

Public Works (1899) Department.

G.O., No.

2071 W

DATED 8 August 1899.

[Despatch Abstract.]

Water-Supply. - Pros. Loc & main. Septt. approving with remarks, the recommendations made by the Sanitary Board for the improvement of the — of Inticoria and requesting the P. W. Deptt. to put the work in hand as soon as the plans & estimates are ready, and the Municipal Council to submit an application in the prescribed form for a loan of Rs 50,000, from the Provincial Loan and Advances Account towards the cost of this work, command to the S. E. VI, with remarks—

Public Works (1900) Department

FURTHER PAPERS.

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206033 of 29-11-93
33192 of 11-10-93
264 of 29-7-92
35 of 29-7-92

Prodest

Current No. 5725

Government {1899} of Madras.
LOCAL AND MUNICIPAL.

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Recd. 13.7- } 1899.
Regd. 13.7- }

Enclosures

Spare copies 9.

G.O., No. 905 M., 28th June 1899.

No: 2071 w 88.8.29

Communicated to the
Supty. Engineer III Circle
who will arrange to put
the work in hand as soon as
the plans and estimates are
sanctioned by Govt.

JUNE.

bill
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 To the S. E. VII ~~Leings~~
 in Rev. / P. W. Auto

Water-supply.

Approving, with remarks, the recommendations made by the Sanitary Board for the improvement of the — of Tuticorin and requesting the Public Works Department to put the work in hand as soon as the plans and estimates are ready and the Municipal Council to submit an application in the prescribed form for a loan of Rs. 50,000 from the Provincial loan and Advance Account towards the cost of this work.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—again the following paper:—

G.O., Mis. No. 2125 M., dated 12th December 1898.

ABSTRACT.—Forwarding to the Municipal Council of Tuticorin certain papers regarding the water-supply of the town, and requesting it to report as to whether it approves the scheme now recommended by the Sanitary Board and as to how it proposes to finance it.

READ—also the following papers:—

From G. ZELLWEGER, Esq., Chairman, Municipal Council, Tuticorin, to the Secretary to Government, Local and Municipal Department (through the Collector of Tinnevely), dated 17th January 1899, No. 18.

I beg to acknowledge receipt of G.O., Mis. No. 2125 M., dated 12th December last, in connection with the water-supply scheme of this town and to enclose copy of the Council's resolution relating to same.

It will be seen from the said resolution that the Council thankfully accepts the sum of one lakh of rupees kindly placed at its disposal by Government and that it proposes to finance the scheme by raising the house and land tax and imposing a water-tax if necessary. With reference to the Sanitary Engineer's remarks in his note, No. 62, dated 20th July 1898, that the proposed masonry conduit and water-tight cisterns in different parts of the town would increase the supply of water only so long as there is water in the tank, leaving matters, at other times, very much as before, the Council is of opinion that, under these circumstances, it would be desirable to start first with the construction of the reserve tank which is to be located near or within the Korampallam tank, in order to secure, first of all, a fair supply of water to the town.

The necessary conduit and the cisterns would be of little use, unless a fair supply of water has first been rendered certain. Moreover, these works could always be carried out later on, once this object has been attained; but, in the meantime, the heavy outlay and consequent increase of taxation would scarcely be justifiable if all that could be shown in return were a masonry conduit and some cisterns whereas the supply of water would fail, as hitherto, during the hot months of the year.

The Council, however, thinks that, if Government were pleased to grant an additional sum of Rs. 25,000 to the town, it would become possible by a careful distribution of the available funds to build not only a reserve tank as mentioned above, but the masonry conduit and cisterns in the town as well.

I have the honour to request that you will kindly place the above proposals before His Excellency the Governor in Council for his favourable consideration and early orders on the matter, so that the work may be taken in hand during the ensuing hot weather if possible, thus relieving the inhabitants once for all from the intense sufferings they had to undergo all these years through absolute want of water during the hot season.

Cur. No. 108-Gen. Rev.

Forwarded to the Collector. The Government Order referred to within did not pass through my office, but was apparently sent direct to the Municipal Council.

(Signed) J. H. ROBERTSON,
Ag. Sub-Collector.

19th January 1899.

