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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

dtd. 25.3.57

G.O. No. 1626 Press Mis.

40-41

Dated 24-8-1857

Not to be folded or roughly handled

Fort Saint George, Public Works Consultation of 25th August 1857.

No. 40. Read the following Extract from the Minutes of Consultation in the Military Department, dated 30th July 1857, No. 2557.

Read the following letter from Lieutenant Colonel F. A. REID, Quarter Master General of the Army; to Colonel C. A. BROWNE, Secretary to Government, Military Department, dated 22nd July 1857, No. 280.

SIR,

In forwarding for submission to Government the accompanying Plans of the arrangement proposed in laying out the Ground for the new Dragoon Barracks at Bangalore. I am instructed by the Provincial Commander-in-Chief to say that he approves most of Plan A. on No. 10. He thinks the regular manner of ranging the blocks is not at Bangalore, open to the objection which might be urged against it, in a sultry hot climate. The Major General observes too that the distance between each block is nearly double that between each of the present Barracks, and he knows that in the latter, no inconvenience is felt from their proximity on their similar relative position. The Race Course on which the Barracks are to be built stands high and has no building near to obstruct ventilation. It must from its formation always enjoy similar advantages the Ground in every direction sloping from it. Both monsoons will also have free sweep through the Barracks, as the ends of the blocks will face the Quarters from which they blow. One block will therefore not screen another from full participation in this benefit.

Major General Beresford does not at present strongly urge that a wall should be built but the security it affords must be admitted, and whether the Government approves, or not, of its immediate construction the future power of building it he considers a very great advantage.

He recommends that the Hospital also should be placed upon the course of this wall, rather than apart across the circular road (both sites shewn in A.) This arrangement will place the chief Buildings of the Barrack within the Ground enclosed by the Race Course leaving the Ground outside the course for Officers' Quarters an important consideration, under the present well known, dearth of houses for Officers at Bangalore.

The Provincial Commander-in-Chief further thinks that terraced roofs as suggested by Colonel Green are far preferable to tiled, and in the end more economical. There will be no difficulty about beams for the description of roofs. The necessity for repairs to tiled roofs is endless and the rafters soon become receptacles for filth and vermin. The small modifications (Plan of Barracks No. 9) in the construction of Serjeants' Quarters and Store Room proposed by Colonel Green seem to Major General Beresford a decided improvement.

The question of building covered Stables for Horses being under consideration this part of the construction may be deferred. The same site will answer for them as for open lines.

In conclusion the Provincial Commander-in-Chief begs to express his entire approval of this Plan and his full praise to the Officers of Engineers by whose unremitting efforts and skill it has been so satisfactorily completed. He has only to add that he earnestly prays that immediate orders will be given to commence the work.

From Lieutenant Colonel C. GREEN, Chief Engineer, Bangalore; to Colonel F. A. REID, Quarter Master General of the Army, Fort Saint George, dated 2nd July 1857, No. 531.

SIR,

I have the honor to acquaint you, for the information of His Excellency the Commander-in-Chief, that on receiving Colonel Baker's letter* regarding the proposed new Dragoon Barracks on the Race Course at Bangalore, I handed the same over to Major DeButts with instructions to prepare the Revised Estimates and plans accordingly.

* *No. 2825 dated 15th December 1856, Minutes of Consultation No. 64 dated 6th Jany. 1857.*

2. I would here beg to state that the mistake, that was made by me originally in providing inadequate space in the barrack plans before submitted, arose from the supposition [which was certainly shared by other Officers here] that the enclosed Verandahs on one side were to be used for Dormitories as well as the main wards.

3. From Colonel Baker's letter, however it is clear that the main wards only are intended for the berths, and that the side enclosed Verandahs are for messing in, and for other purposes; which is unquestionably a more desirable arrangement.

4. As the Bengal standard plan, whatever modifications it may have taken in the last 20 years, has invariably shewn terraced roofs to the buildings, it did not occur to me to point this out to Major DeButts, when forwarding to him Colonel Baker's letter and the Meean Meer Barrack plan which accompanied it, as I supposed he would have understood this from the records and from the several plans in his Office. I was therefore disappointed to find he had adopted the Meean Meer tiled Barrack section for his plan and estimate, and feeling quite sure this was altogether a mistake, I referred the matter to the Chief Engineer, Madras, with a request that he would solicit the order of Government on the subject.

5. Colonel Faber appears however to have considered the question as one already decided—and returned the papers with the expression of his own concurrence in my views.

6. I accordingly communicated the same to Major DeButts, but he is by no means satisfied that we are right. He considers because Colonel Baker sent the tiled plan down for guidance that we are bound to follow it out in all its integrity.—I do not think this is the intention at all, I believe the plan was forwarded simply to shew the general ground area, and the height of walls, without at all binding us to a tiled roof; but at all events the Government of India have expressly invited the Right Honorable the Governor in Council to propose any improvements his Lordship may think fit.

7. Having had the repair of the old tiled Barrack roofs under me for many years I can speak with confidence that they are very objectionable. They afford a harbour for bugs by which the men are much annoyed and they are most difficult to keep water tight, owing to the displacement to the tiles caused by Kites and Crows which carry bones on to the roof and there fight for them, the victor subsequently endeavouring apparently as may often be seen to secrete the bones under the tiles—probably for their own future use. Another disadvantage which attends tiled Buildings at Bangalore arises from the clouds of dust, which settle on the roofs, and which is washed into the channels and at last chokes up the passage when the rain over-flowing leaks into the room and causes injury to the accoutrements before the mischief is discovered and can be remedied, I should add that though Major DeButts advocates the tiled roof for the 8 troop ranges he allows the provision for terraces to all the other buildings to remain as on the original understanding and on the Estimates already submitted to the Government of India, that is to say, the Cook Houses, Washing Houses, Necessaries, the Canteen, the Solitary Cells, and Library &c. are all to be terraced and first class; the main wards of the Barracks, the most important of all are to be tiled or 2nd class which would surely be an anomalous arrangement.

Terraced Buildings at Bangalore contrast very favorably with tiled Buildings in the above respects. The following which are nearly all the Terraced Buildings here may be mentioned viz.

