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MADRAS RECORD OFFICE.

Government of Madras.
Public works DEPARTMENT.

G.O. No.	3980	Press
		Mis.
Dated	21-12-	1868.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
21st December 1868.*

No. 488. Read the following letter from the Consulting Engineer for Irrigation and Canal Company, to the Secretary to Government, Public Works Department, dated Madras, 25th November 1868, No. 89 :—

One Memorandum on Progress Report. 1. I have the honor to submit the following report on the progress made in the works of the Madras Irrigation and Canal Company during the quarter ended 30th September 1868.

2. The expenditure, Rupees 2,80,622, of the quarter under notice was small, and in the 2nd, 5th, 7th, and 9th sections only, was any considerable progress made. This quarter includes the greater part of the rainy season, and in some of the sections the country is quite impassable for carts laden with materials for several days after each heavy fall of rain.

3. The expenditure on the Soonkasala Anicut and head works was Rupees 6,941-6-7, consisting of Rupees 6,682-9-10 for masonry, Rupees 9-4-0 for tramway at anicut, and Rupees 249-8-9 for special superintendence and sundries.

4. Rupees 18,029-4-11 were expended on the first section, 1 to 17 $\frac{1}{4}$ miles of the Main Canal, the work done being—

		RS.	A.	P.
Earthwork and embankment	 Cubic yards 31,476	6,928	13	8
Revetment and shingling	 " " 11,808	4,563	10	1
Masonry revetment	 " " 13,039	1,585	0	0
Four Culverts	 " " "	111	0	7
Drain	 " " "	0	14	0
Six, removing temporary bridges	 " " "	404	14	4
Bridge, second class, for Yedarur	 " " "	53	10	0
Do. third " Nidajood	 " " "	469	14	0
Do. " " Mungalpad	 " " "	812	8	0
Do. " " Mamdialpad	 " " "	555	9	1
Two Waste Weirs	 " " "	85	14	2
Removing old road-way	 " " "	120	0	0
Plant	 " " "	322	12	7
Special Superintendence and Sundries	 " " "	2,014	12	5

5. The second section, from the 18th to the 32nd mile, shows an outlay of Rupees 64,229-10-7, the items being—

		RS.	A.	P.
Earthwork	 Cubic yards 53,077	26,589	12	3
Removing and re-forming bank	 " " 14,445	5,603	8	5
Revetment and shingling	 " " 6,816	2,005	15	11
Rubble bank	 " " 866	276	4	2
Canal walls	 " " 12,012	13,559	8	5
Bridge, second class, for Poodoor	 " " "	183	9	11
Aqueduct at Kadrabagh	 " " "	1,926	13	10
Scouring sluice	 " " "	89	14	8
Puddling	 " " 13,557	4,203	5	0
Iron ferry boats	 " " "	323	0	1
Plant	 " " "	831	15	10
Contingencies	 " " "	8,635	14	1

*Proceedings of the Madras Government, Public Works Department,
21st December 1868.*

6. On the third section of the Main Canal, from 33rd to 43rd mile, there was an expenditure of Rupees 25,830-1-0, the details being—

		RS.	A.	P.
Earthwork and embankment	Cubic yards 83,191	12,645	4	6
Revetment	" " 2,880	1,110	9	0
Masonry wall in banks	" " 502	1,165	5	4
Puddling, &c.		7,788	15	9
Trimming and sloping banks	Cubic yards 548	292	15	8
Bridge, second class, at Malyala		47	10	5
Four Waste Weirs		819	1	10
Sultanpoor Tunnel		10	0	0
Ullur Aqueduct		961	6	1
Scouring Sluice		105	14	10
Muddy Jutla Jetty		3	0	11
Ferry Boats		103	0	0
Contingencies for earth and masonry works		776	12	8

7. On the fourth section, or miles 44th to 60th of the Canal, Rs. 19,465-2-10 were expended on—

		RS.	A.	P.
Excavation and embankment	Cubic yards 32,378	4,099	7	0
Revetment and pitching	" " 4,408	4,586	7	0
Bridge No. 1		13	2	0
Do. " 2		4,127	4	11
Do. " 3		55	6	4
Temporary bridge		118	2	0
Bridge No. 1 A.		2,960	0	0
Three Waste Weirs and Aprons		2,333	0	0
Six Culverts		243	13	8
Contingencies		928	7	11

8. On the fifth section of the Main Canal, from 61st to 72nd mile, there was an expenditure of Rupees 36,181-14-3, the items being—

		RS.	A.	P.
Excavation and embankment	Cubic yards 67,836	11,045	4	4
Revetment and Pitching	" " 9,220	7,373	5	8
Catch-water drain	" " 2,498	441	3	9
Aqueduct at Terogapully		7,272	2	11
Eight culverts		3,589	5	6
Scouring sluice and channel		52	0	0
Bridge, 2nd class		581	8	3
Removing spoil	Cubic yards 16,457	1,038	5	7
Contingencies		4,788	10	3

9. On the sixth section, or miles 73rd to 91st of the Canal, Rupees 26,988-3-10 were expended on—

		RS.	A.	P.
Excavation and embankment	Cubic yards 1,40,767	23,450	7	7
Catch water Drain	" " 1,501	224	5	6
Four single Culverts		992	5	9
Bridge		173	0	0
Lock		265	8	0
Stores and Store charges		300	13	10
Special Superintendence and Sundries		1,581	13	2

