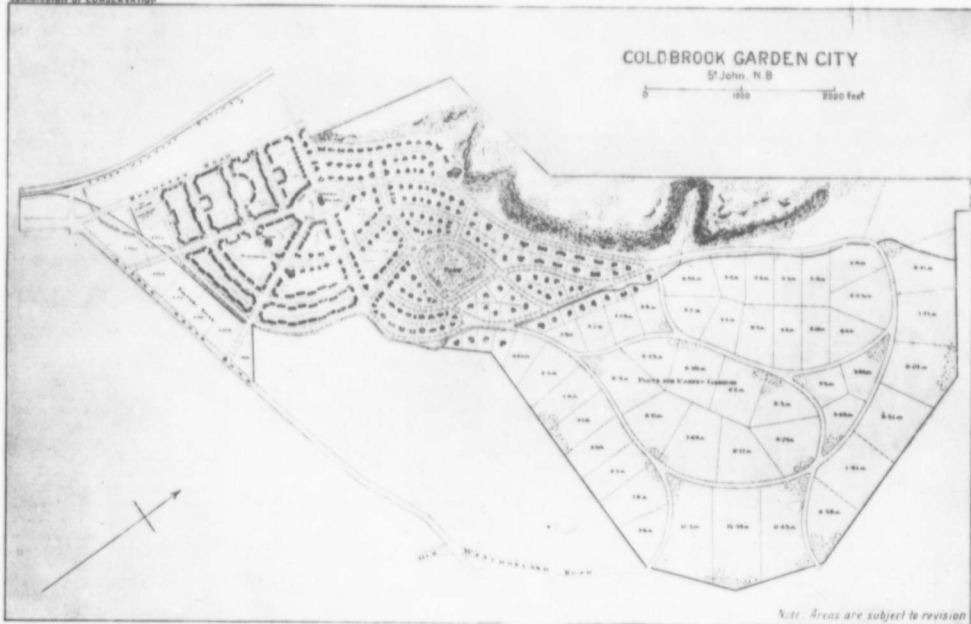


COMMISSION OF CONSERVATION



Courtesy of F. A. Todd, Landscape Architect, Montreal

Garden cities are something of a novelty in Canada. Their adaptability to Canadian conditions is necessarily something of an unknown quantity. Nevertheless, the great advantages derived from them in Great Britain make their introduction a matter of great interest. The progressive city of St. John, N.B., has been selected as the site of one of these garden cities, a plan of which is shown in the above diagram. The plan includes an area of about 600 acres, all of which is under the control of the promoting company. The erection of houses and other buildings on the English co-operative plan will be proceeded with during the present year.

The westerly portion of the city, nearest the city of St. John, has been designed as a residential district. The streets depart from the old

fashioned "gridiron" design and follow broad, sweeping curves. The cross streets converge upon a centre where the municipal buildings will be erected. Ample provision has been made for parks and play-grounds. To the south of this district, factory sites have been provided, and one large factory is already under construction. The uplands to the east have been divided into garden plots, varying in size from one to fourteen acres. A water supply will be obtained from a nearby stream, a dam and storage reservoir being under construction. An efficient sewerage system and all other requirements of a modern city will be carefully constructed and regulated.

Coldbrook garden city is a piece of constructive work in city planning, the development of which will be watched with great interest by city dwellers in every part of Canada.

Water Waste in Cities Metering As a Preventive—Leaks in Pumps, Mains and Connections Frequently Serious

Curtailment of water waste in cities is a problem of real importance, not only to water-works engineers, but to every urban ratepayer. There is always a danger that any public utility which exists as a monopoly will be subject to excessive waste in its operation. This has too often been true of the water services in United States and Canadian cities, and millions of dollars in the aggregate, are squandered annually by those cities, simply because of inefficiency in this branch of the public service.

Water waste may be due to one or more of a number of causes of which the chief are the following:

(1) Pump slippage, which implies that there is a loss of pump capacity, steam and fuel.

(2) All water-works plants, whether pumping or gravity, suffer loss in distribution through underground leakage from mains and services. Recent surveys in some leading American cities disclosed

the existence of an immense number of underground leaks. In the city of Washington alone, in the past five years, a total of 30,000,000 gallons daily from about 3,000 underground leaks were found, chiefly in mains and service pipes.

(3) Then there is frequently serious waste due to defective plumbing, and "steals" by consumers, who are provided with meters. These are each easily remedied.

(4) Lastly, one of the most serious wastes is due to the extravagant use of water by consumers. This class of "leak" is almost invariably found in cities where meters, or some other method of checking extravagance, are not in use. In this connection the experience of Kalamazoo, Michigan is instructive.

During the year ending March 1893, with a population of less than 18,000, no meters and 30 miles of mains, the total pumpage was 787,621,902 gallons, for which the department received \$15,000. In 1912, with all the services metered, a population of 45,000, and 78 miles of mains, the pumpage was 696,898-

797 gallons, and the revenue \$42,773. A comparison of these figures shows that in 1912, when meters were used, the pumpage was 90,723,105 gallons less than in 1893 and the increase in the revenue amounted to \$27,773. At the same time, the population of the city increased by 150 per cent, and the mileage of mains by 160 per cent.

Again, it has been found, both in American and Canadian cities, that very serious waste occurs as a result of defective pumps, mains or connections. During a pitometer survey, recently made, of the pumping stations and mains of a city of Eastern Canada, leakages were discovered aggregating 4,000,000 gallons a day, an amount equal to about 25 per cent of the city's total consumption. A broken three-inch main to a distised foundry was found discharging full bore into a sewer, and this, with a leak in a one-inch service to the same foundry caused a daily loss of 2,100,000 gallons. During less than three months a total leakage of 4,000,000 gallons per day was discovered.

In this city it was found that

the gas-works were using 125,000 gallons per day but were only paying a flat rate of \$245 per annum whereas this quantity of water at the minimum meter rate of only 6 cents per 1,000 gallons should have produced a revenue of \$2,737.50. A paper mill using about 137,000 gallons per day paid \$27 per annum instead of \$24.90.

Authorities agree that at least 60 per cent of the tree as it stands in the forest is wasted in converting it into lumber, and that 25 per cent of the trees remain in the forests to rot or be destroyed in forest fires.

Delivery of rural mail by motorcycle has been tested with apparently satisfactory results in parts of the United States. It is much quicker, less cumbersome, and, where tried, less expensive, than the horse and carriage method. Rural fire delivery has done much to make farm life more attractive. Improvements in the service will add to its usefulness.