

(1) Number of pages _____

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 3103	Press Mis.
Dated 28-10-1864.	

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
28th October 1864.*

No. 548. Read the following letter from Captain J. MULLINS, R. E., Consulting Engineer for Irrigation and Canal Company, to Colonel C. A. ORR, R. E., Secretary to Government, Department of Public Works, dated Madras, 7th October 1864, No. 116:—

SIR,

1. I have the honor to forward the following report on the progress made on the works of the Irrigation and Canal Company during the quarter ending 31st October 1863. The Agent's reports* for this quarter were received in this Office on the 12th and 28th ultimo.

* Main supply on the 12th.
Buildings and distribution on the 28th.

2. The expenditure on the Soonkasala Anicut and head works was Rupees 2,582-2-11, of which Rupees 1,417-14-9 were for 149 cubic yards of masonry, and the remainder Rupees 1,164-4-2 for special superintendence and sundries.

3. Rupees 7,762-10-1 were spent on the Hindry Aqueduct, the items being—

	Rs.	A.	P.
Rubble stone in chunam, cubic yards 525	1,512	13	0
Cut-stone, „ 18½	701	6	10
Stone in chunam, arch work, „ 485	2,171	0	0
Centring	1,805	10	2
Roadway and rubble stone revetment	249	13	2
Special superintendence and sundries	1,321	14	11

4. On the 1st Section of the Main Canal from the 1st to the 17½ mile the expenditure was Rupees 24,334-0-8, the work done being—

	Rs.	A.	P.
Excavation, cubic yards 48,814	7,274	7	9
Embankment, „ 62,231	9,157	14	3
Revetting interior bank with rough-stone, cubic yards 1,185	594	5	10
Culvert	135	14	0
Calingulah, cubic yards 171	1,401	5	4
Special superintendence and sundries	5,770	1	6

5. The 2nd and 3rd Sections of the Canal from the 18th to 43rd mile show an outlay of Rupees 91,021-7-3, and the items are—

	Rs.	A.	P.
Excavation, cubic yards 53,472	13,145	9	11
Embankment, „ 2,50,803	52,382	14	11
Calingulah, „ 1,937	5,594	7	0
Culvert, „ 271	1,679	8	4
Masonry bund, „ 907	1,570	0	0
Kadrabagh Aqueduct	545	13	7
Masonry wall, cubic yards 1,778	2,928	0	0
Bridges, „ 228	900	4	2
Revetment, „ 14,552	3,399	12	7
Syphon sluice	22	2	0
Alterations of road, cubic yards 15,350	960	1	10
Special superintendence and sundries	10,892	12	11

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6. The 4th and 5th Sections of the Canal from the 44th to the 72nd mile show an expenditure of Rupees 1,15,853-12-3, and the details are subjoined:—

	RS.	A.	P.
Excavation and embankments, cubic yards 11,60,233	98,202	12	11
Bridges, cubic yards 95	2,415	15	0
Calingulabs „ 90	3,862	5	1
Culvert „ 187½	4,111	1	8
Scouring sluice	493	2	5
Special superintendence and sundries	6,768	7	2

7. On the 6th Section, or miles 73rd to 91st of the Canal, Rupees 15,124-8-1 were spent on

	RS.	A.	P.
Excavation and embankment, cubic yards 89,799	7,655	15	2
Single and double culvert	1,260	8	8
Locks	1,311	3	1
Bridge	1,071	5	0
Sluice	19	12	0
Special superintendence and sundries...	3,805	12	2

8. The outlay on the 7th Section, miles 92nd to 114th, amounts to Rupees 15,399-4-3, being for—

	RS.	A.	P.
Excavation and embankments, cubic yards 1,59,465	10,702	6	1
Anicut and head works, cubic yards 1,908	2,673	4	8
Regulating Lock...	30	0	0
Culverts, cubic yards 15...	42	8	0
Calingulah	75	0	0
Bridges	150	4	0
Special superintendence and sundries	1,725	13	6

9. The expenditure on the 8th Section was Rs. 5,535-13-7, consisting of Rs 5,181-11-4 for 73,393 cubic yards of earthwork, and Rupees 354-2-3 for special superintendence and sundries

10. The Anicut and head work at Somaishwaram show an expenditure of Rupees 17-15-0 on the body of the Anicut, Rupees 411-10-8 on Railways, and Rupees 2,364-11-3 for special superintendence and sundries, amounting in the aggregate to Rupees 2,794-4-11.

