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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.
En 31/3/6

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<i>5853</i>		
Dated	<i>26-3-18</i>	<i>62</i>

Not to be folded or roughly handled

14

*Proceedings of the Madras Government, Public Works Department,
for the month of March 1860.*

No. 52. Read the following letter from SIR MARK CUBBON, K. C. B., Commissioner for the Government of the Territories of His Highness the Rájá of Mysore, to T. PYCROFT, Esq., Chief Secretary to Government, Fort Saint George, dated Nundydroog, 11th March 1860, No. 5.

Having been at length informed by Colonel Green, Chief Engineer in Mysore,* and also by Major General Armstrong, who has lately seen the Hydraulic Ram in operation in England, that the proposed Dragoon Barracks on the Race Course at Bangalore could be easily and abundantly supplied with good wholesome Water, raised from Wells dug below the Alsár Tank, provided the Government of India should be pleased to sanction the plan lately submitted for their Orders, calculated to ensure the purity of that great reservoir—and with reference to the correspondence and papers noted in the margin, I have the honor now to submit the following observations for the consideration of His Excellency the Right Honor-

able the Governor in Council, I shall endeavour to be as brief as the subject will permit.

2. The following are the points on which I understand I am required to submit an opinion:—

- 1st.—The suitability of the Site selected for the new Dragoon Barracks.
- 2nd.—The best means of supplying the Barracks with water.
- 3rd.—The best disposition of the Military Buildings, Magazines, &c., in the Station of Bangalore.
- 4th.—The advisability or otherwise of providing Stabling for the Cavalry Horses at the Station.

3. On the first point, I beg to state, that I entirely concur in the opinion expressed by His Excellency the Commander-in-Chief, that in a Military point of view, the spot selected is an admirable one for an Entrenchment, which shall form a place of refuge in case of insurrection, and that a better and more convenient could not be found in the neighbourhood.

4. On the second point, several projects have been considered for supplying the Entrenchment with Water, which it is not necessary to discuss in this place; as the Chief Engineer's letter of the 4th January, submitted to Government with mine of the 15th February No. 1. last, may be supposed to have set the question at rest; while Major General Armstrong's personal observation of the operation of the Hydraulic Ram, establishes beyond doubt or dispute the facility of pouring into the Entrenchment a constant stream of water.

5. The third point, regards the arrangement or disposition of the Military Buildings, and here, also, I fully agree with His Excellency the Commander-in-Chief, that it would be impracticable, such is the configuration of the ground, to reduce Bangalore into a compact Military Station. For the place has risen without any regular plan, and is scattered over an area of between five and six square miles. The plan proposed seems, therefore, to be the best by which the danger inherent in the present disjointed state of things can be remedied, that is, of forming an Entrenchment, defensible by a small body of men, to which the community could fly in case of necessity and placing the Arsenal, the Magazine, the Treasury and Commissariat Stores within the immediate command of European Troops.

6. On the question of Stabling, I have only to observe, that I consider it advisable that the Horses at Bangalore should be sheltered not only from the rain, but from the cold damp winds,

Proceedings of the Madras Government, Public Works Department,
for the month of March 1860.

and the dry parching winds, which alternately prevail at that Station, and occasionally with such violence as to blow away their forage; while the Stable duties would be better attended to, and the Horses kept in better health and condition, if the Troopers were protected from exposure to the rain and sun. The Stables need not be expensive. Tiled sheds with bamboo mats, to be shifted from side to side according to the change of wind, would be sufficient.

MEMORANDUM FOR SIR MARK CUBBON, K. C. B.

Last year when on a visit at the residence of Mr. Hope Edwards, of Netley, in Shropshire, my attention was attracted to a very simple, but admirable Hydraulic contrivance for raising Water into the large cisterns of his recently erected magnificent mansion, at an elevation of some 50 or 60 feet.