10. The outlay on the seventh section, miles 92nd to 114th, amounted to Rupees 37,120-4-1, being for—

		RS.	A.	P.
Embankment and cutting	Cubic yards 1,22,794	29,203	14	3
Anicut and head works		862	18	5
Aqueduct		1,775	1	7
Bridge at 93rd mile		14	7	6
Do. 112th "		1,587	3	3
Five Culverts		731	13	6
First Range, 1st to 8th mile		101	2	8
Contingencies		2,844	0	11

*Proceedings of the Madras Government, Public Works Department,
21st December 1868.*

11. The outlay on the eighth section, miles 115th to 143rd, was Rs. 557-3-2, the items being—

		RS.	A.	P.
Embanking and cutting		150	0	0
Lock at 126th mile		2	1	8
Do. at 129th "		2	15	0
Do. at 132nd "		7	8	0
Stores and Store charges		53	0	3
Special Superintendence and Sundries		341	10	3

12. On the ninth section, or miles 144th to 178th of the Canal, Rs. 32,873-1-4 were expended on—

		RS.	A.	P.
Earthwork	Cubic yards 1,11,836	16,278	7	1
Rocky excavation	" " 8,139	3,165	0	3
Off-take channel at Rajoly	" " 1,548	391	1	4
Head Sluice at do.		382	1	11
Under Sluice at do.		38	13	0
Anicut across the Kundar at Rajoly		52	8	7
Aqueduct in 144th mile		82	6	9
Do. in 145th do.		849	8	7
Do. in 149th do.		5,790	3	8
Do. in 150th do.		1,086	12	2
Do. in 162nd do.		515	15	7
Do. in 163rd do.		81	9	1
Three Culverts		884	11	5
Public road Bridge at 150th mile		949	3	6
Special Superintendence and Sundries		2,324	10	5

13. On the tenth section, or miles 179th to 186th of the Canal, Rs. 11,086-11-7 were expended on—

		RS.	A.	P.
Excavation and embankment	Cubic yards 95,226	8,242	4	1
Office at Adimapully		9	11	2
Masonry works		1,267	7	10
Plant		1,212	2	9
Contingencies		355	1	9

14. The expenditure on the Adimapully Anicut was Rupees 1,319-0-9.

15. The expenditure on works of distribution was Rupees 395-5-0, of which Rupees 22-14-4 were expended in the first section, Rupees 23-8-0 in the third section, and Rupees 348-14-8 in the fourth section.

16. The expenditure on buildings was Rupees 215-1-3, consisting of the following items:—

		RS.	A.	P.
Office, Store, and Workshop at Kurnool		170	0	3
Office and Store buildings at Jupad		12	11	0
Do. do. at Chintagoonta		32	6	0

17. Rupees 2,744-14-10 were expended on the telegraph line from Soonkasa to Cuddapah.

18. The following abstract shows the expenditure on all works, from the commencement to the close of the quarter, compared with the sanctioned estimates.

Proceedings of the Madras Government, Public Works Department,
21st December 1868.

Works.	Amount of Estimate.	Expenditure up to 30th June 1868.	Cost during the quarter ended 30th September 1868.	Total expenditure.	Add amount transferred to this from other works.	Deduct refunds to this from other works.	Total net expenditure.	AMOUNT	
								Available.	In excess of estimate.
<i>Main Supply.</i>	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Ancient and Head Works at Kurnool ...	3,03,080	60,327	6,912	60,327	...	...	60,327	2,42,753	...
Do. do. at Sookasala ...	4,27,052	4,56,573	...	4,60,515	...	36	4,60,479	...	33,427
Do. do. at Somasveram ...	1,71,727	71,213	...	71,213	...	1	71,212	1,00,515	...
Aqueduct across the river Hindry ...	3,00,500	...	1,319	1,319	1	...	1,320	2,99,180	...
Canal for one mile from the head sluice of the Kurnool ...	2,46,029	2,73,385	...	2,73,385	...	...	2,73,385	...	27,336
<i>South Main Canal, 1st Section, 171 miles ...</i>	65,000	49,285	...	49,285	...	...	49,285	15,715	...
Do. 2nd do. 18th to 32nd mile ...	10,53,857	9,56,914	18,029	9,74,973	5	5	9,74,973	78,884	...
Do. 3rd do. 33rd to 43rd do. ...	18,00,150	17,39,425	64,229	18,03,654	...	96	18,03,558	...	3,408
Do. 4th do. 44th to 60th do. ...	9,58,000	8,35,662	25,830	8,61,492	...	...	8,61,492	96,508	...
Do. 5th do. 61st to 72nd do. ...	10,55,521	8,99,064	19,465	9,18,524	154	...	9,18,678	1,36,833	...
Do. 6th do. 73rd to 91st do. ...	7,13,545	7,08,095	26,182	7,34,277	1,411	236	7,33,032	62,904	...
Do. 7th do. 92nd to 114th do. ...	4,43,677	3,52,549	28,988	3,79,537	1,236	...	3,80,773	1,02,257	...
Do. 8th do. 115th to 143rd do. ...	4,82,743	2,83,221	37,121	3,20,342	153	39	3,20,456	4,01,615	...
Do. 9th do. 144th to 178th do. ...	7,36,830	2,71,028	557	2,72,185	...	...	2,72,185	7,75,396	...
Do. 10th do. 179th to 186th do. ...	9,45,837	1,40,897	82,873	1,73,770	...	3,329	1,70,441	1,77,518	...
Do. ...	1,94,330	5,625	11,087	16,712	...	...	16,712	...	...
<i>Distribution.</i>	98,97,878	71,60,898	2,50,622	73,81,520	2,960	3,712	73,80,738	26,14,338	96,098
Branch channel and sluices of 1st Section ...	6,681	4,084	23	4,107	...	...	4,107	2,574	...
Distribution works of the 2nd Section ...	6,000	4,405	...	4,405	...	...	4,405	1,595	...
Do. 3rd do. ...	9,220	4,261	23	4,284	...	...	4,284	5,036	...
Constructing a bund across the canal in the 45th mile, 4th Section ...	28,929	6,813	319	7,132	...	...	7,132	21,797	...
<i>Distribution works of the 5th Section</i>	76	73	...	73	...	...	73	...	...
Do. 6th do. ...	4,000	...	...	...	...	...	...	4,000	...
Do. 7th do. ...	10,000	2,812	...	2,812	...	...	2,812	7,188	...
Do. 8th do. ...	1,5125	...	...	...	...	...	...	1,5125	...
Kurnool town water-supply ...	1,699	925	...	925	...	...	925	...	...
Do. ...	1,382	...	...	1,382	...	...	1,382	...	...
...	81,820	24,765	302	25,180	...	...	25,180	57,773	923

