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MADRAS RECORD OFFICE

Government of Madras

Public works DEPARTMENT

G.O. No. 3066

B.P. No.
600-601

Press

Mis.

Dated 28-10-1874 195 .

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
28th October 1874.*

No. 200. Read the following letter from the Committee appointed to report on the Water-supply to certain Public Institutions of Madras, to Colonel G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madras, 30th September 1874, No. 1,235 :—

We have the honor to acknowledge receipt of Proceedings of Government as G. O., No. 2,444, of 28th August; Public Works Department. per margin, and to submit herewith our views on the subject referred to us.

2. We are generally of opinion that the municipal water, which is ample in quantity and of unexceptionable quality, should be depended upon as the main source of supply for all public institutions in the Presidency town, but owing to certain defects in the arrangements for the town supply, there are practical difficulties in the way of ensuring an uninterrupted service, which, in our opinion, should be remedied before the water-supply from the Seven Wells is suspended.

3. The designers of the present scheme of municipal water-supply did not deem it essential to make any special arrangements for the delivery of clear water, and they assumed that the water of the Red Hills Reservoir would at all times be sufficiently free of silt to be admitted into the pipes and distributed to the population; but they apparently overlooked the fact that the lake receives the drainage of cultivated lands on its margin, and that the open channel is also liable to receive muddy drainage water during heavy rains. The practical working of the scheme has demonstrated the fact that the water coming down the open channel is occasionally so full of silt that it cannot be admitted into the mains without endangering the purity of the supply for a long time subsequently, and hitherto the Municipal authorities have been in the habit of meeting this difficulty by cutting off the supply altogether on such occasions to the great inconvenience of the population. From a statement furnished to us by Mr. Standish Leo, the Engineer of the Municipality, it seems that the supply was cut off either altogether, or for portions of a day, on nineteen days in 1873, and for portions of nine days during the present year up to date. These interruptions of service are most numerous during the heavy rains of the north-east monsoon; and in November 1873 the mains were closed for three days continuously, and in December for two days.

(See Appendix A.)

4. It seems to us that while the municipal water service is liable to be interrupted in this manner, it would be unsafe to depend wholly on that source of supply for the public institutions of the Presidency, already receiving a constant service from another source.

5. The defect we have pointed out in the municipal water-supply scheme was to a certain extent foreseen by the Municipal Water Supply Committee, as will be evident from the following quotation from their Report, but it is clear that the practical trial of the scheme has shown the defect to be a more serious one than was anticipated by the Committee :—

“The necessity of filtering the water is a question upon which there will doubtless be a difference of opinion. Dr. Wyndowe states ‘that the water of the

Red Hill Lake, as regards suitable properties, is free from odour or taste, but cloudy (even after filtration) from suspended impurities. This will no doubt subside after some time if the water be left at rest. Chemically speaking, this is by far the best specimen of drinking water I have yet examined at Madras; and Mr. Fraser states 'that the water which it is proposed to supply to Madras is the rain which falls on the Nagiri Hills, which are almost wholly composed of gneiss, and the channels through which it flows consist nearly altogether of pure siliceous sand. The grosser particles held in suspension by the water would be deposited in Cholavaram Lake, the finer particles in the Red Hill Lake, so that water comparatively pure would be delivered to the Spur Tank.'

"We are inclined to agree with these gentlemen, and believe that as filtration only removes mechanical impurities held in suspension, we can by simple arrangements prevent these impurities to a great extent (should they be found to exist) after the water leaves the two large settling reservoirs. As to impurities held in solution these will not be removed to any great amount by filtration. It may be, however, that during freshes in the Cortelliar the water will reach Madras in a slightly turbid state, but these occasions would be rare, and if experience shows the necessity of a more perfect system of filtration than that proposed by Mr. Lee, it is very easy afterwards to furnish the means."

