

63-F-39

W.P. # 223-61

HWYS. # 2 & 20

STA. # 24 & 19

LOTS # 23 & 10,

CON. BLOCK # 99,

HAMILTON

Mr. A. M. Toye,
Bridge Engineer,
Bridge Division.

Attention: Mr. W. McFarlane

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

May 7, 1963

Box Culvert, Hwy's 2 & 20, Line 'A',
Sta. 24+19, Twp. of Nelson & Saltfleet,
Lots 23 & 10, Con. Block 99, Hamilton.
District 4.
Cont. 62-301, W.P. 223-61, W.J. 63-F-39

The above site was visited on April 18, 1963 by Mr. K. G. Selby and Mr. W. McFarlane. About 10' of organic material had been observed to a depth of 7' below footing level. The culvert extension was designed on spread footings with a design load of 2 T.S.F. The Foundation Section carried out 2 borings on April 19 and 20, 1963, and found soft material to a depth of about 40' - 45' below footing level. Below this level, was shale bedrock.

The above facts were made known to Mr. W. McFarlane on Monday, April 22, 1963, and he was advised to redesign the extension using steel 'H' piles driven to bedrock. Design loads for the latter would be dependent on the size of pile adopted, but should be the maximum allowable. The section should be chosen so as to provide the most economical solution to the problem.

The drawing and log sheets are enclosed with this memorandum.

KGS/MdeF
Attach.

cc: Messrs. A. M. Toye (2)
H. A. Tregaskes
H. D. McMillan
G. K. Hunter (2)
H. Greenland
T. J. Kovich
L. R. Eadie
A. Watt

Foundations Office
Gen. Files

K. G. Selby
K. G. Selby,
SR. FOUNDATION ENGINEER
For:
A. G. Stermac,
PRINCIPAL FOUNDATION ENGINEER

DEPARTMENT OF HIGHWAYS - ONTARIO
MATERIALS & RESEARCH DIVISION
Cont. 62-301

RECORD OF BOREHOLE NO. 2

FOUNDATION SECTION

JOB 63-F-39 LOCATION Hwy. #2 & Q.E.W. Interchange-Burlington ORIGINATED BY G.C.
W.P. 223-61 BORING DATE Apr. 20, 1963. COMPILED BY G.C.
DATUM Geodetic BOREHOLE TYPE Dynamic Cone Penetration CHECKED BY K.S.

