

1970s Canada grows up

By Jim Barnes

Following the optimism of the 1960s—symbolized by Expo '67—Canada readied itself to take a more prominent place on the world stage.

The hydroelectric developments around James Bay in Quebec were the story of the decade. In his November, 1973 editorial, Editor David Judge examined the implications of the Quebec Superior Court injunctions that halted the \$5.8 billion project in response to protests by First Nations peoples. He took an unbiased view of both points of view, urging a balance between energy development and environmental protection.

Judgement at James Bay

“The message of James Bay is that even massive government decisions can now be challenged, perhaps reversed permanently, in the courts... Aren't we, in fact, faced with a disturbing paradox here? Are we moving, perhaps more precipitately than we ever dreamed, into an era where environmental needs take second place to energy needs? ... Again, where does it leave Canada? ... We surely cannot afford to be dragged to any more James Bay judgments by governments that are inspired by a grand design but have forgotten to do their homework.”

The advent of the Metric System was a major concern for contractors. *Heavy Construction News* tried to get to the heart of the matter with an extensive

interview with Stevenson Milne Gossage, chair of the Metric Commission, in the February 4, 1974 issue. Gossage tried to explain the massive scope of the task faced by the construction sector committee.

Metric conversion —pace is stepping up

Gossage says: “...In the construction industry, we have to gather massive data such as construction codes which vary from province to province, and even among some large municipalities.

We will have to look into legislation at the federal, provincial and municipal levels, because legislation is related to those codes and standards. It will take the remainder of the year to gather, catalogue and group those various items...

Using the international system of units is a lot simpler once the designer has mastered the units. He should be able to absorb the SI system and become skilful in a short time.”



Huge hole in downtown Toronto (Yonge St. At right) is 10½-acre site of first phase of Eaton Centre development.

The article went on to emphasize the importance of ongoing education with industry stakeholders.

The 1970s was also an era of massive redevelopment of many Canadian urban cores. A prime example was the massive Eaton Centre retail/office development, which still dominates downtown Toronto, as reported in the March 17, 1975 issue.

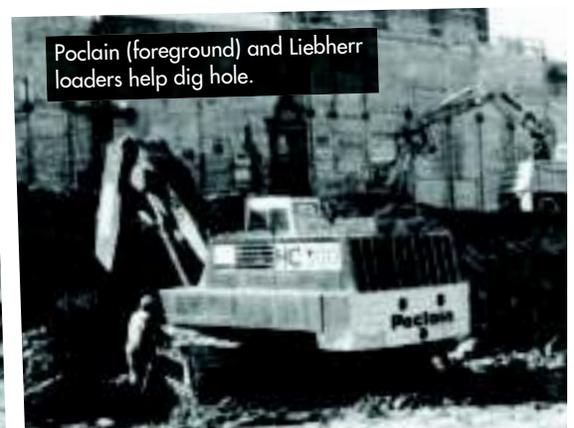
Eaton Centre to enrich Toronto core area

The 3.2-million-sq-ft (297 600 m²) multi-building development is a joint venture of Cadillac Fairview Corp. Ltd., T. Eaton Co. Ltd. and the Toronto-Dominion Bank, all of Toronto.

Phase 1-A, which has already been excavated, will contain four major buildings. They are: an eight-storey Eaton's department store containing one million sq



Four-axle Mack dumps made Toronto debut on this job.



Poclair (foreground) and Liebherr loaders help dig hole.



ft (93 000 m²); Number One Dundas, a 30-storey, 530 000 sq-ft (49 290 m²) office tower; a parking garage, facing on Dundas St., for more than 800 cars; and approximately half of a low-rise retail mall and office complex. The low-rise complex will contain a three-level enclosed shopping street, stores, restaurants and low-rise office levels, and will be capped by another parking garage for more than 800 cars.

Overall, the construction management of the project is being handled by Cadillac Fairview under the direct supervision of P.J. Kelly, general manager, Toronto Eaton Centre.

Working with Kelly are Frank Barrie, vice-president, commercial design and construction, and Ian T. Munro, development construction manager.

Although all work on the development is on a common site, the design and construction responsibility is split between two groups. The Eaton's store building is being handled by one team, while the balance of the development is being executed by another...

Excavation, shoring, underpinning and caissons got under way in June 1974 and was virtually completed by January 1975, only eight months later. Excavation involved the removal of 520 000 cu yd (397 280 m³) of material.

To meet job production requirements, Rumble initially estimated it would have to move an average of at least 2 500 cu yd (1 910 m³) a day over the total time period, including weather delays and downtime from all causes. As it turned out, according to George Rumble, president, the firm actually averaged 3800 cu yd (2 903 m³) a day, including two weeks of downtime caused by administrative delays.