1 Saint Mark's Church.
1 The Dragoon Main Guard Room.
1 The „ Dry now Provost Punishment Room.
1 The Serjeants' Mess Room,

I do not recollect ever sending a man up to repair either of the above roofs—and the Church has been built for 40 years or more.

9. Major DeButts observes that the men lose in a terraced roof the triangular space in a tiled roof, assuming the walls in either case to be the same; but I consider this space as dearly purchased with a tiled roof. It is so much more air of course but it is heated air, not only during the day, but for a great part of the night also, as any one may easily satisfy himself by feeling the temperature at 10 o'clock or even later at night in the hot weather of the tiles of such a roof west side.

10. The terraced building I propose has walls of 26 feet high to the joists; which would be 2 feet higher than the Meean Meer section and it is perhaps not too much to say that with the known advantages of this climate such terraced Barracks would be throughout the year more equable, temperate, and comfortable than any other Barracks in the whole plains of India.

11. In the 8th and 11th paras. of Colonel Baker's letter the Government of India call for a revised plan of the whole scheme but so much time has already unavoidably elapsed that Major DeButts' urges the papers which have been prepared should now be submitted and I hope any defects will be excused—When Government have decided on the section of the 8 barrack ranges whether it is to be tiled or terraced, the fair plans can easily be drawn out, and no delay I submit need occur in commencing with the work, as of whatever form the roof is to be, the ground plan will not be affected and as large advances have been made for materials, it is desirable to recover them without further delay, for fear of loss arising from long outstanding. The revised estimates amounting in all to Rupees 5,82,000 have already been made and will be found accompanying. Major DeButts calculates the additional expence of terracing the 8 Barrack ranges at 1,02,502 Rs. it is better I think to ask for 6 Lacs in all.

12. At the same time that orders are passed on the style of roof; whether it is to be tiled or terraced, there is another point, on which the instructions of Government are respectfully solicited viz. the arrangement of the respective sites of the several buildings.

13. The Race Course encloses a compact area, being formed by 3 sides of a triangle approaching to equilateral and rowndeat at the angles of which the periphery measures as nearly as possible 1½ mile. The space though considerable is thus limited.

14. In the year 1852 when the proposition for new barracks was last mooted I made a plan, in communication with all the Officers then here, who were interested in the question; a copy of which, with modifications, accompanies this letter. The arrangements therein shewn were, I understood, fully approved of, but as the barracks were not then finally determined on, no orders were passed about the sites.

15. It was deemed, after careful consideration, that the open column arrangement of the present Dragoon Barracks was very good and appropriate, but that there should be 2 parallel columns, with wider intervals than the former to admit of an open square in the centre instead of having a long line only.

16. It was unanimously agreed this plan was the most convenient, and better adapted to the locality than a long line, whether double, single, alternate, retired troops or in echellon, and that the barracks so arranged with enclosed square could be most easily defended by a wall with flanks which could also include the Hospital, should it be necessary in a possible period of confusion, to move the Regiment away for service in the field, and when the families could come within the enclosure.

17. Major DeButts informed me that the hollow square plan, above described did not meet with approval when the Right Honorable the Governor inspected the sites and he has sent me a plan* (which accompanies) and which he says he understood to be more in accordance with His Lordship's wishes.

* *marked* 11.

18. May I then beg that you would solicit definite instructions? and if the revised plan, or any modification of it, is preferred to either of the other plans that you would have the goodness to have it completed in all details.

19. There has been such a demand for houses here lately that directly the new Barracks are commenced there will no doubt be applications for grants of land in the vicinity. Of course no private building should be erected within the enclosure, but unless there be a Resolution of Government to that effect there, most certainly will be encroachments, afterwards difficult to remove. I would beg to suggest it should be ruled that only Military buildings constructed with public money by the Engineer Department, under sanction of Government should be permitted to be built within the Race Course.

20. On the accompanying plan* I have sketched some proposed allotments which under the Regulations, and in communication with the Commissioner could be granted to individuals to build houses on. Other eligible situations

* *marked* 10.

present themselves in the neighbourhood, but as they do not immediately surround the Race Course their position does not concern the present reference.

21. General Beresford's sentiments on the several points will be most valuable on this occasion, and will no doubt have great weight: The Government would also probably desire to have the opinion of the Chief Engineer, Madras, especially in regard to the Architectural questions in this letter I shall therefore send these papers through Colonel Faber, as General Craigie's sentiments on the several points may also be desired—I will in the first instance, hand them to that Officer which may prevent the necessity of their being returned to Bangalore for that purpose.

22. I beg you will have the kindness to obtain the transmission to me of such plans relating to the new Dragoon Barracks and their several sites as may be sanctioned by Government and the return to me of those now sent.

The following documents accompanying this letter.

1. Extract from the Minutes of Consultation No. 64 dated 6th January 1857 with Colonel Baker's letter No. 5825 dated 15th January 1856.
2. Major DeButts' letter to the Chief Engineer Mysore No. 52 dated 14th April 1857.
3. Mysore Chief Engineer's letter No. 2551 dated 7th April to the Chief Engineer Madras.
4. Extract from the Proceedings of the Chief Engineer Madras No. 12058 24th April 1857.
5. Major DeButts' letter to the Chief Engineer Mysore No. 34 dated 10th June 1857.

	Rs.	A.	P.
6. An Estimate for 8 ranges of Barracks on the Meean Meer Tiled Roof plan amounting to Rupees.....	2,50,560	0	0
7. An Abstract of all the Estimates total Rupeees.....	5,82,000	0	0
8. Additional Estimate for terracing the 8 Troops ranges of Barracks, Rupees.....	10,250	0	0
Grand Total Rupees...	5,92,250	0	0

9. Major DeButts' plan and elevation of a Troop Barrack range, with tiled roof on which has been posted Lieutenant Colonel Green's modification of the same by raising the walls two feet and by the substitution of a terraced roof.

10. A plan of the Race Course at Bangalore shewing 3 different modes of arranging the Barracks with proposed allotments of compounds to Officers wishing to build, also exhibiting a mode of enclosing the barracks with a wall of defence marked blue in which some of the terraced buildings are turned to account.

