

Recapitulation.

Collecting the several estimates, the following statement exhibits the cost on the several plans, including the sum proposed to be paid by the city for the present water works.

From Long Lake.

New 24 inch main, and raising Long Lake Dam,	\$70,070 00
Distribution,	99,410 00
Purchase of present water works (£52,800),	211,200 00
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	\$380,680 00

From Birch Cove Lake.

Introducing water, (mains and other works,)	\$290,690 00
Distribution,	99,410 00
Purchase of present water works,	211,200 00
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	\$601,300 00

High-Service.

From Ragged Lake, mains and other works,	\$55,030 00
Distribution,	17,850 00
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	\$72,880 00

Pumping by Steam Power.

Buildings, Steam Engines, mains and Reservoir,	\$60,860 00
Distribution,	17,850 00
Capital representing annual expense of pumping,	38,146 00
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	\$116,856 00

Comparison of Plans.

The Birch Cove Lake scheme, with a reservoir on Shaffroth's Hill, has the advantage of about twenty feet of additional head over the Long Lake, but would still be insufficient for the supply of the whole of the upper part of the city, either for domestic use or for fire purposes; and looking at the great difference in cost, I think there can be no doubt that to enlarge the capacity of the present works from Long Lake is the most advisable. From this source, from the increased size of the new mains and distribution pipes, the whole of the city can be supplied by gravitation, for domestic purposes, with the exception of the district lying to the north and west of Gerrieh and Oughton Streets. To supply this district, and get effective head for fire purposes above Göttingen street, will require a high service system, either by bringing

water from a higher source, or by pumping it into a reservoir.

From Ragged Lake the head is sufficient without a reservoir, although there would be some advantages gained by constructing one. The water would accumulate during the night, and when there was a large draught on the service pipes, they would be supplied both from the lake and the reservoir.

In pumping the steam power to Shaffroth's Hill, the high water level of the proposed reservoir will be 96.9 feet above the corner of Cogswell and Park street; 90.2 feet above corner at Wm. A. Blacks; 57.7 feet above street in front of Dr. Snellings, and 12 feet above the sill of the entrance gateway to the citadel. To supply the citadel during the hours of greatest draught, cisterns would be required to receive the water at the time of pumping. The reservoir cannot be placed higher without great additional expense.

The high service could be used to give additional head on the lower in cases of fire, by having one or more stop cocks to be opened connecting the two.

The revenue to be derived from the present population that will not be supplied from Long Lake, would scarcely warrant the expenditure for the high service for domestic purposes alone, but the increased facilities which would be afforded for extinguishing fires may be an object. The revenue for the use of the water by the present population may be estimated thus:

200 houses at \$10,	\$2000
Citadel,	1500
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	\$3500

While six per cent on the estimated cost, from Ragged Lake is \$4372.80; and, by pumping, \$7011.36. Of course when the population sufficiently increased the revenue would pay interest on cost.

With respect to the advantages to be derived from introducing a more abundant supply of water into the city, it is perhaps unnecessary to say much. The recent fires, by which over \$600,000 of property was destroyed, which a more effective supply would have extinguished with comparative ease, have convinced every one that the present works are inadequate. With the command of water proposed to be introduced, extensive fires would be rendered almost impossible, and the present high rates of insurance would be reduced. It is estimated that the extra insurance paid on property in the city since the fire of September last, amounts to from \$30,000 to \$40,000 per annum.

There would also be a considerable reduction of the expenditures connected with the