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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No.	3410 P.W.D.	Press
Dated	25-7-40	1868

Not to be folded or roughly handled

No. 3,410.

No. 639.

To

THE SECRETARY TO THE GOVERNMENT OF INDIA.

SIR,

IRRIGATION, No. 31.

1. In the project for supplying Madras with water from the Red Hill Lake, as prepared by Mr. Fraser,

provision is made for conveying the water in an open delivery channel only as far as the Spur Tank, where, after being filtered, it was intended that it should be raised by steam power to the necessary height to secure its delivery throughout Madras under pressure.

2. As this system of distribution and delivery would necessitate a large outlay of capital, in the first instance, on the construction of capacious settling and filtering beds, and on the erection of powerful pumping engines, and would entail heavy annual working and maintenance charges, the Municipal Commissioners, keeping in view the circumstances and habits of the great mass of the persons by whom a plentiful supply of good water is most needed, as well as the limited resources at the disposal of the Commission, have thought it necessary to reconsider the subject, and having referred it to a Committee of its Members, the result is that, abandoning the idea of effecting a street delivery under pressure obtained by pumping, they have adopted a proposal to bring the water from the Red Hills in an open conduit to a spot in the immediate neighbourhood of Madras, and from thence to conduct it through cast-iron mains and distribution pipes to certain points, where it will be delivered from fountains or dip-wells placed in positions conveniently situated for the supply of the several populous districts comprised within the limits of the city.

3. The manner in which this is to be effected is clearly and fully described in the accompanying reports by the Executive Engineer attached to the Municipal Commission, and by the Committee nominated by that body to consider the subject. The water will be taken off from the Red Hill Tank at a level of 31.31 feet above mean tide, and will be carried in an open embanked channel for a distance of about six miles to a point within municipal limits, and will be there discharged into a masonry shaft of such elevation as will give a command over mean sea level of 29.31 feet, which is found to be the least head under which sufficient pressure can be obtained to secure the delivery of the water, even in the simple manner now proposed, at many of the most important and populous parts of Madras.

4. To obtain this command of level, however, it is necessary to tap the Red Hill Tank six feet higher than was intended, and as, in this respect, the proposed scheme of delivery differs from that originally designed, and affects the interests of

the Government, I am to explain that though by the change of level at which the supply of Madras will be taken off, the large quantity of water contained in the Red Hill Tank between the levels of 25.31 and 31.31, (estimated to amount to fifteen millions of cubic yards) will require to be permanently retained, and thereby be lost to irrigational purposes, the Government do not consider the circumstance altogether to be regretted, as the retention of a large body of water in the reservoir will conduce to its purity, and prevent its site becoming an insalubrious swamp for several months of the year as it is at present.

5. In all other respects the scheme appears to this Government to be unexceptionable. It is modelled on a system of delivery in successful operation at Pondicherry, it has the recommendation of simplicity, cheapness, and complete adaptation to local circumstances; and is consistent with the established usages of the people. While thoroughly practical in its character, it is designed to supply a great want at the least possible expenditure, and it can be carried out without the necessity of imposing any burden upon the poor, or of taxing the rich. It is, therefore, in the opinion of this Government, peculiarly suitable to the conditions under which alone it is possible to provide so scattered and so poor a population as that of Madras with a sufficiently abundant and wholesome supply of water, and His Excellency the Governor in Council has accordingly had no hesitation in giving it his fullest approval.

6. As it appears, however, that, even by diminishing the demand for the supply of Madras from forty to thirty-two millions of cubic yards, the Municipal Commissioners' scheme entails the sacrifice of a large quantity of water that might otherwise have been available for a remunerative purpose, His Excellency in Council would recognise the equity of requiring the water thus lost to be paid for at the amount it would yield if applied to irrigation, but for the consideration that the undertaking to supply Madras with water is one which cannot be looked at solely from a remunerative point of view, but must be regarded in the light of a great and important sanitary improvement, affecting not only the convenience but the health of a large population. For this reason, and seeing that the scanty revenues of the town, already scarcely adequate to meet the calls upon them, will have to bear additional charges for the cost of the distribution works, this Government, I am desired to say, trust that His Excellency the Governor General in Council will see fit to waive the claim.

