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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

Can 20/6/37

G.O. No. <i>473</i>	Press Mis.
<i>5.61</i> Dated <i>16-11-37</i>	18.58

Not to be folded or roughly handled

No. 60. Read the following letter from Colonel C. E. FABER, Chief Engineer; to H. FORBES, Esq., Acting Secretary to Government, dated 3rd March 1858, No. 7751.

SIR,

I have the honor to forward for submission to Government, the accompanying letter from the Chief Engineer of Hyderabad, No. 170 of the 4th February 1858, submitting the Plan of the New Married Men's Quarters at Secundrabad required by the Court of Directors in their Despatch No. 27 of the 4th February 1857. Communicated with Extract from Minutes of Consultation No. 2182 of the 26th November 1857, and fully explaining the grounds on which it was considered expedient to erect so expensive a style of building.

2. The Plans for these Barracks were originally intended to be the same as the "Bengal Standard" but circumstances led to various modifications of them, as detailed in full by Lieutenant Colonel Henderson, till those finally adopted were prepared by him in direct communication with the late Lieutenant General Anson, and were sanctioned by the Government of India on the 10th January 1856, for the erection of 8 ranges for the accommodation of 128 families at a probable cost of Rupees 2,48,976.

3. Lieutenant Colonel Henderson, c. B., states that instead of eight, ten ranges, capable of accommodating 130 families including a Serjeant to each, have been completed at an actual outlay of Rupees 1,46,874, or more than two thousand Rupees, within the estimate, and, after describing at length the character and extent of the buildings, and the causes of the great delay in their construction, he shows that for the admirable accommodation provided, the current expense to Government amounts to the comparatively small sum of 5½ pence per diem for each family.

4. Lieutenant Colonel Henderson, c. B., takes the opportunity of submitting with his letter, a Memorandum on the new Barracks at Trimulgherry, which he has had printed a short time ago, but has not hitherto laid before this Government in an official form.

Letter from Lieutenant Colonel R. HENDERSON, Chief Engineer of Hyderabad; to Colonel C. E. FABER, Chief Engineer, Fort Saint George, dated Bolarum, 4th February 1858, General No. 174, Departmental No. 90.

SIR,

Agreeably to your orders No. 5653 of December 3rd 1857, I have the honor to forward a Report on the Married Men's Quarters attached to the new British Infantry Barracks at Secundrabad.

2. In the original plan of these Barracks (called the "Bengal Standard plan") which was forwarded from your office in November 1853, it was contemplated, to place the quarters for married Soldiers in continuation of the Serjeant's Quarters situated at the two ends of each range of building, at the rate of 12 Quarters to a Company, making 6 at each extremity of the Barracks or 3 in continuation of each suit of Serjeant's Quarters, no extra "out door" accommodation however was provided for the families and the whole building had the appearance delineated in Plan 2, figure 1, accompanying.

3. This plan however was objected to by the Commander in Chief of the Madras Army, the late Lieutenant General Anson, as in addition to the inconvenience alluded to at the close of the preceding paragraph. His Excellency deemed it altogether inadvisable that both married and single Soldiers should reside under the same roof and be brought into such close contact with each other, apart from this; His Excellency observed that

Vide Colonel Reid's letter No. 33, dated 15th August 1854. To the address of the Secretary to Government, Military Department.

the Quarters were as regards both Serjeants and married men, small and ill-arranged and he therefore directed that the two rooms at each outer extremity should be struck off the plan, and the remaining 3 altered into 2 for the accommodation of the Serjeants only, leaving the plan for the Married Men's Quarters to be afterwards determined upon. This was done, and the ranges of single men's Barracks then stood as represented in Plan II. Figure 2.

4. This arrangement was laid before the Madras Government, submitted to the Government of India and finally approved of by the Honorable Court of Directors who in their Despatch dated August 8th 1855, No. 56, directed that the plans for the accommodation of the married men should be submitted for the approval of the Government of India before carried into execution.

5. Previous to this however I had in accordance with the orders of the Military Board, dated January 25th 1855, forwarded through Division Head Quarters on the 24th February following 2 plans and estimates for constructing Married Men's Quarters. One of these was prepared in accordance with a plan furnished by the Chief Engineer of Madras, the other was one of my own proposing. That of the Chief Engineer consisted of four ranges of buildings, each of which was to contain accommodation for 30 families; but having the advantage of being on the spot, and observing how ill-suited the ground was for the construction of buildings of such a length, I deemed it advisable to halve the length of each range and construct eight ranges instead of four, each to contain 15 families. The amount of the estimate for constructing these quarters according to the plan of the Chief Engineer of Madras was 2,02,019-9-2 and agreeably to the plan submitted by myself 2,31,947-10-2 the difference being caused by the unavoidable necessity of constructing additional Non-Commissioned Officer's Quarters and out-buildings in order that each range might be under the supervision of a Non-Commissioned Officer.

6. After forwarding the Plan and Estimate alluded to above, I had the honor of receiving a revised plan from the Chief Engineer of Madras which had met the approval of His Excellency the Commander in Chief. It was forwarded to me with a request that I would obtain the opinion of the Medical Officer of the station upon it and also ascertain whether there was a suitable site for the buildings in a convenient locality.

7. As this revised Plan was a great improvement upon that forwarded by me on 21st February 1855, I submitted a revised estimate amounting to Rupees 2,57,387 the difference 22,440 being the additional expense required for providing wash-houses, which indispensable convenience to the health, cleanliness and comfort of the married men and their families had previously been lost sight of.

8. I received no further orders on this subject till June 1855 when the Quarter Master General of the Army addressed me a demi official letter of which a copy is appended, forwarding a Sketch of Family Quarters designed by His Excellency the Commander in Chief and requesting me to prepare Plans and Estimates in accordance with His Excellency's instructions. This Estimate after being checked in the Central Office of Public Works, Madras, amounted to Rupees 2,48,976 and was forwarded by Colonel Faber to the Government of Madras on the 15th October 1855, with a letter from which the following is an extract.

