

Local & Munl. (1895) Department.

MISCELLANEOUS.

G.O., No. *806 m*

DATED *8th May 1895*

[Despatch Abstract.]

Cement pipes.

Stating that some further tests should be carried out in connection with the----and that, if they are not suitable for water-supply, they may be admirably adopted for drainage purposes.

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.
Ce	1804/95-						
Ce	2784/95-						

Government of Madras.
Sanitary Engineer's Department.

Office of Asst. San. Engr.

No. 650

Southern Circle, Trichinopoly

2^d April 1895

Despd. 3.4.95

From

H. A. Minchin Esq., C.E.,

Asst. Sanitary Engineer

Southern Circle

To

The Sanitary Engineer to Govt.
Madras

Sir,

"Cement pipe".

In reference to your endorsement

No. $\frac{292}{6.2.95}$ on G.O. No. 154 In. Inis., dated 2nd

February 1895, I have the honor to inform

you that I completed the test of the last

cement pipe on the 31th March 1895 and

beg to subjoin results in each of the three cases.

6" cement pipe, Casebourn patent.

1st Test - was conducted on 23.2.95 in the

presence of the Chief Engineer P.W.D. The

pipe was received from Madras, (Messrs.

Arbutnot

Arthurth & Co.) already fitted with testing discs. The pipe was filled with water, and subjected to pressure by a hydraulic force pump with gauge attached. Nothing was indicated till 35 feet head was reached 15.17 lbs $\square$ when slight sweating started. Sweating considerably in the body of the pipe and slightly in the cement jointing at 20 lbs on square inch - 47 feet head - the pipe burst all round at the faucet end just where the cement jointing began at 51 lbs pressure (117.7 ft. head). It was thought by the Chief Engineer that this was hardly a fair test to the pipe, as the pipe was subjected to a tensile strain (owing to the discs) which it would not have in actual use. and suggested the use of Wrought iron clamps over the ends of the pipe to relieve this strain. This was done in subsequent experiments.

No. II Test. Held on 1.3.95 before the Sanitary Engineer to Govt.

The disc had been fitted on to another

another pipe and cement jointed, clamps placed over the discs and the pipe filled. The pipe commenced sweating as soon as it was filled and burst longitudinally at 5 lbs pressure (11½ ft. head) - the crack was along the line left by the moulds on the pipe and was nearly straight. It was thought that possibly the pipe was cracked in transit, and the experiment was repeated with the last pipe.

III Test. This was first tried on 20.3.95 but as the cement jointing showed signs of leaking, I had the joints remade and carefully watered to set slowly - and tried the experiment on the 31st March 1895. The clamps were again applied to the discs. the side rods having been widened so as not to touch the pipe anywhere - the ends just fitted the discs. At 5 lbs pressure (11½ ft. head) the body of the pipe commenced sweating, and increased greatly each stroke of the force pump.

The

The pipe cracked longitudinally at 12.5 lbs
or (28.0 ft. head) crack 1'-5" long.

Remarks.

The most satisfactory experi-
ment of the three was the first. In
fact the others, the 36 feet head, the
manager of the cement Works states
the pipes were tested to, was not
reached - this may of course be due to
some damage on the journey, but
every care was taken to bring them
safely and also in the making of
joints for the discs.

The pipes were broken after
the test - were generally found with at
least half way through the thickness
of the pipe - although one pipe was
filled for 24 hours (subject to no
pressure) did not leak on the
outside. It was curious to note that
the last two pipes cracked in the
line left by the joint of the mould.

I think it would be advisable
to have some further tests with the
pipes before anything definite is
settled

settled, as they have not ^{yet} been proved,
suitable for any Water Supply except
for very low head - although of
course the pipes might be used
for irrigation sluices.

I have the honor to be
Sir,
your most obed^t serv^t
W. A. Minchin
C.E.
Asst. Surg. Engr.
2/14/95

(True copy)

[Signature]
Surg. Engr. to Govt

[Signature]

From

The Assistant Sanitary Engineer,
Southern Circle,
Trichinopoly.

To

The Sanitary Engineer
to Govt.

No 650

Dated 2nd } April 1895
Despatch 3rd }

Subject

Cement Pipe

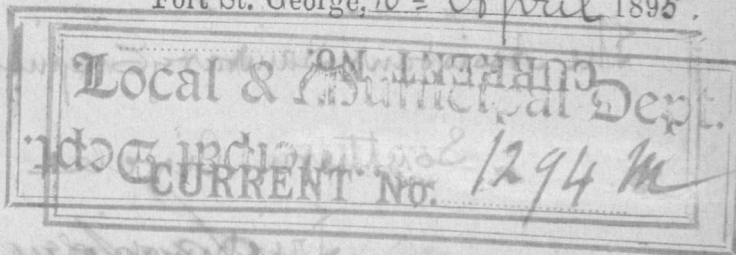
Informing that he has completed the test of the last cement pipe on the 31st March 1895 subjoining with remarks the results in each of the three cases.

