

#64-F-11

HWY #17

PROP. PATROL  
YARD,

THESSALON

## MEMORANDUM

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

FROM: Foundation Section,  
Materials & Research Div.,  
Room 107, Lab. Bldg.

DATE: March 17, 1964

OUR FILE REF.

IN REPLY TO

## SUBJECT:

## FOUNDATION INVESTIGATION REPORT

For

Proposed Patrol Yard on Hwy. 17  
East Half Section 33, Twp. of  
Thessalon -- District No. 18

W.J. 64-F-11 -- W.P. (Nil)

A patrol yard is planned to be constructed at the above-mentioned site in the Twp. of Thessalon. A foundation investigation was requested by the Special Services Section in a memorandum dated February 14, 1964. A field investigation consisting of two sampled boreholes, two dynamic cone penetration tests and two shallow holes by means of a hand-auger, was undertaken by Mr. E. R. Saint, Regional Materials Engineer, North Bay.

Attached to this report is a drawing (64-F-11A) showing the locations of these borings, together with the inferred soil stratigraphy. The locations and the soil stratigraphy have been obtained from the information delivered to us by the Regional Materials Engineer. Determination of Atterberg limits, moisture content, unconfined compression and visual classification tests were carried out in the laboratory, on samples received.

cont'd. /2 ...

March 17, 1964

Subsoil conditions are as follows:

Underlying a thin layer of topsoil, is a layer of firm to stiff silty clay of medium to high plasticity, extending to a depth of 10 to 16 feet below the ground surface. Below this layer of cohesive material is a shallow layer of glacial till overlying rock. The thickness of the till layer is estimated to be about 5 feet and it consists of sand, gravel and clayey silt.

No data regarding ground water is available, but due to the impervious nature of the upper cohesive layer, few problems with respect to contamination are foreseen.

Spread footings are recommended. A safe bearing load of one ton per square foot can be used for footings founded at a depth to provide adequate frost protection.

The sand pile at the present location, may be built to a maximum height of 20 ft. for stable conditions.

Recommendations pertaining to paved and gravelled areas have also been given by the Regional Materials Engineer, and are as follows:

All topsoil should be removed before any base is placed. It is recommended that a minimum depth of 30 inches of granular type material be used for all roadway parking areas, entrances and sand pile pads. This depth to consist of 24 inches of Sand Cushion and 6 inches of G.B.C. Class 'A' or 5/8" crushed gravel type 'A'. This base should be paved with two 1-1/2" layers of HL-4 material.

cont'd. /3 ...

March 17, 1964

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  
A. A. Ward  
E. R. Saint  
A. Watt

Foundations Office  
Gen. Files

*no.*  
K. Y. Lo,  
SUPERVISING FOUNDATION ENGR.  
For:  
A. G. Stermac,  
PRINCIPAL FOUNDATION ENGR.

