31

(1) Number of pages 62.

(2) Date of repair – 12.87

(3) Initials of the Referencer bns

TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P.W.D. DEPARTMENT

G.O. No. / B.P. No.	334 — W	Press. / Mis.
Dated	8 — 2 — 1886 ~~198~~.	

ot to be folded or roughly handled.

8TH FEBRUARY 1886, No. 334 W., PUBLIC WORKS.

334/1

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Military Works.

READ—the following papers :—

From Major D. J. S. McLEOD, Deputy Quartermaster-General, to the Secretary to Government, Military Department, dated Ootacamund, 6th January 1886, No. 40 A.

I have the honor, by order, to forward, for sanction and transfer to the Public Works Department for disposal, the estimate, &c., below mentioned, which have been approved by the Commander-in-Chief. The estimate has been countersigned :—

Estimate, amounting to Rs. 4,896, with report and specification, for constructing an enclosure wall and a powder magazine for the Madras infantry regiment at Pallávaram.

No. 184, Military.

Approved and transferred to the Public Works Department for disposal.

(By Order.)

FORT ST. GEORGE,
8th January 1886.

(Signed) A. R. KENNEY-HERBERT, Lieut.-Col.,
Secretary to Government.

From Colonel H. L. PRENDERGAST, R.E., Superintending Engineer, V Circle, to the Chief Engineer, Public Works Department, dated Chepák, 3rd February 1886, No. 4538.

With reference to your endorsement, No. 233 C., dated 19th January 1886, I have the honor to return, with my countersignature, the estimate of Rs. 4,900 for constructing a powder magazine with enclosure wall for a regiment of native infantry at Pallávaram.

ORDER—dated 8th February 1886, No. 334 W., Public Works.

The estimate, amounting to Rs. 4,900, for constructing a powder magazine for a regiment of native infantry at Pallávaram, is sanctioned for execution when funds are available.

2. This sanction has been registered as Imperial, Ordinary, No. 63 W. of 1885-86, and classified as Military, Original Works.

(True Extract.)

Major, R.E.,
Under Secy. to Govt., P.W.D.

To the Superintending Engineer, V Circle, with three enclosures.
" Examiner, Public Works Accounts, with the duplicate abstract estimate.
" Military Department.

Exd. P. L. Pereira.

Spare Copies

BUILDINGS AND ROADS.
MILITARY WORKS.

Govt. of (1886) Madras.

PUBLIC WORKS.

Dated February, 8th.

Recd. *Encl.*

G.O., 8th Feb. 1886, No. 334 W.

FEBRUARY.

Powder Magazine for Native Infantry Regiment at Pallavaram

Estimate for —, sanctioned.

27TH AUGUST 1883, No. 1880, FINANCIAL.

334/2

GOVERNMENT OF MADRAS.

FINANCIAL DEPARTMENT.

READ—the following paper :—

From C. VINCENT, Esq., Officiating Consulting Architect to the Government of Madras, to the Chief Engineer, Public Works Department, Roads and Buildings Branch, dated Chepauk, 17th July 1883, No. 415.

One Tracing.

With reference to G.O., No. 3206 W., of 6th December, 1882, on Proceedings of the Madras Government (Financial), No. 1704, of 18th November 1882, I have the honor to submit herewith, for approval, a standard plan of a Powder Magazine.

2. It is supposed that there will be a row of trestles on copper supports on each side of the magazine with three shelves to each, on which the explosive materials may be stored.

3. The following, speaking roughly, is the amount of powder that magazines of different lengths will hold thus stored :—

A magazine,	10	feet long inside,	will contain	3	tons.
Do.	12	do.	do.	3⅔	do.
Do.	14	do.	do.	4⅓	do.
Do.	16	do.	do.	5	do.
Do.	18	do.	do.	5⅔	do.
Do.	20	do.	do.	6⅓	do. and so on.

4. If a large quantity had to be stored, such as the 15 tons at Conjeeveram which would require a magazine 40 feet long, a door might be placed at each end and a division in the middle.

5. If the plan is approved, the necessary estimate will be prepared.

No. 1374 C.

Endorsement on the above.

Submitted for the approval of Government in the Financial Department, with reference to paragraph 7 of G.O. in that department, No. 1704, dated 18th November 1883.

(By Order.)

MADRAS,
24th July 1883.

(Signed) C. BOWEN, Major, R.E.,
Under Secy. to Govt., P.W.D.

No. 1486.

Returned to the Public Works Department, with the request that the Chief Engineer will be so good as to express an opinion on the plan proposed. Some idea as regards the cost of the building should also be afforded.

(By Order.)

OOTACAMUND,
6th August 1883.

(Signed) E. S. LAFFAN,
Acting Under Secy. to Govt.

To the Public Works Department (with papers).

No. 298 E.

Retransmitted to the Financial Department, with the remark that a magazine, according to the proposed standard plan, will cost approximately Rs. 2,200, including shed and compound wall, and that Rs. 260 may be added to this for every extra two feet in length.

2. The design, as now slightly modified, is considered suitable.

Ootacamund,
22nd August 1883.
(Signed) R. H. SANKEY, Major-General, R.E.,
Secretary to Govt., P.W.D.

To the Financial Department (with endorsement and enclosures returned).

Order—dated 27th August 1883, No. 1880, Financial.

Communicated to the Presidents of all Municipalities, to which the Gunpowder Storage Act I of 1880 has been extended.

(True Extract.)

E. F. WEBSTER,
Acting Chief Secretary.

To the President, Municipal Commission, Tanjore,
" " " " Kumbakónam,
" " " " Negapatam,
" " " " Bellary,
" " " " Cuddapah,
" " " " Cocanada,
" " " " Vellore,
" " " " Madura,
" " " " Trichinopoly,
" " " " Conjeeveram,
" " " " Berhampore,
" " " " Calicut,
" " " " Cuddalore,
" " " " Mangalore,
" " " " Masulipatam,
" " " " Cochin,
" " " " Vizagapatam,
" " " " Coimbatore,
" " " " Tinnevelly,
" " " " Palamcottah,
" " " " Tuticorin,
} with plan.

Copy to the Public Works Department.

Exd. J. Henricus.

334/3

No 2564 Wd/ 13th Septr/83

Communicated to

Suptg: Engrs for

information.

(Signed) J.S.

Govt. of (1883) Madras.

FINANCIAL.

Issued

Recd. Encl.

G.O., 27th August 1883, No. 1880.

No 2564 Wd/ 13-9-83

AUGUST.

Gunpowder Storage Act I of 1880.

Communicating to the Presidents of all Municipalities to which the — has been extended, endorsement of the Public Works Department submitting, with remarks, a standard plan of a Powder Magazine.

Suptg: Engrs:

with Copy of pla.×

×will follow

24th October 1883, No. 3002 W., Public Works.

334/4

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Account.

Read—the following papers :—

From Brigadier-General R. C. STEWART, Quartermaster-General, to the Secretary to Government, Public Works Department, dated Fort St. George, 11th October 1883, No. 7094.

I have the honor, by order, to forward herewith the schedules of Military Works, major and minor, required to be provided for in the budget list of 1884-85.

2. Sir Frederick Roberts is about to address Government in the Military Department on the subject of the several large works of importance which are, in his opinion, of special urgency, and for execution of which he hopes funds may be made available next year; but meanwhile your attention is invited to them by their entry in red ink in the schedule.

From the same Officer, dated Fort St. George, 13th October 1883, No. 7151.

In continuation of this office letter, No. 7094, dated 11th instant, I have the honor, by order, to forward a supplementary schedule of Military Major Works, providing for the construction of new barracks for the Royal Artillery at St. Thomas' Mount.

Office note from the Examiner, Public Works Accounts, dated 13th October 1883, No. 734.

Order—dated 24th October 1883, No. 3002 W., Public Works.

Ordered that the schedules of military requirements on account of the Public Works Department, in the Madras Presidency, be forwarded to the Government of India, in the Military Department, in compliance with their No. 922 M.W. of the 21st September 1883.

2. Ordered also that the lists of military works be printed and circulated to the Superintending Engineers, in view to the necessary plans and estimates being early repared and submitted for sanction.

3. The Superintending Engineers concerned will take immediate steps for the preparation and submission, for sanction, of estimates for all unsanctioned works included in the schedule.

(Here enter No. 3003 W., dated 24th October 1883.)

(True Extract.)

(Signed) J. SHAW-STEWART, Colonel, R.E.,
Secretary to Govt., P.W.D.

To Superintending Engineers.
To the Examiner, Public Works Accounts.
" Military Department.
" Financial "

Exd. A. Aubert.
Spare Copies

3365/5

GENERAL.
ACCOUNT.

Govt. of {1883} Madras.

PUBLIC WORKS.

Dated October, 24th.

Recd. *Encl.*

G.O., 24th Oct. 1883, No. 3002 W.

OCTOBER.

Schedule of Military requirements

Ordered that the — on account of Public Works in the Madras Presidency for 1884-85, be forwarded to the Government of India.

334
6

(Appendix to G.O., No. 3002 W., dated 24th October 1883.)

List of Military Works estimated to cost Rs. 2,500 and under, and for which Funds are required in the Public Works Budget for 1884-85.

