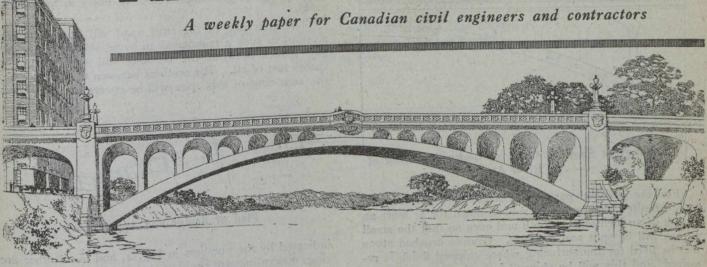# Hunter Street Bridge, Peterborough, Ont.

Will Contain Longest Clear Span Concrete Arch in Canada — Fifteen Arches Totalling 1,065 Feet in Length — Arch Ring of River Span Constructed With Temporary Hinges at Crown and Skewbacks — Heath-Edwards Method of Proportioning Concrete Specified for First Time — Cinder Fill Over Spandrel Arches Carries Pavement

SEVERAL interesting points of design attract attention to the new high level reinforced concrete bridge that will be built within the next few months at Peterborough, Ont., besides the fact that it will have the longest clear span of any concrete arch in Canada.

The bridge will carry Hunter Street across the Otonabee River and across the Grand Trunk Railway tracks on the west bank of the river. It will replace an old steel bridge which is at the level of the railway tracks and will eliminate a dangerous grade crossing. The project is the result of an agreement between the Quaker Oats Co. and the city of Peterborough. Two advantages accrue to the Quaker Oats Co.: First, the shunting in their yards will not be hampered as previously by the Hunter Street traffic; and, second, an approach from the level of the bridge to the third story of their adjacent plant will enable them, without inconvenience, to have the main offices on the third floor of their building instead of on the ground level, thus somewhat escaping the dirt and confusion of the surrounding railway yards, and also permitting the lower two stories to be used entirely for shipping and receiving.

Frank Barber, consulting engineer, of Toronto, some time ago was requested by the city authorities to prepare plans and specifications for the new bridge, which will probably cost approximately $300,000. Tenders have been called and the contract will probably be let before the end of this year, work will proceed at an early date.

There will be about 17,000 cubic yards of concrete and 250 tons of reinforcing steel in the bridge. Over 7,000 cubic yards of excavation will be required, and about 14,000 cubic yards of fill. The main river arch will have a clear span of 235 feet. Besides the river arch there will be fourteen other arches, seven on each side of the river. The total length of the outline of the fifteen arches will be 1,065 ft., although the length of the entire bridge, including approaches from end to end of retaining walls, will be 1,750 ft.

The bridge will have but one deck, although an opening will be left in each approach pier to provide for foot traffic at the present level. Means are also being provided, by means of ramps, for vehicular traffic from the present level to the new high level.

The width of the roadway will be 42 ft. between curbs, as provision must be made for a double-track street-car line, with 6 ft. walk on each side. The overall width of the bridge will be about 56 ft. The sidewalk surface at the centre of the bridge will be 48 ft. 9½ inches above ordinary water level.

In order that the architectural treatment might proceed hand in hand with the engineering design, Mr. Barber arranged for association with Claude Bragdon, a well-known architect of Rochester, N.Y.

The entire bridge will receive a surface treatment of at least two inches of granite, placed next to the forms