Estimate do.

*Proceedings of the Madras Government, Public Works Department,
9th August 1866.*

2nd Section.

- 1 Detailed Estimate in duplicate.
- 1 Abstract do. do.

3rd Section.

- 1 Detailed Estimate in duplicate.
- 1 Abstract do. do.

Memorandum on Distribution Sections 1, 2, 3, Main Canal.

1. 1st Section.—For the first section an estimate was submitted and sanctioned for Rupees 5,520, on the 2nd May 1862 (G. O. No. 912). That estimate contemplated both sluices and channels, but only allowed a small sum in each case for shutters and raising gear, and it did not take into consideration at all the sluices for supplying the town, which it has since been considered necessary to supply with a double regulating apparatus.

2. It has been suggested by Colonel Smith and Government that all sluices should be made so that the discharge through them may be measured. The only one which fulfils this condition at present is, I believe, the town sluice. The first sluice used for town supply stood close to the canal, and although a total of Rupees 272-7-6 was spent upon it and in providing a front apron, &c., to stop the leakage, leaked enough to supply the town even when it was shut. A sluice founded on flaggy lime stone rock is always liable thus to leak. The present measuring sluice is placed so far from the canal that the sides of the channel near it are in cotton soil, and above the lime stone, and the whole channel to it is made water-tight by a masonry lining. Of course the channel had to be banked up to full water level of canal.

3. In order to make the irrigating sluices water-tight, a frame and shutter will be needed, and part of the sluice will generally have to be taken down in order to get this in. Some extra work will be required to stop the leakage round the masonry of the sluices. On the whole, these sluices in the first and part of the second section are so small that I do not think them worth the pains of making water-tight. With the exception of the town sluice I do not recommend the spending of any of the additional sum of Rupees 50, which Mr. Dodson has inserted in his estimate for fitting each sluice. The terms lifting gear includes the shutter, shutter frame, and all adjuncts. If it be thought well to omit this out of the estimate for sanction, it will diminish the amount requiring sanction by Rupees 950 and 95 contingencies, total Rupees 1,045.

4. Deducting this amount and the town sluice we have the cost of distributing to about 2,150 acres, Rupees 5,100 (nearly), or about Rupees 2-6-9 per acre. Considering that this includes sluices, and that the ground irrigated is a strip near the river seamed by old water courses and gulleys, across which channels cannot easily be carried, it seems to me satisfactory.

5. A comparison of the two estimates shows the chief items of which the present supplemental estimate is composed is—

Town channel for Kurnool ...	Rs. 950
Other channels total increase ...	150
Channels Rs.	1,100
Shutters and raising gear at 50 Rupees a piece for 19 sluices, being now Rupees 75, and in former estimate only Rupees 25 ...	Rs. 950
Double apparatus for town sluice ...	200
	2,250

6. As regards the sluices themselves, some have cost more than the original estimate, some less, the total excess being slightly covered by the saving.

7. The estimate and comparative statement makes itself so clear that little remark is necessary, except perhaps as regards the channel from No. 20 sluice, which is on the western bank or southern side of the Canal, near the site of the new Workshops, and which is intended to supply a long narrow tract, north and south of the Hookry* river, and north-west of the Hindry, including the large village of Culloor, and about 440 acres. But as this would entail an aqueduct of some description (or a dam) across the

* Wokarri.

*Proceedings of the Madras Government, Public Works Department,
9th August 1866.*

Hookry, and be a comparatively expensive work if more irrigation is attempted than the strip of about 150 acres on the north side of the Wokarri, it becomes a question whether such a subsidiary scheme, which is to a great extent complete in itself, should not be constructed, in part, at least, by the villagers of Culloor, who alone will derive benefit from the construction. This is therefore left for after consideration.

8. A table showing length of channel acreage, relative and total cost, will be forwarded as soon as received from the Hindry Division.

9. 2nd Section Estimate.—This is an Estimate, or rather a bill of cost as far as can be, of the sluices as constructed. No channels have been provided for, as it was hoped that the revenue plans would long since have been furnished, as promised; in this we have been disappointed, but it is not in some cases worth while to make surveys for small channels in such rocky and difficult ground as this section almost every where presents, and it is considered better to await the issue of the printed Government surveys. The more important channels are already surveyed, and drawings, when prepared, will be sent in.

3rd Section.—This section Estimates includes an allowance for channels which can only be considered as approximate, but as a considerable tract of country is irrigable, it is necessary to have some sanction to commence the channels at once. It may require to be supplemented hereafter as that for the first section was.

KURNOOL,
11th July 1866.

(Signed) J. H. LATHAM,
Provisional Chief Engineer.