11. A plan which Major DeButts forwards as illustrative of Lord Harris' wishes in regard to the arrangements adverted to in para. No. 4 of this letter.

(Signed) C. G.
Chief Engineer.

To

The Quarter Master General of the Army.

Forwarded through the Officer Commanding Mysore Division and the Chief Engineer, P. W. D. Madras.

Memo. by Major General Craigie C. B.

In pursuance of the invitation in this letter that I should record my opinion upon the two questions, I beg to say that I approve of the terraced Roof in preference to the tiled one. Second as regards the distribution of the buildings the arrangement exhibited on plan C. appears to be a

judicious disposition and I advocate the defensible wall of enclosure under *any* circumstances, with the Hospital within the Race Course.

(Signed) P. E. CRAIGIE, Major General,
Commanding Mysore Division.

Extract from the Minutes of Consultation, in the Military Department, 6th January 1857, No. 64.

Read the following paper from Lieutenant Colonel W. E. BAKER, Secretary to the Government of India; to Lieutenant Colonel C. A. BROWNE, Secretary to the Government of Fort Saint George, Military Department, dated 15th December 1857, No. 5825.

Sir,

I am directed to acknowledge the receipt of your Office letter No. 2740 dated 24th October 1856 (transferred from the Military Department) forwarding for the orders of the Government of India Plans, Estimates, and correspondence, relating to the proposed New Barrack and Hospital accommodation for the Regiment of Dragoons at Bangalore.

2. The Right Honorable the Governor General of India in Council, observes that the Estimates for the several Buildings amounting to Company's Rupees four Lacs, sixty-four thousand and two hundred have been framed upon designs prepared in the year 1842 but that the Government of Fort Saint George request sanction to an expenditure of five Lacs, which sum it is considered will provide for the many alterations and improvements that have recently been authorized for the comfort and convenience of European Soldiers.—His Lordship in Council, however, is of opinion that this additional sum viz. thirty-five thousand and eight hundred Rupees will not prove sufficient for the purposes specified.

Co's Rs. 4,64,200-0-0.

Rs. 35,800-0-0.

3. I am also directed to point out that the proposed Barracks are much lower and less airy, than those sanctioned according to the present standard, and that the space appears to be actually insufficient for the number of men to be accommodated. Thus there are according to the present strength of a Regiment of Dragoons.

97 Non-Commissioned Officers.
647 Privates.

744 Total

of these 12 per cent (or 89 men) may be married and will occupy the two married men's Barracks leaving 655 men to be placed in the 8 ordinary Barracks, each of which can accommodate 64 privates and 8 Non-Commissioned Officers or 576 in all, leaving a balance of 79 men unprovided for.

4. I am further to observe that in the design for the Ordinary Barrack there is a length of 174 feet without any cross walls, either in the central wards, or in the Verandahs, an arrangement which has been prohibited here as dangerous.

5. With reference to the above remarks I am directed to forward a Plan of a Barrack lately constructed at Meean Meer for a Company of European Infantry, which will shew the accommodation which the Government of India considers proper to be provided for the European Soldiers, and to request that a new and complete plan and estimate may be prepared, which, will embody all recent alterations and improvements and provide for the increased strength of Dragoon Regiments as lately regulated.

6. In regard to the Barracks for married men—The Right Honorable the Governor General of India in Council desires that the construction of these Buildings may be suspended until the final orders of the Honorable the Court of Directors (shortly expected) upon the nature of accommodation to be provided for this purpose, shall have been received and communicated to the Government of Fort Saint George.

7. I am further directed to remark that the design for Solitary Cells is very different from the standard Plan lately approved of by His Excellency the Commander-in-Chief copy of which is also forwarded for information and guidance.

8. A revised Plan and Estimate of this Building are therefore required, but in this as well as in the case of the Plan of the Mecan Meer Barrack, the Government of India desires to leave the Right Honorable the Governor of Fort Saint George in Council free to suggest any improvements, if any such occurs to him.

9. Standard Plans for Regimental Schools are now under the consideration of the Government of India.

10. The Right Honorable the Governor General in Council therefore desires that the buildings proposed for this object may not be proceeded with until further orders shall have been communicated.

11. The Plans and Estimates of the Subordinate Barrack are returned in order that, if necessary, provision, may be made for the alterations and improvements adverted to and that the whole project may be re-submitted in a complete form.

12. In conclusion the Right Honorable the Governor General of India in Council observes that the steps now ordered need not occasion any serious loss of time as other plans must, in any case, have been prepared from which to work and whilst this is being done and reference made to the Government of India, the collection and preparation of materials might be carried on.

Communicated to the Commander-in-Chief and to the Chief Engineer in Mysore with a request that the Plans called for by the Supreme Government may be immediately prepared and submitted through the Chief Engineer at Madras.

(True Extract and Copy.)

(Signed) C. A. BROWNE, Colonel,

Secretary to Government.

From Major A. DEBUTTS, Acting Superintending Engineer in Mysore; to Colonel C. E. FABER, Chief Engineer, dated 4th April 1857, No. 52.

Referring to your letter No. 2050 of the 16th January last forwarding copy of a letter from Lieut. Colonel Baker Secretary to Government of India, No. 5825, I have now the honor of forwarding a Plan and Estimate amounting to Rupees (2,50,560) two Lacs Fifty thousand five hundred and sixty for building a Barrack* for H. M. Cavalry Regiment at this Station.

* *Of* 8 *Ranges*

2. The Plan is very similar to the one that was sent from Calcutta for my guidance but reduced in length to adapt it, for the accommodation of a troop of Dragoons and I have availed myself of the permission granted to me to make the Verandahs open instead of enclosing them as being better adapted for the climate.

3. The Officer Commanding H. M. 12th Royal Lancers informs me that a Troop consist of 81 men exclusive of Regimental Serjeant Major, for whom separate accommodation is provided; of the above number 12 ℔ cent are allowed to be married leaving therefore 72 single men to be located in each Block. This gives 24 men in each Division according to the Plan.