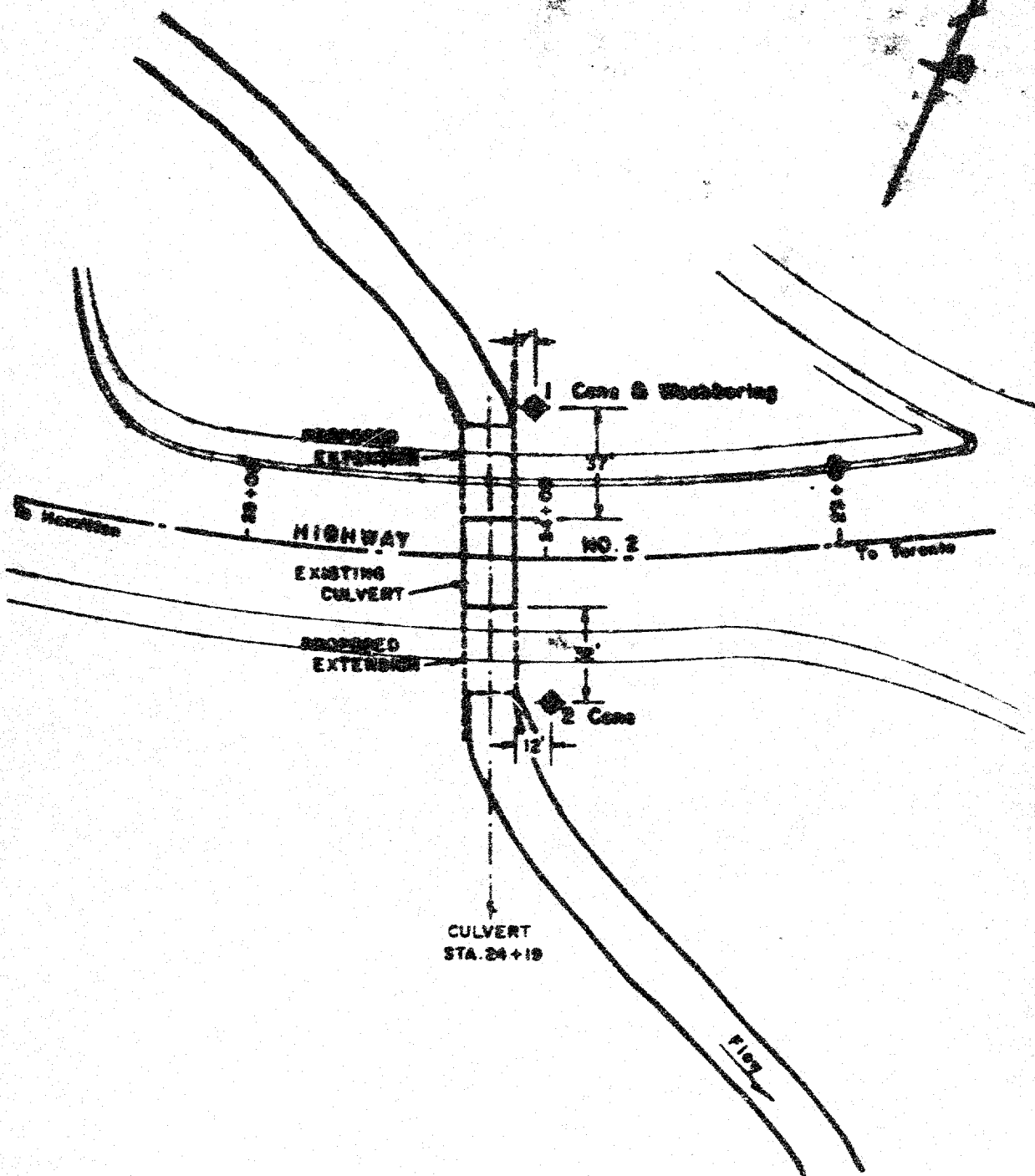
SOIL PROFILE			SAMPLES		DYNAMIC PENETRATION RESISTANCE		LIQUID LIMIT ——— WL PLASTIC LIMIT ——— WP WATER CONTENT ——— W		BULK DENSITY PCF	REMARKS
ELEV. DEPTH	DESCRIPTION	STRAT. PLOT	NUMBER	TYPE	BLOWS / FOOT	ELEV. SCALE	SHEAR STRENGTH P.S.F.	WATER CONTENT %		
247.8 0.0	Organic silt and fine sand. (Assumed)					250				
239.3 8.5	Clay, soft to med. stiff. (Assumed)					240				
						230				
						220				
						210				
						200				
198.0 49.8	Bedrock Contact. (Assumed)					190				

Refusal @198.0

CHECKED BY K.S.

60% Recovery

DEFECTS IN NEGATIVE DDE TO
CONDITION OF ORIGINAL DOCUMENT



ORIGINATED G.C.	DEPARTMENT OF HIGHWAYS - ONTARIO	SCALE 1" = 80'
DRAWN H.B.R.	MATERIALS & RESEARCH SECTION	E.P. NO. 225-61
CHECKED <i>[Signature]</i>	CULVERT EXTENSION	APP. NO. 63-F-38
APPROVED <i>[Signature]</i>	HIGHWAY NO. 2 & 20	DWG. NO. 63-F-38 A
DATE 23 APRIL 1963	STA. 24+19 LINE 'A'	