

DOCUMENT MICROFILMING IDENTIFICATION

GEOCRES No. 31 F - 77

W.P. No. _____

CONT. No. _____

W. O. No. _____

STR. SITE No. _____

HWY. No. _____

LOCATION PROP. NEW STRUCTURE
LOT 9, CON'S 4 & 5
HUNTLEY TWP.

OVERSIZE DRAWINGS TO BE INCLUDED WITH THIS REPORT. NONE

REMARKS: _____

INSPECTION SERVICES
LABORATORY TESTING
APPRAISALS, RESEARCH
SOIL INVESTIGATIONS

JOHN D. PATERSON & ASSOCIATES

CONSULTING ENGINEERS & GEOLOGISTS
OTTAWA 3, CANADA

OFFICES AND LABORATORY
1479 LAPERRIERE AVE.

TEL. PA 8-3505

BA ~~1647~~
1664

3-216

31F-77
GEOCRES No.

REPORT OF SOIL INVESTIGATION

PROPOSED NEW STRUCTURE

LOT 9 CONCESSIONS 4 AND 5

TOWNSHIP OF HUNTLEY

_____ " _____

ALEX J. GRAHAM

CONSULTING ENGINEER

REPORT NO. S 328-63

OTTAWA, JUNE 11th, 1963



JOHN D. PATERSON & ASSOCIATES

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INTRODUCTION:

At the request of Mr. Alex J. Graham, Consulting Engineer on behalf of the Township of Huntley, a soil investigation was conducted at the site of a proposed new structure on Lot 9, Concessions 4 and 5, Huntley Township. The new structure is to be relocated somewhat to the north of an inadequate existing bridge to accommodate a rerouting of the stream.

FIELD WORK PROCEDURE:

A full scale test hole was put down at Sta. 3+38.5 in which the soils were sampled, bedrock located, and a cone probe driven. A cone probe was also driven at Sta. 2+99 to check the uniformity of the soils.

The location of the holes with respect to the centre line of the road are shown on the Test Boring Plan.

The field work was terminated at this point on orders from Mr. Graham.

The firm of F. E. Johnston Drilling Company was employed for all drilling operations. Their work was supervised at all times by a member of our Staff.

The equipment used consisted of a standard drilling rig, fully equipped for soils testing and mounted on a trailer.

SAMPLING AND TESTING:

Samples of the clay were recovered by means of thin-walled Shelby tubes. The ends of each were sealed with wax. In the laboratory samples TW 4, TW 6, and TW 7 were tested for unconfined compressive strength.

Granular samples were recovered by means of a split spoon sampler and retained in plastic bags. During the recovery of each sample, the Standard Penetration Test was conducted and the results were recorded as "N" values.

A core sample of bedrock was recovered by diamond drilling, classified and retained in a core box.

...../2

OBSERVATIONS:

(a) Soil Types:

In hole No. 1 the following soil profile occurs.

0	-	0.5	-	Topsoil
0.5	-	3.5	-	Varved silty clay and sand
3.5	-	10	-	Stiff grey silty fissured clay
10	-	21.5	-	Stiff grey silty clay
21.5	-	24.3	-	Glacial till
24.3	-	29.3	-	Bedrock - shaly limestone

Details of bore hole 1 and an interpretation of hole 2 based on cone blows per foot are shown on the Soil Profile sheet.

(b) Ground Water:

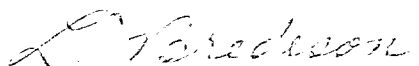
The ground water level in hole No. 1 at the completion of the field work was found to be 1.5 below ground surface (el. 91.1) which corresponds fairly well to the stream elevation 90.8.

(c) Test Results:

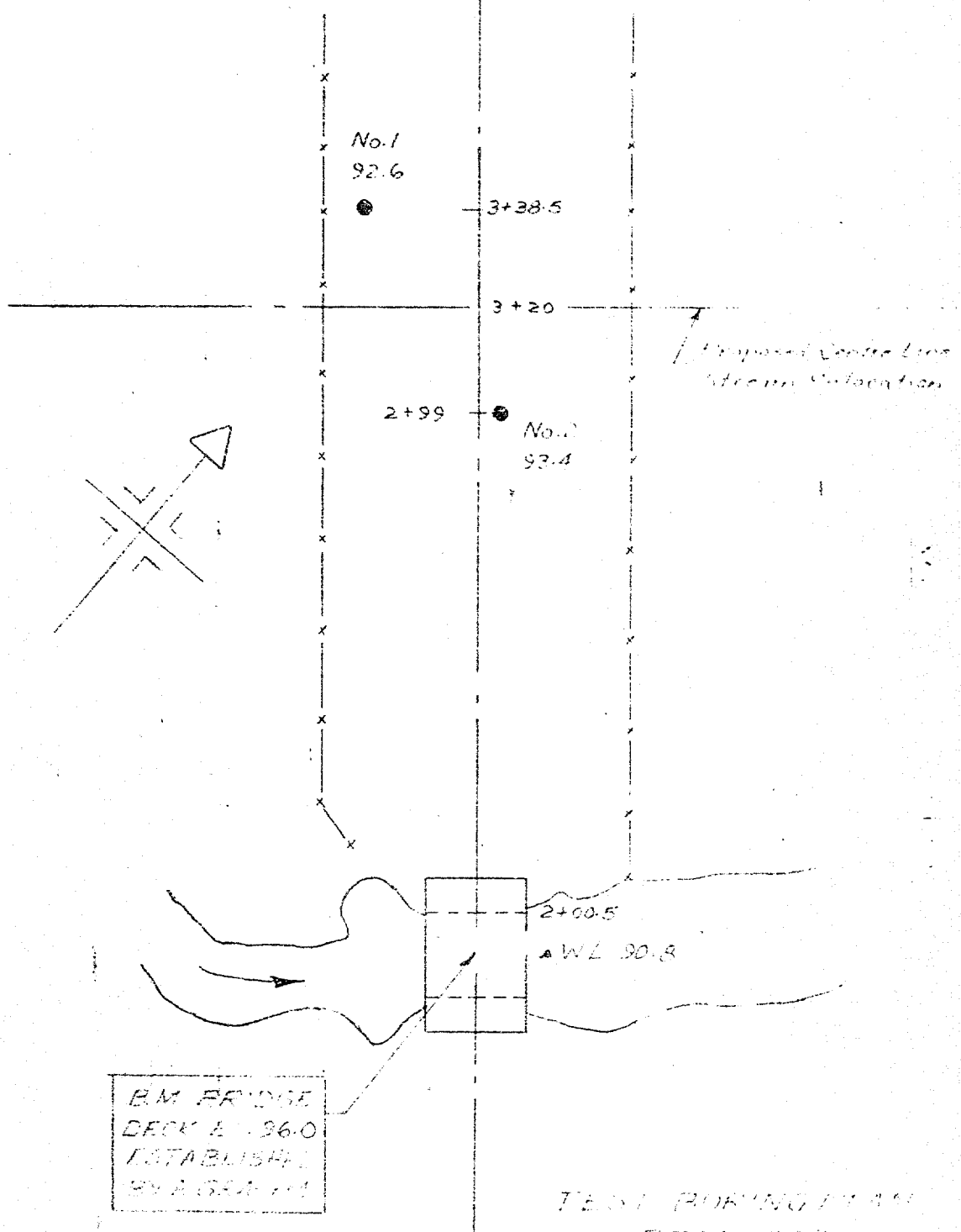
The results of the unconfined compressive strength tests indicate that the clay is of stiff consistency.

CONCLUSIONS:

The relatively stiff clay at depths between $3\frac{1}{2}$ and 20 feet is quite consistent in strength and should be capable of sustaining the load of a standard concrete culvert. The recommended maximum soil loading for spread footings placed at or below an elevation of 84.5 is 2475 lbs. per square foot. Care should be taken to ensure that water is controlled in the excavation and that the clay at the footing level is undisturbed prior to the placing of concrete.



L. Bredeson, P. Eng.



TEST BORING AT
PROPOSED
BRIDGE REPLACEMENT
LOT 6 CON 4 and 5
TOWNSHIP ROUTE 111

JOHN D. PATERSON & ASSOCIATES

CONSULTING ENGINEERS

OTTAWA

CANADA

SOIL PROFILE AND LABORATORY DATA

Location: LOT 9 CON. 1 & 5
HUNTLEY TOWNSHIP

Elevation (Zero Depth): No. 1, 92.6; No. 2, 93.4

Remarks: No. 1 Cone Probe and Test Boring

No. 2 Cone Probe Only

Borings by: F.E. Johnston Drilling Co.

Date: May 31 & June 3/63

Sheet No:
1 of 1Hole No:
1 and 2

Blows per Foot	Soil Description HOLE NO. 1	Samples Type	No.	Wt. TONS	N	Depth in Elev. Feet	Moisture Content Per Cent				
							30	40	50	60	70
	Ground Surface										
1	Varved silty clay and sand 3.5	BX	1			0	92.6				
2											
2											
6	Stiff grey silty fissured clay. 10	TW	2			4					
10											
12		TW	3								
26		TW	4	1.62		8	84.6				
21	stiff grey silty clay	SS	5		7						
16		TW	6	1.07		12					
15											
15											
19						16	76.6				
19	Glacial Till 21.5	TW	7	1.04							
19											
25						20					
28	Glacial Till 24.3	SS	8		6						
50						24	68.6				
45	BEDROCK shaly limestone 29.3										
for 0.2		CORE RECOVERY		99%		28					
	HOLE NO. 2										
	Ground Surface										
1	Soft varved silty clay and sand 6					0	93.4				
3											
3						4					
3											
4	Stiff clay 10										
6											
8						8	85.4				
11	Medium stiff silty clay 20										
12						12					
12											
12											
12						16	77.4				
14	Glacial Till 24.5										
14											
14						20					
20	BEDROCK										
20						24	69.4				
36											
45											
for 0.5											

NOTE:

Interpretation of
No. 2 based on cone
blows per foot and
associated bore hole