11. The expenditure on works of distribution amounts to Rupees 544-6-4 only.

12. The expenditure on buildings was Rupees 1,160-15-0 on the Office and Store at Puggydial, and Rupees 8-14-0 on those at Jupaud.

13. The following abstract shows the expenditure on all works from the commencement:—

Proceedings of the Madras Government, Public Works Department, 3
28th October 1864.

Works.	Amount of the Estimate.	Expenditure up to 31st July 1863.	Cost in the quarter ending 31st October 1863.	Total expenditure.	Deduct refunds.	Total net expenditure.	AMOUNT.	
							Available.	In excess of estimate.
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
MAIN SUPPLY.								
Anicut and head works at Kurnool	3,03,080	64,711	64,711	64,711	...	...	2,38,369	1,33,490
Do. „ at Soonkasala	1,25,000	2,55,936	2,582	2,58,518	23	...	...	...
Do. „ at Somaishwaram	1,33,000	4,372	2,794	7,166	...	...	1,25,834	24,883
Aqueduct across the river Hindry at Kurnool	1,45,000	1,63,038	7,763	1,70,801	918	...	15,789	...
Canal for one mile from the head sluice of the Kurnool Anicut.	65,000	49,211	...	49,211	...	...	...	1,30,217
South main Canal, 1st Section, 17½ miles	4,60,000	5,67,684	24,334	5,92,018	1,801	5,90,217	1,32,406	...
Do. 2nd and 3rd Sections from 17½ to 42nd mile.	7,22,500	4,98,320	94,021	5,92,341	2,247	5,90,094	1,71,933	...
Do. 4th and 5th do. from 43rd to 72nd do.	5,43,835	2,57,036	1,15,854	3,72,890	988	3,71,902	3,32,610	...
Do. 6th Section from 73rd to 92nd do.	3,82,755	35,022	15,125	50,147	2	50,145	2,15,369	...
Do. 7th do. from 93rd to 114th do.	2,38,460	7,692	15,399	23,091	...	23,091	4,31,874	...
Do. 8th do. from 114th to 146th do.	4,37,410	...	5,536	5,536	...	5,536	...	...
Total Main Supply	35,56,040	19,03,022	2,83,408	21,86,430	5,984	21,80,446	16,64,184	2,88,590
DISTRIBUTION.								
Branch channels and sluices between the 1st and 17½ mile of the 1st Section South Main Canal	5,520	2,942	544	3,486	...	3,486	2,034	...
BUILDINGS.								
Central Hospital with out-houses and compound wall at Kurnool	2,510	3,787	...	3,787	...	3,787	...	1,247
Office, Store house and Workshop at Soonkasala	4,000	7,563	...	7,563	...	7,563	...	3,563
Do. and Artificers shed at Bowanassy	7,298	6,861	...	6,861	...	6,861	...	...
Roads and bridges at Bowanassy	...	3,868	...	3,868	...	3,868	...	3,868
Central Office Overseer's hut	...	1,245	...	1,245	...	1,245	...	1,245
Office and temporary Store sheds, &c., at Ayalore	642	37	...	37	...	37	...	...
Permanent Office and Store at Jupaud in Nagatore Division.	...	107	...	116	...	116	...	...
Office and Store at Puggydial	...	...	1,161	1,161	...	1,161	...	1,161
Total Buildings	14,480	23,468	1,170	24,638	...	24,638	1,042	11,200
Grand Total	35,76,040	19,29,432	2,85,122	22,14,554	5,984	22,08,570	16,67,260	2,99,790

4. *Proceedings of the Madras Government, Public Works Department,*
28th October 1864.