Division or District.	Station.	Description of buildings, &c., and for what corps or department needed.	Approximate estimate of cost.	Remarks by the standing Barrack Committee as to the necessity of the buildings, references to former applications, orders of Government, &c.	Remarks by the Officer Commanding Divison or District.	Remarks by the Commander-in-Chief.
Eastern District.	Fort St. George ..	*Arsenal.*	RS.			
		A verandah to Section II, VI, and VII. Store ..	400	Very much needed for the storage of serviceable fire-engines which are now kept out.	Recommended	Approved.
		A store-room in the forge workshop	520	Very much needed, the present one being too small.	Do.	Do.
		Railings to miscellaneous workshop and a door between them and armourer's shop.	790	Very much needed	Do.	Do.
		A shed in the new park	440	Very much needed for painting canvas ..	Do.	Do.
		The verandah of the European infantry officers' mess-house to be extended.	1,900	Required as the present verandah is too small ..	Recommended. The mess-house has a very small verandah and would be much improved by a verandah along the sea-face of the building.	Do.
		A good water-tap for the quarters of the superintendent of fire-engines.	200	Very much needed	Recommended	Do.
	Madras	*Body Guard.*				
		Dispensary for veterinary department for Body Guard.	1,300	*Nil*	Do.	When funds are available.
		Gun-powder Factory.				
		Breaking down house .. .. .. 1 Breaking down machine. 1 House for 6-horse power engine and boiler.	500	G.O., No. 59, dated 7th January 1874 ..	Recommended as being apparently portion of the scheme for the thorough renewal of the gun-powder factory—*vide* items in the list of major works.	Approved.
		Powder magazine .. .. Wooden flooring and thorough repair.	1,100	G.O., No. 1501, dated 31st March 1875 ..		
		Commissariat Department.				
		A wheat store-room for the Government bakery.	1,785	There is no place at present should emergency demand the storage of wheat without endangering the safety of the bread-stuffs by the introduction of weavils into the main building. Estimate sanctioned in G.O., No. 1863 W., dated 5th July 1883.	Recommended.	Do.
		The levelling of the bakery compound and a system of drainage to carry off the washing of the bakery.	950	There is no drainage-water lodges, and for sanitary purposes it is necessary that the ground should be levelled and a proper system of drains laid down.	Do.	When funds are available.

List of Military Works estimated to cost Rs. 2,500 and under, and for which Funds are required in the Public Works Budget for 1884-85—*cont.*

Division or District.	Station.	Description of buildings, &c., and for what corps or department needed.	Approximate estimate of cost.	Remarks by the standing Barrack Committee as to the necessity of the buildings, references to former applications, orders of Government, &c.	Remarks by the Officer Commanding Division or District.	Remarks by the Commander-in-Chief.
Eastern District—*cont.*		*Commissariat Department—cont.*	RS.			
	St. Thomas' Mount	Sinking a well, erecting a moat and trough apparatus, public cattle depôt.	309	Required in the public cattle depôt in consequence of there being no water nearer than a tank 250 yards distant from the lines which in the hot season is perfectly dry; during the period the bullocks have to be taken to the river for water.	Recommended. When funds are available.	When funds are available.
		Lavatories on the standard plan for the north barracks.	2,000	Urgently required for the barracks	Recommended. These barracks have no proper lavatories.	Approved.
		Lavatories on the standard plan for the south barracks.	2,000	Do. do.		
		Bath-room for hospital of the native infantry regiment.	360	[illegible] required, there being no accommodation which could be used for the purpose.	Recommended.	Do.
		Hospital wall to be completed	286	Present wall encloses three sides of the hospital, while on the fourth side and nearest the regimental lines there is none. If wall is completed, all ingress and egress will be confined to the regular entrance and a better watch kept over the movements of patients.	Do.	Do.
	Vizianagram	Three public latrines, viz., one for men in the left wing, and two for women, one in each wing, on dry earth system.	2,255	Much required, there being at present only one latrine for men in the right wing, sanctioned *vide* Proceedings of Madras Government, No. 292, dated 24th January 1874. Rs. 765 for one completed, sanction for three more asked for.	Do.	Do.
		Powder magazine with surrounding walls on standard plan.	1,990	Much required, the present magazine having been condemned and having no protecting walls round it. The shelves being built into the walls are continually attacked by white-ants.	Do.	Do.
		Armourer's workshop	909	Much required, the work having been sanctioned *vide* Proceedings of Madras Government, No. 1111, dated 17th April 1873, progress of work stopped on account of famine in 1877, and not since completed.	Do.	Do.
	Berhampore	A wall to the military hospital of the native infantry regiment.	1,016	There is no wall or fence separating the hospital from a small village which adjoins it, to which patients in hospital can find easy access. A proper wall is therefore absolutely necessary. Approved when funds are available—*vide* extract from list of works for 1878-79. Estimate sanctioned in G.O., No. 1236 W., dated 25th April 1883.	Do.	Do.
		School-house for a native infantry regiment	960	A school-house is absolutely required for the use of the regiment, the present building (regimental property) having fallen in and being utterly unsuited for the purpose. G.O., No. 3764, dated 6th July 1883. P.W., No. 1766, dated 23rd June 1883.	Do.	Do.

Division or District.	Station.	Description of buildings, &c., and for what corps or department needed.	Approximate estimate of cost.	Remarks by the standing Barrack Committee as to the necessity of the buildings, references to former applications, orders of Government, &c.	Remarks by the Officer Commanding Division or District.	Remarks by the Commander-in-Chief.
Western District.		*Barracks, Native Infantry.*				
	Mangalore	Forge trough and cupola to the armourer's workshop, also a screen as per clause *e*, paragraph 13 of G.O.C.C., No. 12, dated 12th February 1874.	730	Original estimate for Rs. 500 sanctioned—*vide* Proceedings of Madras Government, Military, No. 2133, dated 13th September 1876. G.O., No. 2590 W., dated 4th October 1882.	Required	When funds are available.
		European Infantry.				
	Calicut	Introducing dry earth system	758	An important work. G.O., No. 2590 W., dated 4th October 1882.	Important	Most important.
		European Infantry.				
	Cannanore	Replacing the laterite flooring of the recreation room with concrete in chunam and asphalte.	2,140	Recommended. The laterite perishes rapidly. Sanction in abeyance.	Depends on the result of the experiment made with these materials in the native infantry place of arms.	Necessary.
		Replacing the present flooring of the school-room with concrete in chunam and asphalte.	770	Recommended. The laterite flooring perishes rapidly.	Seems desirable	Do.
		Replacing the present wooden railings round the barracks with open laterite work.	639	Recommended on economic grounds. The wooden railings are expensive and require constant renewal. Sanctioned by Commander-in-Chief.	Desirable	Do.
		Replacing the present flooring of the European infantry cells with concrete in chunam and asphalte.	1,100	Recommended. Laterite flooring is found to perish rapidly. Sanction in abeyance.	Depends on the results of the experiment made in the native infantry place of arms with these materials.	Do.
		Station Hospital.				
		Sinking a well	664	Another well is required. The water-supply is very scanty during the hot weather. Sanctioned by Commander-in-Chief.	Recommended	Very necessary.
		Ordnance Department.				
		Raising the parapet of the magazine redoubt on a level with its eaves and moving the guard-room from inside to outside the ditch.	1,900	Desirable as a precautionary measure	Do.	Very desirable.
		Native Infantry.				
	Quilon	An armourer's shop	1,700	Much needed. The existing building is unsuited to present requirements. Browning arms cannot be carried on.	Desirable	Very necessary.
Bangalore Division.		*Royal Artillery.*				
	Bangalore	A new latrine for the staff sergeant's quarters, Royal Horse Artillery, the present one being old and condemned on sanitary grounds.	2,100	Very necessary. This was condemned by a Board of which Deputy Surgeon-General was a member. Recommended in 1882.	Urgently required	Recommended.
		Ration shed for field batteries	1,750	G.O., No. 1232 of 14th May 1872. Much required. No cover for issue of rations.	Desirable	When funds are available.
		A battery staff sergeant's quarters for Royal Horse Artillery. One more required is now desirable.	1,100	Very necessary. There is at present no quarters for battery quartermaster-sergeant. The Committee recommended the conversion of the present camp store into a quarter, the camp equipage being removed into old foot artillery barracks. First time recommended.	Conversion recommended	Approved.

