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MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

G.O. No. 18258/1826	Press Mis.
199-207	
Dated 11 - 6 -	1866.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
11th June 1866.*

Read the following papers:—

No. 199. From the Superintending Engineer, 7th Division, to the Secretary to Government, Department Public Works, dated Coimbatore, 7th September 1865, No. 116.

1. Government Order No. 2,063, of 18th July, having reached me on the 25th of that month, I gave orders that the required examinations of Barrack floors in the 7th Division should take place in August, the last month of the south-west monsoon; and I have now the honor to submit copies of the reports received.

2. CANNANORE INFANTRY BARRACKS.—
• No 330, dated 12th August 1865, from Major I should judge from this report* that
No 100. whatever objection on the score of damp-
ness may be taken in the Military or Medical reports that may be sent in, will be effectually removed by the substitution of wooden floors throughout the ranges, after the completion of the subsidiary buildings now under construction, and of the new Artillery Barracks; a stock of timber being laid in, meanwhile, to season. Not that I have any information which would lead me to anticipate such objection. The Barracks are close to the sea and fully exposed to the monsoon.

3. CALICUT AND MALLAPOORUM DETACHMENTS.—The only damp spot alluded to by Mr. Bailey is a verandah of the Calicut Barracks, formerly a private residence, condemned as unfit for the accommodation of Troops in my letter No. 12 of 16th May 1865. It is situated on a laterite hill, within a mile of the sea, and fully exposed to the monsoon; but on which no water lodges. The Mallapoorum Barracks are some 20 miles inland, on a dry laterite hill.

4. WELLINGTON BARRACKS.—Have
No 195, dated 2nd September 1865, from Major boarded floors throughout, perfectly free
I sawell. from damp.

From the Assistant Engineer, Cannanore, to the Superintending Engineer, 7th Division, dated Cannanore, 12th August 1865, No. 330.

1 Agreeably to your endorsement on Government Order No. 2,063, of 18th July 1865, I have the honor to report that, in communication with the Officer Commanding H. M. s 102nd Regiment, I caused a portion of the flooring in each room of the Barracks to be opened on the 5th to the depth of 1½ to 2 feet.

2 The day was wet, and in the height of the monsoon. The flooring of all the rooms in the Barracks appeared damp, but I attribute this to the humidity of the atmosphere and the men's boots being wet, as seen at the time the chunam rubbed over the floor on the last Saturday was generally as dry as could be expected in such a climate; the flooring was well set in good mortar, the earth taken out and examined was tolerably dry in all the rooms except No. 1 of Right and Left Wing New Barracks respectively, which appeared slightly more damp.

*Old Barracks, Right Wing.

Room No.	1	2	6
Do "	2	3	6
Do "	3	3	4
Do "	4	2	4
Do "	5	2	9
Do "	6	3	1
Do "	7	3	0
Do "	8	3	1
Do "	9	3	0
Do "	10	3	0
Do "	11	4	0
Do "	12	2	5

3. The earth in the old Barracks to a foot in depth, when squeezed in the hand, took the impression of the hand to the same extent as newly ground coffee would. On the hands being struck smartly together after, small traces remained of earth stains, and a few grains adhering to the palms of the hands showed it was dry as could reasonably be expected. At a depth of 1½ to 2 feet the soil became slightly more damp.

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Old Barracks, Left Wing.

Room No.	1	2	3
Do "	2	2	2
Do "	3	2	4
Do "	4	1	2
Do "	5	1	3
Do "	6	1	2
Do "	7	1	4
Do "	8	1	4
Do "	9	1	1
Do "	10	1	3
Do "	11	1	13

but nothing to make me suppose that the dampness apparent on the floor exuded through the flooring.

4. I have given in the margin the height of the basements of the respective rooms in the Barracks above the ground.

From the Sub-Engineer, Malabar, to the Superintending Engineer, 7th Division, dated Malabar, 1st August 1865, No. 202.

With reference to your endorsement dated 25th, on Proceedings of Government No. 2063, dated 18th ultimo, I have the honor to inform you that none of the floor in the Military buildings in this range are at all damp, with the exception of the northern verandah of the Barracks at West Hill, and this owing to the ground on the outside of the verandah being nearly three feet higher than the floor, and supported by a dwarf wall.

From the Executive Engineer, Nilgherries, to the Superintending Engineer, 7th Division, dated Coimbatore, 2nd September 1865, No. 125.

With reference to G. O. N. 2,063, dated 18th July 1865, and your endorsement thereon, I have the honor to report, that yesterday in the presence of the Senior Medical Officer of the Garrison, Dr. Bryson, I had several places in the floors of the Barracks at Wellington opened out, and examined as directed, and found that the bottoms of the boards were perfectly dry as also the earth below the floors, no signs whatever of damp were observable; the planks are fitted so tightly and closely together that no percolation of water from washing them appears ever to have taken place, the average height of the boarded floors above the level of the ground were found to be two feet, the drainage from the buildings is very good and the floors are well ventilated below, these floors do not appear to me to be ever likely to be affected by damp.

No. 200. From the Acting Superintending Engineer, 6th Division, to the Secretary to Government, Department Public Works, dated Tanjore, 6th November 1865, No. 1,315.

Enclosure 1.

1. With reference to your reminder No 217, dated 30th October, I have the honor to forward a Memorandum of examination by the Executive Engineer of Trichinopoly of the soil beneath the floors in the European Barracks and Hospital at Trichinopoly, called for in G. O. No 2,063, dated 18th July. The report was delayed owing to our having had very little rain during the present monsoon, and in

No 57 of 22nd June.

paragraph 2 of Colonel Dickens' Circular a report on the state of the Barracks during the rainy season is called for.

2. The buildings were examined by Colonel Greenaway after heavy falls of rain, and the soil below the floor to the various depths mentioned in the enclosure was found perfectly dry in every case.

3. The buildings stand on hard gravel over rock, and the surface inclination of their sites is so considerable that there is no possibility of water lodging in their neighbourhood, or of its finding its way under the floors.

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Memorandum of examination of soil beneath floor in the following buildings:—

Buildings.	Number of hole	Depth	Nature of soil	Height of floor above ground.	State in which soil was found.	Dates when examined.
Artillery Barracks	1	6ft 9in	Hard gravel and rock at 6-2"	1 foot.	Quite dry.	Inspected by myself on the 7th and 21st August, 4th September and 21st October, each time after heavy rain preceding, also several times by Cantonment Overseer.
European Barracks	2	7 feet 1"	Do. rock at 7"	"	"	
Do. temporary do.	1	5"	Hard gravel	9 inches	"	
European Hospital	2	5ft 6in	Do.	6"	"	
	1	5 feet	Do. The "rock" granite.	9"	"	

* Water is said to have been found in this hole when first dug, if so, it must have been from floor washing, every time I saw it, it was perfectly dry.

TRICHINOPOLY,
4th November 1865.

(True Copy.)

(Signed) T. GREENAWAY, Lieut.-Colonel,
Executive Engineer, Trichinopoly.
(") R. F. OAKES, Captain, R. E.,
Acting Superintending Engineer, 6th Division.

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No. 201. From the Superintending Engineer, 3rd Division, to the Secretary to Government, Public Works Department, dated Bellary, 18th November 1865, No. 165.

In reply to G. O. No. 2,833, of the 18th July last, I have the honor to inform you that since the receipt of the Order there has been little or no rain in Bellary, and so the experiment ordered has not had a fair trial. One floor for each Battery of Artillery and three for the Infantry were opened on the 6th and 7th ultimo, and the ground beneath was found to be perfectly dry. As yet we have had none of the north-east monsoons, but if rain falls shortly examination will be made and reported.

No. 202. Proceedings of the Madras Government in the Military Department. Communicating certain correspondence relative to the condition of Barrack floors in this Presidency during the rainy season. } (Here enter 23rd November 1865, No. 4,386)

No. 203. Proceedings of the Madras Government in the Military Department. Communicating letter from the Principal Inspector General, Medical Department, forwarding reports on the state of the floors of the European Barracks at Bellary and Ramandiroog. } (Here enter 6th December 1865, No. 4,481)

No. 204. From the Superintending Engineer, 5th Division, to the Secretary to Government, Department Public Works, dated Bangalore, 19th December 1865, No. 45.

With reference to the Order of Government of the 18th of July, No. 2,063, and your Memorandum No. 248, I have the honor to report that the Executive Engineer has examined the floors of the Barracks at Bangalore. These floors are formed of slabs of granite set in sand or clay, and the sand or clay is damp from the water escaping through the joint of the stones.

No. 205. Endorsement of the Superintending Engineer, 3rd Division, dated Cuddapah, 13th January 1866, No. 181. From the Assistant Engineer, No. 1 Range, to the Superintending Engineer, 3rd Division, dated Bellary, 23rd December 1865, No. 959.

1. Referring to Memorandum No. 248 of 13th inst. from the Secretary to Government, I have the honor to state that the G. O. (No. 2,063 of 11th July) came when the south-west monsoon was nearly over, the only day rain fell at all to speak of after its receipt I happened to be out in the District, I therefore judged it best to wait for the north-east monsoon.

2. On the 6th and 7th October the following floors were opened:—

	Block.	Height of basement above ground.
European Barracks	No 1	1½ feet.
	" 4	1½ "
	" 6	1½ "
Artillery Barracks	E. " 3	1 "
	D. old General Hospital	4 "

The European blocks chosen were the one at either end and the one at the centre; the E. Battery Block, No. 3, was chosen as the centre one and being in our hands it did not interfere with the Artillery; the old General Hospital is only one block.

