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(2) Date of repair_____

(3) Initials of the Referencer_____

MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	2018	Press
B.P. No. 214-215		Mis.
Dated	14-8-	1873.

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department, 14th August 1873.

No. 214. Read the following letter from Colonel E. A. FOORD, R.E., Inspecting Engineer for Civil and Military Buildings, to Colonel G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Bangalore, 17th July 1873, No. 800 :—

WITH reference to your endorsement on a letter from the Superintending Engineer, 4th Division, dated 16th November 1872, No. 3,614, I have the honour to forward, for the orders of Government, an estimate of Rs. 21,270, accompanied by plans and specifications, for removing the punkah engine and boiler from their present position in the General Hospital, and fixing them in the building containing the cistern; also for providing new iron water-tanks to be placed on the roof of the building for the better supply of the hospital. The alterations proposed to be made in the building comprise the removal of the whole of the high level and a portion of the low level cisterns, the adapting the lower story for the reception of a pair of boilers with cistern and fuel room. The engine is intended to be fixed in the second story over the boilers. New wrought iron cisterns will be placed on the roof, and they are intended to be filled by a pump on the second story which can be worked by the engine. The chimney now in the hospital is to be removed and a new masonry chimney, 50 feet high, is to be built adjacent to the new position of the boilers. The engine is intended to work in the same horizontal plane as that of all the punkah ropes.

1 Endorsement from Chief Engineer, dated 7th December 1872, with—
1 Plan and 1 letter.
1 Committee's Report on Mr. Orr's scheme with—
1 Enclosure.
4 Plans.
2 Estimates.
2 Specifications.

2. The amount of this estimate is considerably increased by its including the cost of new wrought iron water-tanks, the cisterns at present in use being taken up for the engine and boilers. The increased head of water which will be obtained will be an advantage, though it is not absolutely necessary.

3. The preparation of this estimate was commenced by the District Engineer on instructions originally given to him by the Superintending Engineer. Afterwards, on a suggestion made by Mr. P. Orr, who put up the punkah engine, he prepared the second estimate, amounting to Rupees 9,720, which, with its plan and specification, is also forwarded with this letter. It provides for placing the boilers on the roof of the hospital above the engine, which is to be left in its present place. The roof will have to be strengthened and a new chimney built. A portion of the terraced roof of the first and second stories will have to be removed and replaced by moveable wooden floors, and a room built on the roof to contain the boilers, etc.

4. Another suggestion of Mr. Orr's was to place the engine and boilers by the wall on the side of the road leading to the hospital bridge, but besides other objections to the site, the boilers would be a source of danger to the contagious diseases wards not far off. If it is determined to move the punkah engine out of the hospital, it might be done most cheaply by selecting a site corresponding to the reservoir building on the opposite side of the hospital, and setting up the boiler and engine on the ground and building a shed over them with space for fuel, etc.

5. By placing the boilers on the roof of the hospital, or in a building close by, danger from an explosion is lessened but not altogether removed. The danger would also be considerably lessened, even if the engine remains where it is, by having a second boiler in the hospital. As only one would be in use at a time, the other could, in the intervals, be carefully examined, and as the engine is only used during half the year, it would always be possible to commence with every part in thorough repair and good working order. There is not space in the present boiler room for a second boiler, but one could be put into the corresponding room on the other side of the stair-case. The risk, and at the same time the cost of working would also be lessened by substituting a condensing engine for the one now in use, as recomm ended by the Committee in their report, dated April 29th, 1872.

No. 215. ORDER THEREON, 14th August 1873, No. 2,018.

MILITARY WORKS, No. 6.

WITH his letter No. 800 of 17th July, the Inspecting Engineer for Buildings submits, for the orders of Government, two alternative arrangements of the steam punkah-pulling machinery taken over from Mr. Peter Orr, estimated to cost respectively Rupees 21,270 and Rupees 9,720, prepared on the Chief Engineer's Endorsement of 7th December 1872, for disposal by him, of communications on the subject from the Superintending Engineer, 4th Division, and from Mr. Peter Orr; but he expresses no opinion on their relative merits.