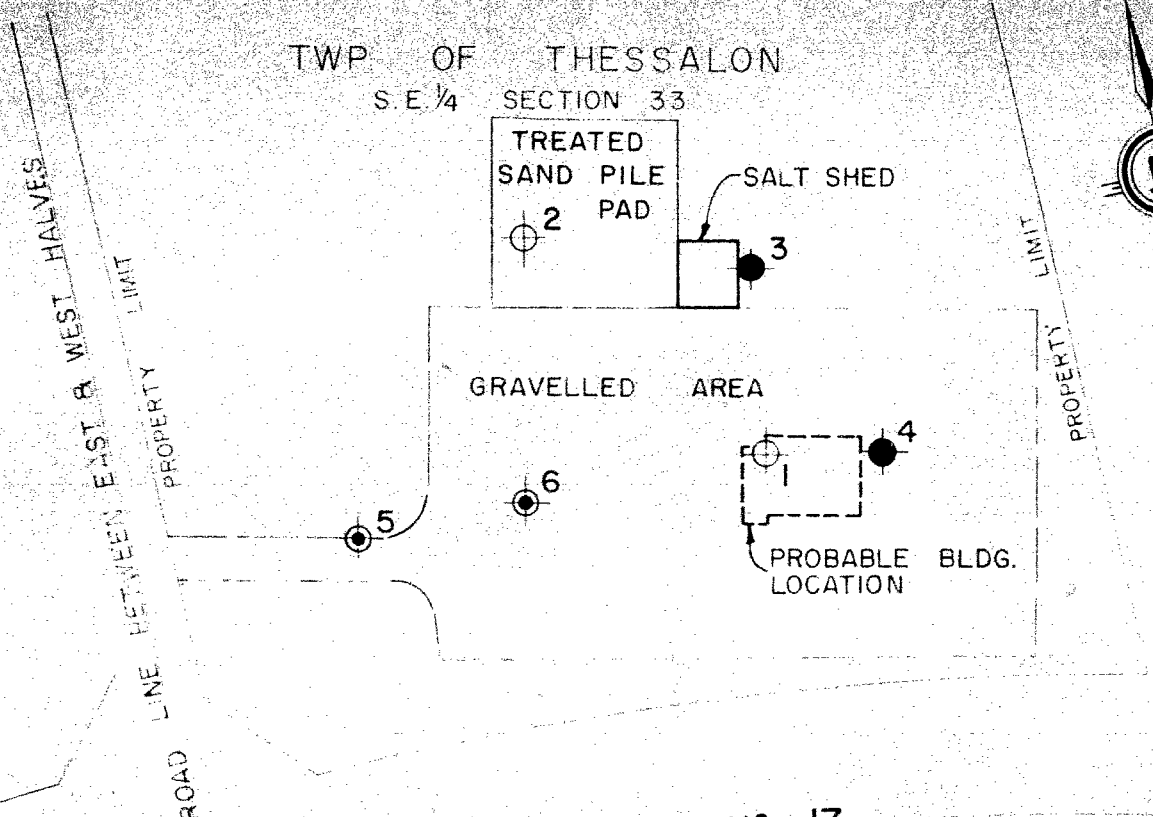
OVER

APPENDIX I.

APPENDIX I.

305450 E } 41JSE.  
5127050 "

TWP OF THESSALON  
S.E. ¼ SECTION 33

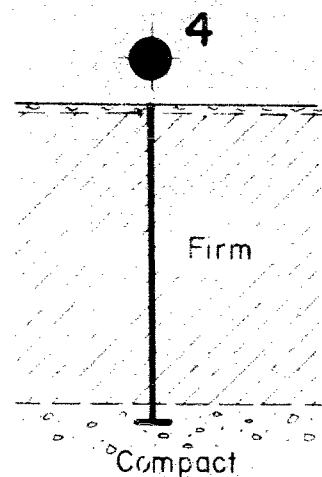
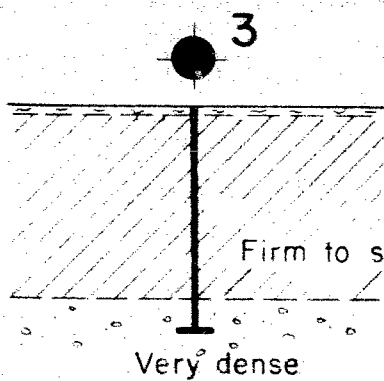


PLAN

SCALE 1" = 100'

LEGEND

- BOREHOLE
- ⊕ CONE PENETRATION
- ⊙ AUGER HOLE



BOREHOLE STRATIGRAPHY

SCALE 1" = 10'

ORIGINATED *B.S.*  
DRAWN S.O.  
CHECKED *SK*  
APPROVED *M. Savata*  
DATE 23 MARCH 1964

DEPARTMENT OF HIGHWAYS - ONTARIO  
MATERIALS & RESEARCH SECTION

THESSALON PATROL YARD

SCALE AS SHOWN  
W.P. NO. \_\_\_\_\_  
JOB NO. 64-F-11  
DWG. NO. 64-F-11A

## MEMORANDUM

TO: Mr. A. Stermac  
Principal Foundations Engineer  
Downsview, Ontario

FROM: Materials & Research  
North Bay, Ontario

DATE: March 2, 1964

OUR FILE REF.

IN REPLY TO

64-F-11

SUBJECT: Thessalon Patrol Yd. L.P.O. H 199641, North side of  
Hwy. #17, East half section 33, Township Thessalon

A soils investigation was carried out on the above site on Feb. 26 and 27, 1964 using a standard diamond drill rig adapted for soil sampling and hand equipment.

Samples were taken and forwarded to the testing lab. The penetration tests indicated bedrock at 15 and 20' below ground level. The bedrock is overlayed with 4' to 5' of sand. Above this sand there is a layer of firm to stiff clay which is covered with 6" to 8" of topsoil.

The upper clay layer is impervious and there will be very little subsurface drainage.

All topsoil should be removed before any base is placed. It is recommended that a minimum depth of 30" of granular type material be used for all roadway parking areas, entrances and sand pile pads. This depth to consist of 24" of sand cushion and 6" of G.B.C. Class A or 5/8" crushed gravel type A.

This base should be paved with two 1½" layers of HL4 material.



Doug Armatage

for: E.R. Saint  
Reg. Mat. Eng.

DA/ef  
c.c. N.D. Smith  
File.