

## IMMEDIATE IMPROVEMENTS TO GUELPH'S WATER SUPPLY TO COST \$140,000

**A**FTER a careful study of the entire situation, and having regard both as to efficiency and economy, says F. McArthur, city engineer of Guelph, Ont., in a report to the water works committee of that city, I am of the opinion that the work outlined in the following paragraphs will place the water supply of Guelph in first-class condition. I would, therefore, make the following recommendations:—

That the springs in galleries 1, 2 and 3 be opened up and developed to their full capacity; spring basins constructed to properly protect these springs; and the connections from these basins to the main pipe line made water-tight.

That the springs in galleries 4, 5, 6 and 7 be developed to full capacity; spring basins constructed; and the collecting galleries connecting these springs to the central basin opened and the trench wall on the lower side treated with an application of clay puddle, in order to divert the subterranean flow into the collecting pipes; the top two feet of backfilling be also made of clay puddle in order to keep out as much of the surface run-off as possible; and also that the branch lines connecting the central spring basins with the main conduit be made water-tight.

### To Reconstruct Main Conduit

That about four or five of the largest of the springs which have not yet been touched, be developed in a manner similar to that described above and connected up with the pipe line.

That the entire main conduit, with the exception of the short cast-iron sections from the lower end of the inverted syphon to the head springs, be reconstructed, using wood pipe in place of sewer pipe. It may be that when the entire line is stripped, some short sections in the high ground will be found in fairly good condition and admit of such repairs as would make them perfectly tight. In such instances it would not be necessary to replace the pipe.

That the sections from the lower end of the inverted syphon to the reservoirs be stripped. If these be found in reasonably good condition, the leaks which do exist may be sealed and thus avoid the necessity of replacing the pipe with other material. From the investigations made this would appear possible.

That the cracks in the reservoir be sealed and the walls and floors treated with an application of water-proofing of some approved material.

That a measuring weir, equipped with an automatic recording device, be constructed where the conduit enters the reservoirs.

That a venturi meter be placed on the force main at the pumping station.

I have not yet at my disposal sufficient information to give an accurate estimate of what the works as outlined above will cost, but as near as I can figure at the present time it will require \$100,000 to effect these improvements.

### Mandatory Orders Issued

The conditions as set out, more or less fully above, are well known by the provincial health authorities, and when I made application to the provincial board of health for permission to raise money to place the water supply system in a proper condition, the board not only gave this permission but issued mandatory orders which empower the city to proceed with the work and raise the necessary funds without having to submit a by-law for the purpose to the ratepayers.

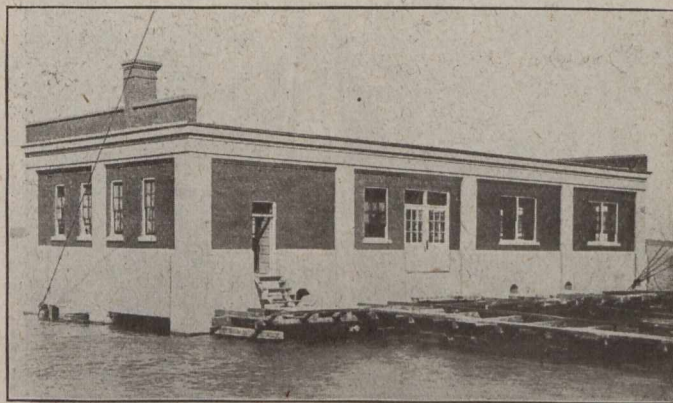
The mandatory orders state that the provincial board of health is of the opinion that it is necessary in the interests of the public health that new pumping equipment, comprising one 750-gal.-per-minute pump, one 1,350-gal.-per-minute pump, and one 2,100-gal.-per-minute pump, together with the necessary valves, piping, motors and other appurtenances, be installed, together with alterations and repairs to pump house and improvements to water supply system, at a total estimate cost of \$35,000, and also that the following equipment be installed: Low-lift pump for the purpose of pumping water from the river to pumping well in case the reservoirs run

dry; and in connection therewith an auxiliary chlorine disinfection apparatus to especially treat the water taken from the river; also for the necessary renewal or repair, as may be found advisable, of the supply conduit; and the construction of basins and other works for the needed development of the main springs; and for their control and protection; at a total estimated cost of \$105,000.

## Letters to the Editor

### AMHERSTBURG FILTER PLANT

Sir,—We notice that your issue of December 11th has a short article on the Amherstburg filter plant. The article gives us credit which is not due us, and we would appreciate it if, in justice to Brunner-Mond, Canada, Ltd., you would correct the portion of the article which states that the plant was constructed by the Foundation Co., Ltd., of Montreal,



PUMP HOUSE FOR BRUNNER-MOND, CANADA, LTD.

for Brunner-Mond, Canada, Ltd. This work was carried out by Brunner-Mond, Canada, Ltd., themselves, and all the credit for it belongs to them.

The work which we did for them was closely associated with the filter plant, and we are enclosing herewith photograph which shows the pump-house which we designed and built for them. This plant is built in the Detroit river and pumps the water from there for the filter plant.

FOUNDATION CO., LTD.,

Per L. A. Wright.

Montreal, Que., January 9th, 1920.

### LET YOUR CONTRACTS EARLY!

Sir,—I notice in your issue of December 4th, in the Construction News Section, under "Water, Sewage and Refuse," an item re "Drumheller." The work was done under contract with the writer, and the reason for the non-completion this year was the delayed delivery of the pipe especially, and the fittings generally. I think this an opportune time to impress upon your readers the advantage of getting their programs ready and their contracts let early in the season, for no doubt a great many of them are in positions of advantage in furthering this. I am speaking more particularly of the west, on account of the distances to material markets of this nature, for the common practise has been to keep "putting off," resulting in a grand rush at the finish of the working season. Drumheller's experience is a result of this practice, and certainly should be avoided. One extension, of about a half-mile, runs to their new hospital and had to be left over.

C. L. DE VALL, General Contractor.

Edmonton, Alta., December 12th, 1919.