2. It is, however, gathered from the concluding portions of his letter that he would advocate retention of the machinery in its present place; a condensing engine being substituted for the existing one as safer and cheaper in working, and a second boiler added in an adjoining room. It is to be regretted that these views were not earlier submitted for the information of Government in order that a reference might have been at once made to the Medical Officers in charge of the Hospital, to ascertain if the objections to the present location of the machinery, (which is the most advantageous in a mechanical point of view,) are insuperable; as the result might have been that punkah-pulling by machinery need not have been discontinued throughout the hot season as has unfortunately been the case. Such reference will now be made in the Public Department, and the Inspector-General of Hospitals instructed to report on the subject at an early date. It appears to His Excellency the Governor in Council that the risk of working a steam engine and boilers in the position originally given to Mr. Orr's has been assumed to be much greater than is the case really.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Inspecting Engineer for Buildings.
" Public Department.
" District Engineer, Presidency.
Exd. T. O'Connor.
Spare Copies.

Office of the Inspecting Engineer
for Civil & Military Buildings.
No. 800 Bangalore 17th July 1873.

From

Colonel E.A. Hoor d. R.E.
Inspecting Engineer for
Civil & Military Buildings.

To

Colonel G.H. Walker R.E.
Secretary to Government &c &c.

Sir

With reference to your in dorse-
ment on a letter from the Superintending
Engineer 4th Division dated 16th Novem-
ber 2nd No. 5614, I have the honor to for-
ward, for the orders of Government,
an estimate of Rupees 21270, accom-
panied by plans and specifications,
for removing the punkah engine and
boiler from their present position in the
General Hospital, and fixing them
in the building containing the Cistern, also
for providing new iron water tanks
to be placed on the roof of the building

for

Enclosures 13.
1 Endorsement from Chief Engr 7/12/72 with
1 Plan and 1 Letter
1 Committee's Report on Mr Orr's scheme with 1 Enclosure
4 Plans
2 Estimates
2 Specifications

for the better supply of the hospital.
The alterations proposed to be made in the building comprise the removal of the whole of the high level and a portion of the low level cisterns, the adapting the lower story for the reception of a pair of boilers with cistern and fuel room. The engine is intended to be fixed in the second story over the boilers. New wrought iron cisterns will be placed on the roof and they are intended to be filled by a pump on the second story which can be worked by the engine. The chimney now in the hospital is to be removed and a new masonry chimney, fifty feet high, is to be built adjacent to the new position of the boilers. The Engine is intended to work in the same horizontal plane as that of all the punkah ropes.
The amount of this estimate is Consider-
-ably

Considerably increased by its including the cost of new wrought iron water tanks, the Cisterns at present in use being taken up for the engine and boilers. The increased head of water which will be obtained will be an advantage, though it is not absolutely necessary.
The preparation of this estimate was Commenced by the District Engineer on instructions originally given to him by the Superintending Engineer. Afterwards, on a suggestion made by Mr. D. Orr, who put up the punkah engine he prepared the second estimate amounting to Rupees 9720, which, with its plan and specification, is also forwarded with this letter. It provides for placing the boilers on the roof of the hospital above the engine, which is to be left in its present place. The

roof

roof will have to be strengthened and a new Chimney built. A portion of the terraced roof of the first and second stories will have to be removed and replaced by moveable wooden floors, and a room built on the roof to contain the boilers &c.

Another Suggestion of Mr Orr's was to place the engine and boilers by the wall on the side of the road leading to the hospital bridge, but besides other objections to the site, the boilers would be a source of danger to the contagious diseased wards not far off. If it is determined to move the pumkah engine out of the hospital, it might be done most cheaply by selecting a site corresponding to the reservoir building on the opposite side of the hospital, and setting up the boilers and engine on the ground and building a shed

over

over them with space for fuel &c.

