(1) Number of pages 228

(2) Date of repair 11.5.87

(3) Initials of the Referencer [illegible]

TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

PUBLIC WORKS DEPARTMEN

G.O. No. / ~~B.P. No.~~	28-29. W	Press. / ~~Mis.~~
Dated	6. 1. 1883.	~~198~~ .

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Establishment.

). 41.

AD—the following paper :—

fice Note from the Examiner, Public Works Accounts, dated 22nd December 1882, No. 816.

Herewith a statement showing the increases required in the Accounts Establishnt of this Presidency on account of the three temporary Divisions.—*Vide* G.O., 3395 W., dated 21st December 1882.

Tabular Statement showing the proposed changes in the Establishment of the Public Works Department Accounts Branch, Madras Presidency, to accompany letter No. 29 W., dated 6th January 1883, to Government of India.

No.	Present Scale. Designation.	Amount of Pay.	No.	Proposed Scale. Designation.	Amount of Pay.	Increase. No.	Increase. Amount.	Decrease. No.	Decrease. Amount.	Remarks.
		Rs. A. P.			Rs. A. P.		Rs. A. P.		Rs. A. P.	
	Accounts Branch.									
	Examiner Establishment.									
4	*Vide* details in Statement of Establishment provisionally sanctioned by the Government of India in their letter No. 259 G., dated 25rd September 1881, communicated with G.O., No. 2472 W., dated 8th October 1881.	2,460 0 0	4	The same as in column headed "Present Scale."	2,460 0 0	..	..	..	..	
	Accountants Establishment.									
(a) 58	As sanctioned by the Government of India in their letter, No. 221 A.E., dated 29th December 1881, communicated with G.O., No. 17 W., dated 6th January 1882.	(a) 6,565 0 0	58	The same as in column headed "Present Scale."	6,565 0 0	..	..	..	..	(a) 2 Accountants, 1st grade at Rs. 400 = Rs. 800 3 Do. 2nd " at " 295 = 885 6 Do. 3rd " at " 200 = 1,200 17 Do. 4th " at " 115 = 1,955 30 Do. 5th " at " 57½ = 1,725 58 Total Accountants. 6,565
			(b) 4	*Add*— Accountants, 4th grade, *temporary*, at 115	460 0 0	4	460 0 0	..	..	(b) For 3 Divisions, *i.e.*,— Godâvari Central. Kistna Central. Cauvery Delta. 3 1 For Central Office. 4
	Office Establishment Clerks.		62							
1	Clerk, 2nd Class, 2nd Grade (120—160) = 140									
1	Do. 3rd " 1st " (80—100) = 90	140 0 0								
4	Do. 3rd " 2nd " (60— 80) = 70	90 0 0								
7	Do. 3rd " 3rd " (50— 60) = 55	360 0 0								
10	Do. 4th " 1st " (40— 50) = 45	385 0 0								
16	Do. 4th " 2nd " (30— 40) = 35	270 0 0								
9	Do. 5th " 1st " (20— 30) = 25	550 6 6								
		400 0 0								
54	Total, Clerks ..	167 8 0								
		2,072 8 0	54	The same as in column headed "Present Scale."	2,072 8 0					
				Add—						
			1	Clerk, 3rd Class, 3rd grade (50—60) = 55 Temporary.	55 0 0	1	55 0 0			Required for Central Office in connection with the Accounts works of the three temporary divisions as above.
			1	Do. 4th Class, 1st grade (40—50) = 45 Temporary.	45 0 0	1	45 0 0			
			56							
				Total, Clerks ..	2,172 8 0	2	100 0 0	..	..	
	Menial Servants.									
1	Moches at 10	10 0 0								
1	Do. at 8	8 0 0								
1	Head Messenger at 10	10 0 0								
4	Do. at 8	32 0 0								
6	Messengers at 7	42 0 0								
1	Do. at 6	6 0 0								
2	Do. at 5	10 0 0								
	Rollers at 5	5 0 0								
17	Total, Menial Servants ..	10 0 0								
133	Total, Accounts Branch ..	115 0 0	17	The same as in column headed "Present Scale."	115 0 0					
		11,302 8 0	139	Total, Accounts Branch ..	11,762 8 0	6	560 0 0	..	..	

(Signed) D. C. GORDON,
Examiner of Public Works Accounts.

No. 42.

Order—dated 6th January 1883, No. 28 W., Public Works.

Ordered to be forwarded to the Government of India.

(Here enter No. 29 W., dated 6th January 1883.)

(True Extract.)

Captain, R.E.,
Ag. Under Secy. to Govt., P.W.D.

Exd. C. Howarth.
Spare Copies

GENERAL.
ESTABLISHMENT.

Govt. of {1883} Madras.

PUBLIC WORKS.

Dated January, 6th.

Recd. *Encl.*

G.O., 6th January 1883, No. 29 W.

JANUARY.
No. 43.

Accounts Establishment.

Increases in the — of the Presidency rendered necessary by the formation of the three new Divisions.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Establishment.

No. 43.

LETTER—from

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

To

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

SIR,

In continuation of my letter, No. 3433 W., dated 26th December 1882, I am directed to forward, for the sanction of the Government of India, the accompanying proposition statement showing increases required in the Accounts Establishment of the Presidency on account of the three new temporary Divisions which are to be formed.

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

Colonel, R.E.,
Secretary to Govt., P.W.D.

FORT ST. GEORGE,
6th January 1883.

Exd. C. Howarth.
Spare Copies

GENERAL.
ESTABLISHMENT.

Cost. of {1883} Madras.

PUBLIC WORKS.

Dated January, 6th.

Read. *Encl.*

6th January 1883, No. 29 W.

JANUARY.
No. 43.

Accounts Establishment.

Increases in the — of the Presidency rendered necessary by the formation of the three new Divisions.

Proceedings of the Government of Madras, Public Works Department, dated 3rd February 1880, No. 265 W.

General—Establishment.

Read the following paper :—

No. 2 W.

Memorandum by the Chief Engineer for Irrigation.

THE material reductions in the Public Works Department found requisite having rendered it necessary to provide specially for the future work of the Irrigation Department, it has to be determined what divisions or parts of divisions will need a special irrigation establishment and, with reference to the work to be done, what establishment should be provided; also what divisions will no longer require to be maintained.

It is probable that the withdrawal of certain divisions from the operations of the Public Works Department will not result in any material reduction of *works* outlay in the Irrigation Department, because it has been well known for many years past that the work done hitherto has been far less than that urgently needing to be carried out, and that improvements necessary to the safety and efficiency of tanks and other irrigation works generally have made but little progress owing to the smallness of the grants available, and partly also to the inadequacy of the establishment, as compared with the many demands made upon it.

2. GANJAM DIVISION.—Commencing with the northern part of the Presidency it may be concluded that the abolition of the Ganjam Division is, at any rate for a time, unavoidable. The average expenditure on irrigation and agricultural works has for the last three years been Rupees 48,309, and no special and suitable establishment can be maintained to carry out so small a quantity of work. There is no prospect of money being forthcoming, for some years at any rate, to carry out the Rooshkulia, Mallada Tampara, and other similar projects, and the assessment on irrigated lands is so low as to make it very difficult to improve the condition of this description of cultivation. Moreover, the Collector is averse to the sanction of repair estimates for tanks and channels, the wet assessment of the lands under which is but little more than that of dry lands. He considers that these works should be maintained by the ryots holding the lands under them, as no doubt was the case prior to about twenty-five years ago. A grant-in-aid of about 10,000 will probably enable the Collector to assist the ryots in cases in which he may deem the work to be done to be beyond their power or means. Rupees 1,000 also may be allowed for river embankments.

	Rs.
1876-77	51,484
1877-78	67,901
1878-79	25,544
	3)1,44,929
	48,309

3. VIZAGAPATAM DIVISION.—There are only two taluks in the southern part of the district, in which there are irrigation works in which Government have an interest, and there are hardly any such works over which Government can exercise any complete control, as Zemindars or proprietors are largely interested in most of them, and no satisfactory arrangements have so far been made to allow of their being properly dealt with, or to ensure the contributions of the proprietors being forthcoming when needed. The average outlay of the past three years has been Rupees 11,610. It is considered that little or no advantage would be obtained by continuing to maintain an establishment to look after irrigation works, even were expense a matter of little moment. The abolition of this division is therefore recommended. Rupees 8,000 may be reserved as a grant-in-aid for minor irrigation works, and Rupees 1,000 for river embankments.

	Rs.
1876-77	17,240
1877-78	12,407
1878-79	5,183
	3)34,830
	11,610

4. Godavari Delta.—The Godávari Eastern and Central Delta Division and Western Delta Division must, of course, be retained and adequately officered. There are a few outlying works, such as the river embankments above the anicut which will need attention from time to time, and these may, as already directed, continue to be attached to the divisions from which they can most conveniently be worked.

The superior executive establishment should consist of—

Executive Engineers	...	...	2
Assistant Engineers—			
3 Sub-divisions of E. and C. Delta.	*3		
2 Do. W. Delta	2		
		—	5

* It is proposed to retain Mr. Sub-Engineer Ellis in charge of one sub-division.

5. Rajahmundry Division.—Apart from the works which are to be attached to the Godávari Delta Divisions there is no need to maintain an irrigation establishment in this division, which has already been practically abolished. The outlay of the past three years amounted on the average to Rs. 16,055, and it is not practicable to provide an establishment for so small an extent of work. Rs. 10,000 may be reserved as a grant-in-aid for minor irrigation works maintenance.

	Rs.
1876-77	
1877-78	*19,511
1878-79	17,654
	10,999
	3)48,164
	16,055

* Exclusive of the outlay on river embankments and river conservancy.

6. Kistna Delta.—There are two executive divisions, viz.:—
the Eastern Delta Division,
the Western do.
at present for the former two sub-divisions will suffice, but when the completion estimates are undertaken a head-quarter sub-division will be essential. For the Western Delta two sub-divisions will permanently suffice.

The superior executive establishment will be—

Executive Engineers ...	...	...	...	...	...	...	2
Assistant Engineers ...	...	...	...	...	...	...	4

7. Guntur Division.—This has been abolished or removed from the operation of the Public Works Department. One work, the Kistna left flood bank above Bezváda, has been attached to the Kistna Eastern Delta Division, and there is no other work of importance to be considered.

Rs. 5,000 may be reserved as a grant-in-aid for the maintenance of minor irrigation works.

	Rs.
1876-77	25,826
1877-78	36,947
1878-79	13,275
	3)76,048
	25,349

8. Ongole Division.—There are no irrigation works of much importance. The area is large and the outlay has averaged for the past 3 years Rs. 25,349. There is no option but to cease to deal with it in any way by the professional department. Rs. 5,000 may be allowed as a grant-in-aid.

9. Nellore Division.—This division as constituted in 1878 comprised the part of the Nellore Taluk north of the Pennér, and the part of the district south of that river. As the Pennér anicut system will in any case have to be looked after, and as the irrigation under the Sungam channels is important, while there are some valuable tanks and channels to the south of the river, outside the Delta, it is considered that this division may be left unchanged, and that for it the superior establishment required will be—

Executive Engineer	...	...	...	...	...	...	...	...	1
Asssistant do.	...	...	...	...	...	...	...	...	1

Should the Sungam project be sanctioned a special establishment will be required for it.

10. Government have recently decided to place officers, designated as Superintendents of Works, in charge of the Godávari and Kistna Deltas, in order to relieve the Superintending Engineer from an excess of work, and to ensure closer attention being given to the requirements of these very important systems. There will no longer be any work other than irrigation, with perhaps an occasional special building, for the Superintending Engineer to look after, and it is considered that—

(1) Superintendents of Works are unnecessary;
(2) They would inevitably make the establishment too costly.

It is recommended that the—

Godávari Delta with its 2 divisions,
Kistna ,, ,, 2 ,,
Nellore Division in which is the Pennér anicut,

be made the 1st Irrigation Circle under a Superintending Engineer.

The superior establishment will then be—

1	Superintending Engineer,
5	Executive Engineers,
*10	Assistant do.
3	Supernumerary Engineers,

* Nine so long as Mr. Sub-Engineer Ellis is in charge of a sub-division.

will be required to take the place of officers on privilege leave or furlough, and to provide a third sub divisional officer for the Kistna Eastern Delta in due course. There is special work to be done in connection with the Godávari Central Delta completion estimates at present and the supernumerary officers' services would be at the disposal of the Superintending Engineer for this and any other special duty at times when they may not be required to fill executive charges. It is considered that the inclusion of the Nellore Division in the First Circle is a proper and suitable arrangement, because it will, after one complete inspection, not occupy very much of the time of the Superintending Engineer, and it will be accessible to him by canal, boat or coasting steamer without much loss of time, when a special visit may be found necessary. It has for a long time past been very much neglected, and it will, it is hoped, be properly attended to in the future.

11. Cuddapah, Madanapalle, Kurnool, Bellary and Anantapur Divisions.—These Divisions all present the same characteristics, viz., large areas, numerous scattered works, of which a few are of some importance and the rest individually of very little consequence. It is recommended that under present circumstances there be no Public Works Establishment retained in these divisions on account of irrigation works, and that the following sums be reserved as grants-in-aid for maintenance of such works:—

	Rs.
Cuddapah Division	15,000
Madanapalle ,, ...	7,500
Kurnool ,, ...	12,000
Bellary ,, ...	12,000
Anantapur ,, ...	10,000

12. Chingleput Division.—This is too important a division to be given up, whether the works or the revenue dependent upon irrigation be considered. The area is moderate, and it can probably be fairly well managed, so far as irrigation alone is concerned, by one Executive Engineer with two sub-divisional officers who need not be Assistant Engineers. It is assumed that if there be military buildings or other non-irrigation work to be attended to these will be looked after by another officer.

13. Vellore Division.—There is a good deal of work to be done in this division, and there is now a prospect of its being carried out, as money can be transferred from divisions which are to be given up. The improvements to the principal channels of the north section of the Palar anicut system should be taken up where they were left at the close of the famine; very many of the numerous tanks connected with this system require to be put to rights; the south section has been left incomplete for some twenty years. The Poiney anicut channels and those of the Cheyár anicut, with the tanks connected with them, need much attention in order

to make the most of the water-supply. For some years to come it will be advisable to allow two sub-divisions for this division, viz :—

(1) Northern,
(2) Southern.

All the principal channels of the north section of the Pálár anicut system should be attached to the (1) sub-division, whether they lie in Chingleput or not, as the water main regulation should be entirely in the hands of one officer. The minor channels and tanks of the system in Chingleput would remain in charge of the Executive Engineer of the latter Division.

The sub-divisions should be held by Assistant Engineers.

14. Chittoor Division.—The greater part is Zemindari, and there is nothing to make its retention under present circumstances desirable. Any part of the Poiney anicut channels or any tanks supplied by them, which may be in this division, can be attached to the Vellore Division. A grant-in-aid of 12,000 rupees may be reserved for the maintenance of minor irrigation works.

15. Hosur Division.—There is at present but little work in progress of a kind needing skilled supervision, but it will be desirable to complete the Marandahully and Barur projects, which were commenced for famine-relief purposes. The Barur project at any rate is a promising work. There is also something remaining to be done to the Pennagoondapuram tank, another famine work. It will be advantageous therefore to constitute a special division for these works, and it may be left to be determined hereafter what the ultimate constitution of the division is to be; for the present one Executive Engineer and upper subordinates for individual works will be needed. For the maintenance of minor irrigation works a grant-in-aid of Rs. 7,500 may be allowed.

16. Salem Division.—There is nothing in this to make its retention under present circumstances desirable, and it is recommended that it be given up. The two or three incomplete tanks of the Womalore river series which are under repair should be completed before the end of the year.

For the maintenance of minor works a grant-in-aid of Rs. 10,000 may be allowed.

17. Coimbatore Division.—This, as recently modified, includes the old Coimbatore Division and the part of the Erode Division to the south of the hill country of Collegal. There are many irrigation works of importance, and there is plenty of useful work to be done. It is recommended that there should be two sub-divisions with—

One Executive Engineer,
One Assistant do.,

the second sub-division being held by an Upper Subordinate.

18. South Canara and Calicut Divisions.—The Irrigation Department has no interest in either of these divisions, though in the latter a small sum has been allowed yearly for the management of two dams for the exclusion of salt-water from irrigated tracts. The average expenditure of the last three years has been Rs. 1,535, and this sum may be continued as a grant-in-aid to be disbursed under the orders of the Collector.

		Rs.
1876-77	...	2,063
1877-78	...	1,503
1878-79	...	2,038
	3)	4,604
		1,535

19. Tindivanam Division.—This has recently been amalgamated with Cuddalore, but the connection is not desirable or indeed feasible under present circumstances. A small grant-in-aid will be necessary.

20. Cuddalore Division.—The Irrigation Department can undertake the management of the Pelandorai anicut and of all the works for which individually a continuous record has been ordered to be maintained, and this includes all the tanks

connected with them. They are detailed in Proceedings of Madras Government, No. 1,297, dated 16th April 1877, and are as follow :—

Numbers.	Name of River.	Name of Irrigation Work or System.
1	Coleroon.	Lower Anicut.
2	Vellár.	Shatiatope Anicut.
3-A	Manimuthanuddy.	Vriddháchalam Anicut.
3-B	Do.	Mehmatur Anicut.
3-C	Myorenuddy.	Katumloor Anicut.
4-A	Guddelum.	Tiruvadi Anicut.
4-B	Do.	Vánamádévi Anicut.
4-C	Do.	Tiruvendipuram Anicut.
5	Kullar.	Vikravándi Anicut.
6	Ponniár.	Tirukoilúr Anicut.

The necessary superior establishment will be—

One Executive Engineer.
One Assistant do.

Any other irrigation works included in the general area occupied by the above works can likewise be looked after by this establishment.

21. Tanjore and Negapatam Divisions.—These two divisions have recently been amalgamated, and Government have directed the appointment of a Superintendent of Works for the charge of the whole of Tanjore with a part (so far undefined) of Trichinopoly, and under this officer an Executive Engineer and two Assistant Engineers. It is considered that this organisation is not well suited to the requirements of the Delta, that it will not enable the most to be made of the establishment allowed, and that this establishment is inadequate if the Pudukóta Taluk be retained and provided for. Considering the revenue derived from Tanjore and the profits which have accrued in the last forty years, it would seem to be somewhat illiberal to leave any part of this district neglected. However, the Pudukóta Taluk is a very large one, and would need a good deal of attention, and upon its retention or rejection will depend whether one executive division will suffice, or two will be required. Assuming that Pudukóta is to be left out of consideration, there will be one division and four sub-divisions and all the latter should be held by Assistant Engineers.

Superior executive establishment required—

Executive Engineer 1.
Assistant Engineers 4.

If Pudukóta be included there will be two divisions and four sub-divisions, and the establishment required will be—

Executive Engineers 2.
Assistant do. 4.

22. Trichinopoly Division.—According to the final issue of the budget of 1879-80 the provision in this division was for—

		Rs.	Rs.
Minor Original Works.			
Irrigation and Navigation	...	6,000	
Agricultural Drainages	...	1,000	
Miscellaneous	...	300	
			7,300
Repairs.			
Irrigation and Navigation			
Agricultural—			
River Conservancy	...	44,000	
River Embankments	...	18,000	
Drainages	...	25,000	
Miscellaneous	...	1,500	
	...	300	
			88,800
			96,100

The irrigated area of the district is—

1877-78, Proceedings of Madras Government, No. 482 I., 1st September 1879.

Acres	...	...	...	207,817
The revenue ...	...	...	Rs.	7,98,495
Average rate per acre	...		,,	3·84

It will not be advisable to abandon this division, but it will be necessary to provide as economical an establishment as possible, and not to include in the division the north-east taluk* in which there are no works of importance; and possibly the extreme south of the district may also be omitted. An Executive Engineer without a sub-divisional officer will then, it is considered, be able to manage the division.

* Udayárpálaiyam.

For minor works maintenance in the parts of the district proposed to be abandoned a grant-in-aid of Rs. 6,000 may be allowed.

23. Dindigul and Madura Divisions.—There is nothing likely to be done in the Madura District to warrant under present circumstances the retention of an Irrigation Establishment therein, and it may be abandoned altogether. A grant-in-aid of Rs. 15,000 may be allowed for maintenance of minor works. In the absence of a regular machinery for dealing comprehensively with irrigation in Madura, it is doubtful whether even so much need be provided.

24. Satur and Tinnevelly Divisions.—It is proposed to abandon the Satur Division and the Nánguněri Taluk of the Tinnevelly Division, retaining the rest of the latter which will then embrace the whole of the Támbraparni irrigation, and nearly all that of its principal tributary, the Chittár. Two sub-divisions will be necessary, and both should be held by Assistant Engineers.

Establishment required—

Executive Engineer 1.
Assistant Engineers 2.

For the minor works maintenance in the abandoned parts of the district a grant-in-aid of Rs. 20,000 may be allowed.

25. It is recommended that the—

Cuddalore Division,
Tanjore Division one or two as the case may be,
Trichinopoly do.,
Tinnevelly do.,

be formed into a second Irrigation Circle under a Superintending Engineer.

The superior establishment of the Circle would be—

1 Superintending Engineer,
4 or 5 Executive Engineers,
7 Assistant Engineers, with
2 Supernumerary Engineers,

to fill vacancies and undertake any special duties required.

26. A third Circle will be required which will comprise the—

Presidency Division (non-irrigation).
Chingleput do.
Vellore do.
Special works, Oosoor Division.
Coimbatore Division.
Nílgiris do.
Banglore do.
&c., &c. } non-irrigation.

27. It is supposed that the establishments of the Irrigation Divisions will be available to carry out, with the aid, if necessary, of special temporary establishments, such work, Imperial or Provincial, as Government may require, *e.g.*, it is understood that a jail is to be built at Palamcottah, and this could be supervised by the Executive Engineer with the assistance of a special Overseer in addition to the petty establishment usually provided from the contingencies of the estimate. In that

case a percentage charge would be made for supervision to the debit of the fund concerned.

28. The following abstract shows the establishment proposed for the two Irrigation Circles and the Irrigation Divisions of a Third Circle:—

Circles.	Systems.	Superintending Engineers.	Executive Engineers.	Assistant Engineers.	Sub-Engineers and Supervisors.	Overseers.
1st Irrigation.	Godávari Delta ...	1	2	5	4	8
	Kistna do. ...		2	5	4	8
	Nellore Division ...		1	1	2	3
	Supernumerary ...		...	2	...	...
	Total, 1st Irrigation Circle	1	5	13	10	19
2nd Irrigation.	Cuddalore Division...	1	1	1	1	3
	Tanjore do. ...		1	4	4	8
	Trichinopoly do. ...		1	...	1	3
	Tinnevelly do. ...		1	2	2	4
	Supernumerary ...		...	2	...	...
		1	4	9	8	18
3rd (General).	Chingleput Division.	½	1	...	2	4
	Vellore do. ...		1	2	2	4
	Hosúr (Special) Division		1	...	1	3
	Coimbatore		1	1	2	4
	Supernumerary ...		...	1	...	...
		½	4	4	7	15
		2½	13	26	25	52

29. It is not proposed to make any alteration in the budget provision for—

	Rs.
(1) Temporary Survey Establishments	15,000
(2) Revenue investigations under Mr. Wilson	13,000

Chepauk,
8th January 1880.

(Signed) J. MULLINS, Colonel, R.E.,
Chief Engineer for Irrigation.

To the Secretary to Government, Public Works Department,
through the Chief Engineer, Public Works Department.

Order thereon, No. 265 W., dated 3rd February 1880.

His Grace the Governor in Council concurs generally in the views expressed by the Chief Engineer for Irrigation in the memorandum read above, but is of opinion that certain modifications in the details of the scheme proposed by that officer will be necessary.

2. The state of the Provincial finances renders a further reduction in the general establishment absolutely necessary, and as the establishment thus reduced will be so small as to render the regulation of appointments and promotions exceedingly difficult, the whole establishment of the Department, Irrigation as well as General, will continue to be borne upon one list for the purposes above mentioned, though the cost will be divided between Irrigation and other Services in accordance with the actual distribution and employment of the establishment.

3. His Grace in Council also considers it essentially necessary that the works of the Godávari and Kistna Districts should each be under the charge of a single officer

with the position of a Superintendent of Works, and this renders necessary some alteration in the arrangements of the Superintending Engineer's charges as proposed by the Chief Engineer for Irrigation.

4. The following alterations will, therefore, be made in the arrangements detailed in the orders read above.

5. The Ganjam and Vizagapatam Divisions will be amalgamated into a single division with three sub-divisions, one of which may be under the charge of the Executive Engineer.

6. The Godávari District will be organised in the manner, and with the Executive Establishment proposed in paragraphs 4 and 5 of the Chief Engineer's memorandum with the addition of a Superintendent of Works as ordered in G.O., No. 2,530 W., of 7th October 1879.

7. The Kistna District will be similarly organised as proposed in paragraphs 6 and 7 of the same memorandum, with the addition of an Executive Engineer as Superintendent of Works.

8. The Kurnool and Cuddapah Divisions will be amalgamated into a single division with head-quarters at Cuddapah, and the Bellary Cantonment attached thereto. This division will consist of four sub-divisions, one of which may be under the charge of the Executive Engineer.

9. The Nellore Division will be re-arranged as proposed in paragraphs 8 and 9 of the Chief Engineer's memorandum.

10. A Superintendent of Works will be appointed to the charge of the present Presidency and Bangalore Divisions, which will be worked as one division with two sub-divisions, each in charge of a separate Assistant Engineer. The Public Works Stores and Workshops, re-organised as may hereafter be decided on, will be included in this division.

11. The Consulting Architect's establishment will remain as at present.

12. The Buckingham Canal will remain as at present under the charge of a Superintendent of Works, and will be divided into three sub-divisions with an officer or subordinate in charge of each.

13. The Chingleput, North Arcot, South Arcot, Salem, and Coimbatore Districts will be organised as proposed in paragraphs 12 to 17 of the Chief Engineer's memorandum.

14. The Tanjore District will be re-organised in two divisions as proposed in the latter part of paragraph 21 of the same memorandum, the appointment of a Superintendent of Works ordered in G.O., No. 3,191-AW., of 12th December 1879, being cancelled. The Trichinopoly and Tinnevelly Districts will be organised as proposed in paragraphs 22 and 24, but as it is understood that the Local Fund Board of the former district desire the charge of their works to be retained by the Public Works Department, an establishment somewhat stronger than that proposed by the Chief Engineer for Irrigation will be provided.

15. The West Coast Division will remain as at present, but with the subordinate establishment somewhat reduced, as hereafter described.

16. No Public Works establishment will be maintained in the Bellary or Madura District, with the exception of the Bellary Cantonment which will be worked as a sub-division of the Cuddapah Division in accordance with paragraph 8 of this order.

Godávari	Eastern. Western.	
Kistna	Eastern. Western.	
Nellore.		Coimbatore.
Chingleput.		Tanjore (two).
North Arcot.		Trichinopoly.
South Arcot.		Tinnevelly.
Salem.		

17. Of the nineteen divisions thus formed, the fourteen named in the margin will be considered as Irrigation Divisions, and the establishment employed therein will be debited entirely to Irrigation, which will, on the other hand, be credited with twenty-five per cent. on the actual cost of all work executed by the Irrigation staff for other heads of service.

Vizagapatam.		Consulting Architect.
Cuddapah		Buckingham Canal
Presidency.		West Coast.

18. The remaining six Divisions will be considered Provincial, and the cost of establishments employed therein distributed accordingly.

19. For purposes of direction the Presidency will, for the present, be divided into three circles, and it is desirable that these should be so arranged as to facilitate as far as possible a return to the present distribution into five circles, when the existing financial pressure has passed away. With this object the 1st Circle will include the Vizagapatam, Guddapah, and Nellore Divisions, the 2nd will include Chingleput, North Arcot, Salem, Coimbatore, and the West Coast, while the 3rd will include South Arcot, Tanjore, Trichinopoly, and Tinnevelly.

20. The Godávari, Kistna, Presidency and Buckingham Canal Divisions being under the charge of Superintendents of Works are not included within the limits of any circle.

21. One-half the cost of the Superintending Engineer's Establishment of the 1st Circle, three-fourths that of the 2nd Circle, and the whole of that of the 3rd Circle will be charged to Irrigation, the balance being charged to Provincial. Irrigation will also be debited with the cost of the Chief Engineer for Irrigation and his office establishment, and with a sum which will, for the present, be fixed at Rs. 30,000 per annum on account of a share of the general expenses of the Public Works Secretariat. This amount will be open to re-consideration hereafter if necessary.

22. In addition to the officers required for the organization detailed above, an Executive Engineer and an Assistant Engineer will be provided as Assistants to the Chief Engineers, with one Executive and five Assistant Engineers as supernumeraries or for special work.

23. The subordinate establishments will be considerably reduced, it being intended that even in the divisions in which Public Works establishments are retained those establishments shall only be employed on works of moderate importance, petty and outlying works being executed either by the departments concerned or by the Local Fund Establishments, which will doubtless be made available on payment of a fixed per-centage on the value of the work done.

24. With regard to office establishments, His Grace the Governor in Council considers that it is not advisable to introduce the differing scales proposed by the Chief Engineer for Irrigation in his memorandum under consideration; but that the offices of the Superintending Engineers should be of the strength ordered in G.O., No. 3,674 W., of 18th September 1878, with the addition of a technical Assistant on a salary of Rs. 200 per month, in place of the Engineer Assistants hitherto allowed, and that all Executive and Sub-divisional Officers should come under one of the classes detailed in that order. If additional assistance is required in any particular office, it should be provided for by temporary appointments.

25. The Superintendents of Works will have office establishments of the same strength as those of a 1st-class Executive Division.

26. Statement No. 1 attached to this order shows the executive establishment of each division, its "class" as regards office establishment, and the number of separate sub-divisional establishments required; it will be seen that the alterations now ordered will involve considerable reductions in the subordinate and office establishments, in addition to those already made, the number of executive subordinates being reduced from two hundred, at which it now stands, to one hundred and forty-four.

27. In carrying out these reductions the following course will be adopted.

28. Superintending Engineers will at once complete provisionally, from the establishments now under their orders, the subordinate establishments of the new divisions included in their present circles. A complete nominal list of the men thus proposed to be provisionally retained, and those in excess of future requirements (as shown by Statement No. 1) of each circle should be submitted to the Chief Engineer at the earliest possible date; and in the case of men for whom no place can be found on the reduced establishment, but whose services it may be considered specially desirable to retain, a brief statement of the grounds of recommendation should be given.

29. It must be understood that in the case of subordinates the list thus prepared are only provisional, and the Chief Engineer will exercise his discretion in

with the position of a Superintendent of Works, and this renders necessary some alteration in the arrangements of the Superintending Engineer's charges as proposed by the Chief Engineer for Irrigation.

4. The following alterations will, therefore, be made in the arrangements detailed in the orders read above.

5. The Ganjam and Vizagapatam Divisions will be amalgamated into a single division with three sub-divisions, one of which may be under the charge of the Executive Engineer.

6. The Godávari District will be organised in the manner, and with the Executive Establishment proposed in paragraphs 4 and 5 of the Chief Engineer's memorandum with the addition of a Superintendent of Works as ordered in G.O., No. 2,530 W., of 7th October 1879.

7. The Kistna District will be similarly organised as proposed in paragraphs 6 and 7 of the same memorandum, with the addition of an Executive Engineer as Superintendent of Works.

8. The Kurnool and Cuddapah Divisions will be amalgamated into a single division with head-quarters at Cuddapah, and the Bellary Cantonment attached thereto. This division will consist of four sub-divisions, one of which may be under the charge of the Executive Engineer.

9. The Nellore Division will be re-arranged as proposed in paragraphs 8 and 9 of the Chief Engineer's memorandum.

10. A Superintendent of Works will be appointed to the charge of the present Presidency and Bangalore Divisions, which will be worked as one division with two sub-divisions, each in charge of a separate Assistant Engineer. The Public Works Stores and Workshops, re-organised as may hereafter be decided on, will be included in this division.

11. The Consulting Architect's establishment will remain as at present.

12. The Buckingham Canal will remain as at present under the charge of a Superintendent of Works, and will be divided into three sub-divisions with an officer or subordinate in charge of each.

13. The Chingleput, North Arcot, South Arcot, Salem, and Coimbatore Districts will be organised as proposed in paragraphs 12 to 17 of the Chief Engineer's memorandum.

14. The Tanjore District will be re-organised in two divisions as proposed in the latter part of paragraph 21 of the same memorandum, the appointment of a Superintendent of Works ordered in G.O., No. 3,191-AW., of 12th December 1879, being cancelled. The Trichinopoly and Tinnevelly Districts will be organised as proposed in paragraphs 22 and 24, but as it is understood that the Local Fund Board of the former district desire the charge of their works to be retained by the Public Works Department, an establishment somewhat stronger than that proposed by the Chief Engineer for Irrigation will be provided.

15. The West Coast Division will remain as at present, but with the subordinate establishment somewhat reduced, as hereafter described.

16. No Public Works establishment will be maintained in the Bellary or Madura District, with the exception of the Bellary Cantonment which will be worked as a sub-division of the Cuddapah Division in accordanoe with paragraph 8 of this order.

Godávari	Eastern.	
	Western.	
Kistna	Eastern.	
	Western.	
Nellore.	Coimbatore.	
Chingleput.	Tanjore (two).	
North Arcot.	Trichinopoly.	
South Arcot.	Tinnevelly.	
Salem.		

17. Of the nineteen divisions thus formed, the fourteen named in the margin will be considered as Irrigation Divisions, and the establishment employed therein will be debited entirely to Irrigation, which will, on the other hand, be credited with twenty-five per cent. on the actual cost of all work executed by the Irrigation staff for other heads of service.

Vizagapatam.	Consulting Architect.	
Cuddapah.	Buckingham Canal	
Presidency.	West Coast.	

18. The remaining six Divisions will be considered Provincial, and the cost of establishments employed therein distributed accordingly.

19. For purposes of direction the Presidency will, for the present, be divided into three circles, and it is desirable that these should be so arranged as to facilitate as far as possible a return to the present distribution into five circles, when the existing financial pressure has passed away. With this object the 1st Circle will include the Vizagapatam, Guddapah, and Nellore Divisions, the 2nd will include Chingleput, North Arcot, Salem, Coimbatore, and the West Coast, while the 3rd will include South Arcot, Tanjore, Trichinopoly, and Tinnevelly.

20. The Godávari, Kistna, Presidency and Buckingham Canal Divisions being under the charge of Superintendents of Works are not included within the limits of any circle.

21. One-half the cost of the Superintending Engineer's Establishment of the 1st Circle, three-fourths that of the 2nd Circle, and the whole of that of the 3rd Circle will be charged to Irrigation, the balance being charged to Provincial. Irrigation will also be debited with the cost of the Chief Engineer for Irrigation and his office establishment, and with a sum which will, for the present, be fixed at Rs. 30,000 per annum on account of a share of the general expenses of the Public Works Secretariat. This amount will be open to re-consideration hereafter if necessary.

22. In addition to the officers required for the organization detailed above, an Executive Engineer and an Assistant Engineer will be provided as Assistants to the Chief Engineers, with one Executive and five Assistant Engineers as supernumeraries or for special work.

23. The subordinate establishments will be considerably reduced, it being intended that even in the divisions in which Public Works establishments are retained those establishments shall only be employed on works of moderate importance, petty and outlying works being executed either by the departments concerned or by the Local Fund Establishments, which will doubtless be made available on payment of a fixed per-centage on the value of the work done.

24. With regard to office establishments, His Grace the Governor in Council considers that it is not advisable to introduce the differing scales proposed by the Chief Engineer for Irrigation in his memorandum under consideration; but that the offices of the Superintending Engineers should be of the strength ordered in G.O., No. 3,674 W., of 18th September 1878, with the addition of a technical Assistant on a salary of Rs. 200 per month, in place of the Engineer Assistants hitherto allowed, and that all Executive and Sub-divisional Officers should come under one of the classes detailed in that order. If additional assistance is required in any particular office, it should be provided for by temporary appointments.

25. The Superintendents of Works will have office establishments of the same strength as those of a 1st-class Executive Division.

26. Statement No. 1 attached to this order shows the executive establishment of each division, its "class" as regards office establishment, and the number of separate sub-divisional establishments required; it will be seen that the alterations now ordered will involve considerable reductions in the subordinate and office establishments, in addition to those already made, the number of executive subor dinates being reduced from two hundred, at which it now stands, to one hundred and forty-four.

27. In carrying out these reductions the following course will be adopted.

28. Superintending Engineers will at once complete provisionally, from the establishments now under their orders, the subordinate establishments of the new divisions included in their present circles. A complete nominal list of the men thus proposed to be provisionally retained, and those in excess of future requirements (as shown by Statement No. 1) of each circle should be submitted to the Chief Engineer at the earliest possible date; and in the case of men for whom no place can be found on the reduced establishment, but whose services it may be considered specially desirable to retain, a brief statement of the grounds of recommendation should be given.

29. It must be understood that in the case of subordinates the list thus prepared are only provisional, and the Chief Engineer will exercise his discretion in

transferring specially deserving men in excess of the requirements of one circle to fill places in another.

30. If in any circle there should be an insufficient number of subordinates of any grade to make up the required establishment, the vacancies are not to be filled up but reported to the Chief Engineer.

31. Subordinates who remain finally in excess of the requirements of the department will be discharged from the 29th February, the sanction of the Government of India having been accorded to the grant to such men of the concessions allowed by the Government of India Resolution of the 31st July 1879, No. 2,079.

32. Superintending Engineers are requested to encourage by every means in their power the voluntary retirement or transfer to Local Fund Establishments of subordinates and especially of Overseers serving under them.

33. With regard to office establishments the same principles will be followed, save that Superintending Engineers will complete their establishments without further reference to Government, men whose services are not required being discharged,—those whose names appeared in lists (*b*) referred to in the Government orders quoted in the margin,* from the 29th February, those whose names appeared in list (*a*) from the 31st March. Complete lists of all men thus discharged should be forwarded for the information of Government.

* G.O., No. 2,435 W., dated 25th Sept. 1879.
" " 2,482 W., " 2nd Oct. "
" " 2,483 W., " " "
" " 2,522 W., " 7th " "
" " 2,530 W., " " "
" " 3,191-A W., " 12th Dec. "
" " 3,194-A W., " " "
" " 3,218 W., " 15th " "

34. The office establishment of the future Superintending Engineer, 1st Circle, will be dealt with by the Superintending Engineer, 2nd Circle, in communication with the Superintending Engineer, 1st Circle; that of the future 2nd Circle, by the present Superintending Engineer, 3rd Circle, in communication with the Superintending Engineer, 4th Circle; and that of the future 3rd Circle by the present Superintending Engineer, 5th Circle. The office establishments of the Superintending Engineer, 5th Circle. The office establishments of the Superintendents of Works, Godávari and Kistna, will be organized by the present Superintending Engineer, 1st Circle, and that of the future Presidency Division by the Superintending Engineer, 3rd Circle.

35. In addition to the reductions now ordered in the divisional and circle establishments, the strength of the Secretariat and Accounts Offices will also be reduced; these offices as well as that of the Public Works Stores and Workshops will be separately dealt with.

* Lieutenant-Colonel Hunter, Executive Engineer, 1st grade.
Lieutenant-Colonel Burton, Executive Engineer, 1st grade.
Major Smalley, Executive Engineer, 1st grade.

† Major Ross-Thompson, R.E., Executive Engineer, 2nd grade.
Lieutenant Dobson, R.E., Executive Engineer, 4th grade.
Lieutenant Dorward, R.E., Executive Engineer, 4th grade.
Lieutenant Rawson, R.E., Executive Engineer, 4th grade.
Lieutenant Boddy, Assistant Engineer, 1st grade.
Lieutenant Hamilton, R.E., Assistant Engineer, 1st grade.
Lieutenant Henderson, R.E., Assistant Engineer, 1st grade.
Lieutenant Langley, R.E., Assistant Engineer, 1st grade.

36. The Government of India will be addressed as to the mode of dealing with the officers named in the margin, who* are now on special leave, and of those† temporarily transferred to military duty; in the mean time the services of the latter will be definitely replaced at the disposal of the Military Department, and their names struck off the strength of the Public Works establishment from the 29th February, unless the Government of India are prepared to provide them, as they will be requested to do, with suitable employment in the Public Works Department.

(True Extract.)

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

No. 1.

STATEMENT showing Strength of Officers and Subordinates required for each Division.

—	Class.	No. of Sub-Divisions.	Superintendents of Works.	Executive Engineers.	Assistant Engineers.	Sub-Engineers and Supervisors.	Overseers.
Irrigation.							
Godávari—Eastern	I	3	1	1	2	2	4
Do. Western	I	2		1	3	2	4
Kistna—Eastern	I	3	1	1	3	2	4
Do. Western	I	2		1	2	2	4
Nellore	II	1	...	1	1	2	4
Chingleput	II	2	...	1	...	2	4
North Arcot	II	2	...	1	2	2	4
Salem	III	...	...	1	...	1	3
Coimbatore	II	2	...	1	1	2	4
South Arcot	I	1	...	1	1	1	3
Tanjore—Northern	I	2	...	1	2	3	6
Do. Southern	II	2	...	1	2	2	4
Trichinopoly	II	1	...	1	1	2	6
Tinnevelly	I	2	...	1	2	2	4
Secretariat and Supernumeraries ...	...	...	...	1	4	2	6
	...	25	2	15	26	29	64
Provincial.							
Vizagapatam	III	2	...	1	1	3	4
Cuddapah	II	3	...	1	1	3	9
Presidency	I	3	1	...	3	3	7
Consulting Architect	Special.	...	...	1	...	...	...
Buckingham Canal	I	3	1	...	1	2	4
West Coast	II	3	...	1	2	3	9
Secretariat and Supernumeraries ...	...	...	...	1	2	1	3
	...	14	2	5	10	15	36
Irrigation	...	25	2	15	26	29	64
Provincial	...	14	2	5	10	14	36
	...	39	24		36	44	100

From the Secretary to the Government of Madras, Public Works Department, to the Secretary to the Government of India, Public Works Department, dated Fort St. George, 3rd February 1880, No. 266 W.

General—Establishment.

I am directed to forward, for the information of the Government of India, a copy of Proceedings of the Madras Government, No. 265 W., dated 3rd February 1880, and of certain papers printed therewith, and to submit the following remarks thereon.

2. The reduction by eight lakhs of the Provincial grant for 1880-81, in accordance with the telegrams noted in the margin, rendered necessary considerable reductions in the executive staff of the Public Works Department; and during the latter part of 1879 orders were issued for the proper accomplishment of this object, the general result of which was the reduction by ten of the number of executive divisions.

From His Excellency the Viceroy, to the Governor of Madras, dated 28th July 1879.
From His Grace the Governor of Madras, to the Viceroy, dated 15th October 1879.

3. It was found at once that, with the increased areas thus given to each division, the departmental staff would be unequal to the task of supervising as at present nearly the whole of the Public Works expenditure of the various Local Fund Circles, and it became necessary, as explained in my letter, No. 150 W., of 20th January 1880, to offer to the Local Fund Boards the option of making their own arrangements for the execution of their public works.

4. This option was taken advantage of to a greater extent than was at first expected, with the result of a reduction estimated at five and a half lakhs of rupees in the contribution of Local Funds to the cost of the Public Works Establishment.

5. At the same time, the Imperial grants for military and other services were reduced (for 1880-81) to Rs. 5,13,823,* being less by Rs. 4,54,177 than those for the current year.

	1880-81.
	Rs.
Military	4,13,877
Other Services	99,946
	*5,13,823

	1879-80.
	Rs.
Military	6,96,712
Other Services	2,71,288
	9,68,000

6. It was, therefore, obvious that unless a considerable further reduction was made in the strength of the Public Works Establishments, the charge to Provincial Funds would be greatly in excess of what those funds could bear.

7. The Chief Engineer for Irrigation pointed out in his memorandum printed with the Proceedings herewith forwarded, that the establishment thus reduced would not suffice for the proper conservancy of the irrigation works on which so much of the prosperity of this Presidency depends, and submitted a scheme for the organization of a separate Irrigation Establishment at a cost of Rs. 6,98,677, exclusive of Secretariat, Accounts, and one or two other minor charges, which would bring the total charge against Irrigation to about Rs. 8,95,000.

8. The Proceedings now forwarded explain the action which this Government has determined to take under the circumstances above described.

9. It will be seen that they involve a reduction in the number of executive divisions from thirty-nine, at which it stood at the beginning of this year, to nineteen, with corresponding reductions in the number of officers and subordinates of all grades.

10. The number of officers and subordinates required for the officering of the different divisions is shown in the statement marked No. 1, attached to the order, and the estimated cost of the establishment, reduced as proposed, with its distribution between Irrigation and Provincial, is shown in the statement in budget form attached to this letter.

11. It will be seen that the charge against Irrigation amounts to Rs. 9,01,212, which is but slightly in excess of the sum which the Chief Engineer was willing to pay for efficient supervision; the charge to Military and other Imperial services as well as to Local Funds will be as at present 25 per cent. on the actual cost of work. The balance debitable to Provincial is estimated at Rs. 3,02,919.

12. The following table shows in a succinct form the arrangement of the Executive and Superintending Engineers' charges as they were previous to the recent alterations, and as they will stand in accordance with the arrangements now proposed :—

	Former. *Divisions.*	Proposed. *Divisions.*	
First Circle.	Ganjam	Vizagapatam.	First Circle.
	Vizagapatam		
	Rajahmundry	(Abandoned.)	
	Godávari E. and C. Delta	Godàvari, Eastern *	
	Godávari Western do.	Do. Western *	
	Kistna, Eastern do.	Kistna, Eastern *	
	Kistna, Western do.	Do. Western *	
	Guntur	(Abandoned.)	

	Former. *Divisions.*	Proposed. *Divisions.*	
Second Circle.	Ongole	Nellore.	First Circle.
	Nellore		
	Kurnool	Cuddapah.	
	Cuddapah		
	Madhanapalle		
	Bellary	(Abandoned.)	
	Anantapur	(Do.)	
Third Circle.	Presidency	Presidency. *	
	Bangalore		
	Buckingham Canal	Buckingham Canal.*	
	Chingleput	Chingleput.	Second Circle except South Arcot.
	Vellore	North Arcot.	
	Chittoor		
	Tindevanum		
	Cuddalore	South Arcot.	
Fourth Circle.	Salem	Salem.	
	Oossoor		
	Coimbatore	Coimbatore.	
	Erode		
	Nilgiris	West Coast.	
	Wynad		
	Calicut		
	Canara		
Fifth Circle.	Negapatam	Negapatam.	Third Circle with South Arcot.
	Tanjore	Tanjore.	
	Trichinopoly	Trichinopoly.	
	Madura	(Abandoned.)	
	Dindigul	(Do.)	
	Tinnevelly	Tinnevelly.	
	Satur		

13. The divisions marked * will be under Superintendents of Works, and omitting these, the proposed First Circle includes the present First and Second, and the proposed Second Circle the present Third and Fourth, with the exception of South Arcot which is transferred to the present Fifth, proposed Third Circle.

14. This arrangement has been adopted in order to cause the least possible dislocation of existing arrangements and to facilitate as much as possible the reversion to the present distribution in five circles, which this Government is of opinion must take place when the existing financial pressure is removed.

15. It will be seen that it is proposed to retain the full number of four Superintending Engineers sanctioned in Government of India's Proceedings No. 1,506-33 E.G., dated 28th August 1879, although there will be for the present employment as such for only three officers; this is done in order to reduce as far as possible the inevitable block in promotion caused by the reductions now in contemplation. At present there are only two officers doing duty in this Presidency who hold permanent rank as Superintending Engineers, and it is not proposed to make temporary appointments beyond the required number of three, but to use the fourth Superintending Engineership as an addition to the regular number of Executive Engineers, 1st Grade; should the number be raised beyond three by the return from furlough of the permanent holders of the offices, the fourth Superintending Engineer will be employed as a Superintendent of Works. It is, morever, considered, as explained above, that it will shortly be necessary to revert to the present distribution of the Presidency into five circles.

16. It is probable that two officers and between fifty and sixty subordinates (not ninety as at first supposed) will have to be retired in order to carry out the arrangements now proposed. In my letter, No. 150 W., dated 20th January, the sanction of the Government of India has been requested to the extension to those individuals of the terms granted by the Resolution of the 31st July 1879, No. 2,079, to officers and subordinates retiring before the 31st December 1879; the reasons for this request having been fully explained in the letter named, it is unnecessary to allude further to the subject here.

17. It will also probably be found desirable to allow two or three officers of the Royal Engineers to proceed on special leave under the terms of the Government of India Resolution No. 1,605-27 E.G., dated 3rd September 1879, and I am directed to request the sanction of the Government of India to the grant of such leave. This leave has already been granted to the three officers named in the margin.

Lieutenant-Colonel J. N. Hunter, R.E.
Major H. Smalley, R.E.
Lieutenant-Colonel W. H. Burton, R.E.

18. In paragraph 36 of the order forwarded herewith it is directed that certain officers now temporarily employed on military duty shall revert permanently to such duty, unless the Government of India are prepared to find them suitable employment in the Public Works Department, which I am directed to state that His Grace the Governor in Council strongly recommends may be done.

19. The reductions now being made are, it is believed, larger in proportion to the strength of the existing establishment than is the case in any other Province, and cannot but have a prejudicial effect upon the position and prospects of those officers whose services are retained; with a view to diminishing as far as possible the hardship to individuals thus caused, I am directed to request the sanction of the Government of India to the grant of the following concessions:—

1*st*. The exclusion (until absorbed) from the list of Executive Engineers of the two Superintending Engineers who will become supernumerary by the reduction of the number of officers holding that rank from six to four, or, in other words, the permanent completion of the full number of Executive Engineers now provided for, notwithstanding the fact of there being two supernumerary Superintending Engineers. It will be understood that this proposal refers to permanent grading only; temporary promotions will not be made in place of officers on furlough so long as the number of Superintending Engineers present for duty amounts to four or more. At present this number amounts to two only, the other four being on furlough.

2*nd*. The filling up of the strength of the various grades irrespective of the officers named in the margin who are now on special leave and of such others (not exceeding three in number) as may hereafter be granted such leave. No one of these officers is likely to return to departmental duty before the end of 1881, if at all, and by that time the conditions will probably have altered to an extent which will allow of their re-absorption into the department without practical inconvenience.

Lieut.-Col. J. N. Hunter, R.E.
Major H. Smalley, R.E.
Lieut.-Col. W. H. Burton, R.E.

20. Immediate steps will be taken towards carrying out the re-distribution of Executive and Superintending charges now contemplated; but as it is highly desirable that the present uncertainty as to the position and prospects of the department should terminate as soon as possible, I am directed to request an early reply to the questions raised in this letter, and also that so far as may be practicable, the substance of that reply may be communicated by telegraph.

Proceedings of the Government of Madras, Public Works Department, dated 1st October 1880, No. 2,276 W.

Read the following papers:—

From Major-General J. S. TREVOR, R.E., Officiating Secretary to the Government of India, Public Works Department, (General,) to the Secretary to the Government of Madras, Public Works Department, dated Fort William, 19th March 1880, No. 725 G.

I AM directed to acknowledge your letter, No. 266 W., of the 3rd ultimo, on the subject of the re-organization of the Public Works Department in Madras, and the Governor-General in Council has directed me to communicate the following remarks and orders.

2. The Government of Madras has apparently misunderstood the intentions and the orders of the Government of India in regard to the late reduction in establishments. In Public Works Department letter of the 8th August, it was requested that an estimate might be made of the *permanent* staff required for the normal wants of the department. It was clearly said "the scale of establishment engaged in the maintenance and working of Productive and other remunerative Public Works need not be reduced, unless it is clear that such reduction is desirable, and can be attained without loss of efficiency." The grant for Productive Public Works was to be reduced from 4 to $2\frac{1}{2}$ millions, and it was estimated by the Government of India that the whole department throughout India would, roughly speaking, have to be reduced by one-fourth.

3. The Government of Madras has, however, so far reduced its staff of Engineers that it becomes necessary to make over to Local Fund Boards the maintenance of the minor irrigation and other local works, giving them grants-in-aid, when considered necessary, from Imperial funds. This is practically a reversion to the system that existed in 1854, before the formation of the Public Works Department in Madras.

The re-arrangement of the work might be advantageous if the system of statute labor for the maintenance of irrigation works were revived, as recommended by the Committee on Madras Irrigation in 1878, but under the system now proposed there will be a large outlay of public, including Imperial funds, and no indication is given of the means it is intended to adopt to supervise the expenditure.

4. It is obvious that there must be very great waste of money, if works of any importance are to be carried out by the Local Fund Boards without professional aid. It is understood indirectly from a reference made by the Madras Government to the Government of India in the Department of Finance, that some of the Boards are endeavouring to get such aid from the officers who have lately left the Public Works Department.

On this subject orders will be issued in a separate letter. As matters stand, these officers, to whom the Government has given special inducements to retire, or who have received special concessions in consideration of their compulsory retirement, or fresh men altogether, are to be engaged at a period when the Governments of India and Madras assert that their staff is too strong for their diminished requirements.