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3. The floors were found perfectly dry, no rain fell after this date, except showers, so that they have not been opened since; but I consider the above is a very fair criterion, as when it does rain in the station, it is only in single isolated days, and it could not, therefore, have the effect of saturating the ground with damp. It would only be necessary to open it on the three occasions, before, during, and after the rains, in climates where the rain falls continuously. The Quarter Master General of the Division informed me that the report of the Medical authorities was that the floors were never damp. I do not consider it necessary to build Barracks at this station on open vaults to allow the air to percolate underneath.

Forwarded with reference to G. O. No. 2,063 of 18th July 1865, and in continuation of letter No. 165 of 18th November 1865.

(Signed) A. S. MOBERLY, Major, R. E.,
Superintending Engineer, 3rd Division.

No. 206. Endorsement of the Superintending Engineer, 4th Division, dated Madras, 25th January 1866, No. 3,806.

From the Executive Engineer, Fort Range, to the Superintending Engineer, 4th Division, dated Fort Saint George, 8th January 1866, No. 487.

In obedience to your Order No. 1,050, dated 26th July 1865, I have the honor to enclose three tables exhibiting the state of Barrack floors in the Fort, before, during, and after the rainy season.

August 1865, before the Monsoon.

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Barracks visited.	Distinguishing number of pit.	1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.	Height of floor above level of ground	Liability to be splashed with water.
76th Barracks, Men...	No 1.	..	..	..	..	..	..	..	..	..	..	2 feet.	..
	" 2.	..	..	..	..	..	..	..	..	..	..	2 "	
	" 3.	..	..	..	..	..	..	..	..	..	..	2 "	
	" 4.	..	..	..	..	..	..	..	..	..	..	1 1/2 "	
	" 5.	..	..	..	..	..	..	..	..	..	..	1 1/2 "	
	" 6.	..	..	..	..	..	..	..	..	..	..	1 1/2 "	
	" 7.	..	..	..	..	..	..	..	..	..	..	1 1/2 "	
	" 8.	..	..	..	..	..	..	..	..	..	..	1 1/2 "	
	" 9.	..	..	..	..	..	..	..	..	..	..	1 1/2 "	
	" 10.	..	..	..	..	..	..	..	..	..	..	2 "	
	" 11.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 12.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 13.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 14.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 15.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 16.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 17.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 18.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 19.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 20.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 21.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 22.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 23.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 24.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 25.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 26.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 27.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 28.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 29.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 30.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 31.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 32.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 33.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 34.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
Artillery Barracks ...	" 35.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 36.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 37.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
Family Barracks 1st block.	" 38.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 39.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 40.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	

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Barracks visited.	Distinguishing number of pit.	1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.	Height of floor above level of ground	Due probably to sea sand in the soil.
2nd Block ...	" 35.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	..
	" 36.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 37.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
Old Treasury building.	" 38.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	..
	" 39.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 40.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
Main Guard ...	" 41.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	..
	" 42.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 43.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
Canteen in the Barrack square	" 44.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	..
	" 45.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	
	" 46.	..	..	..	..	..	..	..	..	..	..	2 1/2 "	

Fort Saint George,
8th January 1866.

(Signed) J. GODDARD, Captain, R. E.,
Executive Engineer, Fort Range.

November and December 1865, during the Monsoon.

Barracks visited.	Distinguishing number of pit.	29th November 1865.	1st December 1865.	Height of floor above level of ground	Not now occupied by Troops, and so not splashed.
76th Barracks, Men ...	No 1.	Dry	..	2 feet.	..
	" 2.	do.	..	2 "	
	" 3.	do.	..	2 "	
	" 4.	Pretty dry	..	1 1/2 "	
	" 5.	Scarcely damp	..	1 1/2 "	
	" 6.	..	..	1 1/2 "	
	" 7.	..	..	1 1/2 "	
	" 8.	..	..	1 1/2 "	
	" 9.	..	..	2 "	
	" 10.	..	..	2 1/2 "	
	" 11.	..	..	2 1/2 "	
	" 12.	..	..	2 1/2 "	
	" 13.	..	..	1 1/2 "	

November and December 1865, during the Monsoon.—(Concluded)

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Barracks visited.	Distinguishing number of pit.	29th November 1866.	1st December 1865.	Height of floor above level of ground.
Artillery Barracks	11.	Dry	...	5½ "
	15.	do.	...	3½ "
	16.	do.	...	3½ "
	17.	do.	...	3½ "
	18.	do.	...	3½ "
	19.	...	...	2½ "
	20.	Very dry, pure sand	...	2½ "
	21.	Dry	...	2½ "
	22.	Very dry, pure sand	...	2½ "
	23.	Middle dry	...	2 "
Family Barracks	24.	Dry	...	
	25.	do.	...	
	26.	do.	...	
	27.	Rather damp	...	None.
	28.	Pretty dry	...	
	29.	Dry	...	
	30.	do.	...	
	31.	do.	...	
	32.	do.	...	
	33.	Tolerably dry	...	
2nd Block	34.	Dry	...	
	35.	do.	...	
	36.	Tolerably dry	...	
	37.	do.	...	
	38.	do.	...	
	39.	Dry	...	
	40.	...	...	
	41.	...	...	
	45.	...	...	
	46.	...	...	
Old Treasury building...	47.	...	...	
		...	...	
		...	...	
		...	...	
		...	...	
		...	...	
		...	...	
		...	...	
		...	...	
		...	...	
Main Guard		...	...	
		...	...	
		...	...	
		...	...	
		...	...	
		...	...	
		...	...	
		...	...	
		...	...	
		...	...	

Due to splashing with water probably.

PORT SAINT GEORGE,
8th January 1866.

(Signed) J. GODDARD, Captain, R. E.,
Executive Engineer, Fort Range.

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January 1866, after the Monsoon.

Barracks visited.	Distinguishing number of pit.	4th January 1866.	Height of floor above level of ground.
76th Barracks, Men	No. 1.	Dry	2 feet
	2.	do.	2 "
	3.	do.	2 "
	4.	do.	1½ "
	5.	do.	1½ "
	6.	Damp	1½ "
	7.	Dry	1½ "
	8.	do.	1½ "
	9.	do.	1½ "
	10.	do.	1½ "
Artillery Barracks	11.	do.	2 "
	12.	do.	2½ "
	13.	do.	2½ "
	14.	do.	1½ "
	15.	do.	3½ "
	16.	do.	3½ "
	17.	Very dry	3½ "
	18.	do.	3½ "
	19.	do.	3½ "
	20.	do.	2½ "
Family Barracks	21.	do.	2½ "
	22.	do.	2½ "
	23.	do.	2 "
	24.	do.	
	25.	do.	
	26.	Damp	None.
	27.	Dry	
	28.	do.	
	29.	do.	
	30.	do.	
	31.	do.	
	32.	do.	
	33.	do.	

Again occupied and splashed with water.

Due to some local (not general) agency.

January 1866, after the Monsoon,

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Barracks visited,	Distinguishing number of p.t	4th January 1866.	Height of floor above level of ground	
Second Block ...	34. 35. 36. 37. 38. 39. 40. 41. 43. 44. 45. 46. 47.	do. do. do. do. Very dry Dry do. do. do. do. Little damp Do. Do.	2 1/2 " 2 1/2 " 1 1/2 " 1 1/2 " 3 " 2 1/2 " 2 1/2 " 2 1/2 " 2 1/2 " 2 1/2 " 1 1/2 " 1 1/2 "	} Due very probably to want of sufficient basement.
Old Treasury building ...				
Main Guard ...				

FORT SAINT GEORGE,
8th January 1866.

(Signed) J. GODDARD, Captain, R. E.,
Executive Engineer, Fort Range

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1 Letter.
3 Tabular Statements.

1. Submitted to Government, with reference to their Order No. 2,063, 18th July 1865.

2. It may fairly be assumed from the accompanying tables that the adoption of "raised basements with the air circulating under the floors" is not called for in buildings to be erected in future in Fort Saint George, as the floors of the earth-filled basements remain dry at all seasons.

3. The report of the Executive Engineer, Mount Range, has not been received.

(Signed) A. J. M. BOILEAU, Colonel, R. E.,
Superintending Engineer, 4th Division.

No. 207. From the Superintending Engineer, 4th Division, to the Secretary to Government, Public Works Department, dated Camp Hellar, North Arcot, 28th February 1866, No. 4,374.

1. With reference to Government Order, No. 2,063, dated 18th July 1865, and in continuation of Endorsement No. 3,806, dated 24th January 1866, I have

the honor to forward a Tabular Statement furnished by the Executive Engineer, Mount Range, exhibiting the state of the floors of the Barracks (as regards dampness or dryness) in his Range, but as the observations were made only long after the monsoon, and not *during* it, or *before* it, they are of little or no value; so far as they go, they show no change to be required.

2.
3.

January 1866, after the Monsoon.

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Barracks visited	Distinguishing number of pits.	14th January.	26th January.	27th January.	29th January.	Height of floor above level of ground.	Remarks.
North Barracks at Saint Thomas' Mount ...	1	Soil. Sandy.	Soil.	Soil.	Soil.	1 foot	Quite dry near the floor, a very slight dampness at 2 to 3 feet below surface of floor.
South do at do	2	Do.				1 foot	Do.
East tiled do, Horse Artillery Lines at Saint Thomas' Mount.	3	Do.				2 ft. 6 inches	All the floors quite dry scarcely any trace of dampness at 3 feet in depth.
West tiled Barracks, Horse Artillery Lines at Saint Thomas' Mount	4	Do.				1 " 6 "	Do.
Bomproof Barracks, Horse Artillery Lines at Saint Thomas' Mount	5	Do.				1 " 6 "	Do.
No. 1 or European Veteran Company's Barracks at Palaveram.	6				Sandy.	2 " 6 "	Floors all perfectly dry to 3 feet below.
No. 2 or Canteen Commissariat Store and Guard-room at Palaveram.	7				Do.	2 " 6 "	Do.
No. 3 converted into a Barrack at Palaveram.	8				Do.	2 " 6 "	Do.
No. 4 Barracks at Palaveram ..	9				Do		Do.
European Barracks at Poonamallee ...	10		Sandy.			6 "	No. 4 Barracks was not excavated as it is precisely similar to No. 3 Barracks.
French Barracks at Poonamallee ...	11			Sandy.		1 foot	Floor itself quite dry, slight dampness at 2 and 3 feet below, which may be attributable to proximity of excavation to a bath-room.
Hospital at Poonamallee ...	12		Sandy.			6 inches	Floor itself quite dry, slight dampness at 2 and 3 feet below, which may be attributable to proximity of excavation to a bath-room. Floor perfectly dry down to 3 feet below.

