KEEFER
LAKEHEAD TERMINAL

Canada's Mid-Continent Seaport

Archive E-23



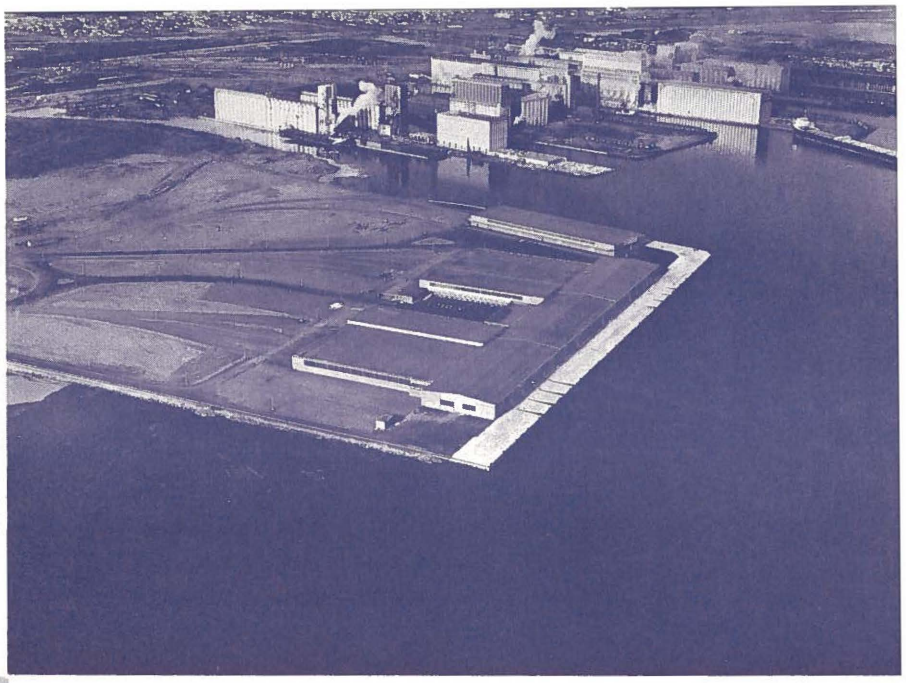
SERVING NORTHWESTERN ONTARIO
AND THE PRAIRIE PROVINCES

OFFICIAL OPENING

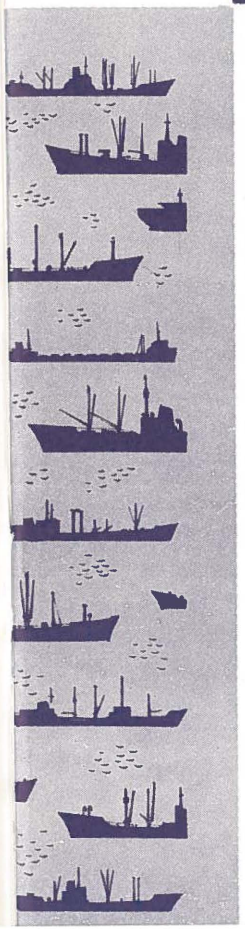
JUNE 23, 1962

BY THE

PRIME MINISTER OF CANADA



AERIAL VIEW OF TERMINAL WITH PORT ARTHUR IN BACKGROUND

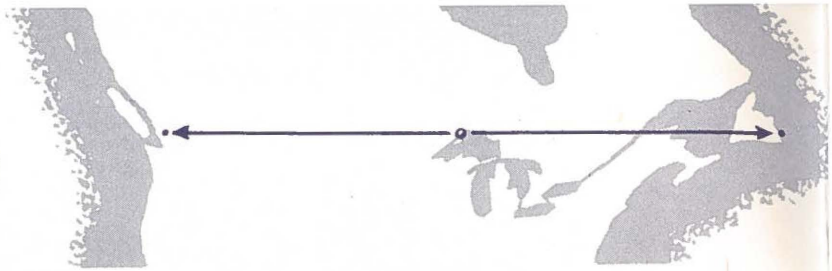


KEEFER LAKEHEAD TERMINAL

CANADA'S MID-CONTINENT SEAPORT

OFFICIAL OPENING

JUNE 23, 1962



EART
NADA

The Lakehead is the true heart of Canada.

If a line is drawn across the Dominion through the southern region
ıe relatively large area from St. John's, Newfoundland to the west
of Vancouver Island, its mid-point lies almost exactly at the Twin
s of Fort William and Port Arthur. Its position at the head of a
water system establishes it as a meeting point between East and
t.

The Lakehead has long been world famous for its grain-handling
bilities and the potentialities offered by the new Seaway were quickly
ɛen by the Federal Government. It was decided that existing grain
lling facilities would be augmented at the earliest possible opportunity
ıe addition of substantial package freight handling facilities. Econo-
s agreed that the increasing demands of the growing western popula-
coupled with the fact that the deepening to Seaway depth of the
ıecting channels between the Great Lakes and the Sea would add to
importance of the Lakehead as a great international Lakes and
Port.

