M. R. O. 1—77,906—8-5-51.

(1) Number of pages 10

(2) Date of repair

(3) Initials of the Inspector

MADRAS RECORD OFFICE.

Government of Madras.

Police Tyoshs DEPARTMENT.

G.O. No. 991 Press Mrs.

Dated 20 — 3 — 18 7/14

Not to be folded or roughly handled

No. 578. Read the following letter from J. O'SHAUGHNESSY, Esq., District Engineer, Nellore, to the Chief Engineer, Public Works Department, Buildings and Roads Branch, dated Nellore, 6th March 1877, No. 200 :—

I HAVE the honor to forward, for the information of Government, a sketch map of the coast canal now in progress in this district.

2. The following statement shows the strength of the establishment and the number of people now employed on each sub-division of the work :—

Divisions.	Sub-Divisions.	Length in Miles.	Officers.	Overseers and Surveyors.	Number of Coolies employed.	Remarks.
1st Division.. ..	Koratoor Section	25	1	4	9,027	Will be finished middle of April.
2nd or Iskapully Division.	Division Officer	..	1	..	..	
	Ramatheertham	9	1	4	7,400	Do. end of April.
	Iskapully	9	1	2	2,546	Do. probably in May.
	Tumalapenta	9	..	2	..	Not begun, camps, &c., in preparation.
	Ramapatam	9	1	3	3 500	Lately commenced.
	Karedu	9	..	2	..	Not begun, camps, &c., in preparation.
3rd or Kottapatam Division.	Division Officer	..	1	..	..	
	Pakala	8	1	3	1,720	Lately begun.
	Etamukkala	9	..	2	..	A small beginning made.
	Kottapatam	9	1	3	2,717	In progress.
	Kanuparthy	9	1	3	2,969	Will be finished probably in May.
		105	9	28	29,879	

3. I enclose a list of the establishment, showing the dates of their appointments to the canal, their salaries and allowances, and the authority for their employment, and I request the sanction of Government for those appointments made by myself.

4. The advantage of utilizing the services of Major Chambers and Lieutenant Digby, R.E., as Sub-Division Officers, will, I hope, be acknowledged, and I request that the arrangements* I have made in regard to those officers and the field allowance I have given to them in anticipation of sanction may be approved and sanctioned.

* *Vide* memorandum No. 1,771. Copy attached.

5. The Collector of this district has lately issued orders to his officers to draft all able-bodied coolies to the canal from the relief works in the interior, and I expect that our present numbers will be about doubled before the end of this month, I am therefore arranging to commence work at once on the three sections (Tumalapenta, Karedu, and Etamukkala) not yet begun, but I have no Sub-Division Officers for them.

6. I am taking away Supervisor Smith, recently transferred from Trichinopoly, from the sub-division of the southern range, for the Karedu section, and the Range Officers of the Central and Northern Divisions are willing to take charge of the Tumalapenta and Etamukkala sections in addition to their other duties.

7. I do not like to take the Range Officers away from their ranges for a day if I can help it, because their services are much required in the interior to have work planned, laid out, and ready to be taken up as the several sections of the canal are finished, I therefore request that three more Sub-Division Officers and twelve more Overseers be sent to me, and I would prefer experienced upper subordinates for the

charge of sub-division to very young Engineer Officers, with this addition to the establishment I could work 100,000 people on special works, and the permanent range establishment could work 30,000 more.

8. I had the honor to inform you in my letter No. 198, dated the 2nd instant, that exclusive of the coast canal and the Sungum project I have useful works estimated to cost 16 lakhs of Rupees nearly ready to be taken up at short notice, and I propose, with the approval of Government, that when a section of the canal is completed to move on the coolies, the establishment and all employed upon it, to one of those works or to a group of those works, in the interior.

9. In this way the organization on the canal will be kept up as long as it is necessary to keep the people employed, and I have no doubt it would be to the interest of Government as well as to the interest of the people themselves that this should be done.

10. A sketch map and a list of the proposed roads were forwarded to the Deputy Chief Engineer with my letter No. 47, dated the 22nd June 1876, there is by some mistake a difference of one lakh between the estimated cost of the roads as then reported and as reported in my letter No. 198, dated the 2nd instant, both estimates are approximate and the later report is probably more correct. A list of proposed irrigation works, with estimates for such as require the sanction of Government, will be forwarded to you in a few days.

11. I beg to enclose plans of camps and hospitals with specifications for information, and I request instructions regarding any alterations or additions that may be proposed. If the plans and the directions regarding them are approved they might be useful to other officers starting similar works.

MEMORANDUM, No. 1,771.

THE Officers Commanding Sappers and Miners on the Coast Canal having expressed their willingness to undertake the executive supervision of the sections of the canal near their head-quarters, and the Colonel Commanding the corps having approved personally of the proposal, the District Engineer requests the Executive Officers of the Iskapully and Kottapatam Divisions to make the necessary arrangements for carrying out the proposal at once. Lieutenant Digby, R.E., will take charge of the work between the 9th mile of the Iskapully Section and the Chippalaroo, and Major Chambers will take charge of the work between the Ongole road and the Gundacamma river in the Kottapatam Division.

Both officers will be supplied with funds, establishments, instruments, &c., in exactly the same way as similar requirements are supplied to other Sub-Division Officers, and in anticipation of the sanction of Government, they will be paid the travelling allowances of Assistant Engineer, or 120 Rupees per month, from the 1st instant, which it is understood is about equivalent to what they would receive as Field Engineers on active military service. Major Chambers and Lieutenant Digby fully understand that in consenting to take charge of sub-divisions they are under the guidance and direction of the Executive Officers of their divisions, who are primarily responsible for the work. The Colonel Commandant understands this also, but it seems desirable to mention it here in order to remove any possible misapprehension on the subject.

(Signed) J. O'SHAUGHNESSY,
District Engineer.

19th January 1877.

SUBMITTED to the Chief Engineer with reference to paragraph 4 of District Engineer's letter, No. 200, dated 6th March 1877.