MOUNT RANGE,
21st February 1866.

(Signed) H. T. ROGERS, Capt in, R. E.,
Executive Engineer, Mount Range.
(Signed) A. J. M. BOLLIEAU, Colonel, R. E.,
Superintending Engineer, 4th Division.

*Proceedings of the Madras Government, Public Works Department,
11th June 1866.*

No. 208. From the Superintending Engineer, 5th Division, to the Secretary to Government, Department Public Works, dated Cuddalore, 19th May 1866, No. 27.

1. With reference to your Memorandum No. 70, of the 12th of March, I have the honor to state that the floors examined by the Executive Engineer at Bangalore, and referred to in my letter of the 19th December, No. 45, were those of Nos. 3 and 4 Ranges of the new Infantry Barracks, and of two Wash-houses at the same Barracks.

2. The Barrack floors are raised 1½ foot above the ground, and were found dry, and the Wash-house floors, which are raised 1 foot, damp, owing to water leaking through the joints of the stones.

3. I believe that in all cases, when the basement is sufficiently raised, the damp will be found due to washing the floors and not to soil or weather.

No. 209. ORDER THEREON, 11th June 1866, No. 1,825.

MILITARY WORKS, No. 12.

Resolved that the foregoing papers be forwarded to the Government of India with reference to Colonel Dickens's letter, No. 57 of the 22nd June 1865.

(Here enter No. 1,826, dated 11th June 1866.)

(True Extract.)

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

To the Military Department,
" Superintending Engineers, } with copy of letter to Govt. of India, No. 1,826 of 1866,

Exd. S. T. Augustin.

PUBLIC WORKS DEPARTMENT.
FORT SAINT GEORGE,
11th June 1866.

No. 1,826.

No. 210.

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
PUBLIC WORKS DEPARTMENT.

SIR,

MILITARY WORKS, No. 13.

1. With reference to your letter
No. 57, under date the 22nd June 1865,
I am directed to forward, for the infor-

mation of the Government of India, the accompanying papers containing the
reports of the Military and Medical authorities and of the Superintending Engi-
neers regarding the extent to which the floors of Barracks at the several Military
stations in the Madras Presidency are liable to be affected by damp during the
rainy season.

2. It will be observed that the only buildings in which the floors were not

Infantry Barracks, Fort Saint George.	
Depôt do. Poonamallee.	
Infantry do. Trichinopoly.	
No. 5 Block of Barracks } Wellington.	
and the Solitary Cells. }	
Foot Artillery Barracks, Bangalore.	
Do. do. Cannanore.	
Infantry do. do.	

found to be dry are those noted in the
margin, and that, with the exception of
the Barracks for Foot Artillery at Ban-
galore, the flooring of which is faultily
constructed, any dampness detected is
said to have been caused either by the
spilling of water upon the floors or by the
extreme humidity of the climate.

3. As the result of this enquiry shows satisfactorily that a moderate elevation
of flooring is amply sufficient to ensure dryness, this Government are of opinion
that the adoption of vaulted basements in this Presidency is not necessary.

I have the honor to be,

Sir,

Your most obedient servant,

(Signed) CHARLES A. ORR, Colonel, R. E.,

Secretary to Government.

Exd. S. T. Augustin.

89/15/18/55

1880

Cum gratia 1st August 1880

Major H. S. Scott

1st Regiment

Sir Lieutenant Colonel G. W. Walker R.E.

Superintendent Engineer J. L. D. 2 17

Sir

I agree to your recommendation in General Order No. 2063 of 15th July 1880 I have the honor to report that in communication with the Officer Commanding H. M. 102nd Regiment I caused a portion of the flooring in each room of the Barracks to be opened on the 9th to the depth of 1 1/2 to 2 feet

The day was wet and in the height of the monsoon. The flooring of all the rooms in the Barracks appeared damp - but I attribute this to the humidity of the atmosphere and the rooms being wet as beneath the mats the human rubbers over the floor on the last Saturday was generally as dry as could be expected in such a climate. The flooring was well set in good mortar - the earth taken out and examined was tolerably deep in all the rooms except 80th of Right and Left wings, new Barracks respectively which appeared slightly more damp.

The earth in the old Barracks to a foot in depth when squeezed in the hand took the impression of the hand to the same extent as newly ground Coffee would. On the hands being struck smartly together after small traces remained of earth stains and a few grains adhering to the fingers

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 palms of the hands showed it was clay as
 counts reasonably be expected - At a depth of
 1 1/2 to 2 feet the soil became slightly more clumpy
 but nothing to make me suppose that the
 clumps were apparent on the floor extended
 through the flooring.

I have given in the margin the
 height of the basements of the respective rooms
 in the barracks above the ground.

I have the honor to be
 Sir,

Your most obedient servant

Edward Portman Engineer

2nd Lt. & Tank Engineer

Old Barracks, Madras

rooms	1	2.6
"	2	2.6
"	3	2.6
"	4	2.3
"	5	2.1
"	6	2.1
"	7	2.1
"	8	2.1
"	9	2.1
"	10	2.1
"	11	2.1
"	12	2.5

Old Barracks, Madras

rooms	1	2.3
"	2	2.3
"	3	2.3
"	4	2.1
"	5	2.1
"	6	2.1
"	7	2.1
"	8	2.1
"	9	2.1
"	10	2.1
"	11	2.1
"	12	2.5

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By 4/409
 2/8/65

No 202

The Engineer, Secy
 Madras 1st August 1865

To

The Superintending Engineer
 of the Division
 (C. 12 N.)

Sir,

With reference to your Order dated
 25th Nov. 1864 of Government No. 2063 dated 18th
 ult. I have the honor to inform you that none
 of the floors in the Military Buildings in this range
 are at all damp, with the exception of the Southern
 end of the Barracks at Fort Well, and this
 is owing to the ground on the outside of the room
 being nearly 3 ft. higher than the floor, and
 supported by a damp wall.

I have the honor to be

Sir,

Your most obedient servant

R. Bailey
 Sub Engineer
 Madras

palms of the hands showed its weakness as Old Hiram's
could have it for a long time

21/25

Executive Engineer's office
Killybegs
Portacumund 2nd Sept 1865

From

Major W. Farewell
Executive Engineer

To

Sir: Col. G. H. Walker R. E.
Superintending Engineer of Indian
Cumbatore

Sir,

With reference to G. O. No 2063 dated 18th July
1865, and your endorsement thereon, I have the
honor to report, that yesterday in the presence of
the Senior Medical Officer of the Garrison, Dr. B. B. Brown,
I shut several places in the floors of the Barracks
at Wellington, opened out, and examined as directed, and found that the bottoms of the boards
were perfectly dry, as also the Earth below
the floors, no signs whatever of damp were
observable. the planks are fitted so tightly
and closely together that no percolation of
water from washing them appears ever to have
taken place, the average height of the boards
floors above the level of the ground was found
to be two feet. the drainage from the buildings
is very good and the floors are well ventilated
below, these floors do not appear to me
to be ever likely to be affected by damp

I have the honor to be
In
Your most obedt Servt
Wm. H. Walker
Major
Executive Engineer

29/7/65

No 116

Superintending Engineer's Office 7th Sth
Combat 7th September 1865.

From

South. Colonel G. W. Walker R. E.
Superintending Engineer 7th Division

To

Colonel G. A. Orr R.
Secretary to Government S. P. W.

Sir,

Government Order No. 2063 of 18 July having reached me on the 25th of that month, I gave orders that the required examinations of Barrack Floors in the 7th Sth. should take place in August the last month of the South West Monsoon; and I have now the honor to submit copies of the Reports received.

No 330 dated 12th
Aug 1865 from
for Antou

Command Infantry Barracks.— I should judge from this report that whatever objection on the score of dampness may be taken in the Military or Medical Reports that may be sent in, will be effectually removed by the substitution of Wooden Floors throughout the Barracks, after the completion of the Subsidiary Buildings now under construction, and of the New Artillery Barracks, a stock of timber being laid in, meanwhile, in season. — Not that I have any information which would lead me to anticipate such objection. The Barracks are close to the sea and fully exposed to the monsoon.

Kalicut and Maleapooram Detachments.—

No 1002 dated 1st Aug
1865 from Mr Bailey

The only damp spot alluded to by Mr Bailey is

Colonel G. A. Orr R.
Secretary to Government S. P. W.

No 330 dated 12th
Aug 1865 from
for Antou

No 330 dated 12th
Aug 1865 from
for Antou

a Verandah of the Calcut Barracks, formerly
a private residence, condemned as unfit
for the accommodation of Troops in my letter
No. 12 of 16th May 1865. It is situated on
a Saliente Hill within a mile of the Sea and
fully exposed to the monsoon, but on which
no water lodges. The Malepooreum
Barracks are some 20 miles inland, on
a dry Saliente Hill.

Wallington Barracks. - Have boarded No 125 dated
2^d Sept 1865 from
floors throughout, perfectly free from damp. - Major Casswell

I have the honor to be
Sir

Your Most Obedient servant

M. Walke
Lieut Col. R.
Superintending Engineer of D.

1865-24th
Pro of Govt for June
No 3447
From
The Supr Engineer
7th Dn

The Secretary to Govt
S. D. W. Mason

No 116

Dated 7th September 1865.
Received - 11

Encl. 3.

