

**Before the Independent Hearings Panel
For Wellington City Council
SR471670**

Under the Resource Management Act 1991

In the matter an application for resource consent for an extension to the existing car parking area of the Khandallah New World supermarket at 26 Ganges Road, 3 Dekka Street, 31-33 Nicholson Road, Khandallah

**Speaking notes summary of evidence of Sumin Wang on behalf of
Foodstuffs North Island Limited – Stormwater**

Date: 1 May 2024



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INTRODUCTION

- 1 I am Sumin Wang, Senior Civil Engineer at Egis (formally Calibre) Auckland office. I am presenting a summary of stormwater evidence on behalf of Foodstuffs North Island Limited.

- 2 The key stormwater and infrastructure areas where there has been agreement with the Council are as per the Council's draft resource consent conditions 26 – 33. I note the section 42A report and Ms Brydon's evidence for the Council concludes servicing effects as proposed will be acceptable.

- 3 In my evidence I speak to:
 - 3.1 The existing stormwater infrastructure;

 - 3.2 A summary of the proposed infrastructure;

 - 3.3 Response to submitters on the topics of:
 - 3.3.1 Stormwater run-off, permeability and climate change considerations;

 - 3.3.2 Flooding at Nicholson Road and Dekka Street intersection;

 - 3.3.3 Stream flooding/peak flow by Khandallah Road; and

 - 3.3.4 Stormwater retention and quality.

Summary of infrastructure

- 4 The proposal includes new stormwater systems and devices, including:
 - 4.1 Two stormwater quality treatment devices (storm filters).
 - 4.2 One underground 4.2m³ detention tank for stormwater peak flow mitigation.
 - 4.3 Two pipe systems to collect and discharge 10% AEP stormwater run-off to Dekka Street kerbside and to the existing public pipe system on Nicolson Road.
 - 4.4 There is no change to the existing overland flow directions and levels.

Stormwater run-off, permeability, climate change and flooding

- 5 The carpark design increases the impervious area by 618m² as shown on Calibre drawing sheets C100 and C300.
- 6 In regard to concerns relating to climate change, the rainfall intensities used for the stormwater run-off calculations are as per HIRDS V4¹ Historical Data + 20%, which accounts for climate change in accordance with the Regional Standard for Water Services.²
- 7 A repeated issue between submitters was concern about an increase of stormwater runoff due to the increased permeable area as well as the climate change. They were concerned that

¹ National Institute of Water and Atmospheric Research (NIWA) "High Intensity Rainfall Design System (HIRDS) Version 4.

² Wellington Water "Regional Standard for Water Services" (December 2021) Version 3.0.

the downstream properties, public roads and water bodies could be affected by the stormwater run-off peak flow increase.

- 8 In terms of the run-off at Dekka Street, as both pervious and impervious areas being reduced in the proposal, these stormwater run-off flows will be reduced.
- 9 For Nicholson Road, increased stormwater run-off from the development will be managed by the proposed tank with a detention volume 4.2m³ as per current design drawings in Appendix A of the stormwater evidence and in the Table 1 existing and proposed peak flow details.

Table 1: Peak Flow Rate Details

Item	Dekka Street Catchment		Nicholson Road Catchment		
	10% AEP Peak Flow (L/s)	1% AEP Peak Flow (L/s)	10% AEP Peak Flow (L/s)	1% AEP Peak Flow (L/s)	1% AEP Detention Volume (m ³)
Existing	23.5	36.9	27.3	42.8	
Proposed	15.8	27.3	26.3	40.5	4.2

- 10 With the stormwater mitigation on-site, I consider that the proposed development has no negative peak flow/flooding effects to the downstream residential areas, including 68 Khandallah Road, the public pipe system, and receiving water bodies.

Stormwater retention and quality

- 11 Stormwater retention and run-off quality were concerns from two submitters, who were concerned that the receiving environment could be affected by the carpark development.

- 12 As outlined in the evidence, the proposal provides on-site mitigation stormwater storage which means post development peak run off flows will have no increase compared with the pre-development flows.
- 13 In terms of stormwater quality, as outlined at paragraph 25 in the evidence, two Stormfilters have been proposed on site at the lower parts of the Dekka Street and Nicholson Road as shown on C400 in **Appendix A** of the evidence.

CONCLUSION

- 14 In summary, I consider that the proposed stormwater design is appropriate and will not increase stormwater risk to public safety and the receiving environment, as agreed by the Council expert and the section 42A report.

Date 1 May 2024

Sumin Wang