

22-11

Mr. F. E. Cavell,
Superintendent,
Special Services Section,
Materials & Research Section,
(Foundations Office).

October 2, 1961.

D.H.C. FOUNDATION INVESTIGATION
REPORT
W.J. 61-F-58 -- District #11.

Attention: Mr. K. Hobbs.

Re: PROPOSED NEW PATROL YARD AT BAYSVILLE, CNT.

About one mile north of Bayaville, adjacent to, and west of Hwy. #527, it is proposed to construct a 4-bay metal garage, a salt shed and various paved and gravelled areas. The exact proposed locations of these latter, are shown on Dwg. #5-145; also on Dwg. #61-F-58a.

A foundation investigation was carried out by this Section on June 20th, 1961, to determine the subsoil conditions existing at the site. At that time, Plan #5-145 was not available; therefore, boreroles were located in order to give a general picture of subsoil conditions over the whole site. A total of 7 boreroles and one dynamic cone penetration test, was carried out. The locations and elevations of these, together with the estimated stratigraphical profile, may be seen on Dwg. #61-F-58a. Boreroles were established in the field by the Field Engineer. Elevations were later obtained from the contoured plan on Drawing #5-145.

cont'd. /2 ...

Subsoil at the site consists of granular deposits, mostly silts and fine to medium sands varying randomly both in relative density and deposition. Sampling techniques employed involved the use of an auger which, when removed from the boreholes, tended to set up a temporary running sand condition when the hole was below the water table in a granular stratum. It is possible, therefore, that 'N' values so obtained, gave a smaller value than the true.

The water table at the time of the investigation, varied from one to two feet below the surface. This will, no doubt, vary seasonally and should be determined again at the time of construction. A swampy area on the north boundary of the site is probably responsible for the high water table.

It is recommended that the foundations for the two structures be placed at least six feet below the ground surface. A dewatering scheme will be necessary. If sheeting is used for this, it must be driven to an adequate depth below the bottom of the excavations. This depth will depend on the height of the prevailing water table above the bottom of the excavations and should be equal to it. It is pointed out that sheeting driven to an inadequate depth will result in quick conditions which will lower the bearing capacity of the subsoil. A design load of 0.75 tons per square foot, may be used for the building foundations, and must include the maximum loadings due to crane loads, etc., which are likely to occur after the structures are in use. The above design

load is based on a possible differential settlement of up to one inch and the footings should be designed accordingly.

It is recommended that all topsoil over construction areas should be removed. Where fill is necessary, this should consist of acceptable sand cushion. The top 6" of gravelled areas, paved areas, and roadways, should consist of G.B.C. Class 'A' material. Surfacing for the paved area should consist of 2" of H.L.-4.

REPORT PREPARED BY:

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K. C. Selby,
SR. PROJECT FOUNDATION ENGINEER

REPORT APPROVED BY:

A. G. Sterns
.....
A. G. Sterns,
PRINCIPAL FOUNDATION ENGINEER.

cc: Messrs. F. E. Cavell (2)
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J. B. Graspier
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Gen. Files