14. This Statement shows that the expenditure during the quarter was Rupees 2,85,122, and the total outlay Rupees 22,14,554, the net amount after deducting refunds being Rupees 22,08,570. This expenditure does not include the expenditure on stores during the quarter, the adjustment on this account not having as yet been made, but I hope the Agent will be able to bring this important item to account by the end of the year.

15. The subjoined Statement shows the expenditure in excess of sanction to be Rupees 2,99,790. This is Rupees 33,065 more than that noticed in the report for the previous quarter.*

* Vide Procs., dated 9th September 1864, No. 2,616

WORKS.	Excess expenditure up to 31st July 1863.	Excess expenditure during the quarter..	Total.	Deduct refunds.	Net expenditure up to 31st October 1863.
MAIN SUPPLY.	RS.	RS.	RS.	RS.	RS.
Anicut and head works at Soonkasala.	1,30,936	2,582	1,33,518	28	1,33,490
Aqueduct across the river Hindry at Kurnool	18,038	7,763	25,801	918	24,883
South main Canal 1st portion of the 1st Section	1,07,684	24,334	1,32,018	1,801	1,30,217
BUILDINGS.					
Central Hospital at Kurnool	1,247	...	1,247	...	1,247
Office and Store at Soonkasala... ..	3,563	...	3,563	...	3,563
Roads, bridges, &c., at Bowanassy...	3,868	...	3,868	...	3,868
Central Office Overseer's shed	1,245	...	1,245	...	1,215
Office and Store at Jupaud in the Nagatore Division	...107	9	116	...	116
Office and Store at Puggydial in do...		1,161	1,161	...	1,161
Total ...	2,66,688	35,849	3,02,537	2,747	2,99,790

Of the items composing this excess, however, all under the head of Main Supply have been covered by subsequent sanctions, and similarly the last two items under buildings have had estimates sanctioned since the date to which the accounts refer. The first four items under building are the same as those referred to in paragraphs 17 and 18 of my letter No. 81, 2nd August last, and need not be again specially noticed.

16. The expenditure on works including special superintendence and sundries was, as above shown, Rupees 2,85,122-3-4, this superintendence amounting to Rupees 34,167-15-10 or 13 6 per cent. The cost of the permanent Establishment debited to construction was for the same period Rupees 45,246-0-8 or 18-029 per cent., but, deducting the pay of those Establishments* which were engaged exclusively on survey operations, this part of the superintendence cost 13 8 per cent., so that the per-centage of special and permanent Establishments engaged on works was 27-417. The per-centage of the controlling Establishment for this quarter was 7-58. Subjoined are the particulars of the cost of permanent and special temporary Establishments in the several Divisions, from which it will be seen that in the Nagatore and Bowanassy Divisions the charge is very moderate, and in the Hindry Division tolerably so, while in the others it is considerable, and at Somaiswaram very high indeed, where leaving out the permanent Establishment the temporary superintendence is with sundries five times the expenditure on work. As some estimates are being carried out both in the Nagatore and Bowanassy Divisions, it has been necessary to group those together.

* Pennar Division Rupees 7,814 12 2
Reservoir Survey " 2,793 13 1

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Name of Divisions.	SUPERINTENDENCE.						Expenditure on construction.
	Permanent.		Temporary.		Total.		
	RS.	A. P.	RS.	A. P.	RS.	A. P.	
Hindry Division including Soonkasala... 	8,811	3 1	19,149	1 6	27,960	4 7	1,29,244 11 3
Nagatore Division 	3,657	12 2	12,300	0 10	25,204	13 7	1,47,547 5 7
Bowanassy do. 	9,247	0 7					
Kundar do. 	6,228	15 0	354	2 3	6,583	1 3	5,535 13 7
Nellore do. and Somai- swaram Anicut 	6,692	8 7	2,364	11 3	9,057	3 10	2,794 4 11
Total ...	34,637	7 5	34,167	15 10	68,805	7 3	2,85,122 3 4

17. The following estimates were submitted to and sanctioned by Government during the quarter:—

	RS.
Plan and estimate for two scouring sluices in the 5th and 6th Sections, Main Canal	5,657
Do. for office and store buildings at Chintacoontah	2,685
Do. do. at Ayalūr	642

18. The monthly Progress Reports from November to March are in this Office, so that the report on the operations for the third quarter will be submitted at an early date, and I hope also that the report for the last quarter of the past year will ere long be completed and submitted, as the monthly report for April is alone required from the Agent. The Cash and Store Accounts are however still much behind hand, but I am glad to be able to show that the Agent's exertions to bring up arrears are, at any rate as regards the Progress Reports, producing good results.

