

**BEFORE THE HEARINGS PANEL
FOR PROPOSED PRIVATE PLAN CHANGE 31 TO THE WAIMAKARIRI
DISTRICT PLAN**

UNDER the Resource Management Act 1991 (RMA)

AND

IN THE MATTER of an Application by Rolleston Industrial Developments Limited for a private plan change to the Waimakariri District Plan pursuant to Part 2 of Schedule 1 of the Resource Management Act 1991

**SUMMARY OF STATEMENT OF EVIDENCE OF CALLUM MARGETTS ON
BEHALF OF THE CANTERBURY REGIONAL COUNCIL**

8 AUGUST 2023

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WYNN WILLIAMS

- 1 My evidence focuses on the potential effects of flooding on the proposed development and on neighbouring properties.
- 2 I agree with and support the evidence of Mr Bacon,¹ contained in the Section 42A Report, in respect of the flood hazard risks associated with PC31.
- 3 In regards to flood hazard mitigation for new dwellings, Mr Walsh's evidence suggests inserting the following rule:²

*"27.1.1.34 - Within the Outline Development Plan area shown on District Plan Map 185, any dwellinghouse shall have a floor level of 400mm above the 0.5% Annual Exceedance Probability flood event, and 500mm above 0.5% Annual Exceedance Probability flood event in areas subject to flooding of determined by the following calculation where 'd' is depth is in meters and 'v' is velocity is in metres per second: $3.1-d*10 > v$."*
- 4 In principle, I consider that freeboard requirements of 400 and 500 mm would provide an appropriate standard of mitigation which would give effect to policy 11.3.2 of the CRPS. However, I note some grammatical errors in the wording of the proposed rule and I consider that the formula for the application of 500 mm freeboard is incorrect and unworkable. This issue was not addressed in the further evidence of Mr Walsh.
- 5 In light of the further evidence provided by Mr Throssell and Mr Walsh,³ I believe that development resulting from this plan change would provide a suitable level of flood mitigation, giving effect to policies 11.3.1 and 11.3.2 of the CRPS.
- 6 I consider that the modelling done by Mr Throssell may not take into account the raised stormwater detention basins described in the evidence of Mr O'Neill.⁴ At the very least, there is insufficient information to ascertain whether the approaches of Mr Throssell and Mr O'Neill align.

¹ Section 42A Report, Appendix 5, Natural Hazards.

² Summary of evidence of Tim Walsh dated 3 August 2023, page 26.

³ Summary of evidence of Ben Throssell dated 3 August 2023; Summary of evidence of Tim Walsh dated 3 August 2023.

⁴ Summary of evidence of Ben Throssell dated 3 August 2023; Summary of evidence of Eoghan O'Neill dated 3 August 2023.

- 7 Paragraph 23.5 of Mr Throssell's evidence describes the basins included in the updated flood modelling: "Stormwater attenuation areas have also been included in the PDP Model. These have been blocked out of the PDP Model to ensure attenuation volumes are available for stormwater generated by the proposed development and not filled by external floodwater entering the site via Ōhoka Stream or similar."⁵
- 8 'Blocked out' in this context could have two possible meanings. It could mean that the basins are pre-filled in the model so that no further flow can fill them, and therefore any flowing water would pass over them. Alternatively, 'blocked out' could mean that the whole basin area is blocked out so no horizontal flow across the ponds is possible. The former approach would be suitable for an in-ground basin while the later would be more appropriate for a raised basin. These are very approaches that would have significant effects on conveyance and storage, and it is not clear which has been used.
- 9 Mr O'Neill's evidence proposes raised stormwater ponds surrounded by large bunds, shown in figure 1 & 2 of his evidence.⁶ Paragraph 4 for Mr Throssell's summary statement (dated 3rd August) suggests a different approach, in which conveyance is key: "I consider that enabling the conveyance of floodwaters through the site without diverting them to other locations will ensure off site effects are minimised. One way to achieve this is minimising development in areas where the existing conveyance of floodwaters is significant."⁷ I would consider large raised stormwater ponds as development which may significantly reduce conveyance.
- 10 I consider that Mr Throssell and Mr O'Neill may be describing two different stormwater solutions. If raised stormwater ponds are the proposed solution, Mr Throssell's modelling may not be suitable in its current iteration for assessing potential offsite flood effects.

Callum Margetts

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⁵ Evidence of Ben Throssell dated 6 July 2023, paragraph 23.5.

⁶ Summary of evidence of Eoghan O'Neill dated 3 August 2023, figures 1 and 2.

⁷ Summary of evidence of Ben Throssell dated 3 August 2023, paragraph 4.