When construction of the St. Lawrence Seaway finally got under
it was natural that the people of the Lakehead and that area stretch-
west to Alberta began to consider the effect of the Seaway on their
ıomy. In 1957 the Federal Government was requested to provide
ıp-to-date terminal for berthing ocean going vessels and for handling
ort and export trade. In this initial stage a great deal of credit must
o the Canadian Lakehead Port Association consisting of the Provinces
Manitoba, Saskatchewan and Alberta and the Cities of Port Arthur
Fort William for directing the attention of the Federal Government
he necessity of providing modern facilities here.

The Federal Government were quick to foresee the necessity of
fied administration of the important harbours of Port Arthur and
t William at the Canadian head of the Seaway. In 1958 an act was
ɛed to incorporate the Lakehead Harbour Commissioners. This act

was assented to on September 6, 1958. It provided for the combining of the harbours of Port Arthur and Fort William into one unit to be known as the LAKEHEAD HARBOUR. It established new harbour limits, which, incidentally, take in considerably more shoreline than was originally included in the two units, and provides for future expansion.

The Act gives the Commissioners wide powers. They have jurisdiction within the harbour limits over harbour-front lands, not including government property except when authorized by Order-in-Council, or private property, except as provided for in the act. The Commissioners may purchase, expropriate, acquire and hold, lease or sell buildings or property, real or personal, within the harbour required for development, improvement, maintenance and protection of the harbour.

The Commissioners will have regulation and control over the use of harbour property. They will have power to construct harbour facilities and sell or lease same. The administration of the Keefer Lakehead Terminal has also been entrusted to their care.

They may construct or lease railway facilities on harbour lands.

All navigation in the harbour is under Commission control and to this end the Commissioners have prepared a comprehensive set of by-laws and general information regarding the control and operation of the harbour, also schedules of port charges which were enacted by Order-in-Council P.C. 1960-53, dated January 14, 1960.

When it was finally decided to augment the existing waterbourne freight handling facilities at the Lakehead the Federal Government in 1958 appointed Sir Alexander Gibb & Partners as Consulting Engineers to recommend and design facilities not only for ocean-going vessels but also for lake vessels carrying package freight.

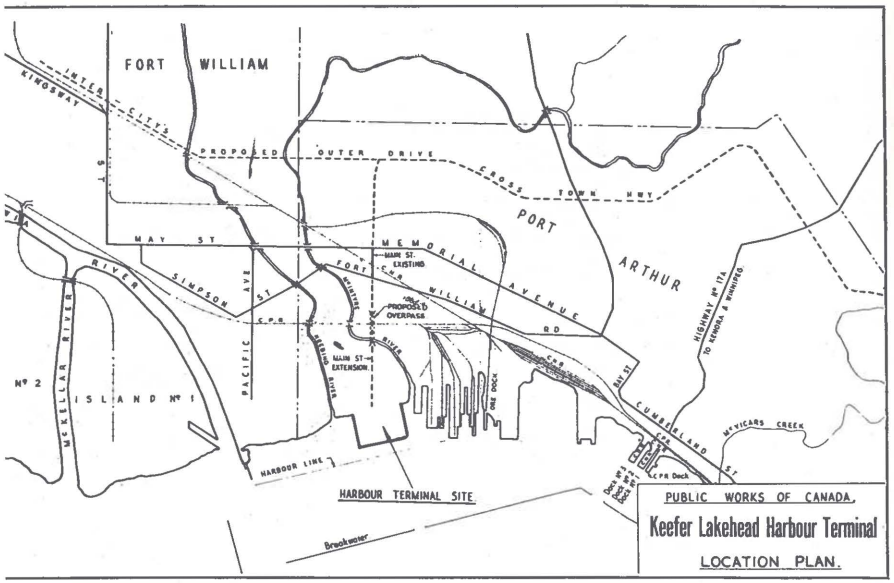
The first problem was the selection of a site for the new Terminal. A vacant area of land and foreshore existed between the two cities but was known to have difficult foundation conditions. Other sites with much better foundations were considered—notably along the south shore of the Mission River—but, in the end, the Consulting Engineers decided to face the engineering problems of the inter-city site because of its paramount advantages from the aspect of shipping and rail access. This site was provided by the City of Port Arthur. It embraces approximately 180

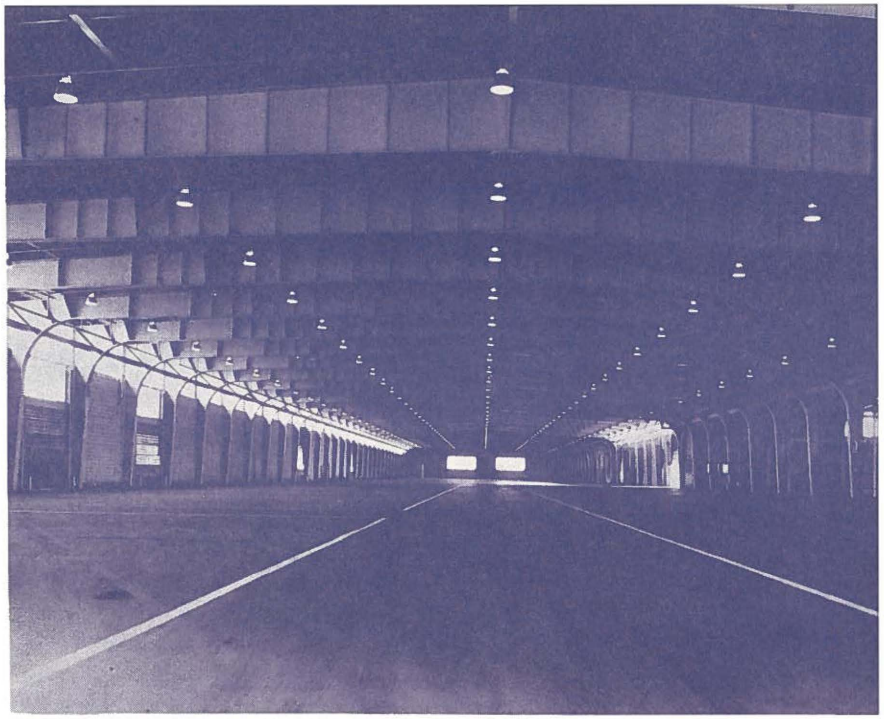
and is adequate for docks, buildings, freight storage areas, access , parking areas, rail connections and marshalling yard included in nitial project. Finally, the whole area has ample room for expansion a substantial acreage for warehousing and appropriate industries.

