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A Y 15080. 2 rms.—1/87.

21st April 1887, No. 1103 W., Public Works.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Establishment.

Read—the following papers :—

No. 21 E.W.

Note by the Chief Engineer for Irrigation.

By the Government of India's orders on the budget for 1887-88, dated 17th March 1887, No. 33 A.I., the grant from Imperial funds under "43. Minor Works and Navigation" has been increased from Rs. 20,00,000 to Rs. 23,00,000 and provincialized. The total grant under Provincial, therefore, becomes Rs. 26,51,000.

2. In the Preliminary Issue of the budget printed with G.O., No. 4 I., P.W., dated 7th January 1887, the distribution of the Rs. 23,51,000, as proposed, was shown. It is proposed to leave this distribution undisturbed and to allot to the Tank Maintenance Scheme the additional Rs. 3,00,000 now granted, so that we shall have for Tank Maintenance Rs. 3,99,200.

3. Before allotting money for the Tank Maintenance it is necessary to decide on what system the work is to be carried out and what establishments are to be allowed for; at present the establishment is quite disorganized and it is most important that it should be re-organized and placed on a proper footing as soon as possible. Both Colonel Pennycuick and Major Campbell, who were in charge of the Tank Maintenance Scheme, considered that the former establishments should be considerably altered, and with this note is forwarded a note by Major Campbell with a comment by Colonel Pennycuick and a further note by the latter officer.

4. Both these officers consider it advisable that there should be a head to the Tank Maintenance Scheme in Madras and suggest either that the appointment of Superintendent of Works in charge should be revived or that the work should be supervised by the Chief Engineer for Irrigation, his assistant being in charge of the office.

5. It is considered that the Assistant Chief Engineer for Irrigation cannot, in addition to his other duties, do this work properly, and a special officer for the purpose is therefore essential. It is proposed that an officer of the rank of about a 3rd-grade Executive Engineer should be selected to be in charge of the office and that he should be the Assistant to the Chief Engineer for Irrigation for the Tank Maintenance Scheme.

6. With regard to the strength of the parties working in the divisions, it is proposed to reduce them considerably below the strength that was formerly allowed. Major Campbell proposed, should money be available, to employ ten small parties, in as many districts, each party consisting of—

1 Assistant Engineer,
2 Overseers,
2 Surveyors,

with a small office establishment; he also proposed that no estimates should be made but only levels, plans of works, hydraulic and revenue information, &c., be recorded, and that the estimates be prepared afterwards at such time as money might be available to start the works.

7. Colonel Pennycuick in his note, while agreeing in the scale of establishments proposed, considered that the estimates should be prepared at the time the plans, &c., were made, and considered that the survey, estimating and recording work should not be allowed to get too far ahead of the repair work of the tanks and, in his note, proposed that, should Rs. 5,00,000 be available, seven parties, of the strength laid down by Major Campbell, be entertained.

8. The Chief Engineer for Irrigation agrees with Colonel Pennycuick and considers it most advisable that when the Tank Maintenance establishment examine a tank, they should not only collect and record all the information they have heretofore done, but they should also, as before, make the estimates, &c.

9. Doing this renders the work complete and will enable the works to be carried out as soon as money is available; it adds but little to the work if done at the time; but it would entail much work if done a year or two after the levels, &c., had been taken.

10. The following establishment is proposed for a party working in a basin :—

		Rs.
1	1 Assistant Engineer	500
2	2 Overseers	160
2	4 Surveyors	320
2	2 Draftsmen	102½
1	4 Clerks	100
30	35 Lascars	210
	Travelling allowance, contingencies, &c.	287½
	Total per month ...	1,680
	or per year ...	20,160

The number for each class, as proposed by Major Campbell, is entered in black type. The cost as estimated by Colonel Pennycuick was Rs. 18,000 per year, the main difference is that two extra surveyors are now allowed for and also four clerks in place of only one.

11. It is thought that an Assistant Engineer should be able to supervise well two parties, each of one overseer and two surveyors, and that more than one clerk should be allowed, as there must be considerable clerical work involved in collecting and recording the hydraulic and revenue details.

12. For the establishment to be attached to the office of the Chief Engineer for Irrigation, Major Campbell's proposals have been accepted, but an Executive Engineer, 3rd grade, has been added to be in charge of this establishment and supervise the important work to be done.

