

**Before a Hearings Commissioner appointed by  
the Kāpiti Coast District Council.**

**Under**

the Resource Management Act  
1991

**And**

**In the Matter**

of an application under section 88 of  
the Act by Kapiti Retail Holdings  
Limited for the construction and  
operation of a Countdown  
supermarket at 160 Kapiti Road,  
Paraparaumu (RM210151).

**Statement of Evidence of  
Glen Bellingham  
for Kapiti Retail Holdings Limited**

Dated: 7 March 2022

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## INTRODUCTION

### Qualifications and Experience

1. My name is Glen Bellingham. I am a Director and Senior Engineer at Maven Associates Limited, which provides specialist civil engineering services.
2. I hold a New Zealand Diploma in Engineering (NZDE). I am a member of Engineering New Zealand. I have been with Maven Associates Limited for over 6 years.
3. I have over fifteen years of experience in undertaking civil engineering design for clients in land development projects in both the public and private sectors on a wide variety of major projects.

### Background and Involvement

4. Maven Associates Limited prepared the Infrastructure Report for the Proposed New Countdown Supermarket in Paraparaumu (**Proposed Development**), dated 2 July 2021 (**Infrastructure Report**), which was submitted as part of the Applicant's Assessment of Environmental Effects. Maven Associates Limited also prepared the Engineering Response to Kāpiti Coast District Council's (**Council**) Request for Further Information (**Section 92 Response**). I have reviewed the submissions received on the Application and the Section 42A Hearing Report (**Section 42A Report**) prepared by Council.

### Code of Conduct

5. While this is not an Environment Court hearing, I have read and agree to comply with the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2014. This evidence is within my area of expertise, except where I state that I am relying on material produced by another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in my evidence.

## SCOPE OF EVIDENCE

6. My evidence will cover the following topics:
  - (a) The Existing Site;

- (b) The Proposal;
  - (c) Effects Assessment;
7. Response to submissions and Council's Section 42A Report.

## EXECUTIVE SUMMARY

8. 160 Kāpiti Road (**Site**) is suitable for the Proposed Development. The necessary development works required on the Site can be completed with no more than minor effects, including in respect of temporary land disturbance and sediment control but also in respect of suitably providing for on-Site flood storage. The volume of flood water currently stored on Site will also be stored on Site after the redevelopment to ensure there are no effects to surrounding properties or the downstream environment. The stormwater discharge from the developed Site will have a better water quality without increasing the flow rate or velocity to the receiving network. Further, the proposed earthworks and construction works can be managed with acceptable levels of effects on neighbouring properties.
9. Wastewater drainage, water supply, electricity and communication services are available; are of sufficient capacity and can be amended to suit the Site and future use as indicated on the plans, without detriment to those public networks.
10. Overall, it is my view that the Proposed Development is appropriate in its location. The proposed management of possible flooding, stormwater earthworks, construction and services provision is achievable and will result in less than minor adverse effects.

## THE EXISTING SITE

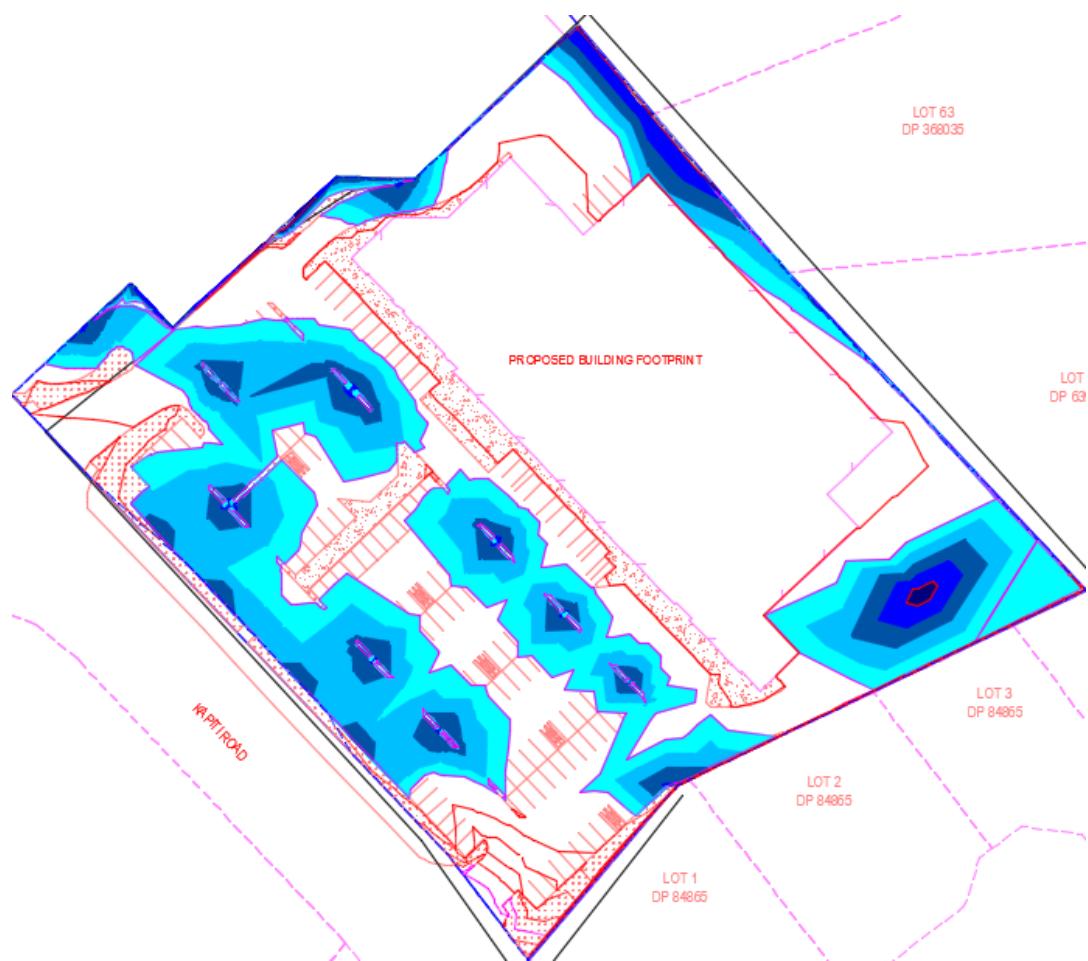
11. The Site consists of a large unused warehouse, previously a Placemakers on one half of the Site, and multiple commercial businesses at the other end.
12. The Site is almost completely impervious and has existing flooding in a 100yr ARI rainfall event that is shown on Council GIS system.
13. There is an existing private wastewater pump station that services the buildings within the Site. This is needed because the Site has a lower level than the public wastewater network located within Birmingham Street. The