(Signed) J. O'SHAUGHNESSY,
District Engineer.

MEMORANDUM, No. 1,795.

A PLAN of cooly camp for 1,000 coolies on the East Coast Canal is circulated herewith for the guidance of Canal Officers

The camps may be enlarged hereafter by adding rows of huts in regular order on each side as required. The number of huts in the enlarged camps will be limited to 400, and the number of coolies shall be limited to 2,000 working people, big and little, and exclusive of small children.

The positions of the camps have been already fixed in previous orders, or in direct personal communication with the Division Officers; they should as a rule be on the west of the canal line and as near to it as possible, and where the nature of the ground admits of it they should be on a lower level than the water-supply. Being at some distance from the water-supply will be rather an advantage than otherwise, as the water will be safer from pollution, and when the water is at any considerable distance a few women can be left at each camp to fetch it; should the natural water-supply be at more than half a mile distance wells should be dug to windward of the camps, from which the necessary water-supply can be obtained. If it is impossible to lay down definite rules on this subject, the Executive Officers should in each case consider the matter carefully in reference to position, direction of wind, drainage, &c., and they should consult the principal Medical Officer when necessary. Judging from the position selected by the Apothecary for camps and hospitals in the Kottapatam Division, the judgment of Medical Subordinates in these matters is not to be relied on, and when the principal Medical Officer cannot be consulted Executive Officers should act entirely on their own judgment.

The object of having the camps on the west or leeward side of the canal is to save the people while working from the foul odours that might be blown on them, if the camps were to windward, latrines should for a similar reason be one-eighth of a mile to leeward of the camps, and always at a distance of quarter of a mile at least from the water-supply. Many forms of latrines have at various times been proposed under similar circumstances, but the conclusions arrived at are neither fixed nor satisfactory; one thing is however certain that a space should be matted in for the purpose, one for males and one for females, and Executive Officers should decide for themselves whether they will have trenches inside this space, to be covered in daily after use, or if the space is to be left for use all over without trenches and cleaned out daily, the matter being removed to pits dug for the purpose and covered in by sweepers; two or perhaps more sweepers will under any circumstances be required for each camp; a camp watcher should be appointed to each camp, he should be provided with "a distinguishing badge and a big stick," he should direct people to the latrines, and if he catches any one fouling the place outside the latrines he should make that person remove the offence there and then, and take it to the latrine or to the pit dug for such matter. The camp watcher should move about the camp and give notice of crimes or of sickness amongst the people. If police are made available for each camp, as is expected, they should also notice and prevent any breach of the camp rules in these respects. Every camp should be complete in itself with an Overseer or Sub-Overseer, a writer, a few police and sappers, rice store, bazaars and tools. A week's supply of rice should be kept at each camp, and the bazaars should be kept well supplied, with a view to prevent the people from wandering here and there in search of small necessaries; where brushwood is available near the camps, the people should provide themselves with firewood, otherwise applications should be made to the Revenue Department to supply firewood or contractors may be engaged to supply it. In these cases a certain prescribed quantity should be issued daily to each gang, and a week's supply should be kept in stock to provide against any break down in the supply arrangements. The

above is but a brief outline of the camp arrangements which are in some cases urgently required, and Executive and Sub-Division Officers will no doubt see that they are at once attended to. The duties of the members of the establishments, the method of paying coolies, &c., will be laid down in another memorandum, and in all cases where Executive or Sub-Division Officers desire to offer suggestions in the way of better or improved arrangements, they are requested to offer them freely and they will receive the District Engineer's best consideration and attention.

(Signed) J. O'SHAUGHNESSY,
District Engineer.

22*nd January* 1877.

Estimate for Constructing Camp Hospital.

Quantity or Number.	Particulars.	Rate.	Per.	Amount.	Total.
		RS. A. P.		RS. A. P.	RS A. P.
5	Centre posts, palmyrah or casuarina, 18 feet long.	1 0 0	Each.	5 0 0	
26	Side do. do., 9 feet long	0 9 0	Do.	14 10 0	
219	Running feet of bressummer and ridge	0 0 6	R. ft.	6 13 2	
64	Rafters, 14 feet long	0 5 0	Each.	20 0 0	
48	Uprights for sides, 7 feet	0 2 6	Do.	7 8 0	
40	Bundles of casuarina branches or palmyrah leaf stalks for reeper.	0 3 0	Do.	7 8 0	
1,500	Palmyrah leaves for sides and roofs ..	0 3 0	100	2 13 0	
6	Bundles of fibre	0 4 0	Each	1 8 0	
10	Carpenters	0 8 0	Do.	5 0 0	
100	Coolies	0 3 0	Do.	18 12 0	
126	Cubic yards of earthwork	0 1 3	C. yd.	9 13 6	
	Sundries	...	...	0 19 4	
	Total ...	...	...	...	100 0 0

NELLORE,
10*th February* 1877.

(Signed) J. O'SHAUGHNESSY,
District Engineer.

MEMORANDUM, No. 2,002.

PLANS, sections, and approximate estimates of a camp hospital are forwarded herewith for the information and guidance of Canal Officers.

2. These plans have been shown to the officer now in charge of the Medical Establishment attached to the canal and are approved by that officer.

3. The hospital is to be 63 feet long and 18 feet wide in the clear, and will hold 20 beds. The floor is to be raised 1½ feet above the ground level; it should be well tamped and hand-plastered with a thin coat of clay and water.

The sides should be 6 feet and the ridge 15 feet high from the floor level as shown on the plan.

The roof will be supported by posts of palmyrah or casuarina as shown on the plan; the roof will be covered in with palmyrah leaves in the usual manner. The sides will be covered in with palmyrah leaves in the same way as the roof, or leaf mats may be used for this purpose.

The doors should be at the ends, and small openings should be left under the eaves between the side posts and over the beds. The Hospital Assistant in charge can open or close these openings by his hospital coolies at his pleasure; a mat partition should be put up at 21 feet from one end, to divide the hospital for male and female patients.

