

**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

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

21 JULY 2023

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WYNN WILLIAMS

SUMMARY STATEMENT

- 1 My evidence focuses on the potential effects of flooding on the proposed development and on neighbouring properties.

INTRODUCTION

- 2 My full name is Callum Robert Margetts.
- 3 I hold a Bachelor of Science in Geology and a Professional Masters of Hazards and Disaster Management obtained from the University of Canterbury in 2016. I have been employed by the Canterbury Regional Council (**CRC**) as a natural hazards scientist since October 2016. The role involves assessing and providing advice on natural hazards and associated planning provisions.
- 4 Whilst I acknowledge that this is not an Environment Court hearing, I confirm that I have read and am familiar with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023. I have complied with the Code of Conduct in preparing this evidence and I agree to comply with it while giving any oral evidence during this hearing. Except where I state that I am relying on the evidence of another person, my evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.
- 5 Although I am employed by the Regional Council, I am conscious that in giving evidence in an expert capacity, my overriding duty is to the Hearing Panel.

SCOPE OF EVIDENCE

- 6 I have prepared this evidence on behalf of CRC. My evidence addresses the potential flooding issues associated with Proposed Private Plan Change 31 (**PC31**).
- 7 PC31 involves the rezoning of 155.931 hectares of land, currently zoned Rural in the Waimakariri District Plan, to Residential and Business.
- 8 I agree with and support the evidence of Mr Bacon, contained in the Section 42A Report, in respect of the flood hazard risks associated with PC31.

- 9 In preparing my evidence I have reviewed the following documents:
- a. Application for Private Plan Change, specifically Appendix G to the Application;
 - b. The Regional Council's submission on PC31;
 - c. The Evidence in Chief of Mr Christopher Paul Bacon on behalf of the Waimakariri District Council dated 22 June 2023, included in the Section 42A Report;
 - d. The provisions of the Canterbury Regional Policy Statement relevant to natural hazards, particularly flooding;
 - e. Statement of Evidence of Mr Ben Throssell – Flooding; and
 - f. Statement of Evidence of Mr Tim Walsh – Planning.

RELEVANT STATUTORY FRAMEWORK

- 10 I understand that PC31 must give effect to the Canterbury Regional Policy Statement (**CRPS**).¹ Chapter 11 of the CRPS provides a framework for managing natural hazard risk in Canterbury and while I understand that Ms Mitten has addressed the relevant provisions of the CRPS in her evidence, I note the following relevant provisions in Chapter 11 for flood/inundation risk.
- 11 Objective 11.2.1 of the CRPS provides that “New subdivision, use and development of land which increases the risk of natural hazards to people, property and infrastructure is avoided or, where avoidance is not possible, mitigation measures minimise such risks”.
- 12 Policy 11.3.1 of the CRPS implements Objective 11.2.1 and requires the avoidance of new subdivision, use and development (except as provided for in Policy 11.3.4) of land in high hazard areas, unless the subdivision, use or development:
- 1. is not likely to result in loss of life or serious injuries in the event of a natural hazard occurrence; and
 - 2. is not likely to suffer significant damage or loss in the event of a natural hazard occurrence; and

¹ RMA, s 75(3)(c).

3. is not likely to require new or upgraded hazard mitigation works to mitigate or avoid the natural hazard; and
4. is not likely to exacerbate the effects of the natural hazard; or
5. Outside of greater Christchurch, is proposed to be located in an area zoned or identified in a district plan for urban residential, industrial or commercial use, at the date of notification of the CRPS, in which case the effects of the natural hazard must be mitigated; or
6. Within greater Christchurch, is proposed to be located in an area zoned in a district plan for urban residential, industrial or commercial use, or identified as a "Greenfield Priority Area" on Map A of Chapter 6, both at the date the Land Use Recovery Plan was notified in the Gazette, in which the effect of the natural hazard must be avoided or appropriately mitigated; or
7. Within greater Christchurch, relates to the maintenance and/or upgrading of existing critical or significance infrastructure.