By placing the boilers on the roof of the hospital, or in a building close by, danger from an explosion is lessened but not altogether removed. The danger would also be considerably lessened, even if the engine remains where it is, by having a second boiler in the hospital. As only one would be in use at a time, the other could, in the intervals, be carefully examined, and as the engine is only used during half the year, it would always be possible to commence with every part in a thorough repair and good working order. There is not space in the present boiler room for a second boiler, but one could be put into the corresponding room on the other side of the staircase. The risk and at the

the same time the cost of working would also be lessened by substituting a Condensing engine for the one now in use, as recommended by the Committee in their Report dated April 29. 1872

I have the honor to be,
Sir,
Your Most Obedient Servant
E A Mc Colle R E
Inspecting Engineer for
Civil & Military Buildings

the purpose. Not to be used [illegible]
out

P. W. D. 1873 Department
From Pro. Lyford Esqr
No. 4082.
The Inspecting Engineer
for Buildings
To
The Secy. to Government
P. W. D.
No. 800
Dated 17th } July 1873.
Recd 21st }
Encld. 13 + 1
No. 2018 - 14th Augt 1873.
Forwards for orders
an estimate of Rs. 21270
for removing the pumping
engine & boiler & fixing
them in the building
containing the cisterns
in the General Hospital
Madras - also for
providing new iron
water tanks for the
better supply of the
Hospital -

No 814
recd 6 Oct 20th July 1873 R. 11th

26 Compton Terrace
Islington
London
4th October 1872.

To
Colonel Walker
Secretary to Government
Public Works Dept.

Sir,

I was very glad to hear through my Son the other day that Government had taken the Engine at General Hospital, and hope that there will be no reason or cause ever to regret the step. arise

I shall be happy at any time to make any suggestion for the improvement in working the Engine.

In the prospect of receiving the Engine from its present position I have sent two Sketches which would answer the purpose. So I is the one I pointed out

out to you when you visited the Hospital with me - Shed for enquire close by the wall along side of the public road leading to the Bridge the ropes leading up from the ~~shed~~ shed up to furthest projecting end of Hospital.

No 2 sketch which has occurred to me lately I think preferable in every way and will be less expensive. No 2 represents the engine and the Boilers on the top of the Hospital immediately above its present position, and utilising the Chimney and raising it sufficiently for to produce draught. In this position the engine will be near its works, pulling directly from the ends of the engine instead of the side as in No 1 which is a great advantage. Your engine house need not be much larger than cover the Engine and Boilers and of the lightest and simplest character, as on the top of Hospital, there will be no intrusion as the position is already secure. The for the supply of Coal I should propose that the present boiler room be used for storing Coals, filled up to 7 feet high. That room will contain as much Coal as will be required for the season, which would be 100 Tons; and these could be drawn up to the engine room by a couple of Coolies. I think this will be a far better arrangement than No 1 and not so expensive.

I think considerable expense could be saved on my expenditure for pulling monthly. I was labouring under many disadvantages

disadvantages which Government will not be liable to. Coals can be got at Rangoon or Calcutta for Rupees 7 or 8 per ton; which will serve the purpose very well. I suppose they might be got from Calcutta for Rupees 5 per ton. 1/2 a Ton per day. 15 tons per month. 15 × 12 = Rupees 180

Engine?
two native ~~workmen~~ must two
Coolies say —— " 60

Sundries —— " 240
" 10

Rupees 250

Engine?
One good native man, and a Coolie
(so that he should not be alone)
with such as Mr Hawkinson
to look in upon them three times
a week. Of course there would be
a day set and a night set of men

I have sent out a Reduction Valve which if put on the engine and the Steam kept a little higher than is actually wanted will so adjust the supply that the engine will require little attention.

Trusting these suggestions may be of some use.

I have the honor to remain
Your Obedt Servant
(Signed) P. Orr.

Presidency District

P.W. 4082/93.

Abstract Estimate for constructing new Engine & Boiler room on the roof of the General Hospital, Madras

Amount of Estimate Rs. 9720

Quantity	Description of works	Rate	Total Amount
	Constructing 3rd Story for Boiler & Engine room		
1860	Sft Brick work in Chunam	29	835 5
231-½	" Flat arch work in Chunam	36	48 2
149-¾	" Circular arch work in Chunam	310	35 11 5
	Pendering to Do 13rd		12
187	Sft Cornice work in Chunam	36	40 14 6
4	Nr Constructing masonry Chunam including plastering complete	14	56
281-7½	Sft Fire brick work in Clay	1¼	352 6
150	" Brick work in clay	2	18 12
925	Sft Terracing with brick on edge in Chunam Jelly 3 thick 3 Courses flatties & plastering 3 Coats of Chunam to the ceilings & tops of the terrace	28	259
650	Sft Semi Terraced roof with teakwood Creepers 3 Courses flat tiles 1½ Jelly & plastering 3 Coats Chunam	13 136	89 15 9
6200	" Plastering the walls with 3 Coats Chunam	4 9	282 14
600	" Plastering the Cornice with 3 Coats Chunam	7 10	45 12
	Carried Over	2076	2 3850