Proceedings of the Madras Government, Public Works Department,
20th March 1877. *No.* 991.

The Hospital Assistant's shed, the cook-shed, and the sheds for infectious diseases should be erected in a precisely similar manner as the main hospital, and of the dimensions shown on the plan.

The sheds for coolies should be the merest huts of the same description as the ordinary cooly hut and just sufficient to protect the occupants from the weather.

The latrine should be closed in by a few posts and leaves to screen the persons using it; a few seats of sun-dried bricks or clay might be put up in the latrines and a few baskets of earth or sand kept in them to cover the excreta; a few chatties of water might be kept in them also. The latrines should be cleaned twice a day at least and the sweepings removed to a pit dug for the purpose in the position marked on the plan or in some other convenient position. The matter thrown into the pit should be well covered by the earth or sand previously taken out of the pit, and which should be kept banked at the side for this purpose.

Fresh pits can of course be made when required, and if the latrines become offensive by the ground being saturated with urine, fresh ground should be fenced in for latrines elsewhere.

The burial-ground should be well away to leeward of the hospital and from the wells or water-supply; a few graves 6 feet deep should be always ready for use, and when a corpse is interred, the grave should be covered over with prickly-pear or other thorns to keep away dogs and vultures.

The burial-ground should be carefully watched by the hospital coolies, and nothing should be allowed to interfere with it which might in any way expose a corpse after interment.

The establishment seems large, but experience shows that it is not more than is necessary; a staff of four coolies is always necessary, and should be always ready to bring in a sick person or to remove a corpse.

The hospital establishment will of course be under the direction of the Principal Medical Officer, but when that officer is away at distant stations, the Sub-Division Officer should see that they attend to their work properly in all matters except the medical treatment of the sick.

Division Officers should frequently inspect the camp hospitals and enforce sanitary measures when necessary. The Principal Medical Officer will no doubt be glad of the help which Division and Sub-Division Officers can give him in this way.

Hospital Assistants should ride about the camps of the Sub-Division to which they are attached and assist the Sub-Division Officers in enforcing sanitation. Hospital Assistants who work well and energetically in this direction will be paid an allowance of 15 Rupees monthly for the keep of a pony if they have one.

The Hospital Assistant should inspect the cooly huts frequently and have filth or stale food removed; when a cooly gets sick he should be whipped off to hospital *nolens volens* at once; this is an important point and should be strictly attended to: four coolies and a couple of stretches should be kept at each cooly camp for this purpose.

(Signed) J. O'SHAUGHNESSY,
District Engineer.

11th February 1877.

SUBMITTED for the information of the Chief Engineer and for any additional orders that may be considered necessary.

(Signed) J. O'SHAUGHNESSY,
District Engineer.

5th March 1877.

List of Establishment employed on the Coast Canal, Nellore District, on the 1st March 1877.

Division.	Sub-Division.	Names and Rank.	Salary.	Allowance.	Total.	Date of Appointment.	Authority for Employment.
			Rs.	Rs.	Rs.		
No. 1 or Old Division, South of Pennair.	.....	Mr. J. Stephens, Supervisor, 1st Grade	200	60 60	320	18th May 1876	G.O., No. 3,290, dated 5th December 1876.
		Mr. Kelly, Temporary Overseer. Long employed on Temporary Establishment.	60	30	90	1st February 1877 ..	District Engineer.
		Rama Row, Temporary Overseer	50	..	50	18th May 1876	Do.
		Mr. French, Sub-Overseer	40	..	40	6th February 1877	Do.
		Gurunadum Moodelly, Temporary Overseer ..	50	..	50	3rd July 1876	Do.
Iskapully Division.	.....	Lieutenant C. B. Henderson, R.E., Assistant Engineer, 1st Grade.	520	120 80	720	20th November 1876 ..	G.O., No. 3,290, dated 5th December 1876.
	Ramatheertham ..	Mr. Hutchings, Assistant Engineer, 2nd Grade ..	350	120 60	530	*Vide Fort St. George Gazette*, dated 21st November 1876, page 131.	G.O., No. 3,060, dated 15th November 1876.
	Do. ..	Corporal Rawson, R.E., Overseer, 3rd Grade ..	60	30	90	G.O., No. 1,494, dated 15th June 1876.	G.O., No. 1,494, dated 15th June 1876.
	Do. ..	Serjeant Anderton, R.E., Overseer, 3rd Grade ..	60	30	90	*Vide Fort St. George Gazette*, dated 21st November 1876, page 131.	G.O., No. 3,060, dated 15th November 1876.
	Do. ..	S. Rumish, Acting Superintendent, Pennair Anicut, transferred temporarily to East Coast Canal.	60	30	90	January 1877	District Engineer.
	Do. ..	Velvandrasawmy Pillay, Surveyor. (From Civil Engineering College.)	50	..	50	23rd November 1876 ..	Do.
	Iskapully ..	Lieutenant T. Digby, R.E., (Commanding I Company, Sappers and Miners).	Paid in Military Dept.	120	120	19th January 1877 ..	Do.
	Do. ..	Mr. O'Brien (Pensioned Serjeant of Sappers and Miners).	60	30	90	January 1877 ..	Do.
	Do. ..	Mr. Walton (Pensioned Supervisor, Department Public Works).	60	30	90	23rd February „ ..	Do.
	Tummalapenta ..	Serjeant Balding, R.E., Overseer, 3rd Grade ..	60	30	90	6th do. „ ..	G.O., No. 328, dated 25th January 1877.
	Do. ..	Corporal Bailey, R.E., do. do. ..	60	30	90	Do.	Do. do.
	Ramapatam ..	Mr. Russell, Assistant Engineer, 1st Grade ..	350	120 60	530	*Fort St. George Gazette*, dated 21st November 1876, page 131.	G.O., No. 3,060, dated 15th November 1876.
	Do. ..	Serjeant Bishop, R.E., Overseer, 3rd Grade ..	60	30	90	Do.	Do.
	Do ..	G. Appavoo Moodelly, Sub-Overseer. A dismissed Overseer.	50	..	50	7th January 1877 ..	District Engineer.
	Karadu ..	Serjeant McCormick, R.E., Overseer, 3rd Grade ..	60	30	90	6th February „ ..	G.O., No, 328, dated 25th January 1877.
	Do. ..	Corporal Deane, R.E., do. do. ..	60	30	90	Do.	Do. do.
	Do. ..	Mr. Yellowsaw, Sub-Overseer. (From Civil Engineering College).	50	15	65	31st December 1876 ..	District Engineer.
Kottapatam Division	.....	Lieutenant C. C. Rawson, Assistant Engineer, 1st Grade.	520	120 80	720	7th November „ ..	G.O., No. 3,290, dated 5th December 1876.
Pakala ..		Mr. Bowyer Smyth, Assistant Engineer, 2nd Grade.	350	120 60	530	*Fort St. George Gazette*, dated 19th December 1876, page 180.	G.O., No. 3,060, dated 15th November 1876.
Do. ..		Serjeant Price, R.E., Overseer, 3rd Grade ..	60	30	90	6th February 1877 ..	G.O. No. 328, dated 25th January 1877.
Do. ..		Raja Ram Row, do. do.	60	30	90	13th January 1877	District Engineer.
Etamukkala ..		Corporal Tizzard, R.E. do. do, ...	60	30	90	6th February 1877	G.O., No. 328, dated 25th January 1877.
Do. ..		Do. Curtis, R.E., do. do.	60	30	90	Do.	Do.
Kottapatam ..		Mr. Goolmier, Overseer, 3rd Grade	60	15	75	27th December 1876 ..	District Engineer.
Do. ..		Major Chambers	Paid in Military Dept.	120	120	19th January 1877	Do.
Do. ..		Corporal Rawlings, R.E., Overseer, 3rd Grade ..	60	30	90	*Fort St. George Gazette*, dated 21st November 1876, page 131.	G.O., No. 3,060, dated 15th November 1876.
Do. ..		Mr. Mooncsee, Overseer, 3rd Grade. (From Civil Engineering College).	50	15	65	27th December 1876 ..	District Engineer.
Do. ..		Mr. Davy, do. do. do. ..	50	15	65	Do.	Do.
Kanuparthy ..		Mr. Burlton, Assistant Engineer, 2nd Grade ..	350	120 60	530	*Fort St. George Gazette*, dated 21st November 1876.	G.O., No. 3,060, dated 15th November 1876.
Do. ..		Corporal Terry, Overseer, 3rd Grade	60	30	90	Do. do. ..	Do.
Do. ..		Do. Knight, do. do.	60	30	90	G.O., No. 1,494, dated 15th June 1876	G.O., No. 1,494, dated 15th June 1876.
Do. ..		Jamadar Raja Row, Acting Overseer, 3rd Grade ..	Pay not known.	15 besides ordinary Sapper working pay.	..	11th January 1877	District Engineer.