List of Military Works estimated to cost Rs. 2,500 and under, and for which Funds are required in the Public Works Budget for 1884-85—*cont.*

Division or District.	Station.	Description of buildings, &c., and for what corps or department needed.	Approximate estimate of cost.	Remarks by the standing Barrack Committee as to the necessity of the buildings, references to former applications, orders of Government, &c.	Remarks by the Officer Commanding Division or District.	Remarks by the Commander-in-Chief.
Bangalore Division—*cont.*	Bangalore—*cont.*	*Royal Artillery—cont.*	RS.			
		Stone drains to forage yard and lines, Royal Horse Artillery.	1,440	G.O., No. 3066 of 2nd December 1879. Much required.	Desirable	When funds are available.
		Cook-houses for sergeants' messes of two field batteries. One desirable.	1,470	Very necessary. First brought forward in 1882.	Very necessary ..	Approved.
		12th Royal Lancers.				
		To provide a gymnasium and fencing room ..	1,500	Very necessary. Recommended that half of No. 5 block, British cavalry barracks, be converted into a regimental gymnasium and fencing gallery. First time brought forward.	Strongly recommended ..	When funds are available.
		A latrine with twelve seats for use of the men whilst at stables is indispensable.	1,200	Very necessary. First time brought forward ..	Six seats urgently required.	Six seats approved.
		Commissariat Department.				
		To build, or render present building used as such (built for a native), quarters for the station butcher.	520	Very necessary, if the station butcher is to live at the slaughter-house. First time brought forward.	Desirable	When funds are available.
		To improve the road leading from slaughter-house to circular road near cavalry barracks to enable meat carts to travel to and fro without breaking down or injuring meat by jolting.	1,400	Necessary	Desirable when funds are available.	Do. do.
		Transport Department.				
		The speedy construction in the transport cattle-lines of a shed for carts and trollies. A saddle-room .. .. Store-rooms .. .. All being urgently required for the storage of saddles, line, gear, &c., and for protection of carts and trollies.	1,200	The adoption of existing camel-sheds, which are more than are now required for camels, into these buildings is very necessary. The mules (other than sick ones) should be picketted in regular mule-lines, south of transport non-commissioned officers' quarters and only such mules left under shelter. First time these requirements have been brought forward.	Necessary, so far as recommended by Committee.	Approved.
		Army Hospital Corps.				
		Thirty-three huts to be erected in the vicinity of the south station hospital.	924	First time these requirements have been brought forward.	Necessary on the corps being embodied.	Do.
		Twenty-seven huts near the north station hospital are absolutely necessary for the use of the men of the native army hospital corps doing duty in Bangalore. Clause 204, paragraph 24, Army Circulars, 30th November 1882.	756			
		Medical Department.				
		Stables for medical subordinates attached to Royal Artillery and Cavalry, south station hospital.	1,000	Much required. Temporary stabling at present, which is objectionable.	Necessary if the medical subordinates are entitled to stabling.	When funds are available.
		British Infantry.				
		Roofing the corrugated iron urinals in barrack square.	1,320	G.O., No. 3665, dated 21st July 1876 .. .. ,, No. 4383 ,, 30th August 1876. ,, No. 2611 ,, 26th September 1876. ,, No. 2732 ,, 11th October ,, Strongly urged by the medical authorities.	Urgently required ..	Approved.
		Latrines for native followers	1,600	First recommended in 1882. Much needed, there being no proper resort to this class.	Required	Do.
	Wellington ..	Removing the present concrete floors of latrines of Nos. 1, 2, 3, 4 and 5 barracks and school blocks and relaying the same with 12 square tiles.	1,680	G.Os., Nos. 1472 and 1812, dated 4th and 9th June 1874. Recommended 1882. Very necessary. The present concrete flooring is always out of repair.	Very necessary	Do.
		Bath-rooms to Nos. 1, 2, 3, 4 and 5 blocks for pay sergeants.	2,350	Recommended 1881 and 1882. Very necessary, as at present the married pay sergeants who live upstairs are without bath-rooms.	Very desirable	Do.
		Brick tiled flooring, instead of present concrete, to covered passage leading from married quarters to latrines.	1,000	Recommended 1882. Very necessary. The present flooring is always out of repair.	Desirable	Do.
		Purveyor's stores to be enlarged as the space is insufficient for bedding, clothing and furniture.	2,000	Recommended 1882. Necessary	Necessary	Do.
		Supplying 7 cooking stoves to staff sergeants' quarters similar to those for married quarters.	600	Very necessary. First time brought forward ..	Very desirable	Do.
		Supplying cooking range to sergeants' mess capable of cooking for 30 sergeants.	800	Do. do. do. ..	Desirable	Do.
		Compound wall and alterations to the Commissariat buildings.	1,280	G.O., No. 345, dated 24th August 1875. Desirable.	Not urgently required ..	When funds are available.
		Drainage works near barracks	1,822	G.O., No. 1748, dated 23rd July 1872. Desirable, much wanted.	Recommended	Do. do.
		Erecting a stone reservoir and laying pipes between springs and outlet of spring water supply.	2,070	G.O., No. 6809, dated 28th November 1876, desirable.	Desirable	Do. do.
Ceded Districts.	Bellary	*27th Regiment, Native Infantry.*				
		School	1,300	The present building is wanting in room and ventilation. Rs. 1,000 was the amount of estimate in budget list for 1883-84 for 100 scholars, but provision has since been made for 130. G.O., No. 2590 W., dated 4th October 1882.	This is very much required, the present building being quite unsuitable.	Do. do.
		Latrine for the left wing	1,500	The present one is inconveniently situated for this half battalion and there is not sufficient seat accommodation for the whole regiment, G.O., No. 2590 W., dated 4th October 1882.	Recommended, but the estimate appears very high. The latrine is much required.	Estimate seems expensive.

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List of Military Works estimated to cost Rs. 2,500 and under, and for which Funds are required in the Public Works Budget for 1884-85—*cont.*

Division or District.	Station.	Description of buildings, &c., and for what corps or department needed.	Approximate estimate of cost.	Remarks by the standing Barrack Committee as to the necessity of the buildings, references to former applications, orders of Government, &c.	Remarks by the Officer Commanding Division or District.	Remarks by the Commander-in-Chief.
Ceded Districts—*cont.*	Bellary—*cont.*	*Native Infantry Hospital.* Two small cook-rooms for use by 25th and 27th regiment.	600	A temporary arrangement for utilizing an unused latrine has been recommended, but has not been found to answer. There is no other place available, and out-door cooking is not advisable for sick. The lines are distant about ½ mile. This is included in the budget works for 1883-84, and the estimate (approximate) is for Rs. 1,200. The present is for two small sheds against the rear compound wall. G.O., No. 2590 W., dated 4th October 1882.	To turn a latrine, even an unused one and for a temporary arrangement, into a cook-room, seems to me altogether unsuited and objectionable. Two small cook-houses are undoubtedly required.	Cook-houses very necessary. Should there be no objection on sanitary grounds and if the latrine has not been in use, there seems no reason why the proposed arrangement should not answer.
		Ordnance Depot. Out-houses for the quarters of the laboratory sergeant, attached to the ordnance department.	620	These quarters have been recently formed from a portion of the depôt stores and are devoid of the accommodation asked for. Estimate sanctioned in G.O., No. 2461 W., dated 3rd September 1883.	Must be repaired and is therefore recommended.	When funds are available.
		Female Hospital. Compound wall	1,600	There is at present no fence round this hospital to ensure the privacy of the inmates. This hospital is close to the station hospital and the European infantry barracks.	This is, I think, very much required. There is absolutely nothing to prevent a passer-by seeing the patients in their beds. Privacy is also required for the patients walking about of an evening and for washing soiled linen.	Very desirable.

Fort St. George,
11th October 1883.

(Signed) D. J. S. McLEOD, Major,
for Quartermaster-General.

ENDORSEMENT.

Appendix No. 3003 W., dated 24th October 1883.

Buildings and Roads.

Schedule of the probable requirements of the Madras Presidency on account of Imperial Works for 1884-85.

Head of Classification.	Executive Division.	Locality.	Item No.	Projects and Works.	Class.	Original Works. Major Works. Works in progress.	Original Works. Major Works. New Works.	Original Works. Major Works. Total.	Original Works. Minor Works.	Original Works. Total.	Repairs.	Establishment.	Tools and Plant.	Suspense.	Grand Total.	Remarks.
(1) Accommodation for troops—Buildings for European troops in the plains—Permanent.				Imperial, Ordinary. *Military.*		RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	
	Chingleput.	St. Thomas' Mount.	1	New barracks for Royal Artillery.	A	40,000	..	40,000	..	..	..	..	..	..	..	Estimate of Rs. 1,27,750 sanctioned in G.O., No. 1894 W., of 25th July 1882. Item No. 2, Class A Works, of Budget of 1883-84.
	Coimbatore.	Malapuram.	2	Barracks for detachment British Infantry to accommodate 100 men.	A	40,000	..	40,000	..	..	..	..	..	..	..	Estimate of Rs. 90,830 sanctioned in G.O., No. 1840 W., of 18th July 1882. Item No. 3 Class A Works, of Budget of 1883-84.
	Presidency.	Bangalore ..	3	Alterations and additions to wash-houses for the British Infantry.	A	4,500	..	4,500	..	..	..	..	..	..	..	Estimate of Rs. 12,500 sanctioned in G.O., No. 1102 W., of 7th May 1880. Item No. 1, Class B, Works, of Budget of 1883-84.
	Do. ..	Fort Saint George.	4	A covered gymnasium to be erected in the Ball Ally of the European regiment.	A	..	9,800	9,800	..	..	..	..	..	..	..	Estimate awaited. Item No. 17, Appendix B, Budget of 1883-84.
	Do. ..	Do. ..	5	An armourer's shop on the standard plan, for the European Infantry regiment.	B	..	5,000	5,000	..	..	..	..	..	..	..	Estimate awaited.
	Chingleput.	St. Thomas' Mount.	6	Constructing six blocks of stables for two field batteries of Royal Artillery.	A	..	20,160	20,160	..	..	..	..	..	..	..	Estimate of Rs. 20,160 sanctioned in G.O., No. 2747 W., of 1st October 1883.
	Do. ..	Do. ..	7	Plunge-bath for Royal Artillery.	B	..	12,600	12,600	..	..	..	..	..	..	..	Estimate awaited. Item No. 1, Appendix B, Budget of 1883-84.