Proceedings of the Madras Government, Public Works Department,
21st December 1868.

Buildings.	Amount of Estimate.	Expenditure up to 30th June 1868.	Cost during the quarter ended 30th September 1868.	Total expenditure.	Add amount transferred to this from other works.	Deduct refunds to this from other works.	Total net expenditure.	AMOUNT	
								Available.	In excess of estimate.
Central Hospital with out-houses and compound wall at Kurnool ...	5,050	4,450	...	4,450	...	...	4,450	600	...
Repairs to do. ...	68	60	...	60	...	...	60	8	...
Overseer's hut at Kurnool ...	1,245	...	...	...	...	...	...	1,245	...
Office, Store-house, and Workshop at Sookasala ...	5,947	5,979	...	5,979	...	...	5,979	...	32
Powder Magazine, Store, and Station roads at Bow-nassy ...	4,339	4,359	...	4,359	...	...	4,359	...	...
Office and Store-room, and Artificers' shed at do. ...	7,298	7,523	...	7,523	...	...	7,523	423	...
Repairing the above buildings at do. ...	168	...	...	...	...	...	...	...	...
Improvement of the road approaching to the above buildings, and repairing culverts at do. ...	480	...	...	...	...	...	...	...	...
Converting the unfinished building intended for a Gun Powder Manufactory into a Hospital at do. ...	578	318	...	318	...	...	318	260	...
Office and Store building at Valapare in the Bow-nassy Division ...	427	19	...	19	...	...	19	408	...
Do. do. at Jagad in the Nagatore Division ...	1,970	5,120	...	5,120	...	...	5,120	...	3,150
Do. do. at Puggylal do. ...	4,123	4,673	13	4,686	...	...	4,686	...	563
Do. do. at Chintagoota in Kurnool do. ...	3,977	3,833	...	3,833	...	...	3,833	144	...
Office and temporary Store-shed at Ayalore in do. ...	5,283	5,102	32	5,134	...	...	5,134	149	...
Quarters for Sub-Assistant Engineers and Assistant Surveyors in do. ...	642	67	...	67	...	...	67	575	...
Repairs to Ancient Office at Zorapore ...	1,236	561	...	561	...	...	561	675	...
Office, Store, and Workshop at Kurnool ...	327	308	...	308	...	...	308	19	...
Iron and Brass Foundry at do. ...	30,612	14,033	170	14,203	...	...	14,203	16,409	...
Room for receiving and despatching stores at do. ...	15,328	15,168	...	15,168	...	...	15,168	160	...
Engineer's Bungalow at Dhoor ...	4,750	4,765	...	4,765	...	...	4,765	...	15
...	93,868	76,338	215	76,553	...	...	76,553	21,075	5,760
Line of Telegraph ...	49,440	17,990	2,745	20,735	...	...	20,735	28,705	...
...	101,23,016	72,20,011	2,83,977	75,03,988	2,960	3,742	75,03,246	27,20,593	1,00,783

*Proceedings of the Madras Government, Public Works Department,
21st December 1868.*

19. This statement shows that the expenditure of the quarter was Rs. 2,83,977, and the net total outlay up to 30th September 1868, Rupees 75,03,206.

20. The subjoined statement shows the expenditure in excess of sanction at the end of the quarter to have been Rupees 1,00,783 :—

Works.	Excess expenditure up to 30th June 1868.	Excess expenditure during the quarter 30th Sept. 1868.	Total.	Amount transferred to this from other works.	Deduct refunds.	Excess net expenditure 30th Sept. 1868.
	RS.	RS.	RS.	RS.	RS.	RS.
<i>Main Supply.</i>						
Anicut and head works at Soonkasala.	26,521	6,942	33,463	...	36	33,427
Aqueduct across the river Hindry ...	27,356	...	27,356	...	...	27,356
South Main Canal, 2nd Section ...	...	3,408	3,408	...	...	3,408
Do. 5th do. ...	...	31,907	31,907	...	...	31,907
	53,877	42,257	96,134	...	36	96,098
<i>Distribution.</i>						
Distribution at Soonkasala ...	925	...	925	...	...	925
<i>Buildings.</i>						
Office, Store-house, and Workshop at Soonkasala ...	32	...	32	...	...	32
Office and Store building at Valampoor ...	3,150	...	3,150	...	...	3,150
Do. do. at Jupad ...	550	13	563	...	...	563
Engineer's Bungalow at Dhoor ...	15	...	15	...	...	15
	3,747	13	3,760	...	...	3,760
	58,519	42,270	1,00,819	...	36	1,00,783

An examination of the Progress Report shows that on a great many items, and on some entire sections, there is much excess expenditure, and there appears to me to have been more than reasonable delay in transmitting revised estimates, and asking for supplemental sanction. A copy of my Memorandum to the Agent on the Progress Report is enclosed.

