

**BEFORE AN INDEPENDENT HEARINGS PANEL
OF THE HAMILTON CITY COUNCIL**

IN THE MATTER of the Resource
Management Act 1991
(RMA)

AND

IN THE MATTER of an application for
resource consent for the
redevelopment of the
former Hamilton Hotel
building at 170 Victoria
Street, Hamilton CBD.

**SUPPLEMENTARY STATEMENT OF EVIDENCE OF DANIEL PAUL MILLS
ON BEHALF OF THE APPLICANT**

**GEOTECHNICAL
16 October 2019**

- 3.1 I have been asked to provide evidence in relation to the likely geotechnical risks at the proposed Waikato Regional Theatre site and summarise my recommendations for managing those risks with respect to the proposed development.
- 3.2 As part of my geotechnical assessment of the site I have overseen the geotechnical investigations, prepared a factual report, a geotechnical interpretive report, and provided responses to public submissions and Council queries to assist the resource consent application.
- 3.3 The reporting to date covers the key geotechnical risks at the site which include assessments of the seismic hazard, liquefaction susceptibility, slope stability, static settlement, and ultimate bearing capacity of the soils to assist foundation design, all of which are normally assessed, either quantitatively or qualitatively as part of any geotechnical assessment.
- 3.4 In my opinion, the geotechnical risks assessed can be tolerated using typical foundations. I do however note that due to the proximity of the development to the crest of the Waikato Riverbank, potential slope deformation must be allowed for in a major seismic event.

The shear strength of the proposed pile foundations must also be designed to achieve the requisite Factors of Safety under prevailing and transient slope stability conditions.

The GIR provides the relevant geotechnical parameters and assumptions to design the Structural foundations, and to accommodate lateral loading from possible slope movement and deformation.

Other areas of geotechnical risk highlighted within the report include the magnitude of potential vertical settlement of foundations as well as limits on soil bearing capacities, which have been provided to the Structural team to be accommodated in their design.

I consider the ground conditions beneath the site to be generally favourable for building development and that the effects of the geotechnical constraints on the

site can be suitably managed and mitigated by typical design processes and construction techniques.

- 3.5 Further to my Evidence in Chief, I have further reviewed the consent conditions recommended by the Council Planner and have provided input into the proposed wording for conditions regarding the management of lateral and vertical movements during construction, which are appended to the Supplementary Statement of Evidence by Mr Vinall.

Those conditions provide a framework to manage and monitor the vertical and lateral movements induced from potential dewatering and any temporary retaining walls installed during the Theatre construction. Trigger and alert levels have been set to establish actions and further steps required if movements are greater than anticipated. These aim to protect the infrastructure, services, and buildings on, and adjacent to the development, including the scheduled building. This is typical for developments such as this.

In my view, the settlement effects associated with dewatering are low given likely historic seasonal and climatic fluctuations of the perched water table.

- 3.6 In my opinion, the geotechnical risks can be reasonably and practically managed through a suitably robust piled foundation design, which should adequately mitigate the geotechnical constraints outlined above. I therefore consider the proposed development is suitable subject to the recommendations contained within the GIR, subsequent responses, and the suite of conditions appended to Mr Vinall's Supplementary Statement of Evidence.