No. 549.

ORDER THEREON, 28th October 1864, No. 3,103.

Ordered to be recorded.

(True Extract.)

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

Exd. S. T. Augustin.

Consulting Engineer's Office,
Irrigation Canal Company,
Madras, 7th October 1884.

N^o 116.

To,
Captain, J. Mallin, R.E.
Cons. Engr for I.C.C.

The Secretary to Government
Department of Pub. Works.

Sir,

1. I have the honor to forward the following
report on the progress made on the works of the
Irrigation and Canal Company during the quarter

Main supply on the 12th ending 31st October 1883 - The Agents reports for
Buildings & Distribution } on the 28th this quarter were received in this office on the 12th
and 13th.

2. The expenditure on the Sootkasala Ament
and head works was Rupees 2582-2-11, of which Ru-
pees 1417-14-9 were for 149 cubic yards of masonry
and the remainder Rupees 1164-4-2 for special su-
perintendence and sundries.

3. Rupees 7762-10-1 were spent on the Hindry
Aqueduct, the items being,

Rubble stone in 8 human cut & yards	525-1572-13- ^{1/2}
Cut stone	18 3/4-7076-10
Stone in 8 human arch work	485-2171- ^{1/2}
Centering	1805-102
Redwood and rubble ^{stone} revetment	247-13-2
Special superintendence and sundries	1321-11-8

4. On the 1st section of the Main Canal from the
1st to the 17 1/4 miles the expenditure was Rupees 24,334-
-1-8, the work done being,

Excavation
Works.

Excavation and embankment 48814-7274-7-9 ^{Rest}
 Embankment 62231-9157-14-3
 Revetting interior bank
 with rough stone } 1105-594-5-10

Culvert 135-14-

Calingulah 171-1401-5-4

Special superintendence and
 sundries 5770-1-6

5. The 2nd and 3rd sections of the canal from the
 10th to 43rd mile when an outlay of Rupees 9,4021-7-3
 and the items are,

Excavation and embankment 53472-13145-9-11

Embankment 250803-52382-14-11

Calingulah 1937-5594-7-

Culvert 271-1679-8-4

Masonry bund 907-1570-

Madraugh Aqueduct 545-13-7

Masonry wall 1770-2920-

Bridges 220-900-4-2

Revetment 14552-3399-12-7

Syphon sluice 22-2-

Alterations of road 15350-960-1-10

Special superintendence and sundries 10892-12-11

6. The 4th and 5th sections of the canal from the 44th
 to the 72nd miles when an expenditure of Rupees
 115853-12-3 and the details are subjoined,

Excavation and embankment 1160383-98302-12-11

Bridges 95-2415-15-

Calingulah 90-3062-5-1

Culvert 1077 1/2-4111-1-8

Sluicing sluice 493-2-5

Special superintendence and sundries 6760-7-2

7. On the 6th section or miles 73rd to 91st of the canal
 Rupees 15124-0-1 were spent on,

Excavation

Excavation and embankment 89799-7655-15-2 ^{Rest}
 Single and double culvert 1260-8-8
 Locks 1311-3-1

Bridge 1071-5-

Sluice 19-12-

Special superintendence and sundries 3805-12-2

8. The outlay on the 7th section miles 92nd to 114th
 amounts to Rupees 15399-4-3 being for,

Excavation and embankment 159465-10702-6-1

Ancient and head works 1908-3673-4-8

Regulating Lock 30-

Culverts 15-42-8-

Calingulah 75-

Bridges 150-4-

Special superintendence and sundries 1726-16-6

9. The expenditure on the 8th section was Rupees
 5535-13-7, consisting of Rupees 5701-11-4 for 73393
 cubic yards of earthwork, and Rupees 354-2-3 for
 special superintendence and sundries.