Officers' travelling allowance varies; it is shown at a maximum for a month of thirty days.

Overseers' allowances are sometimes reduced to 15 Rupees according to work done.

G. Appavoo Moodelly's services will be dispensed with at once; particulars of his dismissal were forgotten when he was appointed.

NELLORE,
6th March 1877.

(Signed) J. O'SHAUGHNESSY,
District Engineer.

Proceedings of the Madras Government, Public Works Department, 20th March 1877. No. 991.

No. 579. ORDER THEREON, 20th March 1877, No. 991.

CIVIL WORKS, No. 50.

THE plans of camp and cooly hospitals submitted by the District Engineer are approved by Government; and copies will be lithographed for distribution to the chief Revenue and Public Works officials of famine districts.

2. Mr. O'Shaughnessy's proposal that on the completion of a section of the canal the coolies and the establishment employed upon it shall be diverted to other works in the district does not commend itself to His Excellency in Council, who prohibits any such movement of coolies until the whole canal has been completed.

(True Extract.)

(Signed) W. FAREWELL, Colonel,
Acting Joint Secy. to Govt., P.W.D.,
Buildings and Roads Branch.

To the District Engineer, Nellore.
" " " Cuddapah.
" " " Coimbatore.
" " " Bellary.
" " " Kurnool.
" " " Chingleput.
" " " Presidency.
" Revenue Department.

Exd. T. D. Ryan,
Spare Copies

P. W. DEPARTMENT.

READ the following:—

Letter from the District Engineer Nellore No. 200 d/ 6th March 1877.

FOR ORDERS.

Endeavours will be made in April to supply more Officers for duty on the East Coast Canal.

W. Farewell Colonel
Ag. Jt Secy. to Govt

FOR ORDERS.

25-26

Nº 200

District Engineer's Office
Nellore
6th March 1877

From

J. O'Shaughnessy Esqre
District Engineer
Nellore

To

Lieutenant-Colonel J. Mullins R.E.
Chief Engineer D.P.W.
Fort St. George

Sir

I have the honor to forward for the information of Government a Sketch map of the Coast Canal, now in progress in this District.—

2 The following statement shews the strength of the establishment and the number of people employed on each Sub Division of the work.

J. O'S

Recd 9-3-77
& 12.3.77

Divisions	Sub Divisions	Length in miles	Officers	Overseers and Sirdars	Number employed	Remarks
1st Division	Moraleur Section	25	1	4	907	Will be finished in middle of April
	Division Officer		1			
2nd or	Mamidivrithim	9	1	4	740	Do end of April
Atkapelly	Atkapelly	9	1	2	2546	Do probably in May
Division	Annalapenta	9		2	-	Not begun, employed in preparation
	Ramapatnam	9	1	3	3500	Daily Expected
	Karedu	9		2	-	Not begun, employed in preparation
	Division officer		1			
	Pattalar	8	1	3	1720	Daily Expected
3rd or	Elamanchalu	9		2	-	Not begun, employed in preparation a small Masonry work
Kollapalam						
Division	Kollapalam	9	1	3	2717	In progress
	Kamparthy	9	1	3	2769	Will be finished probably in May
		105	9	28	29,879	

3 I enclose a list of the Establishment, shewing the dates of their appointments to the canal, their Salaries and allowances and the authority for their employment and I request the sanction of Government for those appointments made by myself.