21. The following estimates were received from the Agent and submitted to Government during the quarter—

Revised estimate for the Anicut, head and under Sluices at Adimapully, 10th Section, Main Canal ...	RS. 3,00,000
Estimate for a 2nd Class Bridge near Ernapad, 7th Section, Main Canal ...	7,190
Supplemental Estimate for the distribution works of the 4th section ...	25,330
Do. for the Stop banks, &c., Adimapully anicut ...	500
All of these received the sanction of Government during the quarter.	

*Proceedings of the Madras Government, Public Works Department,
21st December 1868.*

22. The cost of the executive permanent establishment amounts, for this quarter, to 15.75 per cent. : on the expenditure for Construction, that of the temporary establishment* to 2.18 per cent.; that of Establishments engaged in investigations in Bellary, and for reservoirs, to 4.62 per cent.; and that of General Management to 7.79 per cent. The total cost of the permanent Establishment was, therefore, 28.16, and of temporary Establishments 2.18 per cent. on the expenditure.

* Exclusive of the Kandar Division, the return for which is wanting.

No. 211.

Memorandum on the Progress Report of the works of the Madras Irrigation and Canal Company for the quarter ended 30th September 1868.

1. The undersigned has the honor to request that the Agent and Manager will be good enough to call the Chief Engineer's attention to the following remarks.

MAIN SUPPLY.
Goin at Soonkasala.

Repairs to Anicut for season 1863.

Hindry Aqueduct.

1st Section, Silt excavation.

2. The information required to show the effect of past expenditure should, with a revised estimate, be sent in by the 15th January next at latest.

3. There does not appear to have been any application for the sanction of an estimate to provide for these repairs.

4. A supplemental estimate for this work was received in this office in January 1866, information as to the charges under Stores and Store charges was asked for in letter No. 259, dated 5th February 1867, but as yet no report has been made, and expenditure consequently has remained unsanctioned for a very long period.

5. How is it that there has been an excess of Rupees 1,644-9-10 on this item? Government (Proceedings Madras Government, No. 1,270, dated 24th April 1868,) moreover, decided that no further sanction, debitable to "Construction," would be given for clearing the 1st Section, and therefore this excess should, in the accounts for the current quarter, be transferred from Construction to Advances from Capital on Revenue account.

Excess on Masonry works.

6. It is observed that there are excesses of expenditure, amounting altogether to Rupees 3,794-2-9, on no less than eighteen masonry works in this section, although a revised estimate was sanctioned as recently as June last. How is this accounted for?

2nd Section.

7. The earthworks show an excess expenditure of Rupees 25,615-5-7, all of which took place since the commencement of the current official year. Other items on which the outlay considerably exceeds the sanction are—

	RS.	A. P.
Revetment and shingling ...	13,124	1 6
Rubble bank ...	18,468	12 0
Puddling ...	4,203	5 0
Plant ...	11,007	14 3

It is requested that the particulars of the charges to Plant, which amount to Rs. 61,007-14-3, may be furnished.

4th Section.

8. In July 1866, it was stated that Rupees 25 were required for the completion of Bridge No. 1, and this sum was provided in the revised estimate of the section. Beyond this Rupees

*Proceedings of the Madras Government, Public Works Department,
21st December 1868.*

2,556-2-8 have been expended. How is it that the money actually spent is 103 times that estimated to be required?

5th Section.
17th February 1868, No. 537.

9. Nine months have elapsed since Government sanctioned an advance of Rs. 33,664 for the purpose of going on with the works pending the submission of estimates with explanations. When may the estimates be expected to be ready?

6th Section.
10. Here there is an excess on fifteen items of Rupees 1,09,238-20. Some of the items, such as Locks Nos. 1, 3, and 7, channel for discharging surplus water below Mitacondal cut, special superintendence and sundries, will require very full explanation. It is hoped that revised estimates with a complete report on the works will be sent in at an early date.

7th Section.
11. The Order of Government requiring the masonry estimates to be reconsidered is dated 22nd November 1867, and a complete revision should ere this have been finished. During the last rainy season, when there was hardly any work in progress, there would seem to have been ample opportunity for getting this very necessary preliminary to expenditure out of hand.

Distribution, Soonkasala.
12. The explanations required in this case, in which Rupees 925-2-6 were spent without authority, have been long delayed, *vide* paragraph 15 of letter No. 206, of the 14th November 1867, and paragraph 18 of Memorandum No. 405, 16th May 1866.

Buildings, Valapattur.

13. Here again a supplemental estimate was due some years ago, and was called for more than a year since.

Jupad.
14. At this Station the sanction of the 7th February 1866 had been exceeded at the beginning of the current year, and it will be seen that the expenditure of the 30th September showed an excess of 13 per cent. How is it that this has occurred?

15. From the above remarks it will be seen that in many cases there has been very great delay in explaining and asking sanction for excess expenditure, also that this delay is frequently unreasonable, and the undersigned would therefore beg the Agent to ask the Chief Engineer to give special attention to this subject. With regard, moreover, to works in progress upon estimates sanctioned since the close of 1865-66, the Chief Engineer should take immediate notice of excess expenditure on any item, and, where such does not incur that Officer's disapproval, and will be covered by saving elsewhere, a remark to that effect should be made in the Progress Report.

16. It is requested that the completion of works may, with the date of completion, be noted in the last column of the Progress Report. That return does not at present give any information on this point.

