(13)

(1) பக்கங்களின் எண்ணிக்கை 62

(2) புதுக்கித் திருப்பிய நாள் 10-3-89

(3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம்

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

PWD துறை

அரசாணை எண். 924 அச்சகம்
மு. கோப்புத் தாள் எண். பலவகை

நாள் : 4-4 1884 A.D.

மடிக்கவோ கண்டபடி கையாளவோ கூடாது

31 sheets

ஆவண. கா-1—18,006—15-6-87.

924

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

924

General.
Establishment.

Read—the following papers:—

G.O., dated 10th December 1883, No. 1014 I., Public Works.
G.O., dated 14th March 1884, No. 691 W., Public Works.

From Lieutenant-Colonel H. M. VIBART, R.E., Officiating Superintending Engineer, III Circle, to the Chief Engineer for Irrigation, dated Bellary, 19th February 1884, No. 3122:—

With reference to your memorandum, No. 2-III., dated 15th February 1884, I have the honor to report that the investigation of the Sugglair project* will be completed by the 25th instant, and that the survey, &c., of Pedda Puspulla† irrigation channel is expected to be completed by 15th March next. The cost of establishment, including the Executive Engineer, his two surveyors and office establishment, will be about Rs. 700 for half-a-month.

* No. 16 in the list III printed with G.O., No. 465 of 13th June 1882.

† No. 19 in do. do. do.

2. I beg to recommend that, as soon as the Pedda Puspulla irrigation channel survey is completed, the surveyors now attached to the C. Project division should be employed in carrying out the levels in connection with the Bellary water-supply project.

3. This project is clearly a very important one, and if carried out this cantonment would be fully supplied with water throughout the year, whereas now during the months of April and May the reserved supply runs very short, and that from the large well is reduced to the lowest limit.

From Colonel J. BEATTY, R.E., Superintending Engineer, IV Circle, to the Chief Engineer for Irrigation, dated Coimbatore, 21st February 1884, No. 21 E.I.

I have the honor to forward, herewith, copy of a letter from the Executive Engineer, B. Project division, giving the information asked for in your memorandum, No. 3-IV, of 15th instant.

2. I have received the preliminary report on the Krishnagiri project, which I shall forward for your information in a few days.

3. It will be seen that the Krishnagiri, Bhaváni, Calingaroyen (instead of Pugalúr) extension and the Gudamalai projects will remain incomplete at the end of this month, and that the cost of establishment, exclusive of Captain Romilly's pay and allowances, for next year will be Rs. 15,600.

Enclosure.

From Captain F. J. ROMILLY, R.E., Executive Engineer, B. Project Division, to the Superintending Engineer, IV Circle, dated Coimbatore, 19th February 1884, No. 27 S.

I have the honor to reply to your endorsement, No. 17 B.P., dated 18th instant, on letter, No. 3-IV., dated 15th idem, from the Chief Engineer for Irrigation. The present is the state of the project investigation in my division.

Marandahully and Vannar Projects.—Reports complete and submitted.

Krishnagiri.—Reservoir basin contoured and 10 miles of trial channel lines run. Preliminary report submitted with estimate for completely exposing the rock over the dam site proposed. If the report is considered favorable there will be at least six months' work for the

survey parties in contouring the area to be irrigated, some 50,000 acres, and laying out the proper line for the distributaries

Bhavâni Reservoir Scheme.—The contouring of the reservoir basin is complete, and I shall very shortly have data on which to draw up a preliminary report upon the scheme. An examination of the contoured plan shows that a third site promises to be a favorable one as compared with the two already proposed, and if figures support this idea, an examination of this site will be necessary.

If the preliminary report places the scheme in a favorable light and the complete working out of the project is decided on, the surveys of the area to be irrigated and the tracing of the distributaries will occupy the present establishment quite twelve months.

Pugalúr and Calingaroyen Channels.—The former project, it is presumed, need not be investigated further. For the Calingaroyen, nearly all the levels are taken in connection with the existing channel. About three months' work would suffice to complete investigations in connection with the present channel. If the extension is decided on, about six months more would suffice to complete the necessary levels and sections.

The Gudamalai project has not been touched.

If the present establishment is sanctioned for the next official year, I am of opinion that one of the three incomplete projects could be completed and sent in; one very nearly so, and both the remainder so far advanced that the additional time necessary to complete them could be definitely fixed for the succeeding official year.

The establishment and cost required will therefore be for 1884-85 :—

Permanent Establishment.

	Rs.
1 Writer	32
1 Do.	15
1 Messenger	7
2 Lascars at Rs. 6 each	12
1 Draughtsman	60
1 Do.	40
1 Do.	35
Contingencies	49
Total ...	250

Temporary Establishment.

1 Assistant Engineer	300
Travelling allowance for Assistant Engineer	100
1 Overseer	60
1 Surveyor	250
2 Surveyors at Rs. 100 each	200
20 Lascars	120
Contingencies	20
Total ...	1,050
Total for one month ...	1,300
Total for twelve months ...	15,600

No. 68 I.

Note by the Acting Chief Engineer for Irrigation.

B. Project Division.—The Marandahully and Vannár projects have lately been submitted by this division, also a preliminary report of the Krishnagiri.

The other projects now on hand are—

The Bhaváni Reservoir.

The Calingaroyen Channel.

The first of these is a large undertaking. It is a project for the formation of a very extensive reservoir on the Bhaváni, near Satyamangalam, which will act as a flood regulator or rather moderator to the Cauvery, and also irrigate a considerable tract of country. Its thorough investigation will take a long time; probably, if no other work was done, it would employ the existing establishment to the end of the year.

The second is a scheme for extending the Calingaroyen channel which is to take the plan of the Pugalúr channel improvement. The Calingaroyen channel commands

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2

the land irrigated by the Pugalúr channel and is capable of being extended across the Nóyel river to irrigate fresh land. It will probably take some months to complete and submit.

If the preliminary report on the Krishnagiri reservoir shows that there is sufficiency of water, and a probability of the work doing more than pay interest on the capital outlay, there will be some months' more work to be done.

2. *C Project Division.*—This division was intended to work in the Ceded Districts where more is required in famine preventive work than in other districts. The Hindupur and Roddem projects have been worked out and remain in this office; they do not promise well, and it is hoped some of the other small projects may be better worth carrying out.

The two projects now under investigation are—

The Sugglair Project.

The Pedda Puspulla Channel.

These will, it is anticipated, be completed shortly. It is then proposed to investigate the Bellary water-supply project, towards which it is understood that a good deal of work has been already done. This will certainly occupy the division for a considerable time, and if it should be completed before the end of the year, there are still many projects on the list which was forwarded to the Government of India which it is very desirable should be fully worked out, and which if they do not give promise of being remunerative may be retained as famine relief works.

3. It will thus be seen that there is ample work for both Project divisions for the ensuing year, and there are other works, which it was intended the divisions lately abolished should take up, which it is very desirable should be investigated. Foremost among these is the Lower Coleroon irrigation in which is included the embanking of the Coleroon from the lower anicut to the sea. So much trouble has arisen from the embankments on either side of the river being worked out in separate divisions, that work in the lower portion of the river has been suspended until an establishment is available to work out the scheme.

4. The cost of the B. Project division, including Executive Engineer's pay and travelling allowance, amounts to Rs. 24,000 per annum. The C. Project division is not at present so strong, but will be brought up to the same strength and the cost of both the divisions will therefore be Rs. 48,000.

CHEPÂK, (Signed) J. O. HASTED, Colonel, R.E.,
25th March 1884. Acting Chief Engineer for Irrigation.

To the Acting Joint Secretary to Government,
Public Works Department, Irrigation Branch.

ORDER—dated 4th April 1884, No. 924 W., Public Works.

The Government approve of the employment of the Project divisions as suggested by the Chief Engineer for Irrigation, and the cost of these divisions during the official year 1884-85 will accordingly be met from Provincial funds.

(True Extract.)

Major, R.E.,
Under Secy. to Govt., P.W.D.

To the Superintending Engineer, I Circle.
" " " III Circle.
" " " IV Circle.
" Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Revenue Department.
Exd. E. Fernandez.
Spare Copies

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GENERAL.
ESTABLISHMENT.

Govt. of {1884} Madras.

PUBLIC WORKS.

Dated April, 4th.

Recd. *Encl.*

G.O., 4th April 1884, No. 924 W.

APRIL.

Project Divisions

Approving of the employment of the — during 1884-85 as suggested by the Chief Engineer for Irrigation, the cost of the divisions being met from Provincial funds.

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3

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

READ—the following letter from Colonel W. S. TREVOR, R.F., Secretary to the Government of India, Public Works Department (Account—Irrigation), to the Secretary to the Government of Madras, Public Works Department, dated Fort William, 1st February 1884, No. 22 A.I. :—

I am directed to acknowledge the receipt of your letter, No. 18 I., dated 7th January 1884, forwarding the revised and budget estimates of the Irrigation Branch, Madras, for 1883-84 and 1884-85, respectively, and with reference thereto to observe as follows.