Para. 5. "With reference to my application now under despatch No. 1830 of this day's date, I would beg leave to add that as the full approval of the Commander in Chief has already been signified to the married Quarters, as now designed, I trust the Honorable the Governor in Council will be pleased to direct the whole series of Plans and Estimates to be forwarded to Calcutta without delay, in view to full sanction being granted for the whole expenditure by the Government of India."

9. The above Quarters were sanctioned by the Government of India in their Despatch No. 71, dated 10th January 1856, and calculated to accommodate 128 families including 8 Non-Commissioned Officers. On account of the nature of the ground however they have been constructed in 10 separate ranges, each containing 13 Families or 130 families in all including a married Non Commissioned Officer to each range.

10. The accommodation for each family consists of two rooms one being 16 x 14 and the other which is an enclosed verandah in rear being 14 x 10. Whilst an open verandah 16 feet in width in the clear extends along the whole front of each building. The larger room is pro-

vided with attic glazed ventilators and double doors and windows throughout and a large cupboard with doors is constructed in the wall. Each family is also provided with suitable out-offices such as cook-room, wash-house and necessary with back-yard, &c.

11. The ranges have been constructed in two columns separated from each other by a street of 50 feet in width, each column consists of 5 ranges running east and west and they are separated from each other by a sufficient space of ground for a small garden in which a small hedge has been planted to mark the boundary, the whole of the buildings have been surrounded by a double row of trees, although this additional expense was not provided for in the estimate

12. These Quarters are situated at a little more than 150 yards to the north of the principal Barracks covering with roads and gardens 3,69,415 square feet or 8½ acres. The locality of these buildings is most favorable, being open, elevated of gravelly soil, the ground having a gentle slope and in fact possessing every requisite for health and convenience that could be desired, ventilation and drainage have been well considered and carried into execution and every arrangement connected with the quarters were with the entire approval of the late Officer Commanding the Hyderabad Subsidiary Force (General Bell) and the Superintending Surgeon to whom the plans were submitted before being forwarded for final sanction.

13. With reference to the heavy cost of these buildings as alluded to by the Honorable Court of Directors and the delay occasioned in their execution. I have the honor to remark that these buildings would have been completed long ere this, but the delay has arisen from the difficulty of procuring carriage of which this Department has been frequently and totally deprived, for the movement of Troops; while with regard to the heavy cost, it is necessary to state that wherever the accommodation of European Troops is concerned in a climate like that of the Deccan, where the nights are frequently very cold, where great vicissitudes in temperature are experienced and where also hot winds prevail in April and May it is very necessary, on the ground that every measure tending to preserve the lives of the European Soldiers is one of wise economy, that the buildings should be commodious, that they should be well raised from the ground, that the walls should be high and provided with ventilators near the roof, and also that the doors and windows should be double viz. one glazed and one venetianed.

14. These requisites have all been provided for in the new married quarters at an actual cost of Rupees 2,46,874-1-2 or 5,225-6-6 under the estimated amount of Rupees 2,46,874-1-2 or 5,225-6-6 under the estimated amount of Rupees 18,000 the former sum including work to the extent of Rupees 18,000 not provided for in the estimate. Taking into consideration that 130 families are accommodated in these buildings and that money is procurable by Government at 5 per cent. per annum which was the case when the buildings were sanctioned, we find that each married Soldier with his wife is provided with very superior accommodation consisting of two excellent rooms with a backyard in which are situated a washing room, bathing room, and privy for each family at the rate of 5½d per diem exclusive of children and I need scarcely point out that the benefits derived from the outlay will amply repay the Government for their liberality whilst the condition of married Soldiers will be improved beyond comparison with any thing hitherto known in India.

15. I beg to forward a plan,* sections and elevations of the Family Quarters, attached to the European Infantry Barracks constructed at Trimulgherry near Secunderabad also a sketch shewing the disposition of the buildings as ordered in Extract Minutes of Consultation No. 2182, dated 26th November 1857.

16. In conclusion I do myself the honor to forward (Appendix No. 2) a copy of some remarks upon the new Barrack accommodation at Trimulgherry which were printed by me a short time since, but which have not hitherto been forwarded to Government in an official form.

NEW EUROPEAN INFANTRY BARRACKS AT SECUNDERABAD.

1. For the construction of the new European Infantry Barracks a piece of ground enclosing about 2½ square miles was given over to the British Government by His Highness the Nizam of the Dekhan, added to the Cantonment of Secunderabad. The foundation stone was laid on November 30th 1854, by G. A. Bushby, Esquire, the Resident at Hyderabad in presence of the European Troops at that station, and the work was immediately put in progress. A general idea of the extent of the buildings may be formed when it is stated that their walls enclose nearly six

Vide letter No. 108, dated 16th Feb. 1855 From the Adjutant of Engrs. to the Superintending Engineer H. S. Force.

	Rs.	A.	P.
Amount of saving	2,101	14	10
Amount of premium	3,123	7	8
Total	5,225	6	6

* By Banghy.

4 *Fort Saint George, Public Works Consultation of 20th April 1858.*

millions cubic feet of air, in addition to which the whole of the Barracks and principal buildings have outer colonnaded verandahs 11½ feet in width, and 13 feet in average height. The whole of the buildings taken together, actually stand upon 14½ acres of ground, but taking into consideration their relative distances from each other, [the highest pieces of ground having been selected for their sites] the total area that they occupy amounts to 220½ acres, or more than ½ of a square mile.

2. The Barrack ranges for the single men are 10 in number, each range containing for their accommodation 2,46,000 cubic feet nearly.

3. Taking the total amount of rank and file of an European Regiment to consist of
800 Privates.
50 Corporals.
20 Drummers and
20 Half pay Drummers.

Total... 890 and from this deducting
120 the number of married men we shall find

770 or 77 men to be the number contained in a complete Company of Rank and File, to be lodged in one Barrack, inclusive of men on duty, command, sick, and Prisoners.

4. The cubic content of each Barrack range is 2,45,984 cubic feet, consequently deducting 43,520 cubic feet for the Serjeant's Quarters, the quantity of air supplied for each man would be 2,730 cubic feet nearly, but if allowance be made for the contingencies referred to in the preceding paragraph, we shall find that 4,000 cubic feet is nearer the actual amount, and it is to be taken into consideration that this air is continually undergoing purification, as either the doors or ventilators of the Barracks are always open in this climate.

