

57-F-230C

Hwy 15

C.P.R.

CARLETON PLACE

37596

# TROW, SODERMAN AND ASSOCIATES

SITE INVESTIGATIONS  
AND  
SOIL MECHANICS CONSULTATION

W. A. TROW, M.A.S.C., M.E.I.C., P.ENG.  
L. G. SODERMAN, B.S.C., D.I.C., P.ENG.

884 WILSON AVE., DOWNSVIEW  
ST. 8-5921

(C O P Y)

Project: C133J161

December 12, 1957.

W. S. Atkins & Associates,  
33 Price St.,  
Toronto, Ont.

Attention: Mr. Lewis

Foundation Investigation  
Proposed Railway Overpass

Dear Sirs:

C.P.R. & Highway #15, Carleton Place, Ont.

In accordance with your instructions, we have completed a subsoil investigation at the above site. The field work was carried out on December 5th and 6th, 1957.

Reference is made to Plan E-3236-1, Department of Highways, Ontario, Planning & Design Branch, District #9, for the location and topography of the bridge site. A description of the field work carried out and our comments regarding placement of footings follow.

General reconnaissance of the area revealed the presence of a limestone quarry 200 feet west of the Canadian Pacific Railway track and immediately north of the proposed by-pass centreline. The quarry is between fifteen and twenty feet deep with the top of the limestone formation at approximately the same elevation as the ground surface in the vicinity of the railway crossing. Limestone of a blocky structure extended from approximately 6 inches below ground surface to an unknown depth as it formed the quarry floor.

Limestone outcrops are evident approximately 50 feet east of the railroad track on either side of the existing road. An outcrop also exists in the gravel road approximately 350 feet east of the crossing.

Closer examination of the foundation area of the proposed overpass structure showed the existence of a rock surface, under 6 inches of topsoil, at an elevation of between 450 and 451 ft., (Geodetic Datum) over the entire area.

A 6 foot deep hole drilled with a diamond coring bit, 25 feet west of the C.P.R. centre line at a point 15 feet south of the intersection of the proposed highway and railway centre lines, proved limestone to full depth. No soft shale interbed or mud seams were encountered within the depth of boring carried out and core recovery was 100%.

The upper two feet of the limestone stratum is thinly laminated and some oxidization has taken place along the bedding planes. This upper zone should be removed prior to placing footings.

Our recommendations arising out of the investigation are:

- (1) Spread footings founded on bedrock will provide adequate foundation for the proposed overpass structure. Loading to the order of 15 tons/sq.ft. is deemed a reasonable bearing value for this type of rock.
- (2) The footings should be keyed into the rock to a depth that will exclude any thin laminations of the limestone near the surface. This depth should be decided upon by on-site inspection during foundation preparation. A minimum depth of 2 feet into rock is recommended and the footings should rest on a freshly prepared rock surface and not on the lower face of an existing fracture plane. This minimum depth requirement is necessary not only to bypass the upper thinly bedded limestone zone but also to provide adequate resistance to earth pressures on back of the abutment.
- (3) Approach embankments will be founded on bedrock or very shallow overburden. Thus stability of the embankment foundation does not appear to present a problem.

We are pleased to have been of service to you on this occasion. If we can be of further assistance in connection with the foundation at this site do not hesitate to call.

Yours very truly,

(Sgd.) Lawrence G. Soderman

LGS/lt

Lawrence G. Soderman (P.Reg.)

Toronto 2, January 23th, 1933.

Memorandum to Mr. J. C. McCallister,  
Materials Research Engineer,  
Downsview, Ontario.

Re: BA 696 Beecroft Twp. C.P.R. Overhead  
Highway # 18, T.C.E. District # 8.  
BA 698 Barrett A.  
Highway # 19 T.C.E. Dist. 56-1  
BA 697 Hope Twp. Br. # 18 (Choate Rd.)  
Highway # 401 Dist. # 7  
BA 697-A Hope Twp. Br. # 18 (Choate Rd. Approaches)  
Highway # 401 - Dist. # 7.

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file.

You have received the above reports for your

JCM/PM.

J. C. McALLISTER  
FOR S. McCOMBIE  
BRIDGE PLANNING ENGINEER.

BAGGS  
57 F230

**TROW, SODERMAN AND ASSOCIATES**

SITE INVESTIGATIONS  
AND  
SOIL MECHANICS CONSULTATION

W. A. TROW, M.A.S.C., M.E.I.C., P.E.N.G.  
L. G. SODERMAN, B.S.C., D.I.C., P.E.N.G.

884 WILSON AVE., DOWNSVIEW  
ST. 8-5921

Project: 6733M161

December 18, 1957.

M. C. Atkins & Associates,  
35 Prince St.,  
Toronto, Ont.

Attention: Mr. Lewis

Foundation Investigation  
Proposed Railway Overpass

Dear Sirs:

C.P.R. & Highway #16, Carleton Place, Ont.

In accordance with your instructions, we have completed a subsoil investigation at the above site. The field work was carried out on December 5th and 6th, 1957.

Reference is made to Plan E-3236-1, Department of Highways, Ontario, Planning & Design Branch, District #9, for the location and topography of the bridge site. A description of the field work carried out and our comments regarding placement of footings follow.

General reconnaissance of the area revealed the presence of a limestone quarry 200 feet west of the Canadian Pacific Railway track and immediately north of the proposed by-pass centreline. The quarry is between fifteen and twenty feet deep with the top of the limestone formation at approximately the same elevation as the ground surface in the vicinity of the railway crossing. Limestone of a blocky structure extended from approximately 6 inches below ground surface to an unknown depth as it formed the quarry floor.

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Yours very truly,

*L. G. Soderman*

LSG/lt

Laurence G. Soderman