The area of the chosen site consisted of large deposits of silty sand ying equally large deposits of sensitive varied clay to a total depth of 130 feet. Without going into details of the design, it may be said such soil conditions posed considerable problems in the design of the wharf and the foundations for the buildings.

The Consulting Engineers submitted their report early in 1959 construction began in July of that year.







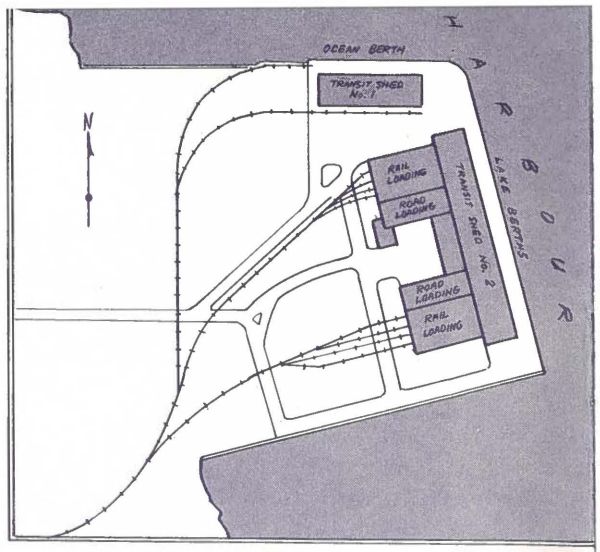
INTERIOR VIEW OF SHED AT TERMINAL



DESIGN OF TERMINAL

One of the most difficult factors to appraise at the outset was the probable effect of the St. Lawrence Seaway. How many ocean-going freighters would, in fact, come all the way to the Lakehead and what tonnage of cargo would they bring? What increase in tonnage carried by lake freighters would there be when larger vessels could operate all the way from Montreal? In the end it was decided that the initial Terminal should consist of one berth primarily for ocean-going freighters and two berths primarily for lake freighters. The berthage provided for lake freighters is considerable less than the existing berthage provided at the old terminals operated by the Canadian National and Canadian Pacific Railways at the Lakehead but it is expected to be adequate for a number of years in view of the smaller number of larger ships and the greater efficiency of operation at the new Terminal.

HANDLING CAPACITY



ıe Consulting Engineer for Terminal, Sir Alexander and Partners, in their re- presented to the Govern- in February 1959 made a ıst of the package freight handled in future years. ıs established that the average annual tonnage of package freight ed through the existing Lakehead facilities for the eight years to 1957 inclusive was:

Westbound	392,000 short tons
Eastbound	239,000 short tons
	631,000 total

It was estimated that the effect of the Seaway and the natural opment of the Western provinces might increase these tonnages by to the following:

Westbound	730,000 short tons
Eastbound	615,000 short tons
	1,345,000 total

These figures were arrived at by adding to the previous eight-year ge handlings the estimated tonnage which the railways would lose ean and lake freighters with the St. Lawrence Seaway completed pen to navigation on a 27 foot draft basis.

After establishing these figures, an annual increment of 3% com- l per annum, was added to provide for the normal rate of increase ıckage freight handled through the Lakehead Harbour. The present nal has therefore been designed to meet the anticipated conditions :able to 1970.

The Terminal as now constructed includes the following facilities:

(1) One spacious transit shed for lake freighter service with a ge area of 120,000 sq. ft., approximately 900 ft. in length x 135 ide—clear span steel trusses.

(2) One transit shed for ocean freighter service with a storage area of 60,000 sq. ft., 450 feet in length x 135 ft. wide—clear span without interior columns.

(3) Complete site enclosing steel revetments.

(4) Concrete aprons 65 feet wide extending full length of both ocean and lake freighter berths.

(5) Track loading platforms with roof cover to accommodate 96 freight cars at the lake freighter transit shed and 20 cars at the ocean freighter shed.

(6) Two spacious truck loading sheds for road transports to accommodate forty trucks loading simultaneously.

(7) Adequate paved parking areas for motor vehicles in transit.

(8) Office accommodation in sheds for auxiliary services, includ- ing Governmental authorities, stevedoring firms, vessel agencies, etc., as well as Harbour Commission employees.

(9) Railroad marshalling yards to accommodate 216 cars with rail connections to both CNR and CPR.