Schedule of the probable requirements of the Madras Presidency on account of Imperial Works for 1884-85—*cont.*

Head of Classification.	Executive Division.	Locality.	Item No.	Projects and Works.	Class.	Original Works. Major Works. Works in progress.	Original Works. Major Works. New Works.	Original Works. Major Works. Total.	Original Works. Minor Works.	Original Works. Total.	Repairs.	Establishment.	Tools and Plant.	Suspense.	Grand Total.	Remarks.
				IMPERIAL, ORDINARY—*cont.* *Military*—cont.		RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	
Accommodation for troops—Buildings for European troops in the plains—Permanent.	Presidency.	Bangalore..	8	Garrison gymnasium of the 4th class.	B	..	44,600	44,600	..	..	..	..	..	..	..	Estimate of Rs. 44,600 sanctioned in G.O., No. 1560, of 21st June 1876. Item No. 12, Appendix B, Budget of 1883-84.
	Do. ..	Do. ..	9	Quarters for senior apothecary, north station hospital.	B	..	4,830	4,830	..	..	..	..	..	..	..	Estimate awaited. Item No. 15, Appendix B, Budget of 1883-84.
	Bellary ..	Bellary ..	10	Three blocks of stables for Royal Artillery at	A	2,000	..	2,000	..	..	..	..	..	..	..	Estimate of Rs. 10,000 sanctioned in G.O., No. 2099 W., of 1st August 1883. Item No. 10, Appendix B, Budget of 1883-84.
	Do. ..	Do. ..	11	Infectious disease ward of station hospital.	B	..	8,000	8,000	..	..	..	..	..	..	..	Estimate awaited. Item No. 8, Appendix B, Budget of 1883-84.
	Do. ..	Do. ..	12	Pipes and cisterns to supply water from the artesian well to British troops.	B	..	3,000	3,000	..	..	..	..	..	..	..	Estimate awaited.
	Do. ..	Do. ..	13	Completion of system of drainage of wash-houses.	B	..	3,000	3,000	..	..	..	..	..	..	..	Estimate awaited.
	Coimbatore.	Cannanore.	14	Plunge-bath for British Infantry.	B	..	4,690	4,690	..	..	..	..	..	..	..	Estimate of Rs. 4,690 sanctioned in G.O., No. 418, of 10th February 1876. Item No. 5, Appendix B, Budget of 1883-84.
	Do. ..	Malapuram.	15	Canteen for detachment British Infantry.	B	..	5,000	5,000	..	..	..	..	..	..	..	Estimate awaited. Item No. 3, Appendix B, Budget of 1883-84.
Do. do. in the hills —Permanent.	Nilgiri ..	Wellington.	16	Extending the 6-inches water main-pipe from the barrack square to the married quarters at	A	9,400	..	9,400	..	..	..	..	..	..	..	Estimate of Rs. 9,530 sanctioned in G.O., No. 198 W., of 18th January 1882. Item No. 25, Appendix B, Budget of 1883-84.
	Do. ..	Do. ..	17	Gymnasium at ..	B	..	15,000	15,000	..	..	..	..	..	..	..	Estimate awaited.

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Accommodation for troops—Buildings for native troops.	Presidency.	Madras ..	18	New regimental school at the Perambúr lines.	B	..	2,500	2,500	..	..	..	..	..	..	..	Do.
	Do. ..	Do. ..	19	Two latrines for the regimental lines at Ráyapuram.	B	..	3,000	3,000	..	..	..	..	..	..	..	Do.
	Chingleput.	Palláveram.	20	One mortuary room for each of the three hospitals, Nos. 1 to 3.	B	..	3,000	3,000	..	..	..	..	..	..	..	Estimate awaited. Item No. 29, Appendix B, Budget of 1883-84.
	Do. ..	Do. ..	21	Regimental magazine on the standard plan.	B	..	4,500	4,500	..	..	..	..	..	..	..	Estimate awaited.
	North Arcot.	Vellore ..	22	School-house for a Native Infantry regiment.	B	..	5,000	5,000	..	..	..	..	..	..	..	Do.
	Presidency.	Bangalore.	23	Accommodation for regiment of Native Cavalry. RS. Place of arms and armourers' shop. 7,165 Infirmary .. 5,800 Magazine .. 2,750 Guard-room .. 3,540 School .. 1,715 Water-trough .. 510 Water-well .. 2,320 Drains, roads, &c. 5,800	A	..	29,600	29,600	..	..	..	..	..	..	..	Estimate awaited. Item No. 24, Appendix B, Budget of 1883-84.
	Do. ..	Do. ..	24	Accommodation for one regiment of Native Infantry (less magazine).	A	..	14,610	14,610	..	..	..	..	..	..	..	Estimate awaited.
	Do. ..	Do. ..	25	Regimental latrines for Queen's Own Sappers and Miners.	A	3,960	..	3,960	..	..	..	..	..	..	..	Estimate awaited. Item No. 25, Appendix B, Budget of 1883-84.
	Trichinopoly.	Trichinopoly.	26	Accommodation for one regiment of Native Infantry. RS. Place of arms and guard-room .. 8,450 Cells .. .. 920 Store-room .. 2,200 School-room .. 2,650 Magazine .. 650 Armourers' shop. 2,330	A	..	17,200	17,200	..	..	..	..	..	..	..	Estimate awaited. Item No. 28, Appendix B, Budget of 1883-84.
	Do. ..	Do. ..	27	Accommodation for a third regiment of Native Infantry as above.	A	..	17,200	17,200	..	..	..	..	..	..	..	Estimate awaited.
	Do. ..	Do. ..	28	Two latrines for Native Infantry regiment.	B	..	5,200	5,200	..	..	..	..	..	..	..	Estimate awaited. Item No. 33, Appendix B, Budget of 1883-84.
	Bellary ..	Bellary ..	29	Armourers' shop for a regiment of Native Cavalry.	B	..	2,695	2,695	..	..	..	..	..	..	..	Estimate awaited.

Schedule of the probable requirements of the Madras Presidency on account of Imperial Works for 1884-85—*cont.*

Head of Classification.	Executive Division.	Locality.	Item No.	Projects and Works.	Class.	Original Works.					Repairs.	Establishment.	Tools and Plant.	Suspense.	Grand Total.	Remarks.
						Major Works.			Minor Works.	Total.						
						Works in progress.	New Works.	Total.								
				IMPERIAL, ORDINARY *cont.* *Military*—*cont.*		RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	
Accommodation for troops—Buildings for native troops—*cont*	Coimbatore.	Quilon ..	30	Magazine for Native Infantry barracks.	B.	..	3,560	3,560	..	..	..	..	..	..	..	Estimate awaited.
	Do. ..	Do. ..	31	Store-room for do. ..	B.	..	5,000	5,000	..	..	..	..	..	..	..	Do.
	North Arcot	Vellore ..	32	Armourers' shop for a regiment of Native Infantry.	A.	1,980	..	1,980	..	..	..	..	..	..	..	Estimate for Rs. 2,800 sanctioned in G.O., No. 1547 W., of 20th June 1881.
	Vizagapatam	Vizianagram.	33	Regimental store-room, to be included as storage for Camp Equipage.	B.	..	5,000	5,000	..	..	..	..	..	..	..	Estimate awaited.
Ordnance Works.	Presidency.	Fort St. George.	34	Mounting ordnance ..	A.	32,000	..	32,000	..	..	..	..	..	..	..	Estimate of Rs. 42,035 sanctioned in G.O., No. 2970 W., of 19th October 1883. Item No. 2, Class B Works, Budget of 1883-84.
	Do. ..	Madras ..	35	Completing the emplacements and improving the store-rooms, &c., of the coast batteries.	A.	22,300	..	22,300	..	..	..	..	..	..	..	Estimate of Rs. 42,320 sanctioned in G.O., No. 1661 W., of 13th June 1883. Item No. 34, Appendix B, Budget of 1883-84.
	Do. ..	Do. ..	36	Improvements to the gunpowder factory. Further estimates required— Glazing and dusting house, one group. Incorporating mills, one group. Drying-house. Pebble cutting house. Granulating house to be converted into a pebble cutting machine house. New additional compound wall. Two bridges.	A.	20,000	..	20,000	..	..	..	..	..	..	..	The last sanction brought up the total sanctions to Rs. 2,26,655. G.O., No. 2748 W., of 1st October 1883. Item No. 4, Class A Works, Budget of 1883-84. Further estimates are awaited.
	Do. ..	Do. ..	37	Improvements to the wheel shop of the gun carriage factory.	B	..	4,000	4,000	..	..	..	..	..	..	..	Estimate awaited.
Commissariat Buildings.	Presidency.	Guindy ..	38	Converting the late Superintending Engineer's office at Guindy into a Commissariat slaughter-house.	B	..	11,800	11,800	..	..	..	..	..	..	..	Estimate for Rs. 11,800 sanctioned in G.O., No. 1399 W., of 12th May 1883. Item No. 43, Appendix B, Budget of 1883-84.
	Do. ..	Madras ..	39	Quarters for station butcher.	B	..	4,740	4,740	..	..	..	..	..	..	..	Estimate awaited. Item No. 44, Appendix B, Budget of 1883-84.
	Do. ..	Do. ..	40	Sheds for public cattle and lines for their attendants.	B	..	20,000	20,000	..	..	..	..	..	..	..	Estimate awaited.
	Do. ..	Do. ..	41	Quarters for three warrant and five non-commissioned officers of the Commissariat department.	A	..	26,740	26,740	..	..	..	..	..	..	..	Estimate of Rs. 26,740 sanctioned in G.O., No. 1836 W., of 2nd July 1883. Item No. 45, Appendix B, Budget of 1883-84.
	Nilgiri ..	Wellington.	42	Bakery at	A	..	10,000	10,000	..	..	..	..	..	..	..	Under consideration.
	Coimbatore.	Cannanore.	43	Converting the old artillery stables at Cannanore into a bakery and sinking a well.	A	2,660	..	2,660	..	..	..	..	..	..	..	Estimate of Rs. 7,660 sanctioned in G.O., No. 2213 W., of 10th August 1883. Item No. 41, Appendix B, Budget of 1883-84.
Fortifications.	Do. ..	Malapuram.	44	Quarters for Commissariat staff sergeants.	B	..	4,000	4,000	..	..	..	..	..	..	..	Estimate awaited.
	Presidency.	Bangalore.	45	Entrenchment as place of refuge including ordnance depôt. RS. Fortifications .. 16,000 Ordnance buildings .. .. 14,900 Laboratory .. 1,880	A	..	32,780	32,780	..	..	..	..	..	..	..	Estimates aggregating Rs. 34,280 sanctioned in G.O., No. 3060 W., of 30th October 1883.
				Total ..		1,78,800	3,67,805	5,46,605	54,660	6,01,265	3,50,000	2,18,791	14,269	..	11,84,325	

