

works are redeemed in 30 years at 6%, which entails an annual expenditure of about 7¼ cents per dollar, and that the cost of laterals are repaid in ten years at 6%, which means an annual cost of 13¼ cents on the dollar.

The following tabulation gives the estimated cost in detail; the second column showing what the capital cost will be if everything be repaid in 30 years at 6%:—

Trunk sewers,	\$593,800 @ .0727	\$ 43,170	\$43,170
Laterals,	436,400 @ .133	58,040	31,726
Relief sewers,	20,000 @ .0727	1,454	1,454
Pumps, etc.,	6,000 @ .133	796	436
Treatment works,	200,000 @ .0727	14,540	14,540
Maintenance, power and repair of pumps, ...		3,000	3,000
Total,		\$121,000	\$94,326

The average assessable frontage per acre in this division is about 280 ft., and in the whole division there will therefore be about 188,200 ft. frontage. The estimated annual capital cost per foot frontage will be about 65 cents on the 30 and 10-year basis, and 50 cents on the 30-year basis.

Owing to the local topographical conditions and the difficulty of foreseeing what developments will take place, especially in the Swansea district, Messrs. Barber and Wynne-Roberts point out that considerable revision may be necessary when the location of the treatment works is definitely known. It is also possible that some arrangement might be made with the Toronto Harbor Commission for the discharge of storm water and sewage effluent.

The area which is bounded on the north by Bloor street, on the east by High Park, on the west by Thompson street, and on the south by Grenadier pond, must either be provided with a separate system of sewers, and the sewage discharged into an independent treatment plant, or have its sewage pumped into the Swansea sewers.

In the addenda to their report, the engineers recommend that this small district, measuring about 40 acres, be sewered on the separate system and the sewage pumped into the proposed Morningside avenue sewer. The whole area measures about 60 acres, but it is not known whether more than 40 acres can be subdivided.

The estimated capital cost of the sewers, tank, pumps and buildings will be about \$23,000. The annual capital cost, on the same basis as in the other divisions, without including any proportion of the cost of the larger scheme, will be 37 cents per foot frontage if redeemed in 10 years, or 23 cents if paid in 30 years. The proportion to be charged for the use of the trunk sewer and sewage treatment would need to be adjusted when it is decided what works are to be constructed.

It is announced by the Manitoba Telephone Commissioner that automatic phones will be working in Winnipeg by May 1st. This system will be installed in all exchanges in the business district.

Hon. F. C. Biggs, Ontario's Minister of Public Works, in a recent conference held at Brantford, stated that it has been decided to proceed with work on the Brantford-Hamilton highway in the spring, and that the road will be resurfaced with macadam. The Paris-Brantford road is to receive similar treatment.

In the recent annual report of the Works Commissioner of Toronto to the city council, it was stated that \$5,311,001 had been expended during 1919, as compared with \$4,373,398 during 1918. In 1919, there were laid 47,278 lineal feet of pavement and roadways as compared with 3,533 ft. in 1918. The total number of passengers carried by the civic car lines was about 84,000 a day.

The Lakefield, Ont., plant of the Canada Cement Co. will be operated again at an early date. Manufacture of cement at Lakefield was suspended soon after the outbreak of war. A shortage in the supply of labor has delayed the resumption of operations. Electric furnace equipment was installed in the plant for the production of steel from shell turnings, but had not yet been completed when the armistice was signed.

ONTARIO'S "U. F. O." HIGHWAY POLICY

ONTARIO'S highway policy under the new United Farmers-Labor government was outlined by Hon. F. C. Biggs, provincial minister of public works and highways, at a recent meeting of the Ottawa Board of Trade.

County roads are to be taken over as provincial roads, making a total of 1,600 miles on which the federal government will be asked to pay a 40% grant. The provincial government will pay 42%, and the remaining 18% is to be paid by municipalities.

"Provincial highways," says Mr. Biggs, "are to be built of such materials as the character of the country through which they pass may justify."

"Probably the biggest problem we have to-day is that of the cost of living," he continued. "I have asked myself if we cannot spend the money we get for motor licenses, the money the Dominion grants for roads, and a general appropriation from the consolidated funds of the province on roads in such a way as to reduce the cost of living. And I am convinced we can, for nothing will so tend to reduce this cost as good roads throughout the province."

Will Have Trunk Roads

"I have been told many times that we need trunk roads throughout the province. Of course we do, and we are going to have them, but not all produce can be brought to the consumer by trunk roads, and this is especially true in Ontario because of the geographical shape of the province. Most people, I think, will admit that trunk roads are little use for this purpose unless we have feeders for them."

"Ninety per cent. of the roads that have been taken over by the province are provincial county roads, which are roads of major importance,—the most important roads outside of the trunk roads."

"Every road taken over by the province as a county road means just that much less expenditure by the local townships, and, therefore, that much more money that can be expended in extending township roads."

"It is our policy to pay townships 20% of the cost of their roads, which are not as important as county roads. This work must be done under government supervision."

Opposes Statute Labor

"I have no use for statute labor," declared Mr. Biggs. "It should be a thing of the past, and, indeed, counties have the right under the law as it is at present to abolish it. But if you commute statute labor, you commute a mighty good annual holiday."

"In Ontario there are 1,100,000 statute labor days, and computing these at the figure of, say, \$1.50 per day, it can be seen that the system runs into a very large expenditure."

The speaker declared that superintendents of roads should be very carefully selected. The late government had paid one-quarter of the salary of the superintendent up to \$600. The government in future would pay 40% of the salary, whatever it might be, on the ground that the better the salary paid, the better the man who would be obtained. Superintendents should be practical men. Township councils change, and ideas with them. Superintendents, after a very few years of constant experience, act as a steadying influence, saving much of the money otherwise wasted in experiments.

With regard to county roads, the minister condemned the all too common practise of counties building roads and leaving them without maintenance for three or four years.

To Inaugurate Patrol Maintenance

"On March 1st every county road engineer and superintendent in Ontario will be asked to come to Toronto, and I think we can instill into them the absolute loss the province is suffering by letting roads go by default through lack of constant supervision," he said.

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