2. *Revised Estimate*, 1883-84—*F. Famine Relief and Insurance*—34. *Protective Works, Irrigation.*—The proposed surrender of Rs. 61,567, on account of the Project divisions, is accepted, and the amount is formally withdrawn. The outlay * incurred under this head in 1881-82 and 1882-83 on the Barur tank should be written back in the accounts of 1883-84 to the head "N. Expenditure on Productive Public Works (Capital Account)—54. Irrigation and Navigation," *vide* correspondence noted in the margin. Accordingly, there will be a credit entry under this head in the revised estimate for 1883-84 of Rs. 1,242 against the Barur tank.

	Rs.
* 1881-82	938
1882-83	304
Total ...	1,242

Government of India Public Works Department letter, No. 363 I., dated 16th October 1883, and Government of Madras endorsement, No. 885 I., dated 8th November 1883.

With the above modifications the revised estimate under this head on this date stands at Rs. 2,70,191.

3. *G. Expenditure on Productive Public Works (Revenue Account)*—39. *Irrigation and Navigation (Working and Maintenance).*—The revised estimate for 1883-84, it is observed, has been prepared for a sum of Rs. 9,53,365. This, however, includes grants applied for but not sanctioned by the Government of India. The grants as they now stand are as follows :—

	Rs.	Rs.	Rs.
Grant as per budget orders for 1883-84			12,09,600
Modifications during the year —			
Additional grants sanctioned for —			
		11,853	
Cauvery delta system		12,450	
Pennér anicut „	13,500		
Godávari delta „	7,656		
„ „ „		21,156	
Percentage for establishment on the collection charges in the Civil Department ...		17,245	62,704
Reduction.—Amount withdrawn on account of old maintenance charges and balance of grant allowed to stand provisionally, pending further consideration ...		—3,29,294	—2,66,590
Grant as it now stands ...			9,43,010

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4. The revised estimate of direct and indirect revenue, however, differs from the amounts entered in the budget estimate for 1883-84 on which the percentages for establishment was calculated and grants assigned. This results in a surrender of Rs. 23,297, as shown in the margin, and accordingly the grants for 1883-84 should be reduced to Rs. 9,19,713; but it would appear that Rs. 19,586 of the Rs. 23,297 have been reappropriated by the Government of Madras and Rs. 3,711 only surrendered. This reappropriation is accepted, but it should be noted, for future guidance, that reappropriations from the grant for establishment should be submitted for the previous sanction of the Government of India. With these modifications the revised estimate under this head on this date stands at Rs. 9,39,299. This, of course, excludes the grant of Rs. 41,100 applied for for the Kurnool-Cuddapah canal telegraph line, but not sanctioned by the Government of India, as this charge is to be borne by the Telegraph Department.

	RS.
Decrease of Rs. 4,15,500 under XXX. Portion of land revenue due to irrigation at 6 percent. ...	−24,930
Increase of Rs. 16,330 under XXVIII Irrigation and Navigation (direct receipts) at 10 per cent.	+1,633
Net decrease ...	23,297

5. *H. Expenditure on Public Works not classed as Productive*—46. *Irrigation and Navigation—Imperial.*—The revised estimate for 1883-84, as submitted, excludes an additional grant of Rs. 11,843 sanctioned by the Government of India for establishment charges on the old irrigation revenue of productive public works. The revised estimate of revenue due to old irrigation under "XXX. Portion of land revenue due to irrigation" shows an increase of Rs. 2,500 over the budget estimate for 1883-84; this necessitates an additional grant of Rs. 150 for establishment charges, which is hereby sanctioned. With these modifications the revised estimate under this head on this date stands at Rs. 23,06,928.

6. *Provincial.*—It is observed from the revised estimate for 1883-84, as submitted, that the grant assigned for Capital expenditure on the Buckingham canal is not in accordance with the arrangements agreed upon between the Government of India and the Madras Government in the correspondence noted in the margin. I am therefore to state that if the Madras Government is unable to provide full grants for this canal from its Provincial balances, it must not expect material aid from Imperial funds.

Government of India Public Works Department letter, No. 267 I., dated 24th July 1883, and Government of Madras letter, No. 650 I., dated 16th August 1883.

7. *N. Expenditure on Productive Public Works (Capital Account)—Irrigation and Navigation.*—The revised estimate, as submitted, includes an anticipated additional charge of Rs. 11,550 on account of the purchase-price of the late Madras Irrigation and Canal Company's undertaking. As the provision on this account depends on the amounts entered in the Home estimates by the Secretary of State, no action need be taken by the Madras Government. The amount has, accordingly, been struck out by this office. With this modification the revised estimate under this head, on this date, stands at Rs. 17,97,303; that is—

	RS.
In India	15,99,793
In England	1,97,510
Total ...	17,97,303

8. *Budget Estimate*, 1884-85—*F. Famine Relief and Insurance*—34. *Productive Works, Irrigation.*—The provision at present made for the Buckingham canal for 1884-85 is allowed to stand solely on the condition that the arrangement entered into on this subject is strictly carried out; whereas during the current year the amount (as deduced from the revised estimate) to be spent on works from Provincial funds will not exceed Rs. 85,000 as against Rs. 1,33,000 provided from Imperial, thus—

	RS.
Works	84,886
Establishment on Imperial famine outlay	50,114
Do. on Provincial do.	12,000
Tools and Plant	
	1,47,000

and for 1884-85, Rs. 80,000 only in all has been provided from Provincial, against Rs. 1,01,000 contributed from Famine funds.

9. *G. Expenditure on Productive Public Works (Revenue Account)*—39. *Irrigation and Navigation (Working and Maintenance).*—With reference to paragraph 4 of this letter, the percentage for establishment should be increased by Rs. 13,530. If this amount cannot be provided from the grant of Rs. 9,07,000 provisionally sanctioned by the Government of India, it may be considered that this additional sum has been sanctioned by the Government of India, which will raise the provisional grant for 1884-85 under this head to Rs. 9,20,530.

10. *H. Expenditure on Public Works not classed as Productive*—46. *Irrigation and Navigation.*—The provision for establishment charges based on the revenue from old irrigation (productive public works) should be increased by Rs. 11,843. This should be met by reappropriation from the existing grant provisionally sanctioned by the Government of India, as no additional funds under this head can at present be provided by the Government of India.

11. Referring to paragraph 26 of the orders on the budget estimates of the Irrigation Branch, Madras, for the year 1883-84, no further expenditure can be permitted on the Pálár and Pelandorai anicut systems until revised estimates for the projects are submitted and sanctioned by competent authority. I am therefore to state that the provision of Rs. 37,100 and 30,900, respectively, made in the budget estimate for 1884-85 for these projects, will be held in reserve by the Government of India, pending submission and sanction of the revised estimates. The grant provisionally sanctioned by the Government of India under this head for 1884-85 is accordingly reduced to Rs. 23,77,000.

12. In conclusion, I am to request that corrected copies of the revised and budget estimates, to agree with the grants noted in this letter, may be submitted with as little delay as possible.

ORDER—dated 12th February 1884, No. 172 I., Public Works.

Revised Estimate for 1883-84.—The revised estimates for the current year, under each head, as sanctioned in the above letter, are as follows:—

	Imperial. RS.	Provincial. RS.
F. 34. Protective Works, Irrigation	2,70,191	...
G. 39. Productive Public Works, Revenue Account	9,39,299	...
H. 46. Public Works not classed as Productive ...	23,06,928	3,62,000
N. 54. Productive Public Works, Capital Account	17,97,303	...

2. *F. 34. Protective Works, Irrigation.*—A sum of Rs. 75,019 has since been surrendered in Proceedings of Madras Government, No. 148 I., dated 8th February 1884, owing to the unavoidable delay in forming the temporary division for carrying out the Rushikulya project works. The existing grant under this head is therefore Rs. 1,95,172.

3. *G. 39. Productive Public Works (Revenue Account).*—A sum of Rs. 22,675, made up of the following items, has been surrendered in Proceedings of Madras Government, No. 133 I., dated 5th February 1884:—

		RS.
(1.)	From the grant for the Kurnool canal	19,680
(2.)	Do. for the Godávari delta (the estimate of direct receipts being reduced by Rs. 12,000) ...	1,200
(3.)	From the amount provided to meet the charge for establishment at 6 per cent. on indirect revenue	17,95
	Total ...	22,675

As the last item is included in the amount of Rs. 3,711 withdrawn by the Government of India, in paragraph 4 of their letter read above, the sum to be surrendered is only Rs. 20,880, which, when deducted, will reduce the revised estimate under this head to Rs. 9,18,419 distributed as follows :—

	Extensions and Improvements.	Maintenance and Repairs.	Establishment.	Tools and Plant.	Total.
	RS.	RS.	RS.	RS.	RS.
Godávari delta	19,000	1,76,000	1,42,500	32,070	3,69,570
Kistna do.	10,350	1,57,583	93,044	23,015	2,83,992
Pennér anicut	1,936	11,140	9,634	340	23,050
Kurnool canal	40,000	1,13,000	39,110	4,386	1,96,496
Cauvery delta	41,040	— 39,634	34,768	500	36,674
Srívaikuntham anicut	1,408	792	6,182	255	8,637
Total ...	1,13,734	4,18,881	3,25,239	60,566	9,18,419

4. *H.* 46. *Public Works not classed as Productive—Imperial.*—The additional amount of Rs. 150, sanctioned in paragraph 5 of the Government of India letter, is not required, as the amount has already been provided by reappropriation in the revised estimate already submitted. The revised estimate under this head should therefore be reduced to Rs. 23,06,778.