5. It must be further pointed out, that, in response to a call for a statement of the permanent requirements of the Province, the Government of India has had placed before it a scheme of re-organization, involving the above-mentioned objectionable elements, which is professedly only temporary, and which, it is acknowledged, will lead to an expansion of the professional staff at some future time. It certainly was not the intention of the Government of India to diminish the strength of the department by the expensive measure of giving officers pensions and gratuities for the sake of effecting a temporary reduction in establishment charges, more especially when it seems likely that a part of the reduction will be only apparent. The object the Government of India had in view was to re-organize the department on a scale that would, under ordinary circumstances, supply a sufficient number of highly skilled officers to supervise the regular expenditure on public works, and it was the intention, when there was a demand for outlay for famine or other unusual purposes, that the skilled staff should be supplemented by temporary hands, or by the employment of experienced contractors.

6. I am, in the first place, to request, that in all cases in which the Local Boards are to carry out the public works in their districts, they shall be required, so far as this is now possible, to take over part of the public works staff for the supervision of those works.

7. I am, in the next place, to request, that the Government of India may be furnished, in the form prescribed by the Code, with an estimate of the staff of Engineers and Upper Subordinates which the Madras Government considers ought to be commensurate with its permanent normal requirements, in place of the present scheme for the reduction of that staff to a strength confessedly inadequate to the efficient maintenance of the existing works.

8. The proposed temporary measures are meanwhile sanctioned, except as regards the creation of the four new appointments of Superintendents of Works. Before these can be sanctioned, the Government of India must have proof that the appointments are required as a permanence.

9. It is further requested that no more Civil Engineers may be retired, until the Government of India has passed orders on a complete statement of future permanent requirements.

Proceedings of the Government of India, Public Works Department, (General), dated Simla, 9th June 1880, No. 1,198-1,211 G.

Read— Resolution in the Public Works Department, dated 4th June 1880, No. 1,174 G.

RESOLUTION.—In continuation of the Resolution now read, the Governor-General in Council is pleased to authorize the following changes in the sanctioned scale of Engineers in the several lists for promotion:—

	Bombay.		Bengal.		North-Western Provinces and Oudh.		Punjab.		Local Administrations.		Military Works.		Railway.	
	Present.	Future.	Present.	Future.	Present.	Future.	Present.	Future.	Present.	Future.	Present.	Future.	Present.	Future.
Chief Engineers	2	2	2	2	2	2	2	2	2	2	1	1	5	5
Superintending Engineers	5	5	6	6	4	4	5	5	5	5	5	5	12	12
Executive Engineers, 1st grade ..	7	10	7	10	9	12	7	10	9	12	5	5	18	25
,, ,, 2nd ,, ...	9	11	9	11	11	13	10	12	9	13	6	8	24	29
,, ,, 3rd ,, ...	9	11	9	11	11	13	10	12	10	13	7	8	24	29
,, ,, 4th ,, ...	9	10	9	11	13	6	12	5	16	6	8	3	30	13
Assistant Engineers, 1st grade ..	12	6	11	4	20	33	18	27	19	32	12	20	43	71
,, ,, 2nd, &c., grade	16	27	16	27	39	26	35	26	38	25	23	15	86	58
	33	22	32	21										

In regard to the Madras staff, the Government of India is not at present in a position to lay down a scale. The promotions due to the above changes will have effect from 1st June.

ORDER.—Ordered, that this Resolution be communicated to the Local Governments and Administrations concerned, and that it be published in the *Gazette of India*.

The Governments of Madras, Bombay, Bengal, the North-Western Provinces and Oudh, and the Punjab, in the Public Works Department.
The Chief Commissioners, Central Provinces, British Burmah, and Assam.
The Resident at Hyderabad.
The Agents to the Governor-General for Central India and Rajputana.
The Inspector-General of Military Works.
The Director-General of Railways.

Ordered also, that copy be forwarded to the Foreign Department for communication to the Chief Commissioner of Mysore.

(Signed) A. B. SAMPSON,
Under Secy. to the Government of India.

From Major-General A. FRASER, R.E., Secretary to the Government of India, Public Works Department, (Account—Irrigation), to the Secretary to the Government of Madras, Public Works Department, Irrigation Branch, dated Simla, 20th August 1880, No. 142 A.—I.

I AM directed to acknowledge receipt of the Proceedings of the Government of Madras, submitted under your letter No. 456-B I., dated the 16th ultimo, requesting sanction to an additional grant of Rs. 2,75,000 under "33, Irrigation and Navigation" to meet the increased charges for establishment debitable to Irrigation.

2. In reply I am to invite attention to paragraph 5 of the orders contained in Public Works Department Resolution No. 316-31 A.—I., dated the 27th September 1875, from which it will be seen that the whole Public Works establishment in Madras is Provincial, and that only a certain per-centage is chargeable against Imperial Funds for works classed as Imperial.

3. Under the above ruling, I am to say that the Government of India must request that no charges to Imperial on account of establishment may be made in excess of what is allowed under the rule quoted above, and I am accordingly to desire that the programme submitted with the Proceedings under reply may be recast at once, so as to show how the Imperial grant will stand with this modification. Absolute orders should also be issued to all concerned that the charge against Imperial should under no circumstances exceed the amount chargeable under the rule quoted.

4. I am also to call attention to the very large provision made for Accounts, viz., Rs. 92,075; this item evidently requires investigation and explanation.

Note by the Chief Engineer for Irrigation.

IN this letter the Government of India decline to sanction the proposals made in letter No. 456-B. I., with Proceedings of Madras Government, No. 455-A. I., of the 16th July last, and direct that the charges for Establishment to Imperial (Irrigation) are to be restricted to the amount determined by the rule settled in 1875, Proceedings of Madras Government, No. 595, dated 2nd March 1875, viz., that Irrigation should be debited with—

(1) the cost of the Chief Engineer for Irrigation and his Establishment;
(2) the cost of Conservancy Establishment;
(3) the cost of Surveys for Irrigation projects, &c.;
(4) 25 per cent. on the grant or outlay (whichever may be greater) for works and repairs.

The Resolution quoted in paragraph 2 of the Government of India letter is not that which sanctioned this arrangement, which was approved in their letter No. 56 A.—G., of the 22nd January 1875, *vide* the above Proceedings of Madras Government.

The effect of this instruction would be to leave the grants for Works and Establishments as entered in the final issue of the budget which was prepared in accordance with the rule referred to, and to debit to Provincial the Rs. 2,86,746 which it was proposed by Government to make an extra charge against Imperial or, failing the increase of the grant, to meet by reducing the *Works* grants.

2. There are several objections to the rule of 1875 as it has been applied by the Accounts Branch, but, in the first place, the objections as regards the effect on Provincial may be noticed. If all the establishment be classed as Provincial, and if the latter provides for the execution of Imperial work, it has a claim or right to be paid for all the work done for Imperial. Under the rule, as it stands, it is not so paid for the work done in connection with the management of the irrigation in the deltas and elsewhere, and the distribution of the water; and this work occupies very much of the time and attention of the establishment employed in the Godávari and Kistna Deltas, in a less degree that of the staff of the Nellore, North Arcot, South Arcot, Tanjore, Negapatam, and Tinnevelly Divisions, and in a still smaller degree that in the remaining Irrigation Divisions.

3. In considering the establishment arrangements detailed in Proceedings of Madras Government, No. 456-A. I., of the 16th July 1880, it is necessary to examine separately into the charges proposed for Executive Establishment and Direction and Accounts. The Executive or Construction Establishment is shown at page 3 to amount to ... ... Rs. 5,10,466
and the budget grant for works and repairs being ... ... ,, 17,99,150
the per-centage for Executive Establishment is ... ... 28·37
which is, at first sight, excessive as compared with the 20 per cent. allowed by the rule. The grant for Works and Repairs is however low, as will be presently shown, but the chief reason of apparent excess is the omission from the calculation of a large part of the work done which is unrepresented by money outlay. The subjoined table

for the principal Irrigation Divisions will serve to indicate that their Establishments are necessarily based not merely upon the outlay on Works and Repairs, but on the management of the irrigation and the distribution of the water :—

Divisions.	Grant for Works and Repairs 1880-81, Final Issue.	Executive Establishment at 20 per cent.	Executive Establishment allotted in P. M. G., No. 456-A I., 16th July 1880.	Difference between Columns 4 and 3.	Conservancy Establishment other than Navigation.	Total of Columns 5 and 6.	Revenue due to Irrigation.	Per-centage of Column 7 on Column 8.	—
1	2	3	4	5	6	7	8	9	—
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		—
Godávari E. and C. Delta.	3,24,395	64,879	91,994	27,115	29,195	56,310	17,27,000	3·26	53,872 + share of Supernumerary, 8,122 = 91,994.
Do. W. do. ..									
Kistna E. Delta ..	2,11,430	42,286	87,405	45,119	19,380	64,499	8,42,000	7·79	79,688 + share of Supernumerary, 7,717 = 87,405.
Do. W. do. ..									
Tanjore Cauvery Negapatam Delta.	1,38,620	26,764	89,536	62,832	8,946	71,778	28,63,000	2·51	81,631 + share of Supernumerary, 7,905 = 89,536.
	..	..	..	1,35,066	..	1,92,587	54,32,000	3·54	

In the Kistna Delta the grant for Productive Public Works, Capital, is only Rs. 10,000. Were the improvements estimated for, or even those required to meet the wants of the existing area of irrigation, now inadequately supplied, allowed to be proceeded with, the grant for Works and Repairs would be about Rs. 3,51,430, and the delta would stand as regards Establishment as follows :—

	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Kistna Delta ...	3,51,430	70,286	87,405	17,119	19,380	36,499	8,42,000	4·33

The Executive Establishments for these Delta Divisions have been fixed with reference to their normal requirements, and they cannot be reduced without risk of loss. Whenever they have fallen below the normal strength, and this unfortunately has but too often occurred of late years, appreciable loss has resulted, *e.g.*, the loss of some 30,000 annually for some years in the Eastern Delta, Godávari, and several cases of unnecessary cost of works owing to inadequate supervision. It is an extremely easy thing to lose 2 or 3 per cent. of the revenue owing to the absence of that constant care in the distribution of water without which the crops are liable to suffer, while the fact that they are suffering does not become known until perhaps too late to provide for their recovery.

Column 5 of the above statement shows the loss which Provincial would suffer from the debit to Imperial for Executive Establishments being based, in the case of these Divisions, on the grant for Works and Repairs, without taking into account the other duties to perform which Establishment has to be provided.

Letter No. 187 I., 25th March 1880.

4. Recently a proposal was made to the Government of India to debit Revenue receipts with a per-centage on account of Establishment. This proposal was negatived in their letter No. 106 A.—I., of the 8th June 1880, and it was directed that the principles laid down in Government of India Resolution, No. 316-31 A.—I., of the 27th September 1875, should be adhered to.

Proceedings of Madras Government, No. 437 I., 9th July 1880.

Proceedings of Madras Government, No. 3,062, 28th October 1875.

The rules therein laid down contemplate—

1st, that, broadly, the whole cost of the Establishment of an Irrigation Division will be chargeable to Imperial (Irrigation) ;

2ndly, that then the distribution of that cost will be effected under the rules prescribed.

The effect of the rules as regards the more important Irrigation Divisions is to distribute the cost of Establishments thus :—

First, a charge of 20 per cent. for Executive Establishment is made on Capital or Original Works outlay.

Second, the balance of the cost of the actual Establishment employed is debited to Revenue.

The six divisions given in the above statement were at once ordered to be so treated, and in the other divisions the procedure would be just the opposite, viz., Revenue or Repairs would be charged 20 per cent. for Executive supervision, and the rest of the cost of Establishment would be chargeable to Capital or Original Works.

G.O., No. 437 I., 9th July 1880.

5. The instructions of the Government of India in their letter, No. 142 A.—I., of the 20th August 1880, make it impracticable to carry into effect the rules which they require to be adopted, except to the very limited extent resulting from the debit to Revenue in the above six Divisions of the difference between 20 per cent. on the grant for Capital and Original Works and 20 per cent. on the Capital and Original Works Expenditure. As the whole charge for Executive Establishment is limited by that letter to 20 per cent. on the grants for Works and Repairs, there can be nothing to charge to Revenue in excess of the 20 per cent. on the grant under that head, except the difference just mentioned.

6. The only convenient and equitable arrangement is to allot to the Irrigation Divisions the Executive Establishments which they require for the expenditure of the grants and for the management of the irrigation, and to charge the cost of such Establishments to the divisions in which they are employed under the rules embodied in the Government of India Resolution No. 316-31 A.—I., of the 27th September 1875. For any work done for other Services by such Establishment a recovery of 20 per cent. for Executive Establishment and 5 per cent. for Direction and Account, and similarly, for Irrigation work done in Provincial Divisions, a corresponding payment would be made, but these adjustments would amount to but a small sum, the net recovery estimated for the current year being Rs. 30,135. This arrangement was provided for in the proposals submitted to the Government of India in the letter to which their letter of the 20th August is a reply. It was, so far as Executive Establishment is concerned, strictly in conformity with their own rules of September 1875, and it seems not improbable that its rejection was due to a misapprehension of its scope and intention.

Proceedings of Madras Government, No. 456-A I., 16th July 1880, page 3.

7. It would be most unfortunate and, financially, ere long disastrous were Government obliged, from the enforcement of the rule sanctioned by the Government of India in January 1875, to cut down the Executive Establishments of the Irrigation Divisions to the scale which would be covered by the 20 per cent. on Works grants. The statement in paragraph 3 shows at once what this would necessitate, viz., a reduction of Rs. 1,35,066 for the six divisions there detailed and corresponding reductions in the other eight divisions. In the divisions which include the Cauvery Delta, with its 28·63 lakhs of revenue due to Irrigation, upwards of 70 per cent. of the establishment considered to be necessary would have to be got rid of, and the result would be a rapid deterioration of the works and a loss of revenue which would far more than counterbalance the saving effected by reduction of establishments. No doubt a reversal of the policy which had led to such loss would then be ordered, but it would take long to recover the lost ground, while the lost revenue would be irrecoverable. In the Godávari and Kistna Deltas, in which the system of irrigation is more artificial, the results would probably be much more disastrous. If the works be neglected, and they cannot be properly looked after with but two-thirds to one-half of the necessary establishments, a collapse may be the not improbable result, and the financial effect as well as the discredit of such a catastrophe need no demonstration. Imperial can perfectly well afford to pay for the efficient maintenance of these great systems which

have been eminently profitable to the State and eminently advantageous to the people. Provincial, on the other hand, has not the means, and is under no obligation to contribute to the upkeep of these systems or of the rest of the Irrigation works, from which it derives no revenue whatever, all of which goes to Imperial. The rule of January 1875 was propounded and accepted at a time when Provincial was very differently circumstanced. Not only were the Irrigation grants* greater, but the Provincial Works allotments to take their share of Establishment charges. To allow of this rule of January 1875 being equitably applied now, it would be necessary to raise the grants for Irrigation Works and Repairs to an amount on which the cost of the Establishments (executive) required for the Irrigation Divisions would amount to the 20 per cent. allowed to be charged to Imperial under this head; or to fix the normal grants at that amount and to make the contribution of Imperial for Establishments 20 per cent. on that sum, whatever the actual grants of the year might be. The result would be exactly that proposed in July last, and not accepted by the Government of India. Provincial cannot maintain, and Establishment to provide for Imperial Work when a large part of the work done is not allowed to be taken into account in determining the charges to be debited to Imperial; neither can Provincial provide an establishment able to meet the varying needs of the Irrigation Branch, these variations being caused by the financial necessities of the Government of India. It follows that the system sanctioned in January 1875, to which the Government of India desire to adhere, should be superseded by one under which the charge to Imperial would be neither more nor less than the actual cost of doing the Imperial (Irrigation) work. This actual cost will generally not be at all excessive: out of the six Divisions of the three principal Irrigation systems it has been shown that the per-centage charge on the revenue of two of the systems for irrigation management is not large, and that in the third system, the Kistna Delta, it is large accidentally, and it may be hoped temporarily, only because the improvements necessary for the security of the existing irrigation and for its further development are at a stand still. With a very moderate outlay on these improvements, this per-centage would become perfectly reasonable; and by the time the improvements are completed 3 or 4 per cent. on the revenue, which will ultimately amount to about 14 lakhs, will be sufficient to bear the cost of the establishment required for its security.

* *Vide* Appendix A.

8. With regard to the proposed charges to Imperial (Irrigation) for Direction and Account, it is considered that they can and should be reduced to more reasonable dimensions. The rules of September 1875 allow in Madras 5 per cent. on outlay, in addition to the cost of the Chief Engineer for Irrigation and his Establishment. This 5 per cent. was also part of the 25 per cent. allowed for Establishment generally in the rule of January 1875. Usually 3 per cent. is supposed to be the allowance for Direction and 2 per cent. that for Account. In the arrangements detailed in Proceedings of Madras Government, No. 456-A I., of the 16th July 1880, the provision for—

	Rs.
Direction is	1,32,887
Account	92,075
Total ...	2,24,962

On the grant for Works and Repairs as given in the final issue of the budget, viz., Rs. 17,99,150, the per-centages would be—

Direction	7·38
Account	5·12
Total ...	12·50

The charge for Direction is made up of the following items:—

		Rs.
½	Superintending Engineer, First Circle	16,027
¾	Do. do., Second do.	*20,619
1	Do. do., Third do.	21,630
¼	Superintending Engineer, supernumerary...	11,061
2¼	Superintending Engineers	69,337
2	Superintendents of Works	41,084
		1,10,421
	Deduct refunds ...	7,534
	Total of Superintending Engineers and Superintendents of Works.	1,02,887
	Contribution to Public Works Secretariat	30,000
	Total Direction ...	1,32,887

* After correcting a mistake made in the charge for Second Circle at page 10 of Proceedings of Madras Government No. 456-A I., 16th July 1880.

It will be seen that there are only two items on which to effect reduction:—

(1) Superintending Engineers and Superintendents of Works.

By substituting for 2¾ Superintending Engineers and 2 Superintendents of Works, 3 Superintending Engineers, the cost of which latter would be about Rs. 81,176, and, after deducting Rs. 7,534 for refunds, as above, Rs. 73,642, a saving of Rs. 29,245 would be effected.

In Appendix 5 to a memorandum No. 20 W,. dated 6th May 1880, an arrangement for three Irrigation Circles has been worked out.

Vide Appendix B to this memorandum.

(2) Contribution to Public Works Secretariat.

The undersigned has already given an opinion that the work which requires to be done in the Public Works Secretariat for the Irrigation Branch should be covered by a charge of Rs. 6,000; and were the control of Establishments employed in the Irrigation Branch transferred to the Chief Engineer for Irrigation, an arrangement which obtains under every other Government or Administration in which the irrigation work is sufficiently important to constitute a separate branch under a Chief Engineer, the cost of exercising this control would probably not amount to more than Rs. 3,000, if so much. Consequently Rs. 9,000 instead of Rs. 30,000 may be taken to be the necessary cost of this part of Direction, and the saving would be Rs. 21,000. Whatever arrangements Government may decide to retain for the administration of the Department, there appears to be no sufficient reason for proposing to charge to Imperial (Irrigation) the greater part of the cost of the Chief Engineer, Public Works Department, his Deputy and Establishment, in addition to the whole cost of the Chief Engineer for Irrigation and his Establishment.

With the reductions above specified the charge for Direction would amount to Rs. 82,642, or 4·57 per cent. on the grants for Works and Repairs of the current year. The charge would be still higher than is proper, but the grants are abnormally low and were what may be taken as the normal grant, viz., Rs. 22 lakhs,* made the basis of the calculation, the per-centage would be 3·76, below which it does not seem practicable to reduce it.

* *Vide* Appendix A.

		Rs.
Average grant Ordinary		18,64,118
Add fixed limit of grant for P. W. Capital ...	4,50,000	-
Less estimate charges	1,12,500	
		3,37,500
		22,01,618

9. With regard to Accounts, this office cannot name the specific reductions which can be made, but it is believed that it would be advantageous to the Executive Branch of the Department were the system of accounting simplified, and the work to be done in connection therewith materially reduced. The duties of Executive Engineers with regard to accounts as laid down

in Chapter XIII of the Code extend much beyond those with which an Executive Engineer should have to do; or, in other words, there is a great deal of technical accounting which the generality of Executive Officers cannot be expected to understand, while the few who may understand it would have their time diverted from their more important and proper duties, if they were to give it the attention it requires. The system of appropriation to individual works instead of in the lump to works of each class or belonging to each fund within a limited area, say a division, or sub-division if the division have sub-divisions, is one which entails much extra work in all the offices concerned, and is attended with no advantage but much disadvantage. An officer has, say, 50,000 rupees allotted to his division for the repair of irrigation works, and he has perhaps 200 sanctioned estimates on which the money is to be spent. The Superintending Engineer has now to appropriate separately to each one of these works, and he does so either in full to the amount of the estimate, or in part. If the former course be followed, and if thereby the whole grant of the division has been appropriated, other estimates cannot be put in execution until the divisional officer has made surrenders, and so a sum becomes available for re-appropriation, though all the time only perhaps one-third or one-half of the grant may have been expended. A Divisional Officer cannot work up steadily and regularly to all the repair estimates under execution, neither can he tell at any given moment from which particular estimates surrenders can be made, so he makes the best guess he is able to do, and sends in his list of surrenders, upon which the Superintending Engineer acts, and then on some of the works excess over appropriations is found to have occurred, and a lot of correspondence ensues which would be readily avoided by giving to each officer a fixed sum for all his works of this class and prohibiting his spending more on the whole, instead of more than the sum appropriated to each one of the works.

So long as a large establishment is maintained for carrying out the elaborate system which is now in force, it will probably be useless to expect the introduction of a simpler and more workable arrangement, but it is thought that the Examiner would very soon be able to suggest the means of reducing work without any diminution of effective control were he to be told that from a prospective date his establishment would be reduced, and that a corresponding reduction of work must needs be effected.

Taking, then, 22 lakhs as the normal grant for Works and Repairs, and 2 per cent. thereon as the normal cost of the Accounts Branch for Irrigation, considering also the number of Irrigation systems, eight, for which Capital and Revenue Accounts, which again might be considerably simplified by the reduction of the number of sub-heads, have to be kept, and the number of minor systems, about sixty, for which simpler accounts are individually to be maintained, $2\frac{1}{2}$ per cent. might be reasonably allowed, and then the cost of the Accounts Branch would be Rs. 55,000, instead of Rs. 92,075, making a saving of Rs. 37,075.

10. The savings or reduction of expense under Direction and Account, as compared with the amount entered in Proceedings of Madras Government, No. 456-A I., 16th July 1880, would be—

		Rs.
(1)	Superintending Engineers and Superintendents of Works ...	29,245
(2)	Contribution to Public Works Secretariat	21,000
	Total, Direction ...	50,245
(3)	Accounts	37,075
	Total, Direction and Accounts ...	87,325

out of Rs. 2,24,962 or 38·8 per cent.

This amount of reduction may, it is believed, be effected without injury to the efficiency of the Irrigation Branch.

11. In paragraph 2 above allusion has been made to the way in which the rule of January 1875, as regards the determination of Establishment charges, has been applied in the Examiner's Office. In the first place, as shown by Appendix A,

the grants for works and repairs have not been taken as a whole, but in two distinct portions. Consequently, when the grant in one case has exceeded the expenditure, and in the other case the expenditure has exceeded the grant, the grant in the former case has been added to the expenditure in the latter case to make up the total on which the establishment charges have been assessed. There is nothing in the rule as originaly laid down to warrant this procedure, and, indeed, it may be presumed that the rule contemplated that the whole of the Imperial grants for Works and Repairs, whether Irrigation, Military or other, or the whole of the corresponding expenditure, would be taken as the basis for determining the per-centage credit to Provincial on account of Establishments employed on Imperial work. As regards Irrigation taken separately the effect of the departure from the rule is shown below :—

Proceedings of Madras Government, 2nd March 1875, No. 595.

Years.	Grants.	Expenditure.	Amount on which Establishment charges were		Amount		Difference.	Remarks.
			Leviable.	Levied.	Chargeable.	Charged.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1874-75	22,76,000	23,47,008	23,47,008	24,06,437	5,86,752	6,01,609	14,857	Expenditure exceeded grants.
1875-76	26,48,142	26,12,459	26,48,142	26,85,892	6,62,035	6,71,473	9,438	Grants exceeded expenditure.
1876-77	22,42,421	20,68,030	22,42,421	22,42,421	5,60,605	5,60,605	..	Do.
1877-78	22,28,919	28,61,012	28,61,012	30,57,831	7,15,253	7,64,458	49,205	Expenditure exceeded grants.
1878-79	22,84,807	24,56,657	24,56,657	27,90,192	6,14,164	6,97,548	83,384	Do.
1879-80	23,36,202	15,79,376	23,36,202	23,36,202	5,84,050	..	..	Grants exceeded expenditure.
Totals ..	1,40,16,491	1,39,24,542	1,48,91,442	1,55,18,975	..	..	Excess charge.	1,56,884
Averages ..	23,36,082	23,20,757	24,81,907	25,86,496	..	..	..	..

This table gives also several interesting particulars :—

		Rs.
(1)	The average amount of the grants of the last six years ...	23,36,082
(2)	The average expenditure do. do. ..	23,20,757
(3)	The average amount in excess of the grants on which Establishment charges were leviable under the rule	1,45,825
(4)	The average amount in excess of the grants on which establishment charges were levied under the rule as applied in the Account's office	2,50,414
(5)	The amounts chargeable varied from Rs. 5,60,605 to 7,15,253, a difference of	1,54,648

a sufficiently large difference to seriously affect Provincial finance arrangements.

12. In the next place it has to be noticed what the effect was on a certain class of expenditure of applying the rule in this particular way. The Establishment charges were assessed separately on the Extraordinary or Productive Public Works (Capital) grants or expenditure, whichever were the greater, and the grants were always greater than the expenditure, as indeed they would always be, but the great difference shown is due to a considerable part of the grants not being actually available for expenditure owing to the estimates not having been sanctioned. Not only, however, were they so assessed, but they were debited accordingly to the works concerned, by striking an average per-centage upon the whole capital outlay. Thus the capital grants for Productive Public Works were for the six years altogether ... Rs. 28,31,781
Establishment charges, 25 per cent ... ... ,, 7,07,945
Expenditure of the six years ... ... ,, 15,78,788
Per-centage of Establishment charges on outlay ... ... 44·84

This arrangement is quite opposed to the rules of September 1875, governing the distribution of Establishment charges, under which of the amount of these charges debitable to a division or to the divisions in which an Irrigation system is situated, 25 per cent. only on Capital outlay should have been charged to Capital for Establishments, and the rest to Revenue.

On the other hand, under the rule of January 1875, as shown by the table in paragraph 11, the amount on which Establishment charges were leviable was for the six years ... ... Rs. 1,48,91,442
and the amount leviable ... ... ,, 37,22,860
the expenditure was ... ... ,, 1,39,24,542
per-centage of Establishment charges on expenditure ... ... 26·74
which does not very much vary, on the average, from the normal per-centage. Under the rules of 1875 (September) the proper arrangement of distribution of these charges would have been to have debited to Productive Public Works, Capital, on an outlay of Rs. 15,78,788, at 25 per cent. ... ... Rs. 3,94,697
Leaving to be charged to Revenue and other heads ... ... ,, 33,28,163
And the corresponding outlay being ... ... ,, 1,23,45,754
the average per-centage of the Establishment charges debitable thereto would have been ... ... 26·96

It appears then from the above figures that the way in which Establishment charges have actually been distributed has occasioned a very great and unnecessary inequality of incidence, and that the rules of September 1875, if carried out so far as they could be applied to the circumstances, would have made the inequality nominal. As the procedure adopted has had a very injurious effect on the debits to the systems concerned, it is recommended that the Examiner should be instructed to re-adjust the distribution of Establishment charges upon the principle of the rules of September 1875.

13. It must not be forgotten that an establishment will ere long, and possibly very shortly, be required for the Madras Irrigation and Canal Company's Canal, the intimation of the transfer of which to Government may, at any time, be received. Under the rule of January 1875 Provincial will not be able to provide the requisite establishment for it, and the work of that establishment will be principally to manage the irrigation and water distribution, which work, under this rule, is not represented by any charge.

OOTACAMUND,
16th September 1880. (Signed) JOHN MULLINS, Col., R.E.,
Chief Engineer for Irrigation.

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

APPENDIX A.

STATEMENT showing the Grant or Outlay on which 25 per cent. on account of Establishment chargeable for Irrigation.

Year.	Extraordinary.			Ordinary.			Total amount on which Establishment Charges calculated Cols. 4 + 7.	Establishment Charges at 25 per cent. credited to Provincial.	Remarks.
	Grant.	Expenditure.	Grant or Expenditure on which the per-centage has been calculated.	Grant.	Expenditure.	Grant or Expenditure on which the per-centage has been calculated.			
1	2	3	4	5	6	7	8	9	10
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1874-75	5,95,000	5,35,571	5,95,000	16,81,000	18,11,437	18,11,437	24,06,437	6,01,609	Columns 1 to 7 furnished by the Examiner of Public Works Accounts the rest have been added.
1875-76	4,97,692	4,24,259	4,97,692	21,50,450	21,88,200	21,88,200	26,85,892	6,71,473	
1876-77	3,66,080	2,02,012	3,66,080	18,76,341	18,66,018	18,76,341	22,42,421	5,60,605	
1877-78	3,75,087	1,78,268	3,75,087	18,53,832	26,82,744	26,82,744	30,57,831	7,64,458	Grants for works and Repairs 1880-81 ... Rs. 17,99,150
1878-79	4,41,393	1,07,858	4,41,393	18,43,414	23,48,799	23,48,799	27,90,192	6,97,548	Corresponding charge for Establishment creditable to Provincial 4,49,787
									Average of preceding 6 years 6,46,624
									Difference ... 1,96,837
	Productive Public Works.			Irrigation and Navigation Ordinary Productive Public Works.					
	Grant.	Expenditure.	Grant or Expenditure on which per-centage charge has been calculated.	Grant.	Expenditure.	Grant or Expenditure on which per-centage charge has been calculated.			
1879-80	5,56,529	1,30,850	5,56,529	17,79,673	14,48,556	17,79,673	23,36,202	5,84,050	
Totals ...	28,31,781	15,78,788	28,31,781	1,11,84,710	1,23,45,754	1,26,87,194	...	38,79,743	
Averages	4,71,963	2,63,131	4,71,963	18,64,118	20,57,626	21,14,532	...	6,46,624	
				4,71,963					
Average grants				23,36,081					

(Signed) JOHN MULLINS. Colonel, R.E.,
Chief Engineer for Irrigation.

APPENDIX B.

STATEMENT of the composition of three Irrigation Circles.

Circles.	Divisions.	Remarks.
First.	Godávari Eastern and Central Deltas..	
	Godáveri Western Delta.	
	Kistna Easter Delta.	
	Kistna Western Delta.	
	Nellore.	
Second.	Chingleput.	The Madras Irrigation and Canal Company's Canal, when transferred, would be included in this circle and would form an extra Division.
	Vellore.	
	Kurnool.	
	Cuddapah.	
	Salem.	
	Coimbatore.	
Third.	Cuddalore.	
	Tanjore.	
	Negapatam.	
	Trichinopoly	Including Imperial Irrigation Works in Madura.
	Tinnevelly.	

(Signed) JOHN MULLINS, Colonel, R.E.,
Chief Engineer for Irrigation.

ORDER THEREON, No. 2,276 W., dated 1st October 1880.

ORDERED that the following letter be sent to the Government of India.

(True Extract.)

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

From the Secretary to the Government of Madras, Public Works Department, to the Secretary to the Government of India, Public Works Department, dated 1st October 1880, No. 2,277 W.

General—Establishment.

IN acknowledging the receipt of your letter, No. 725-G, dated 19th March 1880, conveying sanction to the temporary measures adopted in regard to the reductions in the Establishment of this department carried out towards the close of last, and commencement of the present, year, and (para. 7) requesting that the Government of India might be furnished with a statement of the permanent normal requirements of this Government, I am desired to forward for sanction the annexed statement in Code form. In so doing, I am to submit for consideration the following observations.

2. Answers have already, in great measure, been afforded on much of the matter of your letter under reply, with reference to the position and work devolving on the Local Funds Boards; and also to the position of officers and subordinates who, after the reduction of establishment in this department, were re-employed under these bodies, *see* this office No. 1,642-B W., dated 13th July 1880, and previous correspondence.

3. It is considered, therefore, here sufficient to submit, in regard to the general implication contained in your communication that the reductions of Establishment

had gone further than was either intended or desirable, that looking to the general tenor of the instructions received and the pressing demand for reduced expenditure, this Government considered they had no option but to respond in a loyal manner to these requisitions; viewed in this light, therefore, they are not conscious of having in any way over-stepped the limits laid down for their guidance, and consider that reduction of the Imperial grant and of the Imperial assignment for Provincial services left no alternative to the course followed.

4. By Act IV of 1871, Sections 8 and 10, all public roads and streets in each circle are vested in the Local Funds Boards. All hospitals, dispensaries, schools, chuttrums, markets, tanks and wells, not being private property or otherwise governed by law may be so vested; and under this provision all such institutions and buildings and water-supply works have, as a general rule, been so vested in the Local Funds Boards, which are corporate bodies by law and independent of Government. So far as the executive staff is concerned (Section 24), the control of Government is restricted to check on numbers and salaries and the budget provision for the service.

5. The reduction orders of the Government of India were avowedly based on the presumption that a superfluous strength of establishment existed in Madras in the same manner as in most of the provinces under the Government of India; but I am to observe that nothing of the kind as a fact either at that or any previous date existed here.

6. The scattered nature of much of the work done in this Presidency, owing chiefly to the tank-system, had placed the deparment here on quite an exceptional footing, and it had long been the complaint of the professional officers of Government that the strength of the establishment was never capable of fairly coping with the demands made upon it.

7. This state of matters has been quite notorious and the frequently succeeding re-organizations of the departmental establishment (the last of which had only taken place so late as September 1878) made with the object of endeavouring, by various expedients and by changing the distribution, to make up for the acknowledged want in numbers, affords of itself abundant proof that such had always existed here, and had been a constant source of anxiety and trouble to the Government.

8. Looking, then, to the exceptional character of the duties performed by this Department, it was really a matter of little consequence whether a reduction in the Imperial grant was made or not, so long as this did not, in some radical way, affect the general character of the duties to be performed over large areas of country.

9. In all the provinces of Northern India, where work is chiefly of a large and concentrated character, as also in Bombay, the reduction of the Imperial grant would necessarily be followed by diminished need for Establishment; and, as a fact, it is understood that in each and all of these provinces there had existed, even before the late famine, a large superabundant staff of Engineers for whom there was practically no suitable employment.

10. Whereas, therefore, a demand for reduction of actually existing superfluous establishment must have come as a distinct relief to other provinces, it had necessarily a totally opposite effect in this Presidency; and the question here necessarily resolved itself into one of how it would be feasible, with the least sacrifice to the public interests involved, to meet the demands for reduction made by the Government of India.

11. At first it was hoped that an arrangement could be made by which the establishment of this department in most of the divisions could still continue to execute a large portion of Local Fund work, which being paid for at 25 per cent. a sensible relief would still be afforded in recoupment of the outlay under this head as charged against "Provincial;" but, on the matter being fully gone into, it was found that this very payment on the part of the several Boards so trenched on their funds that they had not sufficient means left to provide themselves with a suitable

establishment for the execution of the balance of the work proposed to be handed over to them.

12. With the exception of Kurnool and Trichinopoly, one and all of the Local Funds Boards professed their inability to provide a sufficiently skilled and reliable establisment, unless the whole of the work (aggregating some 41 lakhs of rupees worth) were made over to them for execution through their own agency.

13. The Government, on the various representations made, being satisfied as to the soundness of the demands preferred, and seeing no possible means for continuing to execute as formerly the whole of the Local Fund work through their own agency, considered that the time had arrived for giving full effect to the Local Funds Act as above indicated, throwing upon the several Boards the full duties and responsibilities as therein contemplated.

14. In coming to this resolution, the Government believe that, in addition to the advantages which are indirectly connected with the complete exercise of local self-government, and thus giving full effect to the views and intentions of the framers of the Act, they have met in the only feasible manner the demand for reductions of the Public Works Establishment.

15. The re-organization of the establishment, reported in G.O. of 3rd February 1880, No. 265 W., was professedly of a temporary character, and it is needless to say that in giving effect to a change of so radical a nature, which involved a dislocation of the whole machine, some important considerations had to be set aside for the moment, though even at this date such omissions have, on the whole, not been found as numerous or important as might have been anticipated under the circumstances.

16. Following, moreover, so closely on the re-organization of September 1878, the disturbance of the ordinary work of the department has been such that Government have considered it better to refrain from immediate further action, though changes of a beneficial character have necessarily suggested themselves on the experience gained during the interval that has elapsed since last February. This, it is hoped, may also explain the apparent delay which has occurred in meeting the call made in your letter under reply.

17. In submitting for sanction the present scale of normal establishment, I am, in the first place, to explain that His Grace the Governor in Council entirely accepts the views of the Government of India as conveyed in paragraph 5 of your letter, viz., that the scale, while providing for a sufficient number of highly-skilled officers to supervise the regular expenditure on Public Works, should admit of being supplemented by temporary hands, or by the employment of experienced contractors, when there may be a demand for outlay on famine or other unusual or special works.

18. Not only is this the case, but provision for several possible contingencies of the near future have also been omitted. Among these may be mentioned:—

(1) The extension of the Kistna Delta works on receipt of sanction for the contemplated work, which is believed to be only a matter of a short time.

(2) The Madras Irrigation and Canal Company's works which may not improbably have ere long to be taken over by Government.

(3) A tank restoration division which may also have to be organized in view to a commencement being made with the more systematic treatment of these works.

(4) The extension of the Buckingham Canal on receipt of the probable sanction of Government to the complete estimate now being framed for submission.

19. Excluding these, for which increases to the normal establishment (or special agency as may appear best at the time) will be asked in submitting the

respective estimates for sanction of the Government of India, the increase on the scale of the 3rd February would be as follows:—

Departmental Grades.	Scale of 3rd Feb. 1880.	Normal as now proposed.	Increase.
Chief Engineer, I	3	3	...
Do. II			
Do. III			
Superintending Engineer, I	4	4	...
Do. II			
Do. III			
Superintendents of Works	4	5	1
Executive Engineer, I	22	30	8
Do. II			
Do. III			
Do. IV			
Assistant Engineer, I	36	44	8
Do. II			
Do. III			
Sub-Engineer, I	144	178	34
Do. II			
Do. III			
Supervisor, I			
Do. II			
Overseer, I			
Do. II			
Do. III			

20. No change in the number of Chief Engineers is proposed. By the scheme sent up previously it was proposed, while reserving the power of increasing the number of Superintending Engineers to four, to endeavour to work with only three, but experience has shown that this latter gives unworkable circles. The present No. I Circle, which embraces Vizagapatam and Ganjam as well as Cuddapah, Kurnool, Bellary, and Nellore, has proved altogether too large.

21. With reference to the number of Superintendents of Works, which are now to be one in excess of the February scheme, I am to remark, with reference to the objections stated in paragraph 8 of your letter under reply, that, on fully weighing the requirements of the Presidency, the Government consider this a most important feature in the proposals, and quite essential towards securing proper administration.

22. Under the system which existed prior to the re-organization of September 1878, there were twenty-two District Engineers who had powers corresponding to Superintending Engineers.

23. This arrangement, otherwise good in itself and well suited to the requirements of this Presidency, failed from the fact that it was impossible to find in a small establishment so many officers who were in all respects fitted to exercise the high class of powers thus conferred; but it may be safely averred that, were it possible to find an adequate number of officers who possessed the requisite qualifications, the arrangement is one peculiarly suited to much of the work in this Presidency. The great delta systems of irrigation under the Godávari, Kistna, and Cauvery rivers have never, it is believed, received closer attention or been better administered than under the old District Engineer system.

24. While, therefore, the larger circles are left for Superintending Engineers, it has been decided by Government to revert, as far as possible, to the good features of the old organization in this respect, and hence the three delta systems are now to be placed each under a Superintendent of Works, which is only another designation for District Engineer.

25. For some time an officer of this grade has been in charge of the Godávari Delta works, and another has latterly been appointed to the Kistna. No officer has

however, been appointed for the Cauvery, though a very capable officer is available, and can at once be nominated on the present scheme being sanctioned.

26. Owing to the isolated position of the Vizagapatam and Ganjam divisions, which it has been found quite impossible to work into any Superintending Engineer Circle, an officer of this class (Superintendent of Works) is likewise proposed. This is the more necessary as late events have shown the necessity for improving the communications in this long-neglected portion of the Presidency.

27. The Buckingham Canal is also a work which it appears most suitable should be under this description of control, and as a fact an officer of this class has been in charge since the early part of the year, with much advantage to the work. The total length of canal now open is 239 miles, and the officer has much responsibility, not only in regard to the execution of the work itself and the preparation of the complete estimate, but in connection with the management of the traffic. When the estimate now framing has been sanctioned by the Supreme Government, he will need the assistance of probably one Executive and two Assistant Engineers, also six Upper Subordinates not included in the scale now sent up, or it may possibly be found desirable to engage a Special Engineer as contractor for the job.

28. Before concluding this portion of the subject, it may be desirable to mention that it has latterly been found convenient to give the powers of Superintendent of Works to the Consulting Architect, and that, although not here shown in this grade, it would probably be most convenient to include him in it.

29. For some years past Mr. Chisholm has, under the special sanction of the Government of India, though classed as an Executive Engineer, 1st Grade, drawn Rs. 1,200 per mensem. In addition to his particular duties as Consulting Architect, he has the execution of special buildings, and in connection with this the conference of the powers in question it would, in the opinion of this Government, be desirable to recognise his being, for the future, permanently classed as a Superintendent of Works.

30. The additional allowance of Rs. 100 per mensem has been paid (though not finally passed by the Examiner pending this reference) since the assumption of charge to the three officers of this grade (*i.e.*, of the Godávari, Kistna, and Buckingham Canal Divisions), and the sanction of the Government of India is now requested to this being recognised as the remuneration to officers of this class, excepting the Consulting Architect who, as shown, has always had special allowances.

31. As regards the number and arrangement of the several Superintending Engineer and Superintendent of Works Circles, it may at once be said that the experience gained since the re-organisation of September 1878 has shown that no other grouping of the several executive divisions is likely to answer so well as that now advocated. This subject has been closely studied by all officers of experience in the department; and it is hoped that the Government of India may be disposed to accept the arrangement without the necessity of offering further detailed explanations which, owing to the nature of the question, would be difficult without the aid of maps, statements of areas and works, &c.

32. Turning now to the number of Executive Engineers who are to form the normal establishment, it will be observed that counting the extra Superintendent of Works there would in all be ten more in this grade than before. The actual increase is very small if it be considered that this includes 10 per cent. as supernumeraries to meet the contingencies due to absence on furlough, &c.

33. The only actual additions to the divisional charges named in February last are as follow:—

1*st*.—An Executive Engineer for Bellary.—This and Anantapur were given up as divisions and merely as sub-division retained for the Military works of the station and attached to the new Cuddapah-Kurnool Division. With the large number of important Imperial tanks in Bellary and Anantapur, it is now held that this division must be reconstituted.

34. For much the same reason the Madura and Tinnevelly Divisions, owing to the numbers of tanks and channels contained in them, require the presence of professional officers.

35. But the special want of the department, and one which it is now intended to meet, is that of some adequate establishment for investigating projects either of general importance or specially for famines.

36. It is understood that the Famine Commission have recommended the preparation of schemes of communication by road, railway, and water, and that these should always be in readiness with plans and estimates prepared to meet any sudden demand for employment in case of famine.

37. Although there are several half-investigated projects on the files of the Chief Engineer's office, it cannot be said that any have as yet reached the stage in which they could be safely put in execution; even as regards several promising projects (*e.g.*, the extension of the Kistna Delta works) on which so much of the advancement in wealth and prosperity of the Presidency depends, the needful investigations have, as the Government of India are aware, been retarded for years.

38. The provision made, therefore, with this special object, in the present scheme, of four officers of the Executive Engineer class, six Assistant Engineers, and ten Upper Subordinates, is, considering the work before them, the least that can be named for the duty, but quite as few as will for the future be certainly needed as forming an integral portion of the normal establishment.

39. It is needless here to enter on the special reasons for assigning the specific numbers of Assistant Engineers given in the scale; but taking the number as a whole, viz., forty-four, it is thought that as compared with the total number of officers in the Executive Grades (including Superintendents of Works), thirty-five, the proportion should provide for a fair flow of promotion,—a point on which this Government is disposed to lay much stress.

40. The number (178) of Upper Subordinates, which has been strictly decided on the known requirements of the different divisions, calls for no remark.

41. No attempt, it will be observed, has been made to form a distinct Irrigation Branch with a separate establishment. However desirable in the abstract, His Grace the Governor in Council has, after mature consideration, come to the conclusion that any such arrangement would, in the present circumstances of this Presidency, be unsuited to its needs, as the work of the several divisions (*see* the explanatory letters in column 3 of the annexed statement) is of too mixed a nature to admit of a rigid line being drawn, which would be consistent with the economical execution of the work to be done. The claims of promotion and other matters requiring adjustment between a large separate irrigation branch and a small one whose duties would be confined entirely to non-irrigation work, would, it is foreseen, cause considerable difficulties which, in present practice, are not found to exist.

42. No inconvenience has, as a fact, been found to connect itself with the arrangement of having a combined department, as, by both practice and tradition, officers showing special aptitude for its different branches are easily and indeed necessarily retained in their particular line. The opinion of Government is, moreover, based on those of the great majority of the professional officers in this Presidency, who are decidedly opposed to any change in this respect.

43. In conclusion, I am to observe that, while the Government are anxious to receive the earliest possible sanction to the scheme as sent up, with a view to give the promotions which would correspond to those of other provinces, as notified in Government of India General No. 1,198—1,211-G., dated 9th June 1880, with effect from 1st June, they do not propose to themselves to carry out at once the whole scheme; at the same time, they are desirous of having perfect freedom of action in this respect so as to admit of such measures being taken in the formation of the new circles of superintendence and of executive divisions as circumstances may show to be most opportune. If meeting the complete approval of His Excellency the Governor-General in Council, I am to solicit the favor of the sanction being conveyed by telegram for the scheme as now sent up.

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DISTRIBUTION STATEMENT showing proposed Normal Strength of Department of Public Works.

Circles.	Divisions.	Head.	Number of Sub-Divisions.	ESTABLISHMENT. S. E.	S. of Ws.	E. E.	A. E.	U. S.	Remarks.
I	1. Nellore	P. & I.	2	1	..	1	1	7	Irrespective of the Madras Irrigation Company's canal. *Includes Public Works Workshops and Stores.
	2. Cuddapah	P. & I.	3			1	1	6	
	3. Kurnool	P. & I.	2			1	1	4	
	4. Bellary	P. & I.	2			1	..	4	
II	5. Presidency* ..	P.				1	2	7	
	6. Bangalore	P.	2	1	..	..	1	4	
	7. Chingleput	P. & I.	..			1	..	6	
	8. South Arcot ..	P. & I.	2			1	1	5	
III	9. Salem	P. & I.	1			1	..	5	
	10. Coimbatore	P. & I.	2	1	..	1	1	5	
	11. West Coast	P.	3			1	2	12	
	12. North Arcot ..	P. & I.	2			1	2	5	
IV	13. Trichinopoly ..	P. & I.	2	1	..	1	1	8	
	14. Madura	P. & I.	2			1	1	8	
	15. Tinnevelly	P. & I.	3			1	2	7	
V	16. Ganjam	P.	2	..	1	2	2	7	† Includes 1 Assistant Engineer and 2 Under Subordinates for any works needed in the old Rajahmundry Division or Rampa. ‡ Does not include provision for extension works in the Kistna Delta. ¶ The special work consists of completing the many famine projects now in an inchoate condition. ‖ Calculated at 10 per cent.
VI	17. Vizagapatam ..	P.	2	..	1	1	2	8	
	18. Godávari, Eastern ..	I.	3	..		2	3	7	
	19. Godávari, Western.†	I.	2	..					
VII	20. Kistna, Eastern ..	I.	3	..	1	2	3	6	
VIII	21. Kistna, Western‡ ..	I.	2	..			2	7	
	22. Buckingham Canal ..	P.	3	..			1	4	
IX	23. Tanjore	I.	2	..	1	..	1	8	
	24. Negapatam	I.	2	..	1	1	2	7	
	25. Consulting Architect.	P.	..	..	..	1	2	..	
	Secretariat	P. & I.	..	..	..	1	..	3	
	Special work¶ ..	I.	..	..	..	1	1	..	
	Guaranteed Railways.								
	Supernumeraries‖ ..	P. & I.	..	..	..	2	..	..	
			..	..	..	1	4	18	
	Grand Total of Establishment, excluding Chief Engineers.			4	5 / 30 = 35		44	178	

N.B.—The letters P and I in the third column are not used in the absolute sense of Provincial and Irrigation, respectively, but are simply intended to furnish a general indication of the preponderance of the work under each in the several divisions.

STATEMENT showing the Cost of Engineer and Upper Subordinate Establishments, as proposed in Madras Government letter, No. , dated to the Secretary to Government of India, Public Works Department.

Proposed Number.	DISTRIBUTION AS PER CODE RULE. Number.	Rate.	COST (CONSOLIDATED PAY EXCLUSIVE OF ALL MILITARY PAY AND ALLOWANCES). Per Mensem.	Per Annum.	Total.	Remarks.
			ENGINEER ESTABLISHMENT.			
			Chief Engineers.			
1	1	RS. 2,500	RS. 2,500	RS. 30,000	RS.	
1	1	2,000	2,000	24,000		
1	1	1,800	1,800	21,600		
*3	Total ..	..	6,300	75,600	75,600	* Includes, it is believed, the Consulting Engineer for Guaranteed Railways. It is not known under what circumstances the future appointment of Railway Consulting Engineer has been taken in the Chief Engineer class. Under the orders of the Government conveyed in Public Works Department Resolution Nos. 1,506—1,533 E.G., dated 28th August 1879, this appointment was reduced to a Superintending Engineer charge, and it was only, as a special case, that Colonel Shaw-Stewart, R.E., the present holder of the appointment, has been allowed to retain the rank and pay as a Chief Engineer.—*Vide* Government of India No. 2,296, dated 18th October 1879, published with G.O., No. 467 C.L., dated 24th October 1879.

Statement showing the Cost of Engineer and Upper Subordinate Establishments, &c.—*cont.*

Proposed Number.	DISTRIBUTION AS PER CODE RULE. Number.	Rate.	COST (CONSOLIDATED PAY EXCLUSIVE OF ALL MILITARY PAY AND ALLOWANCES). Per Mensem.	Per Annum.	Total.	Remarks.
			ENGINEER ESTABLISHMENT—*cont.*			
			Superintending Engineers.			
2	2	RS. 1,600	RS. 3,200	RS. 38,400	RS.	
1	1	1,350	1,350	16,200		
1	1	1,100	1,100	13,200		
*4	Total ..	..	5,650	67,800	67,800	* Agrees with the number sanctioned in Government of India Resolution Nos. 1,506—1,533 E.G., dated 28th August 1879.
			Executive Engineers (including Superintendents of Works).			
6	6	950	5,700	68,400		
9	9	800	7,200	86,400		
11	9	650	5,850	70,200		
	11	550	6,050	72,600		
†35	Total ..	..	24,800	2,97,600		† Includes the two officers of the Executive Engineers Grade at present attached as Deputy Consulting Engineers to the office of the Consulting Engineer for Railways.
	Special allowances at Rs. 100 for five Superintendents of Works.		500	6,000		
	Total ..		25,300	3,03,600	3,03,600	
			Assistant Engineers.			
15	15	450	6,750	81,000		Of the present sanctioned scale of 24 Assistant Engineers of the 2nd and 3rd Grades and Apprentices, the actual numbers are— Of the 2nd Grade .. 22 " 3rd Grade .. 2 Total .. 24
‡ 26	26	350	9,100	1,09,200		
3	3	250	750	9,000		
44	Total ..	..	16,600	1,99,200	1,99,200	
86	TOTAL, ENGINEER ESTABLISHMENT ..				6,46,200	The number 29‡ Assistant Engineers, 2nd and 3rd Grades, and Apprentices arrived at, under Code proportions, have been divided as near as possible proportionately.
			UPPER SUBORDINATE ESTABLISHMENT.			
			Sub-Engineers.			
6	6	400	2,400	28,800		
5	5	300	1,500	18,000		
11	11	250	2,750	33,000		
22	Total ..	..	6,650	79,800	79,800	
			Supervisors.			
17	17	200	3,400	40,800		
28	28	150	4,200	50,400		
45	Total ..	..	7,600	91,200	91,200	
			Overseers.			
111	Mean pay of the 3 grades.	80	8,880	1,06,560	1,06,560	Distribution of the sanctioned scale amongst different grades not given, cost calculated on mean pay, viz., Rs. 80.
178	TOTAL, UPPER SUBORDINATE ESTABLISHMENT ..				2,77,560	
	Lower Subordinate Establishment					Not provided for in proposals.
	Petty Establishment					
	Office do.					
	Irrigation Conservancy Establishment					
	Temporary Establishment					
	Accounts Establishment					Not provided for in proposals. The strength and cost of the Accounts Branch can only be arrived at when the executive arrangements have been finally decided upon. In this will have to be included the cost of the establishments required for special divisions or sub-divisions, such as the various Workshops, Harbour Works, &c.

