BEFORE THE HEARING PANEL

IN THE MATTER	of the Resource Management Act 1991
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IN THE MATTER	of the Proposed Plan Change 29 to the Nelson Resource Management Plan

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SUMMARY STATEMENT OF EVIDENCE OF DAMIAN NATHAN VELLUPPILLAI

TONKIN & TAYLOR LTD

23 August 2024

INTRODUCTION

QUALIFICATIONS AND EXPERIENCE

1 My full name is Damian Nathan Velluppillai. I have prepared a Statement of Evidence dated 21 June 2024, a Statement of Rebuttal Evidence dated 15 August 2024 and will briefly summarise key points from these statements.

2 I am a Chartered Professional Engineer with 22 years of experience in flooding and stormwater assessment in New Zealand. I have qualifications and experience outlined in my primary evidence.

CODE OF CONDUCT

3 I reconfirm that I have read the Code of Conduct for expert witnesses contained in the 2023 Environment Court Practice Note and that I agree to comply with it.

MINOR CORRECTIONS TO PRIMARY EVIDENCE

4 In paragraph 10 of my primary Statement of Evidence I referred to the "Floodway Overlay" as being an existing NRMP layer. The Floodway Overlay is actually a new layer proposed in PC29. It represents the main river channel component within the 2130 floodplain (i.e. approximately bank to bank) where we expect flooding to generally be relatively fast and deep. Once flows break out of the main river channels into the wider floodplain, flood hazard is covered by the proposed PC29 Flood Hazard and High Flood Hazard Overlays.

5 In paragraph 8b of my primary evidence I refer to the evidence of Mr Alec. Louverdis, relating to Transport and Three Water Infrastructure. This should have referred to Mr. Rhys Palmer and Mr. Philip Ruffell.

SUMMARY OF EVIDENCE

6 The key points from my primary and rebuttal evidence are as follows:

7 Nelson is subject to flood hazard from coastal, river and stormwater sources. Council has an ongoing programme of modelling that seeks to refine our understanding and mapping of flood hazard from each of these sources as new information and data becomes available (e.g. LiDAR survey information and observations during storm events), and new guidance is released by central government (e.g. with relation to sea level rise projections).

8 This flood hazard information goes through peer review and community consultation processes as it becomes available. The information represents our

best understanding of flood hazard at a given point in time, acknowledging that it may be refined as new information becomes available.

9 The flood overlays being proposed as part of PC29 are a combination of NRMP flood overlays (Inundation Overlay, Floodpath Overlay, Flood Overlay), and newer river flood hazard overlays (Flood Hazard Overlay, High Flood Hazard Overlay and Floodway Overlay).

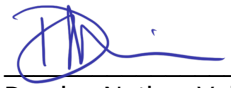
10 The NRMP overlays, while based on older and more sparse information than the newer river flood hazard overlays, remain useful in that they cover areas of the city and flooding sources not captured by the river flood models.

11 Numerous submissions requested that Council establishes "sponge city" principles in its city planning and engineering framework. I agree with these submitters that minimising the interruption of the hydrological cycle should be a key principle in Nelson's land-use planning.

12 Two submitters (100 Tasman Street and Manuka Street Hospital) have submitted that the flood hazard mapping does not accurately reflect the position of retained areas of their sites (one due to the retaining wall having been built after the ground survey information used in the model was collected). In both instances, it is my opinion that it would be appropriate to 'clip' the flood hazard mapping from the retained (elevated) areas.

13 A number of submitters have questioned the accuracy of the flood mapping in the lower Brook/Waimarama Stream, and asked Council to undertake further investigations into flood hazard in that area.

14 I concur with these submitters that the lower Brook/Waimarama Stream is an area where ongoing refinement to the model is necessary as information becomes available. Council is currently using updated flow gauge rating information, together with observations and survey information captured from the August 2022 event to refine the calibration of the model to observed flooding. This work will also include refinement of the representation of the Nile/Tasman Street culvert and will take advantage of a wealth of information provided by submitters in relation to flood hazard in that area. This work is currently underway and will then need to be peer reviewed. It is not available for PC29.



Damian Nathan Velluppillai
23 August 2024

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