R. Dis. No. 210-K.

Forwarded. There seems no necessity to construct the reserve tank before the conduit and the water-tight cisterns. These works will be necessary in any case, but it is quite possible that it may be practicable to dispense with a reserve tank, having regard to the large wastage at present.

2. The present receipts of the Council from the house and land taxes which are levied at $6\frac{1}{4}$ per cent. of the rental value amount to Rs. 13,420 and it will therefore be possible to realize an additional revenue of about Rs. 4,800 by raising the rate. This additional revenue is sufficient to finance the loan of Rs. 50,000 on the terms proposed by Government.

(Signed) E. SCOTT,
Ag. Collector.

21st February 1899.

No. 479.

Referred to the Sanitary Board for remarks.

(Signed) M. HAMMICK,
Ag. Secretary to Government.

27th April 1899.

Proceedings of the Sanitary Board, dated 27th April 1899, No. 221-S.

Read—the following papers:—

Memorandum by the President, Sanitary Board, dated Tuticorin, 4th January 1899.

I have just inspected the water-supply of Tuticorin. I have examined and tasted the water in many of the wells in the town, and I have visited the Korampallam tank, the source of supply, examined its registers and walked down about half the supply channel from town to tank.

2. The water-supply is at present ample everywhere, the tank being within 6 inches of its full supply, all the wells were full, and crowds of people were drawing water. The water was clear in all the wells, in one it was slightly brackish to the taste, in the others it was sweet. The wells are said to be from 4 to 6 feet deep, and only in one or two instances are they flooral and water-tight. In fact, during the hot weather, when the supply fails, the people are said to obtain water by deepening the wells.

3. The surroundings of many of the wells are very insanitary, there being no platforms to speak of, the spilt water lies stagnating everywhere, and cannot get away.

4. The supply channel is in sand throughout, of large section, and a mass of reeds and vegetation. I found from the tank register that it took seven days for the water to reach the service reservoir, $4\frac{1}{2}$ miles from tank, when water is first let in. There are no villages on its banks, and not much contaminations, I should think.

5. The tank was nearly full this morning, and is a fine sheet of water. The registers showed that the water-supply to Tuticorin in the last three years failed as follows:—

1896, February to July	..	..	..	..	5 months.
1897, April to August	..	..	..	..	5 "
1898, end of April to October	..	..	..	..	$6\frac{1}{2}$ "

The irrigation under the tank is supplied through sluices with gearing and there is apparently no more waste than is usual in such circumstances, but I could not find

that any restriction has been placed in the extension of irrigation under the tank, now amounting to 1,700 acres, or that any regulations were in force about the quantity of water to be supplied for irrigation and the town supply, respectively, beyond the fact that 2 feet of water has to be kept in rear of the town supply sluice for as long as possible. The tank is supplied by an odai with a catchment of 165 square miles, and by the north main supply channel from Srivaikuntam anicut. Water is kept at 1 foot below full supply level until 1st January in each year, for fear of breaches, the soil being very treacherous. This means a considerable loss of water.

6. The scheme prepared and recommended by the Sanitary Engineer provides for the following:—

- (1) Construction of a reserve tank to hold nine months' supply for 34,000 people at 15 gallons per head per diem.
- (2) Construction of conduit connecting tank with a system of filter beds, service reservoir and pumping plant on the outskirts of Tuticorin.
- (3) Distribution system by iron pipes and hydrants of the ordinary kind. The cost of this scheme is estimated at Rs. 3,30,000, and working expenses at Rs. 18,310 per annum.

7. The local Municipality has pronounced this scheme to be beyond its means, and the whole matter has therefore been hung up for years. I understand, however, that the Municipal Council has a large preponderance of native members, of whom the majority would be perfectly satisfied with the present condition of things if the town wells were supplied with water throughout the year. They care nothing for the insanitary nature of the present system, and so long as the town remains fairly healthy as at present, they are not likely to be convinced of the necessity for change involving heavy expenditure and increased taxation. The town, I am assured, can well afford the improved supply, and it is not inability, but disinclination that stops the way. Whatever the cause, the decision has to be accepted unless Government is prepared to take the law into its own hands.