4 The advantage of utilising the services of Major Chambers and Lieutenant Digby R.E, as Sub Division officers, will, I hope be acknowledged, and I request that the arrangements † I have made in regard to those officers and the field allowance I have given to them in anticipation of sanction may be approved and sanctioned.

† Side Memo 1771. Copy attached

5 The Collector of this District has lately issued orders to his Officers to draft all able bodied coolies to the canal from the relief works in the interior, and I expect that our present numbers will be about doubled before the end of this month. I am therefore

arranging to commence work at once on the 3 Sections (Tummalapenta, Pavaloor and Elamanchili) not yet begun but I have no Sub Division officers for them.

6 I am taking away Mr Forrester Smith recently transferred from Tuticorin Sub Division of the Southern Range, for the Pavaloor Section and the Range Officers of the Central and Southern Divisions are unwilling to take charge of the Tummalapenta and Elamanchili Sections in addition to their other duties.

7 I do not like to take the Range Officers away from their Ranges for a day if I can help it, because their services are much required in the interior to have work planned, Canal cut, and ready to be taken up as the several sections of the canal are finished, & therefore request that 3 more Sub-Division officers and 12 more overseers be sent to me and I would prefer experienced upper Subordinates for the charge of Sub Division to very young Engineer officers, with this addition to the establishment I could work 100,000 people on special works and the permanent Range Establishment could work 30,000 more.

8 I had the honor to inform you in my letter No 198 dated the 2nd Instant that exclusive of the Coast Canal and the Sangam Project, I have useful works estimated to cost 16 Lacs of Rupees nearly ready to be taken up at short notice, and I propose with the approval of Government that when a Section of the canal is completed to move on the coolies, the establishment and all employed upon it, to one of the Works or to a group of those works in the interior.

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doubt it would be to the interests of Government as well as to the interest of the people themselves that this should be done.

10) A Sketch map and a list of the proposed roads were forwarded to the Deputy Chief Engineer with my letter No 47 dated the 22nd June 1876, wherein I pointed out the differences of opinion between the estimates each of thousands as then reported and as reported in my letter No 198 dated the 2nd Instant both estimates are approximate and the later report is probably nearer correct. a list of proposed Irrigation works with estimates for such as require the sanction of Government will be forwarded to you in a few days.

11) I beg to enclose Plans of Camps and Hospitals with Specifications for information and I request instruction regarding any alterations or additions that may be proposed in the plans and the directions regarding them are approved they might be useful to other officers starting similar works.

I have the honorable
Sir
Your most Obedient Servant

E. Shaughnessy
District Engineer

46

4th Dec 1876 No 3365.

From General and Establishment

The District Engineer
E.W.D. Nellore

8th 877

To No. 2520

The Chief Engineer
P.W.D.

No 200
Dated 6th March 1877.

Received
Encls: + 3 Skts

East Coast Canal

Forwarding sketch map Plan of cooly camps Hospitals and applying for additional establishments

G.O. 20 dated 5/7 Bk 578

Ent 12.3.77

Items No 1795.

A plan of Cooly Camps for 1000 Coolies on the East Coast Canal is circulated herewith for the guidance of Canal Officers.

The camps may be enlarged hereafter by adding rows of huts in regular order on each side as required. The number of huts in the enlarged camps will be limitted to 400, and the number of Coolies shall be limitted to Zero workers people big and little and exclusive of small children.

The positions of the camps have been already fixed in previous Orders or in direct personal Communication with the Division Officers; they should as a rule be on the west of the canal line and as near to it as possible and where the nature of the ground admits of it, they should be on a lower level than the water supply, Being at some distance from the water supply will be rather an advantage

than otherwise, as the water will be safer from pollution, and when the water is at any considerable distance, a few women can be left at each camp to fetch it; should the natural water supply lie at more than half a mile distance wells should be dug to windward of the Camps from which the necessary water supply can be obtained. If it is impossible to lay down definite rules on this subject, the Executive Officers should in each case Consider the matter carefully in reference to position, direction of Wind, drainage &c., and they should Consult the principal Medical Officers when necessary, judging from the position selected by the Apothecary for Camps and Hospitals in the Kottapatam Division, the judgment of medical subordinates in these matters is not to be relied on, and when the principal medical Officer cannot be Consulted, Executive Officers should act entirely on their own judgement.

The object of having the camps on the weather or leeward side of the Canal is to save the people while working from the foul odours that might be blown on them if the camps were to windward, 4 times should for a similar reason be ¼ of a mile to leeward of the camps, and always at a distance of ¼ of a mile at least from the water supply.

¼ of a mile will be a more suitable distance

20.3.77

Many forms of latrines have at various times been proposed under similar circumstances, but the Conclusions arrived at are neither fixed nor satisfactory; one thing however certain that a space should be marked in for the purpose, one for males and one for females, and Executive Officers should decide for themselves whether they will have trenches inside this space, to be Covered in daily after use, or if the space is to be left for use all over without trenches and cleaned out daily, the matter being removed to pits dug for the purpose and Covered in by Sweepers; 2 or perhaps more