5. *H.* 46. *Public Works not classed as Productive—Provincial.*—The revised estimate under this head has since been reduced to Rs. 3,55,973, the Superintending Engineer, V Circle, having surrendered Rs. 4,900 from the grant for original works, Capital Account, of the Buckingham canal. The total amount provided from Provincial funds for this canal is Rs. 3,04,173, of which the grant for expenditure on original works on Capital Account is Rs. 78,766, while the Imperial grant-in-aid is Rs. 1,33,000. Owing to the large amount required for repairing the flood damages caused to the canal in December 1882, it was not found possible to increase the current year's allotment for expenditure on original works.

6. *N.* 54. *Productive Public Works (Capital Account).*—The Government of India sanctioned an additional allotment of Rs. 20,000. The revised estimate under this head is therefore Rs. 18,17,303.

7. *Budget Estimate for* 1884-85.—With reference to the budget estimate for 1884-85 for the Buckingham canal, and to the remarks made thereon by the Government of India in paragraphs 6 and 8 of their letter under review, it may here be noted that the Financial Department have now agreed to assign funds in accordance with the pledge given in letter, No. 650 I., dated 16th August 1883, to the Government of India, and have increased accordingly the grants from Provincial funds for 1884-85 on the representation of this department, alluded to in pargraph 33 of the Note by the Chief Engineer for Irrigation printed with G.O., No. 17 I., dated 7th January 1884. As the Provincial grant for 1884-85 has therefore been increased from Rs. 80,000 to Rs. 2,20,000, the grant from Provincial funds available for expenditure on original works amounts to Rs. 1,59,569 as shown in the margin, while the Imperial grant-in-aid for 1884-85 is only Rs. 1,01,000.

	RS.
Works	1,59,569
Establishment	59,931
Tools and Plant	500
Total ...	2,20,000

As the completion of the Buckingham canal at the earliest possible date is considered by this Government to be a matter of the first importance, the Government of India will be requested, if possible, to increase later on in the year the Imperial grant for expenditure on original works from Rs. 1,01,000 to Rs. 1,59,569, in accordance with paragraph 2 of their letter, No. 247 I., dated 24th July 1883.

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8. The additional amount required for 1884-85 to meet the percentage charge for establishment under Public Works, Revenue Account, is Rs. 13,590, as shown in the margin, and not Rs. 13,530, as stated in paragraph 9 of the Government of India letter. The difference, Rs. 60, may therefore be added to the total grant under this head.

	RS.
6 per cent. on Rs. 31,46,000, the budget estimate of irrigation revenue due to productive public works	1,88,760
Amount provided in the budget estimate	1,75,170
Difference ...	13,590

9. The increase required to meet the percentage charges for establishment under H. 46. Public Works not classed as Productive, is Rs. 11,854, as shown in the margin, and not Rs. 11,843, as shown in paragraph 10 of the Government of India letter. The former amount will be provided, in the final issue of the budget estimates for 1884-85 by reappropriation.

	RS.
6 per cent. on Rs. 27,44,000, the budget estimate of the revenue from old irrigation under productive public works	1,64,640
Amount provided in the budget estimate	1,52,786
	11,854

10. The Chief Engineer for Irrigation will see that the completion estimates for the Pálár and Pelandorai anicut systems are submitted with as little delay as possible.

11. The Chief Engineer for Irrigation will also submit the revised and budget estimates duly corrected.

12. Ordered that a manuscript copy of these Proceedings be forwarded to the Government India together with the accompanying letter.

(Here enter No. 173 I., dated 12th February 1884.)

(True Extract.)

(Signed) J. O. HASTED, Colonel, R.E.,
Ag. Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To Superintending Engineers.
To the Chief Engineer for Irrigation.
„ Examiner, Public Works Accounts.
„ Revenue Department.
„ Financial „

Exd. E. Fernandez.
Spare Copies

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IRRIGATION.
ACCOUNT.

Govt. of {1884} Madras.

PUBLIC WORKS.

Dated February, 12th.

Read.

Encl.

G.O., 12th Feb. 1884, No. 172 I.

FEBRUARY.

Revised and Budget Estimates of the Irrigation Branch for 1883-84 and 1884-85

Orders on letter from the Government of India reviewing the —

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6

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

LETTER—from

COLONEL J. O. HASTED, R.E.,
Acting Joint Secretary to the Government of Madras,
Public Works Department,
Irrigation Branch,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
PUBLIC WORKS DEPARTMENT,
(IRRIGATION).

SIR,

In forwarding the accompanying Proceedings of the Madras Government, No. 172 I., dated 12th February 1884, I am directed to request that sanction may be conveyed, by wire, to the adoption of the revised figures noted therein in the Final Issue of the budget estimate for 1884-85.

2. With reference to paragraph 7 of the Proceedings, I am also directed to request that a further allotment of Rs. 58,569, from Imperial funds, for expenditure on original works of the Buckingham canal, may be allotted, should funds become available.

I have the honor to be,
Sir,
Your most obedient servant,
(Signed) J. O. HASTED, Colonel, R.E.,
Ag. Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

FORT ST. GEORGE,
12th February 1884

Exd. E. Fernandez.
Spare Copies

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IRRIGATION.
ACCOUNT.

Govt. of {1884} Madras.

PUBLIC WORKS.

Dated February, 12th.

Recd. *Encl.*

12th Feb. 1884, No. 173 I.

FEBRUARY.

Revised and Budget Estimates of the Irrigation Branch for 1883-84 and 1884-85

Forwarding copy of Proceedings on letter from the Government of India reviewing the —.

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Account.

READ—the following letter from Colonel W. S. TREVOR, R.E., Secretary to the Government of India, Public Works Department (Account—Irrigation), to the Secretary to the Government of Madras, Public Works Department, dated Fort William, 6th February 1884, No. 27 A.I.:—

I am directed to acknowledge the receipt of your letter, No. 1015 I., dated 10th December 1883, applying for an increase of grants under "F. Famine Relief and Insurance—34. Protective Works—Irrigation" for the year 1884-85, for expenditure on the Buckingham canal and on the investigation of projects, and in reply to state that there are no funds at the disposal of the Government of India at present from which the grant of Rs. 3,50,000 already provisionally sanctioned can be increased, and that in consequence the Government of India is not in a position to modify the views expressed in paragraph 2 of this office letter, No. 116 A.I., dated 7th November 1883. Should the accounts of the current year show any lapse of the protective grant, the possibility of increasing the grant to the Buckingham canal will be considered. Meanwhile it is hoped that the full grant promised from Provincial funds will be assigned to this project.

2. I am to express regret that the Government of India is unable to continue the grant from Protective funds for the investigation of projects. Such charges, I am to point out, are met in other provinces from Provincial funds and this procedure may well be followed in Madras.

ORDER—dated 14th March 1884, No. 691 W., Public Works.

The Government of India has already been informed * that the full grant promised from Provincial funds has been assigned to the Buckingham canal for expenditure during 1884-85.

* Proceedings of Madras Government, No. 172 I., dated 12th February 1884.

2. In reply to the request made in letter, No. 173 I., dated 12th February 1884, the Imperial allotment on Original Works of the Buckingham canal for 1884-85 has been increased by the Government of India to Rs. 1,50,000 in their letter, No. 40.A.I. of 22nd February 1884.

3. Owing to the final decision now communicated by the Government of India with regard to the incidence of cost for the investigation of projects, the Government have no alternative but to close the A. and D. Project divisions. The staff of the A. Project division has already been broken up, and that of the D. Project division is employed in the offices of the Superintending Engineer, Tank Maintenance Scheme, and Chief Engineer for Irrigation.

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4. The B. and C. Project divisions will be maintained for the present from Provincial funds, and the Superintending Engineers, III and IV Circles, will submit, at an early date, the report already called for by the Chief Engineer for Irrigation with reference to paragraph 3 of Proceedings of Madras Government, No. 1014 I., dated 10th December 1883.

5. Copy of these Proceedings will be forwarded to the Government of India.

(Here enter No. 692 W., dated 14th March 1884.)

(True Extract.)

(Signed) J. SHAW-STEWART, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineers, I, III, IV and V Circles.
" Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Revenue Department.
" Superintending Engineer, Tank Maintenance Scheme.

Exd. A. Aubert.
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924/8

46

GENERAL.
ACCOUNT.

Govt. of {1884} Madras.

PUBLIC WORKS.

Dated March, 14th.

Recd. *Encl.*

G.O., 14th March 1884, No. 691 W.

MARCH.

Buckingham Canal

Passing orders on letter from the Government of India expressing inability to increase the grants for expenditure on the — and on the investigation of projects.

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

No. 48.