(10) Paved access roads and viaduct over railway yards and McIntyre River to provide truck route to Trans-Canada Highway and both cities.

(11) Terminal Entrance Building to accommodate the Harbour Commission executives and staff.

A summary of the enclosed roof-covered building areas is as follows:

Transit sheds	182,000 sq. ft.
Car and truck loading sheds	171,000 " "
Misc. offices and gate house	20,000 " "
Total covered areas	373,000 sq. ft.
	= 8.5 + acres.

Available Rail Trackage on the Site

Lake Freighter Shed	96 cars
Ocean Freighter Shed	20 "
Dock Frontage	32 "
Total	148 cars
Storage Yard	216 cars
Total	364 cars

Official Opening

KEEFER
LAKEHEAD TERMINAL

Program

CHAIRMAN — R. B. CHANDLER, P.ENG.
CHAIRMAN LAKEHEAD HARBOUR COMMISSIONERS

O'CANADA

CHAIRMAN'S REMARKS — R. B. CHANDLER

DEDICATION — THE MOST REVEREND E. Q. JENNINGS
BISHOP OF FORT WILLIAM

PRESENTATION OF SYMBOLS OF TRADE AND INDUSTRY

THE HONOURABLE E. GURNEY EVANS
MINISTER OF INDUSTRY AND COMMERCE FOR THE PROVINCE OF MANITOBA

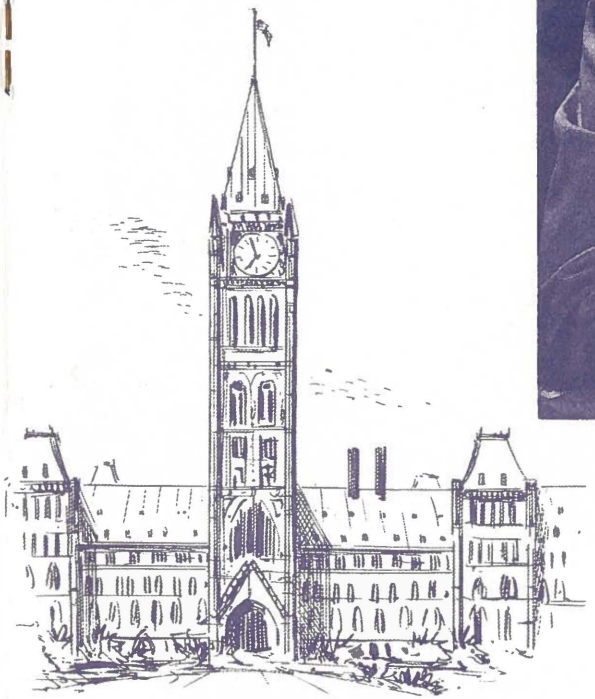
THE HONOURABLE WALTER DINSDALE,
D.F.C., M.A., M.P.
MINISTER OF NORTHERN AFFAIRS AND NATIONAL RESOURCES FOR CANADA
Representing The Prime Minister of Canada

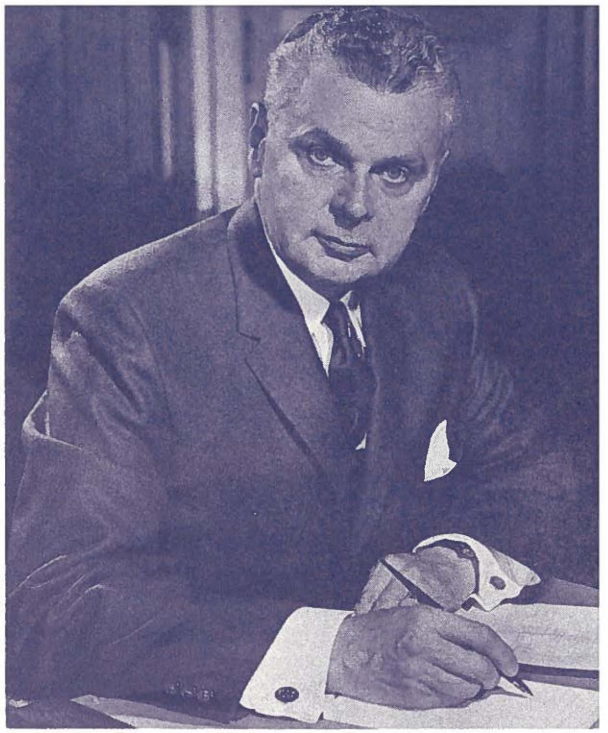
OFFICIAL OPENING OF TERMINAL

GOD SAVE THE QUEEN

Symbolic Loading of First Cargo
by
The Honourable Walter Dinsdale
followed by Tour of Terminal Facilities

