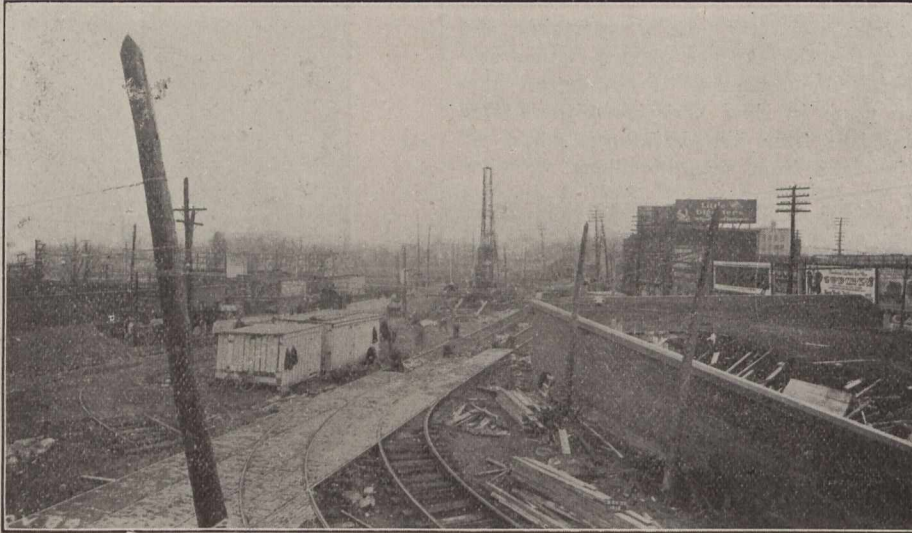


QUEEN STREET BRIDGE, TORONTO.

At the Engineers' Club of Toronto, on December 15th, an interesting address upon the "Method of Construction of the Queen Street Bridge, Toronto," was given by Mr. R. E. Chadwick, Bridge Engineer, city of Toronto. Mr. Chadwick showed many interesting views of the work as it is at present. Mr. Chadwick said, although the alteration at

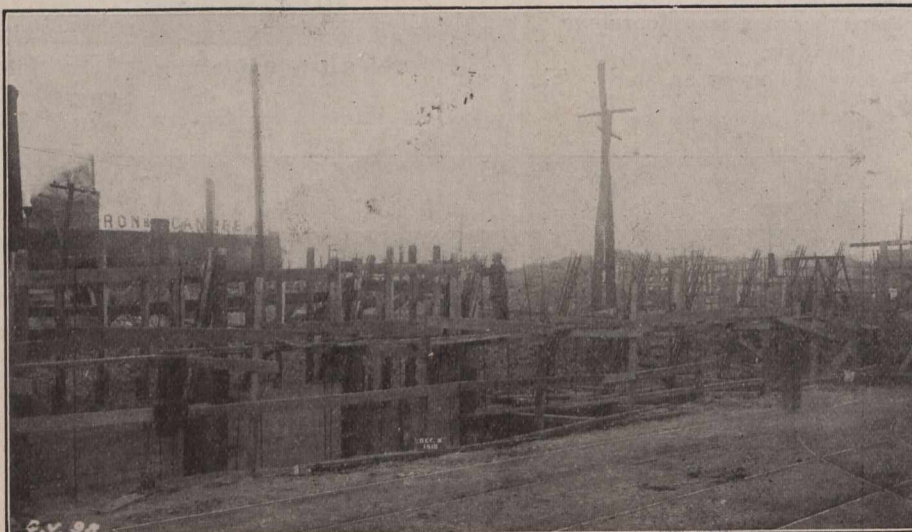
sible that serious difficulty will be encountered in the above ground work owing to the change in the weather. The great difficulty in this work has been the fact that it has had to be carried on in the midst of traffic, and furthermore, telegraph, telephone, car wires, car lines, and electric light wires have had to be moved about. Sewers have had to be temporarily supported, bridged, and underground difficulties have been met with which had not been at all reckoned on.



General View of Work Showing Diverted Traffic.

Queen Street has been only recently undertaken, the change has been under consideration for a long time. The bridge is calculated to carry traffic of 30-ton cars. Some had stated that 40-ton cars should be here provided for, but at present in Toronto the heaviest loaded car is only about 25 tons. When the Grand Trunk Railway has completed its present city construction work, and this work is complete, all level crossings up to the Humber will be done away with. The first work on the bridge was on the west abutment. A reinforced con-

crete wall has been constructed upon the King Street side, and a similar wall is being constructed upon the Queen Street side of the approach. In this wall construction, square clutch bars were used as reinforcements. The concrete was a 1:2½:5 mixture. Broken stone was at first used, but it has now been substituted by a good grade of gravel. Concrete work below ground is still in rapid progress, but it is pos-



Placing Reinforcement for Retaining Walls.

crete wall has been constructed upon the King Street side, and a similar wall is being constructed upon the Queen Street side of the approach. In this wall construction, square clutch bars were used as reinforcements. The concrete was a 1:2½:5 mixture. Broken stone was at first used, but it has now been substituted by a good grade of gravel. Concrete work below ground is still in rapid progress, but it is pos-

sible that serious difficulty will be encountered in the above ground work owing to the change in the weather. The great difficulty in this work has been the fact that it has had to be carried on in the midst of traffic, and furthermore, telegraph, telephone, car wires, car lines, and electric light wires have had to be moved about. Sewers have had to be temporarily supported, bridged, and underground difficulties have been met with which had not been at all reckoned on.