READ—the following letter from Colonel W. S. TREVOR, R.E., Secretary to the Government of India, Public Works Department (Civil Works—Miscellaneous), to the Secretary to the Government of Madras, Public Works Department, dated Simla, 6th May 1882, No. 163 M.:—

In reply to paragraph 9 of your No. 3198 W., dated 31st December 1881, and in continuation of this office letter No. 437 I., dated 12th November 1881, I am directed to state that the Government of India is desirous of confining the attention of the establishment, sanctioned against the "Protective Works Fund", entirely to the preparation of projects for works most suited to the purpose of protection from famine, as distinct from projects for works for affording relief during famine. It is thought that by confining the attention of this establishment entirely to its legitimate duties, and to the preparation of projects manifestly well adapted to *protective* purposes, the investigation of the schemes, for Steam Tramways, and Light Railways, alluded to in your letter, could, without much difficulty, be conducted by it. More than one of the schemes, mentioned in your No. 1697, dated 9th July 1881, are confessedly of doubtful value; and it seems very unadvisable to employ establishment on the examination of such projects, when others of obviously greater importance await inquiry.

No. 48-A.

READ—the following Note by Colonel J. O. HASTED, R.E., Acting Chief Engineer for Irrigation, dated Ootacamund, 18th May 1882, No. 52 I.:—

The accompanying statements have been prepared from the lists submitted with this office No. 55 I., dated 21st February 1879, which were forwarded to the Famine Commission, and are printed in Appendix V of the Report of Famine Commission, showing under three different heads the projects proposed in the Madras Presidency for the extension of irrigation.

Statement No. I shows the projects which have been either sanctioned or submitted for sanction, and which are therefore disposed of.

Statement No. II shows the projects which, it is now considered, may be indefinitely postponed; the reasons for adopting this course are given in the remark column. It might be said that they may now be altogether set aside, but there are some which, when the large systems have been worked out and the population has increased, it may be possibly advisable to investigate.

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Statement No. III shows the projects which it is proposed to take up and thoroughly investigate, and the agency by which it is suggested the work shall be done. It includes the projects now being investigated in the project and other divisions, and every work entered in the lists above referred to not named in Statements Nos. I and II, except those affecting existing irrigation, and which are not capable of any considerable extension.

Statement No. IV shows all these projects in the order in which it is proposed to take them up, the 13 works not allotted being reserved until further progress has been made in the project divisions.

2. It is possible that some of the projects which it is now proposed to work out may prove so remunerative that the works may be classed as Productive Public Works, but this can only be ascertained after they have been worked out. They are all Protective Works, and as such the establishment provided for from funds allotted for the prevention of famine may properly be employed on them.

3. A recent order of the Government of India makes a distinction between works intended for the prevention of famine, and works intended for execution during famine, and apparently contemplates the complete investigation of projects which answer the first condition only. Now, although, as stated above, all the works referred to may be classed as Protective Works, many of them would be suitable for the employment of famine labor, but until they are investigated it is impossible to ascertain to what extent they will be useful as famine works. Generally speaking, all those projects which contemplate the construction or improvements of reservoirs would, to a greater or less extent, provide employment for famine labor, but to class these works as famine works, and therefore only partially to investigate the projects and prepare rough estimates would, it is considered, lead to a waste of time and money. Allowing that they are Protective Works, the projects should thoroughly be worked out and submitted in such a complete state that the work can be commenced forthwith if necessary. They cannot be commenced for some time to come, and therefore many of them will, in all human probability, remain available for the employment of labor when failure of the monsoon rains has again induced scarcity or famine. To show how far these works will be available as famine works, it might be well to append to the estimates, when submitted, a statement showing the number of skilled and unskilled laborers that could be employed on them for, say, six months.

4. In Statement No. IV it will be seen that a very long list of projects has been allotted to the C. Project Division. This division is working and will work in the Third Circle, which comprises the districts of Cuddapah, Kurnool and Bellary, a part of the country which is most liable to suffer from failure of the rains. The projects proposed contemplate the diversion and storage of the flood water of the rivers which traverse these districts, and many of them have been worked out in connection with the Madras Irrigation and Canal Company's works, the plans, &c., prepared by the officers of that Company having been handed over to Government. There is therefore a great deal of work already done, and it is now proposed to take up the rivers systematically, examining the projects already investigated in turn, and to work out such schemes as may promise most effectually to utilize the water-supply.

5. In Statement No. II the Nílgiri reservoirs are included as projects to be indefinitely postponed, and in Statement III, in the remark opposite the Neringipett Anicut, reference is made to the Bhaváni reservoir which was not included in the original lists. This reservoir was proposed to be constructed somewhere near the junction of the Bhaváni and Moyár river, which together fall into the Cauvery. It was partially investigated and reported on by Major Montgomerie, R.E., in May 1880, and is intended as a flood regulator, to supplement the supply of water to the Cauvery Delta, and also to supply local cultivation. It is considered very important that the subject of flood regulators on one of the rivers supplied by the south-west monsoon should be taken up, and it is now thought, after the investigations that have been made, that such reservoirs can more probably be provided at reasonable cost at the foot of the hills rather than in the hills.

To the Acting Joint Secretary to Government, Public Works Department, Irrigation Branch.

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ENCLOSURES.

I.

STATEMENT of Irrigation Projects referred to in List accompanying this office No. 55 I., dated 21st February 1879, which have been disposed of.

—	Reference to Lists.		District.	System or Source of Supply.	Name of Project.	Remarks.
	List.	Number.				
	A	A	Godávari ..	Godávari Delta System.	Eastern Delta Completion.	Estimates have been submitted to the Government of India.
	..	B	..	..	Central Delta Completion.	
	..	C	..	..	Western Delta Completion.	
	..	E	Kistna ..	Kistna Delta System.	Eastern Delta Completion.	Estimates have been sanctioned by the Secretary of State.
	..	F	..	..	Western Delta Completion.	Do. do.
	..	M	Nellore ..	Pennér River.	Sangam Project ..	Do. do.
	..	N	Tanjore ..	Cauvery Delta System.	Upper Anicut—Regulation of the Cauvery at Grand Anicut.	
	..	W	Tinnevelly ..	Támbraparni.	Srivaikuntham Anicut.	Estimates have been submitted to the Government of India.
	B	I	Ganjam ..	Rushikulya ..	Rushikulya Project.	Do. do.

II.

STATEMENT of Irrigation Projects referred to in Lists accompanying this office No. 55 I., dated 21st February 1879, to be indefinitely postponed.

—	Reference to Lists.		District.	System or Source of Supply.	Name of Project.	Remarks.
	List.	Number.				
	A	D	Godávari ..	Godávari River.	Polavaram Anicut ..	It is only necessary to quote the late Colonel Anderson's remark: "It cannot seriously be thought of until the Delta System has been fully completed."
	B	3	Ganjam ..	Vamsadhara River.	Vamsadhara or Chicacole Project.	Investigations that have hitherto been made on these projects have shown that the Zemindari rights are almost an insuperable bar to the improvement of irrigation.
	..	4	Vizagapatam.	Surada ..	Kristnamraz Channel.	
	..	5	Do. ..	Do. ..	Kondakirla Ava Project.	
	..	6	Do. ..	Nangoolia River.	Nangoolia River Project.	
	..	7	Kistna ..	..	Dondapad Tank ..	These projects have been to some extent investigated; they are not recommended, as scantiness of population prevents extension of irrigation. Moreover, the Delta Works in the district will be in progress for many years to come, and irrigation is steadily increasing under these works.
	..	8	Do. ..	..	Bolapilly Tank ..	
	B	9	Do. ..	Muneyar ..	Vippurla Tank ..	
	..	10	Do. ..	Nagaleru ..	Muneyar Anicut ..	
	..	11	Do. ..	Peddavagu ..	Bunding Nagaleru ..	
	..	12	Do. ..	..	Bunding Peddavagu and Yeddavagu.	
	B	38	North Arcot.	Cheyár ..	Mambaukum Project.	This was examined and set aside some years ago.
	..	42	Salem ..	Kurambapilly.	Badatalao Project ..	Do. do.
	..	46	Do. ..	Ponniár ..	Malapady Tank Restoration.	Do. do.
	C	III	Ganjam ..	Mahánadi ..	Kollada Reservoir ..	These reservoirs were proposed with the Rushikulya Project which has just been submitted, but were not considered necessary.
	..	IV	..	Do. ..	Booliagutah do. ..	
	..	V	..	Goodaholo ..	Goodaholo do. ..	
	..	VI	..	Do. ..	Mutchycotta do. ..	