Sweepers will under any circumstances be
required for each Camp; a Camp watcher
should be appointed to each Camp, he
should be provided with a distinguishing
badge and a big stick," he should direct
people to the latrines and if he catches any
one fouling the place outside the latrines
he should make that person remove the
offence there and then, and take it to the
latrine or to the pit dug for such matter.
The Camp watcher should move about the
Camps and give notice of crimes or sickness
amongst the people. If police are made
available for each Camp as is expected,
they should also notice and prevent any
breach of the camp rules in these respects.
Every Camp should be complete in itself
with an Overseer or Sub Overseer, a writer, a
few police & sappers, rice store, Bazaars &c &c.
A week's supply of rice should be kept at
each Camp, and the Bazaars should be kept
well supplied, with a view to prevent the

people from wandering here and there in search
of small necessaries, where brushwood is
available near the Camps, the people should
provide themselves with firewood, otherwise
application should be made to the Revenue
Department to supply firewood or contractors
may be engaged to supply it. In these cases
a certain prescribed quantity, should be
issued daily to each gang, and a week's supply
should be kept in stock, to provide against
any break down in the supply arrangements.
The above is but a brief outline of the Camp
arrangements which are in some cases urgently
required, and Executive & Sub Division Officers
will no doubt see that they are at once attended to.
The duties of the members of the establishment
the method of paying Coolies &c will be
laid down in another memorandum. and in
all cases where executive or Subdivision
Officers desire to offer suggestions in the way

of letters or informal arrangements, they are requested to offer them freely and they will receive the District Engineer's best consideration and attention.

22nd January 1777

Signed J. Jackson

B. Thompson
District Engineer

Volusia

P.W.D.
577
2520

Specification
for
Coolys Camp

East Coast Canal
1877

G.O. 20 Sheet 7/1 SBR. 5/75

29

Estimate for constructing Camp Hospital

Quantity Number	Particulars	Rate Per	Amount	Total
5	Cutting Bets Palmyrah or Casuarina 18 feet Long	1 "	Each 5 "	
26	Side do do 9 feet Long	" 9 "	do 14 10 "	
219	Rft of Breastsummer Ridge	" 6 Rft	6 132	
64	Rafters 14 feet Long	" 50	Each 20 "	
48	Uprights for Sides 7 feet	" 26	do 7 8 "	
40	Bundles of Casuarina Branches or Palmyrah Leaf Mats for Keeper	" 3 "	do 7 8 "	
1500	Palmyrah Leaves for Sides and roofs	" 3 "	100 2 13 "	
6	Bundles of Fibre	" 4 "	Each 1 8 "	
10	Carpenters	" 8 "	do 5 " "	
100	Coolies	" 3 "	do 18 12 "	
126	Cubic Ft of Masonry Work. Sundries	" 13 Cft	9 13 6	
			104 "	
	Total Rs			100 "

Dt Engr's Office
Galle
16th February 1877

Signed J. Thanjavur
Dt Engr

P.W.D.
8 MAR 77
No 2520

G.C. 20th March 77 I.B.L. 578

31

District Engineers Office
11th February 1877.

Memo No 2002.

Plans sections and approximate estimates of a camp hospital are forwarded herewith for the information and guidance of canal Officers

2 These plans have been shewn to the officer now in charge of the Medical Establishment attached to the canal and are approved by that officer.

3 The hospital is to be 63' long and 18' wide in the clear, and will hold 20 beds. The floor is to be raised 1½' above the ground level, it should be well tamped and hand plastered with a thin coat of clay and water.

The sides should be 6' and the ridge 15' high from the floor level and as shewn

on the Plan

The roof will be supported by posts of Palmyrah or Casurina as shewn on the Plan the roof will be covered in with Palmyrah leaves in the usual manner. The sides will be covered in with Palmyrah leaves in the same way as the roof, or bass mats may be used for this purpose.—

The doors should be at the ends and small openings should be left under the eaves between the side posts and over the beds, The Hospital assistant in charge can open or close these openings by his hospital cooles at his pleasure, a mat partition should be put up at 21' from one end, to divide the hospital for male and female patients.—

The hospital assistants shed, the cook shed, and the sheds for infectious diseases should be erected in a precisely similar

manner as the main hospital, and of the dimensions shewn on the plan.

The sheds for coolies should be the merest huts, of the same discription, as the ordinary cooly hut and just sufficient to protect the occupants from the weather.

The Cabans should be closed in by a few posts and leaves to screen the persons using it, a few seats of sun dried bricks or clay might be put up in the Cabans and a few baskets of earth or sand kept in them to cover the excreta; a few chatties of water might be kept in them also.— The Cabans should be cleaned twice a day at least and the sweepings removed to a pit dug for the purpose in the position marked on the plan or in some other convenient position. The matter thrown into the pit should be well covered by the earth or sand previously taken out

of the pit and which should be kept
banked at the side for this purpose.

Fresh pits can of course be made when
required, and if the Latrines become
offensive by the ground being saturated
with urine — fresh ground should be
fenced in for Latrines elsewhere.

The burial ground should be well away
to leeward of the hospital and from the
wells or water supply, a few graves 6' deep
should be always ready for use, and when
a corpse is interred the grave should be covered
over with prickly pear or other thorns to keep
away dogs and vultures. —

The burial ground should be carefully
watched by the hospital coolies and nothing
should be allowed to interfere with it
which might in any way expose a corpse
after interment.

The establishment seems large but experience
shews that it is not more than is necessary,
a staff of 4 coolies is always necessary and
should be always ready to bring in a sick
person or to remove a corpse. —

The hospital establishment will of course
be under the direction of the Principal
Medical Officer, but when that officer is
away at distant stations, the Sub Division
Officer should see that they attend to their
work properly in all matters except the
Medical treatment of the Sick.

Division Officers should frequently
inspect the camp hospitals and enforce
sanitary measures when necessary. The
Principal Medical Officer will no doubt
be glad of the help which Division and
Sub Division Officers can give him in this
way.

Hospital assistants should ride about

the camps of the Sub-Division to which they are attached and assist the Sub Division Officers in enforcing sanitation. Hospital assistants who work well and energetically in this direction will be paid an allowance of 15 Rs monthly for the keep of a Pony if they have one.—

The Hospital assistant should inspect the cooly huts frequently and have filth or stale food removed, when a cooly gets sick, he should be whisked off to hospital "Nolens Volens", at once, this is an important point and should be strictly attended to.—

4 coolies and a couple of stretchers should be kept at each cooly camp for this purpose.