MADRAS IRRIGATION AND CANAL COMPANY.
HINDRY DIVISION.

Abstract of Supplemental Estimate for distribution works in the 1st Section of Main Canal
(from No. 1 to No. 20.)

No. of Mile.	No. of Sluice.	Acre.	Amount.	Total.
			RS. A. P.	RS. A. P.
5th	1			
6th	2	70	318 12 9	
7th	3	30	273 14 9	
7th	4	100	400 1 9	
8th	5	30	303 3 0	
8th	6	25	124 8 10	
9th	7	52	520 11 0	
10th	8	25	619 6 8	
11th	9	63	312 13 2	
11th	10	170	288 4 11	
12th	11	280	337 8 4	
12th	12	72	202 0 0	
13th	13	150	337 10 0	
14th	14	60	262 4 0	
15th	15	70	142 4 0	
16th	16	100	368 8 0	
17th	17	190	413 5 0	
17th	18	50	173 10 0	
18th	19	160	273 8 0	
	20	100	1,545 0 7	
		440	326 11 0	
Sundries including stores and store charges at 10 per cent.				
Deduct amount of original estimate...			...	7,604 1 9
Net amount requiring sanction...			...	775 14 3
			...	8,380 0 0
			...	5,520 0 0
			...	2,860 0 0

13th July 1866.

(True Copies.) (Signed) W. J. LOWE,
Officer in charge.

(Signed) F. H. HENSLÖWE,
Agent and Manager.

*Proceedings of the Madras Government, Public Works Department,
9th August 1866.*

No. 186.

ORDER THEREON, 9th August 1866, No. 2,509.

CIVIL WORKS, No. 29.

1st Section...	Rs. 8,380
2nd do. ...	6,000
3rd do. ...	9,320

1. In this letter the Consulting Engineer for the Madras Irrigation and Canal Company submits the estimates, as per margin, for distribution works for the 1st, 2nd, and 3rd Sections of the Company's Canal. Captain Mullins

recommends that the estimates for the works proposed in the 1st and 2nd Sections be sanctioned; but as the scheme of distribution for the 3rd Section has not been definitely arranged, he suggests that only Rupees 4,550 of the Rupees 9,320 applied for be granted at present. As the arrangements for distribution in the three sections of the Canal will, however, most probably need modification and improvement, it seems advisable that the estimates submitted by the Chief Engineer should be allowed to stand, and they are accordingly sanctioned.

2. The Government approve for adoption the rules proposed by the Consulting Engineer for the preparation of distribution estimates, &c.

(True Extract.)

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

To the Consulting Engineer Madras Irrigation and Canal Company.
„ Manager for do. do.

Ed.S. T. Augustin.

Consulting Engineer's Office
Irrigation Canal Company
Madras, 24th July 1886.

N^o 35.

From,

Captain, J. Mullins, R.E.

To,

Counselor for I.C.C.

The Secretary to Government

Department of Pub. Works.

Sir,

1. I have the honor to submit for the consideration of Government estimates for distribution works for the 1st, 2nd, and 3rd sections of the Main Canal.

1st Section Estimate (revised) Rs. 8,380

2nd " " " " " 6,000

3rd " " " " " 9,320

The Agent's letter, N^o 120 of the 20th instant, transmitting the estimates, and the Chief Engineer's Memorandum, dated 11th instant, are enclosed.

2. For the 1st Section sanction to the extent of

of Rupees 5520. has already been given, so that P.H. 4. N: 912-2nd Memo.
the additional sanction required is Rupees 2860-
For the 2nd and 3rd sections no sanction had
previously been requested.

3. The causes of increase in the estimate
for the distribution works of the 1st section are,

1st the provision for closely fitting
shutters with lifting gear No 19
sluices estimated to cost $19 \times 75 = 1425$

2nd the arrangements, which the
Chief Engineer has deemed it
necessary to carry out, at sluice

No 19- Turnool town sluice where

by the original estimate will be
exceeded by

1115
2540

With regard to the former, the Chief Engineer -
para. 3 - doubts the necessity for making these
very small sluices absolutely watertight, and
as to do so would entail the partial recon-
struction of the masonry already built, I
agree with him. Leaving the sluices as they
are, but providing them with fairly fitting
shutters

shutters would effect a saving of $19 \times 50 = 950 + 95$
Rupees for contingencies, or altogether Rupees
1045. - From the note on the face of the esti-
-mate it would appear also that 50 Rupees
may be deducted from the provision for lifting
gear of No 19 sluice, so that altogether Rupees
1095 out of Rupees 2860, the difference between
the original and revised estimates might be
deducted, but as it is by no means certain that
the arrangements for distribution in this section
will not need modification and improvement,
I would recommend that sanction be given for
the amount of the estimate as it stands, and
provision will thus be made for such minor
alterations as may be found advisable.