NOTE.—(1) The amounts above referred to do not include any military pay and allowances of Military Officers and Subordinates.

(2) No provision or mention is made in the Distribution Statement or in the letter to the Government of India of the cost of—

(*a*) Local allowances including sub-divisional allowance.
(*b*) Travelling allowances.
(*c*) Contingencies.

MADRAS,
15th October 1880.

(True Copy.)
(Signed) H. CAREY,
for Offg. Examiner, P.W. Accounts.

Proceedings of the Government of Madras, Public Works Department, dated 2nd December 1880, No. 2,781 W.

General—Establishment.

Read the following paper :—

From Major-General A. FRASER, R.E., Secretary to the Government of India, Public Works Department, (General,) to the Secretary to the Government of Madras, Public Works Department, dated Simla, 4th November 1880, No. 1,918 G.

I AM directed to acknowledge your letter No. 2,277 W., dated 1st October, forwarding a statement of the estimated normal establishments of Engineers and Upper Subordinates required for Madras, and to communicate the following remarks.

2. The number of Chief and Superintending Engineers proposed is—

Three Chief Engineers.
Four Superintending Engineers.

This is already sanctioned so long as Colonel Shaw-Stewart holds the post of Consulting Engineer for Guaranteed Railways. When this post becomes vacant the sanctioned numbers will be—

Two Chief Engineers.
Five Superintending Engineers.

3. The Government of India has no objection to the Consulting Architect exercising the powers of a Superintending Engineer, without any increase to his present salary.

4. The proposal to appoint five Superintendents of Works in addition to four Superintending Engineers with additional allowances of Rs. 100 per mensem, is intended to preserve, to that extent, the advantages said to have been found in the former system of District Engineers. But it is to be observed that the District Engineers did not, as such, draw any extra allowances, and to accede to the present proposals would be to give nearly all the Executive Engineers in the 1st Grade more than the regulated pay of that grade. In his memorandum, dated 8th January last, the Chief Engineer for Irrigation considered that Superintendents of Works for the Godávari and Kistna Deltas were unnecessary. He also objected to the Tanjore and Negapatam Divisions forming a charge of a Superintendent of Works. It does not appear, moreover, that the combined charge of Ganjam and Vizagapatam with a staff of one Executive and two Assistant Engineers and the Buckingham Canal with a staff of one Assistant Engineer, require Superintendents of Works to supervise them. The Honorable the President in Council requests that this portion of the proposals may be reconsidered, and, meanwhile, desires that the payment of the extra allowances may cease.

5. The Government of India is not in a position to discuss the question of the staff of Executive and Assistant Engineers in detail, but that Government is bound to see that in a general way the proposals put before it, for its approval and that of the Secretary of State, are as economical as possible.

6. Three sets of proposals have during the past two years been laid before the Government of India—

(1) Those submitted in September 1878 on which no orders were passed, as it was understood that further proposals would shortly be made.

(2) Those of February 1880 which were professedly *ad interim*, and, as such, sanctioned temporarily with the exception of four Superintendents of Works.

(3) The present proposals.

24

These three are compared in the following table :—

	Executive Engineers.	Assistant Engineers.	Upper Subordinates.
September 1878	37	45	243
February 1880	26	36	144
October ,, ...	35	44	178

The thirty-seven Executive Engineers of 1878 did not apparently include the two Deputy Consulting Engineers, while the later figures do.

7. The outlay administered by the department was taken at 102 lakhs in the discussions of 1878. For next year it will be about 49 lakhs, as nearly as it can at present be estimated. That is, roughly speaking, the expenditure will have been reduced by one-half, while the establishment is reduced from the proposals of 1878 by only—

3 Executive Engineers.
1 Assistant Engineer.
65 Upper Subordinates.

8. The total cost of the proposals of 1878 was put down at Rs. 21,38,251 per annum. No complete estimate of the cost of the present proposals is submitted ; the salaries of the Engineer and Upper Subordinate Establishments only are given, exclusive of military and other allowances. These items are compared, so far as it is possible to do so, in the following figures :—

	Engineers.	Upper Subordinates.
1878	6,95,720	3,04,440
Present proposals	6,46,200	2,77,560
Decrease ...	49,520	26,880
	76,400	

or about three-fourths of a lakh of rupees only.

9. It is not easy to form an estimate of the absolute total cost of the present proposals. The cost of the proposals of 1878, including military allowances, travelling allowances, office establishment, lower subordinates, accounts establishment, &c., was Rs. 21,38,000. Deducting from this the aggregate salaries given above of the Engineers and Upper Subordinates there remains a balance of Rs. 11,77,000. Probably Rs. 10,00,000 may be taken as the corresponding sum for the present proposals. This would give the total cost, Rs. 19,24,000, out of a total expenditure of about 49 lakhs. If this calculation is correct the cost of establishments will be more than 60 per cent. on the outlay of works. In other words, it will cost nearly 10 annas to spend a rupee on public works. It appears to the Government of India that any such proportion is out of the question, after making all allowance for the area to be supervised, and the Honorable the President in Council is not prepared to recommend the present proposals for the acceptance of the Secretary of State.

10. A considerable portion of your letter under reply is devoted to showing that the circumstances of Madras are such that a diminution of total outlay on public works cannot lead to any appreciable diminution in the establishment charges, and as a matter of fact the new proposals do not materially differ from those submitted in 1878, when the expenditure was about double. Yet the Honorable the President in Council observes that the Government of Madras has assigned 41 lakhs of expenditure to Local Boards, thereby not only leading to these proposals for large unproductive outlay under Imperial and Provincial, but causing the creation of a separate establishment to supervise the outlay placed under Local Fund Boards, of the cost of which the Government of India has no information. In the first place it was stated that the reduction of the Imperial establishment rendered necessary the transfer of Local Funds to the Local Boards, and then, that transfer having been carried out, it is reported that a permanent reduction of establishment is impracticable.

11. In Public Works Department letter No. 1,639 G., dated 17th September last, the Government of India pointed out that, as then informed, one of two things must happen from the transfer of Local Fund expenditure to the Local Boards, viz.

Proceedings of the Government of Madras, Public Works Department, dated 2nd December 1880, No. 2,781 W.

General—Establishment.

Read the following paper :—

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11. In Public Works Department letter No. 1,639 G., dated 17th September last, the Government of India pointed out that, as then informed, one of two things must happen from the transfer of Local Fund expenditure to the Local Boards, viz.

either (1) the proportional cost of establishment for Imperial and Provincial Works must be inordinately high, or (2) the Local Fund officers must carry out a considerable amount of the Imperial and Provincial outlay, those funds receiving the usual percentage. There is another alternative, viz., (3) to replace the Local Fund expenditure under the Public Works Department.

12. The Honorable the President in Council regrets that a decision regarding the long discussed organization of the Public Works Department in Madras must be further deferred by the request of the Government of India that the whole question may be reconsidered by His Grace in Council in the light of the foregoing remarks.

13. Although the state of the Engineer Establishment in Madras is as shown above, from an economical point of view, entirely unsatisfactory, yet out of consideration for individual interests the Government of India will not object to placing that establishment as sanctioned in Public Works Department letter No. 725 G, dated 19th March, as a temporary arrangement, on the same footing as in other provinces. The following change of sanction may therefore have effect from 1st June 1880 :—

			*Present.	Now Sanctioned.
Chief Engineers				
Superintending Engineers			2	2
Executive Engineers, Grade	i.	... ...	5	5
Do.	do. ii.	... ...	5	7
Do.	do. iii.	... ...	6	8
Do.	do. iv.	... ...	7	7
Assistant Engineers,	do. i.	... ...	8	4
Do.	do. ii, iii, &c.	... ...	12	20
			24	16

* Including the two Deputy Consulting Engineers.

ORDER THEREON, No. 2,781 W., dated 2nd December 1880.

IN this letter the Government of India pass orders on the proposals submitted to them in letter of the 1st October 1880, No. 2,277 W., regarding the normal strength of the Public Works Establishments of the Presidency and the re-organisation of the Department.

2. Pending the submission of information which is being collected in regard to (1) the cost of all present Local Fund Establishments, (2) the total cost of the proposed normal establishment of the department, and other statistics connected with Provincial assignments, the consideration of the general questions raised by the Government of India will be deferred.

3. Meanwhile there are two matters on which immediate action may be taken:—

(1) The cessation of the payment of Rs. 100 per mensem, directed in paragraph 4 of the letter from the Government of India, to the officers classed as Superintendents of Works ; and

(2) the promotions due to the change of scale sanctioned in paragraph 13.

4. The officers personally affected by the stoppage of the extra allowance of Rs. 100 are Mr. Rundall, Mr. Walch, Major Vibart, R.E., and Captain Awdry, R.E. As regards the last-mentioned officer, the promotion which he will receive under the present orders will compensate for the loss of special emolument. In the other cases there is no alternative. The orders of the Government of India are absolute and must be carried into effect. The special allowances will cease therefore from the 1st December.

5. The following is the revised scale of establishment sanctioned, and includes the officers of the Railway Branch :—

Chief Engineers			
Superintending Engineers			2
Executive Engineer,	i grade	... ...	5*
Do.	do., ii do.	... ...	7
Do.	do., iii do.	... ...	8
Do.	do., iv do.	... ...	7
Assistant Engineers,	i do.	... ...	4
Do.	do. ii and iii grade	... ...	20
			16

* Includes the Consulting Engineer for Railways, the present holder of which office holds the personal rank of Chief Engineer.

6. On a review of the existing establishments it is found that the following promotions can be made :—

To the 1st Grade Executive Engineers						2
„ 2nd „ „ „						3
„ 3rd „ „ „						3
„ 1st Grade Assistant Engineers						8

These will be separately notified.

7. It will however be clearly understood that officers who have not passed the examinations prescribed in paragraphs 153 to 157 of the Public Works Code for promotion to Assistant Engineer, 1st Grade, will have no claim to be so promoted after the 1st January next, till which date His Grace the Governor in Council has been pleased to grant an extension of time. In any case promotions will only have effect from date of passing. All others made under this order will have effect from the 1st June 1880.

(True Extract.)

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

Proceedings of the Government of Madras, Public Works Department, dated 8th February 1881, No. 336 W.

Read the following papers :—

From Major-General A. FRASER, R.E., Secretary to the Government of India, Public Works Department, (Account—Irrigation,) to the Joint Secretary to the Government of Madras, Public Works Department, Irrigation Branch, dated Simla, 23rd October 1880, No. 169 A. I.

FROM the annual accounts for 1878-79 and 1879-80, it appears that the amounts charged to Establishment on Productive Public Works during those two years were 112 and 117 per cent., respectively, on the outlay on works, the percentage having been calculated, in accordance with the orders of the Government of India, on the original grant for works instead of on the actual outlay of the year. The very large amounts charged for Establishment for supervising outlay on Productive Public Works is so very excessive that it appears necessary to revise the orders on this matter without further delay.

2. I am therefore directed to state that, so far as Productive Public Works in the Madras Presidency are concerned, the charges for Establishment should be limited to 25 per cent. on the actual *bonâ fide* net capital outlay on works, excluding all charges for land.

3. If the original budget grant for the year for Productive Public Works is reduced by the Government of India, the differences between the Establishment charges calculated on the original grant and that on the actual outlay will be borne by the Imperial ordinary grant for irrigation and navigation works, if the Government of Madras can show that the action of the Government of India has thrown extra charges on Madras Provincial Funds, and if the Government of Madras have applied to the Government of India in good time for the removal of the establishment rendered surplus by the reduction of the grant under Productive Public Works without any additional grant being assigned under other heads.

4. It is sometimes observed that the grants assigned from Imperial Ordinary Funds could not be worked up to for certain local causes, such as famine or the want of estimates duly sanctioned by competent authority. In such cases it is not proper that the Imperial Funds should be held liable for lapses of this nature.

5. These orders are to come into force with effect from the commencement of the current official year.

From Captain G. F. L. MARSHALL, R.E., Assistant Secretary to the Government of India, Public Works Department, (Civil Works—Irrigation,) to the Joint Secretary to the Government of Madras, Public Works Department, Irrigation Branch, dated Simla, 29th October 1880, No. 326 I.

WITH reference to the question raised in paragraph 3 of the Chief Engineer's note on the revised general abstract of the Progress Report of Irrigation Productive Public Works in Madras for 1879-80, forwarded with your letter No. 619 I., of the 27th September last, regarding the percentage of Establishment charges debitable to Capital Productive Public Works, I am directed to refer you to the orders lately issued in this office letter No. 169 A. I., of the 23rd instant, on the subject.

From Major D. H. TRAIL, R.E., Officiating Examiner, Public Works Accounts, to the Secretary to Government, Public Works Department, dated Madras, 26th November 1880, No. 157 W.

IN continuation of this office letters noted in the margin, I have the honor to forward herewith, for the information of Government, a statement showing approximately the cost of the effective Public Works Department Establishment of this Presidency as it stood on 30th September 1879, as compared with the effective establishment on 30th September 1880, and the probable *net* savings to Government effected by the recent general reductions carried out under instructions of the Supreme Government.

Nos. 122 W. and 123 W., dated 2nd November 1880.

2. As no retirements under the terms of the Government of India, Finance and Commerce, Resolution No. 2,079, dated 31st July 1879, took place before 30th September 1879, and all such retirements in all branches of the department were quite completed on or before 30th September 1880, these two dates have been fixed upon for the purpose of comparison.

3. The entire cost of additional establishments (including the extra clerks, &c., of the Accountant-General's Madras Office) which had to be entertained by Local Fund Boards in consequence of the transfer to them of Local Fund Works, as also all pensions and present values of all gratuities and bonuses, have been taken into account, and the explanatory remarks entered in the last column of the statement show how the amounts have been arrived at when approximates only had to be used.

4. The difference of Rs. 3,329 between the amount (Rs. 26,646) entered in this statement as the total under Executive Branch in column II, and that (Rs. 29,975) reported in my letter No. 123 W., dated 2nd November 1880 as the additional cost of establishments under Local Funds is due, to the extent of Rs. 311, to the omission of the details against Petty Establishment. The details of this establishment have been omitted, as it was found impracticable to ascertain, even approximately, its present cost; please see remark J. in statement, and, to the extent of Rs. 3,018, to the exhibition of the cost of the Audit Establishments which have been entertained for the audit of the Local Funds Accounts in the offices of the Accountant-General, Madras, and Local Fund Presidents under "Accounts."

5. The difference, as regards the net result in the Accounts Branch, between the amount (excess Rs. 989) now reported and that (savings 1,926) shown in the statement forwarded with my letter No. 122 W., dated 2nd November 1880, is explained as follows:—

		Rs
Net savings previously reported		1,926
Add—		
Difference due to the omission of annas and pies from the present statement	1	
Difference explained in remark L. in statement	102	
		103
Deduct—		
Cost of Audit Establishment under Local Fund Boards in addition to Rs. 595, pay of retired men of the Public Works Department, Accounts Branch, re-employed by Local Fund Boards. See preceding paragraph		3,018
Excess ...		989

6. The net saving under the Executive Branch of both permanent and temporary establishments is shown in the statement as Rs. 4,813 per month. This represents the savings on 30th September 1880, but since then the following additional establishment costing Rs. 2,980 per month has been sanctioned, viz.:—

	Rs.
Engineer Establishment, seven Assistant Engineers from Cooper's Hill College	2,350
Temporary Office Establishment	630
Total ...	2,980

7. Omitting the cost of temporary establishments which, at all times, will be fluctuating, the net result of the permanent establishment, under Executive Branch, will be as follows:—

		Rs.
Cost on 30th September 1879		1,14,850
Do. do. 1880		1,08,012
Since sanctioned—	Difference less ...	6,838
Pay of seven Assistant Engineers from Cooper's Hill College ...		2,350
	Net difference, less per mensem ...	4,488
And in the Accounts Branch—		
Cost on 30th September 1879		13,213
Do. do. 1880		14,122
	Difference, excess per mensem ...	909

due, as will be seen, to the separate establishment for "Accounts" of Local Fund Works under the Accountant-General, Madras.

The savings in the Public Works Accounts Branch taken by itself amount to Rs. 1,925-15-0, as shown in statement submitted with this office letter No. 122 W., dated 2nd November 1880.

8. If there is to be any increase to the existing scale of sanctioned establishment consequent on the increase to the number of executive divisions, and if the orders contained in Government of India Resolution No. 1,789 G., dated 15th October 1880, in regard to the revised proportions in the several grades of upper subordinates, are to be adopted in this Presidency, the saving and excess referred to in the foregoing paragraph will, in the former case, necessarily altogether disappear, while the excess will be enhanced.

9. It should be noted that the cost of travelling allowance and office contingent expenses, which are also chargeable to the head "Establishment," has not been included in the statement now submitted.

10. A copy of this letter, together with a copy of the statement accompanying it, has been forwarded to the Accountant-General, Public Works Department, for information.

5. These orders are to come into force with effect from the commencement of the current official year.

From Captain G. F. L. MARSHALL, R.E., Assistant Secretary to the Government of India, Public Works Department, (Civil Works—Irrigation,) to the Joint Secretary to the Government of Madras, Public Works Department, Irrigation Branch, dated Simla, 29th October 1880, No. 326 I.

With reference to the question raised in paragraph 3 of the Chief Engineer's note on the revised general abstract of the Progress Report of Irrigation Productive Public Works in Madras for 1879-80, forwarded with your letter No. 619 I., of the 27th September last, regarding the percentage of Establishment charges debitable to Capital Productive Public Works, I am directed to refer you to the orders lately issued in this office letter No. 169 A. I., of the 23rd instant, on the subject.

From Major D. H. TRAIL, R.E., Officiating Examiner, Public Works Accounts, to the Secretary to Government, Public Works Department, dated Madras, 26th November 1880, No. 157 W.

In continuation of this office letters noted in the margin, I have the honor to forward herewith, for the information of Government, a statement showing approximately the cost of the effective Public Works Department Establishment of this Presidency as it stood on 30th September 1879, as compared with the effective establishment on 30th September 1880, and the probable *net* savings to Government effected by the recent general reductions carried out under instructions of the Supreme Government.

Nos. 122 W. and 123 W., dated 2nd November 1880.

2. As no retirements under the terms of the Government of India, Finance and Commerce, Resolution No. 2,079, dated 31st July 1879, took place before 30th September 1879, and all such retirements in all branches of the department were quite completed on or before 30th September 1880, these two dates have been fixed upon for the purpose of comparison.

3. The entire cost of additional establishments (including the extra clerks, &c., of the Accountant-General's Madras Office) which had to be entertained by Local Fund Boards in consequence of the transfer to them of Local Fund Works, as also all pensions and present values of all gratuities and bonuses, have been taken into account, and the explanatory remarks entered in the last column of the statement show how the amounts have been arrived at when approximates only had to be used.

4. The difference of Rs. 3,329 between the amount (Rs. 26,646) entered in this statement as the total under Executive Branch in column II, and that (Rs. 29,975) reported in my letter No. 123 W., dated 2nd November 1880 as the additional cost of establishments under Local Funds is due, to the extent of Rs. 311, to the omission of the details against Petty Establishment. The details of this establishment have been omitted, as it was found impracticable to ascertain, even approximately, its present cost; please see remark J. in statement, and, to the extent of Rs. 3,018, to the exhibition of the cost of the Audit Establishments which have been entertained for the audit of the Local Funds Accounts in the offices of the Accountant-General, Madras, and Local Fund Presidents under "Accounts."

5. The difference, as regards the net result in the Accounts Branch, between the amount (excess Rs. 989) now reported and that (savings 1,926) shown in the statement forwarded with my letter No. 122 W., dated 2nd November 1880, is explained as follows :—

		Rs
Net savings previously reported		1,926
Add—		
Difference due to the omission of annas and pies from the present statement	1	
Difference explained in remark L. in statement	102	
		103
Deduct—		
Cost of Audit Establishment under Local Fund Boards in addition to Rs. 595, pay of retired men of the Public Works Department, Accounts Branch, re-employed by Local Fund Boards. See preceding paragraph		3,018
Excess ...		989

6. The net saving under the Executive Branch of both permanent and temporary establishments is shown in the statement as Rs. 4,813 per month. This represents the savings on 30th September 1880, but since then the following additional establishment costing Rs. 2,980 per month has been sanctioned, viz. :—

	Rs.
Engineer Establishment, seven Assistant Engineers from Cooper's Hill College	2,350
Temporary Office Establishment	630
Total ...	2,980

7. Omitting the cost of temporary establishments which, at all times, will be fluctuating, the net result of the permanent establishment, under Executive Branch, will be as follows :—

	Rs.
Cost on 30th September 1879	1,14,850
Do. do. 1880	1,08,012
Difference less ...	6,838
Since sanctioned—	
Pay of seven Assistant Engineers from Cooper's Hill College ...	2,350
Net difference, less per mensem ...	4,488
And in the Accounts Branch—	
Cost on 30th September 1879	13,213
Do. do. 1880	14,122
Difference, excess per mensem ...	909

due, as will be seen, to the separate establishment for "Accounts" of Local Fund Works under the Accountant-General, Madras.

The savings in the Public Works Accounts Branch taken by itself amount to Rs. 1,925-15-0, as shown in statement submitted with this office letter No. 122 W., dated 2nd November 1880.

8. If there is to be any increase to the existing scale of sanctioned establishment consequent on the increase to the number of executive divisions, and if the orders contained in Government of India Resolution No. 1,789 G., dated 15th October 1880, in regard to the revised proportions in the several grades of upper subordinates, are to be adopted in this Presidency, the saving and excess referred to in the foregoing paragraph will, in the former case, necessarily altogether disappear, while the excess will be enhanced.

9. It should be noted that the cost of travelling allowance and office contingent expenses, which are also chargeable to the head "Establishment," has not been included in the statement now submitted.

10. A copy of this letter, together with a copy of the statement accompanying it, has been forwarded to the Accountant-General, Public Works Department, for information.

From Major D. H. TRAIL, R.E., Officiating Examiner, Public Works Accounts, to the Secretary to Government, Public Works Department, dated Madras, 6th December 1880, No. 164 W.

I HAVE the honor to forward herewith, for information and such action as Government may consider necessary, a statement showing Establishment charges audited, under all heads, to end of September 1880, that is, for the first six months of the year 1880-81, as compared with the budget grants for the same modified to end of November 1880.

2. From the amounts entered in the last column of the statement against "monthly average" under modified grant and outlay, it will be observed that at present there is a monthly excess of Rs. 13,742 under "outlay," which will amount, at the end of the year, to about Rs. 1,65,000.

3. This excess will further be greatly enhanced on account of the additional outlay due to the promotions, with retrospective effect from 1st June 1880, of the thirteen Engineer Officers ordered in your Office Note No. 577, dated 2nd instant, and by the appointments of the seven Assistant Engineers who were lately sent out by the Secretary of State from the Royal Indian Engineering College, Cooper's Hill.

4. *Excluding* cost of travelling allowance, this further excess will, at the end of the year, be about Rs. 25,000, which, added to the sum referred to in paragraph 2 above, will amount to Rs. 1,90,000.

5. It is essentially necessary that a further additional grant of say 2,00,000 should be, at once, sanctioned to meet this anticipated excess, under Establishment, and I have accordingly to request sanction may be obtained at an early date to an additional grant of 2 lakhs.

6. The present outlay, as compared with the amount (Rs. 13,86,033) entered in the Provincial Budget for 1880-81, has, to end of September 1880, been Rs. 1,960 per mensem less. But as the provisions actually made in the several budgets are in the aggregate Rs. 2,56,533, as explained further on, less than the cost (Rs. 13,86,033) of the normal establishment of the Presidency entered in the Provincial Budget referred to above, the monthly average outlay becomes Rs. 13,742 in excess.

7. The difference (2,56,533) less provided for in the several budgets is made up as follows :—

Heads.	Cost of Normal Establishment detailed in Provincial Budget, Pages 17—27, under "General" including Accounts.	Provision actually made in Budgets.	Difference.
	Rs.	Rs.	Rs.
Provincial	4,09,764	3,02,919	...
Imperial, Military, and Other Services		1,00,750	...
Local and Special Funds		73,977	...
Total ...	4,09,764	4,77,646	— 67,882
Irrigation.			
Irrigation Productive Public Works	9,76,269	1,33,634	...
Special		1,22,651	...
Irrigation, Navigation		3,16,153	...
Do. do. Special		79,416	...
Total ...	9,76,269	6,51,854	3,24,415
Grand Total ...	13,86,033	11,29,500	2,56,533

8. From G.O., No. 458 A. I., dated 16th July 1880, it would appear that the matter of this anticipated deficiency in the provision for establishments has already been before Government, and has formed the subject of correspondence with the Government of India.

9. The favor of very early orders is solicited.

ORDER THEREON, 8th February 1881, No. 336 W.

ORDERED that the following letter be sent to the Government of India.

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

From the Secretary to the Government of Madras, Public Works Department, to the Secretary to the Government of India, Public Works Department, No. 337 W.

General—Establishment.

SIR,—With reference to your letter, No. 1,918 G., of 4th November 1880, calling on this Government to reconsider the scheme for the normal establishment of the Department of Public Works in this Presidency, submitted with my No. 2,277 W. of 1st October 1880, and which has been pronounced (paragraph 13) "from an economical point of view to be entirely unsatisfactory," I am desired to offer the following observations for the favorable consideration of His Excellency the Governor-General in Council.

2. The proposals of this Government as regards the number of Chief Engineers, Superintending Engineers, and with reference to the bestowal of the powers of a Superintendent of Works on Mr. Chisholm as Consulting Architect, having been accepted by the Government of India, no remark appears called for with reference to paragraphs 1, 2, and 3 of the letter under reply.

3. Paragraph 4 states the specific objections to the appointment of five selected officers with powers of Superintendents of Works and an extra staff salary of Rs. 100 per mensem. These are—(1) that the Chief Engineer for Irrigation considered that Superintendents of Works for the Godavari and Kistna Deltas were unnecessary, and that he objected to the Tanjore and Negapatam Divisions forming a charge for an officer of this class; (2) that it does not appear that the combined charge of Ganjam with Vizagapatam and (3) the Buckingham Canal require Superintendents of Works.

4. With reference to (1) and (2), I am to observe that, in the last re-organization of the department (September 1878), the following six Executive Divisions comprehended in the First Circle, viz. :—

Ganjam,
Vizagapatam,
Eastern Godávari,
Western dó.,
Eastern Kistna,
Western do.,

were formed into a charge for one Superintending Engineer, and that notwithstanding the appointment of the best officer in the department of this grade to the post, the arrangement, after a sufficiently long trial, broke down in such a way as to satisfy this Government that it could in nowise be adhered to or be again recommended for adoption.

5. The proposals made by the Chief Engineer for Irrigation took in the four Delta Divisions, but left Ganjam and Vizagapatam entirely outside of his scheme, to form part of a charge of a Superintending Engineer, which at the same time was to include divisions placed so widely apart as Cuddapah, Kurnool and Bellary, and even the Western Coast, involving a circuit of not less than two-thirds of the whole Presidency.

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General—Establishment.

SIR,—With reference to your letter, No. 1,918 G., of 4th November 1880, calling on this Government to reconsider the scheme for the normal establishment of the Department of Public Works in this Presidency, submitted with my No. 2,277 W. of 1st October 1880, and which has been pronounced (paragraph 13) "from an economical point of view to be entirely unsatisfactory," I am desired to offer the following observations for the favorable consideration of His Excellency the Governor-General in Council.

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Ganjam,
Vizagapatam,
Eastern Godávari,
Western dó.,
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5. The proposals made by the Chief Engineer for Irrigation took in the four Delta Divisions, but left Ganjam and Vizagapatam entirely outside of his scheme, to form part of a charge of a Superintending Engineer, which at the same time was to include divisions placed so widely apart as Cuddapah, Kurnool and Bellary, and even the Western Coast, involving a circuit of not less than two-thirds of the whole Presidency.

6. It is almost needless to say that such an arrangement was very much more impracticable than the one it was proposed to replace, and as such it was necessarily rejected by this Government. Colonel Mullins' proposals in fact aimed solely at creating an exclusive Irrigation Branch Establishment without sufficiently considering the requirements of the "Roads and Buildings" Branch and the general needs of the Presidency; but, as will be observed from paragraphs 41 and 42 of my letter, No. 2,277 W., of 1st October 1880, proposals of this character after mature consideration have had to be negatived by this Government, no further remark is here called for.

7. On the other hand, it had been distinctly recognized that for the management of the Delta Works relatively small charges under the old system of District Engineers (who had similar powers to the proposed Superintendents of Works) had a very marked advantage, as providing an officer of experience in each district, who should carry with him all the powers of a Superintending Engineer, though graded lower in the department and drawing less salary.

8. After the practical experiment which has now been made of officers in this position (Mr. Walch as Superintendent of Works for the two Godávari Divisions and Mr. Rundall for the two Kistna Divisions), it may be safely said that it would be impossible to secure better or closer supervision for these important works, and that to replace them now, after the advantages of the arrangement have been sufficiently proved in practice, by a single Superintending Engineer, would, in the opinion of this Government, be a retrograde measure, which they would regret to see adopted. The provision of this description of supervising authority having thus shown itself to be the best for these Northern Delta Divisions, it is needless to say that it would be equally applicable to, and necessary for, the works in the Cauvery Delta.

9. It follows on this that Ganjam and Vizagapatam must, as the outlying inaccessible charge to the north and as forming in themselves too small a circle for a Superintending Engineer, be provided for by a similar agency, though it may be admitted that, unless the present low limit for the Provincial assignments can be materially increased, the work of an officer of this grade would mainly be confined to the projection of the works which are so greatly needed for opening this most backward portion of the Presidency.

10. Lastly, it is clear from the great length (250 miles) and peculiar character of the works of the Buckingham Canal, involving the projection of a series of heavy engineering works, control of traffic, &c., that in the same way they cannot be advantageously linked with any circle forming the charge of a Superintending Engineer.

11. The arrangement of a number of charges for officers in the grade of Superintendents of Works in addition to the four Superintending Engineers' circles proper as submitted for the approval of the Government of India is thus shown to be the only one that is feasible having regard (1) to that efficiency in supervision by which alone true economy can be secured, and (2) to the geographical arrangement of the various charges.

12. The distribution of the whole of the Presidency of Madras into five circles for Superintending Engineers was proved to be impracticable from the experience gained by the re-organization of September 1878, and it is therefore needless to say that the division into four as required by the Government of India must be still more so.

13. If, after considering what has above been advanced, the Government of India are still indisposed to sanction any officer in the grade of Superintendents of Works, the only arrangement giving a chance of success would, I am to observe, be that of six Superintending Engineers' circles as already stated in my letter to the Government of India of 1st October, but in the opinion of this Government this would be greatly inferior to the scheme put forward therein.

14. Should the Government of India, however, accept the scheme sent up, this Government trusts that their decision to refuse any charge allowance may be also reconsidered on the grounds that, as these officers exercise much higher powers and

have considerably greater responsibility than ordinary Executive Engineers, it is only right and in accordance with the practice of other departments that they should receive some such allowance, not a very high one in this case—of Rs. 100 per mensem.

15. An allowance of this character is distinctly permitted by the Code of the Government of India, and, it is believed, that officers in this position have invariably in all other provinces drawn up to Rs. 200 per mensem extra to the ordinary pay of their grade.

16. In compliance with the instructions given in paragraph 4 of the Government of India letter under reply, the extra allowances have, I am to state, already been stopped from the 1st December, but this Government would urge the propriety of their being again given, at least to the present incumbents, as the duties are precisely those contemplated by the Code, and as the amount is after all but small.

17. Paragraphs 5 to 9 inclusive of the letter under reply deal with the cost of establishment, and, with a view to clear up all doubts on the subject, the Examiner has framed two statements annexed, (A) and (B), showing, *first*, the effect of the reductions ordered in establishment in 1879 as a general financial measure, and, *second*, the cost of the proposed normal establishment as sent up with my letter of 1st October.

18. It will be observed from (A) that taking into account temporary establishments and the value of the pensions, and calculating the gratuities and bonuses to retired officers on the principles laid down in the Civil Pension Code, the total saving in the Executive Branch has been only Rs. 1,883 per mensem, and in the Accounts Branch Rs. 989 after allowing for changes recently introduced in the system of auditing Local Funds under Madras Act IV of 1871 (which is not a State charge, and which changes were not induced by the Public Works reductions as a necessary consequence and relate to other services beside works), and this notwithstanding that 495 individuals in the first and 67 in the second branch were actually retired. But as the pensions of many of the retired men who took service under the Local Fund Boards have been stopped by the orders of the Government of India, the actual saving to the State while this order holds good is necessarily much greater than shown by Major Trail's figures.

19. After allowing for the cost of the new agency engaged by Local Fund Boards the saving is about Rs. 15,000 per mensem, reducible to Rs. 6,838 if the value of the compensation pension and gratuities be deducted. These figures exclude Petty Establishment which had been a purely Local Fund charge, and also the portion due to the Account Department, neither of which, properly speaking, affect the question of the Public Works Establishment under Government.

20. Whatever its results, the measure of transferring the execution of Local Fund Boards' works was, as noted in previous communication, one which gave that reality to Act IV of 1871 which its framers contemplated, and which, if that Act be retained in the Statute Book, must sooner or later have been brought about; it also enabled the Public Works Establishment to free itself of many inefficient members, and to take a much more sound position as a professional body than was possible under the old organization.

21. Even, however, if these results had not been so fully attained as is the case, it is now, I am to observe, clear that the step has been finally taken and that there is no revoking it.

22. With regard to the observation in paragraph 10, that the "Government of Madras has assigned 41 lakhs of expenditure to Local Boards," I am to submit that there is no question of assignment, as the money belongs to the several Local Fund Boards by law, and that there would thus seem to be a misapprehension on the part of the Government of India as to the character of these funds, which are derived from special rates levied for a special purpose under a special law which provides for their administration by a special agency.

23. Turning now to statement (B), it will be observed that, whereas the existing Provincial Establishment for the whole department, "Provincial" and "Imperial," costs Rs. 13·86 lakhs per annum, the normal one proposed will probably amount to

18·38 lakhs. Some adjustments on both sides of the account may have to be made, *e.g.*, if effect be given to the provisions of the Government of India Resolution, No. 1,787 G., of 15th October 1880, sanctioning revised proportions in the grades of the Upper Subordinates, about Rs. 27,000 per annum will have to be added to the total; but on the other hand certain contributions from (1) Local Fund Boards in Kurnool, Trichinopoly, &c., and (2) payments for work done by the Lithographic Establishment, &c., will come in as "*per contra*" credits.

24. It may therefore be accepted that, whereas the re-organization scheme of 1878 amounted to 21·38 lakhs (see paragraph 8 of General Fraser's letter), the proposed normal establishment will cost about 18·38 or 3 lakhs less.

25. If all the needful adjustments were made the difference would be fully $3\frac{1}{2}$ lakhs in favor of the present scheme for the normal establishment.

26. The Government of India, in paragraph 9 of the letter under reply, observe that the proportion the establishment bears to works is "out of the question after making all allowances for the area to be supervised," and again that by the proposal sent up "it will cost nearly 10 annas to spend a rupee on Public Works." From these observations and others it has become evident to this Government that the grounds of their proposal and the peculiar circumstances of this Presidency have not been so fully understood and appreciated by the Government of India as could be desired.

27. The total outlay (Provincial and Imperial) supervised by the department is at present as nearly as possible 50 lakhs, and the establishment charge for spending this, viz., 18·38, would thus amount to 36·8 per cent. and not to 60 per cent. as supposed by the Government of India; but even this gives an incorrect view as compared with other provinces, as here much of the charge for establishment employed on (Imperial) Irrigation Works is borne by the Public Works Department instead of being debited to "Revenue," a matter which it is intended shortly to submit for consideration.

28. Again, as will be seen from paragraph 35 of my letter, No. 2,277 W., of 1st October, the special want of the department, which it was intended by the normal scale to meet, was "the provision of adequate establishment for investigating projects either of general importance or specifically for famines," and was not merely a work establishment. This with the immediately succeeding observations appear, I am to observe, to have escaped the Government of India, as no notice whatever has been taken of them in the letter under reply.

29. Taking all these circumstances and observations into consideration, it appears to the Right Honorable the Governor in Council that the time has arrived, when it becomes his imperative duty, to draw the very serious attention of the Government of India to the anomalous position which Madras has held ever since the decentralization order (Resolution of Government of India, No. 3,334, of 14th December 1870). The working of this order will at once be seen from an examination of the attached statement marked (D).

30. Here taking the "charges" side it will be observed that, while under all the sub-heads, Jails, Registration, Police, Education, Medical, Miscellaneous, &c., the Provincial expenditure has, from causes beyond control, run up to an amount far above what it was only ten years ago, the Provincial income remaining practically constant, the outlay under Public Works has perforce gradually dwindled to a fraction of its former amount. In 1873-74 the Provincial outlay on Public Works was Rs. 29,81,235, whereas in 1879-80 it had been reduced to Rs. 14,69,101, of which, small as it is, one lakh had to go to meet an interest charge on the Madras Water Works. A careful review of the figures will show that if some consideration be not given by the Government of India to the question now

NOTE.—In the nine years 1871-72 to 1879-80 there has been an excess of Rs. 13,39,045 of charges over receipts.

NOTE.—The charge for Roads and Miscellaneous Public Improvements is now borne by Municipal and Local Funds raised under Madras Acts III and IV of 1871, which aggregated nearly $28\frac{1}{4}$ lakhs in 1879, showing that every effort has been made by this Presidency to accept local burdens.

pressed on their attention, and if matters be allowed to proceed in the future as in the past the total extinction of the Department of Public Works in this Presidency, so far as concerns Provincial Works, is a foregone conclusion.

31. The establishment has been simply living from hand to mouth, and although on all sides there are projects of the highest promise and of the most vital importance to the welfare of the Presidency demanding the fullest consideration, and although the orders of the Government of India as to the necessity of being prepared with projects of works in case of famine are distinct and precise, it has been absolutely impossible for this Government to give that full consideration or to carry out these orders. There have been no officers to spare even for the preliminary work of investigation, still less for detailed preparation, so that, if famine were again to come upon this Presidency, there are only a very few, and those comparatively unimportant, projects in a sufficiently advanced state to admit of their being at once put in hand, and it is needless to point out the folly, extravagance, and waste of great opportunities which results from works being suddenly undertaken, the real utility of which has not been thought out and their mode of construction properly decided upon and estimated.

32. In proof of this it may be as well to say that the great work of the last famine, the Buckingham Canal, upon which over 36 lakhs have been spent, and on which at one time no less than 100,000 people were employed, has never even yet been properly estimated for.

33. Madras, it must at the same time be observed, claims a larger proportional share of outlay than any other province as tested by principles recognized by the Government of India for the apportionment of public funds;

First, it has admittedly the most extensive zone over which famine is possible, calling for the execution of *protective* works. In the last famine 1876-1878, as shown in paragraph 60, Famine Commission Report, Part I, $19\frac{1}{2}$ millions of people were affected by this great calamity in Madras on an area of 83,800 square miles;

Second, it has in its facilities for the creation of new and the development of already existing Irrigation works, a perfectly unrivalled field for works classed as "*Productive.*"

34. In regard to this latter point, attention is invited to the annexed tabular statement marked C, the facts recorded in which are extracted from Part II, Section V, of the Famine Commission Report. By that report Madras with 7,300,000 acres shown as ordinarily irrigated stands second to the North-Western Provinces and Oudh with 11,500,000, but large as is the proportion thus given to Madras even these statements are utterly misleading as will at once be seen by a reference to the attached statement. The large figure given for the latter province is made up of:—

	ACRES.
Well irrigation	5,794,000
Rivers and ponds	3,967,000

while canals on permanently irrigated land with unfailing sources of supply have only 1,694,000; and in addition to this it appears that even this acreage is made up by adding the whole area irrigated separately in the Kharif and Rabbi crops together, much of the acreage being thus counted twice over, and an incorrect impression being given as to the area irrigated at any one time.

35. The fact is that in Irrigation works Madras stands practically alone. On its three great Delta works, it has 1,700,000 acres under irrigation at one time, and were other works of the same class added, the area under permanent irrigation of the first class would be found to be not less than two and a half, if not three, times as much as in the whole North-Western Provinces and Oudh. In fact it is not too much to assert that tested in any equitable manner Madras has more first-class irrigation than the whole of the rest of India taken together, and stands quite the leading country in the world in this respect. Moreover the character of the irrigation supplied under the Northern Canals at the best is merely flooding, only needing one-fifth of the water required in the Madras irrigation (chiefly rice) with necessarily a very much smaller yield in food crops acre for acre.

18·38 lakhs. Some adjustments on both sides of the account may have to be made, *e.g.*, if effect be given to the provisions of the Government of India Resolution, No. 1,787 G., of 15th October 1880, sanctioning revised proportions in the grades of the Upper Subordinates, about Rs. 27,000 per annum will have to be added to the total; but on the other hand certain contributions from (1) Local Fund Boards in Kurnool, Trichinopoly, &c., and (2) payments for work done by the Lithographic Establishment, &c., will come in as "*per contra*" credits.

24. It may therefore be accepted that, whereas the re-organization scheme of 1878 amounted to 21·38 lakhs (see paragraph 8 of General Fraser's letter), the proposed normal establishment will cost about 18·38 or 3 lakhs less.

25. If all the needful adjustments were made the difference would be fully 3½ lakhs in favor of the present scheme for the normal establishment.

26. The Government of India, in paragraph 9 of the letter under reply, observe that the proportion the establishment bears to works is "out of the question after making all allowances for the area to be supervised," and again that by the proposal sent up "it will cost nearly 10 annas to spend a rupee on Public Works." From these observations and others it has become evident to this Government that the grounds of their proposal and the peculiar circumstances of this Presidency have not been so fully understood and appreciated by the Government of India as could be desired.

27. The total outlay (Provincial and Imperial) supervised by the department is at present as nearly as possible 50 lakhs, and the establishment charge for spending this, viz., 18·38, would thus amount to 36·8 per cent. and not to 60 per cent. as supposed by the Government of India; but even this gives an incorrect view as compared with other provinces, as here much of the charge for establishment employed on (Imperial) Irrigation Works is borne by the Public Works Department instead of being debited to "Revenue," a matter which it is intended shortly to submit for consideration.

28. Again, as will be seen from paragraph 35 of my letter, No. 2,277 W., of 1st October, the special want of the department, which it was intended by the normal scale to meet, was "the provision of adequate establishment for investigating projects either of general importance or specifically for famines," and was not merely a work establishment. This with the immediately succeeding observations appear, I am to observe, to have escaped the Government of India, as no notice whatever has been taken of them in the letter under reply.

29. Taking all these circumstances and observations into consideration, it appears to the Right Honorable the Governor in Council that the time has arrived, when it becomes his imperative duty, to draw the very serious attention of the Government of India to the anomalous position which Madras has held ever since the decentralization order (Resolution of Government of India, No. 3,334, of 14th December 1870). The working of this order will at once be seen from an examination of the attached statement marked (D).

30. Here taking the "charges" side it will be observed that, while under all the sub-heads, Jails, Registration, Police, Education, Medical, Miscellaneous, &c., the Provincial expenditure has, from causes beyond control, run up to an amount far above what it was only ten years ago, the Provincial income remaining practically constant, the outlay under Public Works has perforce gradually dwindled to a fraction of its former amount. In 1873-74 the Provincial outlay on Public Works was Rs. 29,81,235, whereas in 1879-80 it had been reduced to Rs. 14,69,101, of which, small as it is, one lakh had to go to meet an interest charge on the Madras Water Works. A careful review of the figures will show that if some consideration be not given by the Government of India to the question now

NOTE.—In the nine years 1871-72 to 1879-80 there has been an excess of Rs. 13,39,045 of charges over receipts.

NOTE.—The charge for Roads and Miscellaneous Public Improvements is now borne by Municipal and Local Funds raised under Madras Acts III and IV of 1871, which aggregated nearly 28½ lakhs in 1879, showing that every effort has been made by this Presidency to accept local burdens.

pressed on their attention, and if matters be allowed to proceed in the future as in the past the total extinction of the Department of Public Works in this Presidency, so far as concerns Provincial Works, is a foregone conclusion.

31. The establishment has been simply living from hand to mouth, and although on all sides there are projects of the highest promise and of the most vital importance to the welfare of the Presidency demanding the fullest consideration, and although the orders of the Government of India as to the necessity of being prepared with projects of works in case of famine are distinct and precise, it has been absolutely impossible for this Government to give that full consideration or to carry out these orders. There have been no officers to spare even for the preliminary work of investigation, still less for detailed preparation, so that, if famine were again to come upon this Presidency, there are only a very few, and those comparatively unimportant, projects in a sufficiently advanced state to admit of their being at once put in hand, and it is needless to point out the folly, extravagance, and waste of great opportunities which results from works being suddenly undertaken, the real utility of which has not been thought out and their mode of construction properly decided upon and estimated.

32. In proof of this it may be as well to say that the great work of the last famine, the Buckingham Canal, upon which over 36 lakhs have been spent, and on which at one time no less than 100,000 people were employed, has never even yet been properly estimated for.

33. Madras, it must at the same time be observed, claims a larger proportional share of outlay than any other province as tested by principles recognized by the Government of India for the apportionment of public funds;

First, it has admittedly the most extensive zone over which famine is possible, calling for the execution of *protective* works. In the last famine 1876-1878, as shown in paragraph 60, Famine Commission Report, Part I, 19½ millions of people were affected by this great calamity in Madras on an area of 83,800 square miles;

Second, it has in its facilities for the creation of new and the development of already existing Irrigation works, a perfectly unrivalled field for works classed as "*Productive.*"

34. In regard to this latter point, attention is invited to the annexed tabular statement marked C, the facts recorded in which are extracted from Part II, Section V, of the Famine Commission Report. By that report Madras with 7,300,000 acres shown as ordinarily irrigated stands second to the North-Western Provinces and Oudh with 11,500,000, but large as is the proportion thus given to Madras even these statements are utterly misleading as will at once be seen by a reference to the attached statement. The large figure given for the latter province is made up of:—

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35. The fact is that in Irrigation works Madras stands practically alone. On its three great Delta works, it has 1,700,000 acres under irrigation at one time, and were other works of the same class added, the area under permanent irrigation of the first class would be found to be not less than two and a half, if not three, times as much as in the whole North-Western Provinces and Oudh. In fact it is not too much to assert that tested in any equitable manner Madras has more first-class irrigation than the whole of the rest of India taken together, and stands quite the leading country in the world in this respect. Moreover the character of the irrigation supplied under the Northern Canals at the best is merely flooding, only needing one-fifth of the water required in the Madras irrigation (chiefly rice) with necessarily a very much smaller yield in food crops acre for acre.

36. The Famine Commission, Part II, page 161, observe that there "can be no question as to the value of the Delta works," and consistently urge both the extension of these and others on the serious attention of the Government of India concluding with the following words, paragraph 66, page 165:—"In short we consider that in the Madras Presidency the subject of irrigation requires a more comprehensive and systematic treatment than it has ever yet experienced. We have little doubt that it cannot be put on a satisfactory basis without increased expenditure * * *. But without a policy of vigour as well as of judgment, irrigation in Madras will not be brought into a condition in which it will supply to the country all these extremely great advantages it can confer or afford the full protection against famine which can be obtained from it, and which in our judgment the British Government is bound to secure for the people." Yet from the way in which the provision of a proper establishment and the means for even framing the requisite projects are denied to the department, this Government cannot but feel that the just claims of the Presidency have not received the attention they deserved; not as the Right Honorable the Governor in Council feels certain owing to any desire on the part of the Government of India to undervalue the importance of the subject to the welfare of the Presidency and its people, but from the inherent difficulty of fully realising the position, and this is shown even in the letter from the Government of India now under reply, when the enforced impecuniosity of the Government of Madras is used as an argument to prevent any improvement being made in what it must be evident is a very deplorable condition for any department to be reduced to.

37. As serving to show the widely different considerations accorded to the claims of the Bombay Presidency, (for instance) it may be seen from the public accounts that the land revenue of Madras for the fourteen years, 1862-63 to 1876-77, exceeded that of Bombay by nearly 1,100 lakhs, whereas in the sixteen years extending to end of 1877-78, Bombay had assigned to it under Ordinary and Extraordinary (Productive) Works 635 lakhs more than Madras. The Madras Government, in their letter, dated

No. 781, Agricultural.

2nd April 1879, to the Government of India, with accompanying papers, has also pointed out that under an equitable estimation of the *net* Imperial revenue for ten years, while Bengal* contributed a net annual surplus of £5,667,009 and Bombay† only £2,433,615, Madras‡ had given £5,400,540.

* Area square miles	...	157,989
Population	...	60,502,897
† Area square miles	...	124,462
Population	...	16,349,206
‡ Area square miles	...	139,971
Population	...	31,358,125

38. The population of Bombay is only about one-half that of Madras, but the Right Honorable the Governor in Council desires to rest the case of Madras, not on comparison with any other province of India, but on its own inherent claims; considering, however, the capabilities for Productive Works, the frequent famines and the great population of the Presidency, it is impossible to arrive at any other conclusion but that Madras has not hitherto received that amount of consideration which the importance of its interests demand.

39. An examination of the "forecast of expenditure on Irrigation works for the five years ending 1883-84" submitted to the Famine Commission by the Bombay Government brings out this fact in a more decisive manner. From this statement it would appear that Bombay has already secured an outlay on—

	LAKHS.
A. Sanctioned works	... 97·00
B. Famine relief works	... 101·64
	198·64

and evidently intends to secure the whole of the Rs. 3,76,90,736 demanded. Notwithstanding the singular, and indeed inconsistent, support given to the Bombay schemes by the Famine Commission, they are compelled to admit it to be "mortifying" to find that only 19,300 acres received the benefit of irrigation during 1877-78. The last received Administration Report showed in fact that the accumulated deficit already amounts to over 24 lakhs, and that the actual areas under irrigation were most meagre, amounting to some 23,000 acres.

40. Comparison with Madras here and its existing irrigated area of 5,300,000 acres is quite unnecessary, and yet the fact remains that whereas Bombay has a large establishment and ample outlay on its Public Works, Madras is reduced to such an extent that it cannot even frame projects suitable for famine relief. The manner in which the Productive Works of this Presidency have been starved while other provinces have received apparently every consideration from the Government of India will however be best seen from the following brief table extracted from the Proceedings of the Government of India, 2nd November 1880, No. 174-A I.

—	Grants, 1880-81.	Actuals.		
		1879-80.	1878-79.	1877-78.
	Rs.	Rs.	Rs.	Rs.
Madras	1,55,000	1,24,241	2,40,815	3,55,279
Bombay	3,00,000	2,24,787	3,32,404	4,70,890
Bengal	14,00,000	15,80,528	25,57,900	23,74,338
North-Western Provinces and Oudh.	20,00,000	16,99,208	22,60,876	27,57,539
Punjab	23,00,000	22,65,725	26,74,380	23,46,500
Reserve	1,45,000	...	...	...
	63,00,000	58,94,488	80,66,375	83,04,546

41. In part I of the recently received report by the Indian Famine Commission it is laid down, paragraph 127, that the relief of the able-bodied should "be tendered promptly and before the people have begun to lose strength from want of food;" in paragraph 128, that the selection of the works thus required "should be the duty of the Public Works Department * * * who should be held responsible for *keeping a list of such works ready to be put in hand without delay when any such emergency occurs.* If possible one such work should be opened in each sub-division of a district in which such distress prevails."

42. In the opinion of this Government it is no exaggeration to say that in the face of these and other similar injunctions by the Famine Commission any orders by which this department are deprived of all means for fulfilling this most obvious duty of having works in readiness for famine have almost the appearance of cruel mockery.

43. It cannot be too often or too emphatically submitted that to improvise works, which can in any true sense be considered reliable (especially Irrigation works which often need years for the collection of the data) when famine has once declared itself, is simply impossible; the time for proper projection of such work has then passed, and nothing but financial failure must be counted on as the inevitable result.

44. The deplorable financial results of the Madras Irrigation and Canal Company, which was the hasty outcome of the famine of 1854 and those of probably the majority of all schemes similarily entered on in other provinces, not even excepting the late Bombay schemes, prove this incontestible fact.

45. Any Government which has only half worked out projects at hand, or which has to improvise such schemes has necessarily no other course than to make the best selection it can, usually a haphazard one, when famine appears; and that this is a position fraught with financial danger it is unnecessary to insist upon.

46. Such, however, is the position of the Madras Presidency at this moment, although the late terrible famine only closed, it may be said, yesterday; and this state of matters must in the view of this Government be perpetuated and rendered incurable if the establishment of this department is not given the means of meeting the requirements of its position.

47. The scheme sent up with my letter, No. 2,277 W., of 1st October 1880, will, it is believed, on a careful review be found to be framed on the most economical scale commensurate with efficiency, and with the most pressing needs of the Presidency. A small addition to it will probably be very soon needed owing to the lately purchased Madras Irrigation and Canal Company's works having to be provided for—

a contingency foreseen, but not specifically provided for in the normal scale sent up for acceptance.

48. It may be that the views here expressed may, if accepted, lead to the reconsideration of the Provincial assignments made by the Government of India in their Financial Department Resolution of the 14th December 1870, No. 3,334 (Accounts); but, looking to the urgent necessity for relieving the Public Works Department from its present helpless condition, the Right Honorable the Governor in Council most earnestly hopes that the much needed sanction may not be withheld pending the discussion of a question of such a complicated character.

