

Engineering Department

A. W. CAMPBELL,
O.L.S., C.E., M.C.S., C.E.

St. Thomas Waterworks.

The annual report of the Board of Water Commissioners of the city of St. Thomas for 1899, has been issued. It is a most interesting and valuable pamphlet consisting largely of the report of the city engineer, in which the principal improvements and alterations of the year are enumerated. The statistical features of the waterworks system are briefly stated as follows:

Population in 1900, 11,908.

Date of original construction, 1874.

Fuel, coal and wood.

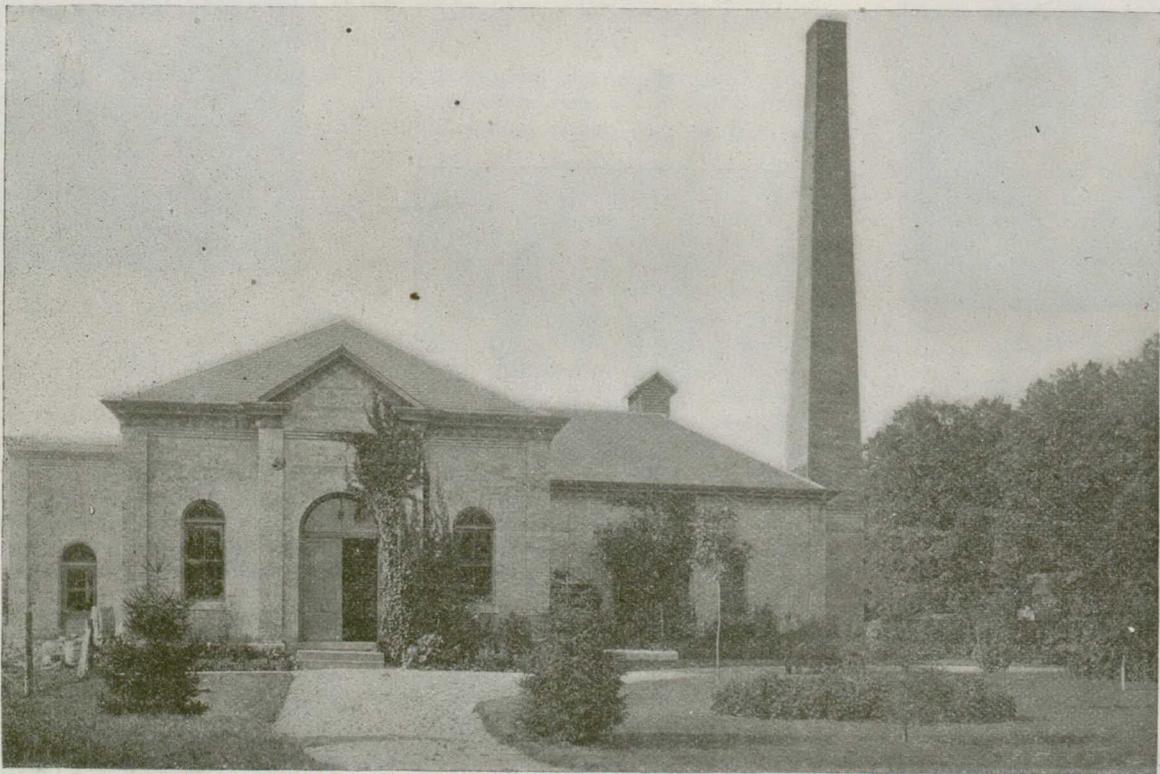
Total pumpage, 239,855,875 gallons.

Average pressure on city mains, 45 pounds, fire pressure, 80 to 100 pounds.

The effect of electrolysis is being felt, and in this respect the report says:

"All the service pipe in the city is of wrought iron. I reported to your Board during the year, that the escape of the electric current from the street railway system was injuring the service pipe, and that a number of services had to be renewed on that account, and it was decided by your Board that, in future all new services

all possible conditions. Some cities set the flush tanks to discharge as frequently as the supply pipe will fill them, without reference to the necessities of the case. This is a wanton waste of water. The waterworks associations have called attention to this subject, and their discussions will be found in the proceedings of the societies. They are somewhat one-sided, but unquestionably there is here a good opportunity to reduce the consumption of water, without injury to anyone. It is usually assumed that one discharge a day of a flush tank is sufficient, and experience indicates that this assumption is correct. In a few special cases more may be necessary. It ought to be easy to settle any controversy on the subject by an agreement on the part of the water department to pay the cost of any special cleaning



THE PUMPING STATION, ST. THOMAS WATERWORKS.

Date of reconstruction, 1890-91.

Owned by city of St. Thomas.

Mains, total length, 22 miles, 4,347 feet.

Number of hydrants, 156.

Number of services, 2,287.

Source of supply, Kettle Creek.

Reservoir supply, 14,000,000 gallons.

Mode of supply, direct pumping.

Filters 3, built by New York Filter Company.

Capacity of filters, 1,500,000 gallons per day.

Coagulant used, alum, about two-thirds of a grain per gallon.

Boilers 3, 100 horse power each.

Pumps, 2, manufactured by H. R. Worthington, New York.

Capacity of pumps, 4,000,000.

and renewals on streets where the street railway is located should be constructed of lead, it being less liable to be affected by electrolysis.

"The street railway company has not yet taken steps towards remedying the evil by properly constructing a conductor to carry the return current back to the works, and thus prevent its using the water pipe as a medium. If this is not done the injury to the mains and services will be very serious."

The Discharge of Flush Tanks.

The question of frequency of discharge of flush tanks for cleansing sewers, is one which has not been definitely answered. Observations have not been made under

necessary on account of insufficient flushing, and to increase the rate of discharge of tanks in such special cases. The fact is that discharges less frequently than once a day are sufficient for the great majority of conditions, and many systems with favorable conditions exist with no automatic flush tanks, and requiring a very small amount of special attention. A disposition on both sides of a controversy to find out the facts in the special case, and fit the service to the actual conditions will result after a short trial period in the best and most economical service.

The Winchcombe and the Stafford (England) District Councils have decided to support a resolution in favor of a tax on cycles and motor cars.