

Your Comment on the Waikanae North Development

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Introduction

1. This submission contains comments on two aspects of the proposed development:
 - Hydrology/Stormwater Management/Flooding Impacts
 - Transport Impacts
2. If required, I would be very happy to meet the Panel, and/or the developers, to discuss its contents.

Hydrology/Stormwater Management/Flooding Impacts

3. The Substantive Application and associated Stormwater Management Report (Appendix 16), Hydrology Report (Appendix 17) and Flood Hazard Report (Appendix 20) set out the results of modelling of the potential impacts of the development on groundwater levels and the flow of water through the hydrogeological system.
4. The reports focus primarily on the impacts of hydrological changes within the development site. On the wider impacts on land outside the development area, the Executive Summary in Appendix 16 makes the statement that:

“Selected catchments intentionally release treated flows from development areas to Te Harakeke Swamp without soakage or attenuation to support restoration, with no adverse off site effects confirmed by macro-modelling.”

The Substantive Application states (p.147) that:

“modelling indicates that the design solution proposed will overwhelmingly have positive impacts on existing flood levels on surrounding properties.

In isolated instances, the proposal results in less than minor increases in flood depth, in areas already subject to a flood hazard, with the possibility for some of these increases to be further reduced, or eliminated, through detailed design.”

However there is limited information on the macro-modelling methodology. Moreover, there does not appear to have been any assessment of the impact on Paetawa Road properties to the north west of the development.

5. **It is important for the Panel to be aware of a very strong and direct correlation between groundwater levels in the catchment of the Ngarara Stream, including Te Harakeke Swamp, and flood risk to a significant number of properties on Paetawa Road between the proposed development site and the shoreline.**
6. Between December 2021 and August 2022 there was prolonged flooding on a number of Paetawa Road properties, including some on side roads such as Marram Way (referred to collectively as “Paetawa Road properties”) caused by high groundwater. The underlying cause was the fact that two culverts on the Ngarara Stream had not been maintained and had become blocked. This led to silting up of the “Black Drain”, that normally flows into the Ngarara stream, due to backflow caused by the blockages. Together, these resulted in elevated groundwater levels in Te Harakeke Swamp, Kawakahia Wetlands and the surrounding area. Surface water levels in Te Harakeke Swamp reached 3.45m NZVD 2016, which compares to the maximum groundwater level of 2.9m NZVD 2016 measured by the developer in the nearest boreholes to Te Harakeke Swamp, 15 and 16 (Table 2, Appendix 17). This in turn meant the groundwater gradient to the sea was elevated, raising groundwater levels in the

Paetawa Road area by around 0.6m above normal maximum levels (to around 2.6m NZVD 2016 compared to a normal maximum of 2.0m NZVD 2016).

7. This led to the flooding experienced by the Paetawa Road properties. The effect was both direct and rapid, enabled by the high permeability of the sand that makes up this area of the Kapiti coast. The flooding affected the gardens of an estimated 50 properties, came perilously close to a number of houses, blocked access roads, required the relocation of an electricity supply cabinet, and flooded septic tanks causing land contamination. A significant number of large mature trees were killed by prolonged waterlogging of their root systems. Appendix 1 to this submission includes photographs taken of Paetawa Road properties during this period.
8. After some time, Kapiti Coast District Council (KCDC) used emergency drainage powers to clear the blockages, which led quickly to the floodwaters disappearing (within days). KCDC has since been seeking a “global” resource consent from Greater Wellington Regional Council (GWRC) to allow routine maintenance of waterways in the future and avoid a repeat. However this has not yet been achieved, even though the flooding event was over 4 years ago. Understandably, these events caused, and continue to cause, a very high level of concern and stress for local residents.
9. It is also important for the Panel to be aware that the Substantive Application contains out-of-date KCDC flood risk mapping. Figure 51 in the Substantive Application and figure 2 of Appendix 20 include an excerpt from the KCDC Flood Hazard Planning Maps. These show no flood risk to properties along the part of Paetawa Road in question. However, this is because the Paetawa Road area had not been modelled for flood risk when the Maps were created, not because there was no flood risk (an important distinction that was not explained in the District Plan or Flood Hazard Planning Maps). In 2025, KCDC undertook new flood modelling of this area, which shows many of these properties as being at risk of flooding. KCDC has consulted on the revised draft Flood Hazard Planning Map, and it is due to be published imminently. By relying on the older Map, the Substantive Application has under-represented the sensitivity of the Paetawa Road area to any increase in groundwater levels. I would strongly encourage the Panel to seek a full copy of the 2025 draft Flood Hazard Planning Map for this area from KCDC.
10. The 2021/2 flooding event provides clear, empirical evidence of the direct links between groundwater levels in and around Te Harakeke Swamp, and groundwater levels in the Paetawa Road residential area. The recent flood risk modelling shows how sensitive these properties are to increased flood risk. **Together, they show that any significant elevation in groundwater levels in Te Harakeke Swamp and the surrounding area over normal levels is highly likely to increase flood risk on Paetawa Road properties, with a real possibility that people’s homes will be flooded in the future. It is essential that the Panel is aware of this fact before making a decision on the development.**