17. The Agent is requested to state how the rent charged to employes who occupy the Company's bungalows has been disposed of, with reference to this office letter No. 173 of the 16th August 1865. It is observed that no credit to expenditure on the bungalows has been made since April 1866.

18. The masonry contingencies of the 5th Section should be Rupees 22,688-5-3, and not Rupees 23,168-5-3, as entered in the Progress Report; and the total sanction for the section is 7,13,545-0-3, instead of Rupees 7,14,025-0-3—*vide* letter No. 293, of the 19th March 1868, from this office.

MADRAS,
26th November 1868.

(Signed) J. MULLINS, Captain R. E.,
Consulting Engineer for I. & C. Company.

To the Agent and Manager for Madras Irrigation and Canal Company.

*Proceedings of the Madras Government, Public Works Department,
21st December 1868.*

No. 489.

ORDER THEREON, 21st December 1868, No. 3,980.

IRRIGATION, No. 4.

Ordered that this report be communicated to the Home Government.

(True Extract.)

Colonel, R. E.,
Secretary to Government.

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

Exd. S. T. Augustin.

Govt. of 1868: Madras

PUBLIC WORKS.

To

THE CONSULTING ENGINEER FOR
THE MADRAS IRRIGATION AND
CANAL COMPANY
&c., &c.,

Dated December, 21st.

1868

By

G. O., 21st December 1868, No. 3,990.

DECEMBER.

Nos. 488-489

Works (Madras Irrigation and Canal Company).—Report of the Consulting Engineer on the progress of works of the Company during the quarter ending 30th September 1868, ordered to be communicated to the Home Government.

N^o 211
Memorandum on the Progress Report
of the works of the Madras Irrigation and
Canal Company for the quarter ended 30th Sep 1868.

The undersigned has the honor to request
that the Agent and Managers will be good enough
to call the Chief Engineer's attention to the follow-
ing remarks:—

Main Supply

Groin at Sornkāsala.

2. The information required to shew the effect
of past expenditure should, with a revised estimate,
be sent in by the 15th January next at latest.

Repairs to Prioult
for season 1868.

3. There does not appear to have been any ap-
plication for the sanction of an estimate to pro-
vide for these repairs.

Hindry Aqueduct.

4. A supplemental estimate for this work was
received in this office in January 1866, information
as to the charges under Stores and Store charges
was asked for in letter N^o 239 dated 5th February 1867,
but as yet no report has been made and expenditure
consequently has remained unauthorised for a very
long period.

1st Section.
Silt Excavation.

5. Now is it that there has been an excess of
Rupees 16,444-9-10 on this item? Government Pro-
ceedings Madras Government N^o 1270 dated 24th April
1868 moreover decided that no further sanction
debitable to "Construction" would be given for clearing
the 1st Section and therefore this excess should, in
the

the accounts for the current quarter, be transferred from Construction & advances from Capital on Revenue account.

6. It is observed that there are excesses of expenditure on Masonry works amounting altogether to Rupees 3794-2-9 on no works less than 18 masonry works in this Section, although revised estimate was sanctioned as recently as June last. How is this accounted for?

7. The earthworks & how an excess expenditure of Rupees 25615-5-7, all of which took place since the commencement of the current official year. Other items on which the outlay considerably exceeds the sanction are:

Protectant and shingling	Rs 13124-1-6
Rubble bank	Rs 18468-12-
Graveling	Rs 4203-5-
Plant	Rs 11007-14-3

It is requested that the particulars of the charges to Plant, which amount to Rupees 61007-14-3, may be furnished.

8. In July 1866 it was stated that Rupees 25 were required for the completion of Bridge No. 1, and this sum was provided in the revised estimate of the Section. Beyond this Rupees 2556-2-8 have been expended. How is it that the money actually spent is 103 times that estimated to be required?

9. Nine months have elapsed since Government sanctioned an advance of Rupees 30664 for the purpose of going on with the works pending the submission of estimates with explanations. When may

6th Section.

may the estimates be expected to be ready?

10. Here there is an excess on 15 items of Rupees 109238-2-... Some of the items such as Vostes No. 3 and 7, channel for discharging surplus water below Mitacondal cut, Special superintendence and Sundries, will require very full explanation. It is hoped that revised estimates with a complete report on the works will be sent in at an early date.

7th Section.

11. The order of Government requiring the masonry estimates to be reconsidered is dated 22nd November 1867, and a complete revision should ere this have been finished. During the last rainy season, when there was hardly any work in progress, there would seem to have been ample opportunity of getting this very necessary preliminary expenditure out of hand.

Distribution.
Sunkasala.

12. The explanations required in this case, in which Rupees 925-2-6 were spent without authority, have been long delayed, vide para. 15 of letter No. 206 of the 14th November 1867, and para. 18 of Minute No. 405-16th May 1866.

Buildings.
Valaparcour.

13. Here again a supplemental estimate was due some years ago, and was called for more than a year since.

Lupad.

14. At this station the sanction of the 7th February 1866 had been exceeded at the beginning of the current year, and it will be seen that the expenditure of the 30th September & hitherto an excess of 13 per cent. Now

the accounts for the current quarter, be transferred from
Construction & advances from Capital on Revenue ac-
count.

6. It is observed that there are expenses of expenditure on Masonry
works amounting altogether to Rupees 3794-2-9 on no
less than 18 masonry works in this Section, at though
a revised estimate was sanctioned as recently as
June last. How is this accounted for?

