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Our Ref: L19835B-04

7 August 2023

SR & BJ Williams Charitable Trust Board

## GEOTECHNICAL REPORT REVIEW

### INTRODUCTION

This letter summarises the External Peer Review comments made by Stantec on behalf of Central Hawkes Bay District Council (CHB).

The Review is related to the following Geotechnical Reports:

- 193850602-02: Mangakuri 10-Lot Subdivision, dated 6/8/21; and
- 193850602-03: Mangakuri 10-Lot Subdivision, dated 1/6/23.

TABLE 1: - STANTEC REVIEW COMMENTS

ID	Stantec Review Comment	RDCL Response
ST1	In a previously reviewed report for a 2-lot subdivision of this site, Lot 7 building platform is classified as "high" risk of landslide, however in this report, the risk category is called "Moderate"	Lot 7 revised to "High Risk". Table 1.
ST2	The landslide risk category for lot 1 and 2 are "low" due to the relatively mellower slopes, however there is known landslide debris from historic (recently active) land instability above the lots. Especially above lot 2.	Lot 2 building platform deleted. Lot 1 has been discussed relative to land instability relative to rainfall induced landslides Section 3.1.1

ST3	The setbacks provided for the building platforms are based on slope stability models.	Setbacks are based on observations and geotechnical first principles and verified/checked with slope stability observations
ST4	There appears to be extensive seepage and springs across the site which will require significant drainage measures and long-term land management plans to maintain stability of land that, once subdivided, will affect neighbouring lots in the event of a slip (or possibly even the lots further below this current title). Any situation where ongoing maintenance of drainage is required to maintain stability of a slope that would inundate neighbouring land should be approached with extreme caution.	Considerable effort has been made to locate building platforms away from known spring seepage areas. Lot 2 & Lot 5 building platform and access has been eliminated for this reason. StrataGroup engineers has made careful consideration relative to stormwater & wastewater disposal. We have reviewed these and are satisfied these consider the geotechnical risks.
ST5	The slope setbacks are all very small given the significant known land instability across the area. This is placing a very high level of confidence on the modelling being 100% correct, which is not likely. We consider that defining an adequate set back should be at least 8m back from any known failure plane. This report suggests the building platform is suitable for development up to the crown of a slip.	Building setbacks have been increased from 3m to 5m to further enhance risk of stability. Lot 7 instability risk has been reduced by lowering elevation of building platform by 3m.
ST6	It appears that the seismic FOS is 1.061 for Lot 7 and shows the failure plane daylighting in the middle of the proposed lot.	Lot 7 building platform has been lowered by ~3m with resulting FoS of 1.2 achieved.
ST7	Stormwater runoff/effluent disposal	Stormwater and effluent disposal considerations are made in Section 7.5 & 7.6.
ST8	High risk of expansive soils	Considered in Section 7.3 & 7.4
ST9	Review relevant to recent extreme rainfall events.	Site has been reflowed with drone since Cyclone Gabrielle and land stability assessment updated.

## LIMITATIONS

- This letter has been prepared for the particular purpose outlined in the project brief and no responsibility is accepted for the use of any part in other contexts or for any other purpose.
- Ground conditions assessed in this letter are inferred from published sources, site inspection and the investigations described. Variations from the interpreted conditions may occur, and special conditions relating to the site may not have been revealed by this investigation, and which are therefore not taken into account. No warranty is included either expressed or implied that the actual conditions will conform to the interpretation contained in this letter.
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We trust this meets your current needs. Should you wish to discuss any aspect of the contents of this document please contact me the undersigned on 06 877 1652.

Sincerely



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