4. I observe that the Plan for the Solitary Cells sent from Calcutta allows for 20 Cells 15 by 7 feet wide each with a Guard Room and Provost Sejeant's Quarters. The Plan that was submitted provided for 16 Cells 10 feet square each with Guard Houses &c. But I do not consider the former Plan well suited for the climate of Bangalore chiefly because the corrider is enclosed, it would be difficult to ventilate it properly and it would therefore be for about 3 months of the year excessively hot, besides which the Cells being built in 2 rows, one behind the other is an arrangement that the Right Honorable the Governor has an objection to; as it prevents that free circulation of the air round the different blocks which is so desirable, I would therefore respectfully suggest that the Estimate for these Cells viz. Rupees 16,280-0-0 be sanctioned but the original Plan be hereafter considered so as to combine the latest improvements that have been ordered for these Buildings.

5. I have now drawn up the accompanying list of the different Buildings, that are required for a Barracks. This list differs somewhat from that originally submitted, as some additional Buildings have been added that were then omitted. The total now amounts (5,82,000-0-0) five lacs and eighty-two thousand which is 82,000 Rupees more than was previously proposed.

In conclusion I would add from the experience I have had during the past year in building here that I am confident that the whole of the different buildings can be constructed with Brick in Chunam throughout though in some instances the walls are estimated to be of Brick in mud all the wood work can be of Teak and that the whole can be finished off in a neat and workmen-like manner for the above sum as some of the rates are higher than what now rules, but if the Supreme Government are pleased to sanction the work being commenced upon at once, and I have already made advances to the amount of 26,000 Rupees, for materials agreeably to their orders, I beg I may be allowed the services of two men from the Madras Department of Public Works, who have been accustomed to the Superintendence to Public Works as my present Establishment is not sufficient for the works I have already in hand, but I shall not now enter into this subject, having just sent in a statement that will be submitted to the Governor General of India shewing the deficiency of my Office.

From Lieutenant Colonel C. GREEN, Chief Engineer, Mysore; to Colonel C. E. FABER, Chief Engineer Fort Saint George, dated 7th April 1857, No. 2551.

Sir,

I have the honor to forward a plan and estimate with a List of the different Buildings required for the Cavalry Regiment at Bangalore and beg leave to make the following remarks.

In the plan which was forwarded by Colonel Baker, the section shewed that the Meean Meer Barracks were tiled, but I have always considered tiled Buildings as objectionable for Barracks, being less cool, less water-tight, and requiring more frequent repair than terraced roofs, which were always before understood to constitute the Bengal Standard Plan of roofing, and I conceive it was not intended that the Mecan Meer Barracks were to be imitated in this respect but that the plan of accommodation and the space therein shewn, should be followed.

In another respect I consider this Plan of Major DeButts' defective in the position of the Store Room which seems objectionable as stopping the ventilation, so that whenever the wind blows at either end of the Barracks, it will not have direct access through the length of the Barrack rooms.—I have proposed another plan which you will do me the kindness of submitting for the approval of the Right Honorable the Governor in Council. It will be seen I have altered the position of the Serjeants' Bath rooms, which in Major DeButts' plan obstructed the circulation of air in the verandah.

Extract from the Proceedings of the Chief Engineer in the Department of Public Works, under date the 21th April 1857, No. 12058.

Read again letter from the Chief Engineer Mysore.
Forwarding a Plan and Estimate with a List of the different buildings required for the Cavalry Regiment at Bangalore with certain remarks. (Here enter No. 2551, dated 7th April 1857.)

Enclosure 4
1 *List.*
1 *Estimate.*
2 *Plans.*

Resolved to return to the Chief Engineer in Mysore the plans and Estimate forwarded with his letter No. 2551 dated 7th April 1857, and to request that he will obtain from Major DeButts a revised Plan and Estimate in accordance with the

suggestions of the Chief Engineer in Mysore, as the Chief Engineer in Madras cannot but consider the alterations suggested to be decided improvements.

(True Extract.)

(Signed) P. P. L. O'CONNELL, Lieutenant,
Assist. to the Chief Engineer.

From Major A. DEBUTTS, Acting Superintending Engineer in Mysore; to Colonel C. E. FABER, Chief Engineer, dated 10th June 1857, No. 34.

SIR,

I have the honor of informing you that I have made a contract with a person named Moorga Pillay to supply 10 Beams per month of the scantling required for the terraced roof of the new Dragoon Barracks, and therefore request you will be pleased to forward the plan and estimate to Government at your earliest convenience.

I beg to be permitted to state that it does not appear to me so clear as it does to Colonel Faber and yourself that the Supreme Government will authorize the Barracks to be built in this manner otherwise I cannot suppose, what was their object, in sending me a plan with a tiled roof for my guidance reducing also the cubical space by 21, 120 feet I trust you will therefore forward a copy of the correspondence that has passed between us on this subject.

Ordered that the plans submitted by the Quarter Master General of the Army in letter No. 280 with correspondence attached be forwarded to the Government of India with the following observations by the Governor in Council.

2. The Governor in Council approves of the plan A. or No. 10 by the Chief Engineer in Mysore and coincides with the Provincial Commander-in-Chief in his remarks on the disposition of the blocks.

3. The question regarding the enclosure of the Area by a wall can be postponed—but the Governor in Council submits it as advisable to include the amount for the erection, of the same, in the Estimates.

4. The recommendation of the Provincial Commander-in-Chief regarding the position of the Hospital is supported by the Governor in Council, also that terraced Roofs in preference to tiled should be adopted for the reasons given—as well as the suggested modifications in the Serjeants' Quarters and Store room.

5. The Governor in Council supports the concluding remarks of the Provincial Commander-in-Chief and with reference to the expected arrival of Dragoon Regiments for this Presidency urges the expedition of the Work.

(Signed) R. HAMILTON, Major,
Ag. Dy. Secretary to Government.

No. 41. ORDER THEREON, No. 1626; dated 24th August 1857.

Ordered to be communicated to the Chief Engineer.

(Signed) H. FORBES,
Acting Secretary to Government.

MILITARY DEPARTMENT.