/signed/ J Shaughnessy

District Engineer

HG #6

Submitted for the information of the Chief Engineer. and for any additional rules that may be considered necessary

5.3.77

P Shaughnessy
Dist. Engr

East Coast Canal
1877

Justification
for
Camp Allowances

Ld. 20% mustered Allowances

P.W.D.
2527
1877

List of Establishment employed on the East Coast Canal & Pelton District in the month of June 1877

Division	Name and Grade	Salary	Allowance	Total	Date of Appointment	Authority for Last Increase
No 1 or Old Division	Mr J. Hopkins Superintendent 1st Grade	260	60	320	18th May 1876	G.O. No 3290 dated 5th December 1876
Pelton Division	Mr Kelly Temporary Overseer	60	30	90	1st February 1877	District Engineer
	Conjunctions and Temporary Allowance					
	Ramadhan do do	50		50	18th May 1876	do
	Mr French Sub Overseer	40		40	6th February 1877	District Engineer
	Guarmadeen Madely Temporary Overseer	50		50	3rd July 1876	do
No 2 Khafra Division	Lieutenant J.B. Henderson RE	520	120 80	720	20th November 1876	G.O. No 3290 dated 5th December 1876
	Assistant Engineer 1st Grade					
Ramadhan Khan	Mr Hulchings Assistant Engineer 2nd Grade	350	120 60	530	Vide Port of St George Gazette dated 25th December 1876 No 151.	G.O. No 3060 dated 15th November 1876
do	Corporal Overseer 3rd Grade	60	30	90	G.O. No 1494 dated 15th June 1876	G.O. No 1494 dated 15th June 1876

Ramalhentham	Sergeant	Anderson	R.E.	Overseer 3d Grade	60	30	90	Vide Fort St George Gazette dated 21st November 1876 Page 131 — G.O. No 3060 dated 15th November 1876
——Do——	L.	Ramsay	(Ag) Superintendent	Bunder	60	30	90	January 1877 — District Engineer
		Arrival transferred Composing Fort						
		Coast Canals						
——Do——		Velvendrasamy	Pillay	Surveyor	50	—	50	28th November 76 — District Engineer
		(From Civil Engineering Office)						
Pakenham	Lieutenant	H. Digby	R.E.	Paid as Military Supernumy	120		120	19th January 77 — Do
		(Commanding 1 Company Sappers & Miners)						
——Do——		Mr O'Brien	(Pensioned Sergeant of Sappers and Miners)		60	30	90	January 1877 — Do
——Do——		Mr Wallon	(Pensioned Supervisor R.E.)		60	30	90	23rd February 1877 — District Engineer
Ammalapenda		Sergeant	Bolting	R.E. Overseer 3d Grade	60	30	90	5th February 1877 — G.O. No 328 dated 25th January 1877
——Do——		Corporal	Bailey	R.E. ——do——	60	30	90	——Do—— — Do
Ramapalam		Mr Russell	Assistant Engineer	1st Grade	350	120 60	530	Fort St George Gazette dated 21st November 1876 R. 131 — G.O. No 3060 dated 15th November 1876
——Do——		Sergeant	Bishop	R.E. Overseer	60	30	90	Fort St George Gazette dated 21st November 1876 R. 131 — G.O. No 3060 dated 15th November 1876
——Do——		G.	Apparoo	Mudely Sub Overseer (dismissed Overseer)	50	—	50	7th January 1877 — District Engineer
Kuradu		Sergeant	Mr Cormick	R.E. Overseer 3d Grade	60	30	90	6th February 1877 — Do

——Do——		Corporal	Deane	R.E. ——do——	60	30	90	——Do—— — Do
——Do——		Mr	Sullivan	Sub Overseer (from Civil Engineering)	50	15	65	31st December 1876 — District Engineer
Kottapalam Division		Lieutenant	H.	Dawson	Assistant Engineer 1st Grade	520	120 80	720	7th November 1876 — G.O. No 3290 dated 6th December 1876
	Dathala	Mr	Bourjer	Smyth	Assistant Engineer 2d Grade	350	120 60	530	Fort St George Gazette dated 14th November 1876 R. 130 — G.O. No 3060 dated 15th November 1876
——Do——		Sergeant	Price	R.E. Overseer	3d Grade	60	30	90	6th February 1877 — G.O. No 328 dated 25th January 1877
——Do——		Raja	Ram Row	——do——		60	30	90	13th January 1877 — District Engineer
Etamukkala		Corporal	Sizzard	R.E. ——do——		60	30	90	6th February 1877 — G.O. No 328 dated 25th January 1877
——Do——		——Do——	Burtis	R.E. ——do——		60	30	90	——Do—— — Do
Kottapalam		Mr	Goolmier	——do——		60	15	75	27th December 76 — District Engineer
——Do——		Major	Chambers		Invalid on military Superintendence	120	120		19th January 1877 — Do
——Do——		Corporal	Rawlings	R.E. Overseer	3d Grade	60	30	90	Fort St George Gazette dated 21st November 1876 R. 131 — G.O. No 3060 dated 15th November 1876
——Do——		Mr	Mooneese	——do——	(from Civil Engineering)	50	15	65	27th December 76 — District Engineer
——Do——		Mr	Danyer	——do——	——do——	50	15	65	——Do—— — Do

G.O. 30 dated 15th March 1878

Kamsnarbyn	Mr. Brindlow	Assistant Engineer 2nd Grade	350	120 60	530	Sanctioned in Gazette G.O. No 3060 dated 21st November 15th November 1876
—Do—	Corporal	Corps Overseer 3rd Grade	60	30	90	Sanctioned in Gazette G.O. No 3060 dated 21st November 15th November 1876
—Do—	—Do—	Wright	do	60	30	90	G.O. No 1494 dated 15th June 1876	G.O. No 1494 dated 15th June 1876.
—Do—	Jamadar	Raja Khan	do	Personal allowance	15		1st January 1877	District Engineer

Office Travelling allowance bills is to be drawn at a maximum of 30 days
Overseers Conveyance may sometimes be drawn
for 15 Rs according to work done

Copy of Mr Brindlow's Services with the
Department with the remarks — Sanctioned
This dismissed were forgotten
when he was appointed.