Site has connections to water, electricity and communications from the Kāpiti Road frontage.

## THE PROPOSAL

### Flooding

14. As noted above, the Site is noted on the Council's GIS as having a 100yr ARI Flood Plain. Maven Associates calculated and modelled the flood volume and extent based on topographical survey data refer figure 2.2 at paragraph 18 below.
15. The Maven Associates modelling shows that in a 10 year event stormwater flows into two flood storage areas located at the end of Friendship Place and off Te Roto Drive meaning no mitigation is needed on Site for 10 year event.
16. In a 100 year event the modelling shows ponding of 1140m<sup>3</sup> and up to a depth of 500mm within the Site. With the Site being in a natural low point it is likely that kerb and channel flow from Kāpiti Road would enter the Site. During a 100 yr. ARI event the stormwater network could be 50% blocked, causing ponding upstream. The following mitigations are proposed to respond to this risk:
17. The Proposed Development has been designed to contain the estimated 100yr flood volume within the Site. This is to be achieved using underground storage tanks and allowing ponding around the building and within the carpark to a max depth of 150mm and to a max of 230mm around the back of the building in a non-public area. This will ensure that the development will not offset flooding onto the neighbouring properties.
18. The proposed buildings will also be protected. A preliminary general freeboard of 300mm has been provided above the top water level of RL 6.1m. The proposed minimum FFL of new buildings on Site is therefore RL 6.4m. It is noted that the 100 year flood event has a top water level of RL6.1m.



**Figure 2.2:** as included in the Infrastructure Report Stormwater

19. Existing private manholes, cesspits and pipes exist within the Site. It is proposed that the private network will be reused and/or upgraded. A new roof water system will discharge into the same network within Kāpiti Road.
20. Using both surveyed and GIS data I have identified that the immediate downstream pipe is a 1200mmØ pipe at a shallow grade of 0.35% with the capacity to serve 2,253L/s. With the current Site being almost 100% impervious and with the existing warehouse being replaced with a new building of a similar size and additional landscaping, there should be no resultant change in stormwater runoff, and I do not foresee any capacity issues.
21. The proposed use of the Site will be similar in terms of historic vehicle access. Car parking and truck access will have an impact on stormwater runoff quality. The proposal is to install a SW360 StormFilter Vault to treat all surface runoff from the hardstand areas.

## **Wastewater**

22. A capacity check of the immediate downstream infrastructure shows that the current system has sufficient capacity to cater for the proposed development. The existing network within Birmingham Street according to GIS is a 150mm pipe with a grade of 0.76%. This pipe has the capacity to service an additional design peak discharge of 11.30L/s. Calculations for wastewater demand for all the existing businesses contained within the Site and the proposed Supermarket indicate a peak sewer discharge for the proposed development of only 0.74 L/s.
23. The existing wastewater pump station within the Site is to be abandoned and two new private pump stations will be constructed. One pump station will service only the Countdown development and the other will service the other buildings located on the Site.