5. At the extremities of each Barrack range, and at right angles to the general length, are wings containing quarters for four Non-Commissioned Officers, who would each have two rooms and be supplied with 10,880 cubic feet of air.

6. Situated on a gentle slope, at a little more than 150 yards to the north of the principal buildings are ten ranges of Barracks for married men covering with roads, and gardens 3,69,415 square feet, or nearly 8½ acres. The number of these ranges corresponds with those for single men so that each Company will have separate accommodation for its single and married Soldiers. Each range is constructed to hold one Non-Commissioned Officer, and twelve married rank and file; the Quarters of the former consist of four rooms enclosing 11,284 cubic feet, and the latter two rooms enclosing 5,872 cubic feet of air. In rear of each Quarter is a Court yard containing three out-houses, viz., Cook-room, Bath-room, and Privy.

7. The Hospital, which is a very superior building of two stories, an improvement upon the Fever Hospital at Calcutta, is constructed to accommodate 140 Patients exclusive of women, affording to each man 2,673 cubic feet of air, and this independent of Apothecary's rooms, Store rooms, Nurse's rooms, Ward for severe cases, Female ward, Bath rooms, Clothes rooms, and Dispensary. The building is replete with every accommodation, and no expense has been spared by Government in providing for the care and comfort of their sick European Soldiers.

8. The cost of each building is as follows :

	Rs.	A.	P.
Ten ranges of Barracks	4,77,922	13	10
Ten ranges of Barracks for married men	2,48,976	0	0
Hospital, (upper storied building)	1,25,600	0	0
Canteen with quarters for the Canteen Serjeant.	32,578	8	8
Small-Pox Ward	9,932	1	6
Ten Necessaries for the Barracks	29,810	0	0
Ten Cook-rooms for do.	15,656	1	6

Fort Saint George, Public Works Consultation of 20th April 1858.

5

Punishment Cell to Hospital	3,933	8	2
Maniac's Ward	3,933	8	2
Dead room	3,933	8	2
Hospital Serjeant's Quarters and Medical Pupil's Room...	12,709	10	2
Guard-room and Conicapillay's Room	12,709	10	2
Hospital Cook-room	2,864	4	11
Seven Cook-rooms viz., Serjeant Major's Quarters, Quarter Master Serjeant's Quarters, Canteen Serjeant's Quarters, Hospital Serjeant's Quarters, School Master, School Mistress and Serjeant's Mess	4,225	1	3
Thirteen Necessaries, viz., the whole of the above, and Orderly Officer, Master Tailor, three Guard-rooms, and Medical Staff	8,276	1	3
Solitary Cells, disposed on the Panopticon principal with upper-storied Guard-room in the middle and an enclosure wall.	37,406	0	0
Magazine	808	2	7
Three Plunge Baths	5,537	13	9
Fives' Court	2,761	3	1
Skittle Alley	856	1	6
Two Wells	15,354	1	8
Coffee-room and Library with Librarian's Quarters, also Quarters for the Manager of the Coffee-room, Store-rooms, &c.	67,200	0	0
Staff Serjeant's Quarters	13,410	0	0
Serjeant's Mess	29,420	0	0
Guard-room with three Prison rooms, 30 by 20 each, and improved accommodation above for the Officer's Room	32,100	0	0
Tailor's Workshop with extensive Store-rooms and Master Tailor's Room	33,630	0	0
Rear Guard with 2 Prison-rooms 30 by 20 each, and other accommodation above, viz. Court Martial-room, Orderly-room and Quarter Master's and Adjutant's Offices	43,330	0	0
Ten Wash-houses each provided with 8 separate Bathing-rooms..	47,700	0	0
Ten Water-rooms for drinking water	22,800	0	0
Gun shed...	380	0	0
Hospital enclosure wall	1,509	7	6
Total.....	13,47,233	11	10

or nearly 13½ lacs of Rupees equal to Pounds Sterling 1,35,000 nearly. The whole of the buildings are provided with flat terraced roofs, and furnished with double outer doors and windows throughout, viz. 1 glazed and 1 venetianed.

9. Now assuming 5 per cent. as the rate of interest at which money could be borrowed at the time of the construction of these buildings, this sum would yield £6,750 per annum or £18-9-10½ per diem. Thus taking the aggregate cost of all the buildings into consideration and supposing a complete Regiment to contain 947 men, including Serjeants, it would appear that the amount paid by Government for maintaining each man for a day of 24 hours, is not quite 4½ pence, and this includes every possible requirement for health, cleanliness, and re-creation, as shewn in the above list of buildings, moreover the above calculation does not include children, thus giving a wide margin in its favor.

10. Taking the cost of the Barracks and family quarters alone, and following the same process as above, a result would be obtained shewing that each single man is lodged at an expense of only 1½d, and each married men with his wife at 5½d for a day of 24 hours. This also is exclusive of children, thus strengthening the conclusion arrived at. In short it is firmly believed that a single night's shelter at any of the lowest London lodging houses, could not be obtained for the sum at which a whole family are accommodated in the new Barracks with the greatest comfort, whilst apart from all considerations of a moral nature, between the two species of accommodation, no comparison can be instituted.

11. Hitherto the calculations have been made for a Company's European Regiment as at present constituted, but it must be borne in mind, that the buildings are capable of accommodating a far greater number of men than they are constructed for. For instance the number of men above mentioned as composing a Regiment are supposed to be accommodated in the principal hall only but one of the inner verandahs will alone contain 32 cots additional, whilst the Auxiliary buildings including the Hospital are equally capable of affording the extra accommodation required to meet this surplus. In fact, the Barracks would with ease contain two Regiments on emergency, not however including women and children; but as the Families would not be allowed to accompany the men on active service, the above statement suffers no deterioration. On the supposition however of the number of men contained in one Barrack amounting to 104, for whom, including Serjeants there is ample accommodation, the cost per diem of each man [taking the whole of the buildings into calculation] would be but 3½d for a day of 24 hours, and if the calculation be restricted to that of mere lodging, or of one of the Barracks ranges only, the cost would be 1½d for each man.