The invention, I understood, had been lately patented by some eminent Engineer Firm, in London I think, whose names I do not recollect. It is called a "Water Ram." The principle, as far as I could understand it from a cursory inspection, consisted in conveying a small stream of water through Iron Pipes from a slightly elevated spring some hundred feet distant, down an inclined plane, so as to give it an entire fall of 12 feet into a globular Iron Cistern, (the Ram), which called into action some interior Mechanical contrivance whereby the stream of water was forced into another Pipe, and driven in a continued stream to the Cisterns on the top of the mansion. Until within a few feet of the globular Cistern or Ram, the fall of water was very gradual, its velocity was then increased, and the fall was partly obtained by sinking the Water Ram a few feet below the surface, so as to allow the requisite fall of 12 feet, the minimum required to force the stream to the height required at Netley.

My impression is that the requisite forcing power is in the ratio of a fall of one foot to obtain an elevation of four or five feet.

I was informed that this Ram acted admirably, fully answering the purpose, was erected by the Patentees at a comparatively trifling cost, was always in working order without expense, and requiring no manual labor whatever.

I cannot give you any further information respecting the contrivance in question, but I heard that it was being very generally applied to large buildings requiring a considerable supply of water. The Engineer Department may, perhaps, have heard of it, and can supply further information, or at all events this will be a clue to enable them to give it.

(Signed) EDWARD ARMSTRONG.

(Signed) M. CUBBON, Commissioner.

No. 53. ORDER THEREON, 26th March 1860, No. 624.

A copy of this letter and of its enclosure will be forwarded to the Government of India in continuation of letter dated 25th February 1860, No. 414.

2. These papers will also be communicated to the Chief Engineer and to the Military Department with reference to Proceedings 25th February 1860, No. 413.

(Signed) J. D. BOURDILLON,

Secretary to Government.

No. 54. Ordered in consequence that the following letter be dispatched:—

From J. D. BOURDILLON, Esq., Secretary to the Government of Fort Saint George; to Captain C. H. DICKENS, Officiating Secretary to the Government of India, D. P. W., dated 26th March 1860, No. 625.

In continuation of Mr. Pycroft's letter, dated 25th ultimo, No. 414, I am directed to forward a further communication* from the Commissioner of Mysore on the subject of the Military Buildings and Works at Bangalore.

* Dated 11th March 1860, No. 5.

Memorandum for Sir Mark Cubbon K.C.B.

Last year when on a visit at the residence of Mr. Hope Edwards of Netley in Shropshire my attention was attracted to a very simple but admirable Hydraulic Contrivance for raising water into the large Cisterns of his recently erected magnificent Mansion, at an elevation of some 50 or 60 feet.

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Lieut. Edward Armstrong

W. Lubbock
Commissioner

No 5
From

Mysore Commissioners Office
The Commissioner for the Government
of the Territories of His Highness
the ^{Highness} ~~Rajah~~ of Mysore
To The Chief Secretary
to Government

Fort St. George

Dated Munday 11 March 1860

Sir,

Having been at length informed by
Colonel Green Chief Engineer in Mysore, and also
by Major General Armstrong who has lately
seen the Hydraulic Ram in operation in England,
that the proposed Dragon Barracks on the Race
Course at Bangalore could be easily and abund-
antly supplied with good wholesome water raised
from Wells dug below the Uloor Tank, provided
the Government of India should be pleased to
sanction the plan lately submitted for their review
calculated to ensure the purity of that great
Reservoir - and with reference to the correspondence
and papers noted in the margin I have the honor

now

No 1
1860

Enclosed in a letter from
Commissioner of Mysore,
to Chief Secretary to Govt
Fort St. George dated
11th March 1860

MS 672/10

No 26 of 1860

now to submit the following observations for the consideration of His Excellency the Right Honourable the Governor in Council. I shall endeavour to be as brief as the subject will permit.