## **Water and firefighting**

24. The Council's GIS system indicates an existing 250mm AC watermain within the berm of Kapiti Road and a 150mm tee into this which crosses the road and services the Site. Three new water supply connection will be made to the existing watermain within the road frontage to service each proposed tenancy.
25. The Site has two existing fire hydrants within range of the Site, fed from a 250mm watermain. It is assumed that the current supply meets the required fire rates. In my opinion it is most appropriate for testing to confirm minimum requirements for the water supply classification stipulated in SNZPAS 4509:2008 to be carried out at building consent phase when the specific fire design is confirmed by a fire engineer.

## **Other services**

26. Telecommunications in the area are managed by Chorus, power by Electra and gas by First Gas. Separate electricity and communications connections to service the two parts of the Site (being the buildings the northern part of the Site and Proposed Development on the southern part of the Site) will be installed as agreed with the network utility operators.

## **Earthworks**

27. No bulk earthworks are proposed. Construction related earthworks on the Proposed Development will include but are not limited to, excavations for retaining, installation of new drainage and services, excavation for the underground flood storage tanks and the rework of levels within the carpark
28. Earthworks will involve cut to fill operations with a hardfill excess of 847m<sup>3</sup> and soil excess of 1974m<sup>3</sup>. The extent of surface work covers most of the 1.66ha Site. Earthworks clean fill will only be undertaken in areas required to raise the proposed building footprint. The import of clean fill will be required to achieve a suitable proposed building platform. Retaining will be required along both the south-east and south-west boundaries. The proposed South-west wall is to be maximum 1 metre in height and the south-east wall ranges in height between 0.5 metres – 1.8 metres.
29. The Site earthworks fall inwards away from Kāpiti Road. Any dirty water runoff will be contained within the Site and cesspit protection will be used to ensure that dirty runoff during construction does not discharge into the public network.
30. Proposed measures for erosion and sediment control have been designed in accordance with the guidelines NZTA ESCP for Land Disturbing Activities in the wider Wellington Region as set out in the Section 92 Response. Silt control measures will need to be installed onsite, checked and confirmed acceptable by Council's inspector before works commence. The proposed erosion and sediment control has been designed to avoid contamination of the private stormwater swale running along the North-East boundary of the Site.
31. Due to the almost completely impervious nature of the Site and working with concrete and hardfill, dust control measures are proposed to prevent nuisance to Kāpiti Road and the surrounding properties.

## **EFFECTS ASSESSMENT**

32. With respect to the possible effects of flooding, by creating underground storage and minimal ponding on the surface, the 100yr ARI rainfall event runoff volume can be stored on Site. Discharge will be at pre-development flow rate. There will also be stormwater quality treatment by way of a filtration

unit in the new private stormwater network prior to discharging to the same connection point which the Site currently uses. This means that there will be a large benefit to the receiving environment and no impact on downstream or upstream properties in terms of post development flooding. Further, as set out in paragraph 17 the proposed buildings are designed at a height where they will be protected in a 100 year flood event.

33. With respect to stormwater effects, the existing stormwater network will be upgraded. In its existing state the Site has few catchpits. The Proposed development includes the installation of a greater number of catchpits and greater storage underground to minimise ponding on the surface. Larger pipes are also proposed to be installed to better handle the discharge of stormwater runoff from the very flat Site into the underground storage system. The new private network will discharge to the same public connection point and at the existing Site's flow rate. Stormwater discharge is thus appropriately managed and there will be no more than minor adverse effects on the public network or downstream environment.
34. In addition to the better handling of stormwater, it is proposed to provide stormwater treatment of the carpark surface water runoff which will benefit the receiving environment. The Site currently has no stormwater quality treatment facilities and so the proposed treatment will be an improvement compared to the current situation.
35. In my view the proposal will not have any adverse effect on network capacity. In terms of servicing, there is sufficient capacity in the stormwater, wastewater and water supply network to service the development. Further, I consider that the proposed services design is appropriate for the proposed purposes.
36. In terms of the proposed earthworks, construction represents the period when the most significant impact on the downstream receiving environment can occur due to erosion and sedimentation from disturbed land. Erosion and sediment control measures are proposed to contain any contaminated water within the Site and ensure it is treated before being discharged offSite to mitigate effects on the environment. In my view, with the proposed measures in place, there will not be more than minor adverse effects on the environment from the proposed earthworks.

## SUBMISSIONS AND COUNCIL REPORT

### Submissions

37. Submissions focussed generally on traffic and have been addressed by the Transport Engineer for the Applicant. No response is required from a civil engineering perspective.

### Section 42A report

38. The section 42A report appears to support the proposed earthworks and services designs discussed in the Infrastructure Report and the Section 92 Response. It recommends a number of conditions of consent. I make specific comment in relation to condition 14.
39. In my opinion, the intent of condition 14 is appropriate. The rising main's material and condition is critical to the successful long term discharge of wastewater from the Site. Providing details of this rising main after investigation and as part of the building consent application is acceptable from an engineering perspective. However, I consider that the proposed wording of the condition could provide more clarity as to when the main would be required to be replaced and what standard the new pipe is required to meet. As such I support an amendment to the condition that replaces the words "poor condition" with "not fit for purpose".



Glen Bellingham

7 March 2022