

The Canadian Engineer

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DON INCINERATOR—TORONTO

DETAILS OF CONSTRUCTION AND METHODS OF OPERATION OF PLANT—CAPACITY OF ONE HUNDRED AND EIGHTY TONS OF REFUSE PER DAY WHEN FULLY OPERATED

BUILDING operations in connection with the Don incinerator plant are rapidly drawing to completion. It had been hoped that the plant would have been in operation long before this. Unavoidable delays, however, incident to the scarcity of experienced labor and the delivery of materials have resulted in the estimated time for completion being exceeded. At present the main part of the building is completed, and the furnace contractors are now engaged in the drying-out operations on the furnaces, so that it is expected that the testing out of the furnaces will take place at an early date. If these prove satisfactory the city will accept the plant, and proceed with its operation immediately.

The main building was constructed under a general contract, and was designed and supervised by the city architect's department. Contracts for the pile-driving, concrete foundations, furnaces and appurtenances, radial brick chimney and foundations for same were awarded and supervised by the department of street cleaning. The excavations, grading, etc., were carried out by day labor.

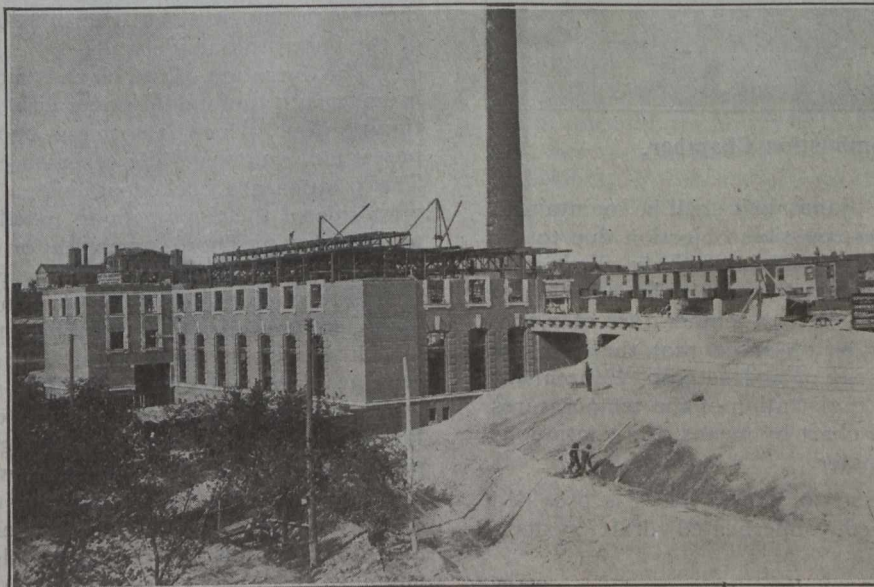
The pile-driving and concrete foundations for building and furnace contracts were completed by the end of December, 1915, as was also a portion of the furnace contract. Owing to delay in the delivery of steel, all work was practically held up until March 1st, 1916, when erection was started on the steel framing for the building. From that time to the present, work has progressed slowly but continuously.

The building, which is of fireproof construction throughout, is built of brick, steel, stone and reinforced concrete. It is located on the east side of the River Don, immediately north of Wilton Avenue, and consists of five floors at various elevations, viz., tipping, charging, stoking, main and ash run floors.

The elevation of the tipping floor is on a level with Wilton Avenue, the main floor being some 33 feet below on a level with the Don Roadway, while the intermediate floors

are known as charging and stoking, from which floor the furnaces are charged and fired respectively. The ash run floor is located on the west side of the building and is immediately below the stoking floor. The building at the tipping floor level is connected at the northeast and southeast corners to Mount Stephen Street and Wilton Avenue respectively, by means of reinforced concrete bridges. The north bridge at the building extends in a westerly

direction parallel with the north end of the building and connects with the ash section which is located at the northwest corner of the building. Its purpose is to receive the residue from the furnaces as well as ashes, etc., collected from the districts in the vicinity of the plant. This building has two floors, viz., tipping and bin, the tipping floor being level with the like floor of the main building. The bin floor is located some few feet below, and has laid thereon a narrow-gauge track



Looking from Wilton Avenue Bridge.

with turntables, the arrangement being similar to that laid in the ash run. On the west side of the ash building a steel bin of large dimensions is suspended, which is equipped with a series of steel adjustable chutes. These allow the ashes, residue, etc., to be loaded into cars on a railway siding below. The railway siding is laid parallel with the west side of the building and passes through the ash building. The main building is 151 feet long by 81 feet 6 inches wide.

The plant is equipped with three high-temperature "Sterling" furnaces of modern design, which have been installed by the Canadian Griscom-Russell Company, Limited. There are three furnaces of four units each. Each furnace has a grate area of 25 square feet, and a guaranteed burning capacity of 50 lbs. of refuse per square foot of grate area per hour, and is therefore capable of totally incinerating 5,000 lbs. of refuse per hour or a total capacity of 180 tons per day of 24 hours with the three furnaces in operation. It is reasonable to assume that the burning capacity will be exceeded, when operating under normal conditions, as the contractor's