

Municipal Works, Etc.

A sewerage system is to be built at Pembroke.

A new bridge has been built over the Trent at Heeley's Falls.

Carleton, N.B., is agitating for a bridge to connect that suburb with St. John, to replace the present ferry service.

Dundalk, Ont., will vote on by-laws to provide \$6,000 for waterworks, \$4,000 for street improvements, and \$2,000 for sidewalks.

A steel bridge, says the Kingston News, is to be erected over Batteau creek, on the lake shore road in the county of Frontenac.

Fifty thousand dollars has been voted by Parliament for harbor improvements at Port Arthur, and \$35,000 for dredging the Kaministiquia river.

The Aylmer, Ont., council has decided that the water supply shall be obtained from the flowing wells a short distance northeast of the town.

The St. John's, Que., News is urging asphalt sidewalks instead of stone slabs. It takes the cost of asphalt in New York, and figures it at 73 cents, while stone, as laid down in St. John's, costs \$1.30 per sq. yard.

Two survey parties are at work on the irrigation extension works in Southern Alberta, under G. G. Anderson, consulting engineer of the company, one to stake out the course of a new canal from Milk river to Raymond to supplement the water of the present canal, the other to lay out work for the extension of the system easterly in the direction of Chin coulee. One of these parties is in charge of A. M. Grace, C.E., constructing engineer on the first work of the Irrigation Company, the other is in charge of C. M. Arnold, C.E. The canal from Milk river is to be a twenty-five foot ditch with a capacity of 500 cubic feet of water per second; the other will be a ten-foot canal with a supply power of about 250 cubic feet per second.

The area of Ottawa is 3,365 acres; population, 61,151; mileage of streets, 100.21; of asphalt, 4.90; of granolithic walks, 83.66; of water mains, 101.08; of sewers, 68.65; of electric railway tracks, 24.44; of roadway occupied by the street railway tracks, 14. The minimum horse-power within a 45 mile radius is placed at 917,403, of which 83,400-h.p. is developed, and 834,003 available. Average number of gallons of water pumped per day of 24 hours during the year was 11,016,276. The average daily consumption per head is 180 gallons. This is double what it should be, and is chiefly caused by consumers allowing their taps to run in cold weather to prevent freezing. The consumption on a day in January varies from 25 to 33 per cent. more than in July, showing the enormous waste from this cause. The cost of furnishing each thousand imperial gallons during the year was 4 7-10 cents.

The proposed route of the Montreal subway is as follows: Commence near the site of the Methodist church in Montreal South, extending in an open cut toward the river for a length of 1,350 feet to a portal, thence by tunnel under the shallow channel south of St. Helen's Island, under the easterly end of St. Helen's Island to the north shore of the river near Monarque street, thence by a curve under private land to Notre Dame street, thence by Notre Dame street to the yard of the C.P.R., thence to private land on Craig street, under Craig street, Viger Square, and private land to City Hall avenue, near its intersection with Dorchester street, thence under City Hall avenue to Duluth avenue, thence by curves under private land to Laval avenue, thence under Laval avenue to a portal on the north side of Mount Royal avenue, thence by an open approach to vacant land on the northerly side of St. Louis street, at which point it is intended to place assembling yards; a total length of structure, including approaches, of 21,368 lineal feet.

A new bridge has been opened across the Lachine Canal at Montreal, furnished by the Dominion Bridge Co. Mr. Lordley was the engineer in charge.

The Montreal Business Men's League is urging the need for an underground conduit system for electric wires in the business portion of the city, and also in selected residential streets.

Forest fires have done much damage during the past month, and many bridges have been destroyed. This is specially the case in the northern part of the county of Hastings, and thereabout.

A culvert bridge is to replace what is known as the Spider bridge on the Hamilton and Flamboro road, the present bridge having been condemned. The cost will be about \$4,000.

St. John, N.B., is considering plans of harbor development, which would give 30 more steamer berths and an esplanade from Fort Dufferin to Partridge Island, with roadway and street car lines. The esplanade would be 1,000 feet wide and act as a breakwater.

The 15-ton road roller, purchased by the town of Lindsay, as mentioned last month, was built by the Waterous Engine Works Co., of Brantford, who are also finishing one for Sydney, Cape Breton, one for Collingwood, one for Ottawa, and have already shipped three this season to Farnham, Welland, and Moncton, N.B.

The Stuart Machinery Co., of Winnipeg, is filling an important machinery order for the town of Prince Albert. It comprises a complete electric light plant with power. The engine is a 150-h.p. Leonard Corliss, with boilers and other appliances to correspond, also patent feedwater heater. The dynamo is of the induction type. When this plant is complete it will be the finest electric lighting installation in the West.

The British Columbia Government is erecting a large two-decker steel bridge over the Fraser river at New Westminster, the cost of which will be \$850,000. It will be half a mile in length and 19 feet wide. It will have a single track road for the railway, 18 feet above high water, and a road for pedestrians and wagons 21 feet above the railway. The bridge will rest on 11 piers and have a draw in the centre. It is expected that the Great Northern will use this bridge to cross the Fraser river to get to Vancouver.

A number of municipalities have recently purchased road-making machinery, among others the following: Collingwood, a 15-ton steam roller and is considering a rock crusher; Wentworth county a stone crusher, six road scrapers, and a 10-ton steam roller; Montague Tp., a stone crusher; Eganville a stone crusher, which will probably be operated by electric power; Arnprior a grader; Montreal a crusher and a civic asphalt plant. The Montreal crusher in a test broke 32 tons, 700 lbs. of macadam in an hour, the contract requiring at least 20 tons. The Wentworth County graders are to be drawn by traction engines instead of horses.

The water supply for Regina has been looked upon as a difficult question, but John Galt, C.E., who has been employed to look into it, says it is not difficult to solve. He proposes to obtain a supply of spring water at Boggy creek, where a dam thrown across the creek would provide a million gallons a day. The level at the selected point is 103 feet above Regina, and the dam would give a height of 110 feet. The depth of the necessary cutting would not be more than 22 feet, and that for one mile only. This would supply Regina with water for many years, and the reservoir would form a beautiful lake in the midst of a pleasant landscape. The cost would be about \$180,000. There is, he says, an abundant supply of water under Regina, at a depth of 90 or 100 feet, but it is hard and contains alkali salts, so it would have to be softened, as is done at Winnipeg, by chemical means. At Winnipeg this costs 3½c. per 1,000 gallons, but it is hoped by recovering waste products, which are marketable, the figure will be reduced to 2½ cents. At Regina it would cost 5 cents, or \$10 a day on a 200,000 gallon consumption, which is about what the city at present requires.