7. Estimating at eight lakhs of Rupees the probable cost of enlarging and better supplying the reservoirs at Sholaveram and the Red Hills from which the water to Madras is to be obtained, and assuming that seven per cent will, under the circumstances, be a fair return, the outlay on the part of Government will, it is believed, be sufficiently covered by a revenue of Rupees 56,000.

8. The capacity of the two tanks above the level of the supply channel to Madras being 138 millions of cubic yards, it is now proposed to allot thirty-eight millions, nearly as at present, to existing cultivation, and thirty-two millions for the supply of Madras, leaving, exclusive of the quantity permanently retained in the tank, fifty-three millions of cubic yards for extension of irrigation. Taking 7,000 cubic yards as the quantity required for maturing a crop on an acre, and 7 Rupees as the water rate per acre, those fifty-three millions of cubic yards will yield a return of Rupees 53,000.

9. If then a proportionate charge be made for the thirty-two millions of cubic yards appropriated to the supply of Madras, an additional sum of Rupees 32,000 will

be obtained. The gross returns will then be raised to Rupees 85,000, and as this, in the opinion of His Excellency the Governor in Council, ought amply to satisfy the requirements of Government, I am directed to submit the scheme for the favorable consideration of the Government of India, with the strong recommendation of this Government that the price to be paid by the Municipality for the water they take may be regulated at the rate of 7 Rupees for 7,000 cubic yards; and, in inviting attention to the accompanying Minutes by His Lordship the President and the Members of Government, I am desired to request that, in conformity with the terms on which it is understood that money has been advanced for a like purpose to the Municipality of Calcutta, His Excellency the Governor General in Council will sanction the advance of a loan of Rupees 12,80,000 to the Municipality of Madras as the estimated cost of the project, and bearing an interest of six per cent. per annum, of which two per cent will be carried to the credit of a Sinking Fund

I have the honor to be,

Sir,

Your most obedient servant,

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

Exd F R Bantleman.

Cort. of 1868 Madras.

PUBLIC WORKS.

To

THE SECRETARY TO THE GOVERNMENT

OF INDIA.

Dated Oct ber, 1868

Recd

G O, 20th Oct ber 1868, No 3410

OCTOBER.

No. 639

Madras Water Supply Project for
warded to the Government of India with
a recommendation that sanction be granted
for an advance of Rupees 12 80,000 to the
Municipality of Madras as the estimated
cost of the project.

N?

W. H.

A. A.

To
The Secretary to the
Govt of India.

Sir,

In the project for
supplying Madras with
water from the Red Hill
Lake, as prepared by Mr.
Trauer, provision is made
for conveying the water
in an open delivery Chan-
nel only as far as the Spun
Tank, where, after being
filtered, it was intended
that it should be raised
by a pump to the
necessary height to secure
its

its delivery throughout
Madras under pressure.

As this system of
distribution and delivery
would necessitate a large
outlay of Capital, in the
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struction of capacious set-
tling and filtering beds,
and on the erection of
powerful pumping En-
gines, and would entail
heavy annual working
and maintenance charges,
the Municipal Commis-
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circumstances and habits
of the great mass of the
persons by whom a plentiful

supply

of good water, is most needed,
as well as the limited re-
sources at the disposal of the
Municipal Commission, have con-
sidered it necessary to
reconsider the subject, and
having referred it to a Com-
mittee of its Members, the
result is that, abandoning
the idea of effecting a

free delivery under pressure
obtained by pumping, ^{they have adopted} a
~~proposal has been adopted~~
to bring the water from
the Red Hills in an open
conduit to a spot in the
immediate neighbourhood
of Madras, and from
thence to conduct it through
cast iron mains and

dis

distribution pipes to certain points, where it will be delivered from fountains or deep wells placed in positions conveniently situated for the supply of the several populous Districts comprised within the limits of the city.

The manner in which this is to be effected is clearly and fully described in the accompanying reports by the Executive Engineer attached to the Municipal Commission, and by the Committee nominated by that body to consider the subject.

The matter will be taken

off from the Red Hill bank at a level of 31.31 feet above mean tide, and will be carried in an open unbanked Channel for a distance of about six miles to a point within Municipal limits, and will be there discharged into a masonry shaft of such elevation as will give a command over mean sea level of 29.31 feet, which is found to be the least head necessary which sufficient pressure can be obtained to secure the delivery of the water, even in the simplest manner now

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of the most important
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Madras.

