

4415  
17 November 2022

Selwyn District Council  
PO Box 90  
Rolleston

Attention: Justine Ashley,



Dear Ms Ashley,

**RE: Proposed District Plan**  
**DPR-0243 R. Howard & J. Marshall**  
**664 Weedons Ross Road, West Melton**  
**Geotechnical Evidence Peer Review**

Geotech Consulting has been asked to carry out a peer review on the geotechnically related evidence submitted in support of the re-zoning of land from that in the Proposed District Plan. The review is an assessment of the evidence presented and the appropriateness of the submitted land use for the site. Any information gaps are to be identified.

The geotechnical evidence submitted on behalf of Roger Howard and Jillian Marshall is

- *Geotechnical Investigation Report, Submission on the proposed Selwyn District Plan, 664 Weedons Ross Road, West Melton*, dated 20 September 2021, by Fraser Thomas Ltd, for Kay Marshall

The Brief of Evidence of Ivan Thomson, dated 5 August 2022 and submission (Anderson Lloyd) 11 December 2020 have also been viewed to provide context.

## **1. Geotechnical report**

The report was prepared to determine the suitability of the 10.7 ha property for residential development in support of the rezoning submission (1.0). The subject site is Lot 1 & 2 DP 26732 with an area of 10.7 hectares (5.0) with existing residential land use on three sides (1.0). It is noted that the brief of evidence states that subdivision could create 100 – 120 residential lots. There is a desk top review of available geological mapping (4.0), liquefaction hazard (2.0) and the 2020-11 earthquake (3.0).

Site testing (6.0) has been done with four hand auger boreholes to between 0.4 and 0.9m depth and five excavated pits of 2.0 – 4.0m depth with associated scala penetrometer tests and shear vane tests. Topsoil and fill varies at the test locations between 0.2m and 0.4m and overlies silt and sand to between about 0.4m and 1.0m where sandy gravel is found (7.3). Reference to well logs in the area indicate the gravels extend to at least 40m depth (7.3). The water table is expected to be in excess of about 10m depth, based on a nearby well data (7.4).

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**GEOLOGICAL & ENGINEERING SERVICES**

Liquefaction is assessed in section (8.0) and the combination of dense gravel soils and depth to water table make the risk of liquefaction low. An equivalent TC1 Foundation Technical category is considered appropriate (8.3).

Foundation systems are covered in section (9.0) with NZS3604 foundations should be suitable (9.2). Although not stated in the report, the bearing pressures provided in (10) indicate that the ground is effectively "good ground" as defined in NZS3604. Earthworks (12.0) and trenching (11.0) are also covered.

In conclusion, the report finds the site geotechnically suitable for residential development (14.1).

## **2 Comment**

The report adequately characterizes the geotechnical conditions to demonstrate that the site is geotechnically suitable to support development. However, other than liquefaction, other natural hazards are not addressed.

## **3. Conclusion**

The evidence submitted is sufficient to demonstrate that the land is geotechnically suitable for residential development, except that the full range of RMA section 106 hazards is not addressed (erosion, flooding, subsidence, falling debris etc). Knowledge of the general area suggests that these hazards will be non-existent or of tolerable level such that they do not present an obstacle for development, but this is not stated. Some consultants argue that natural hazard assessment is required at subdivision stage (RMA sec 106) and can be addressed then, but it is more logical in our opinion that hazards are dealt with at the rezoning stage

For completeness, it is suggested that the submitter either be requested to supply an assessment of RMA sec 106 hazards, or that this be asked at the time any evidence is presented.

Yours faithfully

**Geotech Consulting Limited**



Ian McCahon