7. The earthworks show an excess expenditure of Rupees 25618-5-7, all of which took place since
the commencement of the current official year. Other items on which the outlay considerably exceeds
the sanction are:

Retortment and chinking Rs 13,124-1-6
Rubble bank " 18468-12-
Puddling " 4203-5-
Plant " 11,007-14-3

It is requested that the particulars of the charges to
Plant, which amount to Rupees 61,007-14-3, may be
furnished.

8. In July 1866 it was stated that Rupees 28 were
required for the completion of Bridge No. 1, and this
sum was provided in the revised estimate of the
Section. Beyond this Rupees 2586-2-8 have been
expended. How is it that the money actually spent
is 103 times that estimated to be required?

9. Nine months have elapsed since Government
sanctioned an advance of Rupees 33,664 for the
purpose of going on with the works pending the
submission of estimates with explanations. When
may

6th Section.

10. Here there is an excess on 15 items of Rupees
109238-2-... Some of the items such as Vokes No. 1,
3 and 7, channel for discharging surplus water
below Mitacondal cut, Special superintendence
and Sundries, will require very full explanation.
It is hoped that revised estimates with a complete
report on the works will be sent in at an early date.

7th Section.

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nuary estimates to be reconsidered is dated 22nd No-
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this have been finished. During the last rainy
season, when there was ^{hardly} any work in progress, there
would seem to have been ample opportunity for
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iture out of hand.

Distribution.
Sonthasala.

12. The explanations required in this case, in
which Rupees 925-2-6 were spent without autho-
rity, have been long delayed, vide para: 15 of letter
No. 206 of the 14th November 1867, and para: 18 of Memo.
No. 405-16th May 1866.

Buildings.
Valapanoor.

13. Here again a supplemental estimate was
due some years ago, and was called for more than
a year since.

Lupat.

14. At this Station the sanction of the 7th February
1866 had been exceeded at the beginning of the current
year, and it will be seen that the expenditure of the
30th September shows an excess of 13 per cent. How
is

is it that this has occurred?

15. From the above remarks it will be seen that in many cases there has been very great delay in explaining and acting sanction for minor expenditures, also that this delay is frequently unreasonable, and the undersigned would therefore be glad to ask the Chief Engineer to give special attention to this subject. With regard moreover to works in progress upon estimates sanctioned since the close of 1865, the Chief Engineer should take immediate notice of every expenditure on any item and, where such does not mean that officers' disapproval and will be covered by saving elsewhere, a remark to that effect should be made in the Progress Report.

16. It is requested that the completion of works may, with the date of completion, be noted in the last column of the Progress Report. That return does not at present give any information on this point.

17. The Agent is requested to state how the rent charges to employees who occupy the Company's Bungalows has been disposed of, with reference to this office letter No. 173 of the 16th August 1865. It is observed that no credit to expenditure on the Bungalows has been made since April 1866.

18. The Masonry Contingencies of the 5th Section should be Rupees 22,688-5-3 and not Rupees 22,68-5-3 as entered in the Progress Report, and the total

Consulting Engineer's Office
Irrigation & Canal Company
Madras, 25th Nov 68.

No. 89.
Sir,

Captain, J. Mullins, R.E.
One Eng. for S.H.C. Co.

total sanction for the Section is 7,13,545-0-3 in-
stead of Rupees 7,14,025-0-3 vide letter No. 293
of the 19th March 1868 from this office.

One Eng.'s Office
Irrigation & C. Co.
Madras 26th Nov 68.

(Signed) J. Mullins, Captain R.E.
One Eng. for S.H.C. Company.

To, The Agent & Manager for M.S.H.C. Co.
(True Copy)

Volunduru
One Eng. for S.H.C. Company.

with materials, for several days after such heavy
fall of rain.

3. The expenditure on the Sont Kasaala Aicut
and head works was Rupees 6,941-6-7, consisting
of Rupees 6,682-9-10 for Masonry, Rupees 9-4-0
for tramway at Aicut, and Rupees 249-8-9 for
special superintendence and sundries.

4. Rupees

not that this has occurred.

15. From the above remarks it will be seen that in many cases there has been very great delay in explaining and acting caution for minor expenditure, also that this delay is frequently unreasonable, and the undersigned would therefore beg the Agent to ask the Chief Engineer to give special attention to this subject. With re-

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1868. - It is observed that no work has been made since April 1866.

18. The Masonry Contingencies of the 5th Section should be Rupees 22,688-5-3, and not Rupees 23,168-5-3 as entered in the Progress Report, and the total

S. M. H. 13/10

Endorsement to letter 17/10/69 -
estimated to work from the
line to the point of the 13/10/69.

Consulting Engineers Office
Irrigation & Canal Company
Madras, 25th Nov 1869.

1869.
Sir,
Captain, J. C. Mullins, R.E.
One Eng for S. H. Co.
The Secretary to Government
Department of Pub. Works.

I have the honor to submit the following report on the progress made in the works of the Madras Irrigation and Canal Company during the quarter ended 30th September 1868.

2. The expenditure, Rupees 28,0622, of the quarter under notice was small, and in the 2nd, 5th, 7th and 9th Sections only was any considerable progress made. - This quarter included the greater part of the rainy season, and in some of the Sections the country is quite impassable, for carts laden with materials, for several days after each heavy fall of rain.

3. The expenditure on the Sont Kizala Minut and head works was Rupees 6941-6-7, consisting of Rupees 6682-9-10 for Masonry, Rupees 9-4-0 for tramway at Minut, and Rupees 249-8-9 for special superintendence and sundries.