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4TH DECEMBER 1884, No. 2797, FINANCIAL.

GOVERNMENT OF MADRAS.

FINANCIAL DEPARTMENT.

READ—the following papers: —

From C. A. GALTON, Esq., President of the Municipal Commission, Calicut, to the Chief Secretary to Government, dated Calicut, 18th September 1884, No. 435.

In submitting herewith copy of a letter from the Vice-President, Calicut Municipality, I have the honor to request that Government will be pleased to furnish me with a copy of the estimate referred to by the Vice-President.

ENCLOSURE.

From B. C. LEGGATT, Esq., Vice-President of the Municipal Commission, Calicut, to the President of the Municipal Commission, Calicut, dated Calicut, 16th September 1884, No. 671.

Looking into the budget programme for the current year, I find that a gunpowder magazine has been provided for and has to be built in the course of the year; but I find no estimate was received with the standard plan circulated with G.O., dated 27th August 1883, No. 1880, (Financial). As it is impossible to make out the details and materials of the work without an estimate, I request you will be so good as to obtain a copy of the estimate promised in paragraph 5 of the first letter read in the Government Order above quoted. I beg to add that we should be furnished with the estimate, *as early as possible*, with a view to completing the work within the year.

From Lieut.-Colonel J. L. L. MORANT, R.E., Officiating Consulting Architect to the Government of Madras, to the Chief Engineer, Public Works department, dated Chepâk, 13th November 1884, No. 1245.

One specification with schedule of quantities.

In compliance with your memorandum, No. 1664-C., dated 9th October 1884, I have the honor to submit a specification with schedule of quantities for the standard design for a gunpowder magazine. I have appended a detailed estimate prepared by the Superintendent, Public Works Workshops, for the lightning conductor.

ENCLOSURES.

(2)

GENERAL Specification of Works to be undertaken in constructing a Magazine for the storeage of gunpowder according to the standard design, dated 18th July 1883, and circulated with G.O., No. 1880, Financial, dated 27th August 1883.

Foundations.—The foundations will rest on a bed of concrete 18 inches thick for the magazine and 1 foot for the enclosure wall and shed. The depth of foundations shall be determined by the officer responsible for the execution of the work, the estimate allows 4½ feet for the magazine and 3 feet for the shed and enclosure wall.

Brick-work.—The brick-work will be carried up (according to the thicknesses and heights shown on the plan) with burnt brick in chunam.

Roof.—The magazine will be covered by a semi-circular arched roof one brick in thickness with concrete backing 4½ inches thick on the haunches but thicker at the crown according to the section.

The shed will be roofed with flat and pan tiles over teakwood couples and reepers in the usual way.

Floor.—The floor of the magazine will be paved with asphalte ¾ of an inch in thickness over a bed of concrete 12 inches thick well rammed and consolidated. A layer of asphalte ¾ inch thick will be placed beneath the walls at floor level as a damp-proof course, or the vitrified perforated stoneware, supplied by Messrs. Doulton and Co., can be substituted for it.

The shed will be floored with 8-inch square bricks over a levelling course of wall bricks.

Plastering.—The interior and exterior of the magazine will be fine plastered three coats with lime and polished. The shed and enclosure wall will be plastered with two coats.

Doors and Windows.—The magazine will have a framed and braced door hung on a frame 4" × 5", the dimensions of the various parts will be as follows:—

Styles ..	6" × 1"
Top rail ..	5" × 1"
Bottom rail ..	8" × 1"
Lock rail ..	9" × 1"
Braces ..	4" × 1"

The above will be screwed to 1 inch planking grooved and tongued. The bottom of the door will be protected by a weather-board ¾ inch thick. It is most important that the door and ventilators of the magazine should be very carefully framed with the best seasoned wood and be closely fitted to avoid the possibility of rain water entering, and for this purpose the hooding over the door and ventilator should be provided with drips to prevent the water running down the wall.

The door should be provided with a superior rim lock.

The doors, ventilators, and windows for the shed to be painted with three coats of Carson's oak paint.

Wooden Trestles.—The trestles for the magazine to be strongly framed of the best seasoned teak-wood, and their feet encased in copper sheeting 1/16 inch thick and painted with two coats of wood-oil.

Lightning Conductor.—The lightning conductor to be fixed in accordance with the specification printed with G.O., Public Works department, No. 516, dated 1st August 1877, and plan, dated Fort St. George, 14th May 1877. The materials for the lightning conductor will be supplied by the Public Works Workshop, Madras, for Rs. 350, as per details annexed.

(Signed) J. L. L. MORANT, Lieut.-Col., R.E.,
Offg. Consulting Architect to Govt.

DETAILED Estimate for fixing a Lightning Conductor to a Powder Magazine as per standard design printed with G.O., No. 516 of 1st August 1877.

Particulars of work.		No.	Quantity.	Rate.	Per.	Amount.	Total.
				RS.		RS.	RS.
Straps to gable ends							
,, to eaves	20' × 3" × ½"	2	59	..	..	..	
,, to ridge	19' × 3" × ½"	2	55	..	..	..	
Saddle plates	19' × 3" × ¼"	1	27½	..	..	..	
Ties	12' × 6" × 1"	2	6	..	..	..	
,, ...	4½' × 1" × ¼"	2	4	..	..	..	
Straps for conducting rods	2' × 1" × ½"	2	2	..	..	..	
Strap to earth connection	19' × 3" × ⅜"	1	27½	..	..	..	
Harrow or earth connection	1' 9" × 3" × ⅜"	6	16	..	..	..	
Blocks for conducting rod	..	2	18	..	..	..	
Conducting rod 5' × 1" diameter ..	..	2	30	..	..	..	
Earth conducting rod 10' × 1" diameter.	..	1	30	..	..	..	
Copper wire rope, ¼"	.. feet.	20	4	..	..	..	
,, rivets, ¼"	..	..	10	..	..	..	
,, wood screws, 2½"	.. dozen.	6	3	..	..	..	
Allowance for wastage	.. ..	..	8	..	..	..	
		..	300	1	lb.	300	
Platinum tips	.. .. ..	2	..	9	each.	18	
Superintendence and contingencies	.. .. ..	..	..	..	..	32	350

MADRAS,
12th November 1884.

(Signed) W. L. C. BADDELEY, Captain, R.E.,
General Supdt., Public Works Workshops.

NOTE.

Provision is made in this estimate for lightning conductors as shown in the standard design issued with G.O., dated 27th August 1883, No. 1880, Financial, but modification of the height, or position, or number of terminals is necessary according to the report issued as Appendix A to the standard specifications of the Public Works department.

(By Order)

(Signed) C. BOWEN, Major, R.E.,
Deputy Chief Engineer, P.W.D.

Detailed Estimate.