12. Abundance of water is procurable on the spot from wells now in course of construction, and the superior salubrity of the situation has already been tested by sending the Convalescent men from the old Barracks for change of air which in most cases was attended with complete success.

13. In planning the Barracks and their auxiliary buildings, every thing has been taken into consideration that would be likely to conduce to the moral and physical well-being of the Troops. The style of the buildings as well as the accommodation afforded by them, are far superior to anything hitherto known in the Presidency of Madras, and many new arrangements have been made to meet the requirements of order and discipline. But the greatest improvement of all is the introduction of separate and most comfortable Barrack accommodation for the married Soldiers, which is calculated to be productive of immense advantage in a moral point of view. It is hoped that besides teaching the Soldier to respect himself by shewing him the estimation in which he is held by Government, this liberal measure may have the effect of aiding to place a check upon the fearful mortality that has always prevailed in India amongst the Children of European Soldiers, and especially if born of European mothers of whom an appalling number die in infancy, and it is said that not 5 per cent. ever live to reach maturity.

Secunderabad,

8th October 1856.

(Signed) R. HENDERSON, Lieut.-Col.,

Chief Engineer of Hyderabad, and Superintending Engineer of H. S. Force.

Letter from Colonel F. A. REID, C. B., Quarter Master General of the Army; to Lieutenant Colonel R. HENDERSON, C. B., Chief Engineer of Hyderabad, dated Head Quarter, Ootacamund, 15th June 1855.

MY DEAR COLONEL HENDERSON,

His Excellency the Commander in Chief has just had before him your estimates for the ranges of quarters for married people, received from the Military Board, with a letter containing copious Extracts from a communication of yours to their Secretary on the subject. I have great pleasure in mentioning to you that His Excellency is much gratified to find that your ideas on the subject of these Quarters are so much in accordance with his own, and he has every confidence in your eventually producing a most superior description of accommodation for this class of Soldiers.

My object in addressing you now is, that time may be saved, in regard to alterations that will be required in your estimates, &c., in conforming to the enclosed improved Plan for Married Quarters. It contains 3 of a range of any number, with a front section of 4, shewing the arrangement of outer doors and windows. The interior saving in space, is not much different from that on which you have estimated. This plan gives the main rooms 14 by 12, but there

Each wash-house to have a window high up on the side towards the Privies.

F. A. R.

will be no objection to 14 square, if you think it more desirable and better suited to the climate. The back yards you will observe each contains a separate kitchen, washing house, and necessary, so contrived or placed that one roof will cover the offices of two Quarters, and the centre wall do for both, the dividing wall between the yards need not be

above 3' 6" high except between the wash houses and necessaries, where it should be 5' 6" in height. In the inner or middle room, 4 shelves should be placed, if possible half feet into the wall, and in the rear room a row of 6 good pegs for accoutrements and a couple of brackets placed horizontally above for a man's musket. Then the small additions are great comforts and moreover prevents injury to the walls by the occupants making conveniences of the kind for themselves.

His Excellency would beg you to understand that in plans of this kind received from him through me. They must be understood as referring to space, height, convenience, &c. and that architectural parts, such as thickness of walls, beams, &c. will rest entirely with you much care and attention has been given to this subject, and it is hoped that the enclosed presents a compact as well as comfortable description of lodging for the married men. Wherever it be possible, a space of 50 feet in front (maximum) should be allotted to each Quarter for gardening, there will be no dividing wall required, a trench will be sufficient to mark the boundary. I am not aware how you intend laying out your blocks, and shall be glad to have it in my power to lay a plan of the same before His Excellency, tolerably large, so that he may have a perfectly clear conception of it. I think you propose bringing your back yards together, but am not sure, whatever you do, give plenty of *lungs* to your blocks, i. e. *good open wide streets*, on the subject of ventilation, His Excellency is very particular.

I have this day addressed the Board officially on this subject, and no doubt you will hear from them shortly, my communication will however be the means of admitting of your proceeding at once on preliminary measures.

These Quarters will I hope be erected at Bangalore, Jackatallah, and Cannanore, as well as with you, at the first of these places, they will be in *long* ranges, but of course their arrangement will every where depend on the capabilities of site.

(Signed) F. A. REID, Colonel,

Quarter Mr. General of the Army.

No. 61.

ORDER THEREON, No. 699; dated 16th April 1858.

Resolved that copies of the above letter and of the papers received with it, together with the plan of the Married Men's Quarters at Secunderabad, be forwarded to the Government of India, for transmission to the Honorable the Court of Directors, with reference to Colonel Baker's communication, dated 25th September 1857, No. 4744.

(Signed) H. FORBES,

Acting Secretary to Government.

No. 62. Ordered in consequence that the following letter be despatched.

From H. FORBES, Esq., Acting Secretary to the Government of Fort Saint George; to Lieutenant-Colonel R. STRACHEY, Officiating Secretary to the Government of India, dated 16th April 1858, No. 700.

SIR,

Adverting to Colonel Baker's letter dated 25th September 1857 No. 4744, I have the honor, under the orders of the Right Honorable

* Copy of letter from Chief Engineer of Madras, dated 3rd March 1858, No. 7751.

Do. do. from do. of Hyderabad, dated 4th February 1858, No. 1740.

Do. Report of do. do. dated 8th October 1856.

Do. of a demi official letter from the Quarter Master General the Army, dated 15th June 1855.

1 Plan of the Married Men's Quarters.

1 Plan No. 2.

the Governor in Council to forward, for transmission to the Honorable the Court of Directors copies of the papers noted in the Margin,* furnishing information respecting the new European Barracks at Secunderabad, and the Married Men's Quarters attached thereto. A plan of the last mentioned buildings also accompanies for submission to the Honorable Court.

Copy of a letter from Colonel Reid to B.

9

Head Quarters, Cotacambú, 15th June 1855

My dear Colonel Henderson,

His Excellency the Commander in Chief has just had before him your Estimates for the Ranges of Quarters for the Married People, received from the Military Board, with a letter containing copious extracts from a communication of yours to their Secretary on the subject. - I have great pleasure in mentioning to you that H. E. is much gratified to find that your ideas on the subject of these Quarters are so much in accordance with his own, and he has every confidence in your eventually producing a most superior description of accommodation for this class of Soldiers.

