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J E GRUSPIER REG MAIS ENGR

FOR YOUR INFORMATION FOUNDATION SECTION HAVE COMMENCED FIELD  
WORK FOR PROPOSED GARAGE SITE AT BANCROFT DISTRICT YARD AND  
MAYNOOTH WE WILL REQUIRE FROM YOU RECOMMENDATIONS AS TO GRADING  
AND PAVING , ALL PROPOSED PAVED AND GRAVELLED AREAS  
INFORMATION REQUIRED WITHIN 3-WEEKS

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J E CALLAGHAN DIST ENGR

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FOR YOUR INFORMATION ONLY FOUNDATION SECTION HAVE COMMENCED FIELD  
WORK FOR PROPOSED GARAGE SITES AT BANCROFT DISTRICT YARD  
AND MAYNOOTH

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## MEMORANDUM

To: Mr. C. S. Morse,  
Manager,  
Special Services Section.

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

DATE: December 4, 1963

OUR FILE REF.

IN REPLY TO

SUBJECT:

## FOUNDATION INVESTIGATION REPORT

For

Proposed D.H.O. Patrol Yard,  
Hwy. #62, Lot 27, Twp. of Herschel,  
County of Hastings, District #10.  
W.J. 63-F-126 -- W.P. (Nil)

It is proposed to erect a D.H.O. Patrol Garage on Hwy. #62, approx. 1/2 mile South of the Village of Wainnouth. A request for a foundation investigation was received from Mr. D. R. Carr, dated September 16, 1963.

In order to determine the properties of the soil and decide on the type of foundations, an investigation was carried out by this Section. The field investigation was confined to eighteen boreholes, supplemented by one dynamic cone penetration test. All boreholes were taken down to the very dense silty sand and gravel with frequent boulders layer.

The elevations, as well as the locations of the boreholes, are shown on Dwg. No. 63-F-126A, attached to this report.

The stratigraphy of the soil throughout the site, was found to be quite uniform. The upper 12" to 18" consists of black, organic topsoil, followed by compact silty sand, underlain by very dense silty sand and gravel with frequent boulders.

The safe bearing pressure for spread footings, 2 feet wide, at a depth of 6 feet below ground level, is estimated to be 3 tons/sq.ft.

At the time of the investigation, no ground water was encountered.

The sand pile at the present location, may be built without danger of base failure.

The recommendations given by the Regional Materials Engineer, Mr. J. E. Gruspier, are as follows:

GRANULAR MATERIALS:

There is ample material acceptable for use as sand cushion located in the immediate vicinity of Maynooth. The average haul distance to the patrol yard is one mile.

There is a crushing source located  $4\frac{1}{2}$  miles south of Maynooth on Hwy. 62 from which  $5/8$ " Crushed Type "A" has been crushed for maintenance purposes. The average haul distance to this source is 4 miles. This material has also been used for mulching on a Hwy. 62 reconstruction project in the area.

1. Type of Granular Contract:

It is recommended that this project be called as a "G.B.C. Class "A" and Sand Cushion Contract".

2. Depth of Granular Materials:

All granular material should consist of 6" crushed gravel over Sand Cushion. This should extend over the full width of the yard such that lateral drainage is provided. If paving is proposed, G.B.C. Class "A" should be used. However, if paving is not proposed at this time,  $5/8$ " Crushed Gravel Type "A" is recommended.

In the proposed new entrance and the area around the new garage which is to be gravelled or paved, it is recommended that sub-excavation be carried out to provide for 18" granular material consisting of 6" crushed material over Sand Cushion. The minimum excavation will be 6" in order to remove the topsoil layer.

In the area outlined by a dotted line on Dwg. #63-F-126A, subexcavation will be required to remove the organic material. For estimating purposes an average depth of 36" may be assumed. The backfill should consist of 18" granular material over earth backfill. A portion of the gravelly materials overlying the topsoil could be salvaged for this purpose. Otherwise, borrow is available in the immediate vicinity.

3. Ditching:

In order to avoid saturation of the base materials a 3½' ditch should be constructed around the perimeter of the yard.

4. Pavement:

Pavement should consist of 3½" H.L. 4 placed in two lifts. In the stockpile area a seal coat of asphalt emulsion should be placed to prevent seepage through the pavement and subsequent contamination of local water sources.

Attention is drawn to the existing well located approx. 600 feet East of the site.

The field work, performed during October 29, 1963, together with the preparation of this report, was undertaken by Mr. W. W. Kulzatickas, Project Foundation Engineer. The investigation was carried out under the general supervision of Mr. K.G. Selby.

December 4, 1963

Senior Foundation Engineer, who reviewed this report.

We believe the information contained in this report will suffice for your design work. However, should further information be required, please do not hesitate to contact our Office.

WWK/MdeF  
Attach.

cc: Messrs. C. S. Moase (4)  
E. J. Orr  
H. D. McMillan  
J. E. Callaghan  
J. E. Gruspier  
A. Watt

Foundations Office  
Gen. Files

  
K. Y. Lo,  
SUPERVISING FOUNDATION ENGR.,  
For:  
A. G. Stermac,  
PRINCIPAL FOUNDATION ENGR.

APPENDIX I.

Mr. C. D. Hoase,  
Manager,  
Special Services Section.

Mr. A. C. Starnac,  
Principal Foundation Engr.,  
Foundation Section,  
Materials & Research Division.

December 12, 1963

-- Addition --

FOUNDATION INVESTIGATION REPORT

For

Proposed U.S.A. Patrol Yard,  
Hwy. #62, Lot 27, Twp. of Herschel,  
County of Hastings, District #10.  
W.J. 63-F-126 -- W.P. (B11)

In addition to the information contained in our report of December 4, 1963 for the above-mentioned Patrol Yard, we would like to point out that due to the predominantly granular nature of the subsoil, contamination of the ground water by salt from the sand and salt pile is likely to occur. If wells are located or are contemplated in the vicinity, the danger of water contamination is rather real.

AGS/MSGF

cc: Messrs. C. D. Hoase (4)  
E. J. Orr  
E. D. McMillan  
J. E. Callaghan  
J. E. Gruspier  
A. Watt

Foundations Office  
Gen. Files

*A. C. Starnac*  
A. C. Starnac,  
PRINCIPAL FOUNDATION ENGINEER

#63-F-126  
HWY #62  
MAYNOOTH  
PATROL YARD