Quantity	Description of works	Rate	Total Amount
	Brought Over	5 3	9460
130 Rft	Copper bands of 1" and revetted with Copper nails &c	1 9 6	20 3
100 Rft	Iron chain to be connected with Copper band & carried out from the building 3 ft under ground	" 11	68 12
28 Rft	set for making 2 Copper clamps round the Chimney with Copper nails &c	1 9 6	4 10
	Sundry Charges &c	" 1½	6 9
			340
	Total Rupees		9800

Lt Colonel R.E.
Inspecting Engineer for
Civil & Mily Buildings

Dept Engrs Office
Fort St George
16th May 1873

Approved
Lieut Colonel R.E.
Director of Engineer Services

Compd C.
7-5-73

Quantity | Description of merchandise

150 Wht Cedar Posts @ 1 cent each 1.50

100 Wht Locust Posts @ 1 cent each 1.00

Carried forward 2.50

Quantity | Description of merchandise

Brought forward 2.50

1 Set Platform Scales 5.00

1 Set Counter Scales 3.00

1 Set Counter Scales 2.00

1 Set Counter Scales 1.00

1 Set Counter Scales 1.00

1 Set Counter Scales 1

		Brought Forward			£	2076	7	2 3850
900	Sq ft.	Flooring with 8" Spruce Bucks in Chimney		1	—	63	—	
270-3	Sq ft.	Teakwood wrought & pitsap		2	13	760	1	3
202½	Sq ft.	Pair panelled venetion Doors with frames iron folding hinges & bolts &c Complete		1	5	195	1	10
9½	"	Pairs venetion window Shutter with frames iron folding hinges & bars &c Complete		1	8	141	12	
21	"	Pairs Do Do Do &c Complete		1	8	31	8	
100	"	Iron gradings with teakwood frames &c		1	—	100	—	
10	Ft.	Iron Trunk with iron Clamps &c		25	—	250	—	
1450	Sq ft.	Lead Colour paint 3 Coats to the Joists &c		2	12	39	14	
1000	"	Green paint 3 Coats with Europe Verdigries to the Doors and Windows		1	12	47	8	
Lump		Sum for Conveying the Boiler & Engine from the ground floor to the 3rd Story, repairing & fixing the same		"		200	—	
		Sundry Charges & Scaffolding &c		"		196	11	9
								4100
		14						
		Constructing Chimney						
		Laying Concrete under the foundation of the Chimney				24	11	7
78½	Cft.	Large size Brick work in Chimney				6	533¼	
1422	"	Granite Stones 2 line dressed of 5½ Dr by 1½ ft. thick in 2 Pieces Each		35	—	70	—	
2	"	Do Do 5' Dr by 1½ ft. thick		35	—	70	—	
2	"	Do Do 4½ Dr by 1½ ft. thick Do with 1½ ft Dr		43	—	129	—	
3	"	Do Do 4½ Dr by 1½ ft. thick with 1½ ft. Dr flue as Plan		40	—	120	—	
3	"	Do Do 4 Dr by 1 ft. thick with 1½ ft. Dr flue as Plan		60	—	180	—	
3	"	Cap Granite Stones 3 line dressed with flue 1½ ft. Dr including Cornice &c Complete as Plan		"	3	9	9½	
51⅛	Cft.	Brick work in Chimney		49	41	1	"	
900	Sq ft.	Plastering the Chimney with 3 Coats Cement		"	"	4	—	
		Excavating foundation & removing the earth		2	—	80	—	
40	Ft.	Iron Clamps for the granite Stones with lead &c				261	9	11
		Sundry Charges & High Scaffolding &c						1510
		15						
		Providing Lightning Conducter for the Chimney						
3	Ft.	Copper Strap for fixing in the Cap granite stone		1	10	5	3	
		Carried Over				5	3	9460