- 13 Policy 11.3.2 of the CRPS also implements Objective 11.2.1 and requires development to be avoided in areas subject to inundation:

In areas not subject to Policy 11.3.1 that are subject to inundation by a 0.5% AEP flood event; any new subdivision, use and development (excluding critical infrastructure) shall be avoided unless there is no increased risk to life, and the subdivision, use or development:

1. is of a type that is not likely to suffer material damage in an inundation event; or
2. is ancillary or incidental to the main development; or
3. meets all of the following criteria:
 - a. new buildings have an appropriate floor level above the 0.5% AEP design flood level; and
 - b. hazardous substances will not be inundated during a 0.5% AEP flood event;

provided that a higher standard of management of inundation hazard events may be adopted where local catchment conditions warrant (as determined by a cost/benefit assessment).

When determining areas subject to inundation, climate change projections including sea level rise are to be taken into account.

- 14 Rain-on-grid flood modelling produced by DHI for the Waimakariri District Council identifies that flooding can occur across much of the PC31 development area. The Inovo Infrastructure Report (section G) details this modelled flooding.
- 15 The DHI modelling has been further developed in several iterations by Ben Throssell of PDP on behalf of the applicant to assess how the proposal will manage and mitigate flooding and stormwater.

NATURAL HAZARD RISK ASSOCIATED WITH PC31

- 16 If the land is rezoned through PC31, the land will be able to be developed for residential and business land uses. 'New buildings constructed as part of future development must have an appropriate floor level above the design flood level'.
- 17 PC31 will allow the development of around 850 new residential allotments, some small commercial zones, and a single special purpose zone. Options for the special purpose zone include a school, retirement village, or additional housing. This development would represent a significant increase to impervious areas.

SECTION 42A REPORT – MR BACON’S EVIDENCE

- 18 As noted earlier in my statement, I agree with and support the evidence of Mr Bacon.
- 19 In regards to offsite effects, Mr Bacon states: *“The Applicant has appropriately considered the potential increase in offsite flooding and has identified an increase in flooding at several dwellings offsite.”* Further to this Mr Bacon recommends that: *“The offsite flood effects need to be mitigated, and any remaining effects demonstrated to be less than minor to ensure existing dwellings are not adversely impacted by the development”*. I agree with Mr Bacon that the offsite effects will need to be mitigated at the time of development.
- 20 In regards to mitigating flood hazard for new dwellings, Mr Bacon states: *“The Applicant has appropriately considered the potential increase in flooding within the site, however, has not proposed rules to mitigate against flood risk within the development site (e.g. freeboard requirements; earthworks to raise building platforms).”*. Mr Tim Walsh addresses this point with the addition of a rule in his evidence, discussed further below.
- 21 In regards to high hazard areas, Mr Bacon states *“The proposed development is consistent with the Environment Canterbury Regional Policy Statement. Floor levels will be located above the 200-year event, no development will take place in areas designated ‘high hazard’ and there will be no increased risk to life as a result of the development”*.

I agree with this statement. Avoiding high hazard areas would give effect to policy 11.3.1 of the CRPS.

STATEMENT OF EVIDENCE OF TIM WALSH – PLANNING

- 22 In regards to flood hazard mitigation for new dwellings, Mr Walsh's evidence suggests inserting the following rule:

*“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: $3.1-d*10 > v$.”*

- 23 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.

STATEMENT OF EVIDENCE OF BEN THROSSELL – FLOODING

- 24 Mr Throssell's evidence presents updated flood modelling and responds to Mr Bacon's evidence.
- 25 A wide range of updates to the model are presented, including but not limited to: updated subdivision layout, updated LiDAR ground surface, and rainfall applied to the subdivision area.
- 26 This updated modelling shows reduced, but not eliminated increases to offsite flooding compared to the first PDP model for this plan change area. Mr Throssell presents a case that the effects of increased flooding on surrounding properties resulting from future development will be less than minor.
- 27 Issues of offsite effects can be further managed at the detailed design and stormwater consenting phase of development, should the development proceed.

CONCLUSION

- 28 In light of the further evidence provided by Mr Throssell and Mr Walsh, 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.
- 29 The evidence of Mr Bacon and Mr Throssell suggests that development enabled by the proposed plan change will cause increases to flood levels for some surrounding properties. This will need to be addressed through detailed stormwater and earthworks design if this development progresses.


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Callum Margetts

21 July 2023