4. The arrangements for the more accurate
measurement of the water supplied to the
town of Turnool from No 19 sluice are referred
to at the end of para. 2 of the Chief Engineer's
Memo. - It seems to me that quite sufficient
accuracy would have been obtained by the con-
struction of a second sluice on the channel a
short
distance

short distance below that in the canal embankment, and by maintaining the water in the channel, above this second sluice, at a constant level.

This was, if I am not mistaken, the intention when I was last at Tumool, and a simple and inexpensive sluice was then under construction. I gather from the Chief Engineer's remarks that the alterations provided for in the estimate have been carried out.

5. In para: 4 the Chief Engineer mentions that the cost of distribution in the 1st section will be about Rupees 2-6-0 an acre. The areas to be irrigated from the 20 sluices are, as noted in the estimate, 2247 acres, i.e., taking the area under 17-20 sluices at 150 acres. The total of the estimate is 8380. From this amount however the cost of 17-19 sluices Rupees 1700 may be deducted, as also the area 100 acres belonging to it, as it is on a different footing to an ordinary sluice. It may be supposed also that the Rupees 1095 referred to in para: 3 above will not be needed, and if so the distribution in connection with the 19 sluices will cost Rupees 5585 for an area of 2147 acres or Rupees 2-9-7 an acre. A very important point however is the question as to whether the area has not been very greatly over-estimated.

estimated. As far as I can judge it has been, for the most part, taken from the papers transmitted with the original estimate, and in the first place I doubt the existence of so much land, and in the next place the fallow return for May of land for the irrigation of which application has been received is only 635.64 acres. This area may very likely be increased, but it seems to me very unlikely that it will ever exceed 1000 acres, and if this supposition be correct, the distribution will cost 5½ Rupees an acre on the average, and this would not be very satisfactory, seeing that the lands are in no case more than a few hundred yards from the Main Canal.

6. As regards the trans-Hocking or Wokarri land in the village of Cullor, it rests with the Company to decide whether it is worth their while to irrigate it or not. The Chief Engineer can doubtless ascertain for what area water would be taken, were the Company to arrange to afford it, and then what outlay would be necessary, and it will then be seen whether the necessary work would.

would yield a fair return - It is not, at any rate at present, advisable that the company should look to the villagers to bear a part of the cost of supplying village lands, though it may be admitted that such exceptional cases may arise.

7. The estimate Rupees 6000 for the 2nd section provides only for 25 sluices. The Chief Engineer states (para. 9) that the more important channels have been surveyed and that drawings when prepared will be sent in - As yet no information is forthcoming, either as to the total irrigable area of the section, or the area under each sluice, and Mr. Catham says that, owing to the nature of the ground, it has been thought better to wait for the Government surveys, which it appears are not yet ready - I do not think that such a course was necessary, or that it is satisfactory that the scheme for distribution for such a small area should be thus postponed at a time when every acre almost ought to be ready to be supplied - The Main Canal runs quite close to the Vombudda; almost every bit of the narrow strip of land can, with the peculiarities of the ground, be seen from the canal bank, and I should have thought that nothing would have been easier than to lay

lay out the channels, ascertain the areas under each, make the estimates and shew the whole, or as much as might be necessary, on paper.

8. The abstract estimate shows that Rupees 3371-11-4 have been expended, and the greater part of the balance is required for fitting the sluices with shutters and their gearing, and the latter cannot well be postponed if the sluices are to be made use of at all this season. - Most probably also many of the shutters have been made up in the workshops, though the cost does not yet appear to the debit of the sluices.

9. The 3rd Section Estimate Rupees 9320 provides for 15 sluices - Rupees 4137-3-10

15 channels - 4337-8-

Contingencies 10 per cent - 845-4-2

There also no information is given as to areas to be irrigated, and the channels have not been planned at all - For small channels detailed estimates are not, I think, necessary, and it is enough to provide for them at so much an acre; but it is essential that the scheme of distribution, whether for small or large areas, should be definitely

definitely arranged, and this can, and should, be done before, instead of after, sanction for expenditure is asked for. - I would recommend therefore that for this section sanction be at present given - only for the sluices viz:

15 sluices ----- 4137-3-10

Contingencies ----- 412-12-2
4550-

10. Special rules for the preparation of distribution estimates and their explanatory documents, ^{have not been drawn up} but I have had some correspondence on the subject with the Chief Engineer, through the Agent, and I subjoin an abstract of the views I have expressed in order that Government may approve of their adoption, or direct such alterations as may be deemed advisable. - I have said:

1st. That it will be quite sufficient to show the centre lines only, and capacity at critical points of all minor distribution channels, designed to carry not more than 2,000 cubic yards an hour, or in other words about 1,000 acre channels. -

2nd. That it is absolutely necessary that all channels, up to the point where they cease to carry water for

para. 4, letter No. 495.
21st April/65.

for the lands of more than one village; should be accurately shown on the surveys, as also all channels whatever, so long as they are within the boundaries of villages other than those which they are designed to supply, because it is certain that the land which such channels will occupy must be regularly made over before the work can be commenced. -

3rd. That to prevent delay in obtaining sanction for distribution estimates, surveys may in the first instance be so prepared as to show the main irrigation channel, and the primary and secondary branches, with the position of masonry works &c.; and the direction of the subsidiary branches can afterwards be shown on separate sheets, as the country to be irrigated has the details of the arrangements decided on. -

4th. That the subsidiary channels can be estimated for at so much an acre. -

5th. That distribution channel surveys may be plotted on a scale of 8 chains to the inch, instead of the 4 chains scale as, unlike the Main Canal, a large breadth of land will have to be shown and it would.

same letter para. 6.

would make the sheets either inconveniently large,
or too numerous, were the larger scale adhered to.
This modification was to be subject to the approval
of Government.

6th. That it would be a good plan to furnish a
tabulated statement with all projects for distri-
bution channels showing

same letter para. 8
and letter No. 1 para. 3-2nd May/85

- a- the name of the channel
- b- the length of -----
- c- the fall per mile.
- d- the square section of waterway.
- e- the bottom breadth.
- f- the discharge in cubic yards per hour.
- g- the acreage (a reasonable approximation not necessarily
based on fully completed surveys.)
- h- the name of the village in which land is situated.
- i- the source of supply i.e. the Major channel from which
it takes off.

7th. That, in accordance with the Chief Engineer's suggestions letter No. 1-2nd May/85
to that effect, there would be no objection to the ex-
penditure being confined to the supply of the imme-
diate wants of any particular tract, the works being
designed for the full selected area commanded, but ear-
ned out only as required. The Chief Engineer proposed
to obtain sanction only for the works as required.

11. Estimates for distribution works under the 1st Section
Main

Main Canal were received last month, but they were
for only an incomplete fraction of the works required, and
they have been returned for revision.

12. The sanctions recommended in this letter are
for,

distribution works 1 st Section (additional)	No. 2,860
2 nd	6,000
3 rd	4,550

I have the honor to be,
Sir,

Your most obedient servant,

Whitburnie Captain R.
Genl Engr for S. J. Camp.

W. M. B. R.

Public Works Department
No. 2509
Proceedings of the Madras Government
Under date the 9th July 1866
Read the following.

From
The Consulting Engineer
Irrigation & Co. (H.C. No 35/24 July 1866)

In this letter the Consulting Engineer for the Madras Irrigation and Canal Company submits the estimates, as per margin, for distribution works for the 1st, 2^d & 3^d Sections of the Company's Canal. Capt. Mullins recommends that the estimates for the works proposed in the 1st & 2^d Sections be sanctioned; but as the scheme of distribution for the 3^d Section has not been definitely arranged, he suggests that only Rs 4500 of the Rs 9320 applied for be granted at present. As the arrangements for distribution

1 st Section	Rs 8380
2 ^d do	6000
3 ^d do	9320

WU

To the Secretary to Government
Madras
11th July 1866
Le O
* Estimated balance - 5-10-66

Submits for the consideration of Government estimates for distribution works for the 1st, 2^d & 3^d Sections of the Madras Canal with certain observations

1865

No. 2509-9 Madras 1866

C. 127049/1866 A 2nd

in the three sections of the Canal will, however, most probably need modification and improvement, it seems advisable that the estimates submitted by the Chief Engineer should be allowed to stand, and they are accordingly sanctioned.

The Government approve ^{adoption} of the rules proposed by the Consulting Engineer for the preparation of distribution estimates, &c. &c.



P.W. 1866 D. 2509.
No. of Gout for August

Pos. of the Maoras Gout
D. 9. August 1866.

Passing orders on the letter from the Consulting Eng^r. submitting estimates for the distribution works for the 1st, 2nd and 3rd Sections of the Madras Irrigation & Canal Company.

18
3

No 185-186

To

The Comg Engr in Ch^g
Manager for the 2nd Section
Sept 10th August

21st Aug 1866 D. 32