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Circular Concrete Reservoirs at Leamington, Ont.

Provide Storage of One Million Imperial Gallons, Which Will Supply Town for Several Days and Complies With Requirements of the Fire Underwriters—Low Unit Stress in Steel—Walls Entirely Separate from Floors

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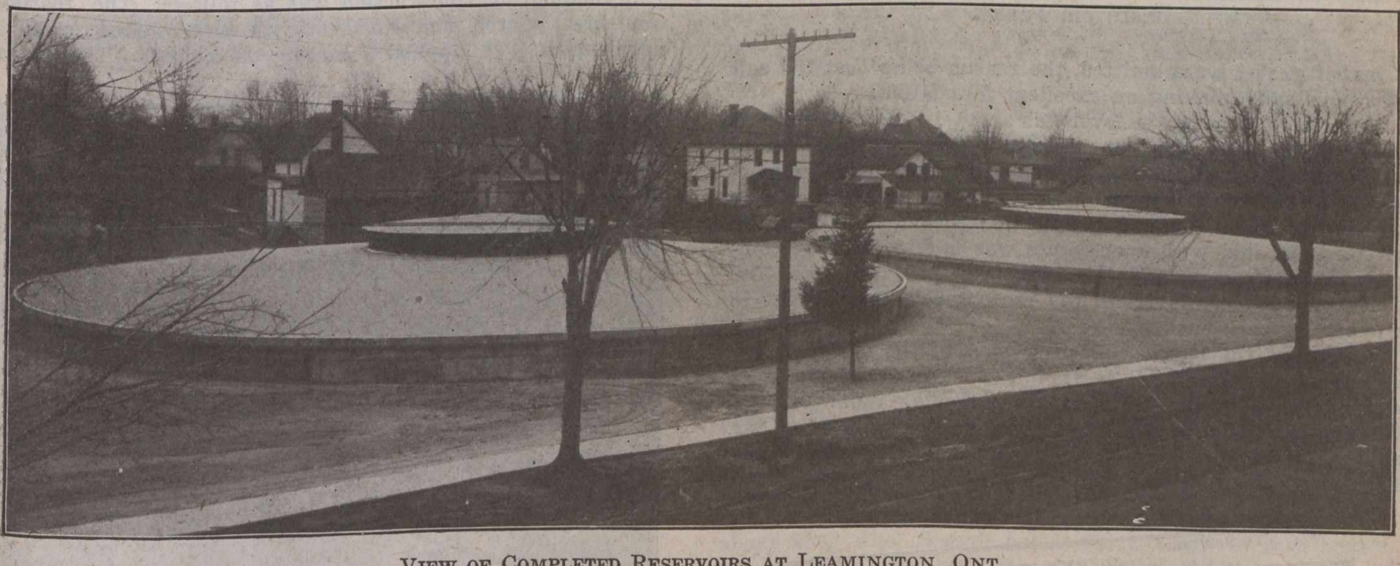
WATER for the town of Leamington, Ont., is obtained from springs situated about 1¼ miles from the pump house. The supply is carried through a gravity pipe line. As this supply is barely large enough to meet the demands made upon the system during the hot weather, some measures had to be taken to improve the facilities. Well-pumping was tried, but did not prove very successful, and as the fire underwriters were demanding a storage reservoir for fire purposes, it was decided to construct a reservoir to provide a storage capacity of one million gallons.

With a reservoir of this size it is possible to supply the town for several days without depending upon the supply from the wells. Also, in the event of a big fire, ample water is available.

After deciding upon the necessity and the size of the reservoir, the question arose as to its location. The gravity head fixed the height to which the water could be raised in any reservoir, and the elevation of the sewer determined the maximum depth; thus the allowable depth of water was fixed at 9 ft. It was first planned to build this reservoir rectangular in shape, with a cross dividing wall, but upon preliminary designs and estimates being made, it was found that by constructing two circular reservoirs, considerable saving would be effected in the cost of construction. In order to adopt this type of construction, namely, two circular reservoirs instead of the rectangular, it was necessary to purchase considerably more land, but even with the added cost of land, the circular design still proved the most economical. After considering three or four different locations, the site upon which the reservoir is built was finally bought. After removing several houses, construction was started.

The general layout of these reservoirs is shown by the accompanying plan. The tanks are 100 ft. in diameter and are located 116 ft. centre to centre.

The piping arrangement is rather novel, as it permits of either one of the basins being operated independently, or both being used in series. They are also so connected that they can be used independently of the old tanks. A study of the piping layout will show how this is possible. The sewer into which these tanks empty is a large concrete culvert section, which had been laid to take the flow of the small stream which formerly flowed along the line of the present drain.



VIEW OF COMPLETED RESERVOIRS AT LEAMINGTON, ONT.

The design is shown by the accompanying drawings. Each tank consist of a floor, a circular wall, interior columns and a wooden roof. The columns are 12 by 12 ins., concrete, resting on a footing 24 by 24 ins., and each reinforced with four ½-in. steel rods. These columns are in two circles, the inner one 30 ft. in diameter and the outer one 18 ft. from the inner circle. The roof is of wood, treated with three coats of Barrett's "Carbosota Creosote" paint, and is carried by 2 x 12-in. rafters, bearing on pine timbers, which span from column to column. These spans are 15 to 17 ft. The centre portion of the roof above the louvre is carried by means of one wooden truss supporting a centre block 12 ins. in diameter, to which the joists connect. The louvre has a vertical opening of 18 ins., and is covered with wire screen to keep out birds and insects. Over the entire roof is a four-