BEFORE THE HEARING PANEL

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of an application to Hamilton City Council for Private Plan Change 7 to the Hamilton City District Plan by Green Seed Consultants Limited

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SUMMARY STATEMENT OF EVIDENCE
OF GEOFFREY BURNETT FARQUHAR (GEOTECHNICAL)

Dated 28 October 2021

INTRODUCTION

1. My full name is Geoffrey Burnett Farquhar.

2. I hold the role of Technical Director – Dams and Geotechnical at GHD Limited, a role I have held since 2015. I am a Geotechnical and Dams Engineer with 42 years' experience. I hold a Bachelor of Engineering (Civil) from the University of Auckland, a Bachelor of Divinity from the University of Otago, a Master of Science and Diploma of Imperial College from the University of London. I am a Chartered Professional Engineer and an International Professional Engineer (NZ). I am a Chartered Engineer in the United Kingdom. I am a Fellow of Engineering New Zealand and a Fellow of the Institution of Civil Engineers (London). I am a member of the following technical societies: New Zealand Geotechnical Society, New Zealand National Society for Earthquake Engineering, New Zealand Tunnelling Society, New Zealand Society on Large Dams and New Zealand Hydropower Group.

3. I have recent and relevant experience as a geotechnical engineering specialist. Recent and current projects include the Public Private Partnership SH1 motorway extension from Puhoi to Warkworth (procurement of PPP and technical advisory services for Waka Kotahi New Zealand Transport Agency during design and construction); Plan Change 37 - Nukuhau (Taupō); Waimea Community Dam (Nelson); school buildings for the Ministry of Education (throughout NZ); Resource Consent reviews for land subdivision (Thames- Coromandel District Council); member of expert engineering panel for Greater Christchurch Claims Resolution Service (earthquake damage insurance claims for residential buildings).

4. I provided a report assessing geotechnical matters arising under the proposed Rotokauri North Private Plan Change (**PC7**) dated 3 September 2021 which was included in Appendix D to the s 42A report.

CODE OF CONDUCT

5. I have read the Environment Court Code of Conduct for expert witnesses contained in the Environment Court Practice Note 2014 and agree to comply with it. I confirm that the opinions expressed in this statement are within my area of expertise except where I state that I have relied on the evidence of other persons. I have not omitted to consider materials or facts known to me that might alter or detract from the opinions I have expressed.

SCOPE OF EVIDENCE

6. I provide a summary of the findings in my report appended to the s 42A report, and comment on matters raised in the evidence of Green Seed and submitters.

SUMMARY OF REPORT

7. The information provided by the applicant identifies the two main geotechnical risks affecting the site's suitability for development, i.e. the potential for liquefaction during an earthquake and ground settlement under static conditions.

8. Sufficient investigations and assessment have been performed to adequately identify the geotechnical risks in developing the land. The geotechnical information provided to support PC7 satisfactorily demonstrates that the two principal geotechnical risks of liquefaction and settlement can be managed by engineering works at subdivision/land use stage.

UPDATED POSITION

9. I have read the evidence of Green Seed and submitters relevant to geotechnical aspects.

10. There is one new aspect in the geotechnical evidence presented by Mr Holland. Appended to the evidence as Annexure B is a report which was prepared after PC7 was lodged and which was not included in the application documents. The report (Rotokauri North SHA, Liquefaction Hazard Study, HD Geo, 12 June 2019) presents further investigations and assessment of the liquefaction potential of the land, concluding that the land has a moderate to high liquefaction risk resulting in a medium liquefaction vulnerability. Thus the liquefaction risk has reduced a little from that presented in the two reports in the application (July 2018 and October 2018) which concluded the land had moderate to severe liquefaction risk.

11. I consider that the June 2019 report gives more confidence in the assessment of liquefaction potential and that it does not change my conclusion that sufficient investigations and assessment have been performed to adequately identify the geotechnical risks in developing the land.

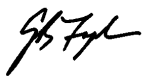
12. There was nothing in the submitters' evidence relating to geotechnical aspects.

CONCLUSION

13. I consider the geotechnical information provided to support PC7 satisfactorily demonstrates that the land is suitable for residential / urban development.

14. Sufficient investigations and assessment have been performed to adequately identify the geotechnical risks in developing the land.

15. The geotechnical information provided to support PC7 satisfactorily demonstrates that the two principal geotechnical risks of liquefaction and settlement can be addressed through further geotechnical investigation and assessment, and engineering controls and engineering works at subdivision/land use stage.



27 October 2021