The establishment is as follows :—

	Rs.
Executive Engineer	845
6 Clerks	416
7 Draftsmen	332
Messengers, &c.	48
Per month ...	1,641
Add for travelling allowance, contingencies, &c.	1,608
Per year ...	19,692
Total per year ...	21,300

The work to be done exactly as heretofore, as it is considered that no alteration should be made in the manner in which the plans, memoirs, &c., are drawn up.

12. Major Campbell's manual to be acted up to with the modifications rendered necessary by the alterations in the establishment.

13. Each party working under an Assistant Engineer to work in a tank basin, and to have convenient head-quarters, where the office will be established. One overseer with two surveyors will form a sub-party. The surveyors to take the necessary surveys, levels, &c., under the overseer's orders; the overseer to check them and to see that the surveyors do trustworthy work and a fair amount of it. The overseer to make plans of the masonry works in pencil on section paper; the surveyors to rough plot in pencil their own work. The overseer to send in these papers to the Assistant Engineer and on orders from him, if necessary, to prepare the estimates or collect any additional information required.

14. The Assistant Engineer to complete in his office the plans and estimates in pencil in the rough and to send them direct to the office of the Chief Engineer for Irrigation to be fair copied and lithographed and printed.

15. The Assistant Engineers to have an imprest for petty expenditure, as also the overseers; all the accounts to be done in the divisional office of the district the party is at work in. The Assistant Engineer of course is to exercise a close supervision over his overseers and surveyors, to frequently inspect their work and to decide on all engineering points; he will of course make all the important designs for works himself, type-designs for ordinary works being followed as much as possible.

16. If the above proposal is accepted and the strength of the establishments be approved for the head office and the parties, it is thought that for the present three parties might be started, the cost being as follows per year :—

	Rs.
For Head-office	21,300
For three Parties, at Rs. 20,160 per year	60,480
Total ...	81,780
Add for extra cost for lithographing and printing	3,220
Total ...	85,000

17. It is believed that the Chief Engineer has allowed in the proposed permanent establishment of the Public Works Department three Executive Engineers or Assistant Engineers of standing in the each of the divisions in which tank operations are in progress.

18. It is supposed that as the total grant of Rs. 26,51,000 for expenditure on 43. Minor Works and Navigation now appears under Provincial, the Madras Government can expend any portion they think fit on temporary establishment which should of course be provided for in the Irrigation Budget, and that the pay of the surveyors and lascars employed for survey operations can be charged to Works, and the cost of lithographing and printing may also be met from Works.

If the above supposition is correct, the Rs. 85,000 required can be divided under the following heads :—

Chargeable to Provincial Service Budget under head of Permanent establishment—

	Rs.
Three Assistant Engineers	1,500
Travelling allowance for Assistant Engineers	330
Contingencies	42
Per month ...	1,872
Per year ...	22,464

Chargeable to Temporary establishment to be provided for in the Irrigation Budget establishment proposed to be attached to the office of the Chief Engineer for Irrigation, as shown in appendix A—

Per year		Rs. 21,300
as shown in appendix B—		
Three parties of—		
		Rs.
2 Overseers		160
2 Draftsmen		102½
4 Clerks		100
Travelling allowance for Overseers		120
Lascars and sundries		73½
Per month ...		556
For three Parties per month ...		1,668
Per year ...		20,016
Total ...		41,316
Petty establishment chargeable to Works—		
		Rs.
Surveyors per month		320
Lascars employed in surveying		180
		500
For three Parties ...		1,500
Per year ...		18,000
Add for lithographing and printing		3,220
Total ...		21,220
Grand Total ...		85,000

19. The budget for 1886-87 allowed for a Superintending Engineer with office at head-quarters; for four Executive divisions with four Assistant Engineers, twenty-four Upper Subordinates, &c., at a total cost of Rs. 1,60,480. Besides this there was a large establishment of surveyors, draftsmen, lascars, &c., charged to Works.

The total cost of the establishment actually employed was Rs. 2,01,924.

20. As at present only Rs. 3,99,200 are available for Public Works establishment, Tank Maintenance establishment, and for works, it is proposed to spend only a total of Rs. 85,000 on establishments, this includes the whole establishment—permanent, temporary and petty.

