

MUNICIPAL DEPARTMENT

PUBLIC WORKS IN TORONTO.

The annual report of the city engineer of Toronto, just issued, contains much information of interest to municipal officers and the public generally. The question of pavements is referred to at some length. There were constructed during the year 24.666 miles of new pavements and roadways, and 15.265 miles of concrete and brick sidewalks, divided as follows: 6.348 miles of asphalt pavement; 6.045 miles of brick pavement; 7.842 miles of cedar block pavement; 2.503 miles of macadam roadways; and about two miles of gravel, scoria and stone sett roadways.

Concerning the different classes of pavement the City Engineer says:

The asphalt pavement appears to be the favorite. I think, however, that brick for residential streets will last quite as long and will not cost as much for maintenance as asphalt, but the great objection to this class of pavement is the noise. We have as far as possible taken steps to remedy this, but there is still considerable rumbling and I am afraid it is absolutely impossible to entirely prevent it. The bricks used in the construction of the various pavements have been entirely of Canadian manufacture, and in some instances they have not complied fully with the abrasion test called for in the specifications. These tests were made with the old form of rattler, as adopted by the Brick Manufacturers Association, but I have since ascertained that this has not given satisfactory results and is being gradually discarded, and the Department at present is engaged in making fresh tests with a somewhat different form of machine. We intend during the coming year to have these specifications amended.

In 1895 an experiment was made with different kinds of wood as paving material, on the west approach to the King street subway, the woods used being beech, maple, rock elm, soft elm, hemlock, Norway pine, white pine and cedar. All the blocks were rectangular, 4 in. x 7 in. deep and 8 in. to 12 in. long, with the exception of the cedar, which were the ordinary round blocks. In June of this year these different woods were examined with the following results: Beech, nearly all the blocks were decayed; maple, a few of the blocks were in good condition, but the majority of them had dry-rot; rock elm, most of the blocks were in good condition, with the exception of a few which showed signs of dry rot; soft elm, the blocks were all decaying; hemlock, the majority of the blocks were sound; Norway pine were in fairly good condition, but the traffic had decreased their depth to about a half inch and a few of them showed signs of dry rot; white pine were in as good condition as the Norway pine, a great many of the blocks showing signs of dry-rot. The round cedar blocks were in better condition than any of the other woods.

During the year there were constructed 6,160 lineal feet of sewers, and there are at present 232½ miles of sewers in the city.

SEWAGE DISPOSAL IN TORONTO.

The "Surveyor" of London, England, referring at some length to the report of Mr. C. H. Rust, city engineer, of Toronto, on the subject of sewage disposal, says:

Mr. Rust has submitted four distinct proposals. The first suggests the construction of an intercepting sewer capable of taking the sewage of a population of 500,000, and discharging into Lake Ontario a distance of 3 miles to the east of the eastern limits of the city and about 9 miles from the waterworks intake. Mr. Rust remarks that some objection may be raised to turning crude sewage into a body of water from which the water supply of the city is procured, but he is of opinion that, considering the immense area of the lake and the distance from the sewer outlet to the water supply intake pipe, there will not be the slightest danger for many years to come. The prevailing winds are from a westerly direction, and even with a strong wind blowing from the east it is not considered possible that any pollution can occur. The total first cost of this scheme, including outfall sewer, two intercepting sewers, force mains and pumping stations, is estimated at £350,000, and the annual cost at £3,500. The second proposal suggests the construction of septic tanks and

the purchase of 500 or 600 acres of land to be used as filter beds, the sewage being lifted to that point. The approximate cost of this scheme, which comprises high and low level intercepting sewers, septic tank, forcing main, filter areas and pumping plant, is estimated at £480,000, and the annual cost at £15,000. The third proposal is to the effect that the sewage should be treated by means of septic tanks and bacteria beds; but this proposal does not differ materially from the previous one in regard either to its general features or its cost, with the exception of the annual cost and maintenance, which is put at about half the figure in the previous case. Mr. Rust has also considered the advisability of treating separately the sewage of the western and eastern districts by septic tanks and single bacteria beds. This scheme would comprise separate intercepting sewers, pumping stations, septic tanks and bacteria beds, and the estimated first cost is much the same as in the case of the first proposal, though the annual cost is considerably higher, being estimated at £8,000.

After carefully considering the various schemes he has proposed, Mr. Rust is of opinion that the most satisfactory and economical method of disposing of the sewage of the city would be by the adoption of the first scheme, that is, by discharging the sewage into the lake at a distance of three miles east of the city limits and of nine miles from the waterworks intake.

(To be continued.)

DEBENTURES

Municipalities contemplating the issue of Debentures will find it to their advantage to communicate with

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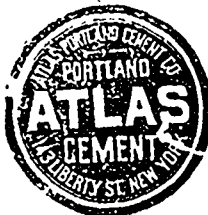
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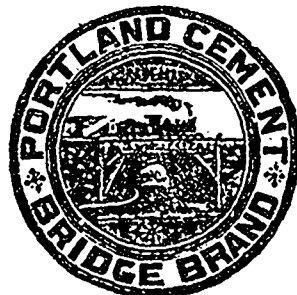
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