FORT WILLIAM GIRLS' PIPE BAND
PORT ARTHUR GIRLS' PIPE BAND
H. M. C. S. GRIFFON BAND

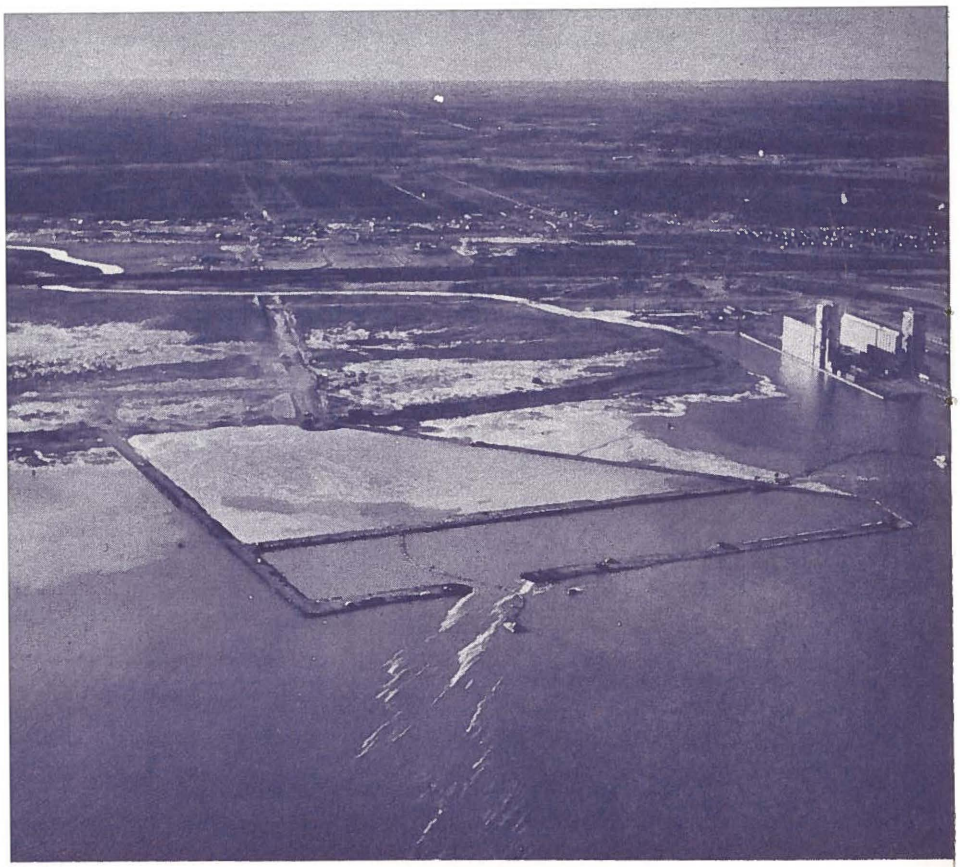




THE RIGHT HONOURABLE
JOHN G. DIEFENBAKER
P.C., Q.C., M.P.
Prime Minister of Canada



THE HONOURABLE
WALTER DINSDALE,
D.F.C., M.A., M.P.
Minister of Northern Affairs and National Resources





CONSTRUCTION

The area on which the Terminal is built lies well beyond the original shoreline and the land behind it is bounded on the other three sides by two rivers and extensive rail yards. The first phase of the work was, therefore, to provide access to the site and to the water's edge. This was followed by constructing a pattern of gravel causeways forming lagoons into which sand from the dredging operations in the adjacent harbour was pumped to reclaim the Terminal area.

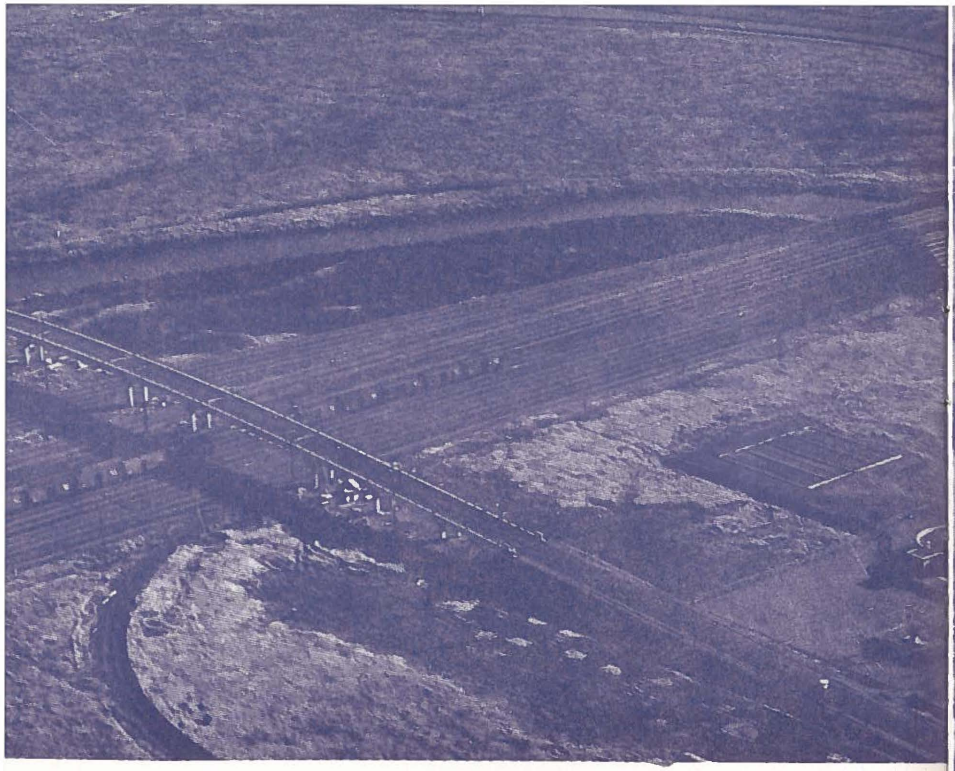
Construction of the wharfs was carried out concurrently with the latter stages of the dredging and reclamation. Originally, a sheet-pile bulkhead type of wharf had been envisaged but detailed studies of the soil strata indicated that it would have to be abandoned in favour of an open concrete deck supported on bearing piles. The engineers were thus faced with designing a type of bearing pile which would carry the required load in the silty sand above the clay. After a number of driving and loading tests, a pile was selected consisting of a steel stem with the lower portion widened out by bolting on two 12" x 12" timbers to give added bearing capacity to each pile.