21. There is at present employed in four districts the following establishment:—

		Rs.
24 Surveyors		1,940
24 Draftsmen		880
8 Clerks		200
120 Lascars		720
Total ...		3,740

According to the proposed new scale the following is the establishment to be employed in three districts:—

		Rs.
6 Overseers		480
12 Surveyors		960
6 Draftsmen		307½
12 Clerks		270
111 Lascars		669

As this is the case, there will have to be still further reductions in the establishment of surveyors and draftsmen, the best men of course being selected for employment.

It is thought that the three parties should work in Madura, Chingleput and Coimbatore districts.

22. A revised statement * based on these proposals is forwarded.

* Distribution of grants.

(Signed) H. R. MEAD, Colonel, R.E.,
Chief Engineer for Irrigation.

Chepâk,
4th April 1887.

To the Chief Engineer, Public Works Department.

P.S.—With regard to the proposed establishments that are to be attached to the office of the Chief Engineer for Irrigation, it is considered to be more than required, hereafter should more funds not be available, and only three parties employed; it is however thought advisable to maintain it at its present strength as there is a large quantity of work (such as rough estimates, plans, &c.) to be reduced to proper shape and to be recorded.

Except in the case of the head-quarter office, the pay of the different members of the proposed establishment represents the average pay of the grade, the men will be classified and draw different class pay so that there may be chances of promotion for good men.

(Intld.) H. R. M.

Enclosures.

A.

IRRIGATION AND NAVIGATION.

Works not classed as Productive.

Detail of the Budget Estimate of the Tank Maintenance Establishment to be attached to the office of the Chief Engineer for Irrigation for 1887-88.

No.		Particulars.	Rate of salary.	Budget Estimate for 1887-88.		
—	1887-88.			Per mensem.	Per annum.	Total.
			Rs.	Rs.	Rs.	Rs.
1	...	Executive Engineer, 3rd grade ...	700	845		
		House-rent and Presidency allowance	145			
			220	220		
1	...	Clerk	88	88		
1	...	Do	34	68		
2	...	Clerks	20	40		
2	...	Do.	88	88		
1	...	Draftsman	60	60		
1	...	Do.	54	54		
1	...	Do.	35	70		
2	...	Draftsmen	30	60		
2	...	Do.	10	10		
1	...	Muchi	8	8		
1	...	Head Messenger	6	12		
2	...	Messengers	6	18		
3	...	Lascars				
		Total Establishment ...	...	1,641	19,692	...
		Travelling Allowance ...	...	...	460	...
		Contingencies ...	...	...	1,148	21,300

(Signed) H. R. MEAD, Colonel, R.E.,
Chief Engineer for Irrigation

B.

Statement showing the Strength and Cost of the three Parties for the investigation of Tank Maintenance Works for the year 1887-88.

No.	Particulars.	Rate of salary.	Provided in Provincial Budget.	Extra establishment required.	Establishment chargeable to Works.	Total.
		Rs.	Rs.	Rs.	Rs.	Rs.
1	Assistant Engineer	500	500	...	...	
2	Overseers	80	...	160	...	
4	Surveyors	80	...	...	320	
	Assistant Engineer's Office.					
1	Draftsman	60	...	60	...	
1	Do.	42½	...	42½	...	
1	Clerk	35	...	35	...	
1	Do.	25	...	25	...	
1	Messenger	7	...	7	...	
1	Do.	6	...	6	...	
	For Overs. 4.					
2	Clerks or Assistant Draftsmen ...	20	...	40	...	
	Petty Establishment.					
3	Lascars (for Assistant Engineer) ...	6	...	18	...	
2	Do. (for 2 Overseers) ...	6	...	12	...	
6	Do. (for do. ...	6	...	...	36	
24	Do. (for 4 Surveyors) ...	6	...	...	144	
	Travelling allowance (for Assistant Engineer)	...	110	...	...	
	Travelling allowance (for Overseers and lascars)	...	...	120	...	
	Contingencies	...	14	30½	...	
		...	624	556	500	1,680
	Total per mensem ...	...	...	...	...	
	Total per annum for 1 Party ...	...	...	...	...	20,160
	Total do. for 3 Parties ...	...	...	...	...	60,480

(Signed) H. R. MEAD, Colonel, R.E.,
Chief Engineer for Irrigation.

Statement showing the Distribution of the Increased Grant of Rs. 26,51,000 under Provincial, 43. Minor Works and Navigation, for 1887-88.