Reports on the
floors of the different
Barracks in the D.

199.

2305 May 1866 On 1st June
2 no 1825- & 1826-11 June 66

Arts
Euro
Euro

a Verandah of the Calicut Barracks, formerly
a private residence, condemned as unfit
for the purpose.

Memo of Examination of Soil beneath Floor in the following Buildings.

Buildings	No. of holes	Depth	Nature of Soil	Height of floor above ground	State in which soil was found	Dates when examined -
Artillery Barracks	1	6' 2"	Hard gravel and Rock at 6' 2"	1'	Quite dry.	
	2	7'	Do. Rock at 7'	"	"	
	3	1'	Rock at 1'	"	"	
European Barracks	1	5'	Hard gravel	9"	"	
	2	5'	Do	6"	"	
Do. Temporary do	1	4'	Do	6"	"	
	2	2' 6"	Do	"	"	
European Hospital	1	5'	Do	9"	"	

N.B. The "Rock" is granite.

* Water is said to have been found in this hole when first dug, if so it must have been from floor washing, every time I saw it, it was perfectly dry.

Inspected by myself on the 7th and 29th August, 18th September and 24th October, each time after heavy rain preceding, also several times by Lieutenant Davies.

Asst. Range Officer
Lucknow 4th November 1855

(True copy)
J. P. A. P. R. E.
Asst. Eng. 6th Dec 55

(Signed) J. P. A. P. R. E.
Asst. Engineer Lucknow.

No 1315

Now,

Supp. Engrs Office to Govt
Tanjore 6th November 1885
15

Captain R. T. Cakes R.C.

Supp. Engineer to Govt

To,

Colonel C. A. Carr R.C.

Secretary to Government
D.F.W.

Sir

With reference to your remembrance

Enclosure 1.

No 217 dated 30th October, I have the honor
to forward a memo of examination by the
respective engineers of Trichinopoly of the soil
beneath the floors in the European Barracks
& Hospital at Trichinopoly called for in
G.O. No 2063 dated 18th July. The report was
delayed owing to our having had very little
rain during the present monsoon, and in
para 2 of Colonel Decheu's circular a report
on the state of the Barracks during the
rainy season was called for.

No 57 of 22nd June

2 The Buildings were examined by
Colonel Greenaway after heavy falls of
rain, & the soil below the floors to the various
depths mentioned in the enclosure was found

inclosure in letter No 1315
dated 6th November 1885
from the 1st Lt. & Engineer
G.O. No 217, to the Secretary &
Government S.M.D.

177 44553/156

perfectly dry in every case.

The buildings stand on hard granite
oven rocks, and the surface inclination
of their sides is so considerable that there
is no possibility of water lodging in
their neighbourhood, or of its finding its
way under the floors.

I have the honor to be
Sir

Your most Obedt. Servt.

W. F. D. ^{Captain R. Co.}
of the 1st Regt. Engineers U. S. A.

N^o 165.

How

Bellary
Supdy. Engrs Office
18 Nov 1860

Major A. S. Moberly R.E.
Supdy. Engineer 3rd Div
The Secretary to Government
P. M. D.

In reply to G. O. N^o 286 of the 18
July last, I have the honor to inform you
that since the receipt of the order there
has been little or no rain in Bellary and
so the experiment ordered has not had a
fair trial. One floor for each Battery of
Artillery and three for the Infantry were
opened on the 6 and 7th Ultimo and the ground
thereat was found to be perfectly dry. As
it is probable we have had some of the North East
Monsoon but if rain falls shortly ex-
amination will be made and reported.

I have &c.

A. W. Moberly Major R.E.
Supdy. Engineer 3rd Div

Major A. S. Moberly R.E.
Supdy. Engineer 3rd Div
The Secretary to Government
P. M. D.

Major A. S. Moberly R.E.
Supdy. Engineer 3rd Div
The Secretary to Government
P. M. D.

Major A. S. Moberly R.E.
Supdy. Engineer 3rd Div
The Secretary to Government
P. M. D.

Major A. S. Moberly R.E.
Supdy. Engineer 3rd Div
The Secretary to Government
P. M. D.

18

MILITARY DEPARTMENT.
PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read the following papers :—

From the Quarter Master General Here enter 30th October 1865, No ⁷⁵⁵/_{10,487}
From the Principal Inspector General Medical } ,, 15th November ,, ,, 349.
Department
From the Quarter Master General, Head Quarters, Ootacamund, 30th October 1865,
No. ⁷⁵⁵/_{10,487}; to the Secretary to Government, Military Department, Fort Saint
George.

With reference to paragraph 2 of Order of Government, No. 2063 of 18th July last, I have the honor, by desire of His Excellency the Commander-in-Chief, to forward, for submission to Government, a statement shewing the condition in which the floors of existing barracks at the several stations are found, with reference to dampness during the rainy season.

2. The barracks occupied by Native Troops in Burmah and the Straits are entered also.

SUMMARY of reports from stations as to whether the floors of existing barracks are found to become damp during the rainy season

Station	Corps.	Whether the floors of existing barracks at any of the stations are found to become damp during the rainy season.	Remarks.
Fort Saint George.	Her Majesty's 76th Regiment..	All the floors of the Barracks in Fort Saint George become more or less damp in rainy weather, particularly the stone floors.	
Saint Thomas' Mount.		None of the floors of the Barracks or family quarters have been found to become damp during the rainy season	✓ Dry
Palaveram		The floor of the Barracks occupied by the European Troops never becomes damp in the rainy season.	✓ Dry
Poonamallee.		The floor of the Barracks of the Depot exceedingly damp during the rainy season. The floor of the Barracks is almost flush with the surrounding ground, and this will to a great extent account for the dampness. The floors of the Hospital are comparatively dry, and present little cause for complaint on account of dampness.	✓ Dry
Trichinopoly	C Battery 23rd Brigade Royal Artillery.	The floors of the Barracks do not become damp during the rainy season.	✓ Dry
Do.	Detachment Her Majesty's 105th Regiment.	The floors which are of brick become damp in wet weather, but not of those which are flagged with stone—two of the Barracks have already been flagged with stone, and an estimate for flagging another, was lately forwarded and approved by His Excellency the Commander-in-Chief.	
Wellington.	Convalescent Depot.	The floors of the barracks, married quarters and Hospital remain perfectly dry during the rainy season.	✓ Dry

*22 Nov 1865. Depo
Chgo. of Govt. of Madras
The Quarter Master General
To the Secy to Govt.
P.W.D.*

*1865.
Dated 18th Nov 65
Recd 22nd Nov 65*

*Reporting in the Report
that the floors of the Barracks
Military Buildings in order
to ascertain whether they
are liable to be affected
by damp during the rainy
season.*

20th May 1866. P.W.D.

1825-1826. 12th June 1866

Summary of reports from stations, &c.—(continued)

Station	Corps.	Whether the floors of existing Barracks at any of the stations are found to become damp during the rainy season.	Remarks.
Wellington	Her Majesty's 105th Regiment	All barracks occupied by the Regiment having wooden floors, remain perfectly dry in wet weather. The asphalted flooring of ground floor of No. 5 block, and the solitary cells is usually very cold and damp, and in a Medical point of view, injurious and likely to be productive of Rheumatism in men constitutionally predisposed thereto.	
Bangalore	Horse Artillery and Artillery.	The Horse Artillery Barracks and Artillery Barracks on the Race Course enjoy a complete immunity from dampness during the monsoon rains, but that the Foot Artillery barracks of the A Battery 23rd Brigade, owing to faulty structure, are, at certain times during the height of these rains, damp.	
Do.	Her Majesty's 18th Hussars.	The floors of the barracks do not become damp during the rainy season.	
Do.	Her Majesty's 2nd Battalion 10th Regiment	The floors of the barrack-rooms are free from damp during the rainy season, except such damp as enters through ventilators on the roof.	
Do.	Sappers and Miners.	The floors of the barracks are free from damp.	
Cannanore	D Battery 20th Brigade Royal Artillery.	The bungalows occupied by the Regiment are floored with wood, and from men passing in and out with wet boots during the rains, the floors are constantly more or less wet, but the Commanding Officer does not think there has been any dampness to signify, or that could in any way be prevented.	The Medical Officer reports "that, on all occasions of my visiting the Barrack bungalows during the wet weather, I have found the floors more or less wet."
Do.	Her Majesty's 102nd Regiment.	The dampness of the floors of the Barracks occupied by the Regiment appears to arise from the influence of the very damp atmosphere of the station during the monsoon, and not from moisture under-ground. The Medical Officer concurs in this opinion.	
Calicut	Detachment Her Majesty's 102nd Regiment	The floors of the Barracks are of wood and have always been found to preserve perfectly dry throughout the monsoon.	
Mallapocram .	Do.	The floors of the Barracks and Hospital perfectly dry during the rainy season.	
Stations in the Northern Division.		The floors of the Barracks for European troops are not found to become damp during the rainy season.	The Barracks at Masulipatam are not included in this report.
Stations in the Ceded Districts		The floors of the Barracks and Hospitals are quite free from damp at all seasons of the year.	