My object in addressing you now, is, that time may be saved, in regard to alterations that will be required in your Estimates &c. in conforming to the enclosed improved Plan, for Married Quarters. - It contains 3 of a Range of any number, with a Front Section of 11. Showing the arrangement of outer doors and windows. The interior, saving in space, is not much different

from

from that on which you have estimated.
This plan gives the main rooms 11 x 12 but
there will be no objection to 11 squares, if
you think it more desirable, and better
suited to the climate. — The back yards
you will observe each contains a sepa-
rate kitchen, washing house, & (necessary,
so contrived or placed that one roof will
cover the offices of two Quarters, and the
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wall between the yards need not be
above 3-6 high except between the
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it should be 5' 6" in height. In
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Each wash house to have a window
high up on the side towards the Privies.

H. A. W.

referring to space, height, convenience, &c. — &
that architectural parts, such as thickness of
walls, beams &c. will rest entirely with you. —
Much care and attention has been given to this
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it be possible, a space of 50 feet in front
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wall required, a trench will be sufficient
to mark the boundary. — I am not aware
how you intend laying out your blocks,
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lency tolerably large, so that he may have
a perfectly clear conception of it. — I think
you propose bringing your back yards
together, but am not sure. Whatever you
do, give plenty of lungs to your blocks —
i.e. good open wide streets — on the sub-
ject of ventilation, H. Ex. is very particular.

I have this day addressed the Board
officially on this subject, & no doubt you
will hear from them shortly. My commu-
nication will however be the means of
admitting

admitting of your proceeding at once on pre-
liminary measures.

Very faithfully yours
J. A. Reid

To Col. Robertson
Capt. Engineer, B. E. Co.

These Quarters will I hope be
erected at Bangalore, Calcutta, &
Cantonment, as well as with you,
at the first of these places. They will be
in long Ranges, but of course their
arrangement will vary, where depend-
ent on the capabilities of site.
J. A. R.

(True Copy)

W. Henderson Lieut. Col.
Chief Engineer of Hyderabad.

Original & March 1857

1857/3/24/58

(New European Infantry)

Barracks

..

Secunderabad

1. For the construction of the new European
Infantry Barracks a piece of ground
enclosing about $2\frac{1}{2}$ square miles was given
over to the British Government by His High-
ness the Nizam of the Dekhan, and add-
ed to the Cantonment of Secunderabad.
The foundation stone was laid on November
30th 1854, by G. A. Buehly Esquire, the Resident
at Hyderabad in presence of the European
Troops at the station, and the work was
immediately put in progress. A general
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ed verandahs, $11\frac{1}{2}$ feet in width, and 13 feet in
average height. The whole of the buildings
taken together, actually stand upon $1\frac{1}{4}$
acres of ground, but taking into considera-
tion

consideration their relative distances from each other, [the highest pieces of ground on having been selected for their sites] the total area that they occupy amounts to $220\frac{1}{4}$ acres, or more than $\frac{1}{3}$ of a square mile.

2. The Barrack Ranges for the single men are 10 in number, each range containing for their accommodation 2,45,000 cubic feet nearly.

3. Taking the total amount of rank and file of an European Regiment to consist of

800 Privates

50 Corporals

20 Drummers and

20 Half Pay Drummers

Total 890 and from this deducting

120 the number of married men we shall find

770 or 77 men to be the

number contained in a complete company of Rank and File, to be lodged in one Barrack, inclusive of men on duty, command, sick, and Prisoners.

4. The cubic content of each Barrack Range is 2,45,984 cubic feet, consequently deducting 43,520 cubic feet for the Sergeants' Quarters, the quantity of air supplied

supplied for each man would be 2,730 cubic feet nearly, but if allowance be made for the contingencies referred to in the preceding paragraph, we shall find that 4,000 cubic feet is nearer the actual amount, and it is to be taken into consideration that this air is continually undergoing purification, as either the doors or ventilators of the Barracks are always open in this climate.

5. At the extremities of each Barrack Range, and at right angles to the general length, are wings containing quarters for four Non-Commissioned Officers, who would each have two rooms and be supplied with 10,980 cubic feet of air.

6. Situated on a gentle slope, at a little more than 150 yards to the north of the principal buildings are ten Ranges of Barracks for married men covering with road, and gardens 369,415 square feet, or nearly $8\frac{1}{2}$ acres. The number of these ranges corresponds with those for single men so that each company will have separate accommodation for its single and married soldiers. Each range is constructed to hold one Non-Commissioned Officer, and twelve married Rank and File, the quarters of the

of the former consist of four rooms enclosing 11,284 cubic feet, and the latter two rooms enclosing 5,842 cubic feet of air. In rear of each quarter is a court yard containing three out-houses, viz. Cook-room, Bath-room, and Privy.

7. The Hospital, which is a very superior building, of two stories, an improvement upon the Fever Hospital at Calcutta, is constructed to accommodate 140 Patients exclusive of women, affording to each man 2,673 cubic feet of air, and this independent of Apothecary's rooms, Store rooms, Nurse's rooms, Ward for severe cases, Female ward, Bath rooms, clothes rooms, and Dispensary. The building is replete with every accommodation, and no expense has been spared by Government in providing for the care and comfort of their sick European Soldiers.