No. 2557.

Extract from the Minutes of Consultation, 30th July 1857.

Read the following letter, from Lieut. Col. F. A. Reid, Quarter Master General of the Army, 22nd July 1857, *No.* 280, *to the Secretary to Government, Military Department,*

Sir,

In forwarding for submission to Government the accompanying Plans of the arrangement proposed in laying out the Ground for the new Dragoon Barracks at Bangalore, I am instructed by the Provincial Commander-in-Chief to say that he approves most of Plan A. on No. 10. He thinks the regular manner of ranging the blocks is not at Bangalore, open to the objection which might be urged against it, in a sultry hot climate. The Major General observes too that the distance between each block is nearly double that between each of the present Barracks, and he knows that in the latter, no inconvenience is felt from their proximity on their similar relative position. The Race Course on which the Barracks are to be built stands high and has no building near to obstruct ventilation. It must from its formation always enjoy similar advantages the Ground in every direction sloping from it. Both monsoons will also have free sweep through the Barracks, as the ends of the blocks will face the Quarters from which they blow. One block will therefore not screen another from full participation in this benefit.

Major General Beresford does not at present strongly urge that a wall should be built but the security it affords must be admitted, and whether the Government approves, or not, of its immediate construction the future power of building it he considers a very great advantage.

He recommends that the Hospital also should be placed upon the course of this wall, rather than apart across the circular road (both sites shewn in A.) This arrangement will place the chief Buildings of the Barrack within the Ground enclosed by the Race Course leaving the Ground outside the course for Officers' Quarters an important consideration, under the present well known, dearth of houses for Officers at Bangalore.

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The question of building covered Stables for Horses being under consideration this part of the construction may be deferred. The same site will answer for them as for open lines.

In conclusion the Provincial Commander-in-Chief begs to express his entire approval of this Plan and his full praise to the Officers of Engineers by whose unremitting efforts and skill it has been so satisfactorily completed. He has only to add that he earnestly prays that immediate orders will be given to commence the work.

From Lieut. Colonel C. Green, Chief Engineer, Bangalore, 2nd July 1857, *No.* 531; *to the Quarter Master General of the Army, Fort Saint George.*

Sir,

I have the honor to acquaint you, for the information of His Excellency the Commander-in-Chief, that on receiving Colonel Bakers' *letter regarding the proposed new Dragoon Barracks on the Race Course at Bangalore, I handed the same over to Major DeButts with instructions to prepare the Revised Estimates and plans accordingly.

* *No.* 2825 *dated* 15*th December* 1856, *Minutes of Consultation No.* 64 *dated* 6*th Jany.* 1857.

2. I would here beg to state that the mistake, that was made by me originally in providing inadequate space in the barrack plans before submitted, arose from the supposition [which was certainly shared by other Officers here] that the enclosed Verandahs on one side were to be used for Dormitories as well as the main wards.

3. From Colonel Baker's letter, however it is clear that the main wards only are intended for the berths, and that the side enclosed Verandahs are for messing in, and for other purposes; which is unquestionably a more desirable arrangement.

4. As the Bengal standard plan, whatever modifications it may have taken in the last 20 years, has invariably shewn terraced roofs to the buildings, it did not occur to me to point this out to Major DeButts, when forwarding to him Colonel Baker's letter and the Mecan Meer Barrack plan which accompanied it, as I supposed he would have understood this from the records and from the several plans in his Office. I was therefore disappointed to find he had adopted the Mecan Meer tiled Barrack section for his plan and estimate, and feeling quite sure this was altogether a mistake, I referred the matter to the Chief Engineer, Madras, with a request that he would solicit the order of Government on the subject.

5. Colonel Faber appears however to have considered the question as one already decided—and returned the papers with the expression of his own concurrence in my views.

6. I accordingly communicated the same to Major DeButts, but he is by no means satisfied that we are right. He considers because Colonel Baker sent the tiled plan down for guidance that we are bound to follow it out in all its integrity.—I do not think this is the intention at all, I believe the plan was forwarded simply to shew the general ground area, and the height of walls, without at all binding us to a tiled roof; but at all events the Government of India have expressly invited the Right Honorable the Governor in Council to propose any improvements his Lordship may think fit.

7. Having had the repair of the old tiled Barrack roofs under me for many years I can speak with confidence that they are very objectionable. They afford a harbour for bugs by which the men are much annoyed and they are most difficult to keep water tight, owing to the displacement to the tiles caused by Kites and Crows which carry bones on to the roof and there fight for them, the victor subsequently endeavouring apparently as may often be seen to secrete the bones under the tiles—probably for their own future use. Another disadvantage which attends tiled Buildings at Bangalore arises from the clouds of dust, which settle on the roofs, and which is washed into the channels and at last chokes up the passage when the rain over-flowing leaks into the room and causes injury to the accoutrements before the mischief is discovered and can be remedied, I should add that though Major DeButts advocates the tiled roof for the 8 troop ranges he allows the provision for terraces to all the other buildings to remain as on the original understanding and on the Estimates already submitted to the Government of India, that is to say, the Cook Houses, Washing Houses, Necessaries, the Canteen, the Solitary Cells, and Library &c. are all to be terraced and first class; the main wards of the Barracks, the most important of all are to be tiled or 2nd class which would surely be an anomalous arrangement.

Terraced Buildings at Bangalore contrast very favorably with tiled Buildings in the above respects. The following which are nearly all the Terraced Buildings here may be mentioned vitz.

1 Saint Mark's Church.
1 The Dragoon Main Guard Room.
1 The „ Dry now Provost Punishment Room.
1 The Serjeants' Mess Room.

I do not recollect ever sending a man up to repair either of the above roofs—and the Church has been built for 40 years or more.

9. Major DeButts observes that the men lose in a terraced roof the triangular space in a tiled roof, assuming the walls in either case to be the same; but I consider this space as dearly purchased with a tiled roof. It is so much more air of course but it is heated air, not only during the day, but for a great part of the night also, as any one may easily satisfy himself by feeling the temperature at 10 o'clock or even later at night in the hot weather of the tiles of such a roof west side.