4. Rupees

4. Rupees 18,229-4-11 were expended on the 1st Section, 1st to 17th miles of the Main Canal, the work done being:

Earthwork Embankment Cys 31476	Rs 6928-13-8
Revetment & chinking	11808-4563-10-1
Masonry revetment	13039-1585-
Four culverts	111-7
Drain	14-
Six removing temporary bridges	504-14-4
Bridges 2 nd class for Peddara	53-10-
Do 3 rd class down Nidajood	469-14-
Do 1 st class down Mungalpadi	812-8-
Do 1 st class down Mandialpadi	353-9-1
Two waste weirs	85-14-2
Removing old roadway	120--
Plant	322-12-7
Special superintendence & sundries	2014-12-5

5. The 2nd Section from the 18th to the 32nd mile, shows an outlay of Rupees 64,229-10-7, the items being:

Earthwork Culverts 80077	Rs 26589-12-3
Removing & reforming banks	41460-5603-8-5
Revetment & chinking	6816-2003-15-11
Rubble bank	866-276-4-2
Canal walls	12012-13559-8-5
Bridges 2 nd class for Poodoor	183-9-11
Aqueduct at Kadabagb	1926-13-10
Scouring sluice	89-14-8
Puddling	13557-4203-5-
Iron ferry boats	323--1
Plant	831-15-10
Contingencies	8635-14-1

6. On the 3rd Section of the Main Canal from 33rd to 43rd mile, there was an expenditure of Rupees 25,830-1-, the details being:

Earthwork

Earthwork Embankment Cys 83191	Rs 12645-4-6
Revetment	2880-1710-9-
Masonry wall in banks	502-1165-5-4
Puddling	7788-15-9
Trimming and sloping banks	548-292-15-8
Bridges 2 nd class at Malgala	47-10-5
Four waste weirs	879-1-10
Small poor tunnel	10--
Uttar Aqueduct	961-6-1
Scouring sluice	105-14-10
Mudrygulla Cotty	3--11
Ferry boats	103--
Contingencies for Earth & Masonry works	776-12-8

7. On the 4th Section or miles 44 to 60 of the Canal, Rupees 14,615-2-10 were expended on:

Excavation Embankment Cys 32378	Rs 4099-7-
Revetment & chinking	4408-4586-7-
Bridges 1 st class	13-2-
Do 2 nd class	4127-4-11
Do 3 rd class	55-6-4
Temporary bridge	118-2-
Bridges 1 st class	2960--
Three waste weirs and aprons	2333--
Exp culverts	243-13-8
Contingencies	928-7-11

8. On the 5th Section of the Main Canal from 61st to 72nd mile, there was an expenditure of Rupees 36,181-14-3, the items being:

Excavation Embankment Cys 67836	Rs 11045-4-4
Revetment & chinking	9229-7373-5-8
Catch water drains	2498-441-3-9
Aqueduct at Eroga pullu	7272-2-11
Eight culverts	3589-5-6
Scouring sluice & channel	52--
Bridges 2 nd class	581-8-3
Removing spoil	16487-1038-5-7
Contingencies	4788-10-3

9. On the 6th Section, or miles 73 to 91 of the Canal, Rupees 26,988-3-10 were expended on:

Excavation

Excavation & Embankment Cys 140767	33450-7-7
Calah-water drain	1001-224-3-6
4 single culverts	992-5-9
Bridge	173-"
Rock	265-8-"
Stores & Store charges	300-13-10
Special superintendence & sundries	1581-13-2

10. The outlay on the 7th Section, miles 92nd to 114th, amounted to Rupees 37,120-4-1, being for:

Embankment & Cutting Cys 122794	29203-14-3
Miscut and head works	862-8-5
Aqueduct	1775-1-7
Bridge at 93 rd mile	14-7-6
Do " 112 th "	1587-3-3
Five culverts	731-13-6
Fire & Range 1 st to 8 th mile	101-2-8
Contingencies	2844-11

11. The outlay on the 8th Section, miles 115 to 143, was Rupees 557-3-2, the items being:

Embanking & Cutting	150-"
Rock at 126 th mile	2-1-8
Do " 129 th "	2-15-"
Do " 132 nd "	7-8-"
Stores and Store charges	53-1-3
Special superintendence & sundries	341-10-3

12. On the 9th Section, or miles 144 to 178 of the Canal, Rupees 32,873-1-4 were expended on:

Earthworks	Cys 111836	16278-7-1
Rocky excavation	" 8139	3165-1-3
Off take channel at Rajolym	1548	391-1-4
Head sluice at	do	382-1-11
Under do	do	38-13-"
Miscut across the hindas at Rajolym		52-8-7
Aqueduct in 144 th mile		82-6-9
Do " 145 th "		849-8-7
Do " 149 th "		5790-3-8
Do " 150 th "		1086-12-2
Do " 162 nd "		515-15-7
Do " 163 rd "		81-9-1
Three culverts		884-11-5
Public road bridge at 150 th mile		949-3-6
Special superintendence & sundries		2324-10-5

13. On the 10th Section, or miles 179 to 186 of the Canal, Rupees 11,086-4-7 were expended on:

Excavation & Embankment Cys 95226	8242-4-"
Office at Adinapully	9-11-2
Masonry works	1267-7-1
Plant	1212-2-9
Contingencies	355-1-9

14. The expenditure on the Adinapully Section was Rupees 1319-1-9.

15. The expenditure on works of distribution was Rupees 395-5-1, of which Rupees 22-14-4 were expended in the first Section, Rupees 23-8-1 in the third Section, and Rupees 348-14-8 in the fourth Section.