Detail of work.	No.	Measurements in feet.			Area or contents.	Total quantity of each description of work.
		L.	B.	D.		
Excavation for foundations and refilling trenches—						
Side walls	2	22 6	6 3	4 6	1,266	
End wall	1	7 0	5 0	4 6	158	
Do.	1	7 0	4 6	4 6	142	
Well for lightning conductor, 3 feet diameter.	..	7 0	Area.	4 0	28	
Trench for lightning conductor, 3 feet diameter.	1	17 0	2 0	2 0	68	
Total cubic feet ..	..	..	..	..	1,662	
Concrete in foundations—						
Side walls	2	21 6	5 3	1 6	339	
End wall	1	8 0	4 0	1 6	48	
Do.	1	8 0	3 6	1 6	42	
Below inclined plane at entrance ..	1	3 6	4 6	1 0	16	
Total cubic feet ..	..	..	..	..	445	
Brick-work in chunam for foundations and basement—						
Side walls	2	19 0	2 10½	4 0	437	
Pilasters	4	1 6	0 6	4 0	12	
End walls	2	10 0	1 6	4 0	120	
Pilasters	2	1 6	0 6	4 0	6	
Inclined plane at entrance	1	3 6	4 6	0 6	8	
Drain	..	74 0	1 3	0 10½	81	
Total cubic feet ..	..	..	..	..	664	
Brick-work in superstructure—						
Side walls to springing of arch	2	19 0	2 0	5 0	380	
Pilasters	4	1 6	0 6	5 0	15	
End walls	2	10 0	1 6	5 0	150	
Semi-circular gables	2	39 3	Area.	1 6	118	
Pilasters	2	1 6	0 6	5 0	8	
Coping for side walls	2	19 0	0 7½	1 0	24	
Do. over doorway	1	6 0	0 6	0 6	2	
Do. over ventilators	2	2 6	0 4½	0 4½	1	698
Deductions—						
Doorway	1	4 0	1 6	6 0	36	
Circular vents in gables 1' diameter ..	2	0 9	Area.	1 6	2	
Archwork over door and ventilator as per detail.	..	..	..	..	12	50
Total cubic feet ..	..	..	..	..	..	648
Archwork in chunam—						
Over door	1	5 0	1 6	0 9	} 12	
Over ventilators	2	3 0	1 6	0 9	}	
For roof	..	19 0	17 0	0 9	242	
Total cubic feet ..	..	..	..	..	254	
Concrete backing for arch—						
Over arch	..	19 0	18 9	0 4½	134	
At ridge	..	19 0	4 6	0 10½	75	
Total cubic feet ..	..	..	..	..	209	
Concrete for flooring	..	16 0	10 0	1 0	160	Cubic feet.
Paving with asphalte ¾ inch thick over concrete floor and for damp-proof course—						
For floor	1	16 0	..	10 0	160	
For inclined plane	[illegible]	4 6	..	4 0	18	
Damp-proof course	2	19 0	..	2 6	95	
Do. do.	2	10 0	..	1 6	30	
Do. pilasters	6	1 6	..	0 6	5	
Total square feet ..	..	..	..	..	308	

Detailed Estimate—*continued*.

Detail of work.	No.	Measurements in feet. L.	B.	D.	Area or contents.	Total quantity of each description of work.
Batten door with frames and fastenings and patent rim-lock complete	1	4 0	..	6 0	24	Square feet.
Ventilator in gables with swinging shutter	2	1 0	..	1 0	2	Square feet.
Frames with perforated zinc to be placed outside ventilators	2	1 0	..	1 0	2	Square feet.
Teakwood in trestles—						
Uprights	24	0 3	0 3	4 6	7	
Longitudinal ties	12	15 0	0 2	0 3	8	
Cross ties	66	2 10½	0 2	0 3	8	
Reepers	48	15 0	0 2	0 1	10	
Total cubic feet ..	..	..	..	..	33	
Sheet, copper $\frac{1}{16}''$ thick for casing feet of trestles	24	1 0	..	0 6	12	
Do.	24	0 [illegible]	..	0 3	2	
Square feet ..	..	..	..	..	14	
14 Square feet, at 2·9 lb. per square foot = ...	..	..	..	..	..	40·6 lb.
Plastering with 3 coats of chunam—						
Interior sides and intrados of arch ..	..	16 0	..	25 9	412	
End wall square portion	2	10 0	..	6 0	100	
Do. semi-circular portion	2	39 3	Area.	..	79	
Exterior—						
Sides and surface of roof	..	19 0	..	34 0	646	
Pilasters, sides	12	0 4½	..	6 0	27	
End walls	2	13 6	..	7 0	189	
Do. gables	2	9 0	..	3 1½	56	
Sides and soffits of doorway	1	16 0	..	1 6	24	
Sides of ventilators	2	3 1½	..	4 6	9	1,542
Deduct—						
For doorway	2	4 0	..	6 0	48	
For ventilators	2	0 9	Area.	..	2	50
Total square feet ..	..	..	..	..	..	1,492
Plastering drain with Portland cement ..	..	74 0	..	2 0	148	Square feet.
Painting with 3 coats of Carson's oak paint—						
Door	2	4 6	..	6 6	59	
Ventilators	6	1 0	..	1 0	6	
Square feet ..	..	..	..	..	65	
Wood-oiling trestles 2 coats—						
Uprights	..	108 0	..	1 0	108	
Longitudinal ties	..	180 0	..	0 10	308	
Cross ties	..	189 0	..	0 10		
Reepers	..	720 0	..	0 6	360	
Total square feet ..	..	..	..	..	776	
Quantities for enclosure wall and shed—						
Excavation for foundations—						
Wall	..	179 6	4 6	3 0	2,423	
Gate piers	2	5 6	5 6	3 0	182	
Shed inner walls	..	13 9	4 6	3 0	186	
Steps	1	5 0	2 0	1 0	10	
Total cubic feet ..	..	..	..	..	2,801	
Concrete in foundations—						
Wall	..	180 6	3 6	1 0	632	
Gate piers	2	4 6	4 6	1 0	41	
Shed inner walls	..	14 9	3 6	1 0	52	
Steps	1	5 0	2 0	1 0	10	
Total square feet ..	..	..	..	..	735	

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Detailed estimate—*continued*.

Detail of works.	No.	Measurements in feet. L.	B.	D.	Area or contents.	Total quantity of each description of work.
Brickwork in chunam for foundations and basement—						
Footings—						
Wall	..	182 3	2 ¾	1 0	376	
Gate piers	2	2 9	2 9	1 0	15	
Shed inner walls	..	15 10⅓	2 ¾	1 0	33	
Above footings to floor level wall ..	..	183 0	1 6	2 0	549	
Gate piers	2	2 0	2 0	2 0	16	
Shed, inner walls	..	16 7½	1 6	2 0	50	
Steps	1	5 0	2 0	0 6	5	
Do.	1	3 0	1 0	0 6	2	
Total cubic feet ..	..	..	..	..	1,046	
Brickwork in chunam for superstructure—						
Wall	..	164 1½	1 1½	3 0	554	
Coping	..	164 1½	1 4½	1 0	225	
Gate piers	2	1 6	1 6	4 0	18	
Do. heads	2	2 0	2 0	1 0	8	
Shed walls	..	36 6	1 1½	6 0	246	
Gables	2	8 0	1 1½	1 6	27	1,078
Deduct—						
Doorway	1	3 0	1 1½	6 6	20	
Windows	2	3 0	1 1½	3 0	20	
Archwork as per details	..	..	..	..	15	55
Total cubic feet ..	..	..	..	..	..	1,023
Flat archwork in chunam—						
Over door	1	4 0	1 1½	1 1½	15	
Do. windows	2	4 0	1 1½	1 1½		
Total cubic feet ..	..	..	..	..	15	
Batten door with frame	1	3 0	..	6 0	18	Square feet.
Venetian windows with frames	2	3 0	..	3 0	18	Square feet.
Entrance gate with bolts and hinges, complete	1	6 0	..	5 0	30	Square feet.
Teakwood wrought and put up—						
Rafters	18	7 1½	0 3	0 3	8	
Collar pieces	9	4 6	0 2½	0 3	2	
Wall plates	2	11 3	0 2	0 3	1	
Ridge pieces at ends to support rafters at gables	2	1 7½	0 3	0 3	1	
Total cubic feet ..	..	..	..	..	12	
Roofing with flat and pan tiles including teak reepers	..	11 3	..	14 9	166	Square feet.
Flooring with 9" square bricks over a levelling course of wall bricks—						
Shed	1	8 0	..	8 0	64	
Door piece	1	3 0	..	1 1½	3	
Steps	..	10 0	..	1 0	10	
Total square feet ..	..	..	..	..	77	
Plastering with two coats of chunam—						
Wall	..	164 1½	..	11 0	1,805	
Gate piers	2	5 0	..	7 0	70	
Shed exterior	..	41 0	..	7 0	287	
Gables	2	10 3	..	1 9	36	
Interior walls	..	32 0	..	6 0	192	
Do. gables	2	8 0	..	1 3	20	
Door jambs	1	15 0	..	1 1½	44	
Window jambs	2	12 0	..	1 1½		2,454
Deduct—						
Door	2	3 0	..	6 0	36	
Windows	4	3 0	..	3 0	36	72
Total square feet ..	..	..	..	..	..	2,382

Detailed estimate—*continued.*

Detail of works.	No.	Measurements in feet.			Area or contents.	Total quantity of each description of work.
		L.	B.	D.		
Painting with three coats of Carson's paint—						
Gate	2	6 0	..	5 0	60	
Door	2	3 6	..	8 6	60	
Windows .. .. 3 ×	2	3 6	..	3 6	74	
End rafters	4	7 1½	..	0 9	21	
Collar pieces	2	4 6	..	0 11	8	
Ends of rafters	14	1 0	..	0 9	11	
Wall plate ends	4	0 6	..	0 10	2	
Ridge piece at ends	2	0 6	..	1 0	1	
Total square feet ..	..	..	..	..	237	
Wood oiling roof timbers, two coats—						
Rafters	14	6 1½	..	0 9	64	
Collars	7	4 6	..	0 11	29	
Reepers	..	673 0	..	0 3	168	
Total square feet ..	..	..	..	..	261	
Gravelling compound—						
	..	49 0	..	45 0	2,205	
	..	6 0	..	1 6	9	
						2,214
Deduct—						
Magazine	..	21 6	..	17 6	376	
Shed	..	9 1½	..	9 1½	83	
Step	..	5 0	..	2 0	10	
						469
Total square feet ..	..	..	..	..	..	1,745

Abstract estimate.