6. The means of remedying the defect are simple enough, but will cost money; and the President of the Municipal Commission and Executive Engineer of the Municipality are both of opinion that the construction of a settling tank or tanks near the head mains, in which a week's supply of clear water for the town can be stored, is absolutely necessary to complete the scheme of municipal water-supply. Without a reservoir of this kind, the town service will always be liable to interruption, especially after heavy falls of rain, but with a reservoir of clean water at hand the muddy water in the channel could always be turned off on rainy days into the Otarry nullah, and the mains be fed from the reservoir. Already in the northern division of the town, the Trevelyan basin (built for a different purpose) is used as a reservoir, and the inhabitants of this portion of the town are supplied on rainy days from this source, and do not suffer the inconvenience of having their pipes and fountains empty when the mains are closed. All that is wanted is to make similar provision for the southern districts of the town.

7. The nature and site of the proposed reservoir will have to be determined by the Municipal authorities, and we do not propose to make any remarks on this head, beyond insisting upon the necessity of a provision for storing at least a week's consumption of clear water that may be used for the supply of the population during those periods when the channel supply is too muddy to be let into the pipes. We may point out that the Municipal Water Supply Project was never put forward as being in full accord with the "science of the day." Its main object was to bring within the reach of a very scattered community a plentiful supply of fresh water, and that by gravitation alone. It never professed to deliver filtered water, or water under high pressure; nor did the estimates for the work, or the means of rate-payers, admit of scientific arrangements for filtration and

delivery. The water project has so far done all that was expected of it. It has allowed the Municipal authorities to distribute a liberal allowance of really good water to most parts of the town (though there are still important localities to be brought into connection with the works), and if we may judge from the use of the public fountains, the people are in no way backward to avail themselves of the boon. If the defect we have pointed out be remedied, there will be no interruption of service, the pipes will be kept clean, and clear water at all times available for the use of the public, and in that case we think that every public institution within reach of the municipal mains should be supplied with the Red Hill Water.

8. Whatever the cost of providing a reservoir, or reservoirs of the kind we suggest may be, it should be debited to the capital account of the water project. The interests of the public and of Government institutions in securing an uninterrupted water service are identical. We have discussed the question of making separate settling reservoirs for the public institutions proposed to be supplied from the municipal mains, but have come to the unanimous conclusion (in which Mr. Loch and Mr. Lee concur) that the only satisfactory plan will be to provide for the clearance of the water before it is allowed to enter the pipes.

9. It will be seen thus that we are in favor of depending on the municipal water-supply for public institutions so soon as the Municipality have made due provision for an uninterrupted service, and we would further recommend that no time be lost in completing this most essential portion of the water project. The inconvenience to the public of having their water cut off without notice, and for indefinite periods of time, is a very serious affair, even if we omit to take into account the fact that for the periods of interruption the people must be driven back to old and disused wells and tanks for their daily wants.

10. It may be a question for future consideration whether these conditions being complied with, the Seven Wells Water Establishment should be broken up. Considering the present arrangements for the supply of the Fort, and the fact that the removal of the pipes now laid would hardly pay expenses, we are inclined to suggest that the Seven Wells should be maintained as a source of water-supply, in reserve, with a skeleton establishment to look after the pumping apparatus, grounds, etc. These wells have always been worked by manual labor, so that at any time the entertaining of extra hands would enable the authorities to supply some of the more important localities, such as the Fort, General Hospital, Penitentiary, etc., in the event of the bursting of the Red Hill Tank, or of the delivery channel; or any unforeseen calamity depriving the townspeople of their ordinary water-supply, this reserve source would be valuable, provided the means of distributing water were left as at present.

(Signed) W. R. CORNISH, F.R.C.S.,
Sanitary Commissioner for Madras.
(") J. THOMPSON, M.D.,
Deputy Surgeon-General, B.M.S.
(") J. GODDARD, Lieut.-Colonel, R.E.,
District Engineer, Presidency Division.