8. The cost of each Building is as follows.

Ten ranges of Barracks... 4,77,922-13-10

Ten ranges of Barracks

for Married Men... 2,48,976-0-0

Hospital, (upper stories

Building)... 1,25,600-0-0

Canteen with Quarters

for the Canteen Sergeant... 32,578-8-8

Small Cox Ward... 9,932-1-6

Ten Messaries for the

Barracks... 29,810-0-0

Ten Cook-rooms for do... 15,656-1-6

Punishment Cell to Hospital... 3,933-8-2

Maniac's Ward... 3,933-8-2

Dead-room... 3,933-8-2

Hospital Sergeant's Quarters

and Medical Pupils Room... 12,709-10-2

Guard-room, and Conco-

-poly's Room... 12,709-10-2

Hospital Cook-room... 2,864-4-11

Seven Cook-rooms: viz,

Sergeant Major's Quarters,

Quartermaster-Sergeant's

Quarters, Canteen Sergeant's

Quarters: Hospital Ser-

-jeant's Quarters: School

Master, School Mistresses

and Sergeant's Mess... 4,225-1-3

Thirteen Messaries: viz:

the whole of the above,

and Orderly Officer,

Master Tailor, three or

Guard rooms, and Medi-

-cal Staff... 8,276-1-3

Solitary Cells, disposed on
 the Panopticon principle,
 with upper-storied Guard-
 room in the middle, and
 an enclosure wall ----- 37,406-0-0
 Magazine ----- 808-2-7
 Three Plunge Baths ----- 5,337-13-9
 Piers Court ----- 2,761-3-1
 Skittle Alley ----- 856-1-6
 Two Mills ----- 15,354-1-8
 Coffee-room and Library
 with Librarian's Quarters,
 also Quarters for the Ma-
 jor of the Coffee-room,
 Store-rooms &c ----- 67,200-0-0
 Staff Sergeant's Quarters ----- 13,410-0-0
 Sergeant's Mess ----- 29,420-0-0
 Guard room with 3 Pri-
 son rooms, 20 by 20 each,
 and improved accommo-
 dation above for the Of-
 ficer's Room ----- 32,100-0-0
 Tailor's Workshop with
 extensive Store-rooms
 and Master Tailor's room ----- 33,630-0-0
 Rear Guard with 2 Prison-
 rooms 20 by 20 each,
 and other accommoda-

tion

dation above, viz.
 Court-Martial-room,
 Orderly-room and
 Quarter-Master's and
 Assistant's Offices --- 43,330-0-0
 Ten Wash Houses each
 provided with 8 sepa-
 rate Bathing Rooms --- 47,700-0-0
 Ten Water-rooms for drink-
 ing Water ----- 22,800-0-0
 Gun Shed ----- 380-0-0
 Hospital enclosure wall --- 1,509-7-6
 13,47,233-11-10

or nearly 13½ Lacs. of Rupees equal to Pounds
 Sterling, 13,500 nearly. The whole of the
 buildings are provided with flat Terraced
 roofs, and furnished with double outer doors
 and windows throughout, viz: 1 Glazed and
 1 Un glazed.

9. Now assuming 5 per cent as the
 rate of interest at which money could be
 borrowed at the time of the construction of
 these Buildings, this sum would yield or
 £6,750 per Annum or £18-9-10½ per diem.
 Thus taking the aggregate cost of all the
 Buildings into consideration and supposing
 a complete Regiment to contain 947 men,
 including Sergeants, it would appear that the

the amount paid by Government for main-
-taining, each man for a day of 24 hours,
is not quite $4\frac{3}{4}$ pence, and this includes
every possible requirement for health, cleanli-
ness, and re-creation, as shown in the above
list of Buildings, moreover the above calcu-
lation does not include children, thus
giving a wide margin in its favor.

10 Taking the cost of the Barracks and
Family Quarters alone, and following the same
process as above, a result would be obtained
showing that each single man is lodged at
an expense of only $1\frac{3}{4}$ d., and each married
man with his wife at $5\frac{1}{2}$ d. for a day of 24
hours. This also is exclusive of children,
thus strengthening the conclusion arrived at.
In short it is firmly believed that a single
night's shelter at any of the lowest London
lodging houses, could not be obtained for
the sum at which a whole Family are ac-
commodated in the New Barracks with the
greatest comfort, whilst apart from all con-
siderations of a moral nature, between
the two species of accommodation, no com-
parison can be instituted.

11. Hitherto the calculations have been
made for a company's European Regiment
as at present constituted, but it must
be

be borne in mind, that the Buildings are
capable of accommodating a far greater
number of men than they are constructed
for. For instance the number of men above
mentioned as composing a Regiment are
supposed to be accommodated in the
principal Hall only, but one of the inner
verandahs will alone contain 32 cots ad-
-ditional, whilst the Auxiliary Buildings in-
-cluding the Hospital are equally capable
of affording the extra accommodation re-
quired to meet this surplus. In fact, the
Barracks would with ease contain two Re-
-giments on emergency, not however inclu-
-ding Women and Children, but as the Fa-
-milies would not be allowed to accom-
-pany the men on active service, the above
statement suffers no deterioration. On
the supposition however of the number of
men contained in one Barrack amounting
to 104, for whom, including Sergeants there
is ample accommodation, the cost per diem
of each man [taking the whole of the Build-
-ings into calculation] would be but $3\frac{1}{2}$ d.
for a day of 24 hours, and if the calculation
be restricted to that of mere lodging, or of
one of the Barrack ranges only, the cost
would be $1\frac{1}{2}$ d. for each man.

12. Abundance of water is procurable on the spot from wells now in course of construction, and the superior salubrity of the situation has already been tested by sending the Convalescent men from the Old Barracks for change of air which in most cases was attended with complete success.

13. In planning the Barracks and their auxiliary buildings every thing has been taken into consideration that would be likely to conduce to the moral and physical well being of the Troops. The style of the buildings as well as the accommodation afforded by them are far superior to anything hitherto known in the Presidency of Madras, and many new arrangements have been made to meet the requirements of order and discipline. But the greatest improvement of all is the introduction of separate and most comfortable Barrack accommodation for the married Soldiers, which is calculated to be productive of immense advantage in a moral point of view. It is hoped that besides teaching the Soldier to respect himself by showing him the estimation in which he is held by Government, this liberal measure may have the effect of aiding to place a check upon the

23 17
the fearful mortality that has always prevailed in India amongst the children of European Soldiers, and especially if born of European mothers of whom an appalling number die in infancy, and it is said that not 5 per cent ever live to reach maturity!

Secunderabad,
8th October 1856.

Signed/ R. Henderson Lieut Col
Chief Engineer of Hyderabad and
Superintending Engineer H.S. Force

[True copy]

Michael Captain
Assistant Chief Eng^r of Hyderabad.