49. I am to add that a copy of this correspondence will be forwarded for the information of the Secretary of State for India.

An Approximate Comparative Statement showing probable Net Savings to Government effected by the recent

Particulars.	Effective Establishment as it stood on 30th September 1879.				Difference.							
	Cost per Mensem.				Excess.				Less.			
	Number.	Permanent.	Number.	Temporary.	Number.	Permanent.	Number.	Temporary.	Number.	Permanent.	Number.	Temporary.
1	2	3	4	5	19	20	21	22	23	24	25	26
		Rs.		Rs.		Rs.	(b)	Rs.	(a)	Rs.		Rs.
Engineer Establishment ..	(c) 74	56,715	..	..	..	..	..	..	18	2,402	..	..
Upper Subordinate Establishment	241	27,495	2	..	..	..	..	..	91	1,849	..	..
Lower Subordinate do. ..	217	7,812	..	..	..	..	20	600	(d) 217	940	..	180
Office Establishment ..	904	22,828	12	..	..	..	96	1.605	507	2,147	..	..
Total ..	1,436	1,14,850	14	..	..	..	116	2.205	833	6,838	..	180
					2,205					7,018		
										2,205		
Petty Establishment	4	253	854	7	..	..	..	..				
								Net ..		4,813		
					Deduct cost of additional establishment sanctioned since 30th September 1880, as per paragraph 6 of letter, No. 157 W., dated 26th November 1880, forwarding this statement.					2.980		
								Net on present date ..		(r) 1.833		
Examiner's Establishment ..	3	(k) 3,063	..	..	..	(n) 648	..	..	..	..	..	..
Accountants and Clerks ..	164	10,150	40	..	..	261	2	(o) 80	..	..	..	..
Total ..	..	13,213	..	..	..	(p) 909	..	80	..	..	..	..
	..	..	..	..	989					....		
					(r) 989					....		

(b) This column represents difference between columns 2 and 7.
(c) Do. do. between do. 4 and 9.
(d) Of this total the numbers against "Engineer" and "Upper S over 12 years and under 15 years. Average age 40 years.
(e) It is believed that mostly all the Lower Subordinates whose sch.
(f) This amount has been arrived at by assuming that the less cost pensions refer.
(g) This amount represents the pension of 66 men at an average of men to whom these gratuities refer.
(h) This represents the total amount of gratuities of 324 men at an e Establishments actuals, and in the case of Lower Subordinate and Office Establish-
The amounts entered in this column have been calculated on ments approximates. Average age 40 years.
(j) It has been found impracticable to ascertain the present cost of to the Public Works Department were taken over by Local Fund Boards along with the Local Fund Works, excepting a few appertaining been submitted to this office on behalf of this establishment.
(k) This represents the pay and allowances of one Examiner and attached to this office. His pay and allowances, amounting to Rs. 420 per mensem, have been omitted from the figures entered in this statement.
(l) The difference (Rs. 102) between this amount and that entered
(m) This number were actually retired in the Accounts Branch giv Rs. 261 per mensem has actually resulted.
(n) The *actual* excess against Examiner Establishment is Rs. 750 (l).
(o) Represents pay of two retired Accountants, whose services are
(p) Omitting the cost of temporary establishment, the actual exces ties, &c.
(q) The non-agreement of the differences in the numbers entered
(r) This saving of Rs. 1,833 will further be reduced or altogeth- excess in the Accounts Branch.

B.

ESTIMATE of the Cost of the Public Works Establishments according to the proposals contained in letter No. 2,277 W., dated 1st October 1880.

NUMBER. 1880-81.	NUMBER. 1881-82.	Particulars.	Salary of Office.	ESTIMATE FOR 1881-82. Per Mensem.	Per Annum.	Total.	Estimate for 1880-81.	Remarks.
		ENGINEER ESTABLISHMENT.						
		Chief Engineers.	RS.	RS.	RS.	RS.	RS.	
1	1	Chief Engineer, 1st Class, and Secretary to Government, General and Buildings and Roads Branches.	2,500					
		Net Military pay proper of a Colonel, R.E.	304⅔					
1	1	Chief Engineer, 2nd Class, and Joint Secretary to Government, Irrigation Branch.	2,000		2,804			
		Net Military pay proper of a Colonel, R.E.	304⅔					
					2,304			
2	*2	Total, Chief Engineers ..	..		5,108	61,296	..	61,296
		Superintending Engineers.						
2	2	Superintending Engineers, 1st Class.	1,600		3,200			
1	1	Do. do. 2nd Class ..	1,350		1,350			
1	1	Do. do. 3rd " ..	1,100		1,100			
		Difference between consolidated salary and the aggregate of Staff pay and Military pay and allowance of a Lieutenant-Colonel, R.E. (*Superintending Engineer, 1st Class*).	202⅔		202			
		Net Military pay proper of a Lieutenant-Colonel, R.E. (*Superintending Engineer, 1st Class*).	243½		244			
		Difference between the aggregate of Staff pay and Military pay and allowances and the consolidated salary of a Lieutenant-Colonel, R.E. (*Superintending Engineer, 2nd Class*).	402⅔		402			
		Difference between the aggregate of Staff pay and Military pay and allowances and the consolidated salary of a Major, R.E. (*Superintending Engineer, 3rd Class*).	240⅔		241			
	4	Total, Superintending Engineers.	..		5,739	80,368		
		Executive Engineers.						
5	†5	Executive Engineers, 1st Grade.	950		4,750			
6	†8	Do. do. 2nd Grade ..	800					
3	9	Do. do. 3rd " ..	650		6,490			
11	11	Do. do. 4th " ..	550		5,850			
		Difference between the pay of the Consulting Architect and Executive Engineer, 1st Grade.	250		6,050			
		Difference between the aggregate of Staff pay and Military pay and allowances and the consolidated salary of four (Majors, R.E.)	290⅔		250			
		Difference between consolidated salary and maximum salary of one Major, R.E.	282½		1,161			
					283			
							75,852	

* Omitting Col. Shaw-Stewart, R.E., as Railway Branch Officers are not included.

† Omitting Major C. J. Smith, as Railway Branch Officers are not included.

‡ Omitting Captain Cooke, R.E., do. do.

Estimate of the Cost of the Public Works Establishments, &c.—*cont.*

NUMBER. 1880-81.	NUMBER. 1881-82.	Particulars.	Salary of Office.	ESTIMATE FOR 1881-82. Per Mensem.	Per Annum.	Total.	Estimate for 1880-81.	Remarks.
		ENGINEER ESTABLISHMENT—*cont.*	RS.	RS.	RS.	RS.	RS.	
		Executive Engineers—cont.						
		Difference between consolidated salary and the aggregate of Staff pay and full Military pay and allowances of two Captains, R.E.	133⅓	267				
		Net Military pay proper of two Captains, R.E.	140	280				
		Difference between the aggregate of Staff pay and Military pay and allowances of a Captain, R.E.	183⅓	184				
		Net Military pay and allowances of four Lieutenants, R.E.	70	280				
24	*33	Total ..	..	†25,758				* Omitting two Railway Branch Officers.
		Deduct moiety of pay and allowances of a Lieutenant, R.E. (Lieutenant Baddeley) chargeable to Public Works Workshops.	..	335				† Does not include the special allowance at Rs. 100 for five Superintendents of Works added at end of "Engineer Establishment."
		Net Total, Executive Engineers.	..	25,423	3,05,076	..	2,26,524	
		Assistant Engineers.						
12	15	Assistant Engineers, 1st Grade.	450	6,750				
24	26	Do. do. 2nd Grade ..	350	9,100				
..	3	Do. do. 3rd " ..	250	750				
		Three Supernumerary Assistant Engineers, 2nd Grade.	350	1,050				
		Net Military pay proper of two Lieutenants, R.E.	70	140				
		Difference between the consolidated salary and the Staff pay and Military allowances of three Lieutenants, R.E.	65⅔	197				
36	44	Total, Assistant Engineers.	..	17,987	2,15,844	..	1,65,900	
		Total, Engineer Establishment.	..	..	..	6,63,084		
		Special allowance at Rs. 100 each for five Superintendents of Works.	100	500	6,000	6,000		
		Grand Total, Engineer Establishment.	..	..	..	6,69,084	5,29,572	
		UPPER SUBORDINATE ESTABLISHMENT.						
		Sub-Engineers.						
4	6	Sub-Engineers, 1st Grade ..	400	2,400				
4	5	Do. 2nd " ..	300	1,500				
6	11	Do. 3rd " ..	250	2,750				
		Difference of Military pay of a Lieutenant and Deputy Assistant Commissary (Warrant Officer) on receipt of consolidated salary of an Assistant Engineer, 1st Grade.	50	50				
		Extra pay of a Captain and Deputy Commissary on receipt of pay and allowances of an Upper Subordinate.	150	150				
14	22	Total, Sub-Engineers ..	..	6,850	82,200			

Estimate of the Cost of the Public Works Establishments, &c.—*cont.*

Number. 1880-81.	Number. 1881-82.	Particulars.	Salary of Office.	Estimate for 1881-82. Per Mensem.	Estimate for 1881-82. Per Annum.	Estimate for 1881-82. Total.	Estimate for 1880-81.	Remarks.
		UPPER SUBORDINATE ESTABLISHMENT—*cont.*	Rs.	Rs.	Rs.	Rs.	Rs.	
		Supervisors.						
12	17	Supervisors, 1st Grade ..	200	3,400				
18	28	Do. 2nd ,, ..	150	4,200				
		Military pay and allowances of two Conductors.	20	40				
		Do. do. of seven Sub-Conductors.	30	210				
30	45	Total, Supervisors ..	..	7,850	94,200	..	84,440	
30 } 30 } 40	* 111	*Overseers.* Overseers	80	8,880				* Distribution of Overseers among grades not given; cost calculated on mean pay (*i.e.*) $\left(\frac{60+80+100}{3}\right)$ Rs. 80 per mensem.
		Military pay and allowances of about thirteen Sergeants.	46	598				
100	111	Total, Overseers ..	..	9,478	1,13,736	..	99,120	
		Total, Upper Subordinate Establishment.	..	..	2,90,136	..		
		Deduct the pay of a Sub-Engineer, Third Grade, chargeable to Workshops.	250	250	3,000			
		† *Net Total, Upper Subordinate Establishment.*	..	..	..	2,87,136	2,15,160	† Actuals on this date.
10	18	*Sub-Divisional Allowance for 18 Upper Subordinates.*	30	540	6,480	6,480	3,600	
		Grand Total, Upper Subordinate Establishment.	..	..	..	‡2,93,616	2,18,760	
		LOWER SUBORDINATE ESTABLISHMENT.						
..	(*a*) 5	Sub-Overseers, 1st Grade ..	60	300				
..	(*b*) 15	Do. 3rd Grade ..	20	300				(*a*) Two for Kurnool and three for Trichinopoly. (*b*) Six for Kurnool, two for Vizagapatam, and seven for Trichinopoly.
		Total, Lower Subordinate Establishment.	..	600	7,200	7,200	..	G.O., No. 1,935 W., dated 12th August 1880; and G.O., No. 95 W., dated 15th January 1880; No. 137 W., dated 19th January 1880.
		PETTY ESTABLISHMENT.						
..	25	Store-keepers as per G.O., No. 1,204 W., dated 28th May 1880.	15, 20, 25 & 30	600				§ G.O., No. 1,382 W., dated 14th June 1880.
..	1	§ Assistant Apothecary ..	62½	62½				G.O., No. 1,346 W., dated 8th June 1880.
..	4	§ Hospital Assistants with Jeypore allowance at Rs. 25 for one.	25, 40 and 60	175				
..	1	§ Gumastah	5	5				G.O., No. 1,148 W., dated 14th May 1880.
..	1	‖ Maistry	40	40				G.O., No. 1,935 W., dated 12th August 1880.
..	11	§ Lascars, Toties, Cook, &c., of the Medical Establishment.	2 to 7	44½				‖ G.O., No. 1,837 W., dated 22nd July 1880.

N.B.—(1) The additional Military pay and allowances of Military Officers and Subordinates entered in column "Estimate for 1881-82" represent actuals (*i.e.*) the allowances which are actually being drawn on this date.

(2) The cost of Upper Subordinate Establishment as shown above has been arrived at by distributing the total number (178) into grades as per "statement annexed to letter No. 2,277 W., dated 1st October 1880, to the Government of India. But if the provisions of Government of India Resolution No. 1,789 G., dated 15th October 1880, sanctioning revised proportions as regards grades are adopted, the cost of this establishment (total 178) *excluding* Military allowances will be Rs. 26,720 per mensem or ‡ Rs. 320,640 per annum.

Estimate of the Cost of the Public Works Establishments, &c.—*cont.*

Number. 1880-81.	Number. 1881-82.	Particulars.	Salary of Office.	Estimate for 1881-82. Per Mensem.	Estimate for 1881-82. Per Annum.	Estimate for 1881-82. Total.	Estimate for 1880-81.	Remarks.
		PETTY ESTABLISHMENT—*cont.*	Rs.	Rs.	Rs.	Rs.	Rs.	
360	* 450	Lascars	6	2,700	..	..	25,920	* This includes the 12 lascars sanctioned for Public Works Stores.
		Total, Petty Establishment.	..	3,627	43,524	43,524	25,920	
		OFFICE ESTABLISHMENT.						
		For Chief Engineer and Secretary to Government, Public Works Department.						
1	1	Chief Assistant	† 600	600				† *Vide* Office note from the Secretary to Government, Public Works Department, dated 9th December 1880.
1	1	Second Assistant	† 300	300				
1	1	Clerk, 1st Class, 3rd Grade..	225	225				
2	2	Do. 2nd ,, 2nd ,, ..	140	280				
1	1	Do. 2nd ,, 3rd ,, ..	110	110				
5	5	Do. 3rd ,, 2nd ,, ..	70	350				
3	3	Do. 3rd ,, 3rd ,, ..	55	165				
1	1	Do. 4th ,, 1st ,, ..	45	45				
2	2	Do. 4th ,, 2nd ,, ..	35	70				
1	1	Do. 4th ,, 3rd ,, ..	25	25				
				2,170				
2	2	Draughtsmen, 1st Class ..	60	120				
1	1	Do. 2nd Class ..	42½	42½				
				162½				
2	2	Muchies or Daftries ..	13 & 14	27				
7	7	Head Messengers ..	9 & 11	20				
		Messengers	7	49				
		Total, Public Works Secretariat.	..	2,428½	29,142	..	29,100	
		‡ *Lithographic Establishment.*						‡ *Vide* G.O., No. 1,449 W., dated 21st June 1880.
1		Superintendent	250	250				
1		Head Draughtsman ..	120	120				
1		Second do. ..	100	100				
1		Third do. ..	80	80				
1		Fourth do. ..	60	60				
1		Fifth do. ..	40	40				
1		Sixth do. ..	30	30				
1		Seventh do. ..	25	25				
1		Eighth do. ..	20	20				
1		Ninth do. ..	15	15				
1		Tenth do. ..	10	10				
1		Tracer and Recordkeeper ..	25	25				
1		Do. and Muchi ..	16	16				
1		Head Printer	20	20				
1		Second do.	12	12				
1		Third do.	12	12				
2		Pressmen	9	18				
6		Do.	8	48				
2		Do.	7	14				
2		Do.	5	10				
		Total, Lithographic Establishment.	..	925	11,100	..	3,000	
		§ *For Chief Engineer and Joint Secretary to Government, Irrigation Branch.*						§ G.O., No. 491 W., dated 3rd March 1880.
1		Clerk, 1st Class, 3rd Grade..	225	225				
2	1	Do. 2nd ,, 2nd ,, ..	140	140				
1	1	Do. 2nd ,, 3rd ,, ..	110	110				
1	1	Do. 3rd ,, 1st ,, ..	90	90				
		Do. 3rd ,, 2nd ,, ..	70	70				

Estimate of the Cost of the Public Works Establishments, &c.—*cont.*

Number. 1880-81.	Number. 1881-82.	Particulars.	Salary of Office.	Estimate for 1881-82. Per Mensem.	Estimate for 1881-82. Per Annum.	Estimate for 1881-82. Total.	Estimate for 1880-81.	Remarks.
		OFFICE ESTABLISHMENT—*cont.*	RS.	RS.	RS.	RS.	RS.	
		**For Chief Engineer and Joint Secretary to Government, Irrigation Branch*—cont.						
1	1	Clerk, 3rd Class, 3rd Grade..	55	55				* G.O., No. 491 W., dated 3rd March 1880.
..	2	Do. 4th „ 1st „ ..	45	90				
3	3	Do. 4th „ 2nd „ ..	35	105				
4	1	Do. 4th „ 3rd „ ..	25	25				
2	1	Draughtsman, 1st Class ..	60	60				
..	2	Do. 2nd „ ..	42½	85				
3	2	Do. 3rd „ ..	25	50				
	1	Reference-picker	10	10				
	1	Muchi	10	10				
..	2	Head Messenger	8	8				
1	2	Do.	7	14				
3	3	Do.	6	12				
22	27	Lascars	7	21				
		Total Office Establishment for Engineer for Irrigation.	..	1,180	14,160	..	11,256	
..	4	Office Establishments for 4 Superintending Engineers. For the cost of each, *vide* Appendix C, No. 4, G.O., No. 3,674 W., dated 18th September 1878.	413½	1,654	19,848			
..	14	Office Establishments for 5 Superintendents of Works and nine First-class Divisions. For cost of each, *vide* Appendix C, No. 5, above.	273	3,822	45,864			
..	10	Office Establishments for 10 Second-class Divisions. For the cost of each, *vide* Appendix C, No. 6, G.O., No. 3,674 W., dated 18th September 1878.	253	2,530	30,360			
..	4	Office Establishment for 4 Third-class Divisions. For cost of each, *vide* Appendix C, No. 7, G.O., No. 3,674 W., dated 18th September 1878.	220½	882	10,584			
		Office Establishment for Consulting Architect as per particulars below:—						
		One Clerk, 4th Class, 1st Grade	RS. 45					
		One Draughtsman and Estimator ..	145					
		One Draughtsman and Estimator, 2nd Class	†42½					
		One Draughtsman and Estimator, 3rd Class	25					
		One Messenger at 7..	7					
		One do. at 6..	6					
			270½	270½	270½	3,246		
		Office Establishment for Public Works Stores‡ as under:—						
		One Storekeeper (Clerk), 2nd Class, 2nd Grade ..	RS. 140					
		One Assistant Storekeeper (Clerk), 3rd Class, 2nd Grade.	70					
		One Clerk, 4th Class, 2nd Grade ..	35					
		One Clerk, 4th Class, 3rd Grade ..	25					
		One Duffadar ..	8					
		Two Peons at 7 ..	14					
		Two do. at 6½ ..	13					
			305	305	305	3,660		

See last page "Office Establishment."

† *Vide* G.O., No. 1,950 W., dated 14th August 1880.

‡ G.O., No. 1,147 W., dated 14th May 1880.

Estimate of the Cost of the Public Works Establishments, &c.—*cont.*

Number. 1880-81.	Number. 1881-82.	Particulars.	Salary of Office.	Estimate for 1881-82. Per Mensem.	Estimate for 1881-82. Per Annum.	Estimate for 1881-82. Total.	Estimate for 1880-81.	Remarks.
		OFFICE ESTABLISHMENT—*—cont.*	RS.	RS.	RS.	RS.	RS.	
		**For Chief Engineer and Joint Secretary to Government, Irrigation Branch*—cont.						
		Office Establishment to be provided for 4 Executive Engineers on special projects.	40	160	1,920			* G.O., No. 491 W., dated 3rd March 1880.
		Office Establishment to be provided for 51 Sub-Divisional Officers. Appendix C, No. 10, G.O., No 3,674 W., 18th Sept. 1878—						
		One Clerk, 4th Class, 3rd Grade ..	RS. 25					
		One Messenger ..	6					
			31	31	1,581	18,972		
		Office Establishments for 50 Upper Subordinates above the rank of Overseer at—						
		One Clerk, 5th Class, 1st Grade.	17½	875	10,500			
		Office Establishments for 111 Overseers.	12½	1,387½	16,650			
		Toll Establishment for the upkeep of Buckingham Canal as per G.O., No. 2,510 W.,† 2nd Nov. 1880.	761	761	9,132			† For details, see G.O. quoted.
		Pay of Sooba Row,‡ Clerk, Superintending Engineer's Office, Third Circle (not absorbed yet).	25	25	300			‡ G.O., No. 1,581 W., dated 6th July 1880.
		Total "Office Establishment" under "Construction." (*See Budget* 1880-81.)	..	..	2,25,438	..	1,08,910	
		NOTE.—No personal allowance has been provided for, as the mean pay entered will, it is believed, cover the charges on account of such allowances.						
		Total, Office Establishment.	..	..	..	2,25,438	1,52,266	
		IRRIGATION ESTABLISHMENT.						
		Survey	..	..	15,000	§ 15,000	15,000	§ Details for Irrigation Establishment not yet received from the Chief Engineer for Irrigation.
		Water Regulation ..	..	..	84,038			
		Navigation	..	..	28,989			
		River Conservancy ..	..	..	2,568			
						§ 1,15,595	1,15,595	
		Special Revenue Investigations by Mr. Wilson.						The amount provided for in the last year's budget has therefore been taken as an approximation.
		Office Establishment required for the preparation of Irrigation Accounts—*Vide* G.O., No. 443-A. I., dated 6th August 1879.	..	..	10,000	10,000	13,000	
		Total, Irrigation Estabt. ..	..	..	..	1,40,595	1,43,595	
		TEMPORARY ESTABLISHMENT.	..	..	..	35,000	25,000	
		LOCAL ALLOWANCES.						
		Upper Godávari Allowance.	50	50	600	..	..	G.O., No. 1,203 W., dated 20th May 1880; G.O., No. 2,560 W., dated 8th Nov. 1880; and paras. 33, 35, and 673 of the Madras Public Works Code.
		Wynaad Allowance	..	..	2,000	..	..	
		Potingy Ghat or Jeypore Allowance.	..	..	3,000	..	..	
		Presidency House Rent ..	..	555	6,660	..	..	
		Do. Allowances ..	..	600	7,200	..	..	
		Total, Local Allowances..	..	..	19,460	19,460	10,000	
		Total, Salaries (see Abstract next page).	..	..	..	14,33,917	11,05,113	

Estimate of the Cost of the Public Works Establishments, &c.—*cont.*

Number. 1880-81.	Number. 1881-82.	Particulars.	Salary of Office.	Estimate for 1881-82. Per Mensem.	Per Annum.	Total.	Estimate for 1880-81.	Remarks.
		LOCAL ALLOWANCES—*cont.*	RS.	RS.	RS.	RS.	RS.	
		Travelling Allowances ..	..	..	..	2,00,000	1,10,000	
		Contingencies including postage—						
		4 Superintending Engineers' Offices.						
		5 Superintendents of Works' Offices.						
		24 Executive Divisional Offices.						
		33 at Rs. 100 per mensem		3,300	..	..	..	
		2 Chief Engineers—						
		Secretary to Government, Public Works Department .. RS. 500						
		Chief Engineer for Irrigation 150						
		650 ..		650	..	..	..	
				3,950	47,400	47,400	40,200	
		Grand Total, Executive Branch. ..		..	..	16,81,317	12,55,313	
		Abstract of the foregoing.						
		Engineer Establishment		..	6,69,084	..	5,29,572	
		Upper Subordinate Establishment.		..	2,93,616	..	2,18,760	
		Lower Subordinate Establishment. ..		..	7,200	..	..	
		Petty Establishment		..	43,524	..	25,920	
		Office do.		..	2,25,438	..	1,52,266	
		Irrigation do.		..	*1,40,595	..	1,43,595	
		Temporary do.		..	35,000	..	25,000	
		Local Allowances		..	19,460	..	10,000	
		Total, Salaries		..	14,33,917	..	11,05,113	
		Travelling Allowances		..	2,00,000	..	1,10,000	
		Contingencies		..	47,400	..	40,200	
		Grand Total, Executive Branch. ..		..	..	16,81,317	12,55,313	
		Grand Total, Accounts Branch. ..		..	..	1,57,060	1,30,720	
		Total, Public Works Department, Madras Presidency. ..		..	..	†18,38,377	†13,86,033	
		ACCOUNT ESTABLISHMENT.						
		Examiners.						
1	1	Examiner, 1st Class, 2nd Grade.	1,350	..	..	..	..	
		Difference between the Staff pay and Military pay and allowances and the consolidated salary of a Major, R.E.	40⅞	1,390⅞	..	..	..	
2	2	Deputy Examiners, 1st Grade.	550	1,100	..	..	..	
		Difference between the pay and allowances of a Staff Corps Officer and that of a Civilian.	50	50	..	..	..	
3	3	Total, Examiner Establishment. ..	..	2,540⅞	30,490	..	32,190	
		Accountants.						
1	1	Accountant, 1st Grade ..	400	400	..	..	..	
3	3	Do. 2nd ,, ..	295	885	..	..	..	
4	4	Do. 3rd ,, ..	200	800	..	..	..	

*Details for Irrigation, Survey, Water Regulation and River Conservancy Establishment not yet received from Chief Engineer for Irrigation. The amounts as shown in the last year's budget have therefore been taken.

† This does not include the pay and allowances of the Railway Branch Officers and Establishment.

Estimate of the Cost of the Public Works Establishments, &c.—*cont.*

Number. 1880-81.	Number. 1881-82.	Particulars.	Salary of Office.	Estimate for 1881-82. Per Mensem.	Per Annum.	Total.	Estimate for 1880-81.	Remarks.
		ACCOUNT ESTABLISHMENT —*cont.*	RS.	RS.	RS.	RS.	RS.	
		Accountants—cont.						
10	10	Accountant, 4th Grade ..	115	1,150	..	..	..	
34	34	Do. 5th ,, ..	57½	1,955	..	..	..	
52	52	Total, Accountants ..	..	5,190	62,280	..	62,280	
		Clerical Establishment.						
1	1	Clerk, 2nd Class, 2nd Grade.	140	140	..	..	..	
1	1	Do. 3rd ,, 1st ,,	90	90	..	..	..	
1	1	Do. 3rd ,, 2nd ,,	70	70	..	..	..	
3	3	Do. 3rd ,, 3rd ,,	55	165	..	..	..	
5	5	Do. 4th ,, 1st ,,	45	225	..	..	..	
6	6	Do. 4th ,, 2nd ,,	35	210	..	..	..	
10	10	Do. 4th ,, 3rd ,,	25	250	..	..	..	
3	3	Do. 5th ,, 1st ,,	17½	52½	..	..	..	
		Total, Clerks ..	..	1,202½	14,430	..	..	
		Menial Servants ..	..	102½	1,230	..	..	
		Total, Office Establishment.	..	..	15,660	16,660	15,660	
		Local Allowances.						
		Presidency House Rent } Do. Allowance }	..	..	18,000	18,000	10,000	
		Total Salaries	..	..	..	1,26,430	1,20,130	
		Travelling Allowances ..	..	..	..	2,400	2,400	
		Contingencies	..	..	..	4,500	4,500	
		Grand Total, Permanent ..	..	..	..	1,33,330	1,27,030	
		Deduct contributions for four Accountants as follows :—						
		Madras Harbour Works. 1						
		Presidency Workshops. 1						
		Dowlaishweram do. .. 1						
		Central Office 1						
		4	..	..	..	5,910	5,910	
		Net Total, Permanent Establishment.	..	..	..	1,27,420	1,21,120	
		Temporary Office Establishment for the preparation of Capital and Revenue Accounts—*Vide* G.Os., Nos. 3,443, 412 I., and 948 I., dated 3rd December 1875, 15th May 1878, and 21st November 1878, respectively ; *vide* also this Office No. 145 W., dated 18th November 1880.	..	800	9,600	9,600	9,600	
		Grand Total, Account Establishment.	..	..	..	1,37,020	1,30,720	
		Accountants.						
		Additional Account Establishment which will be necessary according to rule if the proposals embodied in letter, No. 2,277 W., dated 1st October 1880, to the Government of India are sanctioned.	..	..	1,055	..	..	
		Clerks and Menial Servants.	..	..	265	..	..	
		Presidency Allowance and House Rent.	..	..	350	..	..	
			..	..	1,670	20,040	..	
		Grand Total, Account Establishment.	..	..	..	1,57,060	..	

C.

Statement of Irrigation of various classes extracted from Part II, Famine Commission Report, Section V.

Class.	—	Funds.	Punjab.	North-West Provinces.	Oudh.	Madras.	Bengal.	Bombay.	Sindh.	Remarks.
			ACRES.	ACRES.	ACRES.	ACRES.	ACRES.	ACRES.	ACRES.	
I.	Perennial Canals...	Public ...	740,000	1,694,000	...	*1,700,000	360,000	† 17,000	...	In the Punjab, North-West Provinces, and Oudh it is believed that the acreage both of the Khareef and Rabbi crops are given. Were this done in Madras the acreage would be greatly increased in the returns. Moreover in Madras no entry is made under "Small Channels, &c.," of which there are large areas in the Southern Districts.
II.	Tanks	Public or Private according to circumstances.	...	...	...	3,522,000	...	...	...	
III.	Inundation Canals.		933,000	...	...	...	...	...	1,800,000	
IV.	Small Channels, &c.	Private ...	642,000	1,985,000	1,982,000	...	...	450,000	500,000	
V.	Ponds		143,000							
VI.	Wells		3,176,000	4,480,000	1,314,000	2,000,000	600,000			
		Total ...	5,634,000	8,159,000	3,296,000	7,222,000	960,000	467,000	2,300,000	
				11,455,000				2,767,000		

* Cauvery, Kistna, and Godávari only. † Rose to 25,000 in 1877.

D.

Receipts.	Estimated Receipts in 1870-71.	Actuals for 1871-72.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	Remarks.
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	
Imperial Allotment for Provincial Services.	73,94,880	76,96,292	79,74,658	81,59,040	85,38,539	83,08,266	81,13,735	80,83,000	80,75,063	* 84,86,120	*Including four lakhs for Stationery.
Jails	73,000	2,64,856	1,65,807	2,11,923	2,36,656	2,56,524	3,19,804	3,39,597	3,27,023	2,58,887	
Registration	3,40,000	3,54,749	3,26,402	3,31,150	3,71,800	3,80,530	3,92,035	4,45,524	5,20,375	5,30,164	
Police	3,23,500	82,458	28,646	26,995	26,250	37,680	57,270	78,457	1,01,948	1,63,639	
Education	69,000	1,04,088	1,20,950	52,916	55,397	28,698	63,024	37,035	1,58,545	1,54,479	
Medical	...	10,048	11,626	11,051	1,86,513	62,213	37,072	35,279	52,351	1,45,993	
Printing	12,600	28,031	31,933	27,408	27,340	26,723	26,125	27,244	27,020	31,806	
Marine	...	...	...	24,779	24,373	25,141	19,618	11,118	12,331	17,629	
Miscellaneous ...	...	39,059	90,974	84,683	1,01,178	1,32,850	1,39,365	1,45,963	95,180	3,10,127	
Public Works ...	...	55,064	86,451	57,802	51,836	79,669	1,01,418	1,92,968	1,76,190	2,61,665	
Total ...	...	86,34,645	88,37,447	89,87,747	96,19,882	93,38,294	92,69,466	93,96,185	95,46,026	†1,03,60,509	† This year's receipts are not much above those of preceding years; if the new grant of 4 lakhs for Stationery be excluded, and 2 lakhs under "Miscellaneous," representing recoveries, much of the remaining difference is due to the receipts from the Buckingham Canal.
Charges.	Estimated Charges in 1870-71.										
Jails	9,19,830	8,23,384	8,54,306	9,53,703	8,61,909	10,57,532	13,66,118	9,75,918	12,20,187	13,31,818	
Registration	2,29,700	2,38,292	2,32,921	2,30,106	2,44,781	2,66,562	2,82,636	3,06,471	3,47,597	3,65,131	
Police	35,07,300	33,96,293	33,83,985	34,56,133	35,67,250	35,39,907	40,01,750	34,40,060	37,18,517	38,20,703	
Education	9,00,520	8,06,853	8,72,273	9,96,352	7,30,575	8,75,308	8,54,220	9,32,888	9,91,300	10,05,461	
Medical	6,16,960	4,24,057	5,03,708	6,66,378	7,29,714	5,87,429	5,72,979	6,76,042	7,10,450	6,32,876	
Printing	2,58,400	2,47,157	2,39,952	2,50,981	2,21,997	2,46,357	2,75,088	3,13,555	3,06,990	2,74,096	
Marine	...	..	10,964	8,409	11,886	...	...	...	7,074	26,840	
Miscellaneous ...	...	2,15,668	2,31,218	4,02,753	3,08,663	14,66,033	5,66,735	2,47,828	4,69,903	4,56,435	
Minor Establishments.	...	...	1,89,806	1,42,317	1,44,506	2,30,831	2,38,195	2,15,029	1,98,911	2,01,329	
Public Works ...	23,34,550	20,41,337	22,51,572	29,81,235	26,47,962	10,91,566	17,41,153	19,31,710	17,81,450	14,69,101	
Office Rent, Rates and Taxes	...	46,863	65,777	58,319	67,853	85,032	73,911	82,783	87,251	1,20,421	
Refunds	...	...	19,686	4,657	2,648	4,601	4,389	7,762	15,183	8,515	
Stationery	...	...	...	...	...	...	...	...	...	4,16,174	
Total ...	...	82,89,904	88,56,168	1,01,51,343	95,39,744	94,51,158	99,77,174	91,30,046	98,54,813	1,01,28,900	

Abstract.

	Rs.
Total Receipts 1871-72 to 1879-80	8,39,90,295
Do. Charges do.	8,53,29,260
Excess Charges ..	13,39,045

PUBLIC WORKS LETTER FROM FORT ST. GEORGE,

Dated 14th March 1881, *No.* 15.

MY LORD MARQUIS,—We have the honor to forward for your Lordship's information the accompanying copies of correspondence ending with our Secretary's letter, No. 337 W., dated 8th February 1881, to the Government of India, on the subject of the normal Establishment to be allowed to the Madras Government for the execution of public works in this Presidency.

2. We particularly desire to invite your Lordship's attention to the arguments which have been adduced to show the unfavorable position in which Madras has been placed as compared with other parts of India, not only in regard to the strength of its Public Works Establishments, but also in respect to the amount of the grant for useful and remunerative public works.

3. Projects of the greatest promise are perforce deferred for want of the requisite Engineering Establishment to investigate and elaborate their details; while the experience of the recent wide-spread and destructive famine in Southern India, and the recommendations of the Famine Commission for the mitigation of future calamities of the kind, point alike to the imperative necessity of having schemes suitable for this object investigated with the least possible delay.

4. We have endeavoured to impress upon the Government of India the fact that unless the Establishments of the Public Works Department of this Presidency are maintained on an efficient footing, we shall be as unprepared to cope with future famines as we were when visited by the last, and we hope to receive your Lordship's support in our efforts to give practical effect to that part of the Report of the Famine Commission in which it is enjoined that a list of works should be kept in readiness by the Public Works Department so as to be available without delay on the occurrence of any emergency, as also in regard to "Productive" Public Works, for the construction of which this Presidency offers quite unrivalled advantages.

Exd. S. T. Austin.

PUBLIC WORKS DEPARTMENT.

No. 17.

TO THE MOST HONORABLE THE MARQUIS OF HARTINGTON,
SECRETARY OF STATE FOR INDIA.

My Lord Marquis,—In continuation of our Despatch No. 5, dated 27th January 1881, we have the honor to forward five copies of each of the following Budget Estimates of the Public Works Department for the year 1881-82 :—

1 Provincial.
2 Irrigation and Navigation and Agricultural Ordinary } Preliminary Issue.
3 Irrigation Productive Public Works

We have the honor to be,
My Lord Marquis,
Your Lordship's most obedient, humble servants,

(Signed) W. P. ADAM.
(„) W. HUDLESTON.
(„) DAVID F. CARMICHAEL.

Ootacamund,
19th April 1881.

Exd. E. C. Shunker.

OOTACAMUND.

PUBLIC WORKS DEPARTMENT.

Letter to the Most Honorable the Secretary of State for India.

Dated 19 April.

No. 17 of 1881.

FORWARDS five copies of certain Budget Estimates of the Public Works Department for the year 1881-82.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

7th July 1881, No. 1,673 W.

General Establishment.

Read the following paper :—

No. 5. Despatch from the Most Honorable the Secretary of State for India.

Public Works, No. 14.

INDIA OFFICE, LONDON, 2nd June 1881.

SIR,—I have recently had under my consideration in Council two Public Works letters from your Excellency's Government, Nos. 14 and 17, dated, respectively, 15th March and 19th April last.

2. By the first of these letters, copies of correspondence which has passed between your Government and the Government of India on the subject of strengthening the staff of the Madras Public Works Department is transmitted for my information, with a request that I should address the Government of India in the sense of the view urged by your Excellency's Government, viz., that your Public Works Department is insufficient for the general purpose of the province, and should, therefore, be increased in numbers. The second of the letters from your Government transmits the budget estimates of expenditure during 1881-82 in your Public Works Department under the three following heads :—

1. Provincial Services.
2. Irrigation Productive Works.
3. Irrigation, Navigation, and Agricultural Works.

3. An examination of the figures in these three budgets shows that a total outlay of Rs. 26,77,021 on works and repairs is estimated for during the year, while the cost of the establishment to be employed in carrying out these works is estimated at Rs. 22,60,501, giving therefore a percentage of establishment cost to actual outlay of 84·4 per cent.

4. This percentage is so startling and apparently so inconsistent with the representations made in your first-quoted letter, that the Public Works Department under your Government is inadequate to perform the work required of it, that I must request to be furnished with a full explanation and to be informed how it has come to pass that establishments under the heads included in these three budget estimates are maintained in such disproportion to the work accomplished.

5. I can hardly doubt that there are facts which, if stated, would in greater or less measure explain this. But when a disproportion so manifestly requiring explanation presents itself, I feel some surprise that the necessary explanation is not anticipated.

I have, &c.,
(Signed) HARTINGTON.

His Excellency the Honorable the Governor in Council,
Fort St. George.

No. 6. ORDER THEREON, 7th July 1881, No. 1,673 W.

ORDERED that the following reply be sent : —

(True Extract.)

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

Exd. E. C. Shunker.
Spare Copies

GENERAL.
ESTABLISHMENT.

Govt. of (1881) Madras.

PUBLIC WORKS.

To

Dated July, 7th.

Issued

Recd.

Encl.

G. O., 7th July 1881, *No.* 1,673 W.

JULY.
Nos. 5-6.

High percentage of Establishment cost to actual outlay on Public Works.—The Secretary of State furnished with explanation in respect to the —.

PUBLIC WORKS DEPARTMENT.

No. 41.

TO THE MOST HONORABLE THE MARQUIS OF HARTINGTON,
SECRETARY OF STATE FOR INDIA.

My Lord Marquis,—We have the honor to acknowledge the receipt of your Lordship's despatch of the 2nd June 1881, No. 14, in which it is stated that an examination of the figures of the Public Works budgets shows that the total outlay on establishment as compared with that on works gives a percentage of establishment cost to actual outlay of 84·4 per cent.

2. We have the honor to point out that the figures given in paragraph 3 of your Lordship's despatch from which this percentage is worked out do not agree with those shown in the Public Works budgets. To the sum of Rs. 26,77,021 quoted as the outlay on works has to be added the expenditure under Imperial Military, Imperial Other Services, and Local Funds.

3. The following is a correct statement of the budget provision under each head :—

—	Works.	Tools and Plant.	Establishment.	Total.
Imperial—				
Military	Rs.	Rs.	Rs.	Rs.
Other Services	3,68,628	9,215	92,157	4,70,000
Irrigation and Navigation and Agricultural, Ordinary	2,65,100	6,627	66,275	3,38,002
Irrigation Productive Public Works	12,72,407	31,760	3,95,833	17,00,000
Provincial—	5,20,595	71,003	2,51,402	8,43,000
General				
Navigation	5,36,047	27,962	6,46,599	12,10,608
Local Funds Incorporated—	2,55,972	7,000	65,000	3,27,972
Local Funds (Act No. IV 1871)	1,87,880	4,770	46,970	2,39,620
Canal and Ferry Fund	20,000	5,000	5,000	30,000
Convict Labor Fund	4,817	121	1,204	6,142
Excluded—				
Port Funds	14,000	350	3,500	17,850
Educational	15,065	376	3,766	19,207
Add—				
Lithographic Department	...	...	6,000	6,000
Total, Provision	34,60,511	1,64,184	15,83,706	52,08,401
Cost of Establishment			16,13,266	...
Deficit to be provided			29,560	...

4. Your Lordship will also observe from page 31 of the provincial budget of establishment that the total estimated cost of the Public Works Establishments for 1881-82 is not Rs. 22,60,501, as given in paragraph 3 of the despatch under reply, but Rs. 16,13,266, and that the percentage of establishment cost therefore to actual outlay is about 47 per cent.

5. Even this will probably be regarded as a very high rate, but your Lordship will see from the papers which accompanied our despatch No. 14 of the 15th March 1881, as well as those since transmitted with our despatch No. 34 of the 18th June 1881, that this high percentage is due not so much to excessive numbers as to the undue curtailment of the grants for works to the great area over which works have to be supervised and to the system adopted in Madras of debiting establishment charges.

6. Regarding the latter point the principle followed in other provinces of charging off a certain proportion of the Imperial Irrigation Establishment against the revenue of the works on whose maintenance they are employed has not as yet been admitted by the Government of India as applicable to Madras, but as the question is now under reference hopes are entertained that an arrangement which operates with such injustice towards this Presidency will ere long be changed.

7. As further elucidating the question of the cost of establishment as compared with the outlay on works, we beg to invite attention to our Secretary's letter to the Government of India forwarding the Provincial and Local Incorporated budgets, No. 225 W., dated 27th January 1881, a copy of which is appended to this despatch.

8. The slight differences between the figures quoted in this letter and those given in the present despatch are due to the fact that the letter was written before the budgets were all finally issued, and that the percentage of establishment charge which is there brought down to 40·84 per cent. has been calculated with more exactness after exclusion from the account of certain illegitimate items of cost.

9. The general question of Public Works Establishments to which your Lordship's special attention was invited in our despatch No. 14, dated 15th March 1881, has with the increase of protective works lately formed the subject of further correspondence with the Government of India, and from the manner in which our representations have been met we are induced to hope that results of the most promising character for the future prosperity of this Presidency will be attained at an early date. Copies of this correspondence will shortly be forwarded for your Lordship's information in continuation of the despatch above adverted to.

We have the honor to be,

My Lord Marquis,

Your Lordship's most obedient, humble servants,

(Signed) W. HUDLESTON.

(") R. DAVIDSON.

OOTACAMUND,
16 July 1881.

Exd. E. C. Stuart.

OOTACAMUND.

PUBLIC WORKS DEPARTMENT.

Letter to the Most Honorable the Secretary of State for India.

Dated 16th July.

No. 41 of 1881.

HIGH percentage of Establishment cost to actual outlay on Public Works.

A3

APPENDIX A.

Distribution Statement of Reorganized Department Public Works, Madras.

Superintending Engineers' Circles.	Executive Divisions.	Sub-Divisions.	Establishment.		
			Executive Engineers.	Assistant Engineers.	Upper Subordinates.
No. I	1. Ganjam	2	1	1	4
	2. Vizagapatam	2	1	1	4
	3. Eastern Godávari	3	1	2	7
	4. Western do.	2	1	3	7
	5. (A) Project Division	...	1	2	3
No. II	6. Eastern Kistna	3	1	3	6
	7. Western do.	2	1	2	7
	8. Nellore	2	1	1	7
	9. Sungum Project	2	1	2	6
No. III	10. Bellary	2	1	...	4
	11. Cuddapah	2	1	1	6
	12. Kurnool	1	1	1	4
	13. Madras Irrigation and Canal Company's Canal	2	1	2	6
	14. (C) Project Division	...	1	2	3
No. IV	15. West Coast	3	1	2	12
	16. Coimbatore	2	1	1	5
	17. Salem	...	1	...	5
	18. North Arcot	2	1	2	5
	19. (B) Project Division	...	1	1	4
No. V	20. South Arcot	1	1	1	5
	21. Chingleput	2	1	1	6
	22. Buckingham Canal	3	1	1	4
	23. Presidency and Bangalore	2	1	2	7
No. VI	24. Trichinopoly	2	1	1	8
	25. Tanjore	2	1	2	8
	26. Negapatam	2	1	2	7
	27. Madura	2	1	1	8
	28. Tinnevelly	2	1	2	7
Supt. of Works.	29. Consulting Architect	...	1	...	2
Chief Engr. for Irrigation.	30. (D) Project Division	...	1	...	...
	Secretariat	...	1	1	...
	Guaranteed Railways	...	2	...	*...
	Supernumeraries	...	3	4	18
	Totals	50	36	47	185

* Includes two for Workshops.

APPENDIX D.

Protective Works Projects now in hand or proposed, para·8 Government of India Letter, No. 681 G, dated 5th May, 1881.

Name of Project.	Division and Circle.	Brief Explanation of each.	Probable amount of Estimate.	Forecast of provision to be made in the Budgets of the Current and following years.		
				1881-82.	1882-83.	1883-84.
			Lakhs.	*Lakhs.*	*Lakhs.*	*Lakhs.*
(*a.*) Ganjam, Gopaulpore, tidal Canal.	A Project Division 1st Circle.	During the last famine a tidal canal 9 miles in length, was completed from Ramba at south end of the Chilka Lake to Ganjam, thus with the system of Canals to the North connecting the latter place with Cuttack, Midnapur ,&c. It is now absolutely essential that this Canal should be extended southwards about 12 miles to the port ofGopaulpore, the most important emporium of the district, thus securing the means of distributing food grains in case of famine and of creating for ordinary seasons a highly promissing artery of trade. A detailed estimate for a high level fresh water canal, amounting to Rs.1,72,000 was framed some years since, but late information appearing to show that a tidal canal will be preferable, arrangements are being made for completing the estimate, which should be ready for submission in six or eight months.				
(*b.*) Road from Salur in the Vizagapatam Division, *via Potinghy Ghaut* to Koraputt and Jugdulpore in Bustar.	Do.	The primary link in this, the first cart road leading from the littoral of Vizagapatam to, and through the country above the ghauts in Jeypore and Bustar, as yet attempted to be made, is the "Potinghy Ghaut," on which such small sums (altogether inadequate however for securing proper progress) have hitherto been spent from Provincial funds as could be spared. While grain has been at famine prices in the low country, it has always been cheap above the ghauts, where the rainfall seems to be abundant and certain, and where land is apparently to be obtained for emigrants, the country being but sparsely populated. Of the revised estimate amounting to 3·40 Lakhs for the Potinghy Ghaut now under examination (which will, if necessary, be forwarded to the Government of India) about one-third has already been spent, and it is thought that probably nine lakhs more would be needed to take the line 70 miles on to Jugdulpore (new Bustar). No estimate has been framed for this latter portion, but with the new establishment, one should be ready a year hence in time for entry in the Budget of 1883-84.	2·10	Nil.	Nil.	1·00
(*c.*) Buckingham Canal.	At present Buckingham Canal Division. 1st Circle.	N. B.—Other roads suitable for cart traffic, *e.g.*, for linking Koraputt with Raigurh and others leading towards Sumbalpore north-east and through Kalahandy north-west will be certainly required in course of time as protective works, but need not be further adverted to here. From the early part of the century, a tidal canal connecting the backwaters of the east coast north of Madras was considered feasible and partially carried out. The scheme was more fully developed in the late famine by so far completing the works as to	10·50	0·75	1·00	2·00

Protective Works Projects now in hand or proposed, para 8, Government of India Letter, No. 681G, dated 5th May, 1881.
—(*Continued*)

Name of Project.	Division and Circle.	Brief Explanation of each.	Probable amount of Estimate.	Forecast of provision to be made in the Budgets of the Current and following years.		
				1881-82.	1882-83.	1883-84.
			Lakhs	*Lakhs*	*Lakhs*	*Lakhs*
		make a tidal communication now known as the "Buckingham Canal," extending nearly 200 miles north, and about 50 South of Madras. The total outlay from the commencement to date has been nearly 37·4 lakhs, of which 27·1 lakhs may be considered normal. The completion estimates now far advanced amount to about 29 lakhs, so that the normal outlay will, for the finished work be approximately, 56 lakhs. For the distribution of food grain during famine a safe interior line of coastal communication will be invaluable, while for ordinary trade purposes, its importance is daily on the increase. Already boats from Coconada come laden to Madras 400 miles, and it can hardly be doubted that eventually the whole line of coast will be similarly connected. A work of this character is wholly beyond the unaided Provincial resources, and as it is essentially "Protective" in its character, it is here included. The estimates should be ready for submission six months hence.				
(*d.*) Buckingham Canal South of Markanum.		The extension southward of the above canal through the French territory (18 miles) and as far as Point Calimere has been regarded not merely as desirable for completing a much needed link in the coast communications, but as holding in readiness a work which is considered to be extremely well suited for execution during famine. The details of a considerable portion of the estimate were worked out some years ago, but its entire revision will be needed to allow of its being sanctioned by the Government of India. At the present moment, however, there is no very pressing necessity for the work, the time named for its submission may be for the Budget of 1884-85.	56·00	* Nil.	5·00	5·00
(*e.*) Baroor Tank.	B Project Division. 2nd Circle.	This work was commenced for Relief in last Famine. The project provides for an anicut across the Pooniar river, supply channel to Sarur Taluq, enlargement of the tank irrigation channels and head sluices to existing channels. The increase of cultivation is expected to be 5,610 acres, and of revenue, 22,137 rupees. The work is considered valuable as a famine protective work. Plans and estimates have been prepared and submitted to the Government of India, but were returned for revision. They will probably be resubmitted by the end of official year.	30·00	Nil.	Nil.	Nil.
(*f.*) Marandahully.	Do.	Work was commenced for Famine Relief. The project provides for an anicut across Sumadakumara river, supply channel to Sungambasavan tank enlarging this and Jairy Talab, and channels from tanks. Provides for the storage of 667 millions of cubic feet of water. Increase of cultivation and revenue expected not yet known. It is understood that estimates are nearly ready for submission. This work is likely to be of value as a protective work.	3·10	Nil.	1·00	2·00
(*g.*) Vaniar.	Do.	Work was commenced for Famine Relief, but probably the project cannot be carried out so as to utilize all the work then done. The project provides for the formation of a reservoir by damming the valley of the Vaniar river. Increase of cultivation expected is 9,500 acres, and of revenue 33,250 rupees. Plans and estimates have yet to be drawn up, and further enquiry made regarding the returns. It is not certain that the work will prove productive though it may be valuable as a protective work. The estimates might be ready by the end of the official year. ...	3·90	Nil.	1·50	2·00
(*h.*) Hindupur.	C Do. 3rd Circle.	The project provides for constructing an anicut across the Penniar River for the supply of 11 tanks with head sluices and channels. The district of Bellary having very little irrigation, the work would be of value as a protective work. Plans and estimates were prepared many years ago, but the project will need complete revision. Existing cultivation is expected to be improved, and 356 acres of waste land cultivated. Increased revenue expected, 10,906 rupees. Estimates may be submitted by the end of official year.	8·50	Nil.	Nil.	Nil.
(*i.*) Roddam.	Project Division. 3rd Circle.	The project provides for an anicut across the Pennair to supply Roddam large tank, and would, like the work above, be useful as a protective work. Plans and estimates were prepared many years ago, but the project needs complete revision. Existing cultivation is expected to be improved, and 1,344 acres of waste land cultivated. Increased revenue expected 9,105 rupees. Estimates may be submitted by the end of the official year.	2·00	Nil.	1·50	0·50
(*j.*) Complete revised project for the Godavari Delta Works.	D Do	The work to be done is the revision of certain of the estimates already sanctioned, the examination of estimates submitted, and framing one complete estimate. Beyond those already submitted, there will probably be estimates amounting to 24,00,000 rupees required. It is thought that under special arrangements now being made the estimates will be ready for submission in five or six months.... ...	1·40	Nil.	Nil.	1·00
(*k.*) Complete revised project for the Kistna Delta Works.	Do	The same work has to be done as above. Estimates have been prepared and but little revision is expected to be necessary. Revenue returns have to be obtained. These estimates may be expected to be ready for submission by the end of the year or a little after	60·00	Nil.	5·00	5·00
(*l.*) Perryaur.	Do	The project provides for constructing a concrete dam of 170 feet in height and turning the water of the Perryaur river, which now runs into Travancore, into the Madura District. It will it is thought prove invaluable as a protective work. The net return expected from the work is 5,15,000 rupees per annum constituting it also a "Productive." The out-door surveying &c., has been done, and the project has only to be put into shape and may be submitted by the end of the year. ...	140·00	Nil.	5·00	5·00
(*m.*) Poogalur Channel.	Do	The project provides for improving an existing channel, and work was commenced for Famine Relief, 95,057 rupees having been spent on it. The existing irrigation is expected to be improved, and 5,100 acres additional land cultivated; the increase of revenue expected is 48,000 rupees. The estimates have	70·00	Nil.	1·00	5·00

* N.B.—No outlay is shown in 1881-82 against the Buckingham Canal above, as the funds for the current year are being found for "Provincial." At the same time it is much to be desired that a portion if not the whole of the current years assignment may be charged against "Imperial Protective" so as to liberate Provincial Funds most urgently needed for other purposes.

of Project.	Division and Circle.	Brief Explanation of each.	Probable amount of Estimate.	Forecast of provision to be made in the Budgets of the Current and following years.		
				1881-82	1882-83	1883-84
			Lakhs.	*Lakhs.*	*Lakhs.*	*Lakhs.*
oshkoolia.	D Project Division. 3rd Circle.	been submitted and returned for revision, and may probably be ready by the end of the year.				
		The project provides for an anicut across the Korakory river in the Ganjam District, improving and constructing channels and embanking a natural lagoon in a part of the country where protective works are much needed. Provision is made for 64 miles of navigable canal and for two reservoirs. The area to be irrigated is 1,20,000 acres, and a return of 4 per cent. on the total outlay is expected. The plans and estimates have been prepared, and may be put into shape for submission without delay	3·70	Nil.	1·00	2·00
Palar Anicut.	Unassigned as yet.	The project is for improvements to existing channels under the anicut on the South side. Plans and estimates have been prepared, but not yet submitted, and information is needed as to cultivation and revenue expected.	26·00	Nil.	2·00	2·50
Atur Anicut.	Do.	This project provides for an anicut on the Guddebum in South Arcot District. The estimate has been submitted and returned for revision. Information regarding cultivation, &c., is as yet not available. The estimates might be completed in three or four months.	2·50	Nil.	Nil.	Nil.
) Lower Coleroon Anicut.	Do.	This project provides for the improvement of existing irrigation under the Lower Coleroon Anicut in South Arcot; the subject has not yet been taken up, but it seems certain that great improvements can be made, and the cultivation extended. The estimates could be prepared within a year.	0·54	Nil.	Nil.	Nil.
·) Bhawani Reservoir	Do.	This is a project for forming a large reservior on one of the tributaries of the Cavari river with a view to storing some portion of the flood waters which now runs to waste, Preliminary investigations have been made, and it is thought that by the construction of the reservior, not only would the supply for the Tanjore Delta be thus improved, when occasioually deficient, but over 200,000 acres of additional direct irrigation be secured.	6·50	Nil.	Nil.	Nil.
			40·00	Nil.	Nil.	Nil.
		TOTALS ...	425·84	0·75	25·00	35·00

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FOR 9, 2ND CLASS DIVISIONS.*

1	Clerk, III Class, 2nd Grade.	70	1	Clerk, III Class, 2nd Grade.	70					
1	Clerk, IV Class, 2nd Grade.	35	1	Clerk IV Class, 2nd Grade.	35					
2	Clerks, IV Class, 3rd Grade at 25.	50	2	Clerks, IV Class, 3rd Grade at 25.	50					
1	Draughtsman 1st Class	60	1	Draughtsman, 1st Class	60					
1	Do 3rd Class.	25	1	Do. 3rd Class	25					
1	Messenger at 7 ...	7	1	Messenger at 7 ...	7					
1	Do at 6 ...	6	1	Do at 6 ...	6					
8		253	8		253					
56	Add similar Establishment for 7 more 2nd Class Divisions.	1,771	56	Add similar Establishment for 7 more 2nd Class Divisions.	1,771					
			8	Add similar Establishment for one 2nd Class additional division (Sungum Project Division.)	253	8	253			
64	Total Office Establishment for 8 2nd Class Divisions.	2,024	72	Total Office Establishment for 9 2nd Class Divisions.	2,277	8	253	...	...	