8. To get over the "impasse" I proposed in my note of 22nd June 1898 to spend a lakh in constructing the conduit, and in improving the distribution system. This proposal was accepted by the Board, and has since been embodied in G.O., Mis. No. 2125 M., dated 12th December 1898. The Sanitary Engineer, however, in his note, dated 21st July 1898, expressed doubts whether the construction of the conduit alone would increase the supply to Tuticorin (i.e., supply it with water during the months when the tank, as at present, runs dry, and the people have to resort for water to holes dug in the sand on the margin of the supply channel from 1 to 2 miles from the town) and my inspection has convinced me that he is right and that the reserve tank proposed by him is an essential feature of any scheme. I don't quite know what this tank is to cost. I find Rs. 31,352 mentioned in one of the papers in the file, but whether this is for four months or nine months, 15 gallons or 10 gallons, is not very clear. Personally I think it should hold six months' supply for 34,000 people at 15 gallons per head per day, and I now propose that the Board should recommend the following expenditure in the water-supply of Tuticorin:—

(1) Reserve tank as above, say	RS.
(2) Conduit as per Sanitary Engineer's note of 21st July 1898	40,000
(3) Building platforms round some of existing wells	58,735
	1,265
Total	1,00,000

Nos. (1) and (2) will both come in useful when the complete scheme is adopted, with the exception of a short length of conduit leading to the existing service reservoir. If the above works are carried out, Tuticorin should be assured of an ample water-supply all the year round under existing conditions, which are, in fact, by no means bad, and fully satisfy the native population.

9. I also think that Government in the Irrigation Department should be moved to restrict the irrigated area under the tank to its present amount, and permit no extension.

Note by the Sanitary Commissioner for Madras, dated 2nd March 1899, No. 760-S.

[Reference—The Tuticorin Water-supply Scheme.]

The correspondence shows that the water-supply of Tuticorin has been discussed from every point of view. The result of each reference to the Municipality of Tuticorin has been that they require "bricks without straw." Whilst protesting they demand economy, they refuse to accept the most economical scheme offered to them, consistent with sanitary requirements. It is, therefore, better to examine motives rather than the schemes. It may, I think, be safely assumed that the native section of the Councillors do not appreciate the sanitary requirements of the scheme in the slightest. They have only one fact before them—that during the hot weather there is trouble in getting water, because it has to be brought from some distance. If, therefore, they secure that water shall be available in their wells at all times, they will be content. It is quite a secondary matter what the quality of that water on reaching the wells is, or whether, in its distribution, it is liable to contamination.

2. Government always, and the Sanitary Board by proxy, acts *in loco parentis* in advising self-governing bodies how to spend their money. Now, the object of the Municipality would be attained at its cheapest outlay by the proposals of the President, Sanitary Board. That is the sum of Rs. 1,00,000 would be paid, merely to secure that during, possibly, four months in the year, inconvenience be not felt by the people; because, as I understand, it is not that water really cannot be got in the neighbourhood, but that expense and trouble are involved in procuring it. But, such a provision ignores entirely the existing condition of permeable earthen pipes, which supply the present wells, in the subsoil of a town not sewered, and of which the subsoil water is brackish and its level high, the existing wells being open to direct contamination from above and by leakage below as well as indirectly by hundreds of hands, ropes, chatties, &c., and that when received in the Korumpallam tank, the water has flowed through inhabited and irrigated parts of the country notorious for cholera. The question then arises—would it be right to allow this Council to spend so large an amount as that proposed for so poor a result. I think the centre of the situation is reached when the President remarks, "whatever the cause, the decision has to be accepted unless Government is prepared to take the law into its own hands."

3. If it be proved that the inhabitants can afford the scheme, as there is no reason to believe they cannot, when the cost per head is calculated against that for other towns (*vide* subjoined statement) then, I think, the proper position for Government to assume is to tell the Municipality that the whole subject of their demand for water-supply has been carefully and fully considered *in all its aspects*, and that it is not prepared to contribute to any scheme that will not correctly fulfil sanitary and commercial requirements of the town, and, therefore, finally offers for its acceptance either scheme A or B, with the recommendation that A be adopted:—

Name of town.	Scheme A.			Name of town.	Scheme B.	
	Population.	Amount of estimate.	Incidence per head		Amount of estimate.	Incidence per head.
Kurnool	24,376	RS. 23,93,380	RS. A. P. 9 13 1	Kurnool	RS. 23,93,380	RS. A. P. 9 13 1
Tanjore	54,390	4,29,000	7 14 2	Tanjore	4,29,000	7 14 2
Kumbakonam	54,307	4,88,800	9 0 0	Kumbakonam	4,88,800	9 0 0
Tuticorin	*34,000	3,79,430	9 6 4	Tuticorin	2,73,140	8 0 6

* Population for which the scheme has been designed.