	Original works.	Repairs.	Establishment.					Tools and Plant.			Total.
			23 per cent. on Expenditure.	10 per cent. on Direct Revenue.	6 per cent. on Indirect Revenue.	Special establishment.	Total.	Special.	General.	Total.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Capital Account—											
Pálár anicut	48,400	..	11,040	..	..	..	11,040	560	..	560	60,000
Pelandorai anicut	4,000	..	920	..	..	..	920	80	..	80	5,000
Buckingham canal	1,57,500	..	53,475	..	..	..	53,475	9,775	..	9,775	2,20,750
Total ..	2,09,900	..	65,435	..	..	..	65,435	10,415	..	10,415	2,85,750
Revenue Account—											
Chembrambakam tank	— 2,283	— 98	— 548	4	..	..	— 544	..	..	..	— 2,925
Pálár anicut	11,500	30,000	9,545	97	..	..	9,642	158	..	158	51,300
Pelandorai anicut	1,450	8,000	2,174	1	..	..	2,175	..	..	..	11,625
Madras Water-supply Project	— 3,603	24,100	4,714	500	..	..	5,214	114	..	114	25,825
Buckingham canal	5,000	68,634	16,936	5,400	..	..	22,336	2,280	..	2,280	98,250
Vedaraniem do.	..	5,000	1,150	25	..	..	1,175	..	..	..	6,175
Total ..	12,064	1,35,636	33,971	6,027	..	..	39,998	2,552	..	2,552	1,90,250
Irrigation and Navigation Works for which neither Capital nor Revenue Accounts are kept—											
Old Maintenance charges	10,039	1,30,972	32,433	..	1,74,480	..	2,06,913	..	2,115	2,115	3,50,039
Ordinary "Imperial" works	1,35,053	4,67,001	1,38,473	1,200	..	..	1,39,673	..	9,031	9,031	7,50,761
Tank Maintenance or restoration	* 1,11,024	1,75,000	65,786	..	..	43,100	1,08,886	..	4,290	4,290	3,99,200
"Minor" Irrigation works	..	2,75,000	..	..	..	..	..	..	..	..	2,75,000
Total ..	2,56,116	10,47,976	2,36,692	1,200	1,74,480	43,100	4,55,472	..	15,436	15,436	17,75,000
Agricultural works	1,35,482	1,85,000	73,711	1,000	..	..	74,711	..	4,807	4,807	4,00,000
Grand Total ..	6,13,562	13,68,612	4,09,809	8,227	1,74,480	43,100	6,35,616	12,967	20,243	33,210	26,51,000

* Including Rs. 28,000 for temporary Survey establishment and lithograph charges.

Proposed distribution of the grant for execution of Tank Maintenance Works.

	Original Works.		Repairs.	
	Applied for.	Proposed.	Applied for.	Proposed.
	Rs.	Rs.	Rs.	Rs.
Madura	30,000	30,000	70,0 0	60,000
Chingleput	42,000	30,000	90,000	70,000
Kurnool	20,000	13,024	40,000	20,000
Coimbatore	10,000	10,000	30,000	25,000
Total ..	1,02,000	83,024	2,30,000	1,75,000

(Signed) H. R. MEAD, Colonel, R.E.,
Chief Engineer for Irrigation.

No. 24 E.W.

Note by the Chief Engineer for Irrigation.

The proposal made in Note No. 21 E.W.* having been discussed with the Chief Engineer, and it being found that the whole of the Engineer establishment required can be provided from the permanent establishment, the following revised proposal for establishments for the Tank Maintenance Scheme is put forward; each party in the divisions to consist of an Executive or Assistant Engineer provided from the permanent establishment with the following :—

*Dated 4th April 1887.

	Rs.
2 Upper Subordinates	200
4 Surveyors	320
2 Draftsmen	105
4 Clerks	100
35 Lascars	210
Travelling allowance and contingencies	240
Per month ...	1,175
Per year ...	14,100

It is proposed to have four of these parties at a cost of Rs. 56,400. Of the above establishment, the following to be charged as Petty to Works :—

	Rs.
4 Surveyors	320
30 Lascars	180
One Party, per month ...	500
Per year	6,000
Four Parties, per year ...	24,000

Deducting this Rs. 24,000 from the total Rs. 56,400, the actual cost of the four parties chargeable to temporary establishments is Rs. 32,400.