To obtain this com-
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posed scheme of delivery
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I am to explain that though
by the change of level at
which the supply of
Madras will be taken
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the Red Hill bank between
the levels of 25.31 and 31.31,
(estimated to amount to
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will require to be perman-
ently retained, and
thereby be lost for irri-
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do not consider the cir-
cumstances altogether to
be regretted, as the reten-
tion of a large body of water
in the reservoir will con-
duce to its purity, and pre-
vent its silt becoming an
insalubrious swamp for
several months of the year
as at present.

In all other respects
the scheme appears to this
Govt.

look to be pre-exceptionable.

It is modelled on a system of delivery in successful operation at Pondicherry; it has the recommendation of simplicity, cheapness and complete adaptation to local circumstances, and is consistent with the established usage of the people. While thoroughly practical in its character, it is designed to supply as great want at the least possible expenditure, and it can be carried out without the necessity of imposing any burdens upon the poor, or of taxing the rich. It is therefore,

45. (13)
in the opinion of this Govt., peculiarly suitable to the conditions under which alone it is possible to provide so scattered and so poor a population as that of Madras with a sufficiently abundant and wholesome supply of water, and His Excellency the Governor in Council has accordingly had no hesitation in giving it his fullest approval.

As it appears, however, that, even by diminishing the demand for the supply of Madras from 40 to 32 millions of cubic yards, the Municipal Commissioners' Scheme entails the sacrifice of a large quantity of water that might otherwise have been available for

For a remunerative pur-
pose, His Excellency in
Council would recognize
the equity of requiring the
maker thus lost to be paid
for at the amount it would
yield if applied to irrigation,
but for the consideration that
the undertaking to supply
Madras with water is one
which cannot be looked
at solely from a remunera-
tive point of view, but
must be regarded in the
light of a great and impor-
tant sanitary improvement,
affecting not only the
convenience but the health
of a large population; and
for this reason
being

(15)
Seeing that the scanty re-
venues of the hown, already
scarcely adequate to meet
the calls upon them, will
have to bear additional
charges for the cost of the
distribution works, this
I regret, I am desirous to say,
trust that His Excellency
the Governor General in
Council will see fit to
main the claims.

Estimating at a place
of Rupees the probable cost
of enlarging and better sup-
plying the reservoirs at
Sholanerain and the Red
Hills from which the water
to Madras is to be obtained,
and assuming that 7 per
cent will, under the cir-
cumstances, be a fair
re

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ficiently covered by a
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The capacity of
the tanks above the
level of the supply channel
of Madras being 138 mil-
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now proposed to add
38 millions ^{more} as at present,
to existing cultivation, and
32 millions for the sup-
ply of Madras, leaving,
exclusive of the quantity
permanently obtained
in the tank, 53 millions
of cubic yards for exten-
sion of irrigation. Taking
7000 cubic yards as the
quantity

17/1
quantity required for
maturing a crop on an
acre, and 7 Rs. as the ma-
ter rate per acre, these
53 millions of cubic yards
will yield a return of
Rs. 53,000.

If then a propor-
tionate charge be made
for the 32 millions of cubic
yards appropriated to the
supply of Madras, an ad-
ditional sum of Rs. 32,000
will be obtained. The gross
returns will then be raised
to Rs. 85,000, and as this,
in the opinion of His Ex-
cellency the Governor in
Council, might amply
Rs

to satisfy the require-
ments of Govt.:, I am
directed to submit the
Scheme for the favor-
able consideration of
the Govt of India, with
the strong recommenda-
tion of this Govt. that
the price to be paid by
the Municipality for the
water they take may be re-
gulated at the rate of
seven paise per thousand
cubic yards;
and, in inviting attention
to the accompanying
Minutes by His Lordship
the President and the
Members of Govt.:, I
am desired to request

that

that, in conformity with
the terms on which it is
understood that money
has been advanced for
a like purpose to the
Municipality of Calcutta,
His Excellency the Governor
General in Council will
sanction the advance of a
loan of Rs: 12,50,000 to the
Municipality of Madras
at the estimated cost of
the project, and bearing
an interest of 6 per cent
per annum, of which two
per cent will be carried
to the credit of a sinking
fund.

28/10/68
J. P. with G.O. No. 3409 with copy of
Minutes & copy of the
Committee report.

East. Si. Seager
30th Oct 1868

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24/5/4 ✓
4/7/29 Bitt ✓

Public Works Dept.
original

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30-10-1868