11. Given this situation, the developer's off-site groundwater modelling needs to be both highly rigorous and transparent. In particular, it is essential for local residents to be able to understand the methodology used, to know on a property-by-property basis what the modelling concluded, and to have time if necessary to seek an independent expert review of the assessment.
12. It is therefore concerning that the Substantive Application and supporting Appendices make no specific reference to the risk of flooding on Paetawa Road, other than the general statements outlined in paragraph 4 above. It is notable that all of the 17 groundwater monitoring piezometer locations used in the hydrological assessment were on the development site, and none in the Paetawa Road area (Appendix 17, p.6). **Remarkably, although the Flooding Report (Appendix 20) analyses off-site effects to a number of properties to the north-east, east and south of the development (figures 16-19), it provides no analysis or consideration of the flooding impacts on Paetawa Road properties to the north-west, nor any recognition that this may be an issue. THIS IS A MAJOR GAP IN THE ANALYSIS. It is also inexplicable, given the well-documented hydrogeology of the area, and the fact that KCDC, GWRC, the developers and their consultants will all have been aware of the 2021/2 flooding event.**
13. Conversely, it is clear that the development as proposed is likely to raise groundwater levels in Te Harakeke Swamp. As set out in paragraph 4 above, there are plans to release stormwater from elsewhere in the development to the Te Harakeke Swamp.
14. Furthermore, the development will involve removal of a high volume of peat (475,000 cubic metres), which will reduce water storage capacity; and the deposition in its place of compacted fill, with more limited storage capacity. It will also involve a very significant area of hard surfacing (roofs and pavements) which will increase the speed of run-off during heavy periods of rain, increasing the likelihood that this water will be released into Te Harakeke Swamp and other wetland areas.
15. **By implementing these measures, there is a risk that the developer will re-create the conditions that led to the flooding in 2021/2, which KCDC had to use emergency drainage powers to resolve. In the absence of any analysis of the development's impact on flood risk for Paetawa Road properties, it is difficult to reconcile this with the claim that there will be no adverse off-site effects.**
16. I acknowledge the ecological and cultural value of Te Harakeke Swamp, and would be pleased if the value of the wetland could be enhanced without increasing flood risk for Paetawa Road properties. However, the above statements raise real questions about whether the off-site flooding risk has been properly and accurately assessed, and whether an appropriate balance has been struck between ecological and cultural value on the one hand, and off-site flood risk on the other.

17. I would also observe that the developer's stormwater management approach relies on the future free-flowing nature of the Ngarara Stream, including on private land downstream from the development site. It would therefore be in the developer's interest, as well as those of Paetawa Road residents, to achieve a binding agreement with KCDC, GWRC and relevant landowners, together with the requisite resource consents, for future maintenance of this watercourse, in order to avoid future blockages and consequent flooding.
18. It may or may not be possible to design mitigation measures that enable a high groundwater level in Te Harakeke Swamp, but do not elevate flood risk for Paetawa Road residents. However, no such measures are proposed by the developer. Options such as intercepting groundwater flow and reducing groundwater levels before they reach Paetawa Road properties may be effective and should be explored.
19. If the development is to go ahead, it should be subject to a condition that water levels in Te Harakeke Swamp are regularly monitored, and the results published. In addition, the developer should be required by condition to limit the water in Te Harakeke Swamp to an agreed level (for example, 2.6m NZVD 2016 along its northwestern edge), and take immediate remedial action if it is above this. If, as the developer claims, the development will have no adverse off-site effects, this condition will not be onerous and remedial action would rarely if ever be needed.
20. In summary, I believe it is incumbent on the Panel to be absolutely certain that there is no additional flood risk to Paetawa Road properties from the development, with or without mitigation. It is not possible to form this view from the information provided in the application. More rigour and transparency in the hydrological and flooding assessment is required, specifically including an assessment of the impact on flood risk for Paetawa Road properties. I also believe involvement with potentially affected parties is required. If the Panel is not satisfied that there is no additional flood risk to Paetawa Road properties from the development, I believe this would meet the test for refusal set out in s.85(3) of the Fast-track Approvals Act 2024, given the number of properties involved and the huge financial and emotional cost of flooding events.
21. It is my understanding of Tort law that if the Panel approves the development, and it subsequently causes the flooding of off-site properties, the award of consent may be a "statutory authority" defence against any court proceedings that may be taken. **If so, Paetawa Road property owners, most of whom have not had the right to comment on the development, may also have no effective legal avenue to seek redress for harms caused by the development, should these occur. I do not believe this is a tenable or fair position for these people to be put in.**
22. **I STRONGLY recommend, in relation to the hydrology/stormwater management/flooding impacts of the proposal, that the Panel:**