To this has to be added the cost of the temporary establishment attached to the office of the Chief Engineer for Irrigation, viz. :—

	Rs.
6 Clerks	416
7 Draftsmen	332
Messengers, &c.	48
Per month ...	796
Per year ...	9,552
Contingencies	1,148
Total ...	10,700
Grand Total ...	43,100

chargeable to temporary establishments. A sum of Rs. 4,000 should be added to works for cost of lithographing, printing, &c.

The total establishment proposed to be employed on the Tank Maintenance Scheme is as follows :—

From the permanent establishment chargeable to Provincial Services Budget—

One Executive Engineer in the office of the Chief Engineer for Irrigation.
Four Executive or Assistant Engineers in charge of parties.

Chargeable to temporary establishments to be provided for in the Provincial Irrigation Budget—

	Rs.
For four Parties	32,400
For the establishment attached to the office of the Chief Engineer for Irrigation	10,700
Total ...	43,100

Petty establishment chargeable to Works, surveyors and lascars—

	Rs.
With the four Parties	24,000
For lithographing, printing, &c.	4,000
Total ...	28,000

making a grand total of Rs. 71,100, exclusive of the officers provided from permanent establishment and allowed for in the Provincial Service Budget.

A revised distribution statement of grants based on the above is forwarded, and it is proposed to prepare the final Irrigation Budget accordingly.

(Signed) H. R. MEAD, Colonel, R.E.,
Chief Engineer for Irrigation.

11th April 1887.

To the Chief Engineer, Public Works Department.

Order—dated 21st April 1887, No. 1103 W., Public Works.

The proposals of the Chief Engineer for Irrigation for continuing the work of the Tank Maintenance Scheme are approved, and arrangements will be made for carrying them into effect as early as practicable.

(True Extract.)

(Signed) J. O. HASTED, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Chief Engineer for Irrigation, with copy of Note by the H. M.

,, Superintending Engineers.
,, the Examiner, Public Works Accounts.

Exd. P. L. Pereira.
Spare Copies

CHIEF ENGINEER
No. 311W
26 APR. 87
FOR IRRIGATION.

GENERAL.
ESTABLISHMENT.

Govt. of {1887} Madra.

PUBLIC WORKS.

Dated April, 21st.

Recd.

Encl.

G.O., 21st April 1887, No. 1103 W.

APRIL.

Tank Maintenance Scheme

The proposals of the Chief Engineer for Irrigation for continuing the work of the —, approved.

No. 1347 I

OFFICE OF SUPERINTENDENT OF WORKS,
Restoration
TANK ~~MAINTENANCE~~ SCHEME,
5th July 1887.

From

Coll H. P. Mead R.E.
~~THE SUPERINTENDENT OF WORKS,~~
Chief Engineer
~~TANK MAINTENANCE SCHEME,~~
for Irrigation

To

THE

Chief Engineer
P.W. Department

Enclosures.

SIR,

I have the honor to request you will be so good as to authorise the Examiner of Public Works Accounts to admit the claims of the establishment sanctioned in G. O. No. 1103 W. dated 21st April 1887, from 1st April 1887, instead of from date of that order.

I have the honor to be
Sir
Your most Obdt. Servant.
H Davidson
for Chief Engr for Irrigation.

2.57

Q. 8.7.87 R. 11.7.87 14/7

G.O. No 1103W, 21.4.87

20

E.I.

Please state the circumstance in which the establishment in connection with the Tank Vestry after scheme was entertained before the date of the order (G.O. No 1103W, dt 21st April (87)). regulating the same.

7.7.87

Sanctioned. Jch 8/7/87

PWC No 5/84

1887

(4)

From

THE SUPERINTENDENT OF WORKS,

Tank Maintenance Scheme,

To

THE Chief Engineer P.W.D.

No. 1347 J

Dated 5th July 1887

Despatched

Received 8.7.87

ENCLOSURES.

Nil

B No. 1866 w dt 12-7-87

Subject.

Requests to authorize the Examiner to admit the claims of Establt. Sanctd. in G.O. No. 1103W dt 21-4-87, from 1st April instead of from date of that order.

B No 1866 w

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 12th July 87

READ the following

From the Ch. S. for D. No 1347 J dt 5-7-87

Ch. S. for D. 11/7/87

Exam Wks

Dec 1917

Q. 8.7.87 R. 11.7.87

Q. 7.7.87 R. 11.7.87

87 R. 9.7.87