

DEPARTMENT OF HIGHWAYS ONTARIO

MEMORANDUM

To: Mr. C. S. Moase,
Manager,
Special Services Section.

From: Mr. A. G. Stermac,
Principal Foundation Engr.,
Foundation Section,
Materials & Research Division.

Date: October 16, 1963.

Our File Ref.

In Reply To

SUBJECT:

FOUNDATION INVESTIGATION

For

Proposed Patrol Yard at Kleinburg,
Lot 31, Con. 8, Twp. of Vaughan,
District No. 6

W.J. 63-F-115 -- (W.P. Nil)

A patrol garage is planned to be built on Lot 31, Con. 8, Twp. of Vaughan, adjacent to Hwy. 27. A foundation investigation was requested by the Special Services Section in a memo dated September 23, 1963. In order to determine the subsoil conditions at this site and decide on the type and elevation of footings to be recommended, an investigation consisting of two sampled borings and three dynamic cone penetration tests was carried out on October 4, 1963. Attached to this report is a drawing (63-F-115), showing the locations of these borings, together with the inferred soil stratigraphy.

Subsoil conditions in the area are generally uniform and favourable. Underlying a thin layer of topsoil, is a deposit of glacial till consisting of clayey silt with traces of sand and fine gravel. This till material is in a compact to very dense state of compaction. It is brown in colour at its upper surface due to desiccation, becoming grey, below a depth of about 14 feet.

cont'd. 1/2

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This layer was investigated to a maximum depth of 21 feet.

No ground water level could be observed in any of the boreholes during the time of this investigation, due to the low permeability of the subsoil.

Spread footings are recommended. A safe bearing load of 2 tons per square foot can be used. Footings should be placed at least five feet below the ground surface for adequate frost protection. No dewatering problems are anticipated.

Recommendations pertaining to paved and gravelled areas have been given to us by Mr. T. J. Kovich, Regional Materials Engineer, and are as follows:

For all service, parking and other areas to be paved or gravelled, the topsoil should be shipped and replaced with granular courses consisting of 6 inches of G.B.C. Class 'A' over 15 inches of G.B.C. Class 'B'.

A 2" thickness of HL-6 is recommended for all paved areas as a base course, with 1½" thickness of HL-3 as a wearing surface.

A well supplying water to a private dwelling is located some 60 feet west of the site. In view of the fairly impermeable nature of the subsoil, the dangers of salt contamination are not too high. However, precautions to prevent any contamination by surface run-off, should be taken. The ground surface in the area is undulating and at the site of the proposed storage area, the slope is towards the east. If the ground profile is kept the same after construction of the yard, drainage from the storage area will be away from the existing well, and no contamination problem will arise from surface drainage.

cont'd. /3 ...

October 16, 1963

The field work was carried out during the period October 4 - 7, 1963, under the supervision of Mr. B. M. Chadiali, Project Foundation Engineer, who also prepared this report under the general supervision of Mr. M. Devata, Senior Foundation Engineer. Equipment was owned and operated by Canadian Longyear Co. Ltd.

We trust that the given recommendations are sufficient for your future design work. However, should there be any additional questions you would like to discuss, please feel free to call on our Office.

BMG/MdeF
Attach.

cc: Messrs. C. S. Moase (4)
E. J. Orr
H. D. McMillan
C. Fraser
T. J. Kovich
A. Watt

Foundations Office
Gen. Files, ✓

Y. Lo,
SUPERVISING FOUNDATION ENGR.
For:
A. G. Stermac,
PRINCIPAL FOUNDATION ENGR.

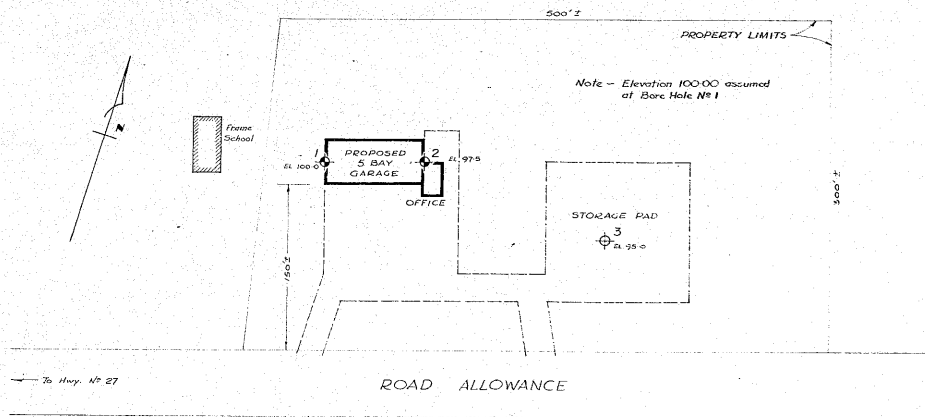
APPENDIX I.

#63-F-115

PATROL

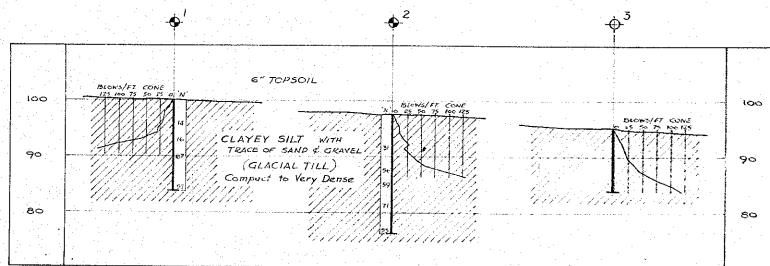
YARD AT

KLEINBURG



PLAN

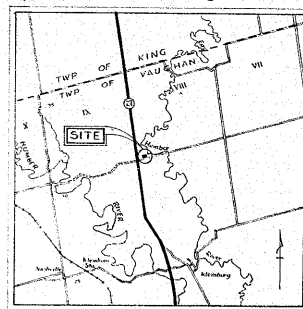
Scale - 1" = 50'



SUB-SOIL STRATIGRAPHY

Scale - 1" = 10'

009000 E
48 57750 N 17 30M13E



KEY PLAN
Scale - 1 inch = 0.5 miles

- Cone Penetration Hole
- Bore & Cone Penetration Hole

NOTE
THE BOUNDARIES BETWEEN SOIL STRATA HAVE BEEN ESTABLISHED ONLY AT BORE HOLE LOCATIONS. BETWEEN BORE HOLES THE BOUNDARIES ARE ASSUMED FROM GEOLOGICAL EVIDENCE AND MAY BE SUBJECT TO CONSIDERABLE CHANGE.

DEPARTMENT OF HIGHWAYS - ONTARIO			
MATERIALS & RESEARCH SECTION			
KLEINBURG PATROL YARD			
SHOWING POSITIONS & ELEVATIONS OF HOLES			
RDY	DISTRICT 49	COUNTY YORK	
TOWNSHIP VAUGHAN	LOT 31	CON. VIII	
LOCATION APPROX. 2 MILES NORTH OF KLEINBURG			
DRAWN BY H. D. D.	CHECKED BY	IN CHARGE	
DATE 25 OCT 63	APPROVED BY	DRAWING NO.	
SCALE AS SHOWN			63-F-115A