The Establishment for 2nd Class Executive Divisions remains in accordance with the scale laid down in Appendix C. No. 6, to G. O. No. 3674 W. dated 18th September 1878, no additional Establishment having been provided in current year's Budget.

To the existing number (8) of 2nd Class Divisions, has been added the "Sungum Project Division," which has also been ranked as 2nd Class.

*1. Nellore, 2. Cuddapah, 3. West Coast, 4. Coimbatore, 5. North Arcot, 6. Chingleput, 7. Trichinopoly, 8. Negapatam, 9. Sungum Project Division.

FOR 5, 3RD CLASS DIVISIONS.*

1	Clerk, III Class, 3rd Grade.	55	1	Clerk, III Class, 3rd Grade.	55					
1	Clerk. IV Class, 2nd Grade.	35	1	Clerk, IV Class, 2nd Grade.	35					
2	Clerk IV Class, 3rd Grade at 25.	50	2	Clerks, IV Class 3rd Grade at 25.	50					
1	Draughtsman 2nd Class	42½	1	Draughtsma 2nd Class	42½					
1	Do 3rd Class.	25	1	Do 3rd Class.	25					
1	Messenger at 7.	7	1	Messenger at 7	7					
1	Do 6.	6	1	Do 6	6					
8		220½	8		220½					
8	Add similar Establishment for one more 3rd Class Office.	220½	8	Add similar Establishment for one more 3rd Class Office.	220½					
			24	Add similar Establishment for 3 additional 3rd Class Division Officers	661½	24	661½			
16	Total Office Establishment for 2, 3rd Class Divisions.	441	40	Total Office, Establishment for 5, 3rd Class Divisions.	1,102½	24	661½	...	...	

The Establishment for the 3rd Class Divisions also remains in accordance with the scale laid down in Appendix C, No. 7 to G. O. No. 3674 W., dated 18th September 1878. To the existing number (2) of 3rd Class Divisions have been added the following three new Divisions, which have been ranked as 3rd Class :—

Ganjam
Bellary
Madura

*1. Ganjam. 2. Vizagapatam. 3. Bellary. 4. Salem. 5. Madura.

Present Scale.			Proposed Scale.			Increase.		Decrease.		Grounds of proposition.	Remarks.
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.	Number.	Amount of Pay.	Number.	Amount of Pay.		
				For 88 Detached Officers—*(Continued.)*							
			48	Add similar Establishment for 48 additional detached Officers, viz: Officers and Upper Subordinates above the rank of Overseer who are not in charge of Sub-Divisions	1,200	48	1,200				
40	Total Office Establishment, detached Officers	700	88	Total Office Establishment, detached Officers	2,200	48	1,500				
				For 92 Overseers.							
Nil.			1	Clerk, IV Class, 1st Grade.	17½	1	17½				A provision of one Clerk, V Class, 1st Grade, has been made for each Overseer.
			91	Add similar Establishment for 91 more Overseers.	1592½	91	1592½				
			92	Total Office Establishment for Overseers	1610	92	1610				
				Office [Toll] Establishment, Buckingham Canal.							
72	Clerks, &c.	761	72	Clerks, &c.	761						
				Abstract of Office Establishment.							
32	Chief Engineer and Secretary to Govt., P. W. Department.	2,433½	32	Chief Engineer and Secretary to Govt., P. W. Department.	2,433½						
28	Lithographic Establishment.	925	28	Lithographic Establishment.	925						
27	Chief Engineer for Irrigation	1,180	27	Chief Engineer for Irrigation.	1,180						
33	Superintending Engineer's Offices,	1,240½	72	Superintending Engineer's Offices.	2,631	39	1,390½				
8	Superintendent of Works, Presidency.	273	16	Presidency Division.	485½	8	212½				
16	Godavari and Kistna Eastern Divisions.	546	20	Godavari and Kistna Eastern Divisions.	646	4	100				
48	Six 1st Class Executive Divisions	1,638	63	Seven 1st Class Executive Divisions	2,086	15	448				
64	Eight 2nd Class Executive Divisions	2,024	72	Nine 2nd Class Executive Divisions	2,277	8	253				
16	Two 3rd Class Executive Divisions	441	40	Five 3rd Class Executive Divisions	1,102½	24	661½				
6	Consulting Architect's Office	270½	6	Consulting Architect's Office	270½	...	...				
9	Public Works Stores	305	9	Public Works Stores	305	...	...				
16	Office Establishment, Superintendent of Works, Godavari and Kistna	546	...	...	...	...	...	16	546		
...	...	...	32	Office Establishment, Project Divisions	1,082	32	1,082				
80	Sub-Divisional Offices	1,240	100	Sub-Divisional Offices	1,550	20	310				
40	Office Establishment, Detached Officers	700	88	Office Establishment Detached Officers	2,200	48	1,500				
...	...	...	92	Office Establishment, for Overseers	1,610	92	1,610				
72	Office (Toll) Establishment Buckingham Canal	761	72	Office (Toll) Establishment Buckingham Canal	761	...	...				
495	Total Office Establishment	14,523½	769	Total Office Establishment	21,545	290	7,567½	16	546		
				Irrigation Establishments.							
	Water Regulation	7,528		Water Regulation	7,528						
	Navigation	2,462		Navigation	2,462						
	River Conservancy	260		River Conservancy	260						
	Total Irrigation Establishment	10,250		Total Irrigation Establishment	10,250						
				Abstract of Executive Branch.							
69	Engineer Establishment	45,950	92	Engineer Establishment	60,600	23	14,650				
160	Upper Subordinate ...	19,830	201	Upper Subordinate ...	29,670	55	10,920	14	1,080		
20	Lower do ...	600	19	Lower do ...	580			1	20		
448	Petty Establishment...	3,242	538	Petty Establishment...	3,842	90	600				
495	Office do ...	14,523½	769	Office do ...	21,545	290	7,567½	16	546		
	Irrigation do ...	10,250		Irrigation do ...	10,250						
	Total Executive Branch	94,395½		Total Executive Branch	126,487		33,737½		1,646		

Present Scale.		Proposed Scale.			Increase.		Decrease.		Grounds of proposition.	Remarks.
Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.	Number.	Amount of Pay.	Number.	Amount of Pay.		
			For the Consulting Architect.							
Clerk, IV. Class, First Grade.	45	1	Clerk, IV. Class, First Grade.	45						
Draughtsman & Estimator	145	1	Draughtsman & Estimator	145						
Draughtsman 2nd Class	42½	1	Draughtsman 2nd Class	42½						
Do. 3rd do.	25	1	Do 3rd do.	25						
Messenger at 7.	7	1	Messenger at 7.	7						
Do. at 6.	6	1	Do. at 6.	6						
6 Total Office Establishment of Consulting Architect.	270½	6	Total Office Establishment of Consulting Architect.	270½						
			For Public Works Stores.							
1 Clerk, II Class, Second Grade.	140	1	Clerk, II Class, Second Grade	140						
1 Do. III do.	70	1	Do. III do.	70						
1 Do. IV do.	35	1	Do. IV do.	35						
1 Do IV 3rd do.	25	1	Do. IV 3rd do.	25						
1 Messenger	8	1	Messenger.	8						
2 Do. at 7	14	2	Do at 7	14						
2 Do. at 6½	13	2	Do at 6½	13						
9 Total Office Establishment, P. W. Stores.	305	9	Total Office Establishment, P. W. Stores.	305						
			Office Establishment for 2 Superintendents of Works (Godavari and Kistna.)							
1 Clerk, III Class, 2nd Grade.	70								The offices close under the new arrangements and therefore no provision for it has been made.	
1 Clerk, IV Class, 1st Grade.	45									
1 Clerk, IV Class, 2nd Grade.	35									
1 Clerk, IV Class, 3rd Grade.	25									
1 Draughtsman, 1st Class	60									
1 Draughtsman, 3rd Class	25									
1 Messenger at 7	7									
1 Messenger at 6.	6									
8	273									
8 Add similar Establishment for one more Superintendent of Works office.	273									
16	546									
			For the four New Project Divisions.							
Nil.		2 Draughtsmen, 1st Class at 60.		120	2	120				
		2 Draughtsmen, 2nd Class at 42½.		85	2	85				
		1 Clerk, IV Class, 2nd Grade.		35	1	35				
		1 Clerk, V Class, 1st Grade.		17½	1	17½				
		1 Messenger at 7.		7	1	7				
		1 Messenger at 6.		6	1	6				
		8 Total for each office.		270½	8	270½				
		24 Add similar Establishments for 3 more such offices.		811½	24	811½				
		32 Total Office Establishment, Project Divisions.		1,082	32	1,082				
			For 50 Sub-Divisional Offices.							
1 Clerk, IV Class, 3rd Grade	25	1	Clerk, IV Class, 3rd Grade	25					To the existing number (40) of Sub-Divisions have been added the 10 additional Sub-Divisions as follows :—	
1 Messenger	6	1	Messenger	6					For Sungum Project... 2	
2 Total for one Office	31	2	Total for one Office	31					„ Madras Irrigation and Canal 2	
78 Add similar Establishment for 39 more Sub-Division Offices	1,209	78	Add similar Establishment for 39 more Sub-Division Offices	1,209					„ Ganjam 2	
		20	Add similar Establishment for 10 additional Offices	310	20	310			„ Bellary 2	
80 Total Sub-Divisional Office Establishment	1,240	100	Total Sub-Divisional Office Establishment	1,550	20	310			„ Madura 2	
									Total...10	
									And Office Establishment provided for each in accordance with the scale given in Appendix C. No. 10 to G. O. No. 3674 W. dated 18th September 1878.	
			For 88 Detached Officers,							
1 Clerk Apprentice, 1st Grade, now called 5th Class, 1st Grade	17½	1	Clerk, IV Class, 3rd Grade	25		7½				
39 Add similar Establishment for 39 more detached Officers (Upper Subordinates above the grade of Overseer)	682½	39	Add similar Establishment for 39 more detached Officers	975		292½				

Present Scale.			Proposed Scale.			Increase.		Decrease.		Grounds of proposition.	Remarks.
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.	Number.	Amount of Pay.	Number.	Amount of Pay.		
				For 88 Detached Officers—(*Continued.*)							
			48	Add similar Establishment for 48 additional detached Officers, viz: Officers and Upper Subordinates above the rank of Overseer who are not in charge of Sub-Divisions	1,200	48	1,200				
40	Total Office Establishment, detached Officers	700	88	Total Office Establishment, detached Officers	2,200	48	1,500				
				For 92 Overseers.							
Nil.			1	Clerk, IV Class, 1st Grade.	17½	1	17½				A provision of one Clerk, V Class, 1st Grade, has been made for each Overseer.
			91	Add similar Establishment for 91 more Overseers.	1592½	92	1592½				
			92	Total Office Establishment for Overseers	1610	92	1610				
				Office (Toll) Establishment, Buckingham Canal.							
72	Clerks, &c.	761	72	Clerks, &c.	761						
				Abstract of Office Establishment.							
32	Chief Engineer and Secretary to Govt., P. W. Department.	2,433½	32	Chief Engineer and Secretary to Govt., P. W. Department.	2,433½						
28	Lithographic Establishment.	925	28	Lithographic Establishment.	925						
27	Chief Engineer for Irrigation.	1,180	27	Chief Engineer for Irrigation.	1,180						
33	Superintending Engineer's Offices.	1,240½	72	Superintending Engineer's Offices.	2,681	39	1,390½				
8	Superintendent of Works, Presidency.	273	16	Presidency Division.	485½	8	212½				
16	Godavari and Kistna Eastern Divisions.	546	20	Godavari and Kistna Eastern Divisions.	646	4	100				
48	Six 1st Class Executive Divisions	1,638	63	Seven 1st Class Executive Divisions	2,086	15	448				
64	Eight 2nd Class Executive Divisions	2,024	72	Nine 2nd Class Executive Divisions	2,277	8	253				
16	Two 3rd Class Executive Divisions	441	40	Five 3rd Class Executive Divisions	1,102½	24	661½				
6	Consulting Architect's Office	270½	6	Consulting Architect's Office	270½	...	...				
9	Public Works Stores	305	9	Public Works Stores	305	...	...				
16	Office Establishment, Superintendent of Works, Godavari and Kistna	546	...	...	...	...	...	16	546		
...	...	...	32	Office Establishment, Project Divisions	1,082	32	1,082				
80	Sub-Divisional Offices	1,240	100	Sub-Divisional Offices	1,550	20	310				
40	Office Establishment, Detached Officers	700	88	Office Establishment Detached Officers	2,200	48	1,500				
...	...	...	92	Office Establishment, for Overseers	1,610	92	1,610				
72	Office (Toll) Establishment Buckingham Canal	761	72	Office (Toll) Establishment Buckingham Canal	761	...	...				
495	Total Office Establishment	14,523½	769	Total Office Establishment	21,545	290	7,567½	16	546		
				Irrigation Establishments.							
	Water Regulation	7,528		Water Regulation	7,528						
	Navigation	2,462		Navigation	2,462						
	River Conservancy	260		River Conservancy	260						
	Total Irrigation Establishment	10,250		Total Irrigation Establishment	10,250						
				Abstract of Executive Branch.							
69	Engineer Establishment	45,950	92	Engineer Establishment	60,600	23	14,650				
160	Upper Subordinate ...	19,830	201	Upper Subordinate ...	29,670	55	10,920	14	1,080		
20	Lower do ...	600	19	Lower do ...	580			1	20		
448	Petty Establishment...	3,242	538	Petty Establishment...	3,842	90	600				
495	Office do ...	14,523½	769	Office do ...	21,545	290	7,567½	16	546		
	Irrigation do ...	10,250		Irrigation do ...	10,250						
	Total Executive Branch	94,395½		Total Executive Branch	126,487		33,737½		1,646		

Present Scale.			Proposed Scale.			Increase.		Decrease.		Grounds of proposition	Remarks.
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.	Number.	Amount of Pay.	Number.	Amount of Pay.		
				ACCOUNTS BRANCH.							
				Examiners.							
1	Examiner 3rd Class ...	1,100	1	Examiner 3rd Class ...	1,100						The number of officers at present attached to this Presidency has been taken as the "Present Scale," to which has been added, one to Deputy Examiner, 1st Grade, and the totals thus arrived at have been shown as the "Proposed Scale." The provision of the extra Deputy Examiner has been made in view to the more frequent inspection of the Executive Engineer's Officers, considered to be absolutely essential with the introduction of the new forms of account, and also in view to the proposed large increase to the operations of the Department.
1	Deputy Examiner 1st Grade.	550	2	Deputy Examiners 1st Grade at 550.	1,100	1	550				
1	Assistant Examiner 2nd Grade.	250	1	Assistant Examiner 2nd Grade.	250						
3	Total Examiner Establishment.	1,900	4	Total Examiner Establishment.	2,450	1	550				
				Accountants.							
1	Accountant 1st Grade	400	1	Accountant 1st Grade	400						The numbers entered in column "Proposed Scale" have been arrived at thus—
3	Accountants 2nd Grade at 295	885	3	Accountants 2nd Grade at 295	885						For 25 Executive Divisions ... 25 Accountants
4	Accountants 3rd Grade at 200	800	6	Accountants 3rd Grade at 200	1,200	2	400				For Central Office, one Accountant for every 3 Divisions, and one for any fraction $\frac{1}{3}$ or 9 Do
10	Accountants 4th Grade at 115	1,150	15	Accountants 4th Grade at 115	1,725	5	575				Extra ... . 1 Do
34	Accountants 5th Grade at 57½	1,955	31	Accountants 5th Grade at 57½	1,782½			3	172½		Total ...35
52	Total Accountant Establishment	5,190	56	Total Accountant Establishment	5,992½	7	975	3	172½	Net Increase Rs.802½	and this total has been distributed with reference to P.W.D. Code, Chap. I, Para 37, as follows :— 1st and 2nd Grades $\frac{2}{3}$ 4 (omitting fraction less than half) 2nd Grade to be always more than 1st Grade, *i.e.*, 1st Grade = 1 at 400 = 400 2nd Grade = 3 at 295 = 885 3rd Grade $\frac{1}{3}$ = 9 at 200 = 1800 4th Grade (remainder) = 22 at 115 = 2,530 (adding 1 for fraction more than half) Total...35 Costing Rs.5,615
											Recasting the above to bring in the 5th Grade Accountants the Establishment will be— 1st Grade 1 at 400 = 400 2nd Do 3 at 295 = 885 3rd Do 6 at 200 = 1200 4th Do 13 at 115 = 1,495 5th Do 29 at 57½ = 1,667½ 52 Costing *5,647½
											* The small excess difference of Rs.32½ is due to the redistribution.
											Add one Accountant each for Presidency and Dowlaishwaram Workshops, one for Madras Harbour Works and one for Central Office = 4 *i.e.* 2, 4th Grades at 115=230 2, 5th do at 57½=115 Total...56 Costing 5,992½
				Office Establishment.							
1	Clerk II Class 2nd Grade	140	1	Clerk II Class 2nd Grade	140						To the present number of Clerks have been added four Clerks (2, III Class, 2nd Grade at 70 each, and 2, III Class 3rd Grade at 55 each) on account of the four Project Divisions for which no Accountants have been provided. A small addition of two Clerks (1, IV Class, 1st Grade at 45, and 1, IV Class, 3rd Grade at 25) has also been made to the existing establishment on account of the increase in number from 20 to 25 of Executive Divisions, which necessarily will entail an increase in the clerical work of the Central Office.
1	Do III do 1st do...	90	1	Do III do 1st do...	90						
1	Do III do 2nd Grade at 70	70	3	Do III do 2nd Grade at 70 at 55/11	210	2	140				
3	Clerk III do 3rd do...	165	5	Clerk III do 3rd do...	275	2	110				
5	Do IV do 1st Grade at 45	225	6	Do IV do 1st Grade at 45	270	1	45				
6	Clerk IV do 2nd Grade at 35	210	6	Clerk IV do 2nd Grade at 35	210						
10	Clerk IV do 3rd Grade at 25	250	11	Clerk IV do 3rd Grade at 25	275	1	25				
3	Clerk V do 1st Grade at 17½	52½	3	Clerk V do 1st Grade at 17½	52½						
30	Total Clerks ...	1202½	36	Total Clerks ...	1,522½	6	320				
	Menial Servants ...	102½	1	Moochi at 10 ...	10						
			1	Do at 8 ...	8						
			1	Head Messenger ...	10						
			1	Head Messenger	8						
			4	Messengers at 7	28						
			6	Do. at 6	36						
			2	Rollers at 5	10						
			16		110	0	7½				
	Total Office Establishment.	1,305	52	Total Office Establishment.	1,632½		327½				
				Abstract of Accounts Branch.							
3	Examiners	1,900	4	Examiners	2,450	1	550		...		
52	Accountants	5,190	56	Accountants	5,992½	7	975	3	172½		
	Office Establishment	1,305	52	Office Establishment	1,632½		327½		...		
	Total Accounts Branch	8,395		Total Accounts Branch	10,075		1,852½		172½		

Present Scale.			Proposed Scale.		Increase.		Decrease.		Grounds of proposition	Remarks.
Number.	Designation.	Amount of Pay.	Number.	Designation.	Number.	Amount of Pay.	Number.	Amount of Pay.		
				ACCOUNTS BRANCH.						
				Examiners.						
1	Examiner 3rd Class ...	1,100	1	Examiner 3rd Class ...	1,100					
1	Deputy Examiner 1st Grade.	450	2	Deputy Examiners 1st Grade at 550.	1,100	1	550			
1	Assistant Examiner 2nd Grade.	250	1	Assistant Examiner 2nd Grade.	250					
3	Total Examiner Establishment.	1,900	4	Total Examiner Establishment.	2,450	1	550			
				Accountants.						
1	Accountant 1st Grade	400	1	Accountant 1st Grade	400					
3	Accountants 2nd Grade at 295	885	3	Accountants 2nd Grade at 295	885					
4	Accountants 3rd Grade at 200	800	6	Accountants 3rd Grade at 200	1,200	2	400			
10	Accountants 4th Grade at 115	1,150	15	Accountants 4th Grade at 115	1,725	5	575			
34	Accountants 5th Grade at 57½	1,955	31	Accountants 5th Grade at 57½	1,782½			3	172½	
52	Total Accountant Establishment	5,190	56	Total Accountant Establishment	5,992½	7	975	3	172½	Net Increase Rs.802½
				Office Establishment.						
1	Clerk II Class 2nd Grade	140	1	Clerk II Class 2nd Grade	140					
1	Do III do 1st do...	90	1	Do III do 1st do...	90					
1	Do III do 2nd Grade at 70	70	3	Do III do 2nd Grade at 70 at 55/-	210	2	140			
3	Clerk III do 3rd do...	165	5	Clerk III do 3rd do...	275	2	110			
5	Do IV do 1st Grade at 45	225	6	Do IV do 1st Grade at 45	270	1	45			
6	Clerk IV do 2nd Grade at 35	210	6	Clerk IV do 2nd Grade at 35	210					
10	Clerk IV do 3rd Grade at 25	250	11	Clerk IV do 3rd Grade at 25	275	1	25			
3	Clerk V do 1st Grade at 17½	52½	3	Clerk V do 1st Grade at 17½	52½					
30	Total Clerks ...	1202½	36	Total Clerks ...	1,522½	6	320			
	Menial Servants ...	102½	1	Moochi at 10 ...	10					
			1	Do at 8 ...	8					
			1	Head Messenger ...	10					
			1	Head Messenger	8					
			4	Messengers at 7	28					
			6	Do. at 6	36					
			2	Rollers at 5	10					
			16		110	0	7½			
	Total Office Establishment.	1,305	52	Total Office Establishment.	1,632½		327½			
				Abstract of Accounts Branch.						
3	Examiners	1,900	4	Examiners	2,450	1	550			
52	Accountants	5,190	56	Accountants	5,992½	7	975	3	... 172½	
	Office Establishment	1,305	52	Office Establishment	1,632½		327½		...	
	Total Accounts Branch	8,395		Total Accounts Branch	10,075		1,852½		172½	

The number of officers at present attached to this Presidency has been taken as the "Present Scale," to which has been added, one to Deputy Examiner, 1st Grade, and the totals thus arrived at have been shown as the "Proposed Scale." The provision of the extra Deputy Examiner has been made in view to the more frequent inspection of the Executive Engineer's Offices, considered to be absolutely essential with the introduction of the new forms of account, and also in view to the proposed large increase to the operations of the Department.

The numbers entered in column "Proposed Scale" have been arrived at thus—

For 25 Executive Divisions	... 25	Accountants
For Central Office, one Accountant for every 3 Divisions, and one for any fraction ½ or	9	Do
Extra	1	Do
Total ...	35	

and this total has been distributed with reference to P.W.D. Code, Chap. I, Para 17, as follows :—

1st and 2nd Grades ½ 4 (omitting fraction less than half)
2nd Grade to be always more than 1st Grade, *i.e.*,

1st Grade	= 1 at 400	= 400
2nd Grade	= 3 at 295	= 885
3rd Grade ½	= 9 at 200	= 1800
4th Grade (remainder)	= 22 at 115	= 2,530

(adding 1 for fraction more than half)

Total ... 35 Costing Rs.5,615

Recasting the above to bring in the 5th Grade Accountants the Establishment will be—

1st Grade	1 at 400	=	400
2nd Do	3 at 295	=	885
3rd Do	6 at 200	=	1200
4th Do	18 at 115	=	1,495
5th Do	29 at 57½	=	1,667½
	52 Costing		5,647½

* The small excess difference of Rs.52½ is due to the redistribution.

Add one Accountant each for Presidency and Dowlaishwaram Workshops, one for Madras Harbour Works and one for Central Office = 4 *i.e.* 2, 4th Grades at 115 = 230
2, 5th do at 57½ = 115

Total ... 56 Costing 5,992½

To the present number of Clerks have been added four Clerks (2, III Class, 2nd Grade at 70 each, and 2, III Class 3rd Grade at 55 each) on account of the four Project Divisions for which no Accountants have been provided.

A small addition of two Clerks (1, IV Class, 1st Grade at 45, and 1, IV Class, 3rd Grade at 25) has also been made to the existing establishment on account of the increase in number from 20 to 25 of Executive Divisions, which necessarily will entail an increase in the clerical work of the Central Office.

ABSTRACT.

Executive Branch	1,26,487			
Accounts Branch	10,075			
Grand Total...	1,36,562	per mensem or per annum ...	Rs.	16,38,744
ADD.—Approximate amount on account of Military pay and allowances of Military Officers, per mensem ...	Rs. 8,000			
Approximate amount on account of Military pay and allowances of Military Subordinates, per mensem...	,, 1,500	or per annum...	Rs.	1,14,000
		,, 9,500		
Sub-Divisional Allowance for 15 Upper Subordinates at 30...		,, 450 or per annum...	Rs.	5,400
Local allowances, approximate, Upper Godavari allowance per mensem...	50			
Wynaad allowance per mensem ...	200			
Potinghy Ghat or Jeypore allowance per mensem	600			
	850			
Charge allowance for Fifth Grade Accountants recommended in letter No. 241 W. dated 19th March 1881, from the Examiner P. W. Accountant to the Local Government	Rs. 400		Rs.	10,200
Do do Presidency allowance, & Presidency house rent, Executive Branch	Rs. 1,200			
Accounts Branch	,, 1,650			4,800
	2,850		Rs.	34,200
Travelling allowance Executive Branch*	Rs. 16,666⅔			
Accounts Branch	,, 400			
Contingencies.— Executive Branch	,, 17,066⅔		,,	2,04,800
Accounts Branch	,, 4,000			
	,, 400			
	,, 4,400		,,	52,800
Total Permanent Establishment....			,,	20,64,944

*Per mensem to give in round numbers 2,00,000 for the year.

Temporary Establishment.

EXECUTIVE BRANCH.	Per mensem. Rs.	Per annum. Rs.
Irrigation Survey	1,250	15,000
Special Revenue Investigation Establishment... ...	1,000	12,000
Temporary Executive Branch ...	2,083⅓	25,000
	4,333⅓	52,000
ACCOUNTS BRANCH.		
Temporary Establishment for the preparation of Capital & Revenue Accounts of Irrigation works.	800	9,600
	5,133⅓	61,600

... Rs. 61,600

Grand Total Establishment... ,, 21,26,544

50

Grand Total Establishments ... Rs. 21,26,544

DEDUCT.

EXECUTIVE BRANCH.

	Per mensem. Rs.	Per annum. Rs.	
Pay and allowances of Consulting Engineer and two Deputy Consulting Engineers for Railways chargeable to Imperial ...	4,023	48,276	
Moiety of pay and allowance of Superintendent P. W. Stores and Workshops chargeable to Workshops	335	4,020	
Pay of two Upper Subordinates chargeable to Workshops ...	400	4,800	
ACCOUNTS BRANCH.			
Pay and allowances of four Accountants chargeable to P. W. workshops (Dowlaishvaram and Presidency) and Madras Harbour Works	445	5,340	
			62,436
Net Total Establishment Permanent and Temporary including Travelling allowances and contingencies			20,64,108

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

14th July 1881, No. 1,729 W.

General.
Establishment.

Read the following papers :—

No. 17. From A. B. SAMPSON, Esq., Under Secretary to the Government of India, Public Works Department, (General,) to the Secretary to the Government of Madras, Public Works Department, dated Simla, 5th May 1881, No. 681 G.

I AM directed to acknowledge your letter, No. 337 W., dated 8th February 1881, again recommending for sanction the establishment proposed in your previous letter, No. 2,277 W., dated 1st October 1880.

2. The total amount of all establishment charges under those proposals is estimated at 18½ lakhs against a total grant for the year 1881-82 of 63½ lakhs, or excluding the Madras Harbour Works of 56½ lakhs.

3. The Government of India still retains the objections that the appointment of five Superintendents of Works, each drawing Rs. 100 per mensem as a special allowance, would make the normal pay of Executive Engineer, 1st Grade, quite exceptional, and that some of the charges do not appear to be of sufficient importance to justify the appointment of a special supervising officer; I am to suggest, for the consideration of the Madras Government, the following alternative. Instead of a Superintendent of Works for each of the four circles—

1. Vizagapatam and Ganjam,
2. the Godávari Delta,
3. the Kistna Delta,
4. the Buckingham Canal,

it is proposed for consideration that there might be two circles each under a Superintending Engineer, viz. :—

1. Vizagapatam, Ganjam, and the Godávari Delta;
2. the Buckingham Canal and the Kistna Delta,

each circle consisting of three executive divisions.

4. The objections to linking the Buckingham Canal to any other circle of superintendence are stated to be its great length (250 miles) and unfinished condition, and also the work involved in controlling the traffic arrangements over so great a length of channel. The details of traffic arrangements should, however, devolve on the Executive Engineer, only a general control being exercised by the Superintending Engineer. As to the extent of the superintendency, it is not nearly so great as the Scinde Circle in Bombay, which is controlled by one Superintending Engineer.

5. If the foregoing suggestion is adopted, the following figures would show the difference between the resulting staff and that proposed by the Madras Government :—

	Proposed by the Madras Government.	Suggested by Government of India.
Chief Engineers	2	2
Superintending Engineers	5	7
Executive and Assistant Engineers	*79	†75

* Including five Superintendents of Works. † Including one Superintendent of Works.

The expense would be somewhat less on the latter scale.

6. The distribution of Executive and Assistant Engineers into classes and grades would be—

	As proposed by Madras Government.	As suggested by the Government of India.
Executive Engineer, Grade 1	8	9
Do. do. 2	10	10
Do. do. 3	11	10
Do. do. 4	5	3
Assistant Engineer, Grade 1	25	24
Do. do. 2, &c.	20	19

The Government of India is prepared to give provisional sanction to either of the schemes, expressing, however, a strong preference for the latter. The number of Upper Subordinates proposed is accepted.

7. It is observed that ten Executive and Assistant Engineers are intended exclusively for the preparation of projects for famine relief works, and it is assumed that some portion of the time of the regular divisional staff will also be so occupied. It appears fair to estimate that nearly one-eighth of the whole energies of the staff will be devoted for some time to this object. Under these circumstances the Government of India is prepared to contribute that proportion of the estimated cost of the Madras establishment charges, *i.e.*, $2\frac{1}{2}$ lakhs, from the general grant for Protective Public Works.

8. The assignment of this contribution from the special grant for Protective Public Works makes it necessary that the Government of India should be kept informed of the objects on which it is expended. I am to request therefore that a list of projects of protective works now under preparation and of those it is proposed to prepare during 1881-82 may be submitted at once with a brief explanation of each, and that when the budget estimate for 1882-83 is submitted a brief indication may be given of the progress made on each and a further list submitted of the new projects, the preparation of which will be commenced during that year.

9. The cost of the establishment required for the normal operations of the department may therefore be taken at‡ 16 lakhs against a total grant of 61 lakhs. Of the latter sum, 7 lakhs appertains to the Madras Harbour Works, which are carried out by special establishment, leaving 54 lakhs for the normal public works. The relative cost therefore of works and establishment will be—

‡ $18\frac{1}{2} - 2\frac{1}{2}$.

	LAKHS.
Works	38
Establishment charges	16

i.e., the establishment charges are 42 per cent. on the outlay on works. This is still an extremely high percentage.

10. A large proportion of the establishment, however, appears to be required for the supervision of the distribution of water for irrigation and other revenue purposes. In paragraph 27 of your letter now acknowledged it is stated that it is the intention of the Government of Madras to address the Government of India, on the subject of debiting a portion of the Public Works Establishment to Revenue, in a separate communication. I am to state that the Governor-General in Council will be glad to receive the views of the Government of Madras on this point.

11. In sanctioning this large addition to the sanctioned scale of Engineers, it is necessary to consider the question of filling up the vacancies in it. The Government of India has no wish to retard promotion in Madras as compared with other provinces, but it is obvious that to fill up the vacancies in the higher grades altogether from the lower grades of the staff now in Madras would lead to inordinately rapid promotion. Moreover it is likely that the Government of India will very shortly have Engineers thrown on its hands without employ owing to completion of works in the railway branch. Before, then, working up to the new scale, I am to request that a nominal roll may be submitted of the Engineers as they now stand, and a statement of the promotions the Madras Government considers due to length and nature of service, and an endeavour will be made to supply the balance from elsewhere.

12. I am to request that the exceptional arrangement regarding promotions in the place of Superintending Engineers on furlough may cease on the receipt of this letter.

13. The increase now sanctioned to the number of Upper Subordinates will probably enable the Madras Government to find room for those transferred from Madras to Mysore and for men whose home is in Madras who are no longer needed in Mysore, owing to the transfer of the administration of the country to His Highness the Maharajah.

14. I am finally to request that it may be understood that the Government of India cannot admit a higher rate than 25 per cent. on the expenditure on Imperial works as a charge for Imperial establishments exclusive of the establishment employed on Revenue work; that is, one-fifth of the entire Imperial grant shall not be exceeded on account of establishment charges exclusive of what is charged to Revenue work.

No. 17-A. To the Government of India, dated 9th July 1881, No. 1,697 W.

No. 18. ORDER THEREON, 14th July 1881, No. 1,729 W.

THE scale and general arrangement into six Superintending Engineers' Circles sanctioned by the Government of India in the letter above printed have been accepted by the Honorable the Governor in Council.

2. For the reasons explained in the letter to the Government of India, No. 1,697 W., dated 9th July 1881, the following should be added to the scale thus sanctioned:—

Executive Engineers	4
Upper Subordinates	12

3. The modified normal establishment will then stand as follows:—

Chief Engineers.	
First class	1
Second class	1
Third class	1
	*3
Superintending Engineers.	
First class	2
Second class	2
Third class	2
	†6
Executive Engineers.	
First grade	10
Second grade	11
Third grade	11
Fourth grade	4
	36
Assistant Engineers.	
First grade	26
Second and third grades	21
	47
Upper Subordinates of all grades	185

* Includes one Chief Engineer with personal rank. † Excludes one for the excess in Chief Engineer's class.

4. The circles, divisions and sub-divisions with the scale of executive establishment allotted thereto are shown in Appendix A attached to these Proceedings, and the financial result of the new organization with the classes of divisions and details of upper subordinate, lower subordinate, petty, and office establishments, are exhibited in Appendix B.

5. Protective works projects now in hand or proposed under paragraph 8 of the letter from the Government of India are shown in Appendix D, which is circulated for information and guidance.

6. Appendix C (not circulated) contains proposals specially referred to the Government of India.

7. Should the final orders of the Government of India be received in time, the new arrangements will, as regards sanctioned scale, come into force with effect from the 1st August, and the redistribution of executive charges will be carried out as soon after that date as practicable.

8. The proposal of the Government of India (paragraph 7) to contribute towards the cost of establishment a sum of $2\frac{1}{2}$ lakhs from the general grant for Protective Public Works, as also the question (paragraph 10) of debiting a portion of the charge for Irrigation Establishment against the revenue of the works on which they are engaged are under discussion in separate proceedings.

9. The subject matter of paragraph 11 of the Government of India letter in regard to filling up the vacancies in the new scale is also being separately considered and discussed.

10. As regards the agency by which the larger class of Local Fund projects is to be supervised, the Government have intimated their readiness to accept the arrangement suggested in paragraph 5 of the letter from the Government of India, No. 1,639 G., dated 17th September 1880, by which in return for a general contribution on the part of Local Fund Boards of Rs. 21,250 per annum, the Public Works Department would undertake the duties in question without, however, making any personal allowances to the officers to whom such duties may be assigned. The special allowance hitherto paid will therefore cease on the revised arrangements coming into force.

(True Extract.)

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

To Superintending Engineers.
" Superintendents of Works.
To the Consulting Architect to Government.
" General Superintendent of Public Works Stores.
" Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Consulting Engineer for Railways.
" Financial, &c., Departments.
" Revenue Department.
" Military Department.

Exd. E. C. Shunker.
Spare Copies

GENERAL.
ESTABLISHMENT.

Govt. of [1881] Madras.

PUBLIC WORKS.

To

SUPERINTENDING ENGINEERS,

&c., &c., &c.

Dated July, 14th.

Issued

Recd. Encl.

G. O., 14th July 1881, No. 1,729 W.

JULY.
Nos. 17-18.

Re-organization of the Public Works Department of the Madras Presidency.

PUBLIC WORKS DEPARTMENT.

No. 50.

TO THE MOST HONORABLE THE MARQUIS OF HARTINGTON,
SECRETARY OF STATE FOR INDIA.

My Lord Marquis,—In continuation of our despatch No. 14, dated 15th March 1881, and with advertence to paragraph 9 of our subsequent despatch of the 16th July 1881, No. 41, we have the honor to forward, for your Lordship's information, the accompanying copy of a letter from the Government of India, No. 681 G., dated 5th May 1881, in which sanction has been accorded to a revised scale of establishment calculated, we consider, to meet the normal requirements of our Public Works Administration.

2. The Presidency will now be divided into six Circles, each under a Superintending Engineer, the former Superintendents of Works, with the exception of the Consulting Architect to Government whose functions are of a special character, being absorbed.

3. Besides providing for the executive control of ordinary works in progress, we are now in a position to set on foot projects of a Productive or Protective character which have, for want of adequate engineering staff, remained for many years in an inchoate condition, and should the Government of India provide, as from the nature of our representations we trust they will, adequate resources for the future, we shall be in a position to carry on these projects to completion.

4. The preparation of a well-devised programme of works ready to be taken up in case of famine or other emergency will also receive our special attention, and due provision will be made, by the promulgation of Code Rules, for the proper regulation and economical administration of Famine Relief should we again be compelled to resort to such a measure.

5. Your Lordship will observe from our letter to the Government of India, No. 1,697 W., dated 9th July 1881, that the question of an equitable distribution of establishment charges is still under discussion, but the Government of India have so far recognized the justness of our contention for relief to Provincial as to sanction a contribution from Imperial Funds equivalent to one-eighth of the estimated cost of the establishment charges in consideration of the staff which will be employed exclusively for the preparation of projects for famine relief works. It now remains to provide a fair contribution for the large proportion of establishment engaged in

the distribution of water for irrigation and other revenue purposes. When this has been settled, the proportionate cost of establishment to works, will be more in accordance with actual facts, and will be reduced to a percentage which will, we are convinced, be regarded as moderate, having in view the actual conditions to be dealt with in this Presidency, involving numerous small works scattered over a very extensive area.

We have the honor to be,

My Lord Marquis,

Your Lordship's most obedient, humble servants,

OOTACAMUND,
August 1881.

Exd. S. T. Austin.

OOTACAMUND.

PUBLIC WORKS DEPARTMENT

Letter to the Most Honorable the Secretary of State for India.

Dated August.

No. 50 of 1881.

On the subject of the revised scale of Public Works Establishment for the Madras Presidency.

PUBLIC WORKS DEPARTMENT.

General.
Establishment.

No. 2,267 W.

No. 107.

FROM

THE SECRETARY TO THE GOVERNMENT OF MADRAS,
Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
Public Works Department.

SIR,—In reply to paragraph 10 of your letter No. 681 G. of the 5th May 1881, I am directed to state that paragraphs 4 and 5 of Colonel Mullins' letter, No. 270 I. of 12th April, contained proposals which, if adopted, would to a considerable extent remove the inconvenience caused by the present method of distributing establishment charges.

2. As however it appears from your telegram of the 11th ultimo that these proposals are not considered sufficiently definite, the Honorable the Governor in Council considers it desirable to restate the whole question with a view to its final settlement.

3. Moreover, a reconsideration of the remedy suggested in paragraph 4 of Colonel Mullins' letter above quoted, as based on the actual cost of establishment determined independently according to the circumstances of the several executive divisions, has convinced the Government, that however apparently reasonable, it is impracticable, owing to the necessity in this Presidency of providing a general establishment for the execution of all classes of work indiscriminately (except as regards Local Funds), which though most economical in the general interests, introduces complications as regards the distribution and incidence of the establishment charges which cannot be readily solved in this way.

4. There are in reality two very different and independent questions to be decided: *first*, the amount to be contributed to Provincial Funds from Irrigation, Military, and other Imperial Funds, on account of the general Public Works Establishment, the cost of which is met in the first instance wholly by Provincial; and, *second*, the distribution of the Irrigation share of that contribution between the various heads under which Irrigation expenditure is recorded.

5. With regard to the first question, the Irrigation share of the contribution is by so much the largest that if its amount can be satisfactorily settled, the shares due to the other heads of service are of comparatively small importance, and this letter will therefore have reference mainly to Irrigation.

6. Colonel Mullins' letter above quoted, and the note which accompanied it, show that a reconsideration of the mode of calculating establishment charges is imperatively necessary. In my letter No. 479 W. of 22nd February last, it was shown that by the present system of distributing establishment charges, Provincial Funds had paid no less than Rs. 8,55,000 more than their legitimate share of these charges for the two years 1878-79 and 1879-80, and in my letter No. 225 W. of 27th January last, forwarding the Provincial Budget for 1881-82, it was shown that this excess would amount to Rs. 2,80,000 for the current year, the contributions from "Irrigation," "Military" and "Imperial Other Services" falling short by Rs. 1,71,000, Rs. 43,000 and Rs. 29,000 respectively of their fair amount under an equal

all round distribution proportional to expenditure, and by Rs. 2,19,000, Rs. 40,000 and Rs. 27,000 of what they would be if calculated upon the actual distribution of the establishment now employed.

7. These figures necessarily only dealt with the charges brought forward in the year's programme, but as shown in paragraph 14 of my letter No. 1,697 W. of the 9th July 1881, if the scale of normal establishment therewith submitted be sanctioned a further difference in excess for the establishment due to the proposed increase of charge for the current official year of about 3 lakhs (19·17—16·13 lakhs) and for 1882-83 of about 4½ lakhs (20·64—16·13 lakhs) will have to be provided for.

8. Attached to my letter No. 225 W. was a table showing the revenue and working expenses of irrigation in Madras, Bombay, the North Western Provinces and the Punjaub, from which it appeared that even if a percentage of the revenue in other Provinces, much exceeding the known cost of collection in Madras, were considered as debitable to Revenue, the balance far exceeded the 25 per cent. on works expenditure allowed in this Presidency.

9. An examination of figures for other years shows similar results, and it is believed to be beyond controversy that throughout the provinces of Northern India, where the same establishment is employed in supervision of engineering works and assessment of revenue, if the works establishment be calculated at 25 per cent. on the works expenditure, the balance will be found to be about 16 per cent. on the revenue, while if the Revenue charges be taken at 10 per cent. on the revenue the balance will be found to be upwards of 40 per cent. as against "Works" expenditure only.

10. In Madras, while the Revenue charges excluding the cost of conservancy establishments are under 7·2 per cent. on the revenue, the Public Works Department charges are limited to 25 per cent. on the "Works" expenditure with a small addition on account of special establishments (proportion of Secretary's Office, &c.,) which raises the proportion to about 27 per cent.

11. The principle of adjustment of establishment charges by a percentage on the works expenditure takes no account of the fact that though in this Presidency the revenue is neither assessed nor collected by the Public Works Establishment a large proportion of the work of the latter is nevertheless strictly revenue work, and would be required if nothing whatever were spent upon maintenance of works.

12. This is recognized in the case of the conservancy establishments, which are almost entirely of the class usually understood as "petty," but it has also to be recognized in the case of the superior establishments, both engineering and subordinate.

13. The purely revenue duties connected with the management of irrigation works may be stated as:—

I.—The distribution of water.

II.—The annual assessment of the demand on account of the state on the irrigated area.

III.—The collection of the annual demand.

IV.—Magisterial duties in reference to the Canal Act.

14. On the canals of Northern India the Public Works Officers perform the duties under I, II, and IV, and the Civil Officers collect the Revenue III. While no doubt under II the duties of departmental officers may be onerous, it is thought that the position assigned under IV may in many respects prove advantageous and lighten their general work.

15. The duties under the three last heads are not performed by the Public Works Department in Madras, but the first is so to a great extent, and should be provided for.

16. The extent of this duty varies in different localities, being greatest on the great Delta Systems and other Productive Works, and least on the Minor Works which come under the general head of Irrigation and Navigation.

17. The total revenue due to Productive Works is at present approximately 60 lakhs, and to Irrigation and Navigation 90 lakhs; of the latter two-thirds or 60 lakhs is considered to be directly due to Irrigation.

18. It is believed that a charge of 6 per cent. on the revenue due to the former works and 3 per cent. on the latter might legitimately be debited to Revenue. With these additions the Revenue charges in Madras against Irrigation would still be much below those incurred in other parts of India.

19. The debit on account of Productive Works must of course vary with the revenue, but for Irrigation and Navigation it is considered desirable that the contribution be taken at a fixed amount, and I am directed to suggest that this sum be Rs. 1,80,000, being 3 per cent. on 60 lakhs.

20. The debit to Revenue of a certain portion of the establishment charges would relieve to some extent the Provincial Revenues of the weight thrown upon them by the present system of distribution, and if a reasonable grant for expenditure on Imperial Works could always be counted on, the remaining establishment charges might be considered as fairly covered by 25 per cent. upon that expenditure. But the Honorable the Governor in Council is constrained to observe that the grants from Irrigation and Imperial Funds have hitherto been considerably lower than what would be reasonably equitable with reference to actual circumstances. The uncertainty as to what these grants would be, with the resulting doubt as to what will be the ultimate cost to Provincial of the Public Works Establishment has, I am to say, seriously hampered the Provincial finances, and precluded the possibility of providing for works held to be absolutely indispensable in all other provinces. (See also paragraphs 47 and 48 of my letter No. 1,697 W. of 9th July 1881.)

21. In order to avoid this uncertainty in future, I am directed to suggest for consideration that the percentage should be calculated on a minimum grant of Rs. 25,00,000 for Irrigation and Navigation (exclusive of Productive), of Rs. 6,00,000 for Military Works and of Rs. 5,00,000 for Imperial Other Services. In other words that the minimum contribution on account of Public Works Establishment should be Rs. 5,00,000 and Rs. 1,20,000 and Rs. 1,00,000 for the above three heads respectively.

22. This with the debit to Revenue of Rs. 5,40,000 and the special grant of Rs. 2,50,000 promised on account of Protective Works in paragraph 7 of your letter No. 681 G. of 5th May last, would make up a total of Rs. 15,10,000 exclusive of the establishment for "Capital Productive," which for the current year will be about Rs. 30,000.

23. The total cost of Establishment as detailed in my letter No. 1,697 W. of 9th July last is Rs. 2,06,400, and the contribution of Local Funds will not exceed Rs. 90,000, so that the balance falling on Provincial will be about Rs. 4,29,000, and will probably come to not much less than 40 per cent. on the works expenditure.

24. With regard to establishment for Capital expenditure on Productive Works, the Honorable the Governor in Council would propose that in cases where these works form special charges the actual cost of the establishments employed, which will nearly always be less than 25 per cent., be debited to the Works; and that where, as in the case of the Godávari and Kistna Works, they are carried out by establishments employed on general duties, the usual 25 per cent. be charged.

25. The proposals which I am directed to submit may therefore be summed up as follows, that the contribution from Imperial Funds on account of Public Works Establishment charges be composed of—

(*a.*) Rs. 1,80,000 per annum on account of revenue from Ordinary Irrigation and Navigation Works.

(*b.*) Six per cent. on the revenue from Productive Works.

(*c.*) The actual cost of establishment employed on Capital Productive Works where these form distinct charges; in other cases 25 per cent. on the expenditure.

(*d.*) Twenty-five per cent. on all other expenditure with the following minima:—Rs. 5,00,000 for Irrigation excepting Productive; Rs. 1,20,000 for Military; Rs. 1,00,000 for Imperial Other Services.

(*e.*) Rs. 2,50,000 on account of investigations connected with Protective Works and other large projects.

The above sums to cover all establishment charges including those for conservancy and special establishments.

26. For the reasons assigned in paragraph 2 it is not contended that the principle here advocated gives absolutely accurate results, but these will, it is thought, be found fairly correct as relates to the distribution between Imperial and Provincial, and have the advantage of being in accord with the mode of calculating similar charges in other Provinces.

27. I am further to add that if the Government of India were willing to make a fixed grant of 16 lakhs annually for all establishments other than those for "Capital Productive" (which must, it is thought, remain dependent upon yearly grants), subject to revision from time to time as the grants under "Protective" sensibly increase, as it is hoped may be the case, such an arrangement would commend itself to this Government.

28. In conclusion I am to invite the attention of the Government of India to the correspondence marginally noted and to the statement in paragraph 6 of this letter, from which it will be seen that during the lengthened period over which this discussion has extended "Imperial" has gained and Madras "Provincial" has lost over 8½ lakhs, and to solicit that as a partial compensation retrospective effect may be given to the principles now submitted for consideration, if approved, so far as regards the past year 1880-81, or that at least a sum of 3 lakhs be contributed in adjustment of the accounts of that year—or again, should this be inconvenient that a corresponding sum be given as an additional grant-in-aid to "Provincial" for the current official year.

Letter to Govt. of India, No. 456-B I., dated 16th July 1880.
Do. do. No. 270 I., dated 12th April 1881, paragraph 5.
Do. do. No. 337 W., dated 8th Feb. 1881, paragraph 27.
Do from do., No. 581 G., dated 5th May 1881, paragraph 10.
Do. to do., No. 1,697 W., dated 9th July 1881, paragraph 17.
Telegram to do., dated 7th September 1881.

I have the honor to be,

Sir,

Your most obedient servant,

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

Fort St. George,
15th September 1881.

Exd. S. T. Austin.
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GENERAL.
ESTABLISHMENT.

Govt. of {1881} Madras.

PUBLIC WORKS.

To

THE SECRETARY TO THE
GOVERNMENT OF INDIA.

Dated September, 15th.

Issued

Recd. Encl.

G.O., 15th September 1881, No. 2,267 W.

SEPTEMBER.
No. 107.

DISTRIBUTION OF COST OF THE PUBLIC WORKS ESTABLISHMENT IN THE MADRAS PRESIDENCY.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

8th October 1881, No. 2472 W.