Quantity	Description of works	Price	Total Amount
	Brought over	5	3 9460
130 Rft	Copper bands of 1" and revetted with Copper nails &c	1 9 0	20 7 3
100 Rft	Iron chain to be connected with Copper band & carried out from the building 3 ft. under ground	" 1 1	6 8 12
28 Rft	Set for making 2 Copper clamps round the Chimney with Copper nails &c	1 9 6	4 4 10
	Sundry Charges &c	" 1 4	6 9
			3 4 0
		Total Rupees	9800

Lt. Colonel, R.E.
Inspecting Engineer for
Civil & Mily. Buildings

per Dist. Engr's Office
Fort St. George
16th May 1873

Lieut. Colonel R.E.
Superintending
District Engineer Presidency

Compd. D.V. 7-5-73

Quantity	Description of works	Rate	Total Amount
	Brought Over		2128 16 7200
450 Sft.	Terracing the stair Case room with brick on edge in Chunam Jelly 3" thick & plastering 3 Coats to the Ceiling	1 4 5	64 6 6
650 "	Plastering 2 Coats Chunam to the walls	2 / 3	15 15 1
6 No.	Cast iron Columns with base & Capitals & Complete as Pr Pattern	72 —	432 —
	Rate of W Stones	3 —	18 —
6 "	Granite Stones under the beams	2 8	1 / 8
	Coolys hire for cutting the wall & fixing the ends of the 3 beams with masonry	2 13	1 4 8 2 11
504-2-11 Cft.	Teakwood wrought & put up		12 —
1 No.	Trap Door 1" thick with Circular frames hooks hinges & bolts &c	18 —	1 / 2 11 11
404 1/8 Sft.	Teakwood flooring 1/2" thick over the joists		
78 Rft.	Teakwood batten Cleats & screw for fitting the joists & floor over the beams	5	2 6
109 1/2 Rft.	Teakwood steps with side, head, raise plants hand frames turned rails & Complete	2 —	219 —
1 "	Teakwood turned rails with top & bottom frames & Complete for Stair Case well	1 4	20 —
	Coolys hire for fixing the iron Columns & Sundry Charges &c		1 3 3 4 9
			2650 —

13

	Constructing 3rd Story for Boiler & Engine room		
1860 Cft.	Brick work in Chunam	29	835 5
231-4 1/2 "	Flat arch work in Chunam	3 4	482 —
149 3/4 "	Circular arch work in Chunam	3 10	35 11 5
	Pendering to Do 3rd		12 —
187 — Cft.	Cornice work in Chunam	3 6	40 14 6
4 No.	Constructing masonry Chimnies including plastering Complete	14 —	56 —
281-7 1/2 Cft.	Fire brick work in Clay	1 4	352 6
150 "	Brick work in Clay	2	1812
925 Sft.	Terracing with brick on edge in Chunam Jelly 3" thick 3 Courses Flatties & plastering 3 Coats of Chunam to the Ceilings & Top of the terrace	28 —	259 —
650 Sft.	Semicircular roof with teakwood Cupper 3 Courses flat tile 1 1/2 Jelly & plastering 3 Coats Chunam	13 13 6	89 15 7
6200 "	Plastering the walls with 3 Coats Chunam	4 9	282 4 "
600 "	Plastering the Cornice with 3 Coats Chunam	7 10	45 12 "
	Carried Over		20672 3850 —

Estimate of Repairs 1800

Sugar Store

The roofs to be built in the verandah and 6 cast iron columns to be fixed in the position shewn on the drawing to support the beams which will carry the moveable wooden floor

The present terrace to be removed entirely and to be replaced by a moveable wooden floor consisting of teak wood joists 3" planking fixed with screws cleats and battens

A portion of the terrace of the Boiler room about 11 feet square to be removed and a trap door to be fitted to admit of hoisting coal.

Engine Store

The existing terrace of the verandah store, & Engine Rooms to be removed

The Engine and store rooms to be retained the joists with brick on edge inchunam 3ly thick & the ceiling with 3" brick on edge in chunam 3" Jelly and coats of plastering on the ceiling.

