

the track of the G.T.R. at side road between Lots 12 and 13, Township of Willmot, Ont., about 1 mile east of Baden station.

7430 and 7431—July 5—Granting leave to the Government of the Province of Alberta to erect, place, and maintain its wires across the track of the C.P.R. at $\frac{3}{4}$ of a mile west of railway company's station at Taber, Alta., and at Deveber Avenue, Taber, Alta.

7432—July 5—Granting leave to Morris & Kemp to erect, place, and maintain telephone wires across the track of the C.P.R. at P. Rd. 1.8 miles north of Chaudiere Junction, Township of Gloucester, Ont.

7433—July 3—Authorizing Paul Sylvester, of St. Cuthbert, P.Q., to lay water main under the track of the C.P.R. one mile east of station.

7434—July 5—Granting leave to the Canadian Pacific Railway to construct its railway across highway, at mileage 13.52, Township of Glenelg, County of Grey, Ont.

7435—July 5—Approving and sanctioning proposed deviation of the Manitoulin and North Shore Railway, between stations 739 and 1140, portion of its railway between Sudbury and Little Current.

7436—July 5—Approving location and detail plans of the Central Ontario Railway Company's proposed new station and freight shed at Bloomfield, Ont.

7437—July 6—Granting leave to the Government of the Province of Alberta, to erect, place, and maintain its wires across the track of the C.P.R. about $2\frac{1}{2}$ miles west of Roseroll, Alta.

7438—July 6—Authorizing the T. H. & B. Railway to reconstruct, or alter railway bridge known as 45.83 over which it crosses a side road or highway leading to the Ancaster & Copetown Road, Township Ancaster, County Wentworth, Ontario.

7439—July 6—Authorizing the corporation of the city of Quebec, to lay and thereafter maintain water and drainage pipes under the track of the C.P.R. in St. Malo Ward, St. Valier, P.Q.

7440—July 6—Granting leave to the G.T.R. and C.P.R. to appeal from the Order of the Board, dated the 9th of June, 1909, to the Supreme Court of Canada, upon all questions of law involved, in re application of the city of Toronto, Ont., for Order directing G.T.R. and C.P.R. to carry York Street and certain other streets under the tracks of the said companies.

7441—June 30—Reporting to the Governor-in-Council for sanction by-law of the V.V. & E. Railway and Navigation Company re spitting in cars and on premises.

7442—July 7—Granting leave to the B.T. Company to cross the tracks of the G.T.R. with its wires at Duke and Durham Streets, Lindsay, Ont.

7443—July 6—Granting leave to the British Columbia Telephone Company to cross the tracks of the E. & N. Railway at east end of Railway Bridge, at Victoria, B.C.

7444—July 7—Granting leave to John M. Bergstrom, of Wauchope, Sask., to cross the track of the C.P.R. with telephone wires at Wauchope, Sask.

7445 to 7454, inclusive—July 7—Granting leave to the Government of the Province of Alberta, to cross with its telephone wires the track of the C.P.R. at certain points in the said province.

7455 to 7458, inclusive—July 7—Authorizing the corporation of the city of Saskatoon, Sask., to lay water and drain pipes under the track of the C.N.R. and C.P.R. (C.N.R. 3) (C.P.R. 1) at four points in the said city.

7459—July 7—Authorizing the corporation of the town of Chesley, Ont., to lay water main under the G.T.R. at four streets in the said town.

7460—July 8—Approving by-law of the Atlantic and Lake Superior Railway authorizing Chas. R. Scoles, general manager, to prepare and issue tariffs of tolls to be charged for all traffic carried.

7461—July 8—Granting permission to the Hull Electric Railway Company to operate its cars over the tracks of the C.P.R. in the city of Hull, P.Q.

7462—July 7—Authorizing the C.P.R. to construct bridge No. 15.83 over the Bremner River, on the Schreiber Section, Lake Superior division of its line.

7463—July 6—Approving plans of G.T.R. new combination passenger and freight station at South Indian, Ontario.

7464—July 6—Approving detail plans of the G.T.R. new combination passenger and freight station at Corinth, Ont.

7465—July 8—Granting leave to the municipal corporation of the city of Lachine, P.Q., to cross, by means of a subway, for pedestrians only, the tracks and lands of the G.T.R. between 15th and 16th Streets, city of Lachine, P.Q.

7466—July 8—Granting leave to J. P. Coutlee, engineer-in-charge of the Georgian Bay Ship Canal, to construct a highway crossing over the track of the C.P.R. at Temiskaming Villiage, County of Pontiac, P.Q.

7467—July 6—Authorizing the municipal corporation of the Township of Sandwich East, to construct a suitable public crossing across the tracks of the P.M.R.R. at Edna Street in the said township.

7468—July 8—Authorizing the C.P.R. to construct, maintain, and operate spur to and into the premises of the Waterloo Manufacturing Company, Portage la Prairie, Manitoba.

7469—July 6—Granting leave to the Malahide & Bayham Telephone Company to cross with its wires the track of the M.C.R.R. at public road about one mile east of station, in the town of Tillsonburg, Ont.

SUBSTITUTION OF CONCRETE FOR BRICK WORK IN BOSTON SEWERAGE WORKS.

In view of the fact that the laying of brick costs the city of Boston about four times as much as it should, and that the total cost of brick masonry is over twice as high as the cost of concrete, the consulting engineers, Messrs. Metcalf & Eddy, of Boston, recommend that concrete be substituted for brick work wherever possible without detriment to the sewerage works. They point out in a recent report that there are two questions affecting this particular branch of the work:—

First, is the selection of brick as a building material in all cases justified?

Second, is the brick masonry, where adopted, economically built?

With regard to the first question, there may in some cases be a reasonable difference of opinion, as there are a number of arguments in favor of the use of brick instead of concrete, the only other material available for the larger sewers. One of these arguments is that it is practicable to make brick work more nearly water-tight than concrete. This argument, of course, loses its force to a large extent when the construction is in a locality which is not materially subject to the influence of ground water, and also when applied to surface water drains. Moreover, concrete as a building material is used in a great many structures which should be as nearly water-tight as possible, and has given satisfactory results in cases of very many sewers.

An argument which has been advanced in favor of brick linings for inverts is that the brick are said to withstand the erosive action of the flow of sewage or surface water better than concrete does. Under certain conditions where velocities of flow are very high, there is no doubt that this argument has considerable force. It does not, however, justify the use of brick in the arch, and sewers laid with concrete inverts are very common. Under some circumstances, possibly brick-work may be constructed as cheaply as concrete, but in general it will cost from $33\frac{1}{3}$ per cent. to 100 per cent. more. The engineers, therefore, believe that on the whole there is no justifiable reason for using brick work to the extent that it is now used by the Sewer Division of the City of Boston. They consider it possible to thus make a saving of about 50 per cent. on the entire cost of masonry wherever concrete can be substituted.