General.
Establishment.

Read the following paper :—

No. 31. From A. B. SAMPSON, Esq., Under Secretary to the Government of India, Public Works Department (General), to the Secretary to the Government of Madras, Public Works Department, dated Simla, 23rd September 1881, No. 1250 G.

I AM directed to acknowledge your letter, No. 1697 W., dated 9th July last, relative to the normal strength of the Establishment of the Public Works Department in Madras and other subjects.

2. The Governor-General in Council desires me to point out that the despatch of business is much impeded by the treatment of more than one subject in the same letter, as in the case of your letter under reply. The present communication will be confined to the one subject of the strength of Establishment.

3. In Public Works Department letter, No. 681 G., dated 5th May, the Government of India accepted the following :—

2 Chief Engineers.
7 Superintending Engineers.
75 Executive and Assistant Engineers.

One of the Superintending Engineers holds the rank of Chief Engineer till the post of Consulting Engineer for Guaranteed Railways is vacated, and one of the First-grade Executive Engineers, the Consulting Architect, is a Superintendent of Works on the special pay of Rs. 1,200 per mensem until the present incumbent vacates the post.

4. It is now pointed out that by oversight the former tables contained only one Executive Engineer on account of the 10 per cent. for absentees, instead of three, and two more Engineers are asked for on this account. Also the transfer to Government of the works of the Madras Irrigation Company involves an increase of three Executive and Assistant Engineers. This was approved in Public Works Department letter, No. 207 I., dated 16th May 1881.

5. Further, the execution of the Sungum Project will, it is said, necessitate an addition of three Executive and Assistant Engineers. So that it is proposed to increase the number of Executive and Assistant Engineers from 75, the number the Government of India declared itself prepared to accept, to 83, and the estimated cost of Establishment charges is put down at Rs. 20,64,000, exclusive of the establishment of the Consulting Engineer for Guaranteed Railways.

6. Though the Government of India is not able to accept these proposals as economical, yet, in consideration of the representations of the Government of Madras, and with the view of settling a question which has been more or less under discussion for many years, the Governor-General in Council is pleased to sanction them provisionally, subject to the approval of the Secretary of State, who has lately taken occasion to remark on the apparent extravagance of this class of expenditure in Madras. But I am directed, in conveying these orders, to state that the strength of the Engineer Establishment now sanctioned must be regarded as the maximum, and that provision for the superintendence of any works that may hereafter be taken in hand must be made without any increase of the present staff.

7. The division of the staff into classes and grades given in paragraph 7 of your letter is correct, except that the number of Assistant Engineers in the first and second grades may be 27 and 20 respectively.

8. The proposed number of Upper Subordinates, 185, is accepted.

9. With reference to paragraph 18 of your letter, I am to state that the assignment of 2½ lakhs from the fund for Protective Public Works was for the purpose of providing establishment for the preparation of projects for such works, and cannot be reappropriated to Works without the special sanction of the Government of India, on the submission of a completed project; and even as regards this, no pledge can be given.

10. Other subjects of your letter will be dealt with separately.

No. 32.

ORDER THEREON, 8th October 1881, No. 2472 W.

COMMUNICATED to the officers concerned in continuation of G.O., No. 1729 W., dated 14th July 1881.

2. The Government of India will be separately addressed in regard to the alleged excessive charge for Establishment (paragraph 6 of their letter).

3. With reference to paragraph 9, the Superintending Engineer, First Circle, will expedite the submission of the complete estimates for the Potinghy Ghát, which were returned for final revision, and meanwhile the precise effect of the sanction accorded of 2½ lakhs additional for Establishment as a grant-in-aid from Imperial will be considered by the Chief Engineer, Public Works Department, and the Examiner.

(True Extract.)

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

To the Chief Engineer, Public Works Department.
" Superintending Engineers.
" Superintendents of Works.
" the Consulting Architect to Government.
" the General Superintendent, Public Works Stores.
" the Chief Engineer for Irrigation.
" the Examiner of Public Works Accounts.
" the Consulting Engineer for Railways.
" the Financial Department.

Exd. A. F. Goodall.
Spare Copies

GENERAL.
ESTABLISHMENT.

Govt. of [1881] Madras.

PUBLIC WORKS.

To

THE CHIEF ENGINEER, PUBLIC WORKS DEPARTMENT.

&c., &c., &c.

Dated October, 8th.

Issued

Recd. Encl.

G. O., 8th October 1881, No. 2472 W.

OCTOBER.

Nos. 31-23.

Revised Scale of Establishment for the Public Works Department of the Madras Presidency.—Sanction of the Government of India to the —, communicated to the officers concerned.

PUBLIC WORKS DEPARTMENT.

General.
Establishment.

No. 2473 W.

No. 33.

FROM

THE SECRETARY TO THE GOVERNMENT OF MADRAS,

Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,

Public Works Department.

Vide Govt No 2472 W 8-10-81.

SIR,—With reference to the observations contained in paragraph 6 of your letter, No. 1,250 G., dated 23rd ultimo, as to the uneconomical character of the establishment now provisionally sanctioned, and your allusion to the remark of the Secretary of State as to the apparent extravagance of the one which it is intended to replace, I am desired to invite a reference to the despatch of this Government marginally quoted, from which it will be observed that the percentage of 84·4, to which His Lordship not unnaturally took exception, did not agree with the figures given in the Public Works Budgets of this Presidency, and was therefore based on a misapprehension.

No. 41, dated 16th July 1881.

2. Convinced as this Government is that the opinion still held by the Government of India as to the uneconomical character of the establishment lately sanctioned is equally based on a misapprehension of the facts, they would now, in the hopes of ending a long and undesirable controversy, suggest that if the Government of India think fit a review of all the charges involved may be undertaken.

3. The charges shown in the Public Works Accounts in Upper India on Capital Revenue Works are believed to be arbitrarily confined to 25 per cent. for Establishment, and that no less than 16 per cent. on an average is debited to Revenue, whereas in this Presidency no charge of any kind for Public Works purposes is made against the latter. All comparisons, therefore, of the relative cost of establishment with the present incidence of the charges are thus necessarily fallacious and misleading.

4. It is held by this Government that if accurate figures could be given for all similarly situated Productive Works in other Provinces under the following heads, the economical administration of those in Madras would be established beyond fear of controversy;—

I.—Charges for Civil Administration under—

(*a*) Law and Justice;
(*b*) Revenue,

GENERAL.
ESTABLISHMENT.

Govt. of [1881] Madras.

PUBLIC WORKS.

To

THE SECRETARY TO THE
GOVERNMENT OF INDIA.

Dated October, 8th.

Issued

Read. *Encl.*

G. O., 8th October 1881, No. 2473 W.

OCTOBER.
No. 33.

EXPLANATION of the excessive nature of the Establishment charges in the Madras Presidency.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

28th November 1881, No. 2964 W.

Buildings and Roads.
Civil Works.

Read the following paper:—

No. 124. From Major G. F. L. MARSHALL, R.E., Assistant Secretary to the Government of India, Public Works Department (Civil Works—Irrigation), to the Secretary to the Government of Madras, Public Works Department, dated Simla, 12th November 1881, No. 437 I.

REFERRING to paragraphs 39 to 46 of your letter, No. 1697 W., of the 9th July last, I am directed to state, for the information of His Excellency the Governor, that the Tidal Canals and Irrigation Projects entered in Appendix D of the above-quoted letter, except those already classed as Productive Public Works, may be investigated by the special establishment, the cost of which is sanctioned against the Protective Works grant, but that the Potinghy Ghât road and other similar works are not admissible into the category of Protective Works, and that no portion of the grant for Protective Works may be expended on them, either for preparation of designs and estimates, or for construction.

No. 125. ORDER THEREON, 28th November 1881, No. 2964 W.

COMMUNICATED to the Examiner of Public Works Accounts, who will report the sum which may be reappropriated under Provincial in accordance with the sanction conveyed in the above letter from the Government of India.

2. It would appear from this letter that no part of the establishment chargeable against the Protective Works grant can be employed for investigating projects for works classed as *Productive*. The following two works brought forward in Appendix D would thus be excluded:—

(1) Complete revised project for Godávari Delta.
(2) Completion project for the Kistna Delta.

3. Colonel Hasted is now engaged on the first of these in a special appointment not included in the scheme of Project Divisions, and this arrangement will stand. The only practical effect of the order will, therefore, be to remove the preparation of the completion project for the Kistna Delta from the D Project Division under Mr. Vincent to Colonel Hasted, so soon as the latter officer shall have finished his present work. This will be carried out in due course.

4. A separate communication will be addressed to the Government of India in regard to the Potinghy Ghât.

(Here enter No. 2965 W., dated 28th November 1881.)

(True Extract.)

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

To the Examiner of Public Works Accounts.
" Chief Engineer for Irrigation.
To Lieutenant-Colonel J. O. Hasted, R.E.

Exd. E. C. Shunker.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1881} Madras.

PUBLIC WORKS

To

THE EXAMINER OF PUBLIC WORKS ACCOUNTS,

&c., &c., &c.

Dated November, 28th.

Issued

Read. *Encl.*

G.O., 28th November 1881, No. 2964 W.

NOVEMBER.

Nos. 124-125.

Potinghy Ghat.—Letter from the Government of India intimating that the — and other similar works are not admissible into the category of Protective Works, communicated to the Examiner of Public Works Accounts with remarks.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

12th December 1881, No. 3082 W.

General Account.

Read the following paper:—

No. 43. Proceedings of the Government of India, Public Works Department, (Account—General,) dated Simla, 14th November 1881, No. 417 A.G.

Distribution of the Imperial Grant for Other Services for 1882-83.

Read the following papers:—

Letter from Secretary to Government of Madras, No. 2367 W., dated 26th September 1881.

* * * * * * * *

RESOLUTION.—The demands for 1882-83 for works other than Military, Irrigation, and State Railways are compared below with the corresponding grant for 1881-82:—

	Demand, 1882-83.	Grant, 1881-82.
	RS.	RS.
Madras	3,50,584	3,38,002

* * * * * * * *

2. It is thus observed that the demands for 1882-83 exceed the total Imperial Other Services grant for 1881-82 by Rs. 14,76,894, whereas financial requirements make it absolutely necessary that the grants to be made for Other Services works for the ensuing official year should not, with the amount to be held in reserve, exceed in the aggregate Rs. 56,00,000. Some of the demands must therefore be cut down, and in this view the reductions shown in the following table are made:—

—	Demands, 1882-83.	Provisional Grant, 1882-83.	Reduction or Addition.
	RS.	RS.	RS.
Madras	3,50,584	3,16,701	— 33,883

3. The items making up the provisional grant now assigned will be found in the statement attached to this Resolution. The detailed budget estimates should be prepared only for the grants provisionally sanctioned, strictly in accordance with the programme now laid down. The grants herein allowed include provision for any expenditure that may be incurred in England on stores for works classed as Imperial Other Services. The budget estimates should be submitted so as to reach the Government of India punctually on the 15th January 1882.

ORDER.—Ordered, that this Resolution be communicated to the local Governments and Administrations noted in the margin, the Director-General of Telegraphs, the Director-General of the Post Office of India, and the Inspector-General, Military Works, for information and guidance.

The Governments of Madras, Bombay, Bengal, the North-Western Provinces and Oudh, and the Punjab, in the Public Works Department.
The Chief Commissioners, Central Provinces, British Burma, Assam, and Coorg.
The Resident at Hyderabad.
The Agents to the Governor-General for Central India, Rajputana, and Baluchistan.
The Superintendent of Port Blair and Chief Commissioner, Andaman and Nicobar Islands.

Ordered also, that copies be forwarded to the Department of Finance and to the Military Department for information.

(Signed) A. FILGATE, Colonel, R.E.,
for Offg. Secy. to the Govt. of India.

To the Secretary to the Government of Madras, Public Works Department.

STATEMENT showing Details of the Imperial Other Services Grant for 1882-83 assigned to the several local Governments and Administrations.

Province.	Head of Classification.	Particulars.	Original Works. Major.	Minor.	Total.	Repairs.	Establishment.	Tools and Plant.	Grand Total.
			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Madras ..	Postal ..	New Post Office, Madras ..	1,30,000	..	..	..	..	..	..
		Addition to Post Office, Bangalore	4,840	..	..	..	..	..	..
		Total, Postal ..	1,34,840	13,484	1,48,324	5,000	35,264	3,833	1,92,421
	Telegraph	New Telegraph Office, Madras ..	51,000	..	..	..	..	..	..
		Do. Ootacamund.	13,527	..	..	..	..	..	..
		Total, Telegraph ..	64,527	6,452	70,979	3,000	17,015	1,349	92,843
	Salt ..	Huts for two Head Constables and nineteen Constables at Agastiampalle near Vedarniem.. ..	3,000	..	..	..	..	..	..
		Opening and maintaining Ennore Bar.	2,500	..	..	..	..	..	..
		Opening and maintaining Covelong Bar	10,000	..	..	..	..	..	..
		Total, Salt ..	15,500	1,550	17,050	8,000	5,761	626	31,437
		Total, Other Services, Madras ..	2,14,867	21,486	2,36,353	16,000	58,040	6,308	3,16,701

No. 44. ORDER THEREON, 12th December 1881, No. 3082 W.

IN the above Resolution the Government of India make the following assignment for Imperial Other Services for 1882-83:—

		Major Works.	Minor Works.	Repairs.	Establishment.	Tools and Plant.	Total.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Civil Buildings ...	Postal	1,34,840	13,484	5,000	35,264	3,833	1,92,421
	Telegraph ...	64,527	6,452	3,000	17,015	1,349	92,843
	Salt	15,500	1,550	8,000	5,761	626	31,437
	Total ...	2,14,867	21,486	16,000	58,040	6,308	3,16,701

2. Under Postal Works the Government of India have not made provision for additions to the Post Office at Vizagapatam and have reduced the grant sought for Minor Works by Rs. 445.

3. The grants sought for Major and Minor Works under Telegraph have been increased respectively by Rs. 1,000.

4. Under Salt no provision has been made for the works noted in the margin, and the grants for Minor Works and Repairs have been reduced by Rs. 1,539 and Rs. 2,000, respectively.

	Rs.
Police lines at Pandraka	4,507
Do. at Chinna Ganjam ...	4,582
Do. at Nizampatam	3,562
Constructing a bridge across the main supply channel of the road crossing from No. 1 Ganjam Gulli to Chilka Canal	2,940

5. The grants for Minor Works and Repairs will be held at the disposal of Government, and will be distributed on receipt from Superintending Engineers of their estimated requirements as directed in G.O., No. 405 W., of 14th February 1881.

(Here enter No. 3083 W., dated 12th December 1881.)

(True Extract.)

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

To Superintending Engineers.
To the Examiner of Public Works Accounts.
" Consulting Architect to Government.
" Financial Department.
" Revenue "
" Marine "
" Board of Revenue.
" Accountant-General.
" Postmaster-General.
" Superintendent of Telegraphs, Madras Division.

Exd. E. C. Shunker.
Spare Copies

GENERAL.
ACCOUNT.

Govt. of {1881} Madras.

PUBLIC WORKS.

To

SUPERINTENDING ENGINEERS,

&c., &c., &c.

Dated December, 12th.

Issued

Read. *Encl.*

G.O., 12th December 1881, No. 3082 W.

DECEMBER.
Nos. 43-44.

Assignment for Imperial Other Services for 1882-83.—Passing orders on the — by the Government of India.

PRELIMINARY ISSUE.

IMPERIAL.
THER SERVICES.

MADRAS.

PUBLIC WORKS DEPARTMENT.

IMPERIAL BUDGET-ESTIMATE

OF

OTHER SERVICES

OF THE

GOVERNMENT OF MADRAS

FOR THE YEAR

1882-83.

FORT ST. GEORGE,
12th December 1881.

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

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DETAIL OF THE BUDGET-ESTIMATE OF EXPENDITURE—

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REVENUE.

ABSTRACT OF THE BUDGET ESTIMATE OF REVENUE OF THE PUBLIC WORKS DEPARTMENT FROM OTHER SERVICES IN MADRAS FOR THE YEAR FROM 1st APRIL 1882 TO 31st MARCH 1883.

	Budget-Estimate, 1882-83.	Regular Estimate, 1881-82.	Budget-Estimate, 1881-82.	Actuals, 1880-81.
	Rs.	Rs.	Rs.	Rs.
In Public Works Department	3,000	3,000	3,000	2,938
In Civil and Military Departments	...	...	46,179	...
Total ...	3,000	3,000	49,179	2,938

CHARGES.

ABSTRACT OF THE BUDGET-ESTIMATE OF EXPENDITURE OF THE PUBLIC WORKS DEPARTMENT ON OTHER SERVICES IN MADRAS FOR THE YEAR FROM 1st APRIL 1882 TO 31st MARCH 1883.

	Reference to Detailed Estimate.	Budget-Estimate, 1882-83.	Regular Estimate, 1881-82.	Budget-Estimate, 1881-82.	Actuals, 1880-81.
		Rs.	Rs.	Rs.	Rs.
Civil Buildings. Original Works—In progress ...	4·5	1,97,527	2,04,920	2,21,100	1,19,010
Civil Buildings. Original Works—Not commenced.	4·5	38,826		27,000	
Civil Buildings. Repairs	...	16,000	4,990	14,000	2,618
Communications. Original Works—In progress ...	...	...	..	...	...
Communications. Original Works—Not commenced.	...	...	...	...	...
Communications. Repairs	...	...	...	...	...
Miscellaneous Public Improvements. Original Works—In progress ...	4·5	...	...	...	...
Miscellaneous Public Improvements. Original Works—Not commenced.	4·5	...	1,000	1,000	121
Miscellaneous Public Improvements. Repairs	...	...	2,000	2,000	695
Establishment. Regular	...	58,040	*52,050	66,275	28,362
Establishment. Special	...	...	...	...	...
Tools and Plant	...	6,308	*5,205	6,627	3,040
Suspense Accounts	...	...	...	...	...
		8,16,701	2,70,165	3,38,002	1,53,846
Grand Total. Original Works—In progress ...	... ...	1,97,527	2,05,920	2,21,100	1,19,131
Grand Total. Original Works—Not commenced	... ...	38,826		28,000	
Grand Total. Repairs	... ...	16,000	6,990	16,000	3,313
Grand Total. Establishment ...	... ...	58,040	52,050	66,275	28,362
Grand Total. Tools and Plant ...	... ...	6,308	5,205	6,627	3,040
Grand Total. Suspense Accounts...	... ...	...	..	...	
Total ...		8,16,701	2,70,165	3,38,002	1,53,846

* Excludes percentage on Rs. 4,710 sanctioned for purchase of a House at Vizagapatam.

ABSTRACT OF THE CHARGES TO BE INCURRED IN THE PUBLIC WORKS DEPARTMENT FROM IMPERIAL, LOCAL FUNDS, AND CONTRIBUTIONS IN BOTH INDIA AND ENGLAND.

	BUDGET-ESTIMATE, 1882-83.								Regular Estimate, 1881-82.	Budget-Estimate, 1881-82.	Actuals, 1880-81.
	Original Works.			Repairs.	Establishment.	Tools and Plant.	Suspense Accounts.	Total.			
	In progress.	Not commenced.	Total.								
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Provision from Imperial Funds—											
In India ...	1,97,527	38,826	2,36,353	16,000	58,040	6,308	...	3,16,701	2,70,165	3,38,002	1,53,846
In England ...	...	...	...	...	...	...	...	...	...	...	...
Total ...	1,97,527	38,826	2,36,353	16,000	58,040	6,308	...	3,16,701	2,70,165	3,38,002	1,53,846
Provision from Local Funds—											
In India ...	...	...	...	...	...	...	...	...	...	...	...
Provision from Contributions—											
In India ...	...	...	...	...	...	...	...	...	...	...	...
Grand Total ...	1,97,527	38,826	2,36,353	16,000	58,040	6,308	...	3,16,701	2,70,165	3,38,002	1,53,846

STATEMENT SHOWING THE WORKS ON WHICH OUTLAY IN ENGLAND ABOVE PROVIDED FOR IS TO BE INCURRED.

	BUDGET-ESTIMATE, 1882-83.						Regular Estimate, 1881-82.	Budget-Estimate, 1881-82.	Actuals, 1880-81.
	Original Works.			Tools and Plant.	Suspense Accounts.	Total.			
	In progress.	Not commenced.	Total.						
	Nil.								

IMPERIAL.
OTHER SERVICES.

MADRAS.

REVENUE.

ABSTRACT OF THE BUDGET-ESTIMATE OF REVENUE OF THE PUBLIC WORKS DEPARTMENT FROM OTHER SERVICES IN MADRAS FOR THE YEAR FROM 1st APRIL 1882 TO 31st MARCH 1883.

	Budget-Estimate, 1882-83.	Regular Estimate, 1881-82.	Budget-Estimate, 1881-82.	Actuals, 1880-81.
	Rs.	Rs.	Rs.	Rs.
In Public Works Department	3,000	3,000	3,000	2,938
In Civil and Military Departments	...	...	46,179	...
Total ...	3,000	3,000	49,179	2,938

CHARGES.

ABSTRACT OF THE BUDGET-ESTIMATE OF EXPENDITURE OF THE PUBLIC WORKS DEPARTMENT ON OTHER SERVICES IN MADRAS FOR THE YEAR FROM 1st APRIL 1882 TO 31st MARCH 1883.

	Reference to Detailed Estimate.	Budget-Estimate, 1882-83.	Regular Estimate, 1881-82.	Budget-Estimate, 1881-82.	Actuals, 1880-81.
		Rs.	Rs.	Rs.	Rs.
Civil Buildings. Original Works—In progress ...	4·5	1,97,527	2,04,920	2,21,100	1,19,010
Civil Buildings. Original Works—Not commenced.		38,826		27,000	
Civil Buildings. Repairs		16,000	4,990	14,000	2,618
Communications. Original Works—In progress ...	...	...	..	...	...
Communications. Original Works—Not commenced.	...	...	...	...	...
Communications. Repairs	...	...	...	...	...
Miscellaneous Public Improvements. Original Works—In progress ...	4·5	...	...	...	...
Miscellaneous Public Improvements. Original Works—Not commenced.		...	1,000	1,000	121
Miscellaneous Public Improvements. Repairs	...	...	2,000	2,000	695
Establishment. Regular	...	58,040	*52,050	66,275	28,362
Establishment. Special	...	...	...	...	...
Tools and Plant	...	6,308	*5,205	6,627	3,040
Suspense Accounts	...	...	...	...	...
		3,16,701	2,70,165	3,38,002	1,53,846
Grand Total. Original Works—In progress ...	... ...	1,97,527	2,05,920	2,21,100	1,19,131
Grand Total. Original Works—Not commenced	... ...	38,826		28,000	
Grand Total. Repairs	... ...	16,000	6,990	16,000	3,313
Grand Total. Establishment ...	... ...	58,040	52,050	66,275	28,362
Grand Total. Tools and Plant ...	... ...	6,308	5,205	6,627	3,040
Grand Total. Suspense Accounts ...	... ...	...	..	...	..
Total ...		3,16,701	2,70,165	3,38,002	1,53,846

* Excludes percentage on Rs. 4,710 sanctioned for purchase of a House at Vizagapatam.

IMPERIAL.
OTHER SERVICES.

MAD

ABSTRACT OF THE CHARGES TO BE INCURRED IN THE PUBLIC WORKS DEPARTMENT FROM IMPE LOCAL FUNDS, AND CONTRIBUTIONS IN BOTH INDIA AND ENGLAND.

	Budget-Estimate, 1882-83. Original Works. In progress.	Not commenced.	Total.	Repairs.	Establishment.	Tools and Plant.	Suspense Accounts.	Total.	Regular Estimate, 1881-82.	Budget-Estimate, 1881-82.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Provision from Imperial Funds— In India ...	1,97,527	38,826	2,36,353	16,000	58,040	6,308	...	3,16,701	2,70,165	3,38,002	1,5
In England ...	...	...	...	...	...	...	...	...	...	...	
Total ...	1,97,527	38,826	2,36,353	16,000	58,040	6,308	...	3,16,701	2,70,165	3,38,002	1,5
Provision from Local Funds— In India ...	...	...	...	...	...	...	...	...	...	...	
Provision from Contributions— In India ...	...	...	...	...	...	...	...	...	...	...	
Grand Total ...	1,97,527	38,826	2,36,353	16,000	58,040	6,308	...	3,16,701	2,70,165	3,38,002	1,5

STATEMENT SHOWING THE WORKS ON WHICH OUTLAY IN ENGLAND ABOVE PROVIDED FOR IS TO BE INCURRED.

	Budget-Estimate, 1882-83. Original Works. In progress.	Not commenced.	Total.	Tools and Plant.	Suspense Accounts.	Total.	Regular Estimate, 1881-82.	Budget-Estimate, 1881-82.	Actuals, 1880-81.
			Nil.						

IMPERIAL.
OTHER SERVICES.

MADRAS.

REVENUE.

ABSTRACT OF THE BUDGET-ESTIMATE OF REVENUE OF THE PUBLIC WORKS DEPARTMENT FROM OTHER SERVICES IN MADRAS FOR THE YEAR FROM 1st APRIL 1882 TO 31st MARCH 1883.

	Budget-Estimate, 1882-83.	Regular Estimate, 1881-82.	Budget-Estimate, 1881-82.	Actuals, 1880-81.
	Rs.	Rs.	Rs.	Rs.
In Public Works Department	3,000	3,000	3,000	2,938
In Civil and Military Departments	...	...	46,179	...
Total ...	3,000	3,000	49,179	2,938

CHARGES.

ABSTRACT OF THE BUDGET-ESTIMATE OF EXPENDITURE OF THE PUBLIC WORKS DEPARTMENT ON OTHER SERVICES IN MADRAS FOR THE YEAR FROM 1st APRIL 1882 TO 31st MARCH 1883.

	Reference to Detailed Estimate.	Budget-Estimate, 1882-83.	Regular Estimate, 1881-82.	Budget-Estimate, 1881-82.	Actuals, 1880-81.
		Rs.	Rs.	Rs.	Rs.
Civil Buildings. Original Works—In progress ...	4·5	1,97,527	2,04,920	2,21,100	1,19,010
Civil Buildings. Original Works—Not commenced.	4·5	38,826		27,000	
Civil Buildings. Repairs	...	16,000	4,990	14,000	2,618
Communications. Original Works—In progress ...	...	...	..	...	...
Communications. Original Works—Not commenced.	...	...	...	...	...
Communications. Repairs	...	...	...	...	...
Miscellaneous Public Improvements. Original Works—In progress ...	4·5	...	...	...	...
Miscellaneous Public Improvements. Original Works—Not commenced.	4·5	...	...	...	...
Miscellaneous Public Improvements. Repairs	...	...	1,000	1,000	121
Establishment. Regular	...	...	2,000	2,000	695
Establishment. Special	...	58,040	*52,050	66,275	28,362
Tools and Plant	...	...	...	...	...
Suspense Accounts	...	6,308	*5,205	6,627	3,040
	...	...	...	...	...
		3,16,701	2,70,165	3,38,002	1,53,846
Grand Total. Original Works—In progress ...	... ...	1,97,527		2,21,100	1,19,131
Grand Total. Original Works—Not commenced.	... ...	38,826	2,05,920	28,000	
Grand Total. Repairs	... ...	16,000	6,990	16,000	3,313
Grand Total. Establishment ...	... ...	58,040	52,050	66,275	28,362
Grand Total. Tools and Plant ...	... ...	6,308	5,205	6,627	3,040
Grand Total. Suspense Accounts ..	... ...	...	..	..	..
Total ...		3,16,701	2,70,165	3,38,002	1,53,846

* Excludes percentage on Rs. 4,710 sanctioned for purchase of a House at Vizagapatam.

IMPERIAL.
OTHER SERVICES.

MADRAS.

ABSTRACT OF THE CHARGES TO BE INCURRED IN THE PUBLIC WORKS DEPARTMENT FROM IMPERIAL, LOCAL FUNDS, AND CONTRIBUTIONS IN BOTH INDIA AND ENGLAND.

	Budget-Estimate, 1882-83. Original Works. In progress.	Not commenced.	Total.	Repairs.	Establishment.	Tools and Plant.	Suspense Accounts.	Total.	Regular Estimate, 1881-82.	Budget-Estimate, 1881-82.	Actuals, 1880-81.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Provision from Imperial Funds—											
In India ...	1,97,527	38,826	2,36,353	16,000	58,040	6,308	...	3,16,701	2,70,165	3,38,002	1,53,846
In England ...	...	...	...	...	...	...	...	...	...	...	...
Total ...	1,97,527	38,826	2,36,353	16,000	58,040	6,308	...	3,16,701	2,70,165	3,38,002	1,53,846
Provision from Local Funds—											
In India ...	...	...	...	...	...	...	...	...	...	...	...
Provision from Contributions—											
In India ...	...	...	...	...	...	...	...	...	...	...	...
Grand Total ...	1,97,527	38,826	2,36,353	16,000	58,040	6,308	...	3,16,701	2,70,165	3,38,002	1,53,846

STATEMENT SHOWING THE WORKS ON WHICH OUTLAY IN ENGLAND ABOVE PROVIDED FOR IS TO BE INCURRED.

	Budget-Estimate, 1882-83. Original Works. In progress.	Not commenced.	Total.	Tools and Plant.	Suspense Accounts.	Total.	Regular Estimate, 1881-82.	Budget-Estimate, 1881-82.	Actuals, 1880-81.
			Nil.						

Heads of Classification.	Executive Division.	Locality.	Item No.	Projects and Works.
				OTHER SERVICES.
				Civil Buildings.
				Original Works.
Postal	Consulting Architect.	Madras ...	1	New Post Office ... ...
	Presidency ...	Bangalore ...	2	Additions to Post Office ... ...
			3	Minor Works ... ...
				Total, Postal Buildings ...
Telegraph	Consulting Architect.	Madras ...	4	New Telegraph Office... ... ...
	West Coast ...	Ootacamund...	5	Do. ... ...
			6	Minor Works ... ...
				Total, Telegraph Buildings ...
Salt	Negapatam ...	Agastiampalle near Vedarniem.	7	Huts for two Head Constables and 19 Constables.
	Buckingham Canal.	Ennore ...	8	Opening and maintaining the Ennore Bar ...
	Do. ...	Covelong ...	9	Do. do. the Covelong Bar ...
			10	Minor Works ... ...
				Total, Salt Works ...
				Total, Other Services ...

I.

ORIGINAL WORKS FOR THE YEAR 1882-83.

Amount of Estimate.	Outlay.		Grant, 1882-83.			Item No.	Remarks and References.
	Actual to end of 1880-81.	Probable during 1881-82.	Works in Progress.	Works not commenced.	Total.		
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		
2,45,010	...	50,000	1,30,000	...	...	1	Sanctioned by the Government of India. Register No. 36 B of 1876-77. G.O. No. 1138 of 8th May 1876. (Part of combined Post and Telegraph Offices.) Class A.
...	...	...	...	4,840	..	2	Estimate awaited, Class A.
...	...	...	...	13,484	..	3	.....
...	...	...	1,30,000	18,324	1,48,324		
*2,60,036	1,01,402	*1,35,000	51,000	...	..	4	*Includes Estimate of Rs. 2,844 for mule stables, the expenditure for which was charged off to the combined Post and Telegraph Office, Madras. Sanctioned by the Government of India. Register No. 36 B of 1876-77. G.O. No. 1138 of 8th May 1876. (Part of combined Post and Telegraph Offices.) Class A. * Expenditure on the combined Post and Telegraph Offices.
21,100	5,014	11,100	13,527	...	...	5	Sanctioned by the Government of India. Register No. 13 B of 1879-80. Item No. 4 of Budget of 1881-82. Revised estimate awaited. Class A.
...	...	...	...	6,452	...	6	
...	...	...	64,527	6,452	70,979		
5,670	2,066	604	3,000	...	...	7	Sanctioned in G.O. No. 1582 W. of 6th July 1880, Class A.
2,500	...	...	...	2,500	...	8	Sanctioned in G.O. No. 2849 W. of 15th November 1881. Class A.
10,000	...	...	...	10,000	...	9	Do. do. Class A.
...	...	...	...	1,550	...	10	
...	...	...	3,000	14,050	17,050		
...	...	...	...	...	2,36,353		

IMPERIAL.
OTHER SERVICES.

MADRAS.

APPENDIX A.

ABSTRACT OF THE GRANTS FOR 1882-83 FOR OTHER SERVICES ARRANGED BY DEPARTMENTS AND DEPARTMENTAL HEADS.

	Original Works.		Repairs.	Total Works and Repairs.	Establishment.	Tools and Plant.	Total, 1882-83.	Regular Estimate, 1881-82.
	In Progress.	Not commenced.						
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Civil Buildings.								
Post Offices	1,30,000	18,324	5,000	1,53,324	35,264	3,833	1,92,421	1,11,563
Telegraphs	64,527	6,452	3,000	73,979	17,015	1,849	92,843	1,32,975
Salt	3,000	14,050	8,000	25,050	5,761	626	31,437	21,802
Total ...	1,97,527	38,826	16,000	2,52,353	58,040	6,308	3,16,701	2,66,340
Miscellaneous Public Improvement.								
Light-houses	...	...	...	...	...	...	...	3,825
Total ...	...	...	...	...	...	...	...	3,825

PUBLIC WORKS DEPARTMENT.

General.
Account.

No. 3083 W.

No. 45.

From

THE SECRETARY TO THE GOVERNMENT OF MADRAS,
Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
Public Works Department.

Sir,—In forwarding four copies of the Preliminary Issue of the Budget Estimate for Imperial Other Services for the year 1882-83, I am directed to invite attention to the correspondence noted in the margin, and to state that the effect of the present basis of calculating Establishment charges is, in this particular instance, to give as a grant from *Provincial* to *Imperial* the difference between 23 and 47 per cent., or about Rs. 60,000, which taken with the charges for establishment under Military and Irrigation imposes a burden on Provincial Funds, which the latter are clearly unable to bear and necessarily tends to retard progress most seriously.

No. 225 W. of 27th Jan. 1881.
" 337 W. of 8th Feb. "
" 2267 W. of 15th Sept. "
" 2473 W. of 8th Oct. "

I have the honor to be,

Sir,

Your most obedient servant,

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

Fort St. George,
12th December 1881.

Exd. E. C. Shunker.
Spare Copies

GENERAL ACCOUNT.

Govt of (1881) Madras.

PUBLIC WORKS.

The SECRETARY to the GOVERNMENT of INDIA.

Dated December, 1881.

Rect.

Ans.

(12th December 1881, No. 3053 W.)

DECEMBER.

No. 45.

Forwarding with remarks four copies of the Preliminary Issue of the Budget for Imperial Other Services for the year 1882-83.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

9th February 1882, No. 365 W.

General.
Account.

Read again :—

No. 31. Proceedings of Government, Public Works Department, dated 3rd November 1881, Nos. 2730/2731 W.

No. 31-A. Circular from the Government of India, Public Works Department, (Account—General,) dated Fort William, 20th January 1882, No. II P.W.

The orders laid down in Government of India Circular No. XX P.W., dated 29th September last, regarding the adjustment of Establishment charges, should have effect from the commencement of the year 1882-83.

(Signed) A. J. FILGATE, Major, R.E.,
Depy. Secy. to the Govt. of India.

Read also :—

No. 31-B. Telegram to the Secretary to the Government of India, Public Works Department, dated 28th January 1882.

Your Accounts Circular 29th September last, paragraph 4. May Revenue Other Services be debited with 5 and Irrigation with 10 per cent. for Establishment in current and next official year. Wire reply solicited.

No. 31-C. Telegram from the Secretary to the Government of India, Public Works Department, Calcutta, to the Secretary to the Government of Madras, Public Works Department, dated 2nd February 1882.

Revenue Other Services and Irrigation realised directly by Public Works officers may be debited with five and ten per cent. for Establishment only in 1882-83. Circular does not apply to 1881-82 or to revenue realised in the Civil Department; such charges must be met from existing grants.

No. 31-D. Office Note from the Examiner of Public Works Accounts, dated 4th February 1882, No. 1,097.

Budget Estimate.	Receipts.	5 per cent.
Military	30,000	1,500
Other Services	3,000	150
	33,000	1,650
Direct Revenue.		10 per cent.
From Productive Public Works	1,08,185	10,818
Irrigation and Navigation.	10,606	1,061
Agricultural	10,000	1,000
	1,28,791	12,879

The Budget Estimates for receipts as already communicated under Imperial are as shown in the margin, against which the percentages at 5 and 10 have been entered.

2. The Establishment charges entered at 23 per cent. in the several Budgets will have to be increased to the extent of these amounts.

No. 31-E. ORDER THEREON, 9th February 1882, No. 365 W.

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

(Here enter No. 366 W., dated 9th February 1882.)

(True Extract.)

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

To the Examiner of Public Works Accounts, with letter.

Exd. S. T. Austin.
Spare Copies

GENERAL.
ACCOUNT.

Govt. of {1882} Madras.

PUBLIC WORKS.

To

THE EXAMINER OF PUBLIC WORKS ACCOUNTS.

Dated February, 9th.

Issued

Recd. *Encl.*

G.O., 9th February 1882, No. 365 W.

FEBRUARY.

Nos. 31—31-E.

Establishment Charges.—Ordered that the Government of India be requested to increase the — of the several Budgets of the Public Works Department for 1882-83.

PUBLIC WORKS DEPARTMENT.

General.
Account.

No. 366 W.

No. 32.

FROM

THE SECRETARY TO THE GOVERNMENT OF MADRAS,
Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
Public Works Department.

SIR,—Adverting to my telegram of the 28th ultimo and your reply thereto of the 2nd instant, I am directed to append a statement furnished by the Examiner showing that the Establishment charges of the several Budgets in this Department for 1882-83 will have to be increased by Rs. 1,650 on account of 5 per cent. on the receipts under Military and Imperial Other Services, and by Rs. 12,879 as being 10 per cent. on the direct revenue realised in this Department for Productive, Irrigation and Navigation, and Agricultural Works.

Budget Estimate.	Receipts.	5 per cent.
Military	30,000	1,500
Other Services	3,000	150
	33,000	1,650
Direct Revenue.		**10 per cent.**
From Productive Public Works	1,08,185	10,818
Irrigation and Navigation	10,606	1,061
Agricultural	10,000	1,000
	1,28,791	12,879

2. In requesting that these adjustments may be made in the several budgets already submitted, I am desired by the Right Honorable the Governor in Council to solicit the very earnest attention of the Government of India to the communications marginally noted, showing how Provincial has for the last three years had to bear an undue amount of Irrigation Establishment charges elsewhere debitable to Imperial, and to request the favor of an early settlement being arrived at, as serious embarrassment in regard to this question still exists.

G.O., 15th September 1881, No. 2267 W.
„ 8th October „ „ 2473 W.

I have the honor to be,

Sir,

Your most obedient servant,

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

FORT ST. GEORGE,
9th February 1882.

Exd. S. T. Austin.
Spare Copies

GENERAL.
ACCOUNT.

Govt. of {1882} Madras.

PUBLIC WORKS.

To

THE SECRETARY TO THE
GOVERNMENT OF INDIA.

Dated February, 9th.

Issued

Read. *Encl.*

9th February 1882, *No.* 366 *W.*

FEBRUARY.
No. 32.

REQUESTING to increase the Establishment charges of the several Budgets of the Public Works Department for 1882-83 for certain reasons.

[For Heads of Departments.]

Circular No. II Public Works.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

ACCOUNT.
General.

To

THE GOVERNMENTS OF MADRAS, BOMBAY, BENGAL, THE NORTH WESTERN PROVINCES AND OUDH, AND THE PUNJAB, IN THE PUBLIC WORKS DEPARTMENT.
THE CHIEF COMMISSIONERS OF THE CENTRAL PROVINCES, BRITISH BURMA AND ASSAM.
THE RESIDENT AT HYDERABAD.
THE RESIDENT AT MYSORE (THROUGH FOREIGN DEPARTMENT).
THE AGENTS TO THE GOVERNOR GENERAL FOR CENTRAL INDIA, RAJPUTANA, AND BELUCHISTAN.
THE SUPERINTENDENT OF PORT BLAIR AND CHIEF COMMISSIONER, ANDAMAN AND NICOBAR ISLANDS.
THE DIRECTOR GENERAL OF TELEGRAPHS.
THE INSPECTOR GENERAL OF MILITARY WORKS.
THE ACCOUNTANT GENERAL, PUBLIC WORKS DEPARTMENT.
THE DIRECTOR GENERAL OF RAILWAYS.
THE DIRECTOR-IN-CHIEF, INDO-EUROPEAN TELEGRAPH.
THE DIRECTOR, PERSIAN TELEGRAPH.
THE DEPUTY DIRECTOR, PERSIAN GULF TELEGRAPH.
THE CONSULTING ENGINEERS TO THE GOVERNMENT OF INDIA FOR GUARANTEED RAILWAYS, CALCUTTA, LAHORE, AND LUCKNOW.

Fort William, January 20, 1882.

The orders laid down in Government of India Circular No. XX P W, dated 29th September last, regarding the adjustment of Establishment charges, should have effect from the commencement of the year 1882-83.

A. J. FILGATE, Major, R. E.,
Depy. Secy. to the Govt. of India.

P Proc^d 481/82

B № 368 W of 10-2-82

Recorded in Continuation of GOh 2730 W of 3-11-81

Signed
R. H-S.
26-1-82

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

ACCOUNT.
General.

To

Circular No. II Public Works.

Dated January 20, 1882.

Received

The orders contained in Government of India Circular No. XX P W, of 1881, regarding adjustment of Establishment charges, to have effect from 1882-83.

No. 56, P. W. D. Press—20-1-82—930.

Exc. P. W. Accounts

B № 368 W of 10-2-82

25

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

27th March 1882, No. 810 W.

General.
Account.

Read the following paper :—

No. 219. From Colonel W. S. TREVOR, R.E., Secretary to the Government of India, Public Works Department, (Account—General,) to the Secretary to the Government of Madras, Public Works Department, dated Fort William, 20th February 1882, No. 191 A.G.

I AM directed to acknowledge the receipt of your letter, No. 2267 W., dated 15th September 1881, on the subject of the method of distributing between Provincial and Imperial Funds the Madras Public Works Establishment charges, and in reply to make the following remarks.

2. The percentage to be borne by Imperial Funds on the grants for Imperial Works and Repairs has lately been generally fixed as 23 per cent., and this percentage it is not thought desirable to alter in the special case of the Madras Presidency.

3. But in order to afford substantial relief to the Provincial Revenues, and to place Madras in as favorable a position as other Provinces in India, His Excellency the Governor-General in Council is pleased to allow, as a further charge to Imperial Funds, 10 per cent. on all direct receipts realised on all Navigation and Irrigation Works, whether Productive or Ordinary, and 6 per cent. on the gross Indirect Revenue due on Productive Irrigation and Navigation Works alone.

4. The substance of this decision has already been communicated to you in a telegram despatched on the 17th instant, from which you will have learnt that the percentages on revenue receipts now allowed are to cover the cost of the Chief Engineer for Irrigation and of his establishment, of the Conservancy Establishments, and of all other special establishments that may be engaged on surveys and on the preparation of projects for irrigation works, the whole of which establishments will in future be treated as Provincial in the same way as all other Public Works Establishment charges.

5. Practically, the net relief to the Provincial charges will amount to about two lakhs of rupees, as shown below :—

ESTABLISHMENT CHARGES DEBITABLE TO IMPERIAL.

Present Charges as shown in the Budget.

	Rs.	Rs.
Productive Public Works, Capital	1,84,726	
Do. do. Revenue	2,37,781	
Irrigation and Navigation	3,62,498	
Establishment charges on additional grant of five lakhs.	91,633	
		8,76,638

Future charges in accordance with these orders.

23 per cent. on Works and Repairs	6,98,265	
10 per cent. on Direct Revenue, taken as Rs. 1,28,791 ...	12,879	
6 per cent. on Indirect Revenue from Productive Public Works, taken as Rs. 58,30,000	3,49,800	
		10,60,944
Net Increase ...		1,84,306

These percentage charges on Revenue Receipts will be credited to the general Provincial charges for Establishment, and will be debited to the Revenue accounts of the various works on which the revenue may have accrued.

6. With regard to the percentage charges to be allowed on the Indirect Revenue of Irrigation and Navigation Works, other than Productive, separate orders will be passed when the indirect receipts due to these works have been correctly ascertained.

7. In conclusion, His Excellency the Governor-General in Council considers that the concessions now made will afford all the relief to the Provincial Revenues that is practically required, complete relief to the extent proposed by the Government of Madras, as detailed in your letter, does not commend itself to the Government of India nor will it now be necessary.

No. 220. ORDER THEREON, 27th March 1882, No. 810 W.

COMMUNICATED to the Examiner of Public Works Accounts and the Chief Engineer for Irrigation.

2. The Government of India will be further addressed.

(Here enter No. 811 W., dated 27th March 1882.)

(True Extract.)

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

To the Examiner of Public Works Accounts.
" the Chief Engineer for Irrigation.
" all Superintending Engineers.

Exd. S. T. Austin.
Spare Copies

GENERAL.
ACCOUNT.

Govt. of {1882} Madras.

PUBLIC WORKS.

To

THE EXAMINER OF PUBLIC
WORKS ACCOUNTS,
&c., &c., &c.

Dated March, 27th.

Issued

Recd. *Encl.*

G.O., 27th March 1882, No. 810 W.

MARCH.

Nos. 219-220.

Madras Public Works Establishment Charges.—Letter from the Government of India on the subject of the distribution between Imperial and Provincial Funds of the —, communicated to the Examiner of Public Works Accounts and the Chief Engineer for Irrigation.

PUBLIC WORKS DEPARTMENT.

General.
Account.

No. 811 W.

No. 221.

FROM

THE SECRETARY TO THE GOVERNMENT OF MADRAS,
Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
Public Works Department.

SIR,—I am directed to acknowledge the receipt of your letter, No. 191 A.G., dated 20th February 1882, on the subject of the distribution between Imperial and Provincial Funds of the Madras Public Works Establishment charges.

2. In my letter of the 15th September 1881, No. 2267 W., it was proposed to the Government of India that the contribution from Imperial Funds should be composed of—

(*a.*) Rs. 1,80,000 on account of revenue from Ordinary Irrigation and Navigation Works.

(*b.*) Six per cent. on the revenue from Productive Works.

(*c.*) The actual cost of establishment employed on Capital Productive Works where these form distinct charges; in other cases 25 per cent. on the expenditure.

(*d.*) Twenty-five per cent. on all other expenditure calculated on a minimum grant of Rs. 25,00,000 for Irrigation and Navigation (exclusive of Productive), of Rs. 6,00,000 for Military Works and of Rs. 5,00,000 for Imperial Other Services; the contributions thus arrived at being for Imperial Other Services; the contributions thus arrived at being Rs. 6,25,000 for Irrigation excepting Productive, Rs. 1,50,000 for Military and Rs. 1,25,000 for Imperial Other Services; (the amounts shown in paragraphs 21 and 25 of my letter quoted above were wrongly calculated.)

(*e.*) Rs. 2,50,000 on account of investigations connected with Protective Works and other large projects.

3. The above seems to cover all establishment charges including those for conservancy and special establishments.

4. In the letter under acknowledgment the Government of India have sanctioned—

	Rs.
23 per cent. on Imperial Works and Repairs	6,98,265
10 per cent. on Direct Revenue, taken as Rs. 1,28,791	12,879
6 per cent. on Indirect Revenue from Productive Public Works, taken as Rs. 58,30,000	3,49,800
Total ...	10,60,944

5. The percentage on receipts now allowed being held to cover the cost of the Chief Engineer for Irrigation and of his establishment, of the Conservancy establishment, and of all other special establishments that may be engaged on surveys and on the preparation of projects for irrigation works.

6. These concessions will, the Government of India hope, afford all the relief to the Provincial revenues that is practically required.

7. In conveying the thanks of the Right Honorable the Governor in Council for the great relief thus afforded to Provincial Funds in 1882-83, though a relief not so great as assumed in your letter under reply, I am desired to express a hope that the Government of India will, on reconsideration of the circumstances so fully explained and frequently repeated in the correspondence ending with your letter under reply, allow retrospective effect to be given to the orders now issued, at least for the three years previous to 1882-83, during which period the strain on Provincial resources has been very severely felt owing to the method of distributing establishment charges, a method which does not now commend itself to the Government of India.

8. Applying the principles of the present ruling to the year 1879-80, there will be a net debit to Provincial of Rs. 39,182, but for 1880-81 there will be a credit of Rs. 1,39,968 and for 1881-82 a credit of Rs. 1,13,387. The final result being a net credit of Rs. 2,14,173, which I am to request may be sanctioned as a contribution from Imperial to Provincial Funds. A statement showing the details of the calculations is appended.

9. I am also to request that the subject of the percentage charges to be allowed on the indirect revenue of Irrigation and Navigation Works, other than Productive, may receive the earliest possible attention.

I have the honor to be,
Sir,
Your most obedient servant,
(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

Fort St. George,
27th March 1882.

Exd. S. T. Austin.
Spare Copies

GENERAL.
ACCOUNT.

Govt. of {1882} Madras.

PUBLIC WORKS.

To

THE SECRETARY TO THE
GOVERNMENT OF INDIA.

Dated March, 27th.

Issued

Recd. *Encl.*

27th March 1882, *No.* 811 *W.*

MARCH.

No. 221.

On the subject of the method of distributing Public Works Establishment charges between Provincial and Imperial Funds.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Account.

No. 33.

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, 19th April 1882, No. 73 A.—I. :—

I am directed to acknowledge the receipt of your letter, No. 811 W., dated 27th March 1882, expressing a hope that the Government of India will allow retrospective effect to be given to the orders, regarding the distribution between the various funds of the cost of the Public Works Establishment in Madras, contained in letter from the Government of India in the Public Works Department, No. 191 A.G., dated 20th February 1882 ; and in reply to state that, after a reconsideration of the whole case, the Government of India does not see sufficient ground for disturbing the accounts of the past three years. The new arrangements for distributing the cost of the Madras Public Works Establishments will therefore come in force from the 1st April 1882.

2. Regarding the percentage charges to be allowed on the Indirect Revenue of Irrigation and Navigation Works, I am to say that the matter will be taken up as soon as the amount of the Indirect Revenue due to these works has been completely investigated and reported for the information of the Government of India.

No. 34.

ORDER—dated 5th May 1882, No. 1140 W., Public Works.

Communicated to officers concerned in continuation of Proceedings of Government, No. 810 W., dated 27th March 1882.

(True Extract.)

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

To the Examiner of Public Works Accounts.
" Chief Engineer for Irrigation.
" Financial Department.

Exd. A. F. Goodall.
Spare Copies

GENERAL.
ACCOUNT.

Govt. of {1882} Madras.

PUBLIC WORKS.

Dated May, 5th.

Recd. *Encl.*

G.O., 5th May 1882, No. 1140 W.

MAY.

Nos. 33-34.

Public Works Establishment in Madras.

Letter from the Government of India declining to allow retrospective effect to be given to the orders regarding the distribution between the various funds of the cost of the —, and intimating that the new arrangements for distributing the cost of the establishments will come into force from 1st April 1882, communicated to the officers concerned.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General Account.

No. 129.

READ—the following letter from D. C. GORDON, Esq., Examiner of Public Works Accounts, to the Secretary to Government, Public Works Department, dated Madras, 15th May 1882, No. 26 W.:—

The Government of India, in their letter No. 681 G., dated 5th May 1881, paragraphs 7 and 8, communicated with Public Works G.O., No. 1729 W., dated 14th July 1881, proposed to contribute one-eighth of the estimated cost of the Madras Establishment Charges, *i.e.*, 2½ lakhs, from the General Grant for Protective Public Works.

2. In their letter No. 33 A.I., dated 14th February 1882, printed with G.O., No. 471 W., dated 21st February 1882, a grant of Rs. 60,000 was assigned by the Government of India on account of establishment for preparing projects during 1881-82, and in G.O., No. 451 W., dated 18th February 1882, the distribution of this grant was made by this Government as below:—

	Rs.
Contribution to Establishment	23,000
Do. to Works, Buckingham Canal	37,000
	60,000

3. The object of the present reference is with the view that definite orders of the Government of India be obtained—

1*st*.—As to whether the debit to Protective Public Works on account of establishment for the preparation of projects should consist of only the actual cost of the Project Divisions;

2*ndly*.—Whether, in addition to the actual cost of the divisions, a certain percentage (say one-eighth) on account of charges for direction and account should also be debited to the Protective Works Grant; or

3*rdly*.—Whether the entire cost of the Project Divisions, including outlay on Works, Tools and Plant, &c., should in the first instance be debited to Provincial, and an adjustment made in the supplementary accounts of this office against "Protective Public Works" by debit to Imperial to the extent of one-eighth of the entire Provincial Establishment Outlay, including charges for direction and account, or to the extent of the total amount sanctioned by Government of India for the year under Establishment for Protective Public Works irrespective of outlay.

4. The favor of early orders is solicited.

No. 130.

Order—dated 25th May 1882, No. 1306 W., Public Works.

Ordered to be forwarded for the early orders of the Government of India.

(True Extract.)

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

To the Examiner of Public Works Accounts.

No. 131.

Endorsement—dated 25th May 1882, No. 1307 W., Public Works.

Copy forwarded to the Government of India.