Summary of reports from stations, &c —(continued)

Station.	Corps	Whether the floors of existing Barracks at any of the stations are found to become damp during the rainy season.	Remarks
Stations in the Hyderabad Sub-sidiary Force	Royal Artillery H M's King's Dragoon Guards, H. M's 18th Royal Irish. H M's 108th Regiment	The floors of the Barracks do not become damp during the rainy season.	
Kamptee	Royal Artillery	The floors of the Barracks and Hospital were not found damp during the rainy season.	
Kamptee and Seetabuldee	1st Royals . .	The Hospitals are raised and perfectly free from dampness in the rainy season. The floors of the Barracks however, though raised from the ground, are frequently damp during the rains, particularly those at Seetabuldee.	
Chindwarrah ...	Convalescent Depot.	The floors of the Barracks and Hospital occupied by the Convalescent Depot, have not exhibited any sign of dampness during the late rains. All the floors are chunamed and have always remained perfectly dry in the dampest weather.	
Rangoon	Royal Artillery	During the rainy season the floors are continually damp through the violence of the wind during the rains into the Barracks, and the great moisture of the atmosphere.	
Do.	60th Rifles	The floors of the Barracks do become damp, during the rainy season.	
Thyetmyo ...	5th Regiment Native Infantry.	None of the floors become damp, but the boards not being well joined, damp and fogs come through the crevices of the floors, and these also admit much cold air, from which great inconvenience is experienced by the men during the cold season, all of which are thought detrimental to the health of the occupants, but this will be remedied.	There are no complaints from other Corps or stations in the Division.
Moulmein	9th Regiment Native Infantry	The floors do not become damp except during the prevalence of heavy rain, when the roofs of all the Barracks leak in a trifling degree, owing to some defect in the shingling.	
Singapore ...	Royal Artillery.	There being no regular rainy season in the Straits' District, as a general rule, throughout the year the Barracks are dry.	
Do.	34th Regiment Light Infantry.	The floors of the Barracks during the rainy season are very damp.	

Summary of reports from stations, &c—(continued)

Station	Corps.	Whether the floors of existing Barracks at any of the stations are found to become damp during the rainy season.	Remarks
Singapore	Ordnance Depot	The floor of the Barracks is perfectly dry in all weather	The Medical Officer reports that the floor of the Lascar Barracks, situated on Pearl Hill, is boarded and raised on pillars, and that it is consequently dry in rainy weather. The floor of the Lascar Barracks near the station Hospital, is made of mud and raised about six inches above the surrounding ground, it is consequently damp in rainy weather.
Do.	Commissariat Bearers	No appearance of being more damp since the late rains set in, than previously.	
Penang	No. 2 Battery 17th Brigade Royal Artillery.	No complaints of dampness in either the basement or upper floor of the Barracks, but the basement of the floor must be more or less damp in wet weather.	
Do.	35th Regiment Native Infantry.	The floors of the Barracks are always dry, with the exception of No 3, a part of which is sometimes a little damp, but no complaint has ever been made on the subject.	

QR. MR. GENL.'S OFFICE, HEAD QUARTERS,
OOTACAMUND, 30th October 1865.

(Signed) F. H. SCOTT, Lieut.-Col.,
Quarter Master General

From the Principal Inspector General Medical Department, Fort Saint George, 15th November 1865, No. 349; to the Secretary to Government, Military Dept.

With reference to paragraph 2 of the Proceedings of Government, Public Works Department, No. 2063, dated 18th July last, forwarded with your endorsement No. 2744 of the 24th idem, I have the honor to forward the accompanying reports, from the Medical Officers, as to the condition of the floors of existing barracks during the rainy season. An epitome of these reports is appended.

2. Reports from the Pegu and Northern Divisions and Ceded Districts have been again called for, and will be forwarded when received.

Fort Saint George, Her Majesty's 76th Regt.	Paved with stone	Floors damp from humidity not from leakage.
Saint Thomas' Mount, Artillery ..	...	Not damp
Poonamallee.	...	Very damp during wet weather, basement is on a level with the ground outside.
Palaveram.	...	Not observed the floor to be damp.

Trichinopoly.	{ Artillery .. Infantry ..	...	Paved with stone. Not noticed any traces of damp. Paved with granite. Do not shew any traces of damp.
Wellington,	Convalescent Depot	...	Wooden, not damp.
Bangalore.	{ Her Majesty's 10th Foot. 18th Hussars. Royal Artillery.	...	Free from damp. Do not become damp Floor not having been opened out, I am unable to report on the results of this operation, apparently not damp
Cannanore.	{ Infantry. Artillery.	...	Do become damp. ✓ More or less damp
Calicut	Detachment 102nd.	...	Boarded, do not become damp.
Mallapooram.	Do.	...	Boarded, damp only from roof leakage.
Secunderabad.	{ 1st King's Dragoon Guards. Horse Artillery. B. 23rd Brigade.	...	Not damp. ✓ Granite no dampness can possibly occur. Perfectly dry.
	{ 18th Royal Irish.	...	Not damp, except in isolated spots from roof leakage
Trimulgherry.	{ 108th Regiment	...	Floors sufficiently elevated to prevent contracting damp from below. Wet only where the rain drifts in.
	{ B 14th Brigade. D. 23rd Brigade.	...	Not damp. Brick and granite, not damp.
Kamptee	Artillery.	...	Dry
Do	{ Her Majesty's 1st Royals,	...	Frequently damp during the rains, particularly those at Seetabuldee.
Seetabuldee,	{	...	Not damp, except where it leaks from the roof.
Chundwarrah			

From the Assistant Surgeon Her 76th Regiment in Medical charge Garrison Hospital, Madras, 17th August 1865, No. 335; to the Deputy Inspector General of Hospitals, Centre Division, Madras.

I have the honor to report that the floors of the barrack-rooms become damp at night during the present humid weather. This I consider due rather to the humidity of the air condensing on the stones than to soakage. Blocks of stone and bricks have been removed in various parts of the barrack, for the purpose of examining the state of the soil beneath the flooring, but with what result. I have not been informed; nor do I know under whose superintendence the operation was conducted.

From Assistant Surgeon W. LEACH, in medical charge 17th Brigade Royal Artillery, Saint Thomas' Mount, 15th August 1865, No. 343; to the Deputy Inspector General of Hospitals, Presidency.

With reference to the report called for in paragraph 2 of the Proceedings of Government, No 2063, forwarded with Circular memorandum No 1831, I have the honor to state that none of the floors of the barracks at this station are found to become damp during the rainy season.

From W. HEUDE, Depot Surgeon, Poonamallee, 10th August 1865, No. 213; to the Deputy Inspector General of Hospitals, Madras.

With reference to paragraph 2 of the Proceedings of Government in Public Works Department, No 2063 of the 18th July 1865, I have the honor to report that the flooring of the barracks at this station, becomes very damp during wet weather. This is not astonishing as the basement is on a level with the ground outside

From H. T. SHAW, Staff Assistant Surgeon, Palaveram, 15th August 1865, No 70; to the Deputy Inspector General of Hospitals, Presidency Division.

In reply to your memorandum No. 1922 of yesterday's date, I have the honor to inform you that the report therein called for was sent by me to the Officer Commanding Veteran Battalion, in accordance with memorandum, dated 1st August from the Station Staff Officer.

2. I have the honor to forward you a true copy of the report in question.
From Staff Assistant Surgeon H. T. SHAW, European Artillery Veteran Company, Palaveram, 9th August 1865, No 68; to the Officer Commanding European Veteran Battalion

In reply to your letter No. 335 of yesterday's date and enclosures (herewith returned), I have the honor to inform you that I have not observed the barrack floor to be damp during the monsoon.

Memorandum from the Deputy Inspector General of Hospitals, Southern Division, Trichinopoly, 31st August 1865, No. 1298; to the Secretary Principal Inspector General Medical Department, Fort Saint George.

The accompanying reports on the state of Barrack floors received from Trichinopoly* and Wellington† are submitted, with reference to Circular memorandum, No. 2716, dated 29th ultimo, from Secretary Principal Inspector General Medical Department, and Proceedings of Government, Public Works Department, No. 2063 of 18th July 1865, paragraph 2.

From Assistant Surgeon R. J. OWEN, M. D., in Medical charge Royal Artillery, Trichinopoly, 5th August 1865, No. 361; to the Deputy Inspector General of Hospitals, Southern Division.

In compliance with Circular memorandum, No. 2716, dated Fort Saint George, 29th July 1865, from the Principal Medical Officer Medical Department, I have the honor to report that, since I assumed Medical charge of the European Troops at this station, viz, 21st March last, I have not noticed any traces of damp about the floors of the Artillery Barracks, which are all paved with stone and raised about two feet above the level of the ground.

Two of the three blocks of buildings occupied by the Infantry are also paved with granite and the floors do not show any traces of damp. The other building, which has only recently been occupied, has a brick floor which is a good deal worn in places, more especially at the sides and ends of the cots, in these parts the bricks always become discolored and damp after a heavy shower of rain.

From Staff Assistant Surgeon A. BRYSON, M. D., in Medical charge Convalescent Depot, Wellington, 21st August 1865, No. 72; to the Deputy Inspector General of Hospitals, Southern Division, Trichinopoly.

I have the honor to report, in reply to your memorandum relative to the dampness or otherwise of the Barrack floors of the Depot, that the ground floor which is wooden and elevated about two feet, does not appear to be influenced by the rainy season, but I have not seen the boards raised, as the Executive Engineer has not been in the station since the receipt of your memorandum.

From Surgeon F. DOUGLAS, M. D., 2nd Battalion 10th Regiment, Bangalore, 15th August 1865, No. 50; to the Deputy Inspector General of Hospitals, Mysore Division, Bangalore.

In reply to paragraph 2, Circular No. 1322, dated 3rd August 1865, I have the honor to inform you that the floors of the Barrack rooms occupied by the 2nd Battalion 10th Regiment are free from damp during the rainy season, except such as enters through the ventilators on the roof.

From Surgeon C. C. RUTHERFORD, 18th Hussars, Bangalore, 18th September 1865, No. 159; to the Deputy Inspector General of Hospitals, Mysore Division.

With reference to Proceedings of the Madras Government, Public Works Department, of the 18th July, and memorandum, No. 265, dated Quarter Master General's Department, 28th July, I have the honor to state that the floors of the Barrack rooms occupied by the 18th Hussars do not become damp during the rainy season.