The rest of the alterations are similar in character to those specified for the ground floor.

A Teakwood ladder 36'x3' with side & tread planks & turned hand rails &c complete & painted to be supplied

Third Floor

The Boiler & Engine Rooms will measure 30'6"x26 3/4' but in the clear & will be separated by a masonry partition wall. A colonnade verandah to be built in front 15'2 wide of brick inchunam & of the thickness & height of walls shewn in the drawing.

The rooms to be terraced with brick on edge inchunam 3" thick 3 courses of flat tiles & plastering 3 coats of chunam to the ceiling & top of the terrace & the verandah roof to consist of 3 courses of flat tiles 1/2" Jelly & plastering 3 coats of chunam & cornice

Walls to be plastered with 3 coats of chunam & the floor with 8" square bricks in chunam.

Panelled venetian doors & venetian windows and iron gratings to be supplied & to be painted also the existing Boiler & Engine to be repaired & fixed over the bed carefully as detailed in the plan & Estimate.

A Chimney to be built 71'/4 running feet in height of brick in Mortar

Mortar, with granite bonding Stones, 3 Iron dressed filled at intervals and a granite sash at the Sth. The inside to be plastered with 3 Coats of Cement. Copper lightning Conductors to be provided as detailed in the Estimate.

Dist Engineer

Dist Engineers Office

16th May 1873

Brevet Colonel, R.E.
Inspecting Engineer for
Civil & Mily Buildings

7-5-73

chunam to the ceiling, and over the Terrace.

15 Walls, Pillars, Pilasters and cornice to receive 2 coats of plaster

16 Beams, joists, floors, wooden roof, Doors, windows, ventilators ladders, iron guards to be in position and of the dimensions figured on the drawing and to be painted with 3 coats of paint as detailed in the estimate.

17 Cast iron flanges, steam and water pipes, to be provided as detailed in the estimate.

18. The present chimney and punkah engine in the Hospital to be removed, & the engine and boiler Rooms to be repaired and cleaned

19. Details, position of machinery and full particulars to be carried out as exhibited in Plan and Estimate.

Ex^d and Colonel R.E.
Inspecting Engineer for
Civil & Military Buildings

Prest^y Civil Engrs Office
Fort Saint George
11 February 1873
Ex^d R.C.

Lieut^t Col^o R.E.
Divisional Engineer Presidency

Presidency Division

P. W. 4082/73.

Specification &
accompany Plan & Estimate
for constructing new Engine
& Boiler rooms on the roof
of the General Hospital
Madras

Amount of Estimate Rs. 9220

Specification & Report for adapting the present High and Low Level Reservoir of the General Hospital as a Boiler and Engine Room of the Punkah in the General Hospital and providing iron water tanks on the roof for the supply of the General Hospital

Amount of Estimate Rs. ~~2,000~~ 2,270.

1. The whole of the High level cistern will be removed level with the extrados of the present Lower story arches, and a portion of the low level cistern to be removed.

2. The Lower story of the building will be converted into a Double Boiler room, two masonry water cisterns, and a space for stacking fuel see plans A

3. The boiler room will be adapted to receive the boilers by prolonging the centre section of the cistern on the North side to an extent of 9 ft 2-6 giving a total length of 30½ feet for the boiler room.

4. The boilers will be placed North and South.

5. The fuel rooms will take the place of nearly the entire content of the existing Low Level cistern. A small space measuring 16 × 12½ being retained as a cistern under each fuel room from whence a pump to be worked by the Engine will pump the water into the iron tanks to be provided on the roof of the building.

6. The second story will be occupied by the Punkah Engine measuring 31 × 22 feet and a Pump, also a store room. measuring 16 × 12½

7. The whole of the Engine room and the pump room will be newly constructed right over the Lower story and the Engine placed over the boiler

8. The steel wire punkah ropes will lead one over & one under the Engine the motion will be transferred in such direction as is required cast iron pulleys as shewn in plan.

9. The pump will be worked by the Engine, by means of an axle, wheels

whistle, and bell.

10. The wrought iron water tanks will be placed on the roof of the Engine room and be supplied with water from the lower cisterns by means of a double force pump. The tanks will be covered with a tyne roof.