4. I understand Government can go no further; but if it possessed the power, it certainly ought, in the interests of the place (that might become a much more

important port, and a greater centre of commercial activity, if provided with a proper water-supply) to use all pressure possible. By a proper water-supply I mean water delivered under pressure, in a sanitarily correct state.

5. It is always of course possible to spend money advantageously where comfort of the inhabitants is concerned, and it is possible to point to towns and villages where, at a small expenditure, this would be accomplished; but, in the present case, the initial expenditure to gain this end is so great that it is a question whether it is justifiable to spend a Government grant intended for sanitary benefit, or let the population be taxed, knowing that the utmost benefit they obtain is less walking or cart hire—not during the whole year but, at the outside, four months.

6. I would here mention that my note, No. 441-S.B., dated 21st October 1896, seems to have been misunderstood by the Sanitary Board. My meaning was not that there is no difference in the sanitary aspects of the schemes presented, but it was inconceivable that any doubts could exist as to the sanitary points involved, that is, I held the question had then gone simply into finance, and had left all sanitary considerations out of view as a result; hence, there was no necessity for me to say anything on the subject.

(Signed) W. G. KING, Lieut.-Col., I.M.S.,
Sanitary Commissioner for Madras.

Office-note by the Sanitary Engineer, dated Madras, 9th March 1899, No. 286.
The Tuticorin Water-supply Scheme.

Two objects will be secured by the proposal of the President, Sanitary Board. First, the supply which is now subject to contamination in the four miles of open channel, from the tank to the town, will be well protected from such contamination by the construction of a conduit in the place of the open channel. The second object which will be secured and which is one of much greater importance is that the town will get a supply throughout the year, which is not the case at present. At present very soon after the commencement of the hot weather the tank dries up and for three or four months in the hottest part of the year, when the need for the water-supply is the greatest, the town is deprived of it. The expenditure proposed is fully worth the benefits that will accrue to the town, not forgetting that the works which it is now proposed to carry out form a substantial part of a scheme, which can be completed in future and thus the present expenditure will not be lost.

2. Granting the necessity for splitting up the scheme on the plea that Tuticorin cannot afford to undertake the scheme recommended by the Sanitary Board in whole, the scheme is divisible into two and only two parts, and the President of the Sanitary Board has divided it at the only line where it could be divided.

These two main portions are—

- (1) Tank and conduit.
- (2) Pumping station and distribution pipes.

It is no use undertaking the second portion of the scheme unless funds permit of its being done as designed. The laying of pipes will secure no advantage as there would be no pressure until the pumping station is constructed. If, therefore, Tuticorin cannot afford to undertake part (2) of the scheme complete in addition to part (1), the proper course to adopt would be to carry out part (1) as proposed by the President of the Sanitary Board and wait for part (2) until more favourable times.

3. It is, however, desirable that the wells be improved—they are the places where the water is directly contaminated by the people (*vide* the Sanitary Commissioner's remarks); the contamination through the earthenware pipes, if it exists, cannot be done away with and must be very inconsiderable.

4. The wells might be improved by covering them over and then putting pumps on top; the wells are said by the Chief Engineer to be only 6 to 7 feet deep. This plan would prevent contamination and would ensure economy.

(Signed) J. A. JONES,
Sanitary Engineer to Government.

Resolution—No. 221-S., dated 27th April 1899.

