

Canadian Railway and Marine World

September, 1915.

North Toronto Grade Separation, Canadian Pacific Railway.

By B. Ripley, M. Can. Soc. C.E., Engineer North Toronto Grade Separation, Canadian Pacific Railway.

The North Toronto viaduct, construction on which was started in a small way during the autumn of 1912, is nearing completion. The general scheme, which is shown in fig. 1, comprises the elevating of four lines of track between Summerhill Ave. on the east and Dufferin St. on the west, with additional passenger facilities at Yonge St. [The new station was described in Canadian Railway and Marine World for August.—Editor.] During Sept., 1912, a trestle was erected between Poplar Plains Road and Summerhill Ave., and the filling in to make up the embankment was commenced from the trestle. This permitted the work on the subway at Avenue Road to be proceeded with. Fig. 3 shows this subway as completed. During its construction the street traffic was diverted on the property acquired for the purpose just east of the street, which facilitated the handling of the work very considerably, and the traffic was not resumed on Avenue

The work at the Howland Ave. subway was started Aug. 12, 1913, the traffic having been diverted over the tracks at Albany Ave. by means of a temporary wooden bridge erected at that point for the purpose.

The work at Bathurst St. subway was started Aug. 23, 1913. In carrying out the work at this point, it was necessary to remove a portion of the tracks of both the Toronto Ry. and Toronto Suburban Ry. After a portion of the excavation had been taken out, a large pocket of gravel containing water was struck, the water making the work a great deal more difficult. This difficulty was also experienced in alterations to water mains, sewers and the laying of the underground electric wires. The foundations were taken slightly deeper in this case than in any other, in order to eliminate the possibility of disturbance by the installation of other underground utilities, at a later date. The street traffic was handled by means of

work to be done at this point, and the city offered no objections at that time, but many difficulties have arisen to delay the work. During the autumn of 1912 the city applied to the Board to have the south approach made level instead of having the 5% approach which had previously been agreed on. The Board ordered in effect that the city could have this on condition that it pay the extra expense incurred by the C. P. R., giving it a certain period in which to decide as to what it wanted. The level approach idea fell through; the C. P. R. had plans prepared for the carrying out of the work, but it was so late in the autumn of 1912 that the work was held over until the following spring. Meanwhile the city applied to the Board for an order compelling the C. P. R. to build the subway at this point, with an increase in the headroom of 4 ft., making an 18 ft. subway, with a 2½% approach. The Board ordered that the city

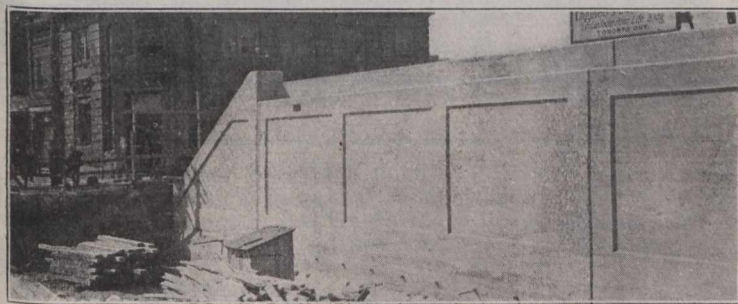


Fig. 2.—West Abutment Wall of Yonge Street Subway.

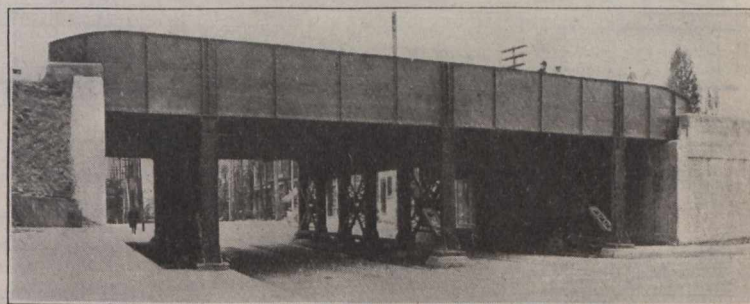


Fig. 3.—Avenue Road Subway as Completed.

Road itself until the whole work, including the paving and sidewalks, was completed. During this period, the Toronto Ry. operated a stub line service from the C. P. R. tracks to the end of the Avenue Road line at St. Clair Ave. [This subway was described in detail in Canadian Railway and Marine World for Sept., 1913.—Editor.]

Other work was not started until early in the summer of 1913, owing to an appeal by the City to the Governor in Council, to change the railway profile west of Avenue Road. Work on Davenport Road subway was, however, started on July 7, 1913. Conditions at this point were somewhat complex, because the subway which was built, and which is known as the Davenport Road subway, really takes both Davenport and Poplar Plains Roads. The general plan, fig. 1, shows the layout at the intersection of these two streets. The alterations necessary to the underground public utilities occasioned thereby involved a large amount of work, the greater portion of which had to be undertaken before the subway could be constructed. The finished subway, viewed from the north, is shown in fig. 5.

The work at Spadina Road was commenced July 19, 1913, the traffic having previously been diverted by a temporary wooden bridge over the tracks at Huron St., at which point also the traffic from Davenport and Poplar Plains Roads was largely handled.

the opening up of a new street between Albany Ave. and Bathurst St., and the erection of a temporary wooden bridge over the C. P. R. tracks at Albany Ave.

The work at the Christie St. subway was started Sept. 16, 1913. The traffic was handled by means of a plank roadway and a temporary wooden bridge over the C. P. R. tracks on the west side of the street. The work at this point is almost completed, the bulk of the paving of roadway and sidewalks being finished.

Work was begun at Shaw St. Oct. 6, 1913, prior to which a temporary street had been opened up between Shaw St. and Ossington Ave. over the Toronto Power Co.'s property. This made it possible to divert the traffic from Shaw St. to Ossington Ave. during construction.

The work at Ossington Ave. was commenced June 15, 1914. A 6 ft. circular sewer, laid bare by the excavation, was lowered to comply with the depression of the roadway.

Work was started at Dovercourt Road subway May 5, 1914. Alterations to the sewer were also made necessary by the depression of the street.

At the Yonge St. subway, although the running of trains on the level was abandoned on May 26, 1914, and all the railway traffic run on a trestle overhead, as shown in fig. 4, the work at this point has not progressed very far. The Board of Railway Commissioners for Canada approved, in 1912, of the

could have this conditional on the additional cost over and above that of a 14 ft. headroom subway being borne by the city. Before anything further was done the city decided to widen the street at this point from 66 to 86 ft., the widening to be done on the west side. The C. P. R. prepared its plans accordingly, and before the work was again got under way, the city decided to make another change, and to have the street widened on the east instead of the west side. The Board of course issued orders accordingly. This made it necessary to take a strip off the front of the C. P. R. property, which it had purchased for a station site. Some difficulties arose over the settlement to be made between the city and the C. P. R. in this connection, and before the work was again got under way the bylaw in reference to the widening of Yonge St. was rescinded, and of course it was impossible to do any work. A new bylaw, however, has been passed expropriating sufficient property to widen the street on the east side throughout the length of the subway, and the work is now being proceeded with.

Fig. 4 shows a temporary trestle and span at this point. The vehicular traffic is carried underneath the steel span, but the pedestrian traffic is carried on the east side of the street underneath the trestle near the small shanty shown in that figure. Fig. 2 shows the south half of the west abutment, which has already been constructed, and it is ex