C. J. M. P.

General No 174
Depart^{mt} of G^o

Chief Engineer's Office
Calcutta 1st February 1855

From
The Chief Engineer of
"Cuddalore"

To
The Chief Engineer D. G. M.
Fort St. George

1528
In answer
Sir
Agreeably to your order No 5655
of December 3rd 1854 I have the honor
to forward a Report on the Married
men's Quarters attached to the new
British Infantry Barracks at Secun-
derabad.

2
In the original plan of these
Barracks (called the "Bengal Standard
plan") which was forwarded from your
Office in November 1853, it was recom-
mended, to place the quarters for mar-

To Capt & March 1854/55

Appendix

No 2

MM 530/58

third soldiers in continuation of the
serjants Quarters situated at the two
ends of each range of building, at the
rate of 12 Quarters to a company, making
6 at each extremity of the Barracks
or 3 in continuation of each suit of
serjants Quarters, no extra "out door"
accommodation however was provided
for the families and the whole build-
ing had the appearance delineated in
Plan 2 Fig: 1. accompanying.

3. This plan however was objected
to by the Commander-in-Chief of the
Madras Army the late Lieutenant

8238
His Colonel's Office
letter of the 28th dated 18
Aug 1816 to the effect
of the Secretary to
Government Military
Department

General Anson, as in addition to the
inconvenience alluded to at the close
of the preceding paragraph His Excellency
deemed it altogether inadvisable that
both married and single soldiers should
reside under the same roof, and he brought

into

27
into such close contact with each other,
apart from this, His Excellency observed
that the Quarters were, as regards
both serjants and married men, small
and ill-arranged, and he therefore directed
that the two rooms at each outer extre-
mity should be struck off the plan,
and the remaining 5 altered into 2
for the accommodation of the serjants
only, leaving the plan for the married
men's quarters to be afterwards deter-
mined upon. This was done, and the
ranges of single men's Barracks then
stood as represented in Plan II Fig:
2.

4. This arrangement was laid
before the Madras Government, sub-
mitted to the Government of India
and finally approved of by the Ho-
norable Court of Directors who in

their

their despatch dated August 8th 1855. No 56 directed that the plans for the accommodation of the married men should be submitted for the approval of the Government of India before carried into execution.

5. Previous to this however I had in accordance with the orders of the Military Board dated January 25th 1855 forwarded through Division Head Quarters on the 21st February following 2 plans and estimates for constructing married men's quarters. One of these was prepared in accordance with a plan furnished by the Chief Engineer of Madras, the other was one of my own proposing. That of the Chief Engineer consisted of four ranges of buildings each of which was to contain accommodation for 30 families; but having the advantage of being on the spot, and observing

29
observing how ill-suited the ground was for the construction of buildings of such a length, I deemed it advisable to halve the length of each range and construct eight ranges instead of four, each to contain 15 families. The amount of the estimate for constructing these Quarters according to the plan of the Chief Engineer of Madras was 202,019-9-2 and agreeably to the plan submitted by myself 234,947-10-2 the difference being caused by the unavoidable necessity of constructing additional Non-Commissioned Officers Quarters and sub buildings in order that each range might be under the supervision of a Non-Commissioned Officer.

6. After forwarding the plan and Estimate alluded to above, I had the honor of receiving a revised plan from the Chief Engineer of Madras which had

16th February 1855. From
the Adjutant of Regt
to the Superintendent
Engineer S. S. Force.

met the approval of His Excellency the
Commander-in-Chief. It was forwarded
to me with a request that I would obtain
the opinion of the Medical Officer of the
Station upon it and also ascertain
whether there was a suitable site for
the buildings in a convenient loca-
tion.

As this revised plan was a
great improvement upon that forwarded
by me on 24th February 1855 I submitted
a revised Estimate amounting to Ru-
pees 2,57,387 the difference 22,540 being
the additional expense required for pro-
viding wash houses which indispensable
convenience to the health, cleanliness and
comfort of the married men and their
families had previously been lost sight
of.

I

Order Letter 15th June
1855.

I received no further orders on
this subject till June 1855 when the
Quarter Master General of the Army
addressed me a Demi Official letter
in which a copy is appended, forward-
ing a sketch of Family Quarters
designed by His Excellency the Com-
mander-in-Chief and requesting me
to prepare plans and estimates in
accordance with His Excellency's instruc-
tions. This estimate after being checked
in the Central Office of Public
Works Madras amounted to Rupees
2,48,976 and was forwarded by Colonel
Patel to the Government of Madras
on the 15th October 1855 with a letter
from which the following is an
extract.

Para 5. "With reference to my
application

application now under despatch No 18301. ^{of this date} of this date, I would beg leave to ^{add} that as the full approval of the Commander-in-Chief has already been signified to the married Quarters, as now designed, I trust the Honorable the Governor in Council will be pleased to direct the whole series of plans and estimates to be forwarded to Calcutta without delay, in view to full sanction & being granted for the whole expenditure by the Government of India.

9 The above Quarters were sanctioned by the Government of India in their despatch No 71 dated 10th June 1851 ²¹⁵⁷ and calculated to accommodate 128 Families including 8 Non-Commissioned Officers. On account of the nature of the ground however they have been constructed in 10 separate ranges each containing 13 Families or 130 Families in

all including a married Non-Commissioned Officer to each range.

10 The accommodation for each family consists of two rooms one being 16 x 14 and the other which is an enclosed verandah in rear being 14 x 10. Whist an open verandah 10 feet in width in the rear extends along the whole front of each building. The larger room is provided with lattice glazed partitions and double doors and windows throughout and a large cupboard with doors is constructed in the wall. Each family is also provided with suitable Out-Offices such as Cook room, Wash house and necessary with backyard &c.

11 The ranges have been constructed in two columns separated from each other by a street of 50 feet in width

each column consists of 5 Ranges running east and west and they are separated from each other by a sufficient space of ground for a small garden in which a small hedge has been planted to mark the boundary, the whole of the buildings have been surrounded by a double row of trees although this additional expense was not provided for the estimate.

