patersongroup Memorandum

consulting engineers

re:	**Geotechnical Assessment - Slope Review - Block 8** **Proposed Multi-Storey Building** **8466 Jeanne-d'Arc Boulevard - Ottawa**
to:	Brigil Construction - **Mr. Jean-Luc Rivard** - jlrivard@brigil.com
to:	Brigil Construction - **Mr. Philip Thibert** - pthibert@brigil.com
date:	June 23, 2021
file:	PG4112-MEMO.02

Further to your request, Paterson Group (Paterson) completed a site visit on June 22, 2021 to review the condition of the ravine and slope running in a north-south direction along the east side of the subject site. This memo should be read in conjunction with Paterson Group Report PG0448-1 dated August 3, 2005. Relevant photographs from the site visit are attached to the current memorandum.

Field Observations

The side-slope running alongside the ravine in the vicinity of the subject site near Block 8 was observed to consist of a thin topsoil layer overlaying a brown silty clay deposit. The slope was observed to be heavily vegetated with mature trees, shrubs and grass. The height of the slope is approximately 5 m measured from the toe to the top of slope with an approximate inclination of 2.3H:1V.

The valley area of the ravine consisted of tall grass and varied in width from approximately 4 to 6 m. The main watercourse channel was noted to be approximately 1 to 1.2 m wide. At the time of our site visit, the channel was observed to be generally dry, with some moist soil and very minor water ponding near the north portion of the site at the culvert crossing beneath Jeanne-d'Arc Boulevard. No active running water was observed and no sign of erosions were noted..

Geotechnical Review and Commentary

Slope Stability Analysis

A slope stability analysis, included in the above mentioned geotechnical report, was carried out for the subject site by Paterson in 2005. Section D of the slope stability analysis was completed within the vicinity of Block 8, the slope sections for static and seismic conditions from the 2005 study area attached to the current memorandum. The test hole location plan showing the location of Section D is also attached to the current memorandum.

The results of the previous slope stability analysis yielded factors of safety for static and seismic conditions of 2.73 and 2.36, respectively, which are considered to be well within acceptable limits from a geotechnical perspective. The study recommended an toe erosion allowance of 2 m and an erosion access allowance of 6 m, for a total required setback of 8 m from the top of slope.

Based on our cursory review, no sign of sloughing or cracking were observed along the slope. The shape of the slope has remained unchanged and well vegetated since our previous review. The ravines side-slopes are considered to be stable from a geotechnical perspective

Geotechnical Recommendations

Based on our current review of the slope, there have been no significant changes to the slope condition since the 2005 slope stability assessment. Upon review of the grading plan (Grading Plan - Project No. 160401331, Drawing No. GP-1, Sheet No. 3 of 6, Revision 1 dated March 26, 2021), the development limit was set at 15 m away from the top of the slope which is much more than the Limit of Hazard Lands setback. It is understood that no changes to the grades will be made past the development limits. Existing grades will be matched at the property line.

Since no changes are proposed within the limit of hazard lands, the proposed development will have no negative impact on the slope and is considered to be acceptable from a geotechnical perspective.

We trust that this information satisfies your immediate requirements.

Paterson Group Inc.

June 23, 2021

David J. Gilbert, P.Eng.

Joey R. Villeneuve, MA.Sc., P.Eng.,ing.

Photographs from Site Visits – June 22, 2021

Photo 1: Photograph taken looking south from the road showing the location of the culvert where very minor water ponding was observed, the grass covered channel and the heavily vegetated slope adjacent to Block 8.

Photo 2: Photograph taken looking east from the bottom of the slope adjacent to Block 8 at the grass covered channel.

