

MUNICIPAL DEPARTMENT

THE CORNWALL WATERWORKS.*

The Cornwall waterworks system was constructed in 1886 and 1887 by Messrs. Moffitt, Hodgkins & Clark, the well-known firm who put in several systems about that time.

The franchise from the town reserved the privilege of purchasing at the end of ten years. This option is now being taken, and in June the arbitrators' award will be given, when the ratepayers will have an opportunity of declaring whether they wish to acquire the plant at the sum fixed by the arbitrators. The source of supply, as all other sources for towns and cities on the banks of the St. Lawrence, is from the river, at a point about five miles below the Long Sault Rapids and about three-quarters of a mile above the town. It is thus above all danger of pollution, and where the current flows swiftly over a pebbled bed, pure and clear.

The pumping station is on the north bank of the river, between the river and the canal. It contains the pumping plant and residence for the engineer. Although not a beautiful structure, it is finely located, and answers its purpose admirably.

The engine room floor is 22 feet above the intake pipes, which only run out in the river a short distance. The pumping plant consists of two Worthington compound duplex engines, condenser, feed water pump, etc. Each engine is guaranteed to pump 1,000,000 gallons of water in 24 hours with 90 pounds steam on high pressure cylinder, against 140 pounds steam fire pressure.

The comparative elevations of the main points in the system are as follows:—

Elevation of St. Lawrence river at pumping station (low water), 36; extreme high water, 60; water surface of canal, 65; bottom of engine pit, 52; base of water tower, 95.25; main parts of tower, 40 to 70.

From the pumping station two 12-inch force mains convey the water across the canal, where they join in one 12-inch main, which continues northerly up Hazel avenue to the main on Montreal road. At this point one 12-inch main leads to the distribution system of the town, and another 12-inch pipe to the water tower. The tower is about 2,000 feet from the pumping station in a northerly direction. It is 120 feet high and 20 feet in diameter, and holds 280,000 gallons. It is constructed of wrought iron, and weighs about 80 tons, with plates ranging from eleven-sixteenths of an inch to three-sixteenths of an inch in thickness. The tower is not of beautiful design, simply a number of plates riveted together.

The water pressure, gauged at engines,

shows 72 pounds where the tower is filled, and the gauges in the main parts of the town 50 to 60 pounds. The difference between the elevation of the water pressure gauge and the top of the tower is 154 feet.

The system comprises

5,300 feet	approximately	of	12	inch	pipe;
5,900	"	"	8	"	"
18,850	"	"	6	"	"
8,500	"	"	4	"	"

and 63 fire hydrants.

The town of Cornwall pays \$2,500 a year for hydrant service, water for flushing sewers, etc.

A number of the hydrants are fed from 4 inch mains, the company having followed the system, too often followed, of putting in mains of less diameter than 6 inches. The grade of the pipes was not considered important in the original construction, or laying of mains, neither have blow-offs been placed at the low points of the pipe system. Valves are placed at most of the branches, so that almost any section of the town may be cut off for repairs.

The stand pipe when first constructed leaked considerably, but with recaulking and gradual rusting of joints it was made perfectly water tight and to-day is in good condition.

A few years ago rumors were current that the water in the tower contained decaying fish, birds, etc., but upon examination it was found free from impurities.

At each filling of the tower the engineer causes it to overflow and thus gets rid of all floating material.

With a few extensions and improvements Cornwall will have one of the best systems of any town in Ontario.

FIRE CONGRESS AT PARIS.

Much interest is being taken in the approaching Fire Congress to be held at Paris, the arrangements for which, according to an English contemporary, are advancing rapidly. Mr. Fred Hoare, the British Commissioner, reports that the authorities have allotted the Esplanade des Invalides for the Congress and the exhibition which will accompany it. The site is divided into two portions by a broad roadway. On one side will be erected two immense buildings of fire-proof wood, one devoted to the congress hall, committee rooms and other adjuncts. The other will be occupied by the exhibits. These will include non-inflammable wood and paper, metallic fire-resisting building materials, fire extincteurs, alarms,

pumps, sprinklers, theatre plans for securing ready exit, appliances for ventilation and heating theatres and public buildings, the equipment of fire brigades, etc. English exhibitors should communicate with the British Commissioner at 249 1-2 High Holborn. The Nord Railway has conceded half rates for the transport of exhibits, and all customs duties have been remitted, so that every official encouragement is being given to manufacturers and inventors to bring their devices before the Congress. At the rear is an open space of 11,000 square yards, where the qualities of various fire-resisting materials will be publicly tested, and exhibitions of fire brigade drill and implements will take place. The exhibition will be open from 15th October to 15th November, 1898, and is to have a popular character, concerts, bands and other attractions being provided. It is probable that some Canadians will desire to send exhibits to the Congress. Those entertaining such an intention should at once communicate with the British Commissioner at the above address.

LEGAL DECISIONS AFFECTING MUNICIPALITIES.

SOMBRA VS. CHATHAM.—The Supreme Court has given its decision in the Sombra and Chatham suit originating in a dispute about the cost of the Whitebread drain. This case has, since it opened about eleven years ago, almost become ancient history. Chatham township attempted to compel Sombra to pay a proportion of the expense of this drain. The case was tried and Sombra won. It was carried to the Court of Appeal, where the decision of the lower court was reversed. From this ruling of the Court of Appeal Sombra carried the case to the Supreme Court. Owing to some technicality, the Supreme Court decision was incomprehensible. The case was still left open to be threshed out in the courts. As a consequence, it has gone through the courts a second time, being carried from the lower court to the Court of Appeal by Chatham township, and thence to the Supreme Court by Sombra. The decision now is that Chatham township cannot compel Sombra to contribute to the completion of a drain which was not properly constructed in the first place.

Mr. F. A. Tetu has recently been appointed City Engineer of Hull, Que.

Mr. Archibald J. McPherson, town engineer of Galt, Ont., was recently married to Miss McDonald.

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* Abstract of a paper by Mr. T. H. Wiggins, C.E., O.L.S., read at the last annual meeting of the Association of Ontario Land Surveyors.