16. The expenditure on Buildings was Rupees 215-1-3, consisting of the following items:

Office, Store & Workshop at Hurmoor	170-1-3
Office & Store buildings at Supad	13-11-"
Do " Do at Chintagunta	32-6-"

17. Rupees 2744-14-10 were expended on the Telegraph line from Sontixala to Cuddapah.

18. The following abstract shows the expenditure on all works from the commencement to the close of the quarter, compared with the sanctioned estimates.

Description	Estimate		Actual		Difference		Amount
	No.	Per	No.	Per	No.	Per	
Amount of head works at Hurwood	303080	60327	"	60327	"	60327	242753
Do Do at Bonifacio	427052	453573	6942	460515	"	460479	33427
Do Do in Bonifacio	171127	71213	"	71213	"	71213	100515
Do Do in Bonifacio	300500	"	1319	1319	"	1319	29960
Do Do in Bonifacio	276029	273335	"	273335	"	273335	10715
Do Do in Bonifacio	60000	49285	"	49285	"	49285	10715
Do Do in Bonifacio	1053807	956944	1829	974773	"	974773	78834
Do Do in Bonifacio	1800150	1739425	6229	1802654	"	1802654	3013
Do Do in Bonifacio	908000	835662	25830	861492	"	861492	26968
Do Do in Bonifacio	1055521	899069	19465	918534	"	918534	13693
Do Do in Bonifacio	313014	40809	26122	114294	"	114294	31904
Do Do in Bonifacio	443694	35559	2788	43679	"	43679	40629
Do Do in Bonifacio	450743	282221	37121	330362	"	330362	123291
Do Do in Bonifacio	432830	22428	557	272612	"	272612	58997
Do Do in Bonifacio	945561	140391	3223	173790	"	173790	96564
Do Do in Bonifacio	194330	5625	13911	11471	"	11471	174704
Do Do in Bonifacio	383661	5625	13911	11471	"	11471	174704
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Do Do in Bonifacio	194330	5625	13911	11471	"	11471	174704
Do Do in Bonifacio	383661	5625	13911	11471	"	11471	174704
Do Do in Bonifacio	194330	5625	13911	11471	"	11471	174704
Do Do in Bonifacio	383661	5625	13911	11471	"	11471	174704
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Do Do in Bonifacio	383661	5625	13911	11471	"	11471	174704
Do Do in Bonifacio	194330	5625	13911	11471	"	11471	174704
Do Do in Bonifacio	383661	5625	13911	11471	"	11471	174704
Do Do in Bonifacio	194330	5625	13911	11471	"	114	

19 This Statement shows that the expenditure of the quarter was Rupees 283,977, and the net total outlay up to 30th September 1868, Rupees 782,206.

20 The subjoined Statement shows the expenditure in excess of sanction at the end of the quarter to have been Rupees 100,783.

Works.	Excess expenditure of 30th Sept. 1868.	Excess expenditure during the quarter 30 Sept. 1868.	Total.	Excess expenditure at the close of the quarter 30 Sept. 1868.
<u>Main Supply.</u>				
Ancient & head works at Semkāsala	26000	6942	32942	36 32942
Aqueduct across the River Hindry	27356	..	27356	.. 27356
South Main Canal 2nd Section	..	3408	3408	.. 3408
Do 3rd do.	..	31907	31907	.. 31907
	53377	42257	95634	36 95634
<u>Distribution.</u>				
Distribution at Semkāsala	920	..	920	.. 920
<u>Buildings.</u>				
Office, Storehouse & Workshop at Boomjee	32	..	32	.. 32
Office below building at Chalapam.	3150	..	3150	.. 3150
Do Do at Supra	550	13	563	.. 563
Engineers bungalow at Dhoom	15	..	15	.. 15
	3727	13	3740	.. 3740
	56349	42270	98619	36 98619

The examination of the Progress Report shows that on a great many items, and on some entire Sections, there is much excess expenditure, and there appears to me to have been more than reasonable delay in transmitting revised estimates, and asking for supplemental sanction. A copy of my Memorandum to the Agent on the Progress Report is enclosed.

The following estimates were received from the Agent

Agent and submitted to Government during the quarter.	
Revised estimate for the Ancient, head and main canals at Wimalapully 1st Section	Rs. 300,000
Estimate for a 2nd Class Bridge near Ennapayy 4th Section Main Canal	7,190
Supplemental estimate for the distribution works of the 4th Section	25,330
Do for the Slope banks &c. Adm. & fully Ancient	500

All of these received the sanction of Government during the quarter.

22 The cost of the Creative Permanent Establishment amounts for this quarter to 15.75 per cent. on the expenditure for Construction, that of the Temporary Establishment to 2.18 per cent, that of establishments engaged in investigations in literary and for reservoirs to 4.62 per cent, and that of General Management to 7.79 per cent. The total cost of the permanent establishment was therefore 26.16, and of temporary establishments 2.18 per cent on the expenditure.

Excess of the funds for the return for this quarter.

28.10
2.18
30.28

Yours most obedient servant,
Volundullius Captain H.C.
Cons. Eng for S.C. Company

Case 4683

The Consulting Engrs for the
Marine Navigation and
Coastal Surveying

STUDY

3980

25

Walter (heard one H.C.B.)

Q. H. 1868 McAdam

From
1846

The Case Inspector A.T.C.

Wm. Brewster & Co. N.Y.

1000

20

Indemnity in 1871

may be made in the way

of the M. & T. Co. known

James C. D. W.

Dec 30 88 - 21st Anniversary

With an order

Produce that the subject of

[Handwritten signature]

1892

The Court Room No 4117

194