10. The terraced building I propose has walls of 26 feet high to the joists; which would be 2 feet higher than the Mecan Meer section and it is perhaps not too much to say that with the known advantages of this climate such terraced Barracks would be throughout the year more equable, temperate, and comfortable than any other Barracks in the whole plains of India.

11. In the 8th and 11th paras. of Colonel Baker's letter the Government of India call for a revised plan of the whole scheme but so much time has already unavoidably elapsed that Major DeButts' urges the papers which have been prepared should now be submitted and I hope any defects will be excused—When Government have decided on the section of the 8 barrack ranges whether it is to be tiled or terraced, the fair plans can easily be drawn out, and no delay I submit need occur in commencing with the work, as of whatever form the roof is to be, the ground plan will not be affected and as large advances have been made for materials, it is desirable to recover them without further delay, for fear of loss arising from long outstanding. The revised estimates amounting in all to Rupees 5,82,000 have already been made and will be found accompanying. Major DeButts calculates the additional expence of terracing the 8 Barrack ranges at 1,02,502 Rs. it is better I think to ask for 6 Lacs in all.

12. At the same time that orders are passed on the style of roof; whether it is to be tiled or terraced, there is another point, on which the instructions of Government are respectfully solicited vizt. the arrangement of the respective sites of the several buildings.

13. The Race Course encloses a compact area, being formed by 3 sides of a triangle approaching to equilateral and rowndeat at the angles of which the periphery measures as nearly as possible 1½ mile. The space though considerable is thus limited.

14. In the year 1852 when the proposition for new barracks was last mooted I made a plan, in communication with all the Officers then here, who were interested in the question; a copy of which, with modifications, accompanies this letter. The arrangements therein shewn were, I understood, fully approved of, but as the barracks were not then finally determined on, no orders were passed about the sites.

15. It was deemed, after careful consideration, that the open column arrangement of the present Dragoon Barracks was very good and appropriate, but that there should be 2 parallel columns, with wider intervals than the former to admit of an open square in the centre instead of having a long line only.

16. It was unanimously agreed this plan was the most convenient, and better adapted to the locality than a long line, whether double, single, alternate, retired troops or in echellon, and that the barracks so arranged with enclosed square could be most easily defended by a wall with flanks which could also include the Hospital, should it be necessary in a possible period of confusion, to move the Regiment away for service in the field, and when the families could come within the enclosure.

17. Major DeButts informed me that the hollow square plan, above described did not meet with approval when the Right Honorable the Governor inspected the sites
* *marked* 11. and he has sent me a *plan (which accompanies) and which he says he understood to be more in accordance with His Lordship's wishes.

18. May I then beg that you would solicit definite instructions? and if the revised plan, or any modification of it, is preferred to either of the other plans that you would have the goodness to have it completed in all details.

19. There has been such a demand for houses here lately that directly the new Barracks are commenced there will no doubt be applications for grants of land in the vicinity. Of course no private building should be erected within the enclosure, but unless there be a Resolution of Government to that effect there, most certainly will be encroachments, afterwards difficult to remove. I would beg to suggest it should be ruled that only Military buildings constructed with public money by the Engineer Department, under sanction of Government should be permitted to be built within the Race Course.

20. On the accompanying *plan I have sketched some proposed allotments
* *marked* 10. which under the Regulations, and in communication with the Commissioner could be granted to individuals to build houses on. Other eligible situations present themselves in the neighbourhood, but as they do not immediately surround the Race Course their position does not concern the present reference.

21. General Beresford's sentiments on the several points will be most valuable on this occasion, and will no doubt have great weight. The Government would also probably desire to have the opinion of the Chief Engineer, Madras, especially in regard to the Architectural questions in this letter I shall therefore send these papers through Colonel Faber, as General Craigie's sentiments on the several points may also be desired—I will in the first instance, hand them to that Officer which may prevent the necessity of their being returned to Bangalore for that purpose.

22. I beg you will have the kindness to obtain the transmission to me of such plans relating to the new Dragoon Barracks and their several sites as may be sanctioned by Government and the return to me of those now sent.

The following documents accompanying this letter.

1. Extract from the Minutes of Consultation No. 64 dated 6th January 1857 with Colonel Baker's letter No. 5825 dated 15th January 1856.

2. Major DeButts' letter to the Chief Engineer Mysore No. 32 dated 14th April 1857.

3. Mysore Chief Engineer's letter No. 2551 dated 7th April to the Chief Engineer Madras.

4. Extract from the Proceedings of the Chief Engineer Madras No. 12058 24th April 1857.

5. Major DeButts' letter to the Chief Engineer Mysore No. 34 dated 10th June 1857.

6. An Estimate for 8 ranges of Barracks on the Meean Meer Tiled Roof plan amounting to Rupees.....

	Rs.	A.	P.
	2,50,560	0	0

7. An Abstract of all the Estimates total Rupees .....

	5,82,000	0	0

8. Additional Estimate for terracing the 8 Troops ranges of Barracks, Rupees.....

	10,250	0	0
Grand Total Rupees...	5,92,250	0	0

9. Major DeButts' plan and elevation of a Troop Barrack range, with tiled roof on which has been posted Lieutenant Colonel Green's modification of the same by raising the walls two feet and by the substitution of a terraced roof.

10. A plan of the Race Course at Bangalore shewing 3 different modes of arranging the Barracks with proposed allotments of compounds to Officers wishing to build, also exhibiting a mode of enclosing the barracks with a wall of defence marked blue in which some of the terraced buildings are turned to account.

11. A plan which Major DeButts forwards as illustrative of Lord Harris' wishes in regard to the arrangements adverted to in para. No. 4 of this letter.

(Signed) C. G.

Chief Engineer.

To

The Quarter Master General of the Army.

Forwarded through the Officer Commanding Mysore Division and the Chief Engineer, P. W. D. Madras.

Memo. by Major General Craigie C. B.

In pursuance of the invitation in this letter that I should record my opinion upon the two questions, I beg to say that I approve of the terraced Roof in preference to the tiled one. Second as regards the distribution of the buildings the arrangement exhibited on plan C. appears to be a judicious disposition and I advocate the defensible wall of enclosure under *any* circumstances, with the Hospital within the Race Course.