2 The following are the points on which I understand I am required to submit an opinion -

1st The suitability of the site selected for the new Dragoon Barracks

2nd The best means of supplying the Barracks with water

3rd The best disposition of the Military Buildings, Magazines &c. in the station of Bangalore

4th The advisability or otherwise of providing stabling for the Cavalry Horses at the station

3 On the 1st point I beg to state that I entirely concur in the opinion expressed by His Excellency the Commander in Chief, that in a Military point of view the spot

Extract of Minutes of Consultation Military Department dated 17th January 1858
D. D. 2 17 July 1858

From Govt. of Madras with enclosures 9th July 59

From Mysore Commr. to Madras Govt. 15th July 59

From D. D. to Captain Wilkison. Mysore 5th Aug 59 & Puckler

From Madras Govt. to Mysore Commr. 24th Sept 59

From Mysore Commr. to Madras Govt. 13th March 59

From D. D. to Captain Wilkison 13th May 1859

From Commr. Mysore to Madras Govt. 22nd June 59

From Colonel Cotton to Madras Govt. 11th July 60

Extract of Proceedings of the Council the President in Council 28th June 1860

1133

Selected

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Selected is an admirable one for an entrenchment which shall form a place of refuge in case of insurrection, and that a better and more convenient could not be found in the neighbourhood

4. On the 2nd point, several projects have been considered for supplying the entrenchment with water, which it is not necessary to discuss in this place; as the Chief Engineer's letter of the 4th January submitted to Government with mine of the 15th February last may be supposed to have set the question at rest; while Major General Armstrong's personal observation of the operation of the Hydraulic Ram establishes beyond doubt or dispute the facility of pouring into the entrenchment a constant stream of water.

5. The third point regards the arrangement or disposition of the Military Buildings, and here also I fully agree with His Excellency the Commander in Chief, that it would be impracticable, such is the configuration of the ground, to reduce Bangalore into a compact Military Station. For the place has risen without any regular plan,

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6. On the question of stabling, I have only to observe that I consider it advisable that the Horses at Paigatoni should be sheltered not only from the rain, but from the cold damp winds, and the dry parching winds, which alternately prevail at that station, and occasionally with such violence as to blow away their forage; while the stable duties would be better attended to, and the Horses kept in better health and condition, if the Horses were protected from exposure to the rain and

sun

sun. The stables need not be expensive. Filled sheds with Raubos Mats, to be shifted from side to side, according to the change of wind, would be sufficient.

I have the honor to be
Sir

Your Most Obedient Servant

McLubben
Commissary

Received
Nundydroog }
11 March 1860.

To The Chief Secretary
to Government
Fort St. George

62
P.W.D.

N^o 6255-

5 Copies
To
Chief Secy to Govt. of India

Captain C. St. Dickens
Off^r Secy to the Govt of India.
P.W.D.

Sir,

In continuation
of Mr. Pycroft's letter -
dated 25th Ultimo N^o 44,
I am directed to forward
a further communication
from the Commissioner
of Mysore on the subject
of the Military buildings
and works at Banga-
lore.

[Signature]

* d/ 11 March 1860 N^o 5.

Chief Secy to Govt
26 March /60

Mr. Secy: 29 Feb 60-70972

30972
Chief Secy to Govt of India
N^o 692.

(Comptroller of
Mysore)

Chief Secretary
to Government
of Mysore

From Chief Secy - 28th May 60
N^o 1315.

Letter 11th March
N^o 184

From Mr. Pycroft in 5th
Jan/61. Chief Secy in

Letter 2 Feb 60. 26 March

A copy of this letter and
of its enclosure will be forwarded
to the Government of Mysore in
-transmission of letter dated 25th February
1860 N^o 414.
These papers will also
be communicated to the Chief Secy
of Mysore and to the Military Officer
in charge of the works at Bangalore
25 February 1860 N^o 1315.

[Signature]

2-24701

N^o 52 653.

26-3 (603)

10 Copies. Chief Secy in 29 Feb 60
15th March 1860
26 March /60

William Bickel

Public Works 1860 & of the
Group Govt 31 Feb March.

Ms 6225.

To the Office Secretary to the
Govt of India & Co.

Feb 26 March 1860.

Forwarding a copy of
the further communication
from the Commission of
Inquiry into the subject of
Military & Quilted and
works at Bangalore.

Ms 6225.

Ms 6225.