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

Exd. A. F. Goodall.
Spare Copies

GENERAL.
ACCOUNT.

Govt. of {1882} Madras.

PUBLIC WORKS.

Dated May, 25th.

Recd. *Encl.*

25th May 1882, No. 1307 W.

MAY.

Nos. 129—131.

Protective Public Works.

DEBITING portion of Establishment Charges to the grant for —.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General Account.

No. 9.

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, 14th July 1882, No. 107 A.—I. :—

I am directed to acknowledge the receipt of your No. 1307 W., dated 25th May 1882, relative to the portion of the establishment charges debitable to the grant for Protective Public Works, and in reply to state that the Government of India is pleased to rule that—

(*a*) In the case of expenditure from Protective Fund on works the usual percentages for Establishments and Tools and Plant may be allowed.

(*b*) In the case of Survey Divisions or other Establishments employed exclusively in the preparation of projects, the actual cost of the Establishments so employed—without any allowance for Accounts or Direction—should be charged.

No. 10.

ORDER—dated 1st August 1882, No. 1940 W., Public Works.

Recorded.

(True Extract.)

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

To the Examiner of Public Works Accounts.
" Chief Engineer for Irrigation,
To Superintending Engineers, } with copy of G.O., No. 1306 W., dated 25th May 1882.

Exd. S. T. Austin.
Spare Copies

GENERAL.
ACCOUNT.

Govt. of {1882} Madras.

PUBLIC WORKS.

Dated August, 1st.

Read. *Encl.*

G.O., 1st August 1882, No. 1940 W.

AUGUST.

Nos. 9-10.

Establishment Charges.

Ruling of the Government of India relative to the portion of — debitable to the grant for Protective Public Works, recorded.

Appendix to letter No. 2592 W., dated 4th October 1882.

STATEMENT showing the proposed changes in the Establishment of the Public Works Department, Madras Presidency.

Present Scale.			Proposed Scale.			Increase.		Decrease.		Grounds of Proposition.
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.	Number.	Amount of Pay.	Number.	Amount of Pay.	
		Rs.			Rs. A. P.		Rs. A. P.		Rs.	
				Central Godâvari Division.						
			1	Executive Engineer, 2nd grade.	800 0 0	1	800 0 0	..	..	
			1	Assistant Engineer, 2nd grade.	350 0 0	1	350 0 0	..	..	
			1	Sub-Engineer, 3rd grade.	250 0 0	1	250 0 0	..	..	
			1	Supervisor, 1st grade ..	200 0 0	1	200 0 0	..	..	
			2	Overseers	160 0 0	2	160 0 0	..	..	
				Office Establishment.						
			1	Clerk, 3rd class, 2nd grade.	70 0 0	1	70 0 0	..	..	
			1	Do. 4th do. 1st do.	45 0 0	1	45 0 0	..	..	
			1	Do. 4th do. 2nd do.	35 0 0	1	35 0 0	..	..	
			2	Do. 4th do. 3rd do.	50 0 0	2	50 0 0	..	..	
			1	Draftsman, 1st class ..	60 0 0	1	60 0 0	..	..	
			1	Do. 3rd do. ..	25 0 0	1	25 0 0	..	..	
			1	Messenger	7 0 0	1	7 0 0	..	..	
			1	Do.	6 0 0	1	6 0 0	..	..	
			1	Accountant, 4th grade ..	115 0 0	1	115 0 0	..	..	
				Sub-divisional Office Establishment.						
			2	Clerks, 4th class, 3rd grade.	50 0 0	2	50 0 0	..	..	
			2	Messengers	12 0 0	2	12 0 0	..	..	
				Overseers' Clerks.						
			2	Clerks, 5th class, 1st grade.	35 0 0	2	35 0 0	..	..	
				Petty Establishment.						
			1	Storekeeper	25 0 0	1	25 0 0	..	..	
			3	Lascars	18 0 0	3	18 0 0	..	..	
Nil.	..			Total ..	2,313 0 0	..	2,313 0 0	..	..	*Vide* accompanying letter, No. 2592 W., dated 4th October 1882.
				Central Kistna Division.						
			1	Executive Engineer, 4th grade.	550 0 0	1	550 0 0	..	..	
			1	Assistant Engineer, 1st grade.	450 0 0	1	450 0 0	..	..	
			1	Sub-Engineer, 3rd grade.	250 0 0	1	250 0 0	..	..	
			2	Overseers	160 0 0	2	160 0 0	..	..	
				Office Establishment.						
			1	Clerk, 3rd class, 2nd grade.	70 0 0	1	70 0 0	..	..	
			1	Do. 4th do. 1st do.	45 0 0	1	45 0 0	..	..	
			1	Do. 4th do. 2nd do.	35 0 0	1	35 0 0	..	..	
			2	Do. 4th do. 3rd do.	50 0 0	1	50 0 0	..	..	
			1	Draftsman, 1st class ..	60 0 0	1	60 0 0	..	..	
			1	Do. 3rd do. ..	25 0 0	1	25 0 0	..	..	
			1	Messenger	7 0 0	1	7 0 0	..	..	
			1	Do.	6 0 0	1	6 0 0	..	..	
			1	Accountant, 4th grade ..	115 0 0	1	115 0 0	..	..	
				Sub-divisional Office Establishment.						
			2	Clerks, 4th class, 3rd grade.	50 0 0	2	50 0 0	..	..	
			2	Messengers	12 0 0	2	12 0 0	..	..	
				Overseers' Clerks.						
			2	Clerks, 5th class, 1st grade.	35 0 0	2	35 0 0	..	..	
				Petty Establishment.						
			1	Storekeeper	25 0 0	1	25 0 0	..	..	
			3	Lascars	18 0 0	3	18 0 0	..	..	
				Total ..	1,963 0 0	..	1,963 0 0	..	..	

Statement showing the proposed changes in the Establishment of the Public Works Department, Madras Presidency—*cont.*

Present Scale.			Proposed Scale.			Increase.			Decrease.			Grounds of Proposition.
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.	Number.	Amount of Pay.		Number.	Amount of Pay.		
		Rs.		*Cauvery and Vennár Regulator Division.*	Rs. A. P.		Rs. A. P.			Rs.		
			1	Executive Engineer, 4th grade.	550 0 0	1	550 0 0		..	..		
			1	Sub-Engineer, 3rd grade.	250 0 0	1	250 0 0		..	..		
			2	Overseers	160 0 0	2	160 0 0		..	..		
				Office Establishment.								
			1	Clerk, 3rd class, 2nd grade.	70 0 0	1	70 0 0		..	..		
			1	Do. 4th do. 2nd do.	35 0 0	1	35 0 0		..	..		
			2	Do. 4th do. 3rd do.	50 0 0	2	50 0 0		..	..		
			1	Draftsman, 1st class ..	60 0 0	1	60 0 0		..	..		
			1	Do. 3rd do. ..	25 0 0	1	25 0 0		..	..		
			1	Messenger	7 0 0	1	7 0 0		..	..		
			1	Do.	6 0 0	1	6 0 0		..	..		
			1	Accountant, 4th grade ..	115 0 0	1	115 0 0		..	..		
			3	Overseers' Clerks ..	52 8 0	3	52 8 0		..	..		
				Petty Establishment.								
			1	Storekeeper	25 0 0	1	25 0 0		..	..		
			3	Lascars	18 0 0	3	18 0 0		..	..		
				Total ..	1,423 8 0	..	1,423 8 0		..	..		
				Grand Total ..	5,699 8 0	..	5,699 8 0		..	..		

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

PUBLIC WORKS DEPARTMENT.

General.
Establishment.

No. 27.

Letter—from

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

To

The SECRETARY to the GOVERNMENT of INDIA,
Public Works Department.

Sir,

I am directed to forward, with reference to paragraph 4 of your letter No. 1082 G., dated 24th July 1882, a statement of the establishment which, in the opinion of this Government, is absolutely necessary to carry out the Productive Public Works in the Godávari, Kistna, and Cauvery Deltas which have lately been sanctioned.

2. On the general question of the supposed extravagance of the sanctioned scale of establishment in this Presidency, a separate communication will shortly be made, and I am to add that this Government fully accept the condition made in your letter under reply, that the establishment required to carry out the work now referred to is to be temporary; but it is, in the opinion of this Government, essential that the Executive Engineers, to whom the new temporary divisions are to be entrusted, shall be officers acquainted with the mode of carrying out work, and the workmen employed, in this Presidency.

3. The arrangements which are therefore proposed and to which I am directed to request the approval of the Government of India are as follows:—

(1.) The appointment of the following officers as temporary Executive Engineers:—
Mr. Wilks, at present temporary Executive Engineer on the Kurnool Canal.
Mr. H. S. Taylor, Assistant Engineer, First Grade, and Acting Executive Engineer, Fourth Grade.
Lieutenant W. L. C. Baddeley, R.E., Assistant Engineer.

(2.) The appointment of three Assistant Engineers by transfer from other Provinces.

(3.) The appointment of three Accountants, who, it is understood, the Government of India agree with this Government in considering should be graded on the permanent staff and would be the only addition proposed to that staff.

The other appointments proposed in the statement enclosed being below the limit of pay which has been fixed as requiring the sanction of the Government of India, can be made by this Government, it is anticipated, from among the qualified Upper Subordinates in this Presidency.

4. As regards the appointments of Executive Engineers proposed, Mr. Wilks is an officer of many years standing on the late Madras Irrigation and Canal Company's works, and in the proposals submitted for the taking over the Company's works it has already * been suggested that his services should be retained; the other officers named are selected Assistant Engineers who have, in the opinion of this Government, shown themselves fit for the position in which it is proposed to place them.

* Letter No. 1449 W., dated 10th June 1882.

5. On the subject of the appointment of temporary Assistant Engineers from other Provinces, I am to say that this Government will now be prepared to accept such officers as the Government of India may consider fully qualified for the work and have been well reported on during their previous service. It is presumed that in all such cases of transfer copies of the usual confidential reports shall be forwarded to this Government at the earliest practicable dates.

I have the honor to be,

Sir,

Your most obedient servant,

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

FORT ST. GEORGE,
4th October 1882.

Exd. S. T. Austin.
Spare Copies

GENERAL.
ESTABLISHMENT.

Govt. of {1882} Madras.

PUBLIC WORKS.

Dated October, 4th.

Rcvd. *Encl.*

4th Oct. 1882, No. 2592 W.

OCTOBER.

No. 27.

Productive Public Works in the Godavari, Kistna, and Cauvery Deltas.

REGARDING establishment necessary to carry out the —.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Establishment.

No. 96.

READ—the following papers:—

From Colonel W. S. TREVOR, R.E., Secretary to the Government of India, Public Works Department, (General,) to the Secretary to the Government of Madras, Public Works Department, dated Simla, 24th July 1882, No. 1082 G.

I am directed to acknowledge your letter No. 1439 W., dated 9th June, making certain proposals for working new divisions proposed to be made in the Delta Irrigation Works, and to communicate the following remarks.

2. The plan proposed of engaging upper subordinates, after taking their pensions, as Executive and Assistant Engineers, is opposed to the regulations of the Civil Pension Code. It is moreover, in the opinion of the Government of India, not in the interests of Government to entrust such large responsibility to men whose previous training has been wholly in the Upper Subordinate Establishment.

3. But before any other method of increasing the strength of Engineers in Madras is considered, I am to request that the previous question may be considered whether any increase at all is required. The proposals just submitted by the Government of Madras point to the conclusion that the present staff is sufficient to meet all or nearly all requirements; for those proposals, if carried out, would only lead to an increase of a few Overseers. The Government of India has all along considered the sanctioned strength of Engineers in Madras to be extravagant, and one reason which led to its acceptance of the proposals of the Madras Government in regard to the permanent staff of Engineers was that it was thought the same staff would be able to undertake extended work, when funds should be made available. After making due allowance for revenue work, it seems probable that the whole establishment charges in Madras are not much short of 40 per cent. on the outlay on works and repairs. This disproportion has more than once been commented on by the Secretary of State. I am to request therefore that the distribution and employment of the whole Engineer staff may be carefully reviewed, and that no consideration of mere territorial occupation or traditionary custom may be allowed to stand in the way of a stringent limitation of the use of members of the Engineer Establishment to work which demands the exercise of their higher training.

4. I am to state that it must be looked upon as fixed and settled that no increase will be made to the permanent sanctioned scale of Engineers in Madras. It would therefore seem advisable to provide the Executive Engineers for the new divisions from the existing permanent staff, and if it should be found, after careful view, that an increase to the engineering staff is absolutely necessary, that increase should be obtained either by transfer from other Provinces or by the engagement of temporary Assistant Engineers or Upper Subordinates.

GENERAL.
ESTABLISHMENT.

Govt. of {1882} Madras.

PUBLIC WORKS.

Dated October, 4th.

Read. *Encl.*

4th Oct. 1882, No. 2592 W.

OCTOBER.

No. 27.

Productive Public Works in the Godavari, Kistna, and Cauvery Deltas.

REGARDING establishment necessary to carry out the —.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Establishment.

No. 96.

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From Colonel W. S. TREVOR, R.E., Secretary to the Government of India, Public Works Department, (General,) to the Secretary to the Government of Madras, Public Works Department, dated Simla, 24th July 1882, No. 1082 G.

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4. I am to state that it must be looked upon as fixed and settled that no increase will be made to the permanent sanctioned scale of Engineers in Madras. It would therefore seem advisable to provide the Executive Engineers for the new divisions from the existing permanent staff, and if it should be found, after careful view, that an increase to the engineering staff is absolutely necessary, that increase should be obtained either by transfer from other Provinces or by the engagement of temporary Assistant Engineers or Upper Subordinates.

No. 96-A.

From the same Officer, dated Simla, 25th July 1882, No. 1087 G.

In reply to your letter No. 1448 W., dated 10th June 1882, affirming the inadequacy of the provision made for absentees in the establishment sanctioned for the Madras Public Works Department, and requesting that the provision may be increased so as to be more in consonance with actual experience gained in the Province, I am directed to observe that when the present scale of establishment for the Madras Public Works Department was sanctioned, the Government of Madras was told, in paragraph 6 of Public Works Department letter No. 1250 G., of 23rd September 1881, that the scale must be regarded as the maximum, and that provision for the superintendence of any works that might hereafter be taken in hand must be made without any increase of the permanent staff. The Secretary of State was also so informed.

2. A comparison of the percentage of establishments to works in some of the larger Provinces show that the existing establishment in Madras is by far the most expensive. The Secretary of State has on more than one occasion commented on the extravagance of the Public Works Establishments in Madras, and the Government of India regrets that it is unable to meet the wishes of the Madras Government.

3. If the Public Works Department in Madras is short handed, the first obvious step, I am to point out, is to recall to duty the officers on special leave. If this should not suffice, I am to say that the permanent establishment should be supplemented by the entertainment of temporary establishment.

No. 97.

ORDER—dated 16th October 1882, No. 2695 W., Public Works.

Ordered that the following letter be despatched to the Government of India.

(Here enter, No. 2696 W., dated 16th October 1882.)

(True Extract.)

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

Exd. S. T. Austin
Spare Copies

GENERAL.
ESTABLISHMENT.

Govt. of {1882} Madras.

PUBLIC WORKS.

Dated October, 16th.

Recd. *Encl.*

G.O., 16th Oct. 1882, No. 2695 W.

OCTOBER.

Nos. 96-97.

Public Works Establishment,
Madras Presidency.

Ordered that the Government of India be addressed on the subject of the scale of the—.

Statement showing ding Engineers' Circles.

—	Engineer Es				Provincial.					
	Executive Engineer.		Ass Eng		New Works.				Repairs.	Total.
	No.	Amount.	No.	A	No.	Amount.	Reserve.	Total.	Amount.	Amount.
1	2				17				18	19
		Rs.				Rs.	Rs.	Rs.	Rs.	Rs.
First Circle.										
Ganjam	..	..	1		1	3,170	24,277	27,447	5,725	33,172
Vizagapatam ..	1	9,600	1		2	79,925	24,276	1,04,201	5,724	1,09,925
Godâvari Eastern ..	1	7,800	2		4	44,724	24,276	69,000	5,724	74,724
Do. Western ..	..	..	1		1	1,450	24,276	25,726	5,724	31,450
Total ..	2	17,400	3		8	1,29,269	97,105	2,26,374	22,897	2,49,271
Second Circle.										
Kistna Eastern ..	1	7,800	3		2	21,850	32,368	54,218	7,632	61,850
Do. Western ..	1	7,800	2		1	14,520	32,368	46,888	7,632	54,520
Nellore	1	7,440	..		1	11,000	32,369	43,369	7,633	51,002
Sangam Project ..	1	10,800	3		..	..	..	..	..	..
Total ..	4	33,840	8		4	47,370	97,105	1,44,475	22,897	1,67,372
Third Circle.										
Bellary	1	9,600	..		..	..	32,369	32,369	7,633	40,002
Cuddapah	1	6,600	..		1	35,000	32,368	32,368	7,632	40,000
Kurnool	..	..	..				32,368	32,368	7,632	70,000
Total ..	2	16,200	..		1	30,000	97,105	1,27,105	22,897	1,50,002
Fourth Circle.										
West Coast	2	16,080	..		5	69,870	24,277	94,147	5,725	99,872
Coimbatore	1	6,600	1		4	5,260	24,276	29,536	5,724	35,260
Salem	1	7,800	..		3	26,600	24,276	52,276	5,724	58,000
North Arcot	1	9,600	2							
Total ..	5	40,080	3							

GENERAL.
ESTABLISHMENT.

Govt. of {1882} Madras.

PUBLIC WORKS.

Dated October, 16th.

Recd. *Encl.*

G.O., 16th Oct. 1882, No. 2695 W.

OCTOBER.

Nos. 96-97.

Public Works Establishment,
Madras Presidency.

Ordered that the Government of India be addressed on the subject of the scale of the—.

Statement showing *ding Engineers' Circles.*

—	Engineer Es				Provincial.					
	Executive Engineer.		Ass Eng		New Works.				Repairs.	Total.
	No.	Amount.	No.	A	No.	Amount.	Reserve.	Total.	Amount.	Amount.
1	2				17				18	19
		Rs.				Rs.	Rs.	Rs.	Rs.	Rs.
First Circle.										
Ganjam	..	..	1		1	3,170	24,277	27,447	5,725	33,172
Vizagapatam ..	1	9,600	1		2	79,925	24,276	1,04,201	5,724	1,09,925
					4	44,724	24,276	69,000	5,724	74,724
Godâvari Eastern ..	1	7,800	2		1	1,450	24,276	25,726	5,724	31,450
Do. Western ..	..	..	1		8	1,29,269	97,105	2,26,374	22,897	2,49,271
Total ..	2	17,400	6							
Second Circle.										
					2	21,850	32,368	54,218	7,632	61,850
Kistna Eastern ..	1	7,800	3		1	14,520	32,368	46,888	7,632	54,520
Do. Western ..	1	7,800	2		1	11,000	32,369	43,369	7,633	51,002
Nellore	1	7,440	..		..	..	..	..	..	..
Sangam Project ..	1	10,800	3		4	47,370	97,105	1,44,475	22,897	1,67,372
Total ..	4	33,840	8							
Third Circle.										
					..	..	32,369	32,369	7,633	40,002
Bellary ..	1	9,600	..				32,368	32,368	7,632	40,000
Cuddapah	1	6,600	..		1	30,000	32,368	62,368	7,632	70,000
Kurnool	..	..	..		1	30,000	97,105	1,27,105	22,897	1,50,002
Total ..	2	16,200	..							
Fourth Circle.										
West Coast	2	16,080	..		5	66,879	24,277	91,147	5,725	96,872
Coimbatore	1	6,600	1		1	5,260	24,276	29,536	5,724	35,260
Salem	1	7,800	..		3	26,600	24,276	52,276	5,724	58,000
North Arcot	1	9,600	2							
Total ..	5	40,080	3							

d Reserve has been assigned as daily to each division.

d Percentage Charge under "Construction" arranged according to Superintending Engineers' Circles—cont.

WORKS—cont.

IRRIGATION AND NAVIGATION AND AGRICULTURE ORDINARY.

Irrigation and Navigation.															Agricultural Works.								
ks for which Capital and venue Accounts are kept.				Works for which neither Capital nor Revenue Accounts are kept.											Works for which neither Revenue nor Capital Accounts are kept.								
	Revenue.			Works.				Repairs.							Works.				Repairs.				
	Extension and Improvements.		Maintenance and Repairs.																				
ount.	No.	Amount.	Amount.	No.	Amount.	Reserve.	Total.	Amount.	Reserve.	Total.	No.	Amount.	Reserve.	Total.	No.	Amount.	Reserve.	Total.	Amount.	Reserve.	Total.		
	27		23			29			30				31						32				
s.		Rs.	Rs.		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.						
	..	..	..	..	..	8,728	8,728	18,000	14,458	32,458	..	..	1,250	1,250	1,000	691	1,691						
	..	..	..	..	..	8,728	8,728	7,000	14,458	21,458	..	..	1,250	1,250	500	691	1,191						
	..	..	..	..	..	8,729	8,729	12,000	14,459	26,459	6	57,000	1,250	58,250	13,000	693	13,693						
	..	..	..	..	..	8,728	8,728	3,000	14,458	17,458	2	19,426	1,250	20,676	8,000	691	8,691						
	..	..	..	..	..	34,913	34,913	40,000	57,833	97,833	8	76,426	5,000	81,426	22,500	2,766	25,266						
	..	..	..	..	..	11,637	11,637	7,000	19,277	26,277	1	20,000	1,666	21,666	3,200	922	4,122						
678	..	..	..	..	..	11,637	11,637	..	19,277	19,277	..	..	1,666	1,666	3,000	922	3,922						
	..	..	..	..	..	11,639	11,639	30,000	19,279	49,279	..	..	1,668	1,668	2,200	922	3,122						
673	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..						
	..	..	..	..	..	34,913	34,913	37,000	57,833	94,833	1	20,000	5,000	25,000	8,400	2,766	11,166						
	..	..	..	1	15,600	11,637	26,637	30,000	19,277	49,277	..	..	1,666	1,666	..	922	922						
	..	..	..	..	..	11,639	11,639	20,000	19,279	39,279	1	8,000	1,668	9,668	1,000	922	1,922						
	..	..	..	..	..	11,637	11,637	10,000	19,277	29,277	..	..	1,666	1,666	..	922	922						
	..	..	..	1	15,000	34,913	49,913	60,000	57,833	1,17,833	1	8,000	5,000	13,000	1,000	2,766	3,766						
	..	..	..	..	..	8,728	8,728	2,000	14,458	16,458	..	..	1,250	1,250	..	691	691						
	..	..	..	1	10,000	8,728	18,728	60,000	14,458	74,458	..	..	1,250	1,250	10,000	691	10,691						
	..	..	..	2	32,680	8,728	41,408	20,000	14,458	34,458	..	..	1,250	1,250	..	691	691						
	1	3,000	20,000	..	..	8,729	8,729	55,000	14,459	69,459	..	..	1,250	1,250	..	693	693						
	1	3,000	20,000	3	42,680	34,913	77,593	1,37,000	57,833	1,94,833	..	..	5,000	5,000	10,000	2,766	12,766						
618	1	1,500	10,000	..	..	11,639	11,639	65,000	19,279	84,279	..	..	1,668	1,668	16,000	922	16,922						
	1	500	2,500	1	48,520	11,637	60,157	40,000	19,277	59,277	..	..	1,666	1,666	..	922	922						
	..	..	..	..	..	11,637	11,637	8,000	19,277	27,277	..	..	1,666	1,666	..	922	922						
618	2	2,000	12,500	1	48,520	34,913	83,433	1,08,000	57,833	1,65,833	..	..	5,000	5,000	16,000	2,766	28,766						
	..	..	..	..	..	6,982	6,982	50,000	11,567	61,567	..	..	1,000	1,000	23,000	554	23,554						
	..	..	..	1	8,720	6,982	15,702	10,000	11,567	21,567	1	75,000	1,000	76,000	41,500	554	42,054						
	..	..	..	..	..	6,982	6,982	11,200	11,567	22,767	..	..	1,000	1,000	36,000	554	36,554						
	..	..	..	..	..	6,982	6,982	40,000	11,567	51,567	..	..	1,000	1,000	..	554	554						
													1,000	39,274	5,000								

Statement showing Engineers' Circles—cont.

	Irrigat		Remarks.
	No.	Amount	
			52
First Circle.		Rs.	
Ganjam			Full Divisional Staff here needed, as the district is in urgent need of improved communications. The great Rushikulya Irrigation Project has been submitted for sanction. Ganjam Gopaulpore tidal Canal project nearly ready.
Vizagapatam			Improved communications in all the ghât portions of this district greatly needed. Full Divisional Staff necessary. Potinghy Ghaut in this Division.
Godâvari Eastern.. ..	6	57,00	Owing to the enhanced work due to the late sanction for the completion of the Delta Works, a proposal for a third Executive (the Central Godâvari) Division has been submitted to the Government of India.
Do. Western ..	2	19,42	
Total ..	8	76,42	
Second Circle.			
Kistna Eastern	1	20,00	Owing to the enhanced work due to the late sanction for the completion of the Delta Works a proposal for a third Executive (the Central Division has been submitted to the Government of India.
Do. Western		..	
Nellore	1	41,67	Full Divisional Staff necessary for large irrigation works of the Penner System, &c. The Sarvapalle Project now framing is in this division.
Sangam Project	..	..	Full Divisional Staff essential.
Total ..	2	61,67	
Third Circle.			
Bellary	1	15,000	In addition to Military Cantonment, irrigation works, &c., the investigation of projects for
Cuddapah	1	8,00	famine much needed. Full Staff necessary.
Kurnool	..	..	Do. do. Local Fund Works also included in charge.
Total ..	2	23,00	*N.B.*—Kurnool Canal having lately been taken over is being organized as a separate division with a full Staff.
Fourth Circle.			
West Coast	..	..	This having been found too large for a single division has been broken up. Even with this arrangement Staff insufficient.
Coimbatore	1	10,00	Part above separated from the West Coast has been added to this division, but owing to large numbers of irrigation and other works doubtful if Staff will be sufficient.
Salem	2	32,68	Full Staff required. In addition to ordinary irrigation work the large Baroor Tank Project will probably soon have to be carried out here.
North Arcot	1	3,00	In addition to ordinary works special duties here connected with series of tanks crossing the line of
Total ..	4	45,68	
Fifth Circle.			
South Arcot	3	17,...	
Chingleput	2	49,00	
Buckingham			

A.

, and Percentage Charts under "Construction," arranged according to Superintending Engineers' Circles.

WORKS.

	Imperial.									Provincial.					
	Military.				Other Services.										
	Works.		Repairs.	Total.	New Works.			Repairs.	Total.	New Works.				Repairs.	Total.
	Reserve.	Total.	Amount	Amount.	No.	Amount.	Reserve.	Total.	Amount.	Amount.	No	Amount	Reserve.	Total.	Amount.	Amount.
	11		12	13	14				15	16	17				18	19
	Rs.	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.	Rs.
	4,130	7,898	45,853	53,521	..	..	3,581	3,581	2,666	6,247	8	1,29,269	97,105	2,26,374	22,897	2,49,271
	4,130	4,130	45,833	49,963	..	..	3,581	3,581	2,666	6,247	4	47,370	97,105	1,44,475	22,897	1,67,372
	4,130	51,440	45,833	97,273	..	..	3,581	3,581	2,666	6,247	1	30,000	97,105	1,27,105	22,897	1,50,002
	4,130	42,418	46,853	88,981	1	12,527	3,581	17,108	2,666	19,774	10	1,26,280	97,105	2,23,385	22,897	2,46,282
	4,130	1,12,048	43,833	1,58,483	3	17,340	3,581	20,921	2,670	23,591	15	1,37,300	97,106	2,34,406	22,898	2,57,304
	4,130	4,130	45,833	49,963	1	2,000	3,581	6,581	2,666	9,247	16	2,40,225	97,105	3,37,330	22,897	3,60,227
	..	..	..	..	2	1,81,000	..	1,81,000	..	1,81,000	1	5,792	..	5,792	..	5,792
	24,783	2,22,464	2,76,909	4,97,464	7	2,14,867	21,486	2,36,353	16,000	2,52,353	55	7,16,236	5,82,631	12,98,867	1,37,383	14,36,250

Abstract of Statement showing [illegible] *ling to Superintending Engineers' Circles—*cont.

	Agriculture Ordinary.											
	Capital Account.			Agricultural Works.								
	Works.			Accounts	Works for which neither Revenue nor Capital Accounts are kept.							
					Works.				Repairs.			
	No.	Amount.	Total.		No.	Amount.	Reserve.	Total.	Amount	Reserve.	Total.	
	20				31				32			
		Rs.	Rs.			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
No. I Circle	18	1,61,405	97,833		8	76,426	5,000	81,426	22,500	2,766	25,266	
,, II do.	13	6,35,123	94,833		1	20,000	5,000	25,000	8,400	2,766	11,166	
,, III do.	..	..	1,17,833		1	8,000	5,000	13,000	1,000	2,766	3,766	
,, IV do.	..	..	1,94,833		..	..	5,000	5,000	10,000	2,766	12,766	
,, V do.	..	..	1,65,833		..	..	5,000	5,000	16,000	2,766	18,766	
,, VI do.	2	30,478	2,39,035		3	1,13,274	5,000	1,18,274	1,05,500	2,770	1,08,270	
Architect	..	..	..		..	..	..	..	..	..	..	
Total ..	33	8,27,006	9,10,200		13	2,17,700	30,000	2,47,700	1,63,400	16,600	1,80,000	

Percentage Charge under "Construction" arranged according to Superintending Engineers' Circles—cont.

PORATED LOCAL.			TOTALS.					
rks.								
Total.	Repairs, Local Funds.	Total.	New Works.	Ratable share of Reserve.	Repairs.	Grand Total, Works, Repairs.	Percentage of Establishment (under "Construction") to "Works"	Remarks.
Amount.	Amount.	Amount.	No.	Amount.	Amount.	Amount.	Amount.	
44	45	46	47		48	49	50	51	52
Rs.	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.	Rs.	
6,304	2,150	8,454	38	3,93,668	1,55,866	3,59,478	9,09,012	17·52	As this Table only shows the Establishment Charges under "*Construction*" the pay of Superintending Engineers and their Offices has been omitted. For charges under all other heads see the General Table in Appendix E.
6,304	2,150	8,454	22	7,57,166	1,55,866	3,25,378	12,38,410	15·35	
6,304	2,150	8,454	8	1,00,310	1,55,866	1,27,978	4,54,154	21·24	
6,304	2,150	8,454	20	2,23,775	1,55,866	2,03,978	6,87,618	22·72	
6,304	2,150	8,454	24	4,89,736	1,55,878	3,42,120	9,87,734	24·29	
6,304	2,150	8,454	33	4,69,761	1,55,879	4,98,686	11,24,317	18·61	
..	..	..	3	1,86,792	..	..	1,86,792	13·20	
37,830	12,900	50,730	148	26,21,208	9,35,212	20,27,618	55,84,038	19·56	

Department.

Districts.	PRODUCTIVE. Number of Anicuts.	Number of Channels.	Number of Tanks.	Area Irrigated.	Revenue.	Remarks.
1	2	3	4	25	26	27
				Acs.	Rs.	
Ganjam	..	..	..	54,898	2,26,717	The figures in columns showing area and revenue may be accepted as fairly accurate, those relating to Productive Public Works and Irrigation and Navigation Works for which Capital and Revenue Accounts are kept are taken from the latest returns by Mr. W. Wilson, Special Officer in charge of Irrigation Accounts, and the others from the latest Proceedings of Government.
Vizagapatam	..	..	..	34,293	1,48,549	
Godávari	1	(*a*) 608	..	577,689	26,32,729	
Kistna	1	(*b*) 466	..	303,035	13,41,774	
Nellore	1	18	72	220,408	9,46,079	
Cuddapah	..	..	..	53,962	2,40,815	
Kurnool	..	..	..	22,848	1,33,516	
Bellary	..	..	..	82,147	4,33,998	
Chingleput ..	..	..	..	293,128	10,43,855	
North Arcot ..	..	..	..	93,399	5,01,838	
South Arcot ..	..	..	..	216,970	10,81,652	
Salem	..	..	..	29,090	1,63,493	
Coimbatore ..	..	..	..	75,033	4,87,256	
Tanjore	1	89	..	858,357	35,65,025	The numbers of works given are in some cases only approximate. This remark particularly applies to channels under the Productive Public Works systems other than the Godávari and Kistna where lists of component works are yet incomplete. As regards numbers of tanks these are correct for those districts for which lists of Imperial and Minor Works have been completed, for a few districts these lists are incomplete, and in these cases the numbers are only approximate.
Trichinopoly ..	1	1	..	153,655	7,00,999	
Madura	..	..	..	102,188	4,52,961	
Tinnevelly	..	33	22	116,229	11,80,001	
Total .. (*c*)	6	1,215	94	3,287,329	1,52,81,357	

	Area.	Revenue.
		Rs.
..	12,625	69,377
..	20,528	73,285
..	33,153	1,42,662

(*c*) Excluding Sungum Anicut now under construction.

APPENDIX C.

Statement showing the Number, the Area irrigated, and Revenue derived from Irrigation Works under the charge of Collectors.

Districts.	Number of Channels.	Number of Tanks.	Area Irrigated.	Revenue.	Remarks.
1	2	3	4	5	6
			ACRES.	RS.	
Ganjam ...	...	2,661	213,237	3,18,459	*N.B.*—The figures for columns 2 and 3 have been taken from the Revenue Board's Proceedings, No. 1783 of 19th November 1880. The figures for columns 4 and 5 have been obtained by deducting, from the figures shown in the Revenue Board's Proceedings, No. 1794 of 5th July 1882, the totals for works under the charge of the Public Works Department as shown in Appendix B; but in the case of the Godávari District the figures have been got by deducing the figures in columns 20 and 21 of Appendix B. from those shown in G.O., No. 68 I. of January 1881 for the non-delta works in the Godávari District. The amount of revenue due to the Godávari Delta system as calculated by Mr. Wilson is more than that included in the amount shown by the Board of Revenue for the whole District, and therefore the former cannot be adopted to deduce the amount of revenue due to works under the charge of Collectors.
Vizagapatam ...	...	370	120,776	1,55,907	
Godávari ...	...	928	81,093	1,22,635	
Kistna ...	...	406	44,926	75,359	
Nellore ...	...	537	104,010	1,44,813	
Cuddapah ...	396	906	181,650	6,12,983	
Kurnool ...	103	248	16,896	58,682	
Bellary ...	...	675	88,535	2,79,963	
Chingleput ...	...	1,474	198,749	3,66,431	
North Arcot ...	675	1,897	215,187	8,68,892	
South Arcot ...	...	2,201	193,567	8,05,386	
Salem ...	...	1,338	81,527	3,21,003	
Coimbatore ...	38	79	27,275	1,47,283	
Tanjore ...	...	398	138,880	2,32,476	
Trichinopoly ...	...	651	54,994	98,682	
Madura ...	...	1,878	71,161	1,34,533	
Tinnevelly ...	...	2,038	104,271	2,85,915	
Total ...	1,212	18,885	1,936,684	50,29,402	

APPENDIX D.

Public Works Divisions sanctioned under the Normal Scale (See Appendix A, G.O., 14th July 1881, No. 1729 W.,) with the corresponding Civil Districts.

Superintending Engineers' Circles.	Public Works Divisions.	Corresponding Civil Districts or parts of Districts.
No. I ...	1. Ganjam	Certain works in parts of the Ganjam District.
	2. Vizagapatam	Do. Vizagapatam District.
	3. Eastern Godávari ...	Only the irrigated portion of the Godávari District and the river with banks as far up as Dumagudiem.
	4. Western do. ...	
	5. A. Project Division ...	Headquarters at present in Ganjam, but will soon move elsewhere.
No. II ...	6. Eastern Kistna ...	Only the irrigated portion of the Kistna District.
	7. Western do.	Certain works in parts of the Nellore District.
	8. Nellore	Also in the Nellore District.
	9. Sangam Project ...	Certain works in parts of the Bellary District.
No. III ...	10. Bellary	Do. Cuddapah do.
	11. Cuddapah	Most of the Kurnool District, the department here being still in charge of Local Fund Works.
	12. Kurnool	Certain works in parts of the Kurnool and Cuddapah Districts.
	13. Kurnool Canal Division.	Do. Bellary and Cuddapah Districts at present.
	14. C. Project Division ...	Till lately work extended over Malabar, Canara, and Nilgiri Districts, and portion of Cochin.
No. IV ...	15. West Coast	Till lately occupied part of the Coimbatore District.
	16. Coimbatore	Certain works in part of the Salem District.
	17. Salem	Do. North Arcot District.
	18. North Arcot	Till lately engaged in Salem and is now in Coimbatore.
	19. B. Project Division ...	Most of the South Arcot District.
No. V ...	20. South Arcot	Do. Chingleput do.
	21. Chingleput	Runs through the Chingleput, Nellore, and Kistna Districts.
	22. Buckingham Canal ...	Part in the Madras District and part in Mysore.
	23. Presidency and Bangalore.	Most of Trichinopoly District, as the department here still retains Local Fund Works.
No. VI ...	24. Trichinopoly	Certain works in part of the Tanjore District.
	25. Tanjore	Do. do. do.
	26. Negapatam	Do. Madura do.
	27. Madura	Do. Tinnevelly do.
	28. Tinnevelly	Chiefly in Madras District.
Chief Engr....	29. Consulting Architect ...	In office of Chief Engineer for Irrigation.
	30. D. Project Division ...	

Remarks.

Of the sanctioned thirty Public Works Divisions, it will be observed that only two (Kurnool and Trichinopoly) are quite conterminous with the Civil Districts; others occupy parts as required by the works in hand, and others again, *e.g.*, Nos. 5, 13, 14, 15, 19, 22, 23, and 29, have work extending over parts of two or more Civil Districts.

Quite lately much of the work belonging to the West Coast in the Canara and Malabar Districts and the Native State of Cochin has been transferred to Coimbatore, and the size of the West Coast Division reduced to the Nilgiris and parts of Wynaad. None of the three newly proposed divisions, *e.g.*, the Central Godávari, Central Kistna, and Cauvery Regulators occupy any but fractional parts of Civil Districts, and their limits have been solely decided by the requirements of the works.

It may also be noticed that in letter to the Government of India, No. 1697 W., dated 9th July 1881, on the subject of the new normal scale, after showing how certain Superintending Engineers' Circles were to be formed, it was added, paragraph 11, that "all the other circles have been made out strictly with reference to the actual works in progress and proposed." No other principle has in fact been observed in the distribution of the charges, whether Superintending Engineers' Circles or Executive Engineers' Divisions.

APPENDIX E.

Memorandum on the Percentage Charge for Establishment in the Madras Public Works Department as compared with Outlay on Works.

To all acquainted with the varying conditions under which the work of a department like that of this Presidency, where operations of every conceivable character, large and small, concentrated and scattered, have to be provided for by a single establishment, the difficulties of applying the percentage charge as a test of economical and efficient management are such as call for great caution in application.

2. Where work is concentrated, funds supplied abundantly and all the conditions are favourable, the percentage charge is, or ought to be, small, and where to such ordinary advantages there is the additional facility of obtaining the materials to be employed in construction in a finished manufactured form from England or elsewhere, as generally is the case with railway work, iron bridges, pipes for water-supply works, &c., the charges for superintendence should be reduced to a minimum.

3. It has been shown for instance that on the work of the State Railways under the Government of India, the charge for establishment is not much more than nine per cent. The Madras Harbour Works affords even a more marked example. Here as proved by the figured statement which will be found lower down, the establishment charge for construction was only 6·8 per cent. in 1878-79, 4·3 in 1879-80, 4·9 in 1880-81. In 1881-82 with the self same establishment but owing to diminished outlay, the charge rose to 10·7 per cent., and in this year from a continuance of the same cause, the charge may very probably be as high as 20 per cent.

4. With an establishment, the strength and pay of which must in great measure remain unavoidably fixed, this question of the supply of funds is vital as affecting the percentage charge, as may at once be seen from what has occurred here in the last and present years. In 1881-82, the outlay on works being only Rs. 42,47,430, the unreduced charge was 39·6 per cent., though the cost of establishment owing to previous reductions was only Rs. 16,85,442, but in the current year, although from the late sanction of the increased normal scale of establishment the cost has risen to Rs. 20,99,314, the incidence is much less, being only 34·7 per cent. from the fact that it has been found possible to raise the outlay on works to Rs. 60,45,290.

5. The most striking case of difference in price of labor prevailing in one part of India as compared with another will of itself "*pro tanto*" alter the incidence of establishment charge. Where labor costs two, three or four times more in one place than it does in another, the percentage charge for the self same kind of work must necessarily be in inverse ratio to these numbers; *e.g.*, if in Burma, where labor is probably three times as dear as in Madras, the fair charge for the supervision of any specific operation be 15 per cent., it follows that 45 per cent. would be the correct equivalent in Madras, as the pay of members of the establishment does not vary with the province.

6. As regards the concentration or otherwise of the work, the Government of India has in Circular XX, P.W., dated 29th September 1881, fully recognised the effects on the incidence of the establishment charge. Here (paragraph 33) it is observed that "experience and inquiry show incontestably that petty and scattered works of the general nature of local works entail expense in respect of supervision if supervised professionally from three to six times as great as works that are concentrated or in large stations, however great the professional skill that the latter may demand."

7. In other words, if 9 per cent. as shown to prevail on the highly concentrated and otherwise favourably placed work of State Railways be accepted as fair in the one case, from 27 to 54 per cent. would be the corresponding rate in the case of scattered works.

8. But quite apart from these and other considerations of a general character, which more or less affect all branches of the department in India, there are special duties devolving on members of the department in Madras which places its establishment in a class by itself.

9. The first of these is the need for the development of irrigation and other works, suitable for either prevention of famine or for execution during famine. It is needless after all that has been said and written by the Famine Commission, by this Government and by the Government of India, to prove the absolute necessity for special arrangements being made as regards projects of this kind, Madras having notoriously suffered more than any other province in India from destructive famines. Suffice it to say that in full recognition of the requirements in this respect four full divisions of officers and subordinates (some not as yet however completely manned, See Appendix A) have throughout a great portion of the past year been engaged exclusively in the preparation of projects of the above character. Colonel Hasted's services were for several months similarly engaged, in bringing up the completion estimates for the Godávari system. Major Pennycuick has for the past three months been on special duty, in the preparation of the Perryaur Project—a protective work of great importance. Mr. Nordmann and a Sub-Engineer were also for a large portion of last year engaged in reconnoitring and surveying the country between Vizagapatam and Raipur, in view to the location of the proposed famine protective line of railway in this direction.

10. In these and all similar cases while there is a very heavy charge under Establishment there is absolutely no outlay under the head of "Works." Comparison is thus out of the question, as the percentage charge would here be infinitely large. To mix up the cost of all establishment so employed is in fact misleading; yet from the method by which the charges are shown in the departmental accounts, this is what actually occurs in determining the percentage charges.

11. As shown by the correspondence in regard to famine works, the establishment thus specially set apart must yet for several years be engaged on the preparation of projects. Not only so; hardly a single Superintending or Executive Engineer but has some special work of a similar character to think of and devote some of his time to.

12. The next and much more important consideration in regard to the special duties devolving on the Madras Establishment, has reference to the care and maintenance of the existing irrigation works.

13. In this Presidency no less than 5,196,279 acres are classed as "Wet" land, the revenue under which is all dependent on irrigation works, of which the following are the numbers, omitting many very minor works:—

	Numbers.
Tanks.	
Irrigating below 200 acres each	18,685
Do. above do.	3,116
Total ...	21,801
Channels.	
Irrigating below 200 acres each	1,212
Do. above do.	1,867
Total ...	3,079
Anicuts.	56

14. In Appendices B and C other details are given showing more particularly the distribution of the works under the Public Works and Civil Officers, respectively, but the mere enumeration of so many thousands of tanks, channels or other works can by itself convey but little real appreciation of the duties devolving in practice on the establishment. No one whose service has not been devoted to the care of these works, or whose attention has not been called daily to their requirements, can form any adequate idea of the practical effects of such a charge in reference to establishment.

15. This condition of matters has, it may be said without exaggeration, no approach to a parallel in any other part of the world; consequently deductions made from the experiences in Northern India or anywhere else where the conditions are entirely different are altogether inapplicable.

16. It is in the discharge of duties, often apparently of the most trivial description in maintaining the irrigation works, that the value of a trained and efficient establishment is best shown, though for that very reason least demonstrable by figures.

17. An establishment of this kind costing a large amount per annum, may by the careful and intelligent expenditure of only a very small amount on repairs, prevent the loss of enormous amounts of revenue, while on the other hand an inefficient and comparatively costless establishment may after expending large sums, fail to prevent large remissions of assessment. An establishment whose percentage charge is perhaps as high as 100 may in other words, if thoroughly efficient, prove infinitely more economical than one whose cost is only 25 per cent. Nowhere is this truth more clearly shown than in this Presidency.

18. Where as in the case of the delta works it has been found feasible to maintain a moderately large and efficient establishment the results have as well known been most encouraging, and the profits far in advance of any of the irrigation works in Northern India.

19. Nothing has in greater degree struck the Engineers accustomed to the unpretentious but much more effective works of Madras, than the great expenditure incurred in the designs of such schemes as the Ganges Canal, the Sone works, and others of a kindred character; but a little reflection will show that the system of judging the value of an establishment by its small percentage charge, directly leads to such results. The officer who carries out "grand" works regardless of expense is enabled of necessity to show the smallest percentage charge on his "works" outlay, and a direct premium is thus held out to lavish expenditure of all kinds. In Bombay these results are even more marked.

20. The only valid test must, it is thought, be that of useful effect, and to ensure true economy we must *first* ascertain precisely the work to be done; *second*, train up the most efficient establishment for its execution.

21. Efficiency and whatever it may cost to reach the needful standard is in fact the only true test, and by so much as the establishment fails in reaching that, must the Presidency pay by loss of revenue. As well expressed by a very able predecessor, the late General Charles Orr, cheap establishment means dear work.

APPENDIX E.

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2. Where work is concentrated, funds supplied abundantly and all the conditions are favourable, the percentage charge is, or ought to be, small, and where to such ordinary advantages there is the additional facility of obtaining the materials to be employed in construction in a finished manufactured form from England or elsewhere, as generally is the case with railway work, iron bridges, pipes for water-supply works, &c., the charges for superintendence should be reduced to a minimum.

3. It has been shown for instance that on the work of the State Railways under the Government of India, the charge for establishment is not much more than nine per cent. The Madras Harbour Works affords even a more marked example. Here as proved by the figured statement which will be found lower down, the establishment charge for construction was only 6·8 per cent. in 1878-79, 4·3 in 1879-80, 4·9 in 1880-81. In 1881-82 with the self same establishment but owing to diminished outlay, the charge rose to 10·7 per cent., and in this year from a continuance of the same cause, the charge may very probably be as high as 20 per cent.

4. With an establishment, the strength and pay of which must in great measure remain unavoidably fixed, this question of the supply of funds is vital as affecting the percentage charge, as may at once be seen from what has occurred here in the last and present years. In 1881-82, the outlay on works being only Rs. 42,47,430, the unreduced charge was 39·6 per cent., though the cost of establishment owing to previous reductions was only Rs. 16,85,442, but in the current year, although from the late sanction of the increased normal scale of establishment the cost has risen to Rs. 20,99,314, the incidence is much less, being only 34·7 per cent. from the fact that it has been found possible to raise the outlay on works to Rs. 60,45,200.

5. The mere fact of difference in price of labor prevailing in one part of India as compared with another will of itself *"pro tanto"* alter the incidence of establishment charge. Where labor costs two, three or four times more in one place than it does in another, the percentage charge for the self same kind of work must necessarily be in inverse ratio to these numbers; *e.g.*, if in Burma, where labor is probably three times as dear as in Madras, the fair charge for the supervision of any specific operation be 15 per cent., it follows that 45 per cent. would be the correct equivalent in Madras, as the pay of members of the establishment does not vary with the province.

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7. In other words, if 9 per cent. as shown to prevail on the highly concentrated and otherwise favourably placed work of State Railways be accepted as fair in the one case, from 27 to 54 per cent. would be the corresponding rate in the case of scattered works.

8. But quite apart from these and other considerations of a general character, which more or less affect all branches of the department in India, there are special duties devolving on members of the department in Madras which places its establishment in a class by itself.

9. The first of these is the need for the development of irrigation and other works, suitable for either prevention of famine or for execution during famine. It is needless after all that has been said and written by the Famine Commission, by this Government and by the Government of India, to prove the absolute necessity for special arrangements being made as regards projects of this kind, Madras having notoriously suffered more than any other province in India from destructive famines. Suffice it to say that in full recognition of the requirements in this respect four full divisions of officers and subordinates (some not as yet however completely manned, See Appendix A) have throughout a great portion of the past year been engaged exclusively in the preparation of projects of the above character. Colonel Hasted's services were for several months similarly engaged, in bringing up the completion estimates for the Godávari system. Major Pennyquick has for the past three months been on special duty, in the preparation of the Perryaur Project—a protective work of great importance. Mr. Nordmann and a Sub-Engineer were also for a large portion of last year engaged in reconnoitring and surveying the country between Vizagapatam and Raipur, in view to the location of the proposed famine protective line of railway in this direction.

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Total ...	3,079
Anicuts.	56

14. In Appendices B and C other details are given showing more particularly the distribution of the works under the Public Works and Civil Officers, respectively, but the mere enumeration of so many thousands of tanks, channels or other works can by itself convey but little real appreciation of the duties devolving in practice on the establishment. No one whose service has not been devoted to the care of these works, or whose attention has not been called daily to their requirements, can form any adequate idea of the practical effects of such a charge in reference to establishment.

15. This condition of matters has, it may be said without exaggeration, no approach to a parallel in any other part of the world; consequently deductions made from the experiences in Northern India or anywhere else where the conditions are entirely different are altogether inapplicable.

16. It is in the discharge of duties, often apparently of the most trivial description in maintaining the irrigation works, that the value of a trained and efficient establishment is best shown, though for that very reason least demonstrable by figures.

17. An establishment of this kind costing a large amount per annum, may by the careful and intelligent expenditure of only a very small amount on repairs, prevent the loss of enormous amounts of revenue, while on the other hand an inefficient and comparatively costless establishment may after expending large sums, fail to prevent large remissions of assessment. An establishment whose percentage charge is perhaps as high as 100 may in other words, if thoroughly efficient, prove infinitely more economical than one whose cost is only 25 per cent. Nowhere is this truth more clearly shown than in this Presidency.

18. Where as in the case of the delta works it has been found feasible to maintain a moderately large and efficient establishment the results have as well known been most encouraging, and the profits far in advance of any of the irrigation works in Northern India.

19. Nothing has in greater degree struck the Engineers accustomed to the unpretentious but much more effective works of Madras, than the great expenditure incurred in the designs of such schemes as the Ganges Canal, the Sone works, and others of a kindred character; but a little reflection will show that the system of judging the value of an establishment by its small percentage charge, directly leads to such results. The officer who carries out "grand" works regardless of expense is enabled of necessity to show the smallest percentage charge on his "works" outlay, and a direct premium is thus held out to lavish expenditure of all kinds. In Bombay these results are even more marked.

20. The only valid test must, it is thought, be that of useful effect, and to ensure true economy we must *first* ascertain precisely the work to be done; *second*, train up the most efficient establishment for its execution.

21. Efficiency and whatever it may cost to reach the needful standard is in fact the only true test, and by so much as the establishment fails in reaching that, must the Presidency pay by loss of revenue. As well expressed by a very able predecessor, the late General Charles Orr, cheap establishment means dear work.

APPENDIX E.

Memorandum on the Percentage Charge for Establishment in the Madras Public Works Department as compared with Outlay on Works.

To all acquainted with the varying conditions under which the work of a department like that of this Presidency, where operations of every conceivable character, large and small, concentrated and scattered, have to be provided for by a single establishment, the difficulties of applying the percentage charge as a test of economical and efficient management are such as call for great caution in application.

2. Where work is concentrated, funds supplied abundantly and all the conditions are favourable, the percentage charge is, or ought to be, small, and where to such ordinary advantages there is the additional facility of obtaining the materials to be employed in construction in a finished manufactured form from England or elsewhere, as generally is the case with railway work, iron bridges, pipes for water-supply works, &c., the charges for superintendence should be reduced to a minimum.

3. It has been shown for instance that on the work of the State Railways under the Government of India, the charge for establishment is not much more than nine per cent. The Madras Harbour Works affords even a more marked example. Here as proved by the figured statement which will be found lower down, the establishment charge for construction was only 6·8 per cent. in 1878-79, 4·3 in 1879-80, 4·9 in 1880-81. In 1881-82 with the self same establishment but owing to diminished outlay, the charge rose to 10·7 per cent., and in this year from a continuance of the same cause, the charge may very probably be as high as 20 per cent.

4. With an establishment, the strength and pay of which must in great measure remain unavoidably fixed, this question of the supply of funds is vital as affecting the percentage charge, as may at once be seen from what has occurred here in the last and present years. In 1881-82, the outlay on works being only Rs. 42,47,430, the unreduced charge was 39·6 per cent., though the cost of establishment owing to previous reductions was only Rs. 16,85,442, but in the current year, although from the late sanction of the increased normal scale of establishment the cost has risen to Rs. 20,99,314, the incidence is much less, being only 34·7 per cent. from the fact that it has been found possible to raise the outlay on works to Rs. 60,45,200.