(Signed) P. E. CRAIGIE, Major General,

Commanding Mysore Division.

Extract from the Minutes of Consultation, in the Military Department, 6th January 1857, No. 64.

Read the following Paper, from Lieut. Colonel W. E. Baker, Secretary to the Government of India, 15th December 1857, No. 5825; to Lieut. Col. C. A. Browne, Secretary to Government of Fort Saint George, Military Department.

Sir,

I am directed to acknowledge the receipt of your Office letter No. 2740 dated 24th October 1856 (transferred from the Military Department) forwarding for the orders of the Government of India Plans, Estimates, and correspondence, relating to the proposed New Barrack and Hospital accommodation for the Regiment of Dragoons at Bangalore.

2. The Right Honorable the Governor General of India in Council, observes that the Estimates for the several Buildings amounting to Company's Rupees *Co's Rs.* 4,64,200-0-0. four Lacs, sixty four thousand and two hundred have been framed upon designs prepared in the year 1842 but that the Government of Fort Saint George request sanction to an expenditure of five Lacs, which sum it is considered will provide for the many alterations and improvements that have recently been authorized for the comfort and convenience of European Soldiers.—His Lordship in Council, however, *Rs.* 35,800-0-0. is of opinion that this additional sum viz. thirty five thousand and eight hundred Rupees will not prove sufficient for the purposes specified.

3. I am also directed to point out that the proposed Barracks are much lower and less airy, than those sanctioned according to the present standard, and that the space appears to be actually insufficient for the number of men to be accommodated. Thus there are according to the present strength of a Regiment of Dragoons

97 Non-Commissioned Officers.
647 Privates.

744 Total

of these 12 per cent (or 89 men) may be married and will occupy the two married men's Barracks leaving 655 men to be placed in the 8 ordinary Barracks, each of which can accommodate 64 privates and 8 Non-Commissioned Officers or 576 in all, leaving a balance of 79 men unprovided for.

4. I am further to observe that in the design for the Ordinary Barrack there is a length of 174 feet without any cross walls, either in the central wards, or in the Verandahs, an arrangement which has been prohibited here as dangerous.

5. With reference to the above remarks I am directed to forward a Plan of a Barrack lately constructed at Meean Meer for a Company of European Infantry, which will shew the accommodation which the Government of India considers proper to be provided for the European Soldiers, and to request that a new and complete plan and Estimate may be prepared, which will embody all recent alterations and improvements and provide for the increased strength of Dragoon Regiments as lately regulated.

6. In regard to the Barracks for married men—The Right Honorable the Governor General of India in Council desires that the construction of these Buildings may be suspended until the final orders of the Honorable the Court of Directors (shortly expected) upon the nature of accommodation to be provided for this purpose, shall have been received and communicated to the Government of Fort Saint George.

7. I am further directed to remark that the design for Solitary Cells is very different from the standard Plan lately approved of by His Excellency the Commander-in-Chief copy of which is also forwarded for information and guidance.

8. A revised Plan and Estimate of this Building are therefore required, but in this as well as in the case of the Plan of the Meean Meer Barrack, the Government of India desires to leave the Right Honorable the Governor of Fort Saint George in Council free to suggest any improvements, if any such occurs to him.

9. Standard Plans for Regimental Schools are now under the consideration of the Government of India.

10. The Right Honorable the Governor General in Council therefore desires that the buildings proposed for this object may not be proceeded with until further orders shall have been communicated.

11. The Plans and Estimates of the Subordinate Barrack are returned in order that, if necessary, provision, may be made for the alterations and improvements adverted to and that the whole project may be re-submitted in a complete form.

12. In conclusion the Right Honorable the Governor General of India in Council observes that the steps now ordered need not occasion any serious loss of time as other plans must, in any case, have been prepared from which to work and whilst this is being done and reference made to the Government of India, the collection and preparation of materials might be carried on.

Communicated to the Commander-in-Chief and to the Chief Engineer in Mysore with a request that the Plans called for by the Supreme Government may be immediately prepared and submitted through the Chief Engineer at Madras.

(True Extract and Copy.)

(Signed) C. A. BROWNE, Colonel,

Secretary to Government.

From Major A. DeButts, Acting Superintending Engineer in Mysore, 4th April 1857, No. 52; to the Chief Engineer D. P. W.

Referring to your letter No. 2050 of the 16th January last forwarding copy of a letter from Lieut. Colonel Baker Secretary to Government of India, No. 5825, I have now the honor of forwarding a Plan and Estimate amounting to Rupees (2,50,560) Two Lakhs Fifty thousand five hundred and sixty for building a Barrack* for H. M. Cavalry Regiment at this Station.

* *Of 8 Ranges*

2. The Plan is very similar to the one that was sent from Calcutta for my guidance but reduced in length to adapt it, for the accommodation of a troop of Dragoons and I have availed myself of the permission granted to me to make the Verandahs open instead of enclosing them as being better adapted for the climate.

3. The Officer Commanding H. M. 12th Royal Lancers informs me that a Troop consist of 81 men exclusive of Regimental Serjeant Major, for whom separate accommodation is provided; of the above number 12 ℘ cent are allowed to be married leaving therefore 72 single men to be located in each Block. This gives 24 men in each Division according to the Plan.

4. I observe that the Plan for the Solitary Cells sent from Calcutta allows for 20 Cells 15 by 7 feet wide each with a Guard Room and Provost Sejeant's Quarters. The Plan that was submitted provided for 16 Cells 10 feet square each with Guard Houses &c. But I do not consider the former Plan well suited for the climate of Bangalore chiefly because the corridor is enclosed, it would be difficult to ventilate it properly and it would therefore be for about 3 months of the year excessively hot, besides which the Cells being built in 2 rows, one behind the other is an arrangement that the Right Honorable the Governor has an objection to; as it prevents that free circulation of the air round the different blocks which is so desirable, I would therefore respectfully suggest that the Estimate for these Cells viz. Rupees 16,280-0-0 be sanctioned but the original Plan be hereafter considered so as to combine the latest improvements that have been ordered for these Buildings.