On a typical production day, excavation ranged between 5 000 cu yd (3 820 m³) and 6 000 cu yd (4 584 m³) peaking as high as 7 500 cu yd (5 730 m³).

To keep on top of such a hectic schedule, the firm had as many as 10 hydraulic backhoes, mostly Poclains and Liebherr's, operating in the hole at one time.

Support equipment for the backhoes included a Model 300 Poclair

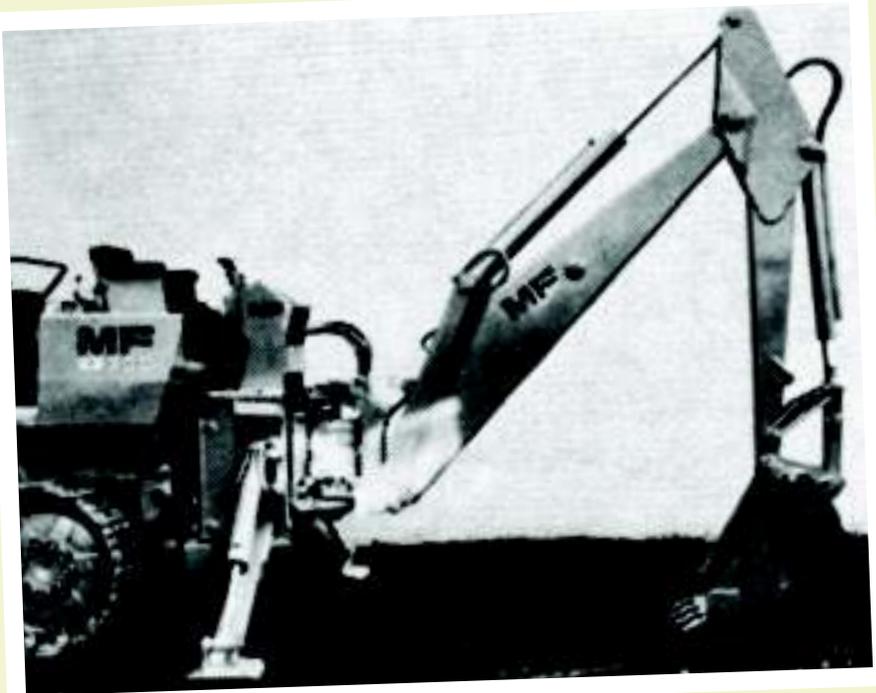
with a 3-cu-yd (2.3 m³) front shovel, a 5-cu-yd (3.8 m³) Cat 983 tracked loader, four smaller Cat 997s and two Cat D8s with rippers. Air-Rams were attached to some of the backhoes when required for demolition work.

Disposal of the excavated material required from 40 to 75 dump trucks, mainly Macks. Most of the dump trucks were three-axle, Model DM 685-Ss, but five or six four-axle Model DMM 6856-EXs, equipped with dump bodies, also were used (for the first time in the Toronto area). They were fitted with Maxidyne Hi-Torque diesel engines and Maxitorque transmissions, with a trans-

m) in bedrock, depending on the location and depth of the final excavation.

Two levels of tiebacks were installed on each pile. The drilling for the tiebacks was done by Laurentian Drilling of Ottawa, with the installation and stressing of the tendons done by Canadian BBR Ltd. of Toronto.

Construction equipment was starting to assume a modern look in HCN's product pages. Attachments were coming into their own, and equipment for Canadian machinery manufacturer Massey Ferguson was no exception.



Attachments for MF Crawler

Massey-Ferguson has two backhoe models and a heavy-duty rigger that can be counted on the MF 300 crawler loader. The backhoes are available in a 12-foot or a 14-foot depth configuration.

They feature four-bar bucket linkage, lock-down stabilizers, seated rotary swing cylinder, centreline-mounted boom and crowd and bucket hydraulic cylinders that apply power to the centre of the digging components. The bucket is adjustable for straight wall digging.

The backhoe or ripper can be attached in minutes with a new mounting kit... ♦

fer case to transmit power to the front axle, thereby giving the truck three-axle drive....

At approximately 25 ft (7.6 m) below grade, Queenston shale was encountered. To keep the lines and tops straight for the subsequent footings excavation, a Model T600B Vermeer rock cutter sawed slots 4-in. (10.1 cm) wide and 31 in. (78.7 cm) deep to accurately locate the work.

Anchor Shoring installed 355 steel soldier piles around the perimeter of the site, using as many as four drilling rigs, primarily the Williams type LDH. The piles were placed 2 ft to 8 ft (0.6 m to 2.4