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Statement of Irrigation Projects referred to in Lists accompanying this office, &c.—*cont.*

—	Reference to Lists. List.	Number.	District.	System or Source of Supply.	Name of Project.	Remarks.
..	..	VIII	Vizagapatam.	Surada ..	Kondakirla Ava ..	Referred to above. B 5.
..	..	XII	Kurnool ..	Goondlacumma.	Momadavaram Reservoir.	See remarks, B 7 to 12.
..	..	XIV	Bellary ..	Chitravati River.	Parnapally Reservoir.	This has been given up, as borings in the bed of the river have shown that a safe foundation for the dam cannot be obtained.
..	..	XV	Mysore ..	Budra River.	Luckavally River ..	These projects were partially investigated in connection with the Madras Irrigation and Canal Company's works, but have been given up. The right of the Madras Government to store and make use of the water of rivers in foreign territory cannot be established.
..	..	XVI	Do. ..	Tunga River.	Moodaba Reservoir ..	
..	..	XVII	Do. ..	Choardy River.	Masoor Reservoir ..	
..	..	XXII	Malabar and Coimbatore.	Bhavání ..	Palavoor Reservoir ..	Some of these projects have been investigated, and an attempt (which failed) was made to construct the bund of one of the reservoirs by the silting process. It is now considered that sites for the construction of reservoirs to regulate the flood waters of the Cauvery should not be looked for in the hills.
..	..	XXIII	Do.	Do. ..	Kottamula Reservoir.	
..	..	XXIV	Nilgiris ..	Pykara River.	Pykara Reservoir ..	
..	..	XXV	Do. ..	Drainage into Moyár.	Nunjanad Reservoir.	
..	..	XXVI	Do.	Poorthy ..	Lake Victoria ..	
..	..	XXVII	Do. ..	Do. ..	Lake St. Lawrence ..	
..	..	XXVIII	Do. ..	Sandy Nullah.	Sandy Nullah ..	

III.

STATEMENT of Irrigation Projects referred to in Lists accompanying this office No. 55 I., dated 21st February 1879, showing the Agency by which it is proposed they should be investigated.

Division or Circle to which Project is allotted.	Reference to Lists. List.	Number.	District.	System or Source of Supply.	Name of Project.	Remarks.
D. Project Division.	A	H	Bellary ..	Tungabhadra River.	Upper Bellary Project.	Estimated for by the Madras Irrigation and Canal Company's Canal officers.
Second Circle.	..	L	Nellore ..	Pennér Anicut System.	Survapully Project ..	The estimates are under preparation.
D. Project Division.	..	O	South Arcot, Tanjore.	Coleroon River.	Lower Coleroon Anicut.	It is intended to improve and extend the irrigation under the existing anicut.
B. Project Division.	..	U	Coimbatore and Salem.	Cauvery ..	Neringipett Anicut ..	This will be considered when the Bhavání river is investigated.
C. Project Division.	..	V	Madura ..	Vaigai ..	Perryaur Project ..	Estimates are expected to be ready in three or four months.
D. Project Division.	B	2	Ganjam ..	Korkey River.	Mullada Tampara Project.	Revised plans and estimates are being put into shape.
Not allotted ..	..	13	Nellore ..	..	Restoring Adurapillai Tank of Griddalore.	Ruined tanks which may be worth restoring.
Do. ..	..	14	Do. ..	..	Restoring Tirumalapady Tank.	.....
Do. ..	B	15	Do. ..	..	Restoring Gandipalem Large Tank.	
..	..	16	Cuddapah ..	Sugglair ..	Sugglair Project ..	These projects are for the utilization of the water of rivers in Cuddapah, Kurnool, and Bellary. Some of these have been investigated by the officers of the Madras Irrigation and Canal Company. It is proposed to take up each river separately and conclusively to deal with each project in turn.
..	..	17	Do. ..	..	Talarycheruvu Dyalla Tank Restoration.	
..	..	18	Do. ..	Papadry ..	Anicut or Papadry ..	
..	..	19	Do. ..	Pennér ..	Peddapasula Channel Irrigation.	
..	..	20	Kurnool ..	..	Restoring Venkatareddipalem Tank.	
..	..	21	Do. ..	..	Arveed Tank Restoration.	

Statement of Irrigation Projects referred to in Lists accompanying this office, &c.—*cont.*

Division or Circle to which Project is allotted.	Reference to Lists. List.	Number.	District.	System or Source of Supply.	Name of Project.	Remarks.
	B.	22	Kurnool ..	..	Kalavatala Tank Project.	These projects are for the utilization of the water of rivers in Cuddapah, Kurnool, and Bellary. Some of these have been investigated by the officers of the Madras Irrigation and Canal Company. It is proposed to take up each river separately and conclusively to deal with each project in turn.
C. Project Division.	..	23	Do. ..	Duvulair ..	Duvulair Project ..	
	..	24	Do. ..	Hindri ..	Taikur Reservoir ..	
	..	25	Do. ..	..	Dewanapilly Reservoir.	
	..	26	Do. ..	..	New Tank, south of Arveed Tank.	
	..	27	Do. ..	..	Garladinna Tank ..	
	..	28	Do. ..	..	Tank sites in Márkápur Taluk.	
	..	29	Bellary ..	Penner ..	Bookacherla Project.	
	..	30	..	..	Potalacoonta Tank Project.	
	..	31	..	Hagari ..	Mylapore Reservoir at Hagari.	These projects are expected to be submitted shortly.
Do. ..	..	32	..	Penner ..	Hindupur Project ..	
Do. ..	..	33	..	Do. ..	Roddam Project ..	See remarks, B 15 to 31.
Do. ..	..	34	..	Hagari ..	Hagari Raidrug ..	
Not allotted ..	..	35	Chingleput ..	Narnaveram River.	Improving irrigation under Narnaveram River.	These projects have been partially investigated.
Do. ..	..	36	..	Cortiliar River	Channel from Anicut at Tamrapaukum.	
D. Project Division.	..	37	North Arcot.	Pálár ..	Improving Pálár River Channels, N. Section.	This as well as the improvement of irrigation in the S. Section is now under consideration with a view to the submission of a complete estimate system, as required by the Government of India. There is no information regarding these projects.
Fourth Circle.	..	39	Do. ..	Cheyár ..	Cheyár River ..	Partly investigated.
Fifth Circle ..	..	40	South Arcot.	..	Athur Project ..	
Do. ..	..	41	..	Trimaneemoo-tanaddy.	Pullagacherry Channel Project.	
B. Project Division.	B	43	Salem ..	..	Pennacondapuram Tank Project.	These were commenced as famine relief works. Projects are expected to be submitted shortly.
Do. ..	..	44	..	Sunnath Comara River.	Marandahully Project.	
Do. ..	..	45	..	Ponniár River	Baroor Project ..	Commenced as famine relief work.
Fourth Circle.	..	47	Coimbatore ..	Cauvery ..	Improvement and extension of Pugalore Channel.	
Do. ..	..	48	..	Bhaváni River	Channel from Bhaváni to the Nóyil.	Not investigated.
D. Project Division.	..	49	Trichinopoly.	Cauvery ..	Vengur Channel Project.	Estimates have been prepared, but require revision.
Do. ..	..	50	..	..	Kodunkoray Tank Project.	.....
Sixth Circle ..	..	51	Tinnevelly ..	Támbraparni.	Maradur Channel improvement.	See remarks above, B 2.
D. Project Division.	C	VII	Ganjam ..	Korkey River.	Mallada Tampara ..	Project has been investigated, but may require revision.
Not allotted ..	..	IX	Godávari ..	Yerracalva ..	Annamalunka Reservoir.	Proposed, but not investigated.
Do. ..	..	X	..	Penner ..	Gondicotta Reservoir.	Proposed by Sir A. Cotton.
Do. ..	..	XI	Nellore ..	Do. ..	Do. do. ..	
Do. ..	..	XIII	Kurnool ..	Kistna ..	Great Kistna Reservoir.	
B. Project Division.	..	XVIII	Salem ..	Ponniár River	Krishnagiri Reservoir.	Partly investigated.
Do. ..	..	XIX	Do. ..	Stream from Shevaroy Hills.	Vaniár Reservoir ..	
Do. ..	..	XX	..	Swatanaddy.	Goodanully Reservoir.	Site examined and favorably reported on.
Do. ..	C	XXI	Coimbatore ..	Cauvery ..	Allambody Reservoir.	Not investigated.
	..	XXIX	Madura ..	Pitchiaur ..	Tank in Thalihooth Manoor Valley.	
Not allotted ..	..	XXX	..	Pálár ..	Palni Reservoir ..	Partly investigated. Will not be taken up if Perryaur Project is sanctioned.
	..	XXXI	..	Vaigai ..	Gullapuram Reservoir.	
	..	XXXII	..	Do. ..	Reservoir near Battagondoo.	Not investigated.
D. Project Division.	..	XXXIII	Tinnevelly ..	Támbraparni.	Pápanásam Reservoir.	

IV.

STATEMENT showing Irrigation Projects in progress, or to be taken up, in order of importance.

