4415
11 November 2020

Selwyn District Council
PO Box 90
Rolleston

Attention: Jocelyn Lewes

GEOTECH
consulting ltd

Dear Ms Lewes,

RE: Plan Change PC 82
Dunns Crossing Road – Selwyn Road, Rolleston
Rolleston Industrial Developments Ltd
Geotechnical Report Peer Review

Rolleston Industrial Developments Ltd has applied to rezone an area of about 28 hectares at the corner of Dunns Crossing and Selwyn Roads (423 Selwyn Rd) from Rural to Living Z. Selwyn District Council has requested a peer review of the geotechnical report submitted with the application with respect to whether the investigations and conclusions are appropriate in the circumstances.

The geotechnical report submitted is titled *Skellerup South Plan Change, Preliminary Geotechnical Assessment Report*, by Tetra Tech Coffey, for Rolleston Industrial Developments Ltd, dated 27 September 2021. The report purpose is to support a Plan Change application. It is a desk study, and no new site testing has been carried out.

Testing and subsoil conditions

The report references 17 test pits of up to 2m depth and 5 Ecan well logs of between 24m and 53m depth. The soil model describes 0.1 – 0.3m of topsoil over a thin silty sand layer up to 0-.5m thick over sandy gravel. The water table is likely to be at 5.3 – 5.8m depth as assessed from the well logs. The site plan shows that 15 of the referenced test pits are within a relatively short distance (100m) from the east boundary of the site, along Dunns Crossing Road, with the other 2 tests to the north (100m) and northwest (500m). Three of the wells are to the east, and two at about 200m to the west. There are no tests on the site itself, which is an approximate 670m by 420m rectangle.

> *Comment: The MBIE Guidance for plan change investigations for subdivisions suggests 0.2 – 0.5 deep test per hectare. For 28 hectare, this suggests 6 to 14 tests. The question arises whether having no tests on the plan change are fulfills the intent of the MBIE Guidance. This question has arisen before, and in our review of the 73 ha Skellerup block immediately to the north. That block had only 3 test pits actually on the site. In response to a request for further information, Coffey confirmed that in their judgement the testing was sufficient, and also pointed out that that land had already been assessed as geotechnically suitable for residential development.*
>
> *This general area is known for the uniformity of deep gravel dominated soil profile, a relatively deep depth to ground water and a general lack of any issue of geotechnical concern. Aerial photographs show patterns left by abandoned river flood plain channels. All the information reviewed is consistent, and the probability of any significant variation must be low. The site is also free of natural hazards (see below) that could be influenced by the soil profile.*

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Our personal preference would be for at least some testing on the site to verify that the shallow soil profile is present, but the uniformity of the soil profile over a wide area around this site does mean that other's judgement that the available information is sufficient can be justified.

Geotechnical Hazards

The report concludes that the site is not susceptible to liquefaction due to the deep groundwater and the soil profile, and that an equivalent Foundation technical category TC1 is appropriate. Other RMA section 106 hazards are considered, and shown to be either not present or easily mitigated.

Comment: We accept that there is a very low risk of liquefaction at the site given the gravel soils and depth to groundwater, and that the site is sufficiently free of RMA section 106 hazards to allow development without any particular restriction.

Engineering design

No specific information on foundations or infrastructure design is provided. The report does state that additional geotechnical testing will be required once the subdivision plan has been developed.

Conclusion

This site is geotechnically "benign" and we generally agree with the conclusions reached in the report. The wider area is known to be underlain with deep gravel from a shallow depth. We consider that the extent of the testing referenced is adequate for the particular soil profile present to demonstrate the geotechnical suitability of the site area for plan change consideration.

We agree that there is minimal liquefaction hazard and the site is equivalent TC1 land. We conclude that the investigations are adequate and conclusions are appropriate to the site and proposed rezoning. Site testing is essential at subdivision consent stage.

Yours faithfully
Geotech Consulting Limited

Ian McCahon

4415
2 February 2022

Selwyn District Council
PO Box 90
Rolleston

Attention: Jocelyn Lewes

Dear Ms Lewes,

RE: Plan Change PC 82
203 – 263 Dunns Crossing Road, 152 Edwards Road, Rolleston
Brookside Road Residential Ltd
Geotechnical Report Peer Review

Brookside Road Residential Ltd has applied to rezone an area of about 109.8 hectares with frontages to Dunns Crossing Rd, Brookside Rd and Edwards Rd to Living Z and Business 1. The geotechnical report submitted to support the Plan Change application is titled *Brookside Road Plan Change, Geotechnical Investigation Report*, by Fraser Thomas Ltd, for Gallina Nominees, Heinz Wattie Pension Fund and Brookside Road Residential Ltd, dated 14 October 2021. Geotech Consulting Ltd peer reviewed this report at the request of the Selwyn District Council, as outlined in our letter dated 11 November 2021.

This site is geotechnically "benign" and we generally agreed with the conclusions reached in the report, but requested that three questions should be directed to Fraser Thomas Ltd. The Fraser Thomas response is contained in the letter dated 19 January 2022 from Ashton Consultants.

1. *Please comment on the reason why only about 40% of the plan change area (on two of the five titles) has had any site testing made on it. Please advise if and why you consider this adequate for the overall area, or please supply additional test information on the remaining areas.*

   Fraser Thomas confirm that in their opinion, the testing is sufficient for the purpose of plan change submission, given the knowledge of the general area. The testing to date is not sufficient for subdivision purposes and FT anticipate additional investigation will be undertaken should the plan change be accepted.

2. *Please provide a RMA s106 hazard assessment.*

   FT reiterate comments in the report and clearly state that in their opinion the site can be developed without being subject to material damage from geotechnical hazards.

3. *Please advise whether further testing is required at subdivision consent and building consent stages.*

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GEOLOGICAL & ENGINEERING SERVICES

FT anticipate further geotechnical investigation and appraisal work will be undertaken to support subdivision application in the future, that a geotechnical Completion report is likely to be complied on completion of the subdivision works and that site specific investigation report will be required at building consent stage.

We consider that the response adequately answers our questions and that with these clarifications the report provides sufficient information to demonstrate the general geotechnical suitability of the land for development and thus supports the plan change application

Yours faithfully
Geotech Consulting Limited

Ian McCahon