The largest stage of the work was the construction of all the buildings with their foundations and services. The contract for this work of nearly $4,000,000 was started in January, 1961, and virtually completed eleven months later. The shed structures are supported on friction piles driven into the silty sand. The shed floors rest on gravel fill so as to reduce the settlement that would have occurred if the fine silty sand dredged from the lake bed had been used exclusively.

Although temporary access to the site had been provided from the north and south across the McIntyre and Neebing Rivers, it was decided that permanent access to the Terminal should be from the west across the railway yards. This overpass, which crosses twenty rail tracks and the McIntyre River, consists of three central spans of steel girders over the tracks and approach spans of pre-stressed concrete beams. The central spans were designed for rapid erection and were, in fact, erected without any interruption to rail movement below.

The construction of the Terminal involved a peak labour force on site of 385 and gave indirect employment to many other local workers through the numerous local sub-contractors and suppliers.

The consensus of opinion of Port authorities who have seen our facilities is that the Keefer Lakehead Terminal design is unparalleled at any Port in Canada.

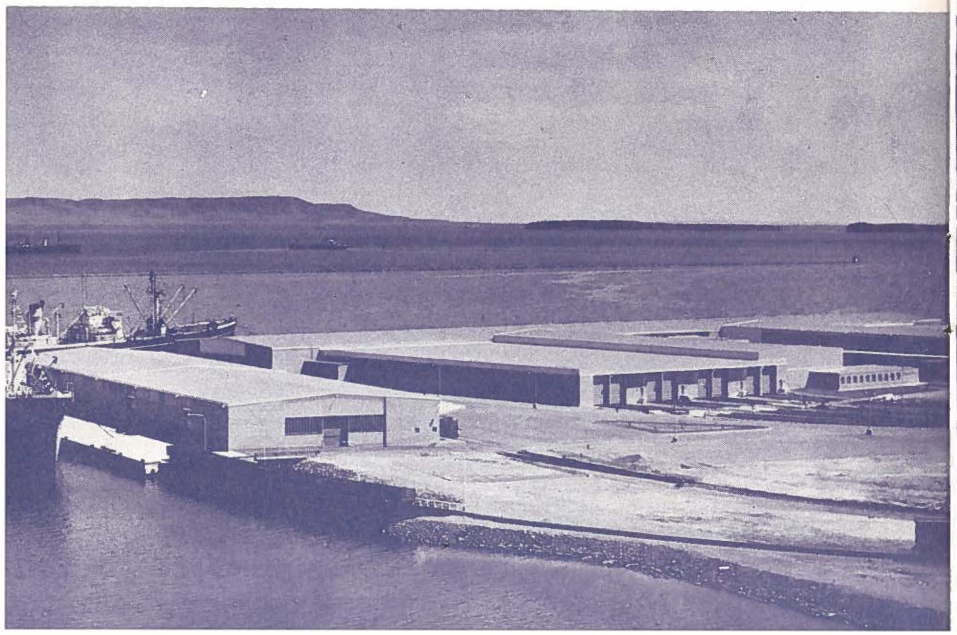


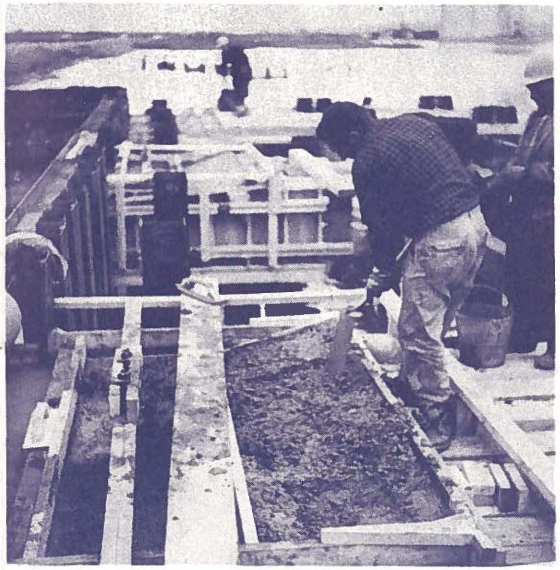
/ OVERPASS SPANNING TWENTY
RAILROAD TRACKS AND THE
McINTYRE RIVER PROVIDING
ELLENT ACCESS TO THE NEW
TERMINAL