5. I have now drawn up the accompanying list of the different Buildings, that are required for a Barracks.—This list differs somewhat from that originally submitted, as some additional Buildings have been added that were then omitted. The total now amounts (5,82,000-0-0) five Lacs and eighty two thousand which is 82,000 Rupees more than was previously proposed.

In conclusion I would add from the experience I have had during the past year in building here that I am confident that the whole of the different buildings can be constructed with Brick in Chunam throughout though in some instances the walls are estimated to be of Brick in mud all the wood work can be of Teak and that the whole can be finished off in a neat and workmen-like manner for the above sum as some of the rates are higher than what now rules, but if the Supreme Government are pleased to sanction the work being commenced upon at once, and I have already made advances to the amount of 26,000 Rupees, for materials agreeably to their orders, I beg I may be allowed the services of two men from the Madras Department of Public Works, who have been accustomed to the Superintendence to Public Works as my present Establishment is not sufficient for the works I have already in hand, but I shall not now enter into this subject, having just sent in a statement that will be submitted to the Government of India shewing the deficiency of my Office.

From Lieut. Colonel C. Green, Chief Engineer, Mysore, 7th April 1857, No. 2551; to the Chief Engineer D. P. W. Fort Saint George.

Sir,

I have the honor to forward a plan and Estimate with a List of the different Buildings required for the Cavalry Regiment at Bangalore and beg leave to make the following remarks.

In the plan which was forwarded by Colonel Baker, the section shewed that the Mecan Meer Barracks were tiled, but I have always considered tiled Buildings as objectionable for Barracks, being less cool, less water-tight, and requiring more frequent repair than terraced roofs, which were always before understood to constitute the Bengal Standard Plan of roofing, and I conceive it was not intended that the Mecan Meer Barracks were to be imitated in this respect but that the plan of accommodation and the space therein shewn, should be followed.

In another respect I consider this Plan of Major DeButts' defective in the position of the Store Room which seems objectionable as stopping the ventilation, so that whenever the wind blows at either end of the Barracks, it will not have direct access through the length of the Barrack rooms.—I have proposed another plan which you will do me the kindness of submitting for the approval of the Right Honorable the Governor in Council. It will be seen I have altered the position of the Serjeants' Bath rooms, which in Major DeButts' plan obstructed the circulation of air in the verandah.

Extract from the Proceedings of the Chief Engineer in the Department of Public Works, under date the 21th April 1857, No. 12058.

Read again letter from the Chief Engineer Mysore.
Forwarding a Plan and Estimate with a List of the different buildings required for the Cavalry Regiment at Bangalore with certain remarks. } (Here enter No. 2551, dated 7th April 1857.)

Enclosure 4
1 List.
1 Estimate.
2 Plans.

Resolved to return to the Chief Engineer in Mysore the plans and Estimate forwarded with his letter No. 2551 dated 7th April 1857, and to request that he will obtain from Major DeButts a revised Plan and Estimate in accordance with the suggestions of the Chief Engineer in Mysore, as the Chief Engineer in Madras cannot but consider the alterations suggested to be decided improvements.

(True Extract.)
(Signed) P. P. L. O'CONNELL, Lieutenant,
Assist. to the Chief Engineer.

From Major A. DeButts, Acting Supg. Engineer in Mysore, 10th June 1857, No. 34; to the Chief Engineer, D. P. W.

Sir,

I have the honor of informing you that I have made a contract with a person named Moorga Pillay to supply 10 Beams per month of the scantling required for the terraced roof of the new Dragoon Barracks, and therefore request you will be pleased to forward the plan and Estimate to Government at your earliest convenience.

I beg to be permitted to state that it does not appear to me so clear as it does to Colonel Faber and yourself that the Supreme Government will authorize the Barracks to be built in this manner otherwise I cannot suppose, what was their object, in sending me a plan with a tiled roof for my guidance reducing also the cubical space by 21, 120 feet I trust you will therefore forward a copy of the correspondence that has passed between us on this subject.

Ordered that the plans submitted by the Quarter Master General of the Army in letter No. 280 with correspondence attached be forwarded to the Government of India with the following observations by the Governor in Council.

2. The Governor in Council approves of the plan A. or No. 10 by the Chief Engineer in Mysore and coincides with the Provincial Commander-in-Chief in his remarks on the disposition of the blocks.

3. The question regarding the enclosure of the Area by a wall can be postponed—but the Governor in Council submits it as advisable to include the amount for the erection, of the same, in the Estimates.

4. The recommendation of the Provincial Commander-in-Chief regarding the position of the Hospital is supported by the Governor in Council, also that terraced Roofs in preference to tiled should be adopted for the reasons given—as well as the suggested modifications in the Serjeants' Quarters and Store room.

5. The Governor in Council supports the concluding remarks of the Provincial Commander-in-Chief and with reference to the expected arrival of Dragoon Regiments for this Presidency urges the expedition of the Work.

To the Secretary to Government of India, Public Works Department. } Here enter 30th July 1857, No. 2558.

(True Extract and Copies.)

Ag. Dy. Secretary to Government.

To the Quarter Master General.
„ Department Public Works.
„ Chief Engineer, Mysore.

Exd. R. Spears.

Comm. Ord. 24 July 57 No 764

Public Works 1857 Sept.
Dated Bangs 25th August

No 1626.

Extract from the Minutes of Govt. in the Military Department.

Dated 30th July 1857

Rec'd 14th Aug.t 1857

Exec. from Dec. 20th Oct. 1857.
Civil No 2089 in Bound 24 Pages

Ordering Sketch Plans for the new Dragoon Barracks in Bangalore, submitted by the Chief Military Auditor General of the Army in his Letter No 280, with Correspondence alluded to, to be forwarded to the Government of India, with certain observations by this Government &c.

No 1626. 24th Aug.t
Military Order. Ld

No 1626.

Ordered to be communicated to the Chief Engineer.

Fort St. George
26th Aug.t 1857.

A Copy to the Chief Engr. Dist. 25

No 630th.