From Assistant Surgeon W. O'HALLORAN, in Medical charge Royal Artillery, Bangalore, 25th September 1865, No. 151; to the Deputy Inspector General of Hospitals, Mysore Division.

With reference to Circular memorandum, No. 1656, dated 14th instant, directing attention to Circular, No. 1322, I have the honor to state that the floor of the Artillery Barracks not having been opened out, I am unable to report on the results of this operation.

From Assistant Surgeon W. TYRELL, in Medical charge Her Majesty's 102nd Regiment, Cannanore, 12th September 1865, No. 162; to the Deputy Inspector General of Hospitals, Mysore Division, Bangalore.

With reference to Circular memorandum, No. 1322, from your office, I have the honor to report, that the floors of the Infantry Barracks at Cannanore do become damp during the rainy season.

From Assistant Surgeon C. GRAY, D Battery 20th Brigade Royal Artillery, Cannanore, 27th September 1865, No. 51; to the Deputy Inspector General of Hospitals, Mysore Division, Bangalore.

With reference to your office Circular memorandum, No. 1322 of 3rd August 1865, I have the honor to report that, on each occasion of my visiting the barrack bungalows during the rainy season, I have found the floors more or less damp.

From Assistant Surgeon G. ASHTON, M. B., Her Majesty's 102nd Regiment, Calicut, 10th September 1865, No. 73, to the Deputy Inspector General of Hospitals, Mysore Division.

Agreeably to the instructions contained in Circular memorandum, No. 2716, from the office of Principal Inspector General Medical Department, I have the honor to state, that the floors of the barrack-rooms at this station, all of which are boarded, do not become damp during the rainy season.

From Staff Assistant Surgeon C. HAINES, in Medical charge Detachment Her Majesty's 102nd Regiment, Mallapooram, 16th September 1865, No. 19, to the Deputy Inspector General of Hospitals, Mysore Division, Bangalore.

Agreeably with Circular memorandum, No. 2716, from the Secretary to the Principal Inspector General Medical Department, respecting barrack floors, and your memorandum No. 1322, dated August 3rd, I have the honor to report that at no time during the present year have the floors, either of the barracks or Hospital at this station, been in a damp state from any cause save roof-leakage. The floors of both are wooden and raised above the level of the ground outside two and four feet respectively, a space about one foot in depth exists beneath the boards, no provision is present for the circulation of air in this space except what may occur through the chinks between the boards.

From Surgeon Major W. H. JEPHSON, M. D., 1st or King's Dragoon Guards, Secunderabad, 5th August 1865, No. 65; to the Officer Commanding 1st or King's Dragoon Guards

With reference to docket memorandum No. 2582, from the Assistant Quarter Master General and extract of Proceedings of Government, No. 2063, dated 18th ultimo,* to your address and forwarded for my information, I have the

* Herewith returned.

honor to report that none of the floors of the barrack ranges, occupied by the Regiment, have become damp during this season.

True copy forwarded for information, and with reference to Circular memorandum, No. 2716 of Principal Inspector General Medical Department, and Circulars, No. 298 of 29th July and 8th August 1865, respectively, calling for similar report.

(Signed) W. H. JEPHSON, M. D.,
1st or King's Dragoon Guards

9th August 1865.

From Assistant Surgeon G. C. CLEBY, Royal Artillery in Medical charge, Secunderabad, 19th August 1865, No. 114; to the Deputy Inspector General of Hospitals, Hyderabad Subsidiary Force.

In reply to your Circular memorandum No. 2716, I have the honor to state that the floors of the barracks occupied by the Royal Artillery at this station do not become damp during the rains. They are all well raised from the ground and in the buildings used by the Troops of Horse Artillery the floors are so well laid down with solid blocks of granite with chunam joinings that no dampness can possibly occur.

It is not necessary to speak of the barracks of the B Battery 23rd Brigade, as they are condemned, but I may add that though the floors are only temporarily laid down they are perfectly dry.

From the Surgeon in charge of Her Majesty's 18th Royal Irish Regiment, Trimulgherry, 5th August 1865, No. 60, to the Officer Commanding Her Majesty's 18th Royal Irish Regiment.

In answer to an extract of a letter, dated Simla, 22nd June 1865, No. 57, relating to the floors of Barracks becoming damp during the rainy season, I have the honor to state that, the floors of the barracks occupied by the men of the 18th Royal Irish Regiment, do not become damp; during the rains all barracks are more or less damp, but the floors are not more damp than the walls, unless in isolated spots now and then from accidental leakage in the roof.

From the Surgeon in charge of Her Majesty's 108th Regiment, Trimulgherry, 20th August 1865, No. 57; to the Deputy Inspector General of Hospitals, Hyderabad Subsidiary Force.

With reference to copy of Proceedings of Government, dated 18th July 1865, I have the honor to report, that I have never observed any of the 108th Barrack floors in a damp state, except during the prevalence of wet weather, from rain drifting into the buildings through the ventilators, doors, &c. The floors are all sufficiently elevated above the level of the ground to prevent them contracting damp from below

From Assistant Surgeon W. B. RAMSBOTHAM, M D, B Battery, 14th Brigade Royal Artillery, Trimulgherry, 20th August 1865, No 20; to the Principal Medical Officer, Secunderabad.

With reference to your Circular of yesterday's date, I have the honor to inform you that, I have already reported officially through the Officer Commanding the Battery, that the floors of the two rooms occupied by the men of the B Battery 14th Brigade Royal Artillery, have not been at any time damp during the present rainy season.

From Assistant Surgeon G. SIMON, M D, G Battery, 23rd Brigade Royal Artillery, Trimulgherry, 14th August 1865, No. 74, to the Deputy Inspector General of Hospitals, Hyderabad Subsidiary Force, Secunderabad

With reference to copy of Proceedings of Government, Public Works Department, dated Madras, 18th July 1865, I have the honor to annex the following report :—

The Barracks occupied by the D Battery, 23rd Brigade Royal Artillery, stand on the highest available ground in the Trimulgherry Cantonment, and consist of four solid buildings of bricks and chunam work, raised upon solid granite basements (without arches), about three or four feet from the ground, they are most favorably placed as regards elevation and site, and the general conformation of the surrounding ground favors surface drainage. The soil is of a sandy nature very permeable and of considerable depth, composed chiefly of disintegrated granite which readily absorbs water as is observable after a fall of rain. The floors of all the buildings are composed of burnt bricks and granite slabs, the former entering into the composition of that part of the flooring under the cots, and the latter the centre passage between them.

The floors do not become effected by damp during the rainy season.

From the Deputy Inspector General of Hospitals, Nagpore Force, Kamptee, 13th September 1865, No. 470; to the Secretary Principal Inspector General Medical Department, Fort Saint George.

With reference to Circular memorandum, No 2716, dated 29th July 1865, I have the honor to forward reports on the European Barracks and Hospitals at this station, Seetabuldee and Chindwarrah, as regards dampness during the rainy season.

From the Assistant Surgeon in Medical charge Royal Artillery, Kamptee, 9th September 1865, No. 70; to the Deputy Inspector General of Hospitals, Nagpore Force.

In reply to your memorandum, No. 402 of the 11th ultimo, calling upon me to state, for the information of the Principal Inspector General Medical Department, whether the floors of the Barracks and Hospital have been free from dampness during the last rain, I have the honor to inform you that at my weekly inspection of the Barracks, I have always observed the floors to be dry, and I have not received any complaints on the subject. The floor of the Hospital has always been dry.

From the Surgeon Major, 1st Royals, Kamptee, 17th August 1865, No 169; to the Deputy Inspector General of Hospitals, Nagpore Force, Kamptee.

With reference to 2nd paragraph of the Proceedings of the Madras Government, dated 18th July 1865, circulated with your official memorandum, No. 402 of the 11th instant, I have the honor to state that, the floors of the Hospitals which are occupied by the 1st Royal Regiment, are raised and perfectly free from dampness in the rainy season, the floors of the Barracks, however, though raised from the ground are frequently damp during the rains, particularly those at Seetabuldee.

From the Civil Assistant Surgeon, Chindwarrah, 23rd August 1865, No. 30; to the Deputy Inspector General of Hospitals, Nagpore Force, Kamptee

In compliance with the instructions contained in your memorandum, No. 402, dated 11th August 1865, I have the honor to report that the floors of the Barracks and Hospital at this station do not appear to become damp during the rainy season, excepting in such places as water falls on from leaky roofs.

ORDER, No. 4386, 28th November 1865.

The foregoing papers will be communicated to the Department Public Works, with reference to paragraph 2 of Proceedings of Government in that Department, No. 2063, dated 18th July 1865.

(True Extract.)

M. Hamilton Col
Deputy Secretary to Government.

To the Quarter Master General.
.. Principal Inspector General Medical Department, with 26 enclosures.
.. Public Works Department. *With 204 page Copies.*
.. Barrack Master,..... } for information.
.. Controller of Military Accounts, }

Erd. A. W. Cooke.

23

30 May 1866. On - the June

2004 1825-41826 11/4/97

7th 1865 D^{ptd}
No. of Engrs & Gun-
April 4 776
Pro: of Govt in the
Army, Defense
of 25th March 65
Dec: 90 Dear "
Ms A 986.
107

Exd. J. E. Cashart.

No. 45.

Superintg: Engrs Office 5th Bn
Bangalore, 19th December, 1865.

From

Siruth Col. E. A. Hoord M.L.
Superintg: Engineer 5th Bn

To

Colonel C. A. Br M.L.
Secretary to Government B.M.W.

lit. 3

With reference to the order of
Government of the 18th of July No. 2063,
and your Memorandum No. 248, I have
the honor to report that the Executive
Engineer has examined the floors of
the Barracks at Bangalore. These floors
are found of slabs of granite set
in sand or clay and the sand
or clay is damp from the water
escaping through the joints of the
stones.