VIEW — EARLY JUNE 1962

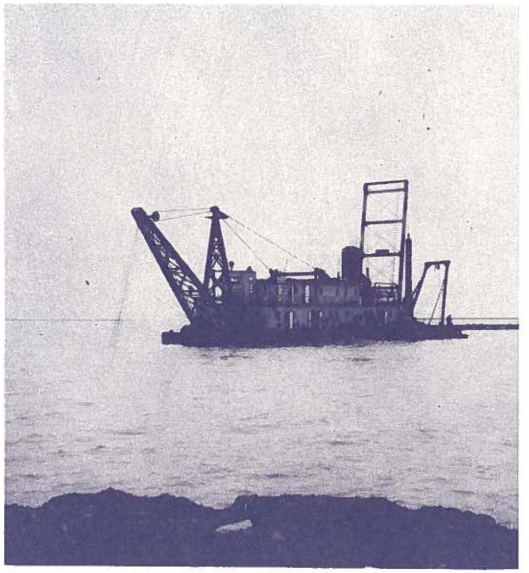


AERIAL VIEW OF THE CITY OF FORT WILLIAM

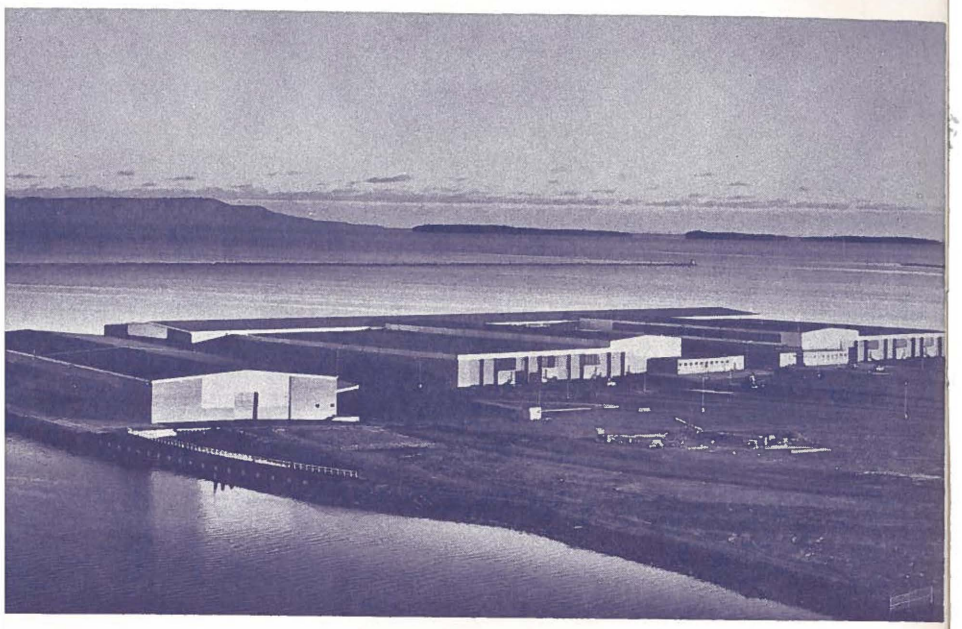




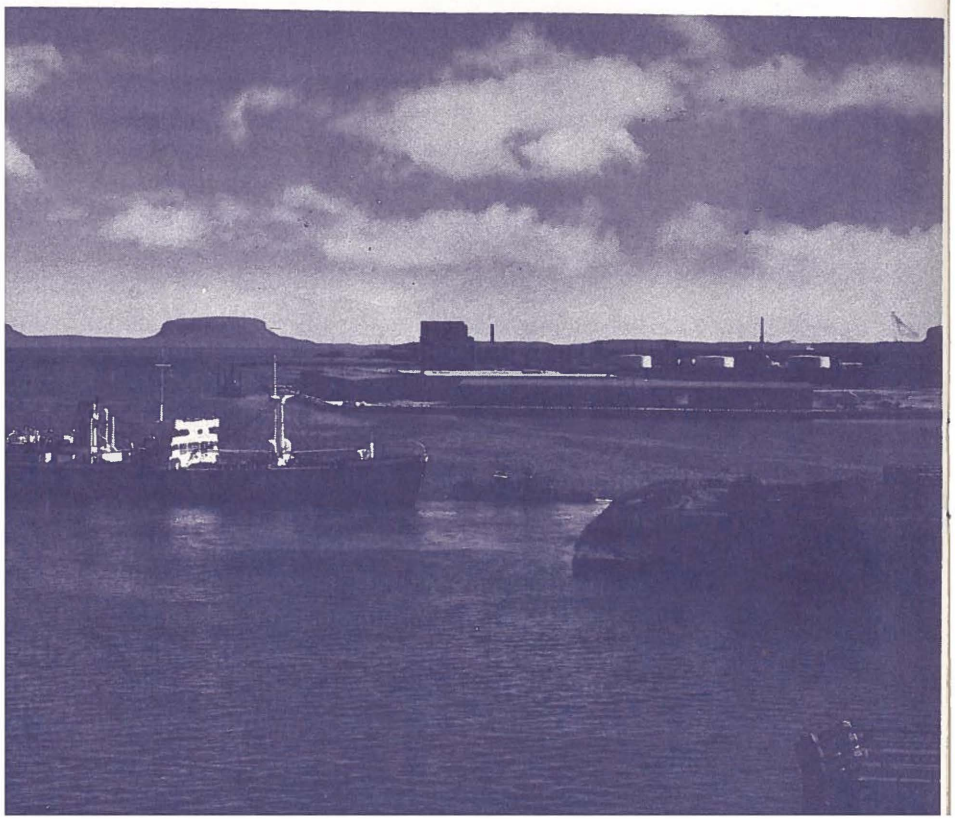
GENERAL CONSTRUCTION SEPTEMBER 1960



DREDGING OPERATIONS SEPTEMBER 1960



Keefer Lakehead Terminal



LAKEHEAD HARBOUR COMMISSIONERS

LAKEHEAD HARBOUR COMMISSIONERS
PORT ARTHUR · FORT WILLIAM

CHAIRMAN ..... R. B. CHANDLER, P. ENG.

