

# The Canadian Engineer

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## QUAKER OATS FIRE WRECKS FLAT-SLAB WAREHOUSE

T. D. MYLREA, ASSISTANT TO THE CITY ARCHITECT OF TORONTO, INVESTIGATES COLLAPSE OF REINFORCED CONCRETE BUILDING AT PETERBOROUGH AND REPORTS THAT STRUCTURE IS COMPLETELY RUINED OWING TO EXTREMELY HIGH TEMPERATURES MAINTAINED FOR UNUSUAL PERIOD—CITY ARCHITECT SAYS IMPOSSIBLE FOR ANY MATERIAL TO RESIST FIRE OF SUCH INTENSITY AND DURATION

**T** D. MYLREA, engineer in charge of tests for the city architect's department, Toronto, has made a report on the destruction of the flat-slab type, reinforced concrete warehouse at the Quaker Oats plant, which occurred December 11th, 1916, at Peterborough, Ont.

As thirteen buildings of the flat-slab type were erected or started in Toronto during 1916 (with a permit value of \$1,872,000), W. W. Pearse, the city architect and superintendent of building, was naturally anxious regarding the fireproof qualities of the flat-slab type of construction, in case any serious deficiency in that type of construction should have been shown by the Peterborough fire. Mr. Pearse states the flat slab type of construction was recognized in a building by-law by the city of Chicago in 1914, which was the first time that type of construction had been officially recognized in any city by-law, so far as he is aware. The fact that this recognition was so recent,

increased Mr. Pearse's anxiety to know the full facts in regard to the failure at Peterborough, which was undoubtedly the worst of its kind in the history of reinforced concrete construction, and the first in the history of this particular type of reinforced concrete design.

Mr. Mylrea's report, which is thorough and exhaustive, and which is accompanied by a number of plates and fifty-two photographs, proves conclusively that the Peterborough fire was a most unusual one, presenting conditions not likely to be duplicated very often, viz.:

- (1) The fire raged simultaneously on all seven floors (including basement) of the building.
- (2) The oats and feed, which were piled high on each floor, burned fiercely

but slowly, retaining a very high heat for a long period. They produced the effect of an intense coke fire.

- (3) The fire raged in full blast for seven hours before any part of the building fell.



Fig. 1—General View of Quaker Oats Plant Before Fire.

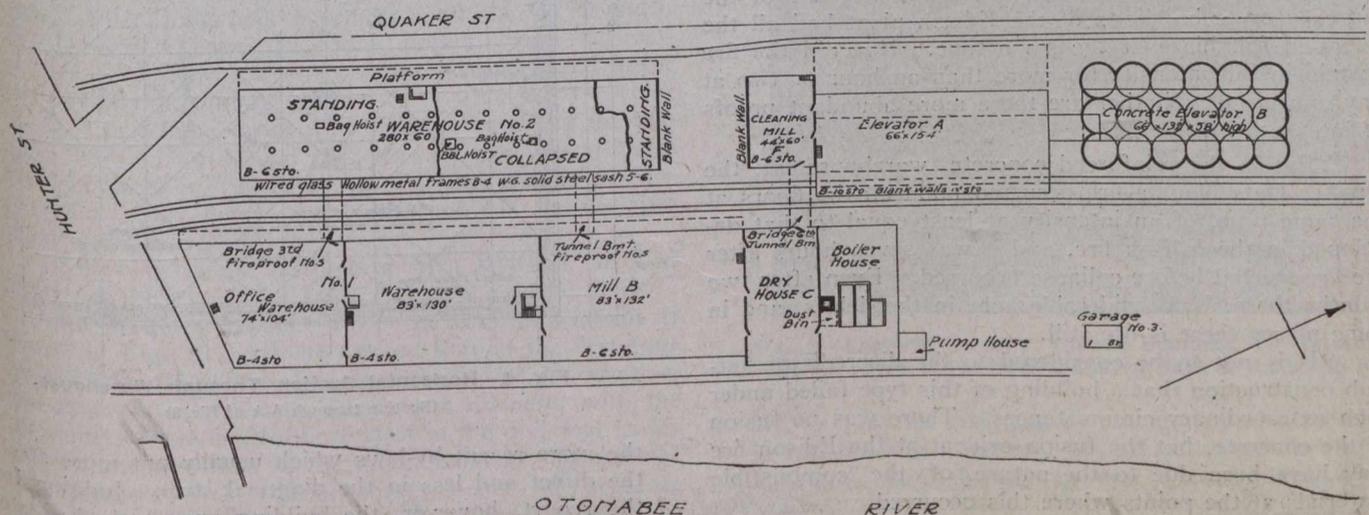


Fig. 2—General Block Plan of Plant.