12. These quarters are situated at a little more than 100 yards to the North of the Principal Barracks covering with roads and gardens 150,000 square feet or 8 1/2 acres. The locality of these buildings is most favorable, being open, elevated & grassy etc, the ground having a gentle slope and in fact possessing every requisite for health and

convenience

convenience that could be desired, ventilation and drainage have been well considered and carried into execution and every arrangement connected with the quarters was with the entire approval of the late Officer Commanding the Hyderabad Subsidiary Force (General Dill) and the Superintending Surgeon to whom the plans were submitted before being forwarded for final sanction.

13. With reference to the heavy cost of these buildings as attributed to the Honorable Committee of Directors and the delay occasioned in their execution. I have the honor to remark that these buildings would have been completed long ere this, but the delay has arisen from the difficulty of procuring carriage of which this department has been

been frequently and totally deprived,
for the movement of troops; while with
regard to the heavy cost, it is necessary
to state that whenever the accommoda-
tion of European troops is concerned in
an estimate like that of the Ocean, where the
nights are frequently very cold, where
great vicissitudes in temperature are
experienced and where also hot winds
prevail in April and May, it is very
necessary, on the ground that every mea-
sure tending to preserve the lives of the
European soldiers is one of wise economy,
that the buildings should be comfort-
able, that they should be well raised
from the ground, that the walls should
be high and provided with ventilators
near the roof, and also that the doors
and windows should be double. They are
glazed

glazed and are ventilated.

15. These requisites have all been
provided for in the new married
Quarters at an actual cost of Rs.

Amount

of saving 2101.15.10.

Amount of

Premium 5176.7.5

Total 5225.6.6

estimated amount the former sum
including work to the extent of Rs
10000 not provided for in the Estimate.
Taking into consideration that 100 fa-
milies are accommodated in these
buildings and that money is procur-
able by Government at 5 per Cent per
annum which was the case when
the buildings were sanctioned we
find that each married soldier with
his wife is provided with very in-
ferior accommodations consisting of
two excellent rooms with a bathroom
in which are situated a washing

room, bathing room and privy for each family at the rate of 5 p d. per diem exclusive of children and I need scarcely point out that the benefits derived from the outlay will amply repay the Government for their liberality whilst the condition of married soldiers will be improved beyond comparison with any thing hitherto known in India.

15. I beg to forward a plan, sections & By ^{Wangby} and elevations of the Family Quarters attached to the European Infantry Barracks constructed at Simulgherry near Secunderabad also a sketch showing the disposition of the buildings as ordered in Extract Minutes of Consultation N^o 2182 dated 1824.

26th November 1857.

16 Sir, conclusion I, do myself the honor to forward (Appendix N^o 2) a copy of some remarks upon the new Barrack accommodation at Simulgherry which were printed by me a short time since but which have not hitherto been forwarded to Government in an Official form.

I have the honor to be
Sir

Your most Obedient Servant

Robt. Henderson
Chief Engineer of Hyderabad

Central Office of P.W.
Fort St George 3 March 1838.

To The Chief Engineer

The Secretary to Government
P.W. Department
Public Military Building

Sir, I have the honor to forward
for submission to Government the ac-
companying letter from the Chief
Engineers of Hyderabad No. 174 of the
1 February 1838, submitting the Plans
of the new Married Men's Quarters at
Secunderabad required by the Court
of Directors in their despatch No. 27 of
the 1 February 1837. Communicated
with Extract from Minutes of Con-
sultation No. 2182 of the 26 November 1837,
and fully explaining the grounds on
which it was considered expedient
to erect so expensive a style of building.
The Plans for these Barracks
were originally intended to be the
same as the Bengal Standard but
circumstances led to various modifi-
cations of them, as detailed in full
by Lieutenant Colonel Henderson,
till those finally adopted were pre-
pared by him in direct communication
with the late Lieutenant General
Anson, and were sanctioned by the
Government of India on the 10 June 1836.

for

15/1/38

10/1/38

From
Chief Eng. Hyderabad

Dated 4 Feb. 1838

10/1/38

Referring to the above
Plans submitted to the
Govt. of India for sanction
at Secunderabad.

15/1/38

for the erection of 8 ranges for the accommodation of 128 families at a probable cost of Rupees 2,48,974.

3. Lieutenant Colonel Henderson of B. states that instead of eight, ten ranges, capable of accommodating 130 families including a Sergeant to each, have been completed at an actual outlay of Rupees 1,40,874, or more than two thousand Rupees within the Estimate, and after describing at length the Character and extent of the Buildings, and the causes of the great delay in their Construction, he shows that for the admirable accommodation provided, the current expense to Government amounts to the comparatively small sum of 5½ pence per diem for each family.

4. Lieutenant Colonel Henderson of B. takes the opportunity of submitting with his letter, a Memorandum on the new Barracks at Trimulgherry, which he has had printed a short time ago, but has not hitherto laid before Government in an official form.

I have the honor to be

Sir,

Your most obed^t Servant

Central Office of Govt
Fort George

Resd^d Colonel

Chief Engineer

W. H.

3^d March 1838

65

Extract from the Minutes of Consultation
Under date the 16th ^{Apr^l} March 1858.

Read the following
on the Chief Engineer

1st letter 2^d March 1858 107701

56

Macd

C. / in Decr / 59 No. 1516
-the up-ward of 1000 ft

1835
to Com. A. M. D. 1836
No 530.

to the Chief Engineer
of the day & have him
sign a statement to

Ms. A. 9. 2. 3 (2)
Dec. 21/23 - March 1835

Ind. 56-23-60
(100-1644277)

16th Nov 1807
 2nd Nov 1808.
 Nov 11th

My dear brother
I find I am not
to the last of
April —
16 April 1878.
1878

0930

June 25 1830

[illegible]

Ordered in consequence
that the following
letter be despatched

To Captain A. Gule
Officer to the East India Co.
(Received 16 April 55
At 500.)
BZ

1 Copy to the Chief Mag.
Dist^o 17
D. in Chief India

Public Works 1838 Departs
Dy to Louis. 20th April

No 699
Extract Minis. of Louis:
Dated 16th April/38.

Resolving to forward
certain Papers, together with the
Plan of the married Men's
Quarters at Seamerabad,
to the Government of India,
for transmission to the
Honorable the Court of Di-
rectors.

N. 60461