No. 1013

GOVERNMENT OF MADRAS.

OFFICE OF SANITARY ENGINEER,

Fort St. George, 10th April 1895.



From

J. A. JONES, Esq., MEM. INST. C.E., F.R.S.E.,

SANITARY ENGINEER TO GOVERNMENT,

To

The Chief Secretary to Government
Local and Municipal Department.

SIR,

With reference to G.O., dated 2nd February 1895, No 154 in this Local and Municipal, I have the honor to forward a letter from the Assistant Sanitary Engineer, Southern Circle, Trichinopoly, detailing the results of the tests of three cement pipes.

2. The results are not satisfactory nor would it be prudent to use such pipes under any pressure.

3. If however, Mr. Arbutnot & Co. desire further tests they can be made but at least one dozen pipes should be sent to Mr. Hinchin. There is no testing machine available near at hand.

L

I have the honor to be
Sir,
your most obedt servant

Yours

Sanitary Engineer to Govt

1881

The Chief Secretary to Government

With reference to P. O. dated 23rd
May 1881, I have the honor to forward a letter from the
Sanitary Engineer, Southern India, detailing the results of the test of the
cement pipes.

The results are not satisfactory and
would it be prudent to use such pipes under
any pressure.

3. If however the Government wish to
have further tests they can be made but at
least one dozen pipes should be sent to
the Engineer. There is no testing machine
available here at present.

I have the honor to be
Sir,
your most obedt servant

Sanitary Engineer to Govt

The Chief Secretary to Government
I have the honor to forward a letter from the
Sanitary Engineer, Southern India, detailing the results of the test of the
cement pipes.
The results are not satisfactory and
would it be prudent to use such pipes under
any pressure.
If however the Government wish to
have further tests they can be made but at
least one dozen pipes should be sent to
the Engineer. There is no testing machine
available here at present.

Local & Municipal Dept.

CURRENT No. 1294 M

1895.

From

The Sanitary Engineer
to Government,

To

The Chief Secretary
to Government
Local & Municipal Dept.

No. 1013

Dated 10-

Despd. 10-

Recd. _____

Enc. 1

Subject.

Cement Pipes

Forwarding a letter from the
Assistant Sanitary Engineer, S. C.
Trichinopoly detailing the results
of the tests of the three cement pipes
with his remarks thereon.

Copys to the Sanitary Engineer
" Messrs Arbuthnot & Co.

C 30/4
R 1/5

23/4 Ar 2/4

/with order/

154, hkh 2-2-95
710 hkh 7-1-94

Order.

Recorded.

1.8 Cfr
24/4/95 25.11.

29/4/95

I should like some further
tests made - of the cement
pipes used for water supply,
i.e. for use with a head of
water, they may do admirably
for drainage purposes, e.g. for
the Cuddalore drainage - the
fact of two out of the three firing
way along the line of the joint in
the mould may suggest to Messrs
Arbuthnot some method of making
the moulds without the joint.

30/4/95

[G.]
[24.]
600-8395.

DEPARTMENT.

Papers to be read in proceedings:—

Again G.O., dated

189 , No.

Again G.O., dated

189 , No.

Current No.

of 189 , dated

from

Current No. 1294 M of 1895, dated 10.4.95 from the Sanitary Engineer to

Government.

ORDER.

48.5.95

The Government is of opinion that some
further tests should be carried out. If the cement
pipes are suitable for water supply, that
is for use with a head of water, they may
be admirably adapted for drainage purposes and
might be used, for instance, in the
Carrying out the Cuddalore drainage
scheme.

2 The fact of two out of the three pipes firing
way along the line of the joint may suggest
to Messrs Arbuthnot and Co the advisa-
bility of adopting some method of manu-
facture which will do away with the ne-
cessity for this joint between the moulds.

Cfr
w.

(from order)

4/6/95

To Cfr
w.

The Sanitary Engineer
Messrs Arbuthnot and Co

29/4/95

Current Papers

C.S.

Draft order for approval.

8062

When given for copying _____
When copied _____
When examined _____
When signed _____

189

READ AGAIN G.O., No.
189

DATED

CURRENT No.

ENCLOSURES TO G. No.

ORDER OF GOVERNMENT A A A A A A A

LETTER OF GOVERNMENT.

STATEMENT WITH DITTO.

PAPERS NOT FILED UP, BEING MEANT FOR DESPATCH
IN ORIGINAL.

N.B.—

- A = Copy in full.
- B = Not to be copied
- P = Copy abstract only.
- Q = Copy heading only.