*Proceedings of the Madras Government, Public Works Department,
23th October 1874.*

APPENDIX A.

Memorandum showing the Dates on which the Supply of Red Hill Water was interrupted.

Date on which the water was cut off owing to heavy rains having made it impure.	No. of hours the supply was stopped.	Remarks.
April 1873 ...	.....	None.
May " " " " " "	.....	Do.
June " " " " " "	.....	Do.
July " " " " " "	.....	Do.
7th Aug. " " " " " "	.....	Do.
22nd " " " " " "	.....	Do.
Sept. " " " " " "	.....	Do.
9th Oct. " " " " " "	6½	
13th " " " " " "	1	
14th " " " " " "	.....	None.
15th " " " " " "	4	
26th " " " " " "	11	
14th Nov. " " " " " "	8	
15th " " " " " "	7	
21st " " " " " "	4	
22nd " " " " " "	8	
23rd " " " " " "	24	
26th " " " " " "	24	
27th " " " " " "	24	} Continuously shut.
28th " " " " " "	9	
29th " " " " " "	6	
30th " " " " " "	6	
1st Dec. " " " " " "	21	
2nd " " " " " "	12	
Jan. " 1874 " " " " " "	6	Continuous.
Feb. " " " " " "	24	
March " " " " " "	24	
April " " " " " "	.....	Continuous.
5th May " " " " " "	.....	
6th " " " " " "	.....	
13th June " " " " " "	24	
9th July " " " " " "	15	
17th " " " " " "	6	
27th " " " " " "	14	
28th " " " " " "	5	
Aug. " " " " " "	7	
9th Sept. " " " " " "	5½	
10th " " " " " "	.....	None.
	2	
	12	

(Signed) STANDISH LEE,
Executive Engineer.

No 601.

ORDER THEREON, 28th October 1874, No. 3,066.
CIVIL WORKS, No. 44.

His Excellency the Governor in Council entirely approves of the conclusion arrived at by the Committee of certain public institutions of Madras, whom he thanks for their lucid statement of the case before them. His Excellency in Council resolves to communicate their Report to the President of the Municipal Commission, and to request that prompt action may be taken thereon by the submission of proposals for the construction

*Proceedings of the Madras Government, Public Works Department,
28th October 1874.*

of a work such as that proposed by the Committee, for the purpose of maintaining a supply of clear water for the southern division of the town. The Government would be prepared to contribute towards the work the capitalized value of the considerable saving that will be effected by reduction of the present establishment for the Seven Wells, on which the Presidency District Engineer will report in detail.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the District Engineer, Presidency.
" Financial Department.
" Military "

Exd. S. T. Austin.

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Problems

S. B. L. ^{and} ^{others}

Proceedings of the Madras Govt.
Read the following:

From the Committee

appointed to report
on the water supply to
certain Public Institutions

(H. E. No. 1235 of 30th
Sept 1874.)

3066

His Excellency the
Governor in Council
entirely approves of
the conclusions arrived
at by the Committee
appointed on 5th Dec^r
1874 of 28th August
to report on the water
supply to certain
Public Institutions
of Madras; whom he
(desires to thank for

M. L.

13/10

14.10.74

600-601.

11/10/94
14/10/94

11/10/94
14/10/94

6498

Govt. of Madras.

PUBLIC WORKS.

To The District Engineer
Presidency

Dated

Recd.

Encl. /

G. O. 28th Aug. No. 3066.

No. 600 + 607

Water supply to certain
Public Institutions of
Madras. Report sub-
mitted by the Committee
appointed in G. O. 22444
of 28th Aug 174 on the water
supply, com^d. to the Pre-
sident of the Municipal
Commⁿ with certain in-
structions; the thanks of Govt.
conveyed to the Committee for
their lucid statement of the
case laid before them &
the S^r Secy to report Resolutions

to report the saving that
will be effected by the
reduction of the present
Establishment of the
Seven Wells -