Division or Circle to which Work is allotted.	Reference to Appendix V, Report of Famine Commission. List.	Reference to Appendix V, Report of Famine Commission. Number.	District.	System or Source of Supply.	Name of Project.	Remarks.
B. Project Division.	B	43	Salem ..	..	Pennacondapuram Tank.	These are nearly completed.
	..	44	Do. ..	Sunnath Comara River.	Marandahully Project.	
	..	45	Do. ..	Ponniár River.	Baroor Channel ..	
	C	XIX	Do. ..	..	Vaniár Reservoir ..	In progress.
	..	XVIII	Do. ..	Ponniár River.	Krishnagiri do. ..	It is possible that very little work will be needed here.
	A	V	Do. ..	Cauvery ..	Narinjapett Anicut..	The work is entered in the list referred to in column 2, but will probably be superseded by the Bhavání Reservoir near Satyamangalam, reported on by Major Montgomerie, which it is proposed now to investigate.
	C	XX	..	Swatanadi ..	Goodanully Reservoir	.....
	..	XXI	Salem ..	Cauvery ..	Allambady do. ..	.....
C. Project Division.	B	32	Bellary ..	Penner ..	Hindupur do. ..	These are nearly completed.
	..	33	Do. ..	Do. ..	Roddam do. ..	
	A	V	Madura ..	Vaigai ..	Perryaur Project ..	This is about to be taken up by Major Pennycuick.
	B	16 to 31 and 34	Cuddapah .. Kurnool .. and Bellary ..	Penner .. Hindry, Hagarí and minor rivers.	....	It is intended that the rivers should be taken up successively and thoroughly investigated. All projects hitherto proposed, including those investigated by the Madras Irrigation and Canal Company, the surveys and plans of which were made over to Government being taken into consideration.
	B	2	} Ganjam ..	Korkay River.	Mullada Tampara Project.	This has to be put into shape.
	C	VII				The work is mentioned both in List B and List C.
	A	H	Bellary ..	Tungabhadra River.	Upper Bellary Project.	.....
D. Project Division.	B	37	North Arcot.	Pálár ..	Improving River Channels, North Section.	The North Section only is mentioned, but the South Section has to be taken up also. Much of the work has been done.
	C	XXXIII	Tinnevelly ..	Támbraparni.	Pápanásam Reservoir	
	B	49	Trichinopoly.	Cauvery ..	Vengur Channel Project.	
	..	50	..	Do. ..	Kodunthoray Tank Project.	
	A	O	South Arcot.	Coleroon River.	Lower Coleroon Anicut.	
Fourth Circle.	B	47	Tanjore ..	Cauvery ..	Pugalúr Channel.	
	..	48	Coimbatore ..	Bhavání ..	Channel from Bhavání to Nóyil.	
Fifth Circle ..	B	40	Do. ..	..	Athur Project.	
	..	39	South Arcot.	Cheyár ..	Cheyár River.	
	..	41	North Arcot.	Trimaneemootoonadi.	Pullagaoherry Channel Project.	
Not allotted ..	B	13	..	..	Restoring Adurapillai Tank of Griddalore.	
Do. ..	..	14	Nellore ..	..	Restoring Timmalapady Tank.	
Do. ..	B	15	Do. ..	..	Restoring Gandipalam Large Tank.	
Do. ..	B	35	Do. ..	..	Improving irrigation under Narnaveram River.	
Do. ..	..	36	Chingleput ..	Narnaveram River.	Channel from Anicut at Támarapakam.	
Do. ..	C	IX	..	Cortiliar River.	Annamalunka Reservoir.	
Do. ..	..	X	Godávari ..	Yerracalva ..	Gandicotta Reservoir.	
Do. ..	..	XI	..	Pennár ..	Do. do.	
Do. ..	..	XIII	Nellore ..	Do. ..	Great Kistna do.	
Do. ..	..	XXIX	Kurnool ..	Kistna ..	Tank in Thalianooth Mamoor Valley.	
Do. ..	..	XXX	Madura ..	Pitchiar ..	Palni Reservoir ..	Will not be taken up if the Perryaur Project is sanctioned.
Do. ..	..	XXXI	..	Pálár ..	Gullapuram do. ..	
Do. ..	..	XXXII	..	Vaigai ..	Reservoir near Batlagoondoo.	
			..	Do. ..		

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No. 49.

ORDER—dated 13th June 1882, No. 465 I., Public Works.

Ordered that the following letter be sent to the Government of India :—

(Here enter No. 466 I., dated 13th June 1882.)

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Chief Engineer for Irrigation, } with copy of letter.
" Consulting Engineer for Railways, }
" Superintending Engineers
" S.E. Tank Maintenance Scheme

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IRRIGATION.

Govt. of {1882} Madras.

PUBLIC WORKS.

Dated June, 13*th*.

Recd. *Encl.*

G.O., 13th June 1882, No. 465 I.

JUNE.

Nos. 48-49.

Irrigation Projects suitable for Famine Relief.

Statements of —, forwarded to the Government of India.

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PUBLIC WORKS DEPARTMENT.

Irrigation.

No. 50.

LETTER—from

COLONEL R. H. SANKEY, C.B., R.E.,
Secretary to Government, Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
PUBLIC WORKS DEPARTMENT.

SIR,

With reference to your letter No. 163, dated 6th ultimo, I am desired by the Right Honorable the Governor in Council to forward the four statements of irrigation projects, as per margin, with a Note by the Chief Engineer for Irrigation, dated 18th ultimo.

I. Statement of irrigation projects which have been disposed of.
II. Statement of irrigation projects to be indefinitely postponed.
III. Statement of irrigation projects showing the agency by which it is proposed they should be investigated.
IV. Statement showing irrigation projects in progress, or to be taken up, in order of importance.

2. Of these statements, No. I enumerates practically ten works which have either been sanctioned or the projects for which have been framed or submitted. Though classed technically as "*Productive*," they are each and all necessarily "*Protective*," and would moreover be very suitable for famine works, should such a calamity occur while they are in course of ordinary execution.

3. Statement II contains 31 works, which, though previously proposed and many of them in great degree investigated, are now proposed to be indefinitely postponed for the reasons assigned opposite each. In order to save time and prevent misapprehension it is thought best by this Government to place these on a prohibited list. To this list will also be transferred all other projects which, on sufficient investigation, are proved to the satisfaction of Government, to be capable of classification neither as Productive nor Protective.

For the reasons assigned in another letter of this date, No. $\frac{4}{1275}$ B W. His Excellency in Council is wholly averse to the commencement of large works during famine which cannot be classed either as Productive or Protective, or which would not from their nature be undertaken in ordinary years were funds available, or again any works however classified, which have not undergone all the needful scrutiny and been sanctioned by Government in ordinary course.

4. Statement III contains 56 works which it is proposed to investigate, and Statement IV shows the order of importance in which such investigations are to be taken up, and the project divisions or other agency to be employed with this object.

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5. As the Government of India is unprepared to sanction any increase to the permanent establishment, for undertaking these investigations, and as the immediate necessity for creating two* new divisions for the execution of lately sanctioned irrigation projects, and another immediately anticipated, will certainly absorb all the suitable agency of a temporary character available in South India, this Government is of opinion that the scheme now sent up is all that can, under existing circumstances, be attempted.

*1. Kistna Completion Works.
2. Cauvery and Vennár Regulations.
3. Godávari Completion Works.

6. In the letter under reply the Government of India express an opinion that, the attention of the establishment should be confined entirely to its legitimate duties, and to the preparation of projects manifestly well adapted to protective purposes, but as with regard particularly to irrigation works it is quite impossible, prior to exhaustive investigation, to say whether a project can be classed as Productive or merely as Protective, His Excellency in Council has no other course open than to deal with the matter as above suggested, leaving, if necessary, the charge for establishment to be distributed in the best feasible manner, after the close of each year's operations.

7. In reference to Tramways or Light Railways to be employed as Protective Works, the inquiries are as yet, I am to say, incomplete, but the subject will be dealt with at the earliest opportunity.

I have the honor to be,
Sir,
Your most obedient servant,

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

OOTACAMUND,
13th June 1882.

Exd. C. Howarth.
Spare Copies

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4. The B. and C. Project divisions will be maintained for the present from Provincial funds, and the Superintending Engineers, III and IV Circles, will submit, at an early date, the report already called for by the Chief Engineer for Irrigation with reference to paragraph 3 of Proceedings of Madras Government, No. 1014 I., dated 10th December 1883.

5. Copy of these Proceedings will be forwarded to the Government of India.

(Here enter No. 692 W., dated 14th March 1884.)

(True Extract.)

(Signed) J. SHAW-STEWART, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineers, I, III, IV and V Circles.
" Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Revenue Department.
" Superintending Engineer, Tank Maintenance Scheme.

ENDORSEMENT—dated 14th March 1884, No. 692 W., Public Works.

Forwarded.

(Signed) J. SHAW-STEWART, Colonel, R.E.,
Secretary to Govt., P.W.D.

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GENERAL.
ACCOUNT.

Govt. of {1884} Madras.

PUBLIC WORKS.

Dated March, 14th.

Recd. *Encl.*

G.O., 14th March 1884, No. 692 W.

MARCH.

Buckingham Canal

Forwarding copy of Proceedings on letter from Government of India expressing inability to increase the grants for expenditure on the — and on the investigation of projects.

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.
Account

READ—the following letter from Colonel W. S. TREVOR, R.E., Secretary to the Government of India, Public Works Department (Account—Irrigation), to the Secretary to the Government of Madras, Public Works Department, dated Simla, 7th November 1883, No. 116 A.I.:—

I am directed to acknowledge the receipt of your letter, No. 814 I., dated 9th October 1883, forwarding the schedule of demands for Imperial funds for the Irrigation Branch, Madras, for the year 1884-85.