District Engineer's Office
Kolhore
12th March 1877

P.W.D.
3rd Circle
2590

H Shaw Wallace
District Engineer

43

Memorandum

The Officers Commanding Companies Sappers and Miners on Canal Guard, Khanewal Railway Extension Line —

Are requested to furnish this Office with the following information for the month of February 1878 —

Name of Company
Number of Officers present
Number of Native Officers present
Number of Sappers present
Number of Sappers absent on Leave
Number of Sappers absent on Duty
Number of Sappers absent on Furlough
Number of Sappers absent on Sick Leave
Number of Sappers absent on Command
Number of Sappers absent on Extra Duty
Number of Sappers absent on Fatigue
Number of Sappers absent on Guard
Number of Sappers absent on Picket
Number of Sappers absent on Patrol
Number of Sappers absent on Escort
Number of Sappers absent on Parade
Number of Sappers absent on Review
Number of Sappers absent on Inspection
Number of Sappers absent on Muster
Number of Sappers absent on Roll Call
Number of Sappers absent on Tattoo
Number of Sappers absent on Reveille
Number of Sappers absent on Last Post
Number of Sappers absent on Lights Out
Number of Sappers absent on Silence
Number of Sappers absent on Prayers
Number of Sappers absent on Church
Number of Sappers absent on Funeral
Number of Sappers absent on Wedding
Number of Sappers absent on Christening
Number of Sappers absent on Birthday
Number of Sappers absent on Anniversary
Number of Sappers absent on Holiday
Number of Sappers absent on Festival
Number of Sappers absent on Fair
Number of Sappers absent on Market
Number of Sappers absent on Shop
Number of Sappers absent on Bazaar
Number of Sappers absent on Street
Number of Sappers absent on Road
Number of Sappers absent on Path
Number of Sappers absent on Field
Number of Sappers absent on Garden
Number of Sappers absent on Orchard
Number of Sappers absent on Vineyard
Number of Sappers absent on Farm
Number of Sappers absent on Village
Number of Sappers absent on Town
Number of Sappers absent on City
Number of Sappers absent on Country
Number of Sappers absent on World
Number of Sappers absent on Universe
Number of Sappers absent on Heaven
Number of Sappers absent on Hell
Number of Sappers absent on Purgatory
Number of Sappers absent on Limbo
Number of Sappers absent on Nowhere

The District Engineer requests the Executive Officers of the Detachments will be pleased to see that the above Returns are punctually rendered, to enable the Executive Officer to make the necessary entries in the Muster Rolls —

By command of the District Engineer
Signed C. Digby P.S. with Extra Assistant
Cantonment

Charge of the road between the 9th and 10th Miles of the Khanewal Railway Extension Line, and not Division Officer's, which was taken over by Mr Brindlow on the 1st instant —

The Executive Officer, Sappers Miners and Canal Guard, Khanewal Railway Extension Line —

Are requested to furnish this Office with the following information for the month of February 1878 —

Name of Company
Number of Officers present
Number of Native Officers present
Number of Sappers present
Number of Sappers absent on Leave
Number of Sappers absent on Duty
Number of Sappers absent on Furlough
Number of Sappers absent on Sick Leave
Number of Sappers absent on Command
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Number of Sappers absent on Universe
Number of Sappers absent on Heaven
Number of Sappers absent on Hell
Number of Sappers absent on Purgatory
Number of Sappers absent on Limbo
Number of Sappers absent on Nowhere

funds, establishments, instruments &c &c in exactly the same way as similar requirements are supplied to other Sub Division officers and in anticipation of the sanction of Government they will be paid the Travelling allowances of Assistant Engineers or 120 Rupees per month from the 1st instant which it is understood is about the sum that they would receive as Field Engineers on active service whilst employed with Major Columbus under the immediate guidance and direction of the Executive Officer of their Division, who are primarily responsible for the work.

The Colonel Commandant concludes this also but it seems desirable to mention it here in order to prevent any possible misapprehension on the subject.

Dist Engrs Office (Signed) J. Thompson
19th January 1877 Dist Engrs

The Chief
Submitted to the Chief Engineer with reference to para 4 of Asst Engs letter No 200 dated 6th March 1877.

J. Thompson
Dist Engr

P.W.D.
8577
2520

117 19

Pw 991 Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 20 March 77

Read the following :—

From

The Dist: Engr. Nellore (No. C. No. 200 dt 6th March 77)

The plans of camp and cooly hospitals submitted by the District Engineer are approved by Government, and copies will be lithographed for distribution to the chief Revenue and Public Works Officials of Famine Districts.

2. Mr. O'Shaughnessy's proposal that on the completion of a section of the Canal the coolies and the Establishment employed upon

F.B. 19/3

G.O. 30 Home P.W. dt 5/78

upon it shall be diverted
to other works in the District
does not commend itself
to His Excellency in Council
who prohibits any such
movement of coolies until
the whole canal has been
~~finished~~ completed—

W.H.
17.3.77.

Desp 26-3-77

4 Copies
2 on Plan
Mily Depth
Ch. Surv.
PWD—

H.E. Sellars
Asst Engr
Coimbatore
Bellary
Kurnool
Trunkroad
Presidency
Revenue Dirn

Two copies
each as
20 copies of
each set—

W Watts
Sec to Govt

Nr 2520

Govt. of Madras.

PUBLIC WORKS.

To The Hon'ble Sullivan

Dated 21/3

Rec'd Encl.

Answered 20th March 1877, No. 991

Nos. 578-579

East Coast Canal. The plans & camp accounts attached to the — approved & ordered to be lithographed for distribution to the Chief Revenue & Irrigation Officials of Famine Districts. The increment of Coolies to carry on the other work until the whole Canal is finished, prohibited.

Chief Engr to Govt

accepted