5. The mere fact of difference in price of labor prevailing in one part of India as compared with another will of itself "*pro tanto*" alter the incidence of establishment charge. Where labor costs two, three or four times more in one place than it does in another, the percentage charge for the self same kind of work must necessarily be in inverse ratio to those numbers; *e.g.*, if in Burma, where labor is probably three times as dear as in Madras, the fair charge for the supervision of any specific operation be 15 per cent., it follows that 45 per cent. would be the correct equivalent in Madras, as the pay of members of the establishment does not vary with the province.

6. As regards the concentration or otherwise of the work, the Government of India has in Circular XX, P.W., dated 29th September 1881, fully recognised the effects on the incidence of the establishment charge. Here (paragraph 33) it is observed that "experience and inquiry show incontestably that petty and scattered works of the general nature of local works entail expenditure in respect of supervision if supervised professionally from three to six times as great as works that are concentrated or in large stations, however great the professional skill that the latter may demand."

7. In other words, if 2 per cent. as shown to prevail on the highly concentrated and otherwise favourably placed work of State Railways be accepted as fair in the one case, from 27 to 54 per cent. would be the corresponding rate in the case of scattered works.

8. But quite apart from these and other considerations of a general character, which more or less affect all branches of the department in India, there are special duties devolving on members of the department in Madras which places its establishment in a class by itself.

9. The first of these is the need for the development of irrigation and other works, suitable for either prevention of famine or for execution during famine. It is needless after all that has been said and written by the Famine Commission, by this Government and by the Government of India, to prove the absolute necessity for special arrangements being made as regards projects of this kind, Madras having notoriously suffered more than any other province in India from destructive famines. Suffice it to say that in full recognition of the requirements in this respect four full divisions of officers and subordinates (some not as yet however completely manned, See Appendix A) have throughout a great portion of the past year been engaged exclusively in the preparation of projects of the above character. Colonel Hasted's services were for several months similarly engaged, in bringing up the completion estimates for the Godávari system. Major Pennycuick has for the past three months been on special duty, in the preparation of the Perryaur Project—a protective work of great importance. Mr. Nordmann and a Sub-Engineer were also for a large portion of last year engaged in reconnoitring and surveying the country between Vizagapatam and Raipur, in view to the location of the proposed famine protective line of railway in this direction.

10. In these and all similar cases while there is a very heavy charge under Establishment there is absolutely no outlay under the head of "Works." Comparison is thus out of the question, as the percentage charge would here be infinitely large. To mix up the cost of all establishment so employed is in fact misleading; yet from the method by which the charges are shown in the departmental accounts, this is what actually occurs in determining the percentage charges.

11. As shown by the correspondence in regard to famine works, the establishment thus specially set apart must yet for several years be engaged on the preparation of projects. Not only so; hardly a single Superintending or Executive Engineer but has some special work of a similar character to think of and devote some of his time to.

12. The next and much more important consideration in regard to the special duties devolving on the Madras Establishment, has reference to the care and maintenance of the existing irrigation works.

13. In this Presidency no less than 5,196,279 acres are classed as "Wet" land, the revenue under which is all dependent on irrigation works, of which the following are the numbers, omitting many very minor works:—

	Numbers.
Tanks.	
Irrigating below 200 acres each	18,685
Do. above do.	3,116
Total ...	21,801
Channels.	
Irrigating below 200 acres each	1,212
Do. above do.	1,867
Total ...	3,079
Anicuts.	56

14. In Appendices B and C other details are given showing more particularly the distribution of the works under the Public Works and Civil Officers, respectively, but the mere enumeration of so many thousands of tanks, channels or other works can by itself convey but little real appreciation of the duties devolving in practice on the establishment. No one whose service has not been devoted to the care of these works, or whose attention has not been called daily to their requirements, can form any adequate idea of the practical effects of such a charge in reference to establishment.

15. This condition of matters has, it may be said without exaggeration, no approach to a parallel in any other part of the world; consequently deductions made from the experiences in Northern India or anywhere else where the conditions are entirely different are altogether inapplicable.

16. It is in the discharge of duties, often apparently of the most trivial description in maintaining the irrigation works, that the value of a trained and efficient establishment is best shown, though for that very reason least demonstrable by figures.

17. An establishment of this kind costing a large amount per annum, may by the careful and intelligent expenditure of only a very small amount on repairs, prevent the loss of enormous amounts of revenue, while on the other hand an inefficient and comparatively costless establishment may after expending large sums, fail to prevent large remissions of assessment. An establishment whose percentage charge is perhaps as high as 100 may in other words, if thoroughly efficient, prove infinitely more economical than one whose cost is only 25 per cent. Nowhere is this truth more clearly shown than in this Presidency.

18. Where as in the case of the delta works it has been found feasible to maintain a moderately large and efficient establishment the results have as well known been most encouraging, and the profits far in advance of any of the irrigation works in Northern India.

19. Nothing has in greater degree struck the Engineers accustomed to the unpretentious but much more effective works of Madras, than the great expenditure incurred in the designs of such schemes as the Ganges Canal, the Sone works, and others of a kindred character; but a little reflection will show that the system of judging the value of an establishment by its small percentage charge, directly leads to such results. The officer who carries out "grand" works regardless of expense is enabled of necessity to show the smallest percentage charge on his "works" outlay, and a direct premium is thus held out to lavish expenditure of all kinds. In Bombay these results are even more marked.

20. The only valid test must, it is thought, be that of useful effect, and to ensure true economy we must *first* ascertain precisely the work to be done; *second*, train up the most efficient establishment for its execution.

21. Efficiency and whatever it may cost to reach the needful standard is in fact the only true test, and by so much as the establishment fails in reaching that, must the Presidency pay by loss of revenue. As well expressed by a very able predecessor, the late General Charles Orr, cheap establishment means dear work.

22. Here it may not be out of place to observe that no efforts have been spared to place the Madras branch of the General Public Works Department on a satisfactory footing. Its Code, forms of account and system of control have all been improved and are believed to be quite on a par with any other in India. The reductions effected in 1879-80 had a very beneficial effect on the "*personnel*" of the establishment (though leaving it too weak numerically), and the late arrangement of the Superintending Engineers' Circles leaves little to be desired.

23. All now needed is (1) a more ample allowance than is at present admitted to provide against casualties from sickness, leave, &c., and (2) the gradual increase of the establishment under the head "Construction" "*pari passu*" with the enhanced means which it is hoped may soon be placed at disposal.

24. Improvements are needed to the curriculum of the Civil Engineering College, and the lower grades of the department and some of the office establishments require both reorganization and strengthening. The details of these improvements have been carefully worked out, but it is needless to dwell on these matters further here.

25. Turning now to the actual cost of the establishment of this department as shown in figures, the following table gives all the available information for five years including that now current :—

Statement of Percentage Charge of Establishment, Madras Public Works Department, based on actuals for the Years 1878-79 to 1881-82 and in the Budget Estimate for Current Official Year.

Columns.	Description.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83. Estimated.	Remarks.
(1)	Total outlay on works under all heads of service, Imperial, Provincial, Local excluding Harbour Works.	Rs. 61,89,530	Rs. 47,49,415	Rs. 37,43,521	Rs. 36,00,672	Rs. 57,43,290	Figures in columns (1) to (9) inclusive have been given by the Examiner of Public Works Accounts, except (a) which has been assumed on the calculations made to Government of India on account of the Harbour Works. Figures in column (10) have been taken from a return furnished by Mr. W. Wilson. Figures in column (13) assumed from information in the Office of the Chief Engineer for Irrigation.
(2)	Madras Harbour Works ..	7,78,029	11,66,211	13,84,164	5,63,858	(a)3,05,000	
(3)	Total Outlay Works only ..	69,67,568	59,06,626	51,28,055	42,47,450	60,48,290	
(4)	Total Outlay on Establishment under all heads of service, excluding Harbour Works.	28,74,373	23,09,770	14,43,218	16,14,357	20,38,478	
(5)	Do. Madras Harbour Works.	53,020	50,295	68,632	71,085	60,836	
(6)	Total Outlay Establishment only.	29,27,393	23,60,065	15,11,850	16,85,442	20,99,314	
(7)	Percentage charge for Establishment without deductions of any kind.	42·0	39·9	29·4	39·6	34·7	
	Deductions.						
(8)	Direct Revenue under Imperial, Provincial, Local.	8,91,890	4,12,153	5,06,283	6,29,147	4,28,971	
(9)	Ten per cent. on same ..	89,189	41,215	50,628	62,914	42,897	
(10)	Indirect Revenue Productive Works (Irrigation).	36,60,221	39,58,917	48,24,022	37,68,014	35,18,015	
(11)	Six per cent. on the same ..	2,19,613	2,36,334	2,89,441	2,25,540	2,11,080	
(12)	Indirect Revenue on Irrigation and Navigation Works other than Productive.	70,00,000	70,00,000	70,00,000	70,00,000	70,00,000	
(13)	Three per cent. on the same..	2,10,000	2,10,000	2,10,000	2,10,000	2,10,000	
(14)	Total Deductions, columns (9) + (11) + (13).	5,18,802	4,87,549	5,06,069	4,98,454	4,63,977	
(15)	Correct Establishment charge, columns (6)—(14).	24,08,591	18,72,516	10,05,781	11,86,988	16,35,337	
(16)	Correct percentage charge of Establishment, column (15) on (3).	34·5	31·7	19·6	27·9	27·0	

26. In order to meet the financial rules of the Government of India the establishment charges have hitherto been distributed at certain fixed percentages over Imperial and Local works. This has had the effect of always leaving a large residuum to be met from "Provincial" funds, which thus at times have had to bear disproportionately heavy charges.

27. The system is a purely artificial one, and quite untrue in fact, as from there being no separation of duties among the members of the department work of all classes, whether Imperial, Provincial, or Local (now only very few), is, and has always been, carried out by one and the same establishment.

28. This being the case it has been considered advisable to set aside the artificial element in the above table, and by bringing together works under all heads of service, to show the true percentage ratably distributed over all equally.

29. It will be observed that without taking into account any deductions which have to be made the highest percentage charge in the five years, including "Direction," "Construction," and "Accounts," has been 42·0 and the lowest 29·4.

30. In the matter of deductions discussions with the Government of India have continued now over some years, and have as yet been only partially concluded.

31. As a provisional arrangement the Government of India has ruled that, ten per cent. of *direct* revenue of all kinds claimable by the department may be shown as a contribution towards the cost of establishment; also that six per cent. may similarly be credited on the *indirect* revenue of Productive irrigation works.

32. There has been no difficulty in deciding on the amounts of *direct* revenues for the years dealt with; but as regards the *indirect* revenue the matter has been otherwise. Here from the different system of land tenure prevailing in this Presidency from that in Northern India, it has only been found possible after long inquiry by a specially qualified Civil Officer (Mr. W. Wilson) to decide, first as to what portion of the total revenue collection could fairly be considered as the profits, or increase of revenue, due to the several Productive works carried out by the department, and second the share of enhanced land revenue, apart from the value of the water also due to them.

33. Mr. Wilson has only quite lately been enabled definitely to settle under both the above heads, the amount of profits claimable by the Godávari, Kistna, Cauvery, Pennér, and Srívaikuntham, works, and column 10 in the table gives the total figures ascertained for these systems.

34. This Government has also claimed that three per cent. should for analogous reasons be credited on account of the *indirect* revenue due to Imperial works of navigation and irrigation not classed as Productive, but as yet the Government of India have not been enabled to convey their assent, owing chiefly to the difficulties experienced in deciding on the precise amount of the revenue involved. It is not understood that any difference of opinion exists as to the propriety of the contribution, but merely as to its amount. The local Revenue authorities have as yet been unable to give the precise figures, but from the available evidence the amount cannot it is thought be approximately fixed at less than 70 lakhs per annum, which is accordingly the figure adopted provisionally in the table, as that on which the three per cent. may fairly be calculated, as a credit towards the cost of the Public Works establishments engaged on maintenance of the works.

35. Making the deductions above adverted to it will be observed that the maximum percentage cost of establishment in the five years has been 34·5 and the minimum 19·6.

36. It must not be supposed that the deductions as above claimed have been realized in the accounts of the several years to which they relate. As a fact they have not been so, and the figures given therefore merely indicate (excepting in the last official year, when a small instalment has been adjusted) how under a more equitable system than has hitherto prevailed the accounts should have stood, and that in defect of this Provincial has lost and Imperial gained not less than 22 lakhs of rupees in the period comprised. See column (14.)

37. Again it must not be thought that such adjustments and deductions are in any way exceptional or unrecognized in the other provinces of the empire. The reverse is in fact the case. Not only have such contributions been admitted in the provinces of Northern India, but to a very much greater extent than has ever been even claimed in Madras.

38. From the following statement supplied by the late Inspector-General of Irrigation, it appears that on averages of the years 1875-76 to 1879-80 there has yearly been admitted as a charge against the revenue of the following works the sums below mentioned in addition to the 25 per cent. on works charged in the Public Works Department for establishment, viz. :—

Averages for Years 1875-76 to 1879-80 inclusive.

Canals.	Outlay on Works.	Establishment.		Revenue.	Percentage of Column 4 on Column 5.	Percentage of Total Establishment Charges Column 3 + 4; if charged against Works only Column 2.
		25 per Cent. on Works.	Remainder.			
1	2	3	4	5	6	7
Permanent.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Ganges Canal ...	3,94,011	98,503	5,12,446	31,36,781	16·3	155·0
East Jumna ...	89,520	22,380	95,946	9,15,350	10·5	132·2
West Jumna ...	1,38,165	34,541	2,29,631	13,47,806	17·0	191·3
Baree Doab ...	2,41,562	60,391	1,99,783	9,00,259	22·2	107·7
Inundation.						
Upper Sutlej Canal...	49,268	12,317	30,684	1,08,817	28·2	87·1
Indus	1,55,126	38,781	54,359	1,92,964	28·2	60·0

above table which I have added to the calculations given by General Crofton, will show how the results under the selected works compare with those of this Presidency, and prove (1) how a really high percentage charge for establishment is disposed of in other provinces, and (2) "*quantum valeat*" that the Madras charges are very much less instead of being more as has been asserted. It is true that the Public Works establishment charges under the Ganges Canal and some others include cost of the revenue assessment though not of collection; but if the whole of the civil charges in the corresponding areas, were taken into account in the different provinces, the balance in favor of Madras would be still more marked. This matter has in a previous communication been brought under the notice of the Government of India, but this Government has not yet been favored with any reply.

40. It may also be remarked that had an amount equivalent to that debited to the revenue of, say, the Ganges Canal as above shown (viz., 16·3,) been thus shown as a contribution to establishment in the Madras accounts, the annual relief on this account alone would have averaged nearly 6½ lakhs, to which adding the deductions claimable, columns (9) and (13), averaging Rs. 2,60,000 per annum the total relief afforded to Provincial in Madras would not have been less than Rs. 9,10,000 per annum. The cost of establishment estimated to be charged in current year would by a corresponding reduction be only Rs. 12,51,319 and the general percentage as against works 20·7.

41. On the whole it will not be too much to assume that were the Madras establishment placed on precisely the same footing as the corresponding establishments of Northern India, and were all the cost of officers and subordinates engaged exclusively on investigation of projects for famine works struck out of the account, the actual charge as against "Works" would fall below 20 per cent. including all heads, viz., "Construction," "Direction," and "Accounts."

(Signed) R. H. SANKEY, Colonel, R.E.

1877-78.		1878-79.		1879-80.		1880-81.		Total.		Remarks.
ent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	
s.	Rs.	Acs.	Rs.	Acs.	Rs.	Acs.	Rs.	Acs. In Lakhs.	Rs. In Lakhs.	
1·9	248·2	51·9	248·2	51·9	248·2	51·9	248·2	927·8	4347·1	
9·6	42·8	9·6	42·8	9·6	42·8	9·6	42·8	167·9	754·2	
2·3	205·4	42·3	205·4	42·3	205·4	42·3	205·4	759·9	3592·9	
8·3	172·0	38·6	172·9	38·7	173·2	38·9	171·6	658·0	3084·1	
4·0	33·4	3·7	32·5	3·6	32·2	4·3	33·8	101·9	508·8	
.	13·8	..	13·9	..	10·5	..	9·1	..	298·2	
.	47·2	..	46·4	..	42·7	..	42·9	..	807·0	Lakhs of rupees.

some of the Inam lands may become liable to water-tax.

96

PUBLIC WORKS DEPARTMENT.

General.
Establishment.

No. 98.

LETTER—from

COLONEL R. H. SANKEY, R.E., C.B.,

Secretary to Government, Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,

PUBLIC WORKS DEPARTMENT.

SIR,

In your letters marginally noted the attention of this Government is drawn to what is held to be the extravagantly large Establishment of this Department as proved by the percentage which its cost bears to works compared with the results in other Provinces.

No. 1082 G., dated 24th July 1882.
" 1887 G., " 25th " "

Sole file 2195 N 16.11.82.

2. Since the receipt of the above communications, proposals have been made in my letter No. 2592 W., dated 4th October 1882 for organizing the establishment of the three new temporary divisions marginally noted on a basis which has been approved by the Government of India; my present communication will therefore, I am desired to say, be confined to dealing with the more important question above adverted to.

Godávari, Central.
Kistna, do.
Cauvery and Vennár Regulators.

3. The first point requiring attention is that contained in paragraph 3 of your letter No. 1082 G., calling for a review of the distribution and employment of the whole of the Engineer staff, and observing that "no consideration of mere territorial occupation or traditionary custom may be allowed to stand in the way of a stringent limitation of the use of the members of the Engineer Establishment.

4. To elucidate, as far as possible, this portion of the subject, I am to solicit a reference to Appendices A, B, and C, as also to the annexed index map showing the Civil Districts of this Presidency and their respective areas.

5. In Appendix A will be found the distribution of the establishment as existing on the 1st July 1882 (which is the most convenient date with reference to the returns), the proposed outlay on works under all heads of service, including the undistributed reserve for each division in the current official year, and the percentage cost of establishment as thus shown under "Construction."

6. To admit of an opinion being formed as to the actual duties performed by the divisional staff, Appendices B and C must also be consulted. The first shows, as far as possible, the irrigation works classified under—

(*a*) Large "Productive works."
(*b*) Smaller systems consisting, mainly of tanks and channels irrigating over 200 acres each, and provisionally classed as "Imperial."

Appendix C, exhibits the Minor Irrigation Works irrigating each less than 200 acres.

7. Broadly speaking, all works (*a*) and (*b*) fall to the charge of the officers of this Department, who have likewise to maintain all tanks, whether great or small, composing the chains or series crossed by lines of railway. They have, moreover, the duty imposed on them of grouping all reservoirs, irrespective of size, shown in Appendix C—a work of considerable labor.

8. The minor irrigation works not having in all cases been grouped, the returns do not at present admit of giving accurately in detail the numbers, acreage, and revenue of works falling within the charge of the several Public Works Divisions under the reorganization of last year; it has only therefore been found practicable to give the figures according to the Civil Districts. The following however may be taken as affording a fair general view of the distribution of the works and of the interests involved:—

Description.	Number of Works.	Acreage.	Net Revenues.
			Rs.
I.—Under Public Works Officers. (See Appendix B.)			
Productive Works (six Irrigation Systems) * ...	1,315	1,781,336	79,33,254
Navigation and Irrigation Works other than Productive	3,724	1,505,993	73,48,103
Total Public Works Officers ...	5,039	3,287,329	1,52,81,357
II.—Under Civil Officers. (See Appendix C.)			
Minor Irrigation Works	19,897	1,936,684	50,29,402
Grand Total under both Departments ...	24,936	5,224,013	2,03,10,759

9. The vast amount of work involved in the proper maintenance of these works and their enormous importance will be more clearly recognized from remarks which will be found further on; but here it may suffice to observe that, in order to estimate even approximately the duties devolving on the several divisional officers, weight must be given to the area over which the works are spread, to their numbers, and to the revenue dependent on them.

10. It may however be doubted whether, in the absence of special local acquaintance with the works, any really correct idea of the duties involved in their maintenance can be formed, as it is needless to say that nothing even approaching to a comparison with the system of water storage in Southern India can be found in any other part of the world; deductions and experiences drawn from other Provinces are in fact wholly inapplicable to the case.

11. It will subsequently be shown that, far from being in adequate strength, the Department is altogether undermanned if due consideration be given to the interests of the irrigation works.

12. Regarding the observations as to the undesirability of allowing considerations of "territorial occupation or traditionary custom" to weigh in deciding the distribution of the establishment, I am to request a reference to Appendix D, which affords detailed explanations on this point.

13. No such considerations as those supposed were allowed to weigh in the arrangement of divisions under the last sanctioned normal scale, and there is not, I am to observe, any desire on the part of this Government to permit the perpetuation of any arrangement not wholly regulated by the requirements of the works.

14. Whatever advantages may have been derived from a territorial arrangement of divisions, so long as the Local Fund works were executed by this department, have

* Excluding Sangum Anicut now under construction.

now in nearly all instances ceased to exist, owing to the disconnection with the works which followed on the reduction of establishment in 1879-80.

15. The second point calling for attention is that adverted to in paragraph 2 of your letter No. 1087 G., where it is observed, that a comparison of the percentage of establishment to works in some of the larger Provinces shows that the existing establishment in Madras is by far the most expensive, adding that "the Secretary of State has, on more than one occasion, commented on the extravagance of the Public Works Establishment in Madras."

16. Before dealing with the percentage charge I am desired to submit, in reference to the above quotation, that this Government had previous to the receipt of your letters under reply only on one occasion been made aware of the Secretary of State's opinion, and this, as will immediately be shown, was based on a misconception of the facts of the case.

17. In a despatch* of 1881, his Lordship observed, that an examination of the figures of the Public Works Budgets showed a percentage charge of 84·4 on works, but in the reply of this Government (despatch No. 41 of 16th July 1881) it was pointed out that had the full and correct figures been before his Lordship he would have seen that the percentage was about 47, and that even this apparently high rate was due, not so much to excessive numbers as to the curtailment of grants for works for this Presidency, to the great area over which works have to be supervised, and to the system adopted in Madras for debiting the charges which did not correspond with that followed in other Provinces under the Government of India.

* No. 14 of 2nd June.

18. As no rejoinder has been received from the Secretary of State, either to this despatch or to another connected with the same subject, No. 50-2017 W., dated 17th August 1881, it is only reasonable to conclude that his Lordship was satisfied with the explanations afforded. Both despatches were communicated to the Government of India, and special attention was drawn to the subject in my letter No. 2473 W., dated 8th October 1881.

19. In turning now to the point on which the Government of India lay most stress, viz., the high percentage charges for Establishment, I am desired to invite attention to Appendix E, which has been drawn up by the Chief Engineer for the information of this Government.

20. As the Government of India are aware that, for cogent reasons, the force of which has been admitted, it has never been found practicable to create separate branches for the Establishment, viz., for Irrigation, Military Works, General and Local; the result is that artificial arrangements connected with the method of showing the establishment charges, have for convenience in the matter of accounts been adopted under sanction of the Government of India. To avoid the complications inseparable from this method of dealing with the question, and to which previous misapprehensions may readily be traced, the establishment and work charges are now treated for five years, including that now current, as if no separate branches of the Department existed. The work as a whole, is taken as having been carried out by one undivided establishment, an assumption which in the case of this Presidency corresponds in every way with the facts. Any other method would be artificial and quite untrue.

21. The highest percentage in any of the five years examined has been found to be 42·0 without deductions of any kind, and the lowest 29·4. Taking however into account the contributions already conceded by the Government of India, and those which will in all probability be eventually granted on account of percentage due to indirect revenue of Irrigation and Navigation Works, not classed as Productive, the percentages are found to be reduced to 34·5 and 19·6 respectively.

22. Were precisely the same terms, as regards contributions on account of the indirect revenue of the irrigation works, conceded to this Presidency as are understood to prevail in Northern India, and further were the charges for establishments wholly engaged on the projection of famine works struck out of the accounts, as the individuals concerned have no executive duties chargeable to works, His Excellency the

Governor in Council sees no reason to doubt the correctness of the conclusions arrived at by the Chief Engineer, that the charge for the establishment would, as against "works," not exceed 20 per cent.

23. Considering the much more scattered character of the works in Southern India than elsewhere, the percentages as thus worked out would appear to compare not unfavorably with those of other Provinces so far as known, but as the Government is satisfied that a test of this description must prove fallacious and misleading, and only serving to divert attention from the real requirements of this Presidency, they now desire to place before the Government of India the following observations bearing upon this vital point.

24. Hitherto, I am to observe, the facts upon which the strength of the establishment of this department has been decided have mainly been (1) the sums which, after meeting other exigencies, could be conveniently spared to Madras; (2) the percentage charge which, under experience derived from other Provinces, it was held would suffice for an establishment to expend the sums thus placed at disposal.

25. His Excellency in Council, after a careful review of the Finance and Revenue Accounts of India, has been confirmed in the general conclusions submitted for the consideration of the Government of India in my letter No. 337 W., as to the measure meted out to Madras in the matter of assignments from the Imperial Revenue compared with those conceded to other Provinces; and while quite prepared to admit that there have been at times political reasons of sufficient weight to justify the occasional departure from what might appear to be a strictly rateable distribution of the general funds at the disposal of the Government of India, he feels it incumbent on him to submit that such reasons no longer exist, and that the time has arrived for conceding to this Presidency its fair rateable share of the available surplus.

26. His Excellency is fully persuaded that the Government of India will, on consideration, be prepared to admit the justice of a request of this character, for which there are, moreover, very special reasons connected with the peculiar circumstances of this Presidency, to which I am now to invite attention.

27. The first and chief of these is the well-recognized fact that Madras has from time immemorial suffered in a greater degree from destructive famines than any other part of India, while, unlike the Northern Provinces, it has been denied by nature the advantages of internal water communications, afforded by such rivers as the Indus, Ganges, and Brahmaputra with their navigable tributaries.

28. The facts in this connection are, however, too well known and recognized to call for further remark, and I am therefore now to submit, as the second special reason, for consideration the following remarks as to the actual condition of the ancient systems of irrigation works, on the proper maintenance of which the land revenue, and indeed the whole prosperity of the Presidency, mainly depends.

29. In the tours which His Excellency the Governor has since his arrival been enabled to make through various parts of the Presidency, no subject has more constantly been brought to notice in the addresses presented to him, than the need of greater outlay and attention in regard to the minor irrigation works. A précis of the evidence previously taken on the subject and other information of a specific character will, it is hoped, ere long be submitted, with definite proposals, to the Government of India; but, in the meanwhile, I am to solicit attention to Appendix F, which shows in concise form the entire cultivable area of the Presidency, and the losses which have been sustained in the form of remissions of revenue from the year 1863-64 to 1880-81, both inclusive.

30. Not to overburthen the statement, areas and assessment are expressed in lakhs of acres and rupees respectively. All the land as shown in the statement has at one time or another been classed as "wet," *i.e.*, had means of irrigation afforded, but as will be observed from the remarks appended to the statement reasons exist in some cases for supposing that the classification is not strictly accurate: making however all desirable reductions on this account the facts revealed are almost startling.

31. Here it will be seen that year after year enormous areas of land which, were the works in order, should be under irrigation and bear wet assessment, are shown to have been thrown out of cultivation from the neglected condition of the tanks and channels. The aggregate losses each year in the opinion of the Revenue officers of Government amount to not less than 40 lakhs. The statement gives the aggregate loss in the 18 years recorded at 807 lakhs, but making all due deductions as above the actual amount, which, had means existed for bestowing proper attention on the works, should have been saved, cannot be estimated at less than 700 lakhs.

32. From the statements before Government the following was the reported condition of the irrigation works in the Presidency in 1879:—

—	In Repair.	Out of Repair.	Total No.	Remarks.
Tanks	29,208	6,826	36,034	The figures here given were reported before the lists (Appendix B and C) were compiled and include the many very minor works there omitted.
River Channels	10,160	801	10,961	
Spring Channels	5,893	1,008	6,901	
Anicuts	1,836	515	2,351	
Wells	378,236	58,918	437,154	

33. It is impossible to test in all cases the accuracy of the returns on which these statements have been compiled, but it may generally be assumed that a very large proportion of the works are out of repair; and in regard to this it is necessary to bear in mind that, even where in so-called "repair," but very few tanks or channels are really doing at all the amount of effective work which, under proper scientific investigation and management they should be capable of. The Board of Revenue considered that the term "in repair" merely meant that the works "were not in an absolutely useless state."

34. And this leads to the third point for special consideration as to the claims of this Presidency, viz., the construction of new and extension of the area commanded by old irrigation works, were an adequate engineering staff and enhanced funds placed at the disposal of Government.

35. The following table, taken from page 106 of Sir John and General R. Strachey's late work on the Finances and Public Works of India, amply proves the truth of the observation made by a previous writer (Mr. Buckley) that the Madras works much "more than recoup all the deficiencies" of others of a similar character in India:—

Provinces.	Capital.	Net Revenue.	Interest at 4½ per Cent.	Surplus.	Excess Charge.
	£	£	£	£	£
Bengal	4,980,000	18,000	220,000	...	202,000
North-West Provinces ...	5,346,000	269,000	237,000	32,000	...
Punjab	3,544,000	170,000	155,000	15,000	...
Madras	1,720,000	427,000	77,000	350,000	...
Bombay	1,333,000	10,000	59,000	...	49,000
Total ...	16,933,000	894,000	748,000	146,000	...

36. Not only have the Madras works languished year after year for want of funds and through insufficient strength of establishment, but, as here shown, ten times the amount have elsewhere been expended, too often with the result of heavy loss to the State. The table however only shows actuals of outlay down to 1879-80, and does not disclose the enormous amount of funds which has been sanctioned for outlay or sunk in lost interest on many of the works in Northern India, which it is

submitted have by no means as great a claim as the Madras works viewed either as Productive or Protective undertakings. It is believed that, in addition to the Capital outlay shown, not less than 15 millions sterling have been lost in interest or sanctioned for the completion of such works as the Sutlej Canal, Lower Ganges Canal, Sone works, &c., whereas Madras past, present and prospective will not have had 2½ millions assigned for its great and highly remunerative works. Some 25 millions sterling have thus been spent or assigned from the Imperial exchequer without, it is believed any probability of the works producing anything approaching to the same results, either as paying schemes or as safeguards against famine as would have been produced from a smaller sum expended in Southern India.

37. From information in possession of the Irrigation Branch there are the best grounds to conclude that the irrigated area of the Presidency might be increased by 1,500,000 acres were the needful means afforded, and with every prospect of returns, which if not quite on a par with those derived from the productive works constructed at an earlier period, would in all probability prove much more remunerative than works of a corresponding class in other parts of India.

38. With a thoroughly trained and sufficiently strong establishment there is thus a well-founded hope that much of the sufferings due to famine might in future be counteracted, that 40 lakhs of annual remissions of revenue might be saved, and that some 1½ millions of acres, with a revenue value of 60 lakhs per annum, might be added to the irrigated area.

39. There are other objects of a special character of hardly less importance to be attained, if the Government is to fulfil in any adequate sense the duties imposed on it. Chief among these stands the need of works of water-supply and drainage for certain large centres of population which are quite beyond the local means to execute. In reference to this the Secretary of State has lately, at the instance of the Army Sanitary Commission, pressed on the serious attention of this Government the necessity of coming to the aid of the Madras Municipality which is unable to complete from its own resources the needful works. The condition of matters at the Presidency town is little short of a disgrace to any civilized Government, and matters in other large centres are if anything in a worse condition. As the papers in connection with Madras will ere long be submitted through the Government of India for the information of the Secretary of State, His Excellency the Governor-General in Council will be enabled to see how very pressing is the need for action.

40. If it be inquired how sufficient ways and means are to be provided for meeting all the demands as above set forth for this Presidency, I am to state that nothing further is needed in the opinion of His Excellency in Council than such a readjustment of the Imperial charges as will throw upon Madras only its ratable share. From the Finance and Revenue Accounts, 1863-64 to 1879-80, it can be shown that this Presidency has hitherto contributed more than 22 per cent. of the Imperial charges —a disproportion so marked, whether judged from the stand point of Provincial receipts, land revenue or population, as to call for most careful consideration.

41. That such is also clear from the assignments made under the late decentralization scheme. it has only to be stated that, whereas 38·48 of the land revenue has been conceded to Bengal, 43·29 to the Punjab, 48·46 to the Central Provinces, 49·82 to Assam, 33·61 to British Burma, and no less than 58·55 to Bombay,* only 28·9 per cent. has been granted to this Presidency.

42. If the inequalities in the incidence of the public burdens which have hitherto obtained, and which, in the opinion of His Excellency the Governor in Council, there is no sufficient reason for continuing be removed, and further, if powers be granted for the needful increase of Provincial establishments adequate for the growing demands,

* The percentage is in fact very much higher, as from the manner in which inam lands are included in the Bombay land revenues, these in the last 17 years have been swelled by an anomalous asset of no less than 746·7 lakhs, or on an average of 43·8 lakhs per annum. The true amount assigned to Bombay is much more nearly 66·3 of its land revenue.

there should apparently be no difficulty in future in providing for all the most pressing wants of this Presidency or in largely swelling the Imperial revenue derived from many portions of its territory.

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

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

Exd. S. T. Austin.
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37. From information in possession of the Irrigation Branch there are the best grounds to conclude that the irrigated area of the Presidency might be increased by 1,500,000 acres were the needful means afforded, and with every prospect of returns, which if not quite on a par with those derived from the productive works constructed at an earlier period, would in all probability prove much more remunerative than works of a corresponding class in other parts of India.

38. With a thoroughly trained and sufficiently strong establishment there is thus a well-founded hope that much of the sufferings due to famine might in future be counteracted, that 40 lakhs of annual remissions of revenue might be saved, and that some 1½ millions of acres, with a revenue value of 60 lakhs per annum, might be added to the irrigated area.

39. There are other objects of a special character of hardly less importance to be attained, if the Government is to fulfil in any adequate sense the duties imposed on it. Chief among these stands the need of works of water-supply and drainage for certain large centres of population which are quite beyond the local means to execute. In reference to this the Secretary of State has lately, at the instance of the Army Sanitary Commission, pressed on the serious attention of this Government the necessity of coming to the aid of the Madras Municipality which is unable to complete from its own resources the needful works. The condition of matters at the Presidency town is little short of a disgrace to any civilized Government, and matters in other large centres are if anything in a worse condition. As the papers in connection with Madras will ere long be submitted through the Government of India for the information of the Secretary of State, His Excellency the Governor-General in Council will be enabled to see how very pressing is the need for action.

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42. If the inequalities in the incidence of the public burdens which have hitherto obtained, and which, in the opinion of His Excellency the Governor in Council, there is no sufficient reason for continuing be removed, and further, if powers be granted for the needful increase of Provincial establishments adequate for the growing demands,

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there should apparently be no difficulty in future in providing for all the most pressing wants of this Presidency or in largely swelling the Imperial revenue derived from many portions of its territory.

I have the honor to be,

Sir,

Your most obedient servant,

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

Exd. S. T. Austin.
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GENERAL.
ESTABLISHMENT.

Govt. of [1882] Madras.

PUBLIC WORKS.

Dated October, 16th.

Recd. *Encl.*

16th Oct. 1882, No. 2696 W.

OCTOBER.
No. 98.

Public Works Establishment of the Madras Presidency.

Regarding the scale of the —.

Enclosures to P. W. D. Resolution No. 381 A—G of 1882.

No. 48, dated 7th September 1882.

From—The Secretary of State for India,

To—The Government of India.

The very high charge which, from the figures in the Public Works Budget Estimates or Accounts, appears in many cases to be incurred on establishments relatively to the work, whether on original undertakings or repairs, for which that establishment is maintained, has frequently attracted notice, and has led to inquiries by my predecessors in office and myself.

2. The accompanying statements, compiled from the Accounts for 1880-81, will illustrate my meaning. It will be seen that the percentage of establishment to outlay is—

For Madras Provincial Works	59
" " Productive "	42
" Bombay Provincial "	35
" " Irrigation and Agricultural Works	39
" Bengal Productive (Irrigation) Works	40
" North West Provinces Imperial Works	110
" " " Irrigation and Agricultural Works ...	86
" " " Productive Irrigation Works ...	39½
" Punjab Irrigation and Agricultural Works	72

3. The explanation of the very high rates in these cases, doubtless, is that the establishment of which the cost is set down is not supervising only the outlay against which it is charged, but is employed on other duties, among which may be named the administrative duties connected with the irrigation revenue.

4. I request that your Government will consider the possibility of exhibiting in a statement, which should be annexed to the Budget Estimates and included in the Accounts, the true or approximate percentage which the establishment bears to the expenditure on works in connection with which it is employed; and, if that expenditure does not supply a proper criterion of the actual economy exercised in controlling the establishment charges, that some appropriate explanation should be afforded of the causes of charges in excess of what may be ascertained to be the fair normal expenditure for the supervision of direct outlay on works.

Bengal Public Works, 1880-81.

Service.	Class.	New Works.	Repairs.	Total Outlay.	Establishment.	Percentage on Outlay.
		£	£	£	£	
Imperial ...	Military	727	2,748	3,475	861	
	Civil Buildings	45,584	11,533	57,117	7,887	
	Miscellaneous Public Improvements	123	131	254		
	Barrack	...	...	...	...	
				60,846	8,748	14·38
Provincial ...	Civil Buildings	147,741	21,846	179,587		
	Communications	108,252	89,846	198,098		
	Miscellaneous Public Improvements	3,702	3,777	7,479		
				385,164	84,162	21·85
Incorporated Local Funds.	Civil Buildings	...	...	...		
	Communications	—153	...	—153		
	Miscellaneous Public Improvements	...	...	...		
				—153	—38	24·84
Irrigation and Navigation Works, Ordinary.	Capital Accounts	26,642	...	26,642	7,499	
	Revenue Accounts	65,066	15,765	80,831	19,966	
Agricultural Works ...	Ditto ditto	5,464	29,840	35,304	7,493	
	Ditto ditto	—27	...	—27	161	
				142,750	35,119	24·60
Productive Works ...	Irrigation, Revenue	180	62,383	62,572	33,180	
	„ Capital	113,171	...	113,171	36,822	
				175,743	70,002	39·83
	Total ...	...	...	764,340	197,993	25·90

North-Western Provinces and Oudh Public Works, 1880-81.

Service.	Class.	New Works.	Repairs.	Total Outlay.	Establishment.	Percentage on Outlay.
		£	£	£	£	
Imperial ...	Military	3,905	1,090	4,995	997	
	Civil Buildings	8,850	5,671	14,521	20,524	
	Miscellaneous Public Improvements	...	...	...		
	Barrack	...	21	21	4	
				19,527	21,525	110·23
Provincial ...	Civil Buildings	62,591	34,568	97,159		
	Communications	23,246	87,827	111,073		
	Miscellaneous Public Improvements	1,126	...	1,126		
				209,358	57,776	27·60
Incorporated Local Funds.	Civil Buildings	...	...	...		
	Communications	24,275	77,226	101,501		
	Miscellaneous Public Improvements	1,625	1,203	2,828		
				104,329	29,112	27·90
Irrigation and Navigation Works, Ordinary.	Capital Accounts	6,394	...	6,394	2,501	
	Revenue Accounts	2,475	12,385	14,860	17,022	
Agricultural Works ...	Ditto Ditto	1,395	932	2,327	466	
	Ditto Ditto ...	385	501	886	100	
				24,467	20,089	85·78
Productive Works ...	Irrigation, Revenue	9,445	65,861	75,206	65,626	
	„ Capital	178,929	...	178,929	34,829	
				254,225	100,455	39·51
	Total ...	...	...	611,906	229,857	37·56

Punjab Public Works, 1880-81.

Service.	Class.	New Works.	Repairs.	Total Outlay.	Establishment.	Percentage on Outlay.
		£	£	£	£	
Imperial ...	Military	13,991	13,823	27,814	6,829	
	Civil Buildings	20,916	4,893	25,809	7,626	
	Miscellaneous Public Improvements	11	...	11		
	Barrack	...	1,090	1,090	109	
				54,724	14,564	26·61
Provincial ...	Civil Buildings ...	27,658	22,132	49,790		
	Communications ...	14,911	86,258	101,169		
	Miscellaneous Public Improvements	522	3,946	4,468		
				155,427	44,118	28·38
Incorporated Local Funds.	Civil Buildings ...	3,627	2,442	6,069		
	Communications ...	16,409	30,958	47,367		
	Miscellaneous Public Improvements	3,600	1,825	6,425		
				58,861	6,872	11·17
Irrigation and Navigation Works, Ordinary.	Capital Accounts ...	13,058	...	18,058	4,465	
	Revenue Accounts ...	589	16,711	17,280,	17,281	
Agricultural Works ...	Ditto ditto ...	...	32	32	3,093	
	Ditto ditto ...	184	...	184	285	
				35,554	25,624	72·27
Productive Works ...	Irrigation, Revenue ...	2,985	27,454	30,439	44,338	
	„ Capital ...	297,625	...	297,625	57,643	
				328,064	101,981	31·09
	Total ...	...	...	632,630	192,929	30·50

No. 376, P. W. D. Press—30-11-82—252.

No. 381 A—G.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

ACCOUNT.

General.

To

The Governments of Madras, Bombay, Bengal, the North Western Provinces and Oudh, and the Punjab, in the Public Works Department.

The Chief Commissioners, Central Provinces, British Burma, Assam and Coorg.

The Resident at Hyderabad.

The Resident at Mysore (through Foreign Department).

The Agents to the Governor General for Central India, Rajputana and Biluchistan.

The Superintendent of Port Blair and Chief Commissioner, Andaman and Nicobar Islands.

The Director General of Telegraphs.

The Inspector General of Military Works.

The Accountant General, Public Works Department.

The Director General of Railways.

The Director-in-Chief, Indo-European Telegraph.

The Director, Persian Telegraph.

The Deputy Director, Persian Gelf Telegraph.

The Consulting Engineers to the Government of India for Guaranteed Railways, Calcutta, Lahore and Lucknow.

The Comptroller General.

The Accountant General, Bengal.

Fort William, November 30, 1882.

Sir,

I am directed to forward herewith copy of a Despatch from the Secretary of State, No. 48, dated 7th September 1882, with enclosures, commenting on the very high charges for Establishment as shown in the Public Works Department Budget Estimates and accounts, and to request that the Budget Estimate of 1883-84 may be accompanied by statements showing the true or approximate percentage which the charges for Establishment bear to the expenditure on works in connection with which it is employed. If the expenditure does not supply a proper criterion of the actual economy exercised in controlling the Establishment charges, detailed explanation should be submitted of the causes of all charges in excess of the fair normal expenditure on the supervision of direct outlay on works.

2. The statements should be prepared for the actual transactions of the year 1881-82, and the estimates of 1882-83 and 1883-84 for the Buildings and Roads and Irrigation Branches of the Department, and the explanations called for should be submitted for each year.

I have the honor to be,

SIR,

Your most obedient Servant,

A. J. FILGATE, Lieut.-Col., R. E.,

Deputy Secy. to the Govt. of India.

Copy forwarded to the Military Department, with a request that like information may be furnished by the Inspector General of Military Works.

A. J. FILGATE, Lieut.-Col., R. E.,

Deputy Secy. to the Govt. of India.

Documents accompanying.

Despatch from the Secretary of State, No. 48, dated 7th September 1882, with enclosures.

Order—dated 21st December 1882, No. 3395 W., Public Works.

Extract paragraph 4 of the above letter will be forwarded to the Examiner, Public Works Accounts, for information and early attention.

2. The remaining subjects will be taken up by the Chief Engineer, Public Works Department.

(True Extract.)

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

To the Examiner, Public Works Accounts, with extract paragraph 4.
" Chief Engineer, Public Works Department, (in original with file.)

No. 191.

ORDER—dated 26th December 1882, No. 3432 W., Public Works.

Ordered that the Government of India be addressed.

(Here enter No. 3433 W., dated 26th December 1882.)

(True Extract.)

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

To the Examiner, Public Works Accounts.
" Chief Engineer for Irrigation.

Exd. C. Howarth.
Spare Copies

GENERAL.
ESTABLISHMENT.

Govt. of {1882} Madras.

PUBLIC WORKS.

Dated December, 26th.

Recd. *Encl.*

G.O., 26th Dec. 1882, No. 3432 W.

DECEMBER.

Nos. 190-191.

Assistant Engineers.

The Government of India applied to for the services of certain —.

PUBLIC WORKS DEPARTMENT.

General.
Establishment.

No. 192.

LETTER—from

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

To

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

SIR,

I am directed to acknowledge the receipt of your letter, No. 1558 G., dated 30th November 1882, and with reference to paragraph 1 to say that the Government of India will very shortly be addressed.

2. In reference to paragraph 3 this Government will gladly avail themselves of the offer of the Government of India to obtain the services of two temporary Engineers from England. It is essential that the Engineers selected shall have had two or three years' practical experience on works. They might be offered the pay and position of Assistant Engineers of the 1st or 2nd Grade, with free passages out and home.

3. The Right Honorable the Governor in Council will, I am further directed to say, be glad to obtain the services of the Assistant Engineer expected from Cooper's Hill, provided he has finished his practical course so as to be available for executive duties within a reasonable time.

4. The statement called for in paragraph 4 of your letter is under preparation, and will be forwarded in due course.

I have the honor to be,

Sir,

Your most obedient servant,

Captain, R.E.,
Ag. Under Secy. to Govt., P.W.D.

FORT ST. GEORGE,
26th December 1882.

Exd. C. Howarth.
Spare Copies

GENERAL.
ESTABLISHMENT.

Govt. of (1882) Madras.

PUBLIC WORKS.

Dated December, 26th.

Encl.

Read.

26th Dec. 1882, No. 3433 W.

DECEMBER.

No. 192.

Assistant Engineers.

THE Government of India applied to for the services of certain —.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

No. 190. General Establishment.

READ—again—

G.O., dated 21st December 1882, No. 3396 W., Public Works.

Read—also the following letter from G. H. D. WALKER, Esq., Officiating Under Secretary to the Government of India, Public Works Department, (General), to the Secretary to the Government of Madras, Public Works Department, dated Fort William, 30th November 1882, No. 1654 G.:—

In reply to your letter, No. 2592 W., of 4th October 1882, regarding establishment required to carry out Productive Public Works in the Godavari, Kistna, and Delivery Deltas, I am directed to state that the Government of India sanction the temporary employment of Mr. Wilks on a salary of Rs. 800 per mensem, but he must not be graded in the department—see S.O. No. 168.

2. As regards Mr. Taylor and Lieutenant Baddeley, Assistant Engineers, I am to observe that it is within the competence of the Government of Madras to promote them temporarily, if there are vacancies in the sanctioned scale of establishment; indeed, it is understood that they already hold the temporary rank of Executive Engineer, 4th Grade; but as it is not clear whether it is the intention to give these the full pay of Executive Engineer, 4th Grade, in addition to those officers who get it in regular course in succession to absentees, I am directed to point out that if such a course is intended, it is inadmissible, and the Government of India is not prepared to sanction any deviation from the rules on this subject.

3. Referring to your paragraph 3, (2) I am to state that there are no Assistant Engineers at the disposal of the Government of India for transfer from other provinces at present. Inquiries are being made on this matter, but one Engineer from the Royal Indian Engineering College ought to be arriving in Madras shortly, and the Government of India will be prepared, if desired, to obtain the services of two more Engineers from England on temporary terms, if such a step should be ultimately found to be necessary.

4. There is no objection to the appointment of three Accountants for the new divisions; but as these divisions will be extra to the normal scale, the Accountants required for them should not be on the permanent staff, but only temporarily employed. The proposed increase should have been submitted in a separate statement showing how the whole establishment of Accountants in Madras will be affected by the increase asked for, and providing for any addition that may be necessary to the office of the Examiner of Public Works Accounts. I am to request that such a statement may now be submitted.

5. The rest of the appointments specified in the statement submitted, being below the limit of pay, may be made by the Government of Madras as suggested.

GENERAL.
ESTABLISHMENT.

Govt. of {1882} Madras.

PUBLIC WORKS.

Dated December, 26th.

Encl.

Read.

26th Dec. 1882, No. 3433 W.

DECEMBER.

No. 192.

Assistant Engineers.

The Government of India applied to for the services of certain —.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Establishment.

No. 190.

Read—again—

G.O., dated 21st December 1882, No. 3395 W., Public Works.

Read—also the following letter from G. H. D. WALKER, Esq., Officiating Under Secretary to the Government of India, Public Works Department, (General,) to the Secretary to the Government of Madras, Public Works Department, dated Fort William, 30th November 1882, No. 1558 G.:—

In reply to your letter, No. 2592 W., of 4th October 1882, regarding establishment required to carry out Productive Public Works in the Godávari, Kistna, and Cauvery Deltas, I am directed to state that the Government of India sanctions the temporary employment of Mr. Wilks on a salary of Rs. 800 per mensem, but he must not be graded in the department—see S.O. No. 168.

2. As regards Mr. Taylor and Lieutenant Baddeley, Assistant Engineers, I am to observe that it is within the competence of the Government of Madras to promote them temporarily, if there are vacancies in the sanctioned scale of establishment; indeed, it is understood that they already hold the temporary rank of Executive Engineer, 4th Grade; but as it is not clear whether it is the intention to give them the full pay of Executive Engineer, 4th Grade, in addition to those officers who get it in regular course in succession to absentees, I am directed to point out that if such a course is intended, it is inadmissible, and the Government of India is not prepared to sanction any deviation from the rules on this subject.

3. Referring to your paragraph 3, (2) I am to state that there are no Assistant Engineers at the disposal of the Government of India for transfer from other provinces at present. Inquiries are being made on this matter, but one Engineer from the Royal Indian Engineering College ought to be arriving in Madras shortly, and the Government of India will be prepared, if desired, to obtain the services of two more Engineers from England on temporary terms, if such a step should be ultimately found to be necessary.

4. There is no objection to the appointment of three Accountants for the new divisions, but as these divisions will be extra to the normal scale, the Accountants required for them should not be on the permanent staff, but only temporarily employed. The proposed increase should have been submitted in a separate statement showing how the whole establishment of Accountants in Madras will be affected by the increase asked for, and providing for any addition that may be necessary to the office of the Examiner of Public Works Accounts. I am to request that such a statement may now be submitted.

5. The rest of the appointments specified in the statement submitted, being below the limit of pay, may be made by the Government of Madras as suggested.

Order—dated 21st December 1882, No. 3395 W., Public Works.

Extract paragraph 4 of the above letter will be forwarded to the Examiner, Public Works Accounts, for information and early attention.

2. The remaining subjects will be taken up by the Chief Engineer, Public Works Department.

(True Extract.)

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

To the Examiner, Public Works Accounts, with extract paragraph 4.
" Chief Engineer, Public Works Department, (in original with file.)

No. 191.

Order—dated 26th December 1882, No. 3432 W., Public Works.

Ordered that the Government of India be addressed.

(Here enter No. 3433 W., dated 26th December 1882.)

(True Extract.)

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

To the Examiner, Public Works Accounts.
" Chief Engineer for Irrigation.

Exd. C. Howarth.
Spare Copies

GENERAL.
ESTABLISHMENT.

Govt. of (1882) Madras.

PUBLIC WORKS.

Dated December, 26th.

Recd. *Encl.*

G.O., 26th Dec. 1882, No. 3432 W.

DECEMBER.

Nos. 190-191

Assistant Engineers.

The Government of India applied to for the services of certain —.

P.W. Cole 8970

(11)

[Exr. Wks. Form No. 111.]

GOVT. OF MADRAS. } 1882-83 { P. W. DEPT.

EXAMINER, P. W. ACCOUNTS.

Madras, 22½ Dec. 1882

OFFICE NOTE No. 816.

Rec'd 26/12/82

To

P.W.

Enc. One

Herewith a Statement showing the increases required in the Accounts Establishment of this Presidency on account of the three temporary Divisions. Vide G.O. No: 3395 P.W. dated 21st December 1882.

D.G.

G/22.12.82

KEEP WITH Genl. No.

dated 18 .

Eo 2892. b. 4. 10. &

KG.
22/12.

I worked on the during last assistant loan given to Ca-W. on the 21-12-82

26/12

No 284 113

Genl Dept

Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 6 January 83

Read the following

C. N. from the Examiner of P. W. Accounts } H. E. No 816 dy 22 Dec/82

Ordered to be forwarded to the Government of India

H. E No 29 Wdy 6th Jany

To The Secretary to the Govt of India P. W. Depto

Sir

In continuation of my letter No 3/5337 dy 22 Decr 82 I am directed to forward for the sanction of the Government of India the

the accompanying pro-
position statement
showing increases re-
quired in the Accounts
Establishment of the
Presidency on account
of the three new tem-
porary Divisions which
are to be formed.

Encl
5 1 B

encl to Calcutta 12-1-83-
Revised copy of letter
dated 13-11-83

H.C.
Fillexin-JP
6/1/83

Govt of [1883] Madras

PUBLIC WORKS.

Dated

Rect.

Encl.

G. O. 6 Jany 1883 No. 28. P

29. P

Nos. 41-42.

43

Accounts Establishments

Increases in the —

of the Presidency —

-dered necessary

by the formation

of the three new

28

2

28

Entered Book Keeper