

NEW CITY RESERVOIR, REGINA, SASK.

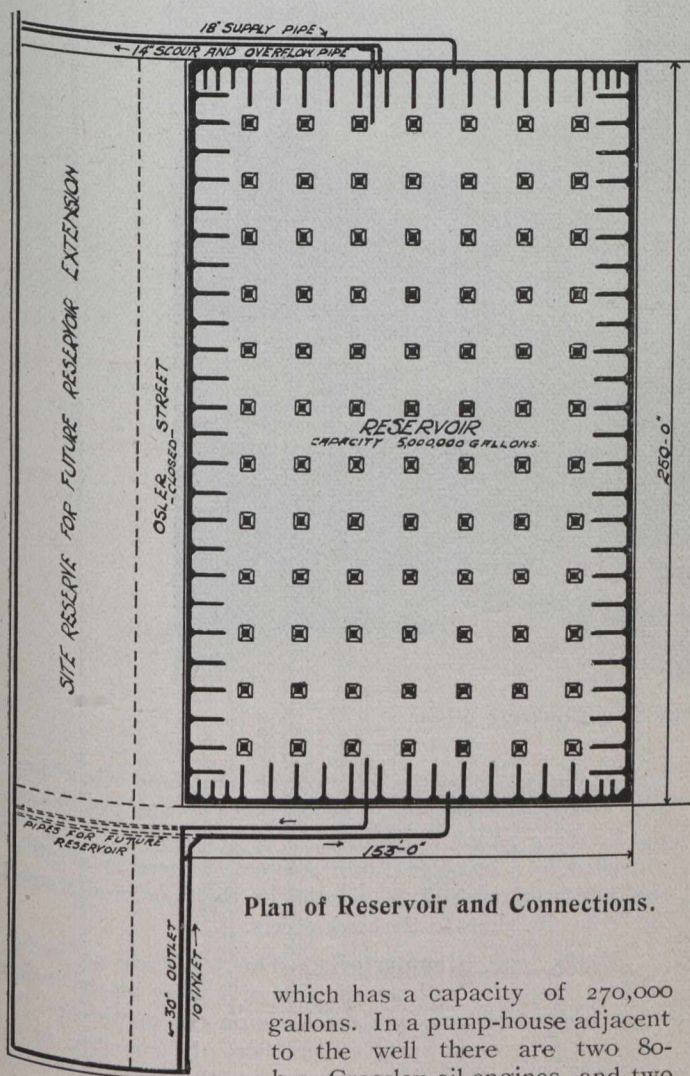
NOTES ON WATER SUPPLY AND PROPOSED SCHEME OF ADDITIONS OF WHICH THIS 5,000,000-GALLON RESERVOIR IS A PART—NOTES ON ITS DESIGN AND CONSTRUCTION.

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THE part of Boggy Creek watershed from which the City of Regina obtains its main supply of water, is about 72 sq. mi. in area, and the nearest point is about six miles distant by skyline, or eight miles by road. The watershed has a pear-shaped boundary, the narrowest and lowest point being at the southwest corner where the city owns land. On this land about 45 artesian wells have been sunk, under the writer's advice; the water in all cases overflows the surface and is collected and conveyed by underground pipes to Barton pump-well,

has a maximum delivering capacity of about 3,500,000 gallons per diem.

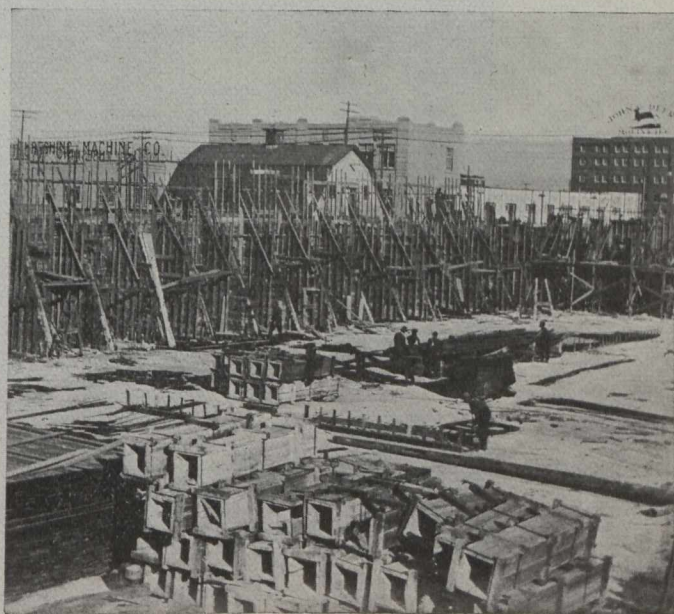
In an adjoining section are located a number of springs, yielding from 400,000 gallons, upwards, according to the season. This constituted the only source of supply for the city until 1911, and was quite inadequate. This water is conveyed by 15-inch vitrified pipes to a basin half-way to Regina, and thence by a cast iron main partly 12, but principally 10 inches in diameter. The present total yield is from $2\frac{1}{2}$ to 3 million gallons per day, but it is estimated that Boggy Creek area will yield up to 4 or 5 million gallons per day by extending the collecting lines and sinking additional wells.



Plan of Reservoir and Connections.

which has a capacity of 270,000 gallons. In a pump-house adjacent to the well there are two 80-h.p. Crossley oil engines, and two 2,000,000-g.p.d. turbine pumps to

raise the water to Tor Hill reservoir, which was described in these columns about a year ago. This reservoir has a capacity of 5,000,000 gallons, built of reinforced concrete, circular in plan, 202 feet in diameter, 25 feet deep, and stands about 90 feet above the pumps and about 120 feet above the city street level. The water is conveyed from this reservoir to the city by an 18-inch steel main, which



Formwork for Counterforts and Columns.

The 10-inch supply is pumped into the city mains by an electrically driven turbine pump, but the 18-inch ordinarily affords a gravity pressure of 45 pounds per square inch. When the demand is great and the pressure is diminished, then the water is pumped by a 5,000,000-g.p.d. Escher Wyss turbine pump, driven by Belliss & Morcom high-speed steam engines.

Additional Supply.—The writer some time ago reported to the city council on the question of additional water supply, and recommended the adoption of a scheme which involved the taking of water from five watersheds contiguous to Boggy Creek, making a total area of about 200 square miles and estimated to yield about 10,000,000 g.p.d. This scheme can be carried out piecemeal, provided the initial works are properly laid out. A part of the scheme was a 27-inch steel main to tap the Silver Stream area, with a branch to Tor Hill reservoir. As the