In his note read above the President, Sanitary Board, recommended the following expenditure on the water-supply of the town of Tuticorin:—

	RS.
(1) Reserve tank	40,000
(2) Conduit, as per Sanitary Engineer's note 62, dated 21st July 1898	58,735
(3) Building platforms round some of the existing wells	1,265
Total	1,00,000

2. The Sanitary Commissioner is not in favour of the President's proposals. He would insist, as an essential condition of the grant of any funds by Government, that the Municipality should accept either scheme A* or B* in its entirety. The proposals of the President will not, he considers, secure a sanitarily safe water-supply.

3. The Sanitary Engineer observes that the President's proposals will secure the following objects:—

- (i) The supply which is subject to contamination in the four miles of open channel, from the tank to the town, will, by the construction of the proposed conduit, be well protected.
- (ii) The town will get a supply throughout the year in place of being deprived of water for three or four months in the hottest parts of the year, when the tank dries up, and when the need for water is greatest.

4. He considers that the proposed expenditure is amply justified, and points out that the works will form a substantial part of a scheme which can be completed in the future. The remaining portion of the scheme, which includes a pumping station and distribution of pipes, can be deferred until more favourable times. The Sanitary Engineer also proposes additional improvements to the existing wells.

5. The Sanitary Board is prepared to accept Mr. deWinton's and the Sanitary Engineer's views, and resolves to submit the correspondence with a précis, to Government, with reference to G.O., Mis. No. 2125 M., dated 12th December 1898.

(Signed) R. PARSONS,
Secretary, Sanitary Board.

To the Secretary to Government, Local and Municipal Department.
" Sanitary Commissioner.
" Sanitary Engineer.

Proceedings of the Sanitary Board, dated 29th May 1899, No. 280-S.

Read—the following papers:—

Letter from the Chairman, Municipal Council, Tuticorin, No. 18, dated 17th January 1899.

Endorsement thereon by the Collector, Tinnevely district, R. Dis. No. 210, dated 21st February 1899.

Endorsement thereon by the Secretary to Government, Local and Municipal Department, No. 479, dated 27th April 1899.

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No. 905 M., 28TH JUNE 1899.

Resolution—No. 280-S., dated 29th May 1899.

In its endorsement read above the Government refers for the remarks of the Sanitary Board a resolution of the Municipal Council, Tuticorin, accepting the terms offered by Government in G.O., Mis. No. 2125 M., dated 12th December 1898, in regard to the water-supply scheme of the town, and offering suggestions as to what works should be undertaken for the proposed grant of Rs. 1,00,000.

The Board begs to invite attention to its proceedings, No. 221-S., dated 27th April 1899, in which its views on the general scheme were laid before Government. The Board is of opinion that a contribution of one lakh of rupees is sufficient for present purposes.

(Signed) R. PARSONS,
Secretary, Sanitary Board.

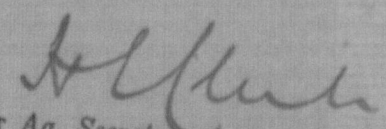
To the Secretary to Government, Local and Municipal Department.

ORDER—No. 905 M., dated 28th June 1899.

The recommendations now made by the Sanitary Board for the improvement of the water-supply of Tuticorin are approved. The Public Works Department is requested to put the work in hand as soon as the detailed plans and estimates, which the Sanitary Engineer should prepare without delay, are ready.

2. Towards the cost of this work provision has been made for a grant of Rupees 25,000 from Provincial funds in the budget estimates of the current year and the Provincial advance and loan account provides for a loan of Rs. 50,000. The Accountant-General is requested to place at the disposal of the Municipal Council the grant of Rs. 25,000 at an early date. The Municipal Council should submit an application in the form prescribed in G.O., No. 322 L., dated 8th February 1889, for the loan of Rs. 50,000. The annual payment which will be required to liquidate a loan of this amount in twenty years, with interest at 4 per cent. per annum, is Rs. 3,680, and an increase in the rate of the tax on buildings and lands by $1\frac{1}{2}$ per cent. or the levy of a water and drainage tax at the same rate will, it is considered, be sufficient to raise the additional revenue required for this purpose.

(True Extract.)


for Ag. Secretary to Government.

To the Chairman, Municipal Council, Tuticorin.

- " Collector of Tinnevely.
- " Accountant-General.
- " Sanitary Engineer.
- " Board.
- " Public Works Department.
- " Financial Department.

Editors' Table.