VICE-CHAIRMAN ..... D. B. MCKILLOP, P. ENG.

COMMISSIONER ..... F. H. BLACK, O.B.E., F.C.A.

COMMISSIONER ..... G. F. MCDOUGALL

COMMISSIONER ..... J. E. YOUNG

SECRETARY ..... K. MCCUAIG

GINEERS



Department of Public Works of Canada
Harbour and Rivers Engineering Branch

Engineer ..... G. Millar
Planning and Construction Division ..... G. T. Clarke
J. E. Bright
ıl Project Engineers ..... C. D. Stothert
M. W. Paul
ct Engineer ..... E. B. Ashton
ılting Engineers:
Sir Alexander Gibb and Partners
Chief Engineer ..... A. C. R. Albery
Resident Engineer ..... H. J. Moorhead
iate Architects:
L. Y. McIntosh and Associates ..... L. Y. McIntosh

Contractors

der Bay Harbour Improve-
nts Ltd.—Access Bridges
l Roads

ert-Morris Ltd.—
aining Berms and Fill

ond International Co. Ltd.—
edging and Wharf

ımara Construction Ltd.—
eds and Roads

ıoil Construction Ltd.—
erpass and Entrance Bldg.

ead Track Installations
l.—Trackage

on Company Ltd.—
ıter Lines

haws Steel Ltd.—
ıding Ramps

Major Sub-Contractors

Contractors Equipment Pool Ltd.—Excavations and Fill

Nor-Shore Ready Mixed Concrete

Barnett-McQueen Co. Ltd. Piling

M. F. Mills Steel Construction Co. Ltd.—Strut Steel

G. M. & H. O. Holmes Ltd. Roofing

L. A. Greene & Co. Ltd.—
Plumbing and Heating

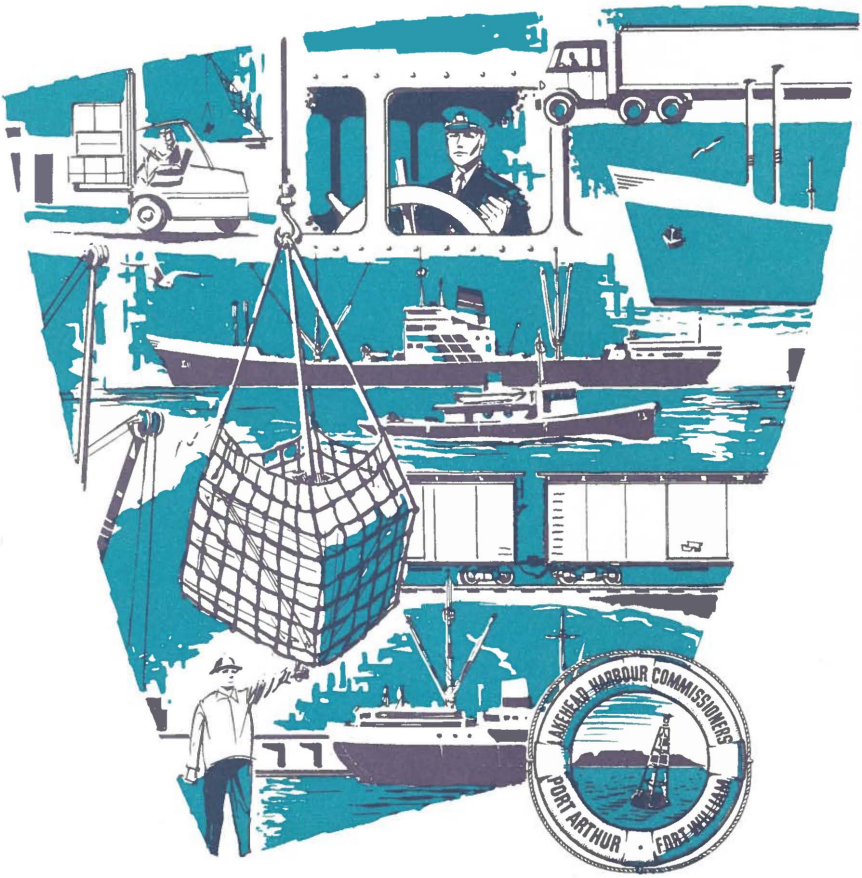
Clow Darling Plumbing and Heating Co. Ltd.—Sprinklers

Mahon Electric Co. Ltd.—
Electrical

Port Arthur Shipbuilding Co.—
Strut Steel Overpass

Northern Wood Preservers Ltd.—
Treated Woods

The Canadian Lakehead



PORT ARTHUR - FORT WILLIAM