10. The Ancient and head works at Comaismaram
 when an expenditure of Rupees 17-15- on the body
 of the ancient, Rupees 411-10-8 on railways, and
 Rupees 2364-11-3 for special superintendence,
 and sundries, amounting in the aggregate to Ru-
 pees 2794-4-11.

11. The expenditure on works of distribution
 amounts to Rupees 544-6-4 only.

12. The expenditure on buildings was Rupees
 1164-15- on the office and store at Puggydial,
 and Rupees 8-14- on those at Inpand.

13. The following abstract shews the expendi-
 ture on all works from the commencement

Works.

Works.

Main Supply

Amenity and head works at Turnool.
do do at Lontakala.
do do at Somaswaram.
Aqueduct across the river Hindry at Turnool.
Canal for one mile from the head sluice of the Turnool ament.
South Main Canal 1st section 17 1/4 miles
do 2nd & 3rd do from 17 1/2 to 42 mile
do 4th & 5th do from 43 1/2 to 72 1/2 "
do 6th section from 73 1/2 to 92 1/2 "
do 7th section from 93 1/2 to 114 "
do 8th section from 114 to 146 "

Amount of the estimate	Expenditure up to 31 st July/63.	Cost in the Quarter ending 31 st Oct/63.	Total expenditure	Debit Refunds	Total net expenditure	Amount available	In excess estimate
303080	64711	"	64711	"	64711	238369	"
125000	255936	2582	258518	28	258490	"	133490
133002	4372	2794	7166	"	7166	125834	"
145000	163038	4763	170801	910	169883	"	24883
65000	49211	"	49211	"	49211	15789	"
460000	567684	24334	592018	1801	590217	"	130217
722500	498320	94021	592341	2247	590094	132406	"
543835	257036	115854	372890	980	371902	171933	"
382755	35022	15125	50147	2	50145	332610	"
238460	7692	15399	23091	"	23091	215369	"
457410	"	5536	5536	"	5536	431874	"

Total Main Supply

3576040	1903022	285408	2786430	5984	2780446	1664104	288590
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Distribution

Branch channels and sluices between the 1 and 17 1/4 miles of the 1st section South Main Canal

5521	2942	544	3486	"	3486	2034	"
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Buildings

Central hospital with out houses and compound wall at Turnool.
Office store house and workshop at Lontakala.
do and artificers shed at Romanassey.
Roads and bridges at Romanassey.
Central office Overseer's hut.
Office and temporary store sheds Jea at Ayalore.
Permanent office and store at Supand in Nagalore Division.
Office and store at Puggudial.

2540	3787	"	3787	"	3787	"	1247
4000	7563	"	7563	"	7563	"	3563
7290	6861	"	6861	"	6861	437	"
"	3868	"	3868	"	3868	"	3868
"	1245	"	1245	"	1245	"	1245
642	37	"	37	"	37	606	"
"	107	9	116	"	116	"	116
"	"	1161	1161	"	1161	"	1161

Total Buildings

14480	23468	1170	24638	"	24638	1042	11200
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Grand Total

3576040	1929432	285722	2214552	5984	2208570	1667260	299790
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14. This statement shows that the expenditure during the quarter was Rupees 285122- and the total outlay Rupees 2214554- the net amount after deducting refunds being Rupees 2208570- . This expenditure does not include the expenditure on stores during the quarter, the adjustment on this account not having as yet been made, but I hope the Agent will be able to bring this important item to account by the end of the year.

15. The subjoined statement shows the expenditure in excess of sanction to be Rupees 299790. This is Rupees 33065 more than that noticed in the Report for the previous quarter.

Tide No. 299 Sept 1864
No. 2616.