2. With reference to the demand of Rs. 5,15,000 under "F—Famine Relief and Insurance, 34—Protective Works, Irrigation," I am to say that the Government of India is unable, with the limited means at its disposal, to sanction a larger grant under this head than a sum of Rs. 3,50,000, which may be distributed as noted in the margin. If, on the actuals for the current official year being known, there are lapses which will admit of the grant for the Buckingham canal being increased to Rs. 1,50,000, the increase will be made. The demand of Rs. 1,16,000 on account of "Project divisions" has been disallowed by the Government of India, as it is thought more desirable to finish works already sanctioned and commenced than to spend money on surveys of projects which may never be carried out; and, moreover, with the heavy demand that now exists for works outlay from this grant, it is considered that any further outlay on surveys should be met from Provincial Revenues.

			Rs.
Rushikulya project ...	...	...	2,49,000
Buckingham canal ...	...	...	1,01,000
		Total ...	3,50,000

3. The demand of Rs. 24,95,000 under "H—Expenditure on Public Works not classed as Productive, 46—Irrigation and Navigation," has been reduced to Rs. 24,45,000; the difference of Rs. 50,000 being the anticipated lapse on the special grant for 1883-84 for tank restoration, which cannot be allowed to be brought forward. Endeavours should be made to utilize the sum during the current year.

4. The demands under "G—Expenditure on Productive Public Works (Revenue Account), 39—Irrigation and Navigation (Working and Maintenance)," and "N—Expenditure on Productive Public Works, Capital Account, 54—Irrigation and Navigation," are sanctioned in full.

ORDER—dated 10th December 1883, No. 1014 I., Public Works.

Communicated to the officers concerned.

2. The Chief Engineer for Irrigation will prepare the Irrigation Budget Estimates for 1884-85, Preliminary Issue, so as to work up to the amounts assigned by the Government of India.

3. As the Government of India have disallowed the amount applied for on account of the Project divisions, the investigation of those projects which have not yet been commenced will not be undertaken. The Chief Engineer for Irrigation will see that the

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investigation of the projects now in hand is carried out as fast as possible, and will report—

(1) what projects will be left incomplete at the end of February next; and
(2) the cost of establishment required for completing the investigation of those projects.

4. The tanks in the Periyakulam taluk of the Madura district, where the operations of the Tank division are intended to commence, are full of water, and work cannot be begun until the north-east monsoon is over, which will be by the end of December. Owing, moreover, to the unavoidable delay which occurred in appointing the establishment required for the Tank division, the investigation of the requirements of the tanks, and the preparation of the necessary estimates, have not advanced sufficiently to admit of the current year's grant being fully utilized. The Superintending Engineer in charge of the Tank Maintenance Scheme has therefore surrendered Rs. 50,000 from the grant for expenditure on works in the Tank division, and the Examiner of Public Works Accounts has estimated the cost of establishment at Rs. 13,600 less than the budget grant. These amounts are available for reappropriation, leaving Rs. 86,400 for expenditure in the Tank division, as shown below :—

	Rs.
Works	32,000
Establishment	52,000
Tools and Plant	2,400
Total ...	86,400

The Superintending Engineer in charge of the Tank Maintenance Scheme will see that this amount is fully utilized before the close of the current year.

5. The total amount surrendered by the Superintending Engineer, Tank Maintenance Scheme, Rs. 63,600, is available for expenditure on the restorations of tanks in other divisions, and will be appropriated as follows :—

Irrigation and Navigation Works for which neither Capital nor Revenue Accounts are kept.

	Rs.
Repairs	51,084
Establishment	11,750
Tools and Plant	765
Total ...	63,600

6. As reductions of the existing allotments in certain divisions have already been made to meet the demands made from the Nellore, North Arcot, Salem, and Coimbatore districts, Superintending Engineers, who still require additional allotments, will, on receipt of this order, submit applications for such modifications of allotments as may be found necessary, after careful consideration of the reports of progress and expenditure up to the latest date for which information may be available.

7. Ordered that the following letter be sent to the Government of India :—

(Here enter No. 1015 I., dated 10th December 1883.)

(True Extract.)

(Signed) J. O. HASTED, Colonel, R.E.,
Ag. Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To Superintending Engineers.
To the Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Revenue Department.
" Financial "

Exd. A. F. Goodall.
Spare Copies

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IRRIGATION.
ACCOUNT.

Govt. of {1883} Madras.

PUBLIC WORKS.

Dated December, 10th.

Recd. *Encl.*

G.O., 10th Dec. 1883, No. 1014 I.

DECEMBER.

Schedule of Demands for 1884-85

Passing orders on the remarks of the Government of India on the — for Imperial funds for the Irrigation Branch, Madras.

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PUBLIC WORKS DEPARTMENT.

Irrigation.
Account.

LETTER—from

COLONEL J. O. HASTED, R.E.,
Acting Joint Secretary to the Government of Madras,
Public Works Department,
Irrigation Branch,

TO

THE SECRETARY TO THE GOVERNMENT OF INDIA,
PUBLIC WORKS DEPARTMENT
(IRRIGATION).

SIR,

In acknowledging the receipt of your letter, No. 116 A.I., dated 7th November 1883, I am directed to forward herewith copy of Proceedings, Madras Government, No. 1014 I., dated 10th December 1883, and to state that arrangements will be made to expend the balance of the special grant made for tank restoration, which cannot be expended, for the reasons stated, in the tank divisions recently constituted, on works of the same character in other divisions.

2. I am to observe that this Government deprecates the reduction of the grant from Famine Protective Funds for the Buckingham canal, considering that the work is of great importance, and is likely to be of considerable benefit to the country from a protective point of view. The necessity of pushing it on to completion as rapidly as possible has been strongly urged by the mercantile community, as is shown by a memorial which has been addressed to this Government by the Chamber of Commerce, Madras, deprecating the expenditure being restricted to 3 lakhs per annum, and by letters, from merchants using the canal, complaining that, in its present state, they experience great difficulty in bringing produce from the Kistna district to Madras. I am therefore to request that the Government of India may be moved to reconsider the matter, and to increase the grant, if possible, to 1½ lakhs, the amount which has been provided for the work from Provincial funds.

3. With regard to the withdrawal of the grant for establishment employed on the preparation of projects, I am to observe that this establishment is employed not only in the preparation of estimates for works for the purpose of protection from famine, but also in view of having ready to hand works of ascertained permanent utility for the employment of labor, diverted from its usual course during seasons of scarcity. The want of precaution in this direction, when the late famine declared itself, resulted not only in much suffering amongst the unemployed poor, but also in much wasteful expenditure of the funds granted for relief. In connection with the subject, I am to invite the attention of the Government of India to paragraph 128 of the Report of the Famine Commissioners, where the responsibility, of arranging to have a programme of works ready to put in hand without delay on an emergency arising, is distinctly imposed on local Governments, and to observe that His Excellency in Council cannot be expected to accept such responsibility if the necessary

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means of preparing the projects are withheld. I am to add that, so far as investigations have proceeded, only four or five projects promise to be suitable for the employment of famine labor, so that much remains to be done before this Government can feel itself prepared to meet the abnormal demand for employment, which is the earliest symptom of distress resulting from scarcity in an agricultural population.

As the investigation of projects is undertaken to determine—

(1) whether they will serve to protect the country from the effects of famine, and

(2) whether they will afford the means of suitably utilising the superabundant labor thrown upon the State during a season of scarcity,

I am to say that the Right Honorable the Governor in Council is quite unable to accept the suggestion, conveyed in paragraph 2 of your letter under reply, that any portion of the outlay involved in the inquiry should be met from Provincial funds. At the same time, it is recognised that the works actually in process of execution throughout the Empire must cause a drain on the Protective grant, such as to materially curtail the margin for outlay on the investigation of new projects. As, however, the prosecution of such inquiry appears to His Excellency in Council to be of vital importance in this Presidency, I am to invite the attention of the Government of India to the fact that projects, taken up for protective purposes, not unfrequently prove suitable to be classed as Productive, when the cost of investigation is recouped to F—Famine Relief and Insurance, as was recently done in the instance of the Barur tank. There is little doubt that this course will have to be followed in the case of the Periyár project, and I am therefore to express the hope that the Government of India will be able to sanction the continued employment of, at least, two divisions in the preparation of projects, leaving the cost of investigation to be adjusted against each work according as it is classed when the inquiry is completed.

I have the honor to be,

Sir,

Your most obedient servant,

(Signed) J. O. HASTED, Colonel, R.E.,
Ag. Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

FORT ST. GEORGE,
10th December 1883.

Exd. A. F. Goodall.
Spare Copies

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Channel Survey is completed, the Surveyors now attached to the 6. Project Division should be employed in carrying out the levels in connection with the Bellary Water Supply Project.

3. This Project is clearly a very important one and if carried out, this Cantonment would be fully supplied with water throughout the year, whereas now during the months of April and May, the reserved supply runs very short and that from the large well is reduced to the lowest limit.

