

11 March 2015

Our Ref: 1150087

Mr Nicholas Tassios
11 Lincoln Street
GLEN IRIS VIC 3146

Dear Mr Tassios,

**RE: 601 Point Nepean Road, McCRAE - Peer Review of A.S. James Pty Ltd
Report No. 116269**

As required by the Mornington Peninsula Shire's planning Scheme and the Erosion Management Overlay 1 (EMO1), a peer review is required for all landslide risk assessments carried out in the area defined under the Planning Scheme. As such, this letter provides a review of the A.S. James geotechnical report No. 116269 on the proposed residential development at the abovementioned site, where most of the proposed residential development is on sloping ground.

The review includes a site inspection of the existing site and the geotechnical report No. 116269 dated 4 December 2014 prepared by A.S. James Pty Ltd. The geotechnical report was prepared for Nick Tassios, Vast Architects. No drawings for the proposed development were available at the date of drafting this peer review.

The purpose of the investigation, noted in the A.S. James report, is as follows:

- Background Geology and Geomorphology
- Establish the subsurface profile, including ground water conditions of boreholes
- Provide Site Classification in accordance with Australian Standard AS2870-1996, "Residential Slabs and Footings, Construction"
- Provide recommendations for appropriate footing arrangements for the proposed development, including a hazard factor for earthquake loading in accordance with Australian Standard AS1170.4, 2007
- Provide minimum founding depths and allowable bearing pressures for the recommended footing arrangements, together with predictions of short and long term settlements

- Provide advice in relation to the anticipated excavation conditions, including advice on site dewatering
- Post construction risk assessment /any solutions to avoid /minimise the post construction risks for the proposed development including stability assessment
- Discuss construction sequence

Civiltest Pty Ltd is in general agreement with the outcomes of the risk assessment and foundation recommendations together with the construction sequence for the proposed development based on the site inspection and makes the following comments/ remarks for clarification:

The geology and subsurface soil profile noted in the report is consistent with the general area and the surroundings. Due to access limitations both boreholes were drilled at the toe of the escarpment with BH2 drilled at “a sub-horizontal angle” of 10.5 degrees. It is assumed that the 10.5 degrees is with respect to the vertical and A.S. James should confirm this.

The existing site can be described as consisting of two topographic regions, Viz., the upper steep slopes of up to 40 degrees and lower relatively level ground with a concrete retaining wall separating the two regions – the wall being at the toe of the steep slopes. It is confirmed there is a hummocky surface profile attributed principally to the translational movement of the near surface soils. In the existing state, part of the steep slope face (escarpment as described in the A.S. James report), just downslope of the existing building has been terraced with shallow timber retaining walls. Is this type of retention for near surface sand soils acceptable in addition to encouraging vegetation regrowth?

Section 2.2

Geostudio Version 6.10, 2004 has been used in the Slope Stability analysis for this site and Civiltest Pty Ltd is in agreement with the unit weights and effective shear strength parameters, cohesion, c' and angle of shearing resistance, ϕ' used in the analysis. The effective cohesion c' value for the gabion wall material is higher than expected for a predominantly granular material. A.S. James should clarify.

Section 3.1

Is there a reason not to use the current version of AS2870 in the Site Classification?

Civiltest Pty is in agreement with the use of bored piers mentioned in 3.1.2 unless there is impact from perched water. The embedment depth of 8.0 metres for the piers has been based on consideration of slope stability and founding in the residual gravelly/sandy CLAY. Whilst the end bearing pressure is provided no unit skin friction is given and the suitable length over which the skin friction can be applied. Is it the intention to ignore friction and work on the grout strength?

It is recommended that A.S. James should be engaged to inspect the foundation installation and site drainage works to confirm that the recommendations made are being followed.

Should you require any further information regarding this matter, please do not hesitate to contact me at our Mornington office.

Yours faithfully

Irrelevant / Sensitive

Patrick Oai
Senior Geotechnical Engineer
CIVILTEST PTY LTD

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