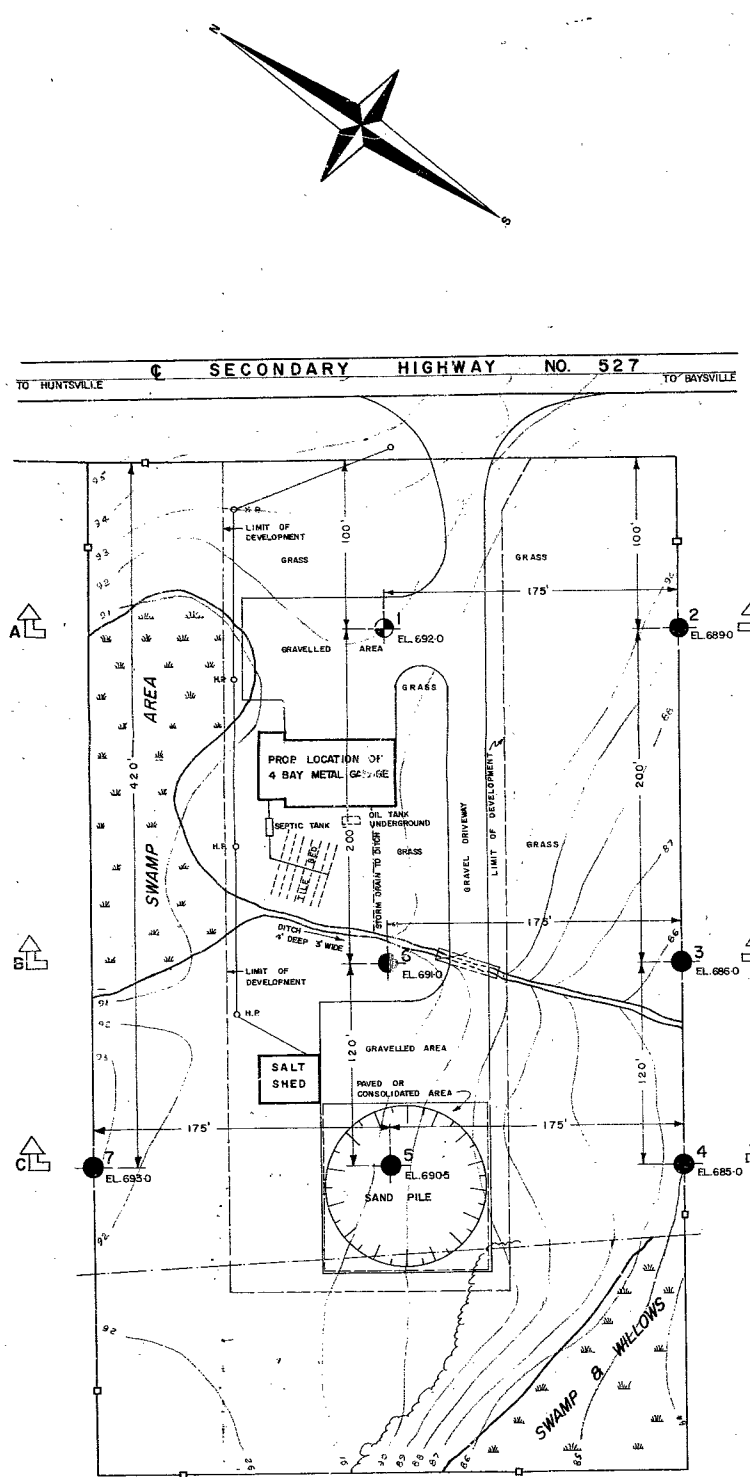
APPENDIX I.