Quantity.	Description of work.	Rate.	Per.	Amount.	Total.
		RS.		RS.	RS.
	Magazine.				
1,662 c. ft.	Excavation for foundations				
445 ,,	Concrete in foundations				
664 ,,	Brickwork in chunam for foundations and basement				
648 ,,	Brickwork in chunam for superstructure				
254 ,,	Archwork in chunam including cost of centering ..				
209 ,,	Concrete backing to arched roofing				
160 ,,	Concrete for flooring				
308 s. ft.	Paving concrete floor with asphalte, ¾ inch thick ..				
24 ,,	Batten door with frames and fastenings and patent lock, complete				
2 ,,	Circular ventilators in gables with swinging shutters				
2 ,,	Frame with perforated zinc to be fixed outside ventilators				
33 c. ft.	Teakwood in trestles				
40·6 lbs.	Sheet copper casing for feet of trestles fixed, complete				
1,492 s. ft.	Plastering with 3 coats of chunam				
148 ,,	Plastering drain with Portland cement				
65 ,,	Painting doors and ventilators with 3 coats of Carson's oak paint				
776 ,,	Wood oiling trestles, 2 coats				
	Lightning conductor complete				
	Contingencies, at 5 per cent.				
	Enclosure wall and shed.				
2,801 c. ft.	Excavation for foundations				
735 ,,	Concrete in foundations				
1,046 ,,	Brickwork in chunam in foundations and basement.				
1,023 ,,	Do. in chunam for superstructure				
15 ,,	Archwork in chunam				
18 s. ft.	Batten door with frame				

Abstract estimate—continued.

Quantity.	Description of work.	Rate.	Per.	Amount.	Total.
		RS.		RS.	RS.
18 s. ft.	Venetian windows with frames				
30 ,,	Entrance gate with bolt, complete				
12 c. ft.	Teakwood wrought and put up				
166 s. ft.	Roofing with flat and pan tiles including teak reepers				
77 ,,	Flooring with 9 inch square bricks over a levelling course of wall bricks				
2,382 ,,	Plastering with 2 coats of chunam				
237 ,,	Painting with 3 coats of Carson's paint				
261 ,,	Wood-oiling roof timbers, 2 coats				
1,745 ,,	Levelling compound, making slopes for drainage and gravelling, 3 inches thick				
	Contingencies, at 5 per cent.				
	Total ..				

(Signed) J. MORANT, Lieut.-Col., R.E.,
Offg. Consulting Architect to Govt.

No. 1920-C.

MEMORANDUM.

Forwarded to the Financial department with advertence to its endorsement, No. 2234, herewith returned.

2. It is suggested that the specification and schedules of quantities be printed and circulated to all municipalities in continuation of G.O., dated 27th August 1883, No. 1880, Financial, and that copies be supplied to the Public Works department for circulation to officers of the department.

3. Special attention might be called to the foot-note added by this office to the detailed estimate for lightning conductor.

(By order.)

CHEPAUK,
21st November 1884.

(Signed) C. BOWEN, Major, R.E.,
Under Secy. to Govt., P.W.D.

To the Financial department, with papers in original.

ORDER—dated 4th December 1884, No. 2797, Financial.

Communicated to the President, Municipal Commission, Calicut, and to all Presidents of Municipalities, in continuation of G.O., No. 1880, dated 27th August 1883, Financial. Special attention is directed to the foot-note to the detailed estimate for lightning conductor.

(True Extract.)

E. F. WEBSTER,
Chief Secretary.

To the President of the Municipal Commission, Calicut.
,, all other Presidents of Municipalities.
,, the Public Works department.

Exd. J. Wright.

P.W.D.

Govt. of (1884) Madras.

FINANCIAL.

Communicated to Supdg. Engineers in Continuation of P.G. No. 2564 W dated 13th September 1883

(Signed) JJS

+ Requisition sent for 150 S.C. – 11-12-84

Issued

Recd.

Encl.

G.O., 4th December 1884, No. 2797.

DECEMBER.

5

Supdg. Engineers
Consg. Arct. to Govt.

Gunpowder Magazine.

Circulating to all municipalities a specification with schedule of quantities for the standard design for a —, and drawing their special attention to the foot-note to the detailed estimate for lightning conductor.

With orders

1st May 1885, No. 1028 W., Public Works.

33/16

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Military Works.

Read—the following letter from Colonel J. J. McLEOD INNES, V.C., R.E., Inspector-General of Military Works, to the Secretary to the Government of Madras, Public Works Department, dated Simla, 3rd March 1885, No. 988:—

I have the honor to forward, for information and guidance, sixty copies of the type plans noted below:—

British Infantry Series, Nos. 60-A to 60-G and 61, "Station Magazines."

Order—dated 1st May 1885, No. 1028 W., Public Works.

Communicated to Superintending Engineers and to the Military Department.

(True Extract.)

(Signed) J. SHAW-STEWART, Colonel, R.E.,
Secretary to Govt., P.W.D.

To Superintending Engineers, } with copies of type plans.
To the Military Department, }

Exd. E. Fernandez.
Spare Copies

BUILDINGS AND ROADS.
MILITARY WORKS.

Govt. of (1885) Madras.

PUBLIC WORKS.

Dated May, 1st.

Recd. *Encl.*

G.O., 1st May 1885, No. 1028 W.

MAY.

Type Plans

Copies of —, British Infantry Series, Nos. 60-A to 60-G and 61, "Station Magazines," communicated to Superintending Engineers and to the Military Department.

No. 3076

Superintending Engineer's Office,
5th Circle, Madras,
Chepauk, 28th November 1883.

334/17

From

The SUPERINTENDING ENGINEER,
5th Circle,

To

The Chief Engineer
Public Works Department
Madras.

Enclosures.

Sir,

In the Schedule of Major Military Works - appendix to G. O. No 3002 W. dated 24th October 1883, an Estimate is required for a "Regimental Magazine on the Standard Plan" at Palaveram (Item 21) I have the honor to request that you will be so good as to furnish me with a copy of the Standard Plan for a

magazine

Magazine Item No. 537 in Page 178 in the Statement of authorised accommodation for the different Arms of the Service – Circulated with G. O. No. 2202 W of 20th September 1880.

I have the honor to be

Sir,

Your Most Obdt. Servant.

Hew. Prendergast Col. R.E.

Supg. Engineer 5th Circle

334/18

AR C 10597

From

THE SUPERINTENDING ENGINEER,
5TH CIRCLE,

To

THE Chief Engineer
P. W. D.

A No $\frac{3002}{3003}$ W 24. 10. 83

Dated 28th } November 1883.
Recd. 29 }

ENCLOSURES.

No 3489 Wa of 5-12-83

Sahib
the plan asked for, which is No 105 of G. I. D.P.W. Cir No. 77 of 1864, forms one of the items in the accompanying indent as no copy has been ever received in this office

WSH

30/11/83

No. 3076

Standard plan for a Magazine — Requesting to be furnished with a copy of —.

Public Works Departmen

No 3489 Wa of 5th December /83

339/19

To

The Inspector General of
Military works.

Sir,

I am directed to request that you will be good enough to furnish this office for distributio with the sixty copies ~~usual numbers~~ ~~of Copies~~ of the standard plan of magazine for a Regiment of Native Infantry issued with Government of India Circular No 77 ×
of 1864

× no of plan 105

S 5/12 2.

One Copy of the plan is immediately requirea

equired for ~~the~~ preparation
of an estimate for a
magazine for the Native
Infantry Regiment at
Pallavaram.

C.J.
1/12

I.C.
18c 3-1-84

No 3489 W d/5-12-83

EJC

All communications to be addressed to the Inspector General of Military Works.

No. 6271

334/20

FROM Colonel G. de Palezieux Falconnet R.E.
offg: INSPECTOR GENERAL OF MILITARY WORKS,

To

THE Secretary to the Government of Madras
Public Works Department

SIMLA, 24th December 1883.

Sir,

In reply to your letter No. 3489. W. dated 5th instant requesting to be furnished with 60 copies of the standard plan of magazine for a Regiment of Native Infantry, I have the honor to state that the type plan has not yet been published, but that as soon as it is, the number of copies you ask for shall be supplied.—

I have the honor to be,
Sir,
Your most Obedt. Servant,
W. G. Nicholson — Major R.E.
For Offg. Inspector General Mily. Works

JMR

P.W. No. 11620

A/B No. 3489 W d/ 5. 12. 83

A No. 3002 W d/ 24. 10. 83
" " 3003 W d/ 24. 10. 83

Recd 31/12/83

C/ No. 18C d/9th January/84

Communicated to the Supdg. Engr., 5th Circle, with reference to his letter No: 3076 dated 28th November 1883

21/12

7-1-84

S. E. 5th Circle

Entered in the Reg

No. 2961

SUPERINTENDING ENGINEER'S OFFICE,
5TH CIRCLE, MADRAS,
Chepauk, 3rd November 1884.

From
THE SUPERINTENDING ENGINEER,
5TH CIRCLE,

3 3/7 / 21

To
THE Chief Engineer
P. W. Deptt.

SIR,

nclosures.

With reference to your Memo No. 18C dated 9th January 1884, I have the honor to request that I may be informed if the Type plan of a Magazine for a Regiment of Native Infantry has been received.