I have the honor to be,
Sir,

Your most Obedt Serv^t

E. A. Hoord

Super: Engrs 5th Bn

20th Nov 1865

2033.

20th Nov 1865

Communications
letter from the Municipal
Engineer dated 11th Dec 1865 for
-waiting reports on
the state of the floors
of the European Barracks
at Bellary and Ranam-
durg.

20th Dec 1865
Office of Engrs for Bangalore
19th Dec 1865
I have read your letter
Military Engineer
20th Dec 1865
Recd. 20 Dec 1865
20th Dec 1865

Executive Range Office No 1
Bekary, 23^d December 1865

No 250
1865/1

Sir,
The Superintending Engineer
3^d Division.

Sir,
Referring to Memo No 248 of 13th Instant from the Secretary to Government I have the honor to state that the S.O. (No 2063 of 11th July) came when S.W. monsoon was nearly over, the only day rain fell at all before it. It is to be noted I happened to be out in the station at the time it fell. I therefore judged it best to wait for the N.E. monsoon. On the 6th and 7th October the following floors were opened.

	Block	Height of basement above ground
European Barracks	No 1	1 3/4
	No 2	1 1/4
	No 3	1 1/2
	No 4	1 1/2
Artillery Barracks	No 5	2 1/4
	No 6	2 1/4

The European blocks chosen were the one at either end and the one at the centre; the Artillery block, also was chosen as the centre one and being in our hands it did not accommodate the Artillery; the old general Hospital is only one block.

3. The floors were found perfectly dry, no rain fell after this date, except showers, so that they have not been opened since; but I consider the above is a very fair criterion, as when it does rain in this station, it is only in single isolated days and it could not therefore have the effect of saturating the ground with damp. It would only be necessary to open it on the three occasions, before, during, and after the rains, in climates where the rain falls continuously. The Dir Master General of the Division informed me that the report of the medical authorities was that the floors were never damp. I do not consider it necessary to build barracks at this station on open vaults to allow the air to percolate underneath.

Shamoo Dey
(Signed) R. P. Pennefather Esq
Actg Engineer

1 True Copy
R. P. Pennefather Esq
Subd Engineer 3^d Division.

220 1865. 8 Sept
Off. of Secy to Govt
No 5110

The Sd Engineer
5th Div
to the Secretary
to Govt of India

19th Dec 1865
21st Dec 1865

Off. 45

Transmitting the
information required
with regard to the
plans of Barracks
at Bangalore

20th 1825-4 1826-11th June 18

20th 1825-4 1826-11th June 18

20th 1825-4 1826-11th June 18

Departing under
the condition of the
Horn of Antelope
Karnak at
Holladay.

will leave Feb 20th 1895

Forwarded with reference by Act 2063
of 18th July 1865 & in continuation of Letter No 16
of 18th November 1865.

Camp Buddafah
 Taher, Buddafah
 Inf. Regt. Officer
 13th January 1866.

5. *A. A. A. Major R. D.
Sup^{rs} Engineer 3^d Div.*

205

Qd. / June / 66

November

Baracks Visited	Distinguishing number of Coy	29th Nov 1865.	1st Dec 1865.
7th Barracks Men	No 1	Dry	
	" 2	do	
	" 3	do	
	" 4	Pretty dry	
	" 5	Somewhat damp	
	" 6		
	" 7		
	" 8		
	" 9		
	" 10		
	" 11		
	" 12		
	" 13		
	" 14		
Artillery Barracks	" 15	Dry	
	" 16	do	
	" 17	do	
	" 18	do	
	" 19		
	" 20		
	" 21	Very dry pure sand	
	" 22	Dry	
	" 23	Very dry pure sand	
	" 24	Michelle dry	
	" 25	do	
	" 26	do	
	" 27	Rather damp	
Family Bk	" 28	Pretty dry	
	" 29	do	
	" 30	do	
	" 31	do	
	" 32	do	
	" 33	Tolerably dry	
	" 34	do	
	" 35	do	
2nd Block	" 36	Tolerably dry	
	" 37	do	
	" 38	do	
	" 39	do	
	" 40	do	
Old Creamery Building	" 41		
	" 42		
	" 43		
Main guard	" 44		
	" 45		
	" 46		
	" 47		

1st Dec 1865.
 2nd Dec 1865.
 3rd Dec 1865.
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 27th Dec 1865.
 28th Dec 1865.
 29th Dec 1865.
 30th Dec 1865.
 31st Dec 1865.

Port of Genl.
 8. January 1866.

August 1865.

Before the bronchus

Danash Fired	Distances of Orb	1st	2d	3d	4th	5th	6th	7th	8th	9th	10th	11th	Height of floor above level of ground	
7th Danash crew	1st	12	13	14	15	16	17	18	19	20	21	22	2 feet	Liable to be splashed with water
		23	24	25	26	27	28	29	30	31	32	33	2 1/2	
		34	35	36	37	38	39	40	41	42	43	44	1 1/2	
		45	46	47	48	49	50	51	52	53	54	55	1 1/4	
		56	57	58	59	60	61	62	63	64	65	66	1 1/2	
		67	68	69	70	71	72	73	74	75	76	77	2 1/4	
		78	79	80	81	82	83	84	85	86	87	88	2 1/2	
		89	90	91	92	93	94	95	96	97	98	99	1 1/2	
		100	101	102	103	104	105	106	107	108	109	110	2 1/4	
		111	112	113	114	115	116	117	118	119	120	121	2 1/2	
		122	123	124	125	126	127	128	129	130	131	132	2 1/4	
		133	134	135	136	137	138	139	140	141	142	143	2 1/4	
		144	145	146	147	148	149	150	151	152	153	154	2 1/4	
		155	156	157	158	159	160	161	162	163	164	165	2 1/4	
		166	167	168	169	170	171	172	173	174	175	176	2 1/4	
		177	178	179	180	181	182	183	184	185	186	187	2 1/4	
		188	189	190	191	192	193	194	195	196	197	198	2 1/4	
		199	200	201	202	203	204	205	206	207	208	209	2 1/4	
		210	211	212	213	214	215	216	217	218	219	220	2 1/4	
		221	222	223	224	225	226	227	228	229	230	231	2 1/4	
		232	233	234	235	236	237	238	239	240	241	242	2 1/4	
		243	244	245	246	247	248	249	250	251	252	253	2 1/4	
		254	255	256	257	258	259	260	261	262	263	264	2 1/4	
		265	266	267	268	269	270	271	272	273	274	275	2 1/4	
		276	277	278	279	280	281	282	283	284	285	286	2 1/4	
		287	288	289	290	291	292	293	294	295	296	297	2 1/4	
		298	299	300	301	302	303	304	305	306	307	308	2 1/4	
		309	310	311	312	313	314	315	316	317	318	319	2 1/4	
		320	321	322	323	324	325	326	327	328	329	330	2 1/4	
		331	332	333	334	335	336	337	338	339	340	341	2 1/4	
		342	343	344	345	346	347	348	349	350	351	352	2 1/4	
		353	354	355	356	357	358	359	360	361	362	363	2 1/4	
		364	365	366	367	368	369	370	371	372	373	374	2 1/4	
		375	376	377	378	379	380	381	382	383	384	385	2 1/4	
		386	387	388	389	390	391	392	393	394	395	396	2 1/4	
		397	398	399	400	401	402	403	404	405	406	407	2 1/4	
		408	409	410	411	412	413	414	415	416	417	418	2 1/4	
		419	420	421	422	423	424	425	426	427	428	429	2 1/4	
		430	431	432	433	434	435	436	437	438	439	440	2 1/4	
		441	442	443	444	445	446	447	448	449	450	451	2 1/4	
		452	453	454	455	456	457	458	459	460	461	462	2 1/4	
		463	464	465	466	467	468	469	470	471	472	473	2 1/4	
		474	475	476	477	478	479	480	481	482	483	484	2 1/4	
		485	486	487	488	489	490	491	492	493	494	495	2 1/4	
		496	497	498	499	500	501	502	503	504	505	506	2 1/4	
		507	508	509	510	511	512	513	514	515	516	517	2 1/4	
		518	519	520	521	522	523	524	525	526	527	528	2 1/4	
		529	530	531	532	533	534	535	536	537	538	539	2 1/4	
		540	541	542	543	544	545	546	547	548	549	550	2 1/4	
		551	552	553	554	555	556	557	558	559	560	561	2 1/4	
		562	563	564	565	566	567	568	569	570	571	572	2 1/4	
		573	574	575	576	577	578	579	580	581	582	583	2 1/4	
		584	585	586	587	588	589	590	591	592	593	594	2 1/4	
		595	596	597	598	599	600	601	602	603	604	605	2 1/4	
		606	607	608	609	610	611	612	613	614	615	616	2 1/4	
		617	618	619	620	621	622	623	624	625	626	627	2 1/4	
		628	629	630	631	632	633	634	635	636	637	638	2 1/4	
		639	640	641	642	643	644	645	646	647	648	649	2 1/4	
		650	651	652	653	654	655	656	657	658	659	660	2 1/4	
		661	662	663	664	665	666	667	668	669	670	671	2 1/4	
		672	673	674	675	676	677	678	679	680	681	682	2 1/4	
		683	684	685	686	687	688	689	690	691	692	693	2 1/4	
		694	695	696	697	698	699	700	701	702	703	704	2 1/4	
		705	706	707	708	709	710	711	712	713	714	715	2 1/4	
		716	717	718	719	720	721	722	723	724	725	726	2 1/4	
		727	728	729	730	731	732	733	734	735	736	737	2 1/4	
		738	739	740	741	742	743	744	745	746	747	748	2 1/4	
		749	750	751	752	753	754	755	756	757	758	759	2 1/4	
		760	761	762	763	764	765	766	767	768	769	770	2 1/4	
		771	772	773	774	775	776	777	778	779	780	781	2 1/4	
		782	783	784	785	786	787	788	789	790	791	792	2 1/4	
		793	794	795	796	797	798	799	800	801	802	803	2 1/4	
		804	805	806	807	808	809	810	811	812	813	814	2 1/4	
		815	816	817	818	819	820	821	822	823	824	825	2 1/4	
		826	827	828	829	830	831	832	833	834	835	836	2 1/4	
		837	838	839	840	841	842	843	844	845	846	847	2 1/4	
		848	849	850	851	852	853	854	855	856	857	858	2 1/4	
		859	860	861	862	863	864	865	866	867	868	869	2 1/4	
		870	871	872	873	874	875	876	877	878	879	880	2 1/4	
		881	882	883	884	885	886	887	888	889	890	891	2 1/4	
		892	893	894	895	896	897	898	899	900	901	902	2 1/4	
		903	904	905	906	907	908	909	910	911	912	913	2 1/4	
		914	915	916	917	918	919	920	921	922	923	924	2 1/4	
		925	926	927	928	929	930	931	932	933	934	935	2 1/4	
		936	937	938	939	940	941	942	943	944	945	946	2 1/4	
		947	948	949	950	951	952	953	954	955	956	957	2 1/4	
		958	959	960	961	962	963	964	965	966	967	968	2 1/4	
		969	970	971	972	973	974	975	976	977	978	979	2 1/4	
		980	981	982	983	984	985	986	987	988	989	990	2 1/4	
		991	992	993	994	995	996	997	998	999	1000	1001	2 1/4	
		1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	2 1/4	
		1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	2 1/4	
		1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	2 1/4	
		1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	2 1/4	
		1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	2 1/4	
		1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	2 1/4	
		1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	2 1/4	
		1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	2 1/4	
		1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	2 1/4	
		1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	2 1/4	
		1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	2 1/4	
		1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	2 1/4	
		1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	2 1/4	
		1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	2 1/4	
		1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	2 1/4	
		1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	2 1/4	
		1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	2 1/4	
		1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	2 1/4	
		1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	2 1/4	
		1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	2 1	