Works.	Gross expenditure up to 31 July/64.	Gross expenditure during the quarter.	Total.	Deduct Refunds.	Net expenditure up to 31 Oct/64.
<u>Main Supply.</u>					
Amunt Head works at Honkasale	130936	2582	133518	28	133490
Agreement across the river Hindry at Kurnool.	18038	7763	25801	918	24883
South Main Canal 1 portion of the 1 section.	107684	24334	132018	1801	130217
<u>Buildings.</u>					
Central hospital at Kurnool.	1247		1247		1247
Office House at Honkasale.	3563		3563		3563
Roads, bridges &c at Romanassy.	3868		3868		3868
Central office overseers sheds.	1245		1245		1245
Office House at Chupand in the 3 Regulator Division.	107	9	116		116
Office House at Puggol in do.		1161	1161		1161
Total Rs.	266688	35849	302537	2747	299790.

Of the items composing this excess however all under

under the head of Main supply have been covered by subsequent transactions, and similarly the last two items under buildings have had estimates sanctioned since the date to which the accounts refer. The first 4 items under building are the same as those referred to in paras 17 & 18 of my letter No. 81. 2^d August last, and need not be again specially noticed.

16. The expenditure on works including special superintendence and sundries was, as above shown Rupees 285122. 3-4, this superintendence amounting to Rupees 34167. 15-10 or 13.6 per cent. The cost of the permanent establishment debited to Construction was for the same period Rupees 45246- 4-8 or 18.029 per cent, but, deducting the pay of those establishments which were engaged exclusively on survey operations, this part of the superintendence cost 13.8 per cent, so that the percentage of special and permanent establishments engaged on works was 27.417. The percentage of the controlling establishment for this quarter was 7.58. The subjoined are the particulars of the cost of special temporary establishments in the several Divisions, from which it will be seen that in the Nagatore and Romanassy Divisions the charge is very moderate, and in the Hindry Division tolerably so, while in the others it is considerable, and at Comacawaram very high indeed, where leaving out the permanent establishment the temporary superintendence is with salaries 5 times the expenditure. As some estimates are being carried out both in the Nagatore and Romanassy Divisions, it has been necessary

* Annex D No 7814-12-2
Revenue Survey 2793-13-1

necessary to group those together.

Name of divisions	Superintendence		Expenditure	
	Permanent	Temporary	Total	Constructive
Quindry Division including				
Chokkavala	8811	31	19149	62796047
Kagatore Division	3657	122		129244113
Romanassy do	9247		12300	102520413
Kundar Division	6228	15	3542	3658313
Kallor & Komaiwarum	6692	97	236411	39057310
				279644
Totals	34637	75	34167	151068205
				73285722

17. The following estimates were submitted to and sanctioned by Government during the quarter

Plan for estimate for securing services in the 5th and 6th sections Main Canal - 5657 ru

Do - for office and store buildings at Chikhaavoutab - 2685 ru

Do - Do - at Agalur - 642 ru

18. The monthly Progress Reports from November to March are in this office, so that the report on the operations for the 3rd quarter will be submitted at an early date, and I hope also that the report for the last quarter of the past year will ere long be completed and submitted, as the monthly report for April is alone required from the Agents. The Cash and Store Accounts are however still much behind hand, but I am glad to be able to assure that the Agents' exertions looking up arrears are, of any rate as regards the Progress Reports, producing good results.

results.

I have the honor, Sir,
to acknowledge the receipt of your letter of the 15th inst. in relation to the above.
Yours faithfully,
Capt. J. H. Comp.

~~Pa-94~~ ~~6678~~ ~~540~~ ~~1079~~ ~~208~~
~~Mt. St. Albans~~ ~~250~~ ~~257~~
~~St Albans~~ ~~172~~ ~~41-42~~
~~241~~ ~~200~~ ~~208~~ ~~239~~

[illegible]

1000

3/10/3

240,3103.

Order to be recorded

Notes } October 1881.
1881 } 103

Chelmsworth.
28th Oct/64



16

Yours forever
 Richard H. D. Knudsen
 31st Oct 1873.

W.S.A. on order

218578:579

29 Oct 1864 Dr. 215

2102102 284600 186.