I have the honor to be
Sir
Your Most Obedt. Servt.

[illegible] Prendergast Colł. R.E.
Superintg. Engr.
5th Circle

THE SUPERINTENDING ENGINEER,
5TH CIRCLE,

To
THE Chief Engineer
P.W.D.

Dated 3rd } November 1884.
Recd.

ENCLOSURES.

No. 2961

Magazine for a Native Infantry Regiment — Requesting to be informed if the Type plan for a — has been received.

In reply to letter from the Supt. Engr. V Circle No: 2961 dated 3rd November 1884, the undersigned has the honour to state the type plan of a magazine for a regiment of Native Infantry has not yet been received.

6.11.84

6.11.84

No. 18 C of 19-1-84.
G.O. B/3489 W of 15-12-83
" " A/3002 W of 24-10-83
" 3003 W of 24-10-83

To The S.E. V Circle
Desp. 10-11-84

14/11

With memo

Public Works Department, 1885-86.

3 34/22

Current No. [illegible]
Letter No. 4538
Dated the 3rd February 86
From the S.E. V Circle

NOTE OF REMARKS.

1. The accompanying estimate provides for constructing a powder magazine for a Regiment of Native Infantry at Pallavaram in the Chingleput district. The estimate amounts to Rs. 4,900. — Magazine — Rs. 3,055, Enclosure wall — Rs. 1,845

2. The magazine is to be built according to type plan No. 60 D., and the enclosure wall according to type plan No. 61 circulated with G.O. No. 1028 W. of the 1st May /85. — The masonry is to be of brick in mortar. The flooring is to be of teakwood planks. The roof is to be of circular arch work of brick in mortar. — Lightning conductors are provided.

The rates are fair — the estimate has been counter-signed by the Qr. Master General, and has been approved in the Military department.

Recommended for sanction

6/2/86

5th February/86
B.H.

334 N

No. 4412

SUPERINTENDING ENGINEER'S OFFICE,
5TH CIRCLE, MADRAS,
Chepauk, 27th February 1885.

334/29

From
THE SUPERINTENDING ENGINEER,
5TH CIRCLE,

To
THE Chief Engineer
P. W. Deptt.

SIR,

Enclosures.

With reference to your Memoranda No. 18P and 1830P dated 9th January and 10th November 1884, I have the honor to report, that by the Quarter-Master General's letter No. 159 dated 15th January 1885, His Excellency the Commander-in-Chief considers the Magazine for the Native Regiment at Palavaram to be urgently required. I ought therefore to have as early as possible the

1.56 J.H.
90 | 1

the Standard Plan for
Magazine, as asked for
in my letters No. 3076
and 2961 dated 28th Novemb-
-er 1883, and 3rd November
1884.

B No. 3489 W d/5/12/83

130 C d/10/11/84

I have the honor to be
Sir
Your Most Obedt Servant
Hew Prendergast
Coll. R.E.
Superintendg Engr
5th Circle

334/34

437 Ca/4th March 85

Memo

Adverting to letter from the S.E. V Circle No. 4412 d/. 27th February 1885. the undersigned has the honor to state that a standard plan for a magazine for a regiment of Native Infantry has not yet been received from the Inspector General of Milty. Works.

2. As however a magazine at Pallavaram is stated to be urgently required, the Supdg. Engineer may submit for the approval of the Military authorities a plan & estimate based on the type design circulated with G.O. No. 2564 W d/ 13 Sept. 1883 & No. 3074 W d/ 13 Decr. 1884, pointing out at the same time, that it is a design ordinarily intended for Municipal powder magazines. If this be considered suitable it can be submitted for the sanction of Govt. in the usual course.

C.D.
3.3.85

S.E. V Circle

From

The Superintending Engineer,

5th Circle.

To

The Chief Engineer
P.W.D

Dated 27th } February 1885.
Recd. }

Enclosures.

No. 437 Ca/4-3-85

No. 4412.

Magazine for the Native Regiment @ Palavaram

Requests to send the Standard Plan for — for reasons stated

with memo

P.W.C. No. 225

25

D.W.

The accompanying estimate for constructing a powder magazine at Pallaveram must, subject to your approval, be sent to S.E.V. to whom it has not yet been submitted.

BH
15/1/86

Yes
15/1/86

SAW

1886.

P. W. DEPARTMENT.

Current No. 225

From

The Military Department

ENCLOS.— 4

No. 184.

Dated 8th January 1886.

Received 11th " "

SUBJECT.

Transferring approved letter from the Qr. Mr. General forwarding for sanction estimate for constructing an enclosing wall and a powder magazine for the Madras Infantry at Pallavaram.

DISPOSAL.

No. 233 C Dated 17—1—86.

Forwarded to the Superintending Engineer V Circle for countersignature if approved and return

(By order)

Sd/ Duncan Campbell Captn. R.E.
Dy. Chief Engineer P.W.

Sd. 19-1-86 J.D.
20/1

437C. 4-3-85-
1128W - 1-5-85-
3074W - 13-12-84
1830C - 10-11-84
18C - 9-1-84
3489W - 5-12-83
3002W - 24-10-83
2564W - 13-9-83.

334/28

QUARTERMASTER-GENERAL'S OFFICE,
Ootacamund, 6th January 1886.

Barracks and Buildings
Estimates.

No. 40.A

p1

334/29

From

THE QUARTERMASTER-GENERAL,

To

THE SECRETARY TO GOVERNMENT,
MILITARY DEPARTMENT.

SIR,

I HAVE the honor, by order, to forward for sanction and transfer to the Public Works Department for disposal, the estimate, ~~plan~~, &c., below-mentioned which have been approved by the Commander-in-Chief. The ~~plan and~~ estimate has been countersigned.

Estimate amounting to Rs: 4896 (with report and specification for constructing an Enclosure wall and a powder Magazine for the Madras Infantry Regiment at Pallaveram.

I have the honor to be
Sir
Your obedt Servant

D J Macleod Major
Dy: Qr Mr Genl

Rct No 5753
20-1-86

MILITARY 1886. DEPARTMENT.

Drch 21/225
884/86

No. 132

From

THE QUARTER MASTER GENERAL,

To

THE SECRETARY TO GOVERNMENT,
MILITARY DEPARTMENT.

11 Jan

No. 184. Approved and transferred to the Public Works Dept for disposal.

(By order)

A Kenney Herbert Lieut Col
Secretary to Government.

Fort Saint George
8th January 1886

No. 233 C of 19th Jany 1886.
Forwarded to the Supdg Engineer V Circle, for countersignature if approved and return

(By order)

[illegible] Captain R.E.
Dy Chief Engineer P. W. D.

16.1.86

No. 40.A

Dated 6th January
Received 8th
Recd 11

6E

ENCLOSURES. 6

Forwards for sanction Estimate for constg: an Enclosure wall & a powder Magazine for the N.I. at Pallavaram

[illegible] Chief Engineer [illegible]
No. 437 C d/ [illegible]

[illegible]
20/1/86

SUPERINTENDING ENGINEER'S OFFICE,
5TH CIRCLE, MADRAS,
Chepauk, 3rd Feby 1886.

No. 4538

p 3

334/29

From

THE SUPERINTENDING ENGINEER,
5TH CIRCLE,

To

THE Chief Engineer
P. W. Department

SIR,

With reference to your endorsement No. 233 C dated 19th January 1886, I have the honor to return with my Countersignature the estimate of Rupees 2,900 for constructing a Powder Magazine with enclosure wall for a Regiment of Native Infantry at Pallavaram.

I have the honor to be
Sir,
Your most obdt. Servant
Alexr Pender [illegible] Col R.E.
Superintending Engineer
5th Circle

Enclosures.

× enclosed:

1 original Endorsement (returned)
2 Detailed estimates
1 Abstract estimate.
1 General Abstract.
1 Report
1 Specification.

7.

From Mily. 684

THE SUPERINTENDING ENGINEER,

5TH CIRCLE,

To

THE Chief Engineer

P.W. Department.

3 FEB

Dated 3d } February 1886.
Recd. 4 }

ENCLOSURES. 7.

No. 4538.

Powder Magazine for a Regiment of Native Infantry at Pallavaram.

Returns countersigned the estimate of Rs 4900 for constructing a ——

B & R
Mily works

No. 334 W

PUBLIC WORKS DEPARTMENT.

339/30

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the February 8. 1886

READ the following

From the Quarter Master General. H. E. No. 40 A d/8th January 1886.
Endorsement by the Military Deptt. H. E. No. 184 d/8th January 1886.
From the Supty. Engr. V Circle. H. E. No. 4538 d/3rd February 1886.

The estimate amounting to Rs. 4,900, for constructing a powder magazine for a regiment of Native Infantry at Pallavaram, is sanctioned for execution when funds are available.

2. This sanction has been registered as Imperial Ordinary No. 63 W of 1885-86, and classified as Military Original Works.

6/2/86

To

The Supty. Engr. V Circle with 3 enclos.
" Examiner P. W. Accts with the duplicate abstract estimate
" Military Department.

Despd 15/2/86

6.2.86

Maj

884

Govt. of 1886 Madras.

PUBLIC WORKS

Dated 9/2/86

Recd Each

G.O. 8 Feb 1886, No 334 W

Powder Magazine for
N. I. Regt. at Pallavaram
Est for —, sanctioned

70/6