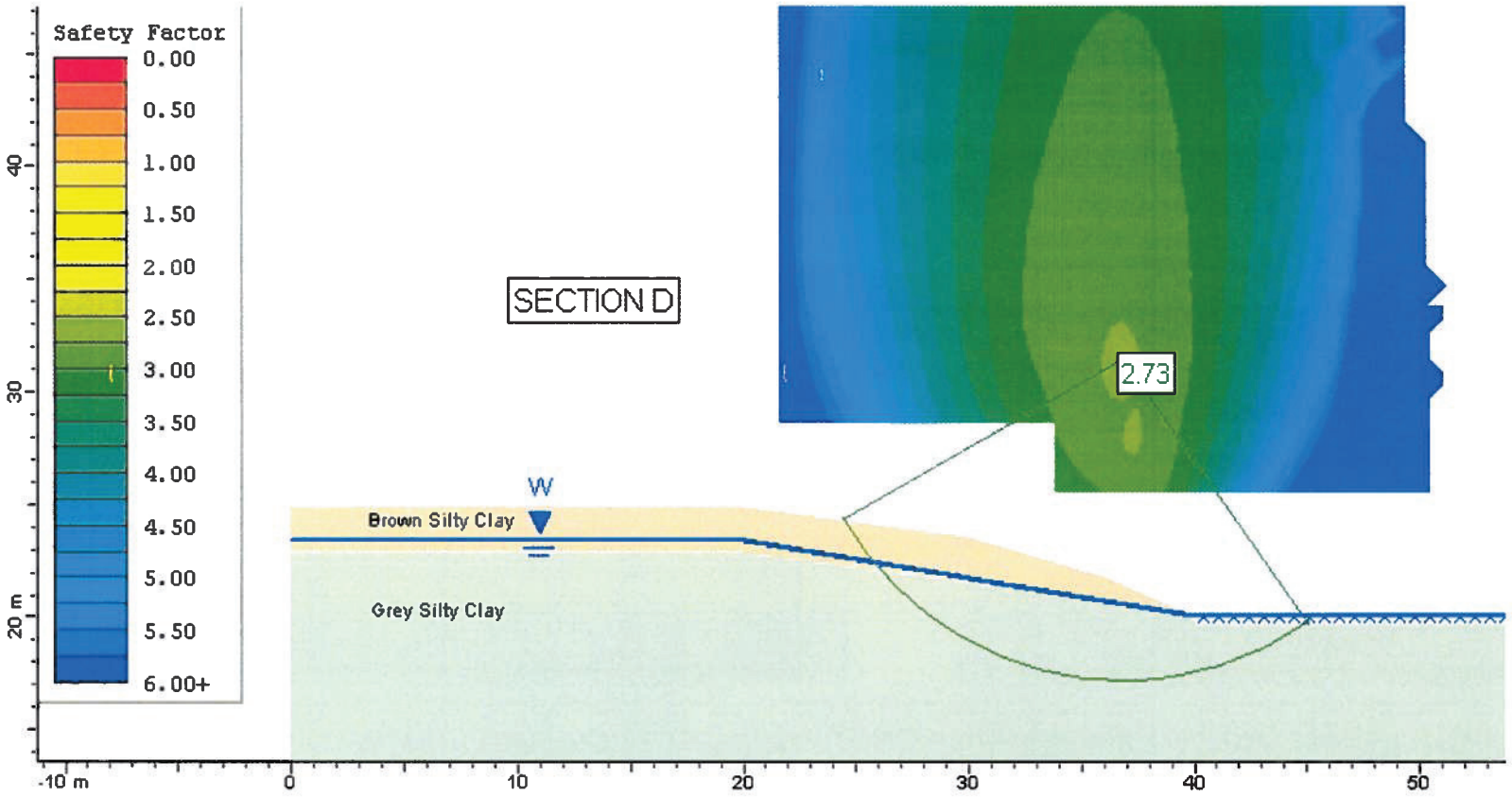


Figure 8, Section D, Effective Stress Analysis

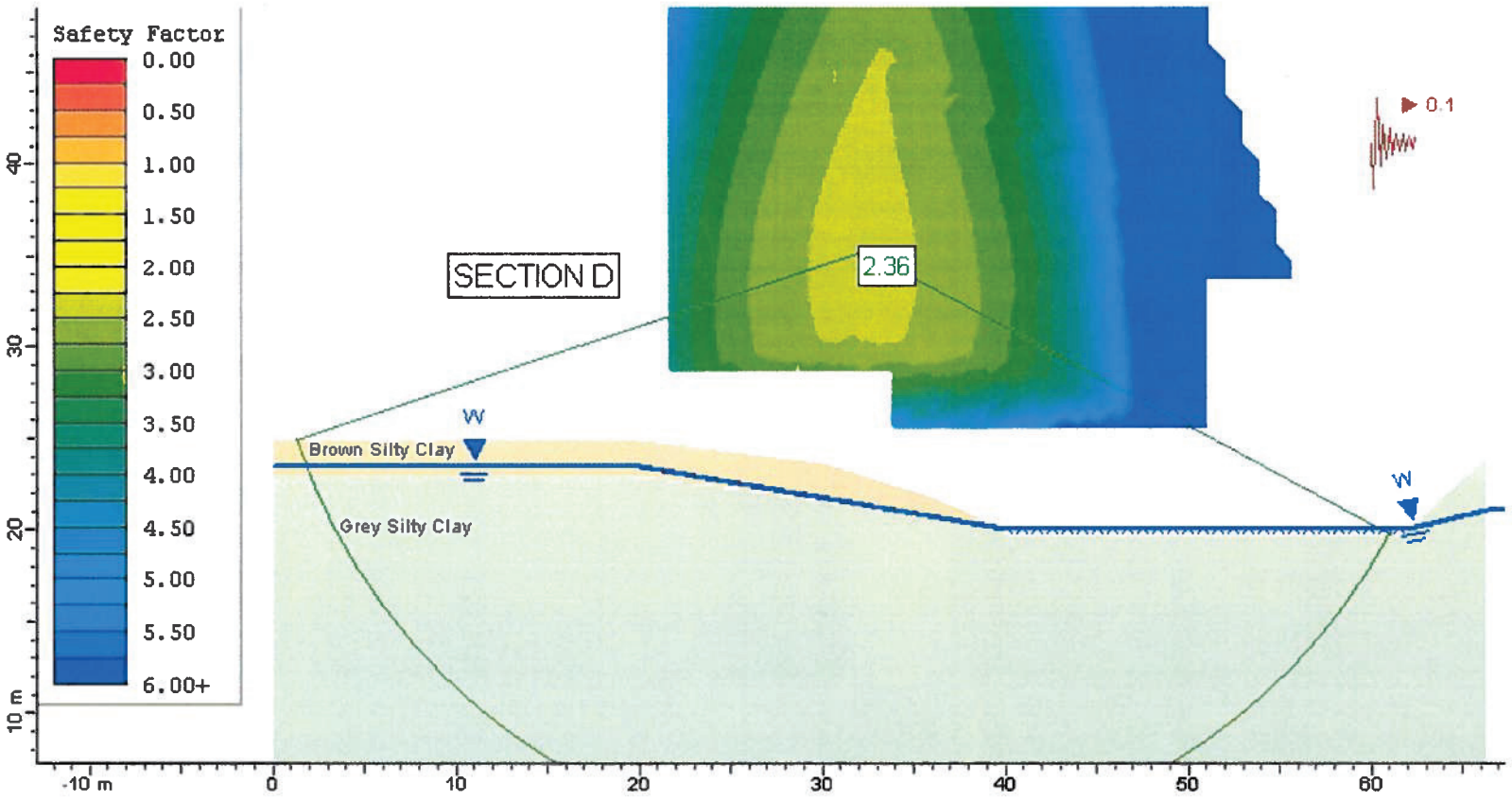
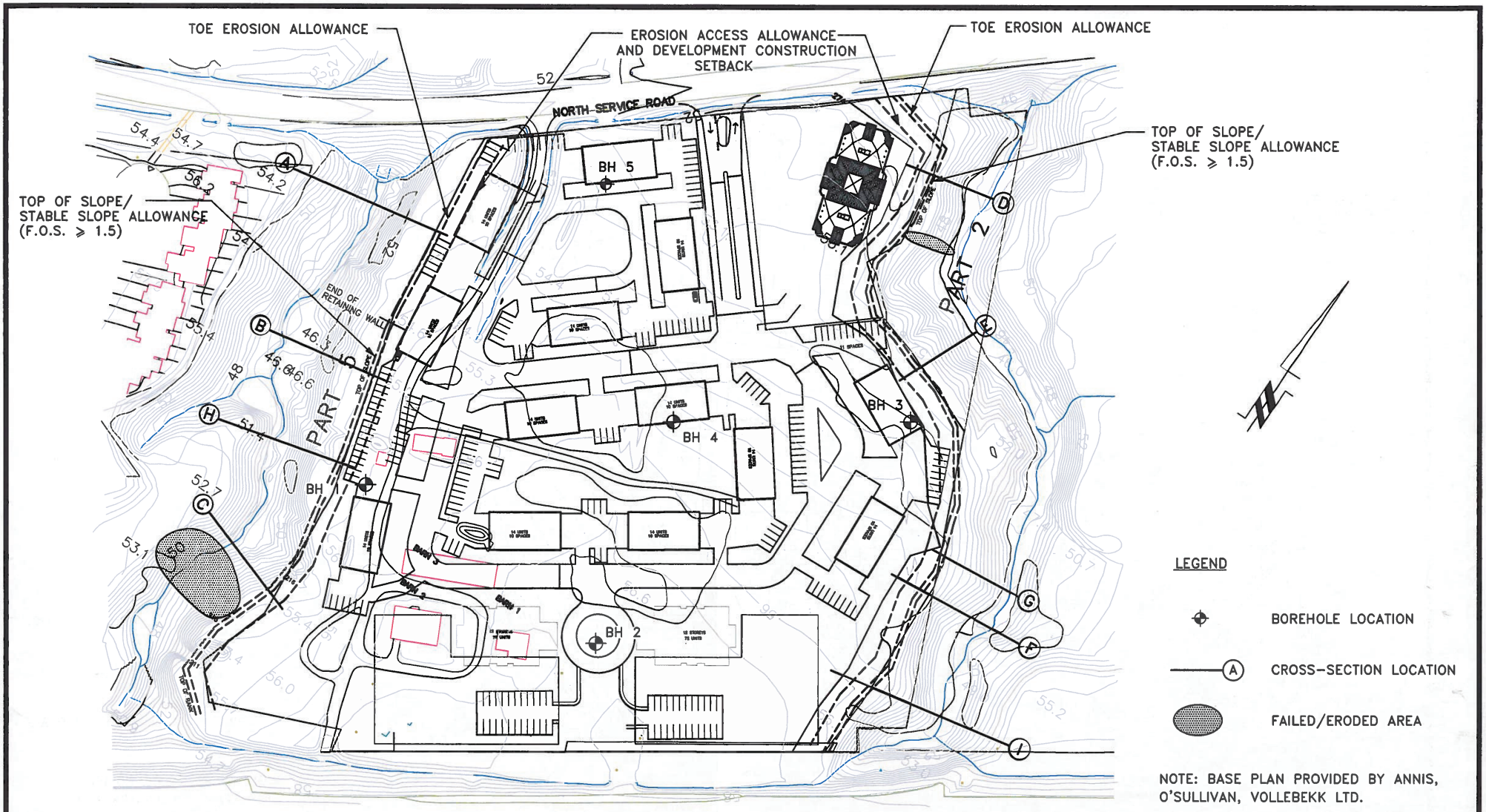


Figure 9, Section D, Seismic Conditions



paterson group consulting engineers 28 Concourse Gate, Unit 1, Ottawa, Ontario K2E 7T7	Scale: 1:1500 Des.: RG Dwn: JD Chkd: GC	BRIGIL HOMES PRELIMINARY GEOTECHNICAL INVESTIGATION 8465 NORTH SERVICE ROAD OTTAWA, ONTARIO	TEST HOLE LOCATION PLAN	Dwg. No. PG0448-1 Report No.: PG0448-01 Date: 08/2005

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