#61-F-58

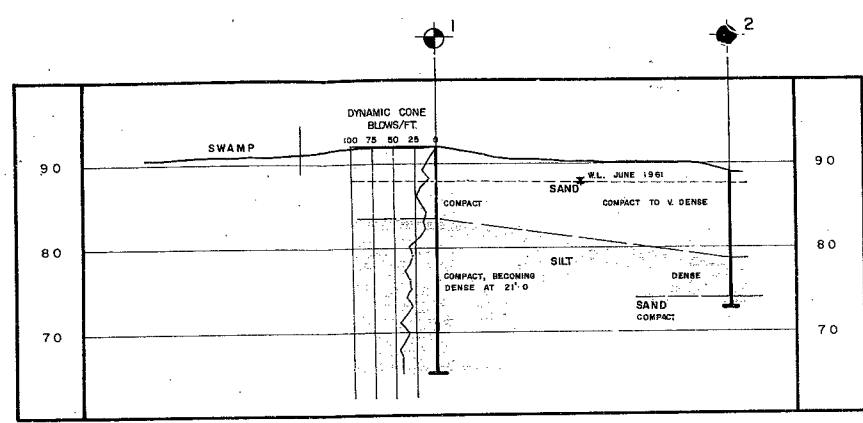
PROP. NEW

PATROL YARD

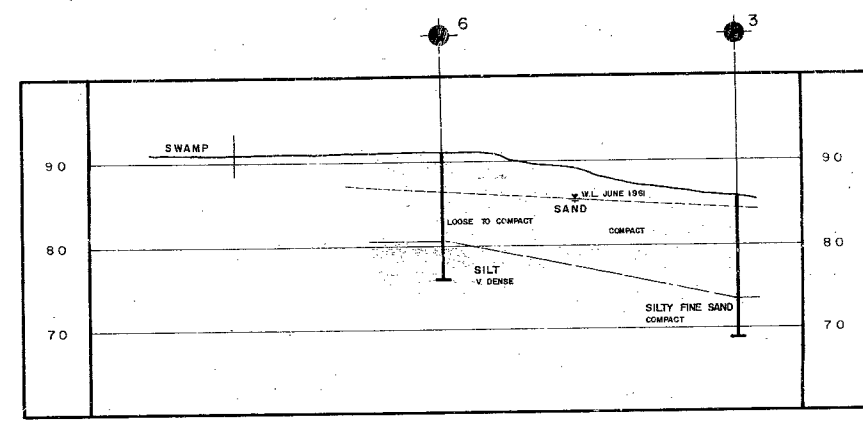
AT BAYSVILLE



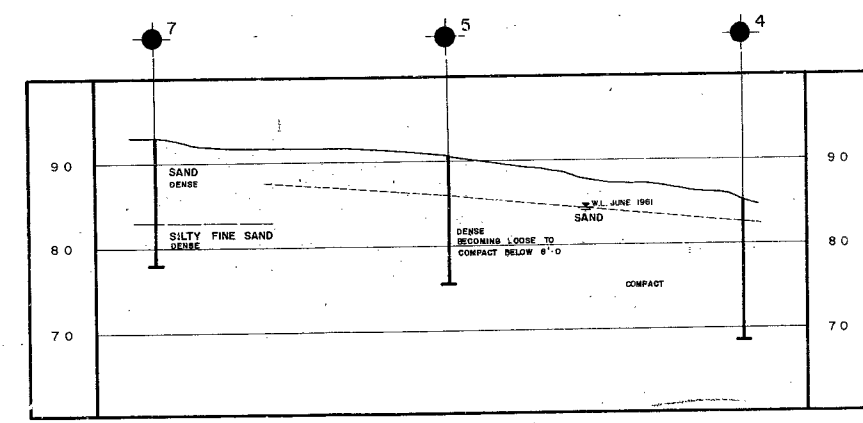
PLAN
SCALE: 1 in. = 50 ft.



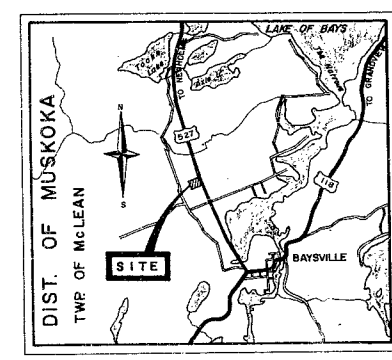
A - A
SCALE: HORIZ. 1 in. = 50 ft.
VERT. 1 in. = 10 ft.



B - B
SCALE: HORIZ. 1 in. = 50 ft.
VERT. 1 in. = 10 ft.



C - C
SCALE: HORIZ. 1 in. = 50 ft.
VERT. 1 in. = 10 ft.



KEY PLAN
SCALE: 1 in. = 0.8 mi.

LEGEND	
	BORE & PENETRATION HOLE
	BORE HOLE
	WATER LEVELS ESTABLISHED AT THE TIME OF FIELD INVESTIGATION. (JUNE 1961)

647000
5002450
315315
17

- 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 ERROR.

DEPARTMENT OF HIGHWAYS - ONTARIO		
MATERIALS & RESEARCH SECTION		
PROPOSED BAYSVILLE PATROL YARD		
ORIGINATED K. SELBY	DISTRICT NO. 11	DATE 2 OCTOBER 1961
DRAWN D. MUMFORD	W.P. NO.	JOB NO. 61-F-58
CHECKED <i>[Signature]</i>	SCALE	DRAWING NO.
APPROVED <i>[Signature]</i>	AS SHOWN	61-F-58A