26. Decr 1868.

Among the Arizonians

Height of floor
above level
of ground

2. Just

not now occupied by troops & is not splashed

한편

$$\frac{24}{22} = 1.09$$

154-1

●

$$\frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$$
$$\frac{5/2}{24}$$

24

24.

2

[Signature]

Due to splashing with water probably.

注意

120

$$\begin{array}{r} 1 \\ \hline 24 \end{array}$$
$$\begin{array}{r} 2 \\ 2 \\ \hline 2 \end{array}$$

29/

19

12-

12
J.P.

2

24

 $\frac{1}{2}$

12

 $\frac{1}{2}$

John G. Lusk, Captain
Executive Engineer U. S. N.

991698 1466

此乃本行所製之

三三三三三

1897

Height of floor
above level
of ground

Again occupied & splashed with water

Due to some local (not general) agency

3 } Our very probably to want of
3 } sufficient bedding.

Wm. H. Wood
Assistant Engineer Fort Ransom

99/98 1166

991 693 146

N. 487.
Memoirs of Charles R. 33

To The Superintending Engineer
4th Division
Madras.

Sir,

In obedience to your order
N. 1050 dated 26th July 1865, I have the
honor to enclose three tables exhibiting
the state of Barrack floors in the
Port before during and after the raining
season.

I have the honor to be
Sir,
Your most Obedt. Servant

Dist. Li. George
January 1866.
Chas. Gordon Captain R.E.
Executive Engineer & R.

To, Colonel Hill
Secy to Govt. of Madras

N^o 3806.

1 Letter Submitted to Government with
3 Tabular reference to their Order N^o 2063
Statements 18 July 1865.

2. It may fairly be assumed from the accompanying Tables that the adoption of raised basements with the air circulating under the floors is not called for in the buildings to be erected in future in Fort St George, as the floors of the earth-filled basements remain dry at all seasons.

3. The Report of the Executive Engineer Mount Range has not been received.

Approved
Sup Engr 4 Dr

Cup Engr Office 4 Dr
Madras -
25 January 1866

To, Colonel C. A. B. R.
Secy to Govt. P.W.D.

N^o 5161

Letter to Cup Engr 4 Dr.
From the Sup. Engr 4 Dr.
The Sup. Engineer
4 Dr.
Dated 8th January 1866.
Engrs 3.

Forwarding three tables exhibiting the state of Barrack floors in the Fort.

M.V. 1866

Pres. 11 Sup. 11 du N^o 206.

encl. 10
21 Jan 1866
Talk
to the
Sup. Engr
4 Dr.
1866

331-2-206-206
35-2-206-206

over 1825. 41826. 115 June/1866

2.20.

2nd March

131 1865 2 m
 No. 1 of 1865
 1865

Enclosure
1

N^o 4374-

Supt. C. & G. Office at Indian
Camp Hellar. N. W. T. D.
28th February 1866.
Des^d_{10th} 5th March _____ 35

From
Colonel S. J. McBoileau R.C.
Superintending Eng. & Dist.
Colonel C. A. Orr R.C.
Secretary to Government M.D.

Sir; With reference to Govt. order no. 2063
 dated 11th July 1885 and the continuation of
 endorsement no. 3806 dated 24th January 1886,
 I have the honor to forward a Tabular
 Statement furnished by the Asst. Engineer
 Mount Range exhibiting the state of the
 floor of the Barracks (as regards dampness
 or dryness) in his Range. but as the
 observations were made only long after
 the monsoon, & not during it, or before it,
 they are of little or no value; so far
 as they go, they show no change to be
 required.

as my ^{best} friend
required.

2. Captain Rogers took no pains
to make himself acquainted with the
precise nature of the orders of Governor
and he sheltered himself under the
plea that he was led to suppose
that the examination of the florings
should take place only after the
monsoon, because the orders received
from my office after he joined the
Range

Pango in September reminded him
of the approach of the end of the
monsoon when the result of the
examinations (not the examinations
themselves) would be due.

I think the Lt. Engineer
has evinced great care & diligence
in this matter & is deserving of
commendation.

I have the honor to be, Sir,
your most obedient servant

Wm. H. H. H.
Superintendent of the

Handwritten notes or signatures in the right margin, including the word "Bureau" and other illegible scribbles.

From
The Col: Engineer,
Mount Rancho
La Brea, Aug 2
to 20th March 1876
dated 21st Feb 1876
Recd 27th Feb 1876
La Brea Station
of Barren Hills

27 1876
The Engineer
The Engineer
The Engineer
The Engineer

To the Secretary
to Government
dated 28th Feb 1876
Recd 27th Feb 1876

Ex. no. 1876/1374

Forwarding a statement
statement furnished by
the Executive Engineer
Mount Rancho Station
the state of the river at
the Rancho when it was

27 1876
Ex. no. 1876/1374

No 27.

41
Superintg Engrs Office 5th Divn
Cuddalore 19th May 1866.

From

Lieut Col E. A. Ford R.E.,

Superintg Engineer
5th Division

To

Colonel C. A. Orr R.E.,

Secretary to Government
D.P.W.

Sir,

With reference to your Memo:
No 70 of the 12th of March, I have
the honor to state that the floors
examined by the Executive Engineer
at Bangalore, and referred to in
my letter of the 19th December No 45,
were those of Nos 3 and 4 Ranges
of the new Infantry barracks and
of two wash houses at the same
barracks.

2. The barrack floors are raised
1 1/2 feet above the ground, and were
found dry, and the wash house
floors, which are raised 1 foot, damp
owing

owing to water leaking through the joints of the Stones.

3. I believe that in all cases, when the basement is sufficiently raised, the damp will be found due to washing the floors and not to soil or weather.

I have the honor to be
Sir,

Your most Obedient Servt

Edmund Lieut. Col. R. C.

Superintending Engineer
3rd Division

[Faint, illegible handwritten notes on the right page]

CV-1825

Under date the 7th June/66
Read the following

From the Supg Engineer of the 7 th Dn.	Here enter No. 166 dated July 1865.	
" " Do of the 6 th "	" " 165 " 6 Novr "	
" " Do of the 3 ^d "	(Here enter No. 165) dated 18 Novr "	
Pecgs of Gold in the mly Dept.	4386	28 th
" " " " "	4481	6 Decr "
From the Supg Engineer of the 5 th Dn.	45	19 th Aug 1866
" " " " "	184	13 Feb "
" " " " "	3866	25 th "
" " " " "	4374	28 Feb "
" " " " "	27	19 May "

Resolved that the foregoing
papers be forwarded to the
Government of India, with
reference to Colonel H. Munro
to Letter No. 57 of the 22nd June/
1826/66. No. 1826
To the Secretary to the
Govt. of India

Sir With reference to your letter No 57 under date the 22nd June 1865, I am directed to forward for the information of the Government of India the accompanying papers containing the reports of the Military and Medical Authorities and of the Sept. Legation.

Wald

To
7. The Military Dept. ^{W. H. C. C.}
" Capt. ^{to each} Engineers ^{to each}

P. B. M. D. 2000
 (No. of 1000 of 1000)
 21/27

The Duty of Engineers

5-7 Division

2/5.

The Secretary to

Government Office

Dated 19th
 Received 5.22
 May 1866

Ms. 27.

Thurnisling the information called for regarding the floors of barracks at Bangalore.

20th March 1866. D. J. Hume

210, 1825-41826-1158 June/66.

P. W. 1866 Department.

Proc. of Govt. for June

No. 18258/1826.

PROCEEDINGS OF GOVERNMENT

of Mysore

Dated

11 June 1826.

*Passing orders on certain
correspondence relating to the con-
struction of Barracks buildings
on vaulted basements.*

A/199@210

May 1866 P. W. 1866