11. A Masonry Chimney will be constructed adjacent to the building, 50 ft. high, thickness of masonry at bottom 2 ft. and at top 1½ ft with a flue of 8" diameter; bond stones & lightning Conductor will be provided & the whole of the Chimney plastered with 3 coats of chunam on the outside.

12 The thickness and depth of the walls to be as figured in the drawing, the walls to be of brick in chunam.

13. The floor of the lower story, or Boiler room covered of one line dressed granite, and the floor of the Engine room to be boarded.

14 The roof of the Engine room to be terraced with brick on edge in chunam 3" jelly, 3 courses of flat tiles & plastered with 3 coats of chunam to the ceiling; and over the terrace.

15 Walls, Pillars, Pillasters and cornice to receive 2 coats of plaster

16 Beams, joists, floors, wooden roof, Doors, windows, ventilators ladders, iron guards to be in position and of the dimensions figured in the drawing and to be painted with 3 coats of paint as detailed in the estimate.

17 Cast iron flanges, steam and water pipes, to be provided as detailed in the estimate.

18. The present chimney and punkah Engine in the Hospital to be removed, & the Engine and boiler Rooms to be repaired and cleaned

19. Details, position of Machinery and full particulars to be carried out as exhibited in Plan and Estimate.

Ed Md Colonel R.E.
Inspecting Engineer for
Civil & Military Buildings

Prest Dist Engrs Office
Fort Saint George
11 February 1873
Ex M.Cr

Lieut Col RE
Dist Engineer Presidency

1179/73

Presidency.

No. 2018/73

P.W. 4082/73.

Specification Report-
for adapting the present
High and Low level Res-
ervoir of the Genl Hospital
as a Boiler & Engine Room
of the Punkah in the Genl
Hospital & providing Iron
Water Tanks in the roof
for the Supply of the General
Hospital.

Estimate Rs ~~21.000~~ 21.270.

A. B.

No. 2018 P.W.D.

Pro. of the Madras Govt.
Read the Memo.

From the Supdg Engr for S.H.E. No 800 of 17th July/73
Build Mps - 3

With his letter
No 800 of 17th July the
Superintending Engineer for
Buildings submits
for the orders of Govern-
-ment two alternative
arrangements of the
Steam Punkah pulling
Machinery taken
over from Mr Peter Orr,

estimated to cost
respectively Rs. 21,270
and Rs. 9720, prepared
on the Chief Engineer's
Endorsement of 7th
December 1872, for
disposal by him,
of communications
on the subject from
the Superintending
Engineer 4th Division,
and from Mr. Peter Orr.
But he expresses no
opinion on their relative

merits.

It is however gathered from the concluding portions of his letter that he would advocate retention of the machinery in its present place; a condensing engine being substituted for the existing one as safer and cheaper in working, and a second boiler added in the adjoining room. It

is to be regretted that these views were not earlier submitted for the information of Government in order that a reference might have been at once made to the Medical Officers in charge of the Hospital, to ascertain if the objections to the present location of the machinery, (which is the most advantageous in a mechanical point of view), are insuperable; as the result might have been that Punkah pulling by machinery need not have been discontinued throughout the hot season as has unfortunately been the case. Such reference will now be made in the

Public Department,
and the Inspector General
of Hospitals instruct-
-ed to report on the
subject at an early
date. It would
appear to His Excel-
-lency the Governor
in Council that the
risk of working a
Steam Engine and
Boilers in the posi-
-tion originally given
to her Ors has been
(ignorantly) assumed
to be much greater
than is the case
really.

G.W.R.

To S.J. Clerk for Report
Pub. Dept.
D.L. Pringle
S. Comptr.
20/8/73

Govt. of {1873} Madras.

PUBLIC WORKS.

To Superintending Engr for Buildings

Dated

Recd.

Encl.

G. O. 14th Augt 73. No. 2018.

Hon 214 & 215

Punkahs. Passing orders in letter from the Supdg. Engr for Buildings submitting two alternative arrangements of the Steam Punkah Pulling Machinery for the General Hospital taken over from the P. Dept.

H. 214. 15.

R. 11 Augt 73