I have the honor to be
Sir
Your most Obed.t Servant
Herbert Hubert Lt.-Col K.E
Offg. Sup.dg Engineer
3d. Circle

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From

CHIEF ENGINEER
7 FEB
1884
FOR IRRIGATION

The Superintending Engineer,

III ~~1st~~ Circle,

To

The Chief Engineer
for Irrigation P.W.D.
Madras

Dated 19th February 1884.
Recd.

ENCLOSURES.

No. 3122.

Bellary Water Supply Project.

Recommending that the Surveyors now attached to the Project be employed in taking the levels in connection with the

SUPD. ENGINEER'S OFFICE 4TH CIRCLE,
Coimbatore, 21st February 1884.

No. 21/51.

924

From,

The Superintending Engineer,
Fourth Circle.

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To,

The Chief Engineer
for Irrigation

Sir,

Enclosure 1. I have the honor to forward herewith copy of a letter from the Executive Engineer B. Project Division giving the information asked for in your memo No. 3 IV* dt. 15th instant.

* Previous papers Part of this R.O. No. 28.9 dt. 26/2

2 I have received the Preliminary Report on the Krishnagiri Project which I shall forward for your information in a few days.

3 It will be seen that the Krishnagiri, Bhowani, Kalingarayen (instead of Pegalur) extension

extension, and the Gudamalai projects will remain incomplete at the end of this month and that the cost of establishment, exclusive of Captain Romilly's pay and allowances, for next year will be R 5,600.

I have the honor to be
Sir
Your most obt servt

L. Beatty - Colonel RE
Supy. Engineer IV circle

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23A

From,

The Supg. Engineer
4th Circle.

Dated 21 } February 84
Recd

No. 21

Enclosure one.

Project Works -
Forwards Copy of Executive Engineer's letter reporting up on the Cost of Establishment on - for 1884-85.

Enclosure 8/p 3

B. Project Divisional Office
Coimbatore, 19th February 1884.

No. 27/S

924

From,

The Executive Engineer
B. Project Division

To,

The Superintending Engineer
4th Circle.

Sir,

I have the honor to reply to your Endorsement No. 1/1/B.P. dated 15th instant on letter No. 3 IV dated 15th idem from the Chief Engineer for Irrigation.

The present is the State of the Project investigation in my Division.

Maranadahully and Vaniar Projects

Reports Complete, and submitted. 24

Krishnagiri.

Reservoir basin Contoured and 10 miles of trial Channel lines run.

Preliminary Report submitted with Estimate for Completely exposing the rock

rock over the dam site proposed. If the report is Considered favorable there will be at least Six months work for the Survey parties in Contouring the area to be irrigated some 50,000 acres and laying out the proper line for the distributaries.

Bavani Reservoir Scheme.

The Contourring of the reservoir basin is Complete, and I shall very shortly have data on which to draw up a preliminary Report upon the scheme. An examination of the Contoured plan shows that a third site promises to be a favorable one as Compared with the two already proposed, and if figures support this idea, an examination of this site will be necessary.

If the preliminary report places the scheme in a favorable light and the Complete working out of the Project is

9/24

is decided on, the Surveys of the area to be irrigated and the tracing of the distributaries will occupy the present Establishment quite 12 months. 9/24

Pugalur and Kalingarayen Chanels.

The former Project it is presumed need not be investigated further. For the Kalingarayen, nearly all the levels are taken in Connection with the existing Chanel. About 3 months work would suffice to Complete investigations in Connection with the present Chanel. If the extension is decided on, about 6 months more would suffice to Complete the necessary levels and sections.

The Goodoomala Project has not been touched. 25

If the present Establishment is Sanctioned for the next official year, I am of opinion that one of the three incomplete Projects could be complete and sent in, one very nearly so, and both the remainder so far advanced

that the additional time necessary to complete them could be definitely fixed for the succeeding official year.

The Establishment and Cost required will therefore be for 84-85.

Permanent Establishment

1	Writer Rupees	32	" "
1	Do "	15	" "
1	Messenger	7	" "
2	Lascars @ 6 Rupees each	12	" "
1	Draughtsman	60	" "
1	Do	35	" "
	Contingencies	49	" "
		250	" "

Temporary Establishment

1	Asstt. Engineer	300	" "
	Ira: allowance for Do	100	" "
1	Overseer	60	" "
1	Surveyor	250	" "
2	Do @ 100 Rupees each	200	" "
20	Lascars	120	" "
	Carried over	1,030	" "

8/p 5

Brought forward	1,030	" "
Contingencies	20	" "
Total	1,050	" "
Total for one month	1,300	" "
Total for 12 months Rupees	15,600	" "

I have the 9/24/77

(Sig) H. J. Romilly Capt RE.
Executive Engineer.

(True Copy)

F. Beatty Colonel RE
Superintending Engineer 4th Circle

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Quote { G.O. No. 1014 I dated 10th December 1883
G.O. No. 691 - W dy 4th March 1884

Print { Letter from the Supg: Engrs. 3 Circle No. 3122 dy 19.12.83
Do do 4 Circle No 21 dy 21.2.84

No 68 I.
Note by the Chief Engineer for Irrigation

Encl 5

B. Project Division.

The Marandahully and Vannair Projects have lately been submitted by this Division also a preliminary report of the Krishnagiri.

The other Projects now on hand are:

The Bhawani Reservoir

The Calingaroyen Channel.

The first of these is a large undertaking, it is a Project for the formation of a very extensive Reservoir on the Bhowani near Sathiamungalum which will act as a flood regulator, or rather moderator to the Cauveri, and also irrigate a considerable tract of Country, its thorough investigation will take a long time, probably if no other work was done it would employ the existing Establishment to the end of the year. 27

The second is a scheme for extending the Calingaroyen

Calingarayan Channel which is to take the plan of the Pugalur Channel improvement. The Calingarayan Channel commands the land irrigated by the Pugalur Channel and is capable of being extended across the Noyel River to irrigate fresh lands it will probably take some months to complete and submit.

If the preliminary report on the Krishna-giri reservoir shews that there is sufficiency of water, and a probability of the work doing more than pay interest on the Capital outlay - there will be some months more work to be done.

2. Project Division. This division was intended to work in the Ceded Districts where more is required in famine preventive work than in other Districts. The Sindhupur and Roddem Projects have been worked out and remain in this office - they do not promise well and it is hoped some of the other small projects may be better worth carrying out.

The

The two Projects now under investigation are

The Sugglair Project 924

The Sedda Pucpula Channel. 29

these will, it is anticipated be completed shortly. It is then proposed to investigate the Bellary Water Supply Project, towards which it is understood that a good deal of work has been already done. This will certainly occupy the Division for a considerable time, and if it should be completed before the end of the year, there are still many projects on the list which was forwarded to the Government of India, which it is very desirable should be fully worked out, and which if they do not give promise of being remunerative may be retained as Famine Relief works.

3. It will thus be seen that there is ample work for both Project Divisions for the ensuing year. and there are other works which it

28 was

was intended the Divisions lately abolished should take up, which it is very desirable should be investigated. Foremost among these is the Lower Coleroon irrigation in which is included the embanking of the Coleroon from the Lower anicut to the sea. So much trouble has arisen from the embankments on either of the river being worked out in separate Divisions, that work in the lower portion of the river has been suspended until an establishment is available to work out the scheme.

4. The cost of the B. Project Division including Executive Engineer's pay and Travelling allowance amounts to Rs 24,000 per annum. The C. Project Division is not at present so strong, but will be brought up to the same strength and the cost of the both divisions will therefore be Rs 48,000.

Nos 2549 d/15.10.73.
" 172 d/12.2.74
" 465 d/13.6.82
" 691 d/14.3.84
" 1014 d/10.12.83

Chepauk
25th March/84

I have the honor to be Sir Your most obedient servant
Colonel R.E.
Ag. Chief Engr for Irrigation

To
The Ag. Joint Secy to Govt P.W.D
Irrign Branch

Circ: 31/3/84

General Establishment

Form No. 22.

No. W

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the

READ the following:—

Quote { G.O. Road Irrigation Branch. { No. 1014 dy 10 Dec 1883
G.O. Public Works Dept. " " 691 dy 14 March 1884
Letter from Supg Engr 3rd Circle " " 3122 dy 19 February 84
Unit { do do 4th Circle " " 21 dy 21 —do—
Note by the Chief Engr for Irrigation } No. 68 dated 25 March/84

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The Government approve of the employment of the Project Divisions as suggested by the Chief Engineer for Irrigation and the cost of these Divisions during the official year 1884-85 will accordingly be met from Provincial Funds.

Lett 27/3/84

29

1/4/84

Supdg Engr I Circle
Supdg Engr III Circle
Supdg Engr IV Circle
C.E. for Irrign
Exr P.W. Accts
Revenue Dept

28.3.84

3 APR 84

Arr: 31/3/84

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924

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Govt. of (1883) Madras.

PUBLIC WORKS.

Dated

Recd

Encl.

G. O., 4 April 1884 No. 924

Nos.

Project Division

Approving of the Employment during 1884-85 as suggested by the Chief Engr for Irrga the cost of the Divisions being met from Provincial funds.

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Submitted