- notes the close hydrogeological connectivity between the development site, in particular Te Harakeke Swamp, and Paetawa Road properties;
- obtains a copy of the KCDC 2025 draft Flood Hazard Planning Map for the Paetawa Road area, due to be published imminently, and notes the sensitivity of many Paetawa Road properties to additional flood risk;
- notes the strength of concern amongst Paetawa Road residents about the potential flooding of their properties as a direct result of the proposed development;
- invites the developer, with its hydrology consultants, to meet with Paetawa Road residents and the KCDC Flood Defence Team, to share the raw data and hydrological macro-modelling methodology that has been used to quantify off-site effects in the report; explain how they came to the conclusion that there would be no off-site impacts; and provide the results for each property;
- invites the developer to prepare a supplementary report that specifically addresses flood risk to Paetawa Road residents from the proposed new development, uses the most recent flood risk modelling from KCDC, and takes into account the evidence from the 2021/2 flooding event;
- allows local residents the time to commission an independent expert review of the hydrological and flooding assessments, if they deem it to be necessary, including the underlying data that supports these assessments, and to submit the results to the Panel before a decision is made;
- only approves the development if and when it has been established beyond doubt that the development itself, and the way that stormwater is managed on site over time, will not increase flood risk for Paetawa Road properties (with or without mitigation measures);
- makes any approval of the development conditional on regular monitoring of water levels in Te Harakeke Swamp, and the results being published; and applies a condition that sets a limit for those levels that will not elevate flood risk for Paetawa Road properties (for example, 2.6m NZVD 2016 along its northwestern edge). If water rises above the specified level, the developer should be deemed to have breached their approval conditions;
- makes any approval of the development conditional on KCDC obtaining a global resource consent to enable them to undertake future maintenance of the Ngarara Stream and contributory drains; and a binding agreement between the developer KCDC, GWRC and relevant private landowners to ensure that this maintenance is done.

Transport Impacts

23. For transparency and ease of review, all calculations in the following text are shown in Appendix 2 to this submission. They are largely drawn from figures in the Integrated Transport Assessment (ITA) (Appendix 15 to the application).
24. The Integrated Transport Assessment states in its conclusion that *“the additional traffic generated by the development will disperse well on the surrounding network, and will not give rise to any safety or capacity effects that require mitigation works”*. I believe that this statement significantly understates the scale of the transport impacts and the need for mitigation.
25. The new development will increase the size of the Peka Peka community (current population around 730) to just under 4,000 - a factor of over 5. This will generate between 9,000 and 10,000 additional vehicle movements per day. I contend there will be significant safety, capacity, air pollution, noise and vibration impacts, particularly on the Paetawa Road to Te Moana Road corridor. For example, the development will quadruple the number of vehicles per day on Paetawa Road compared to current levels, and increase by 60 percent the traffic through Waikanae Town Centre compared to current levels.
26. Fortunately, there is a simple and effective measure that would almost completely mitigate these transport impacts. This is the construction of south-facing on- and off-ramps at the SH1 Peka Peka interchange.
27. This interchange was constructed as a partial interchange, i.e. without south-facing ramps, when the SH1 Kapiti Expressway was built around 10 years ago. Prior to construction, KCDC submitted to the SH1 Mackays to Peka Peka Board of Inquiry objecting to the south-facing ramps, on the basis that these would encourage development north of Waikanae (which it did not wish to see). The following is an extract from the KCDC submission to the Board of Inquiry, dated 27 January 2011:

“The Council supports the provision of north facing ramps only at Peka Peka. It does not support a full interchange at this intersection because of the very significant risks and difficulties this brings in terms of managing commercial and retail development pressures around the immediate site, and the implications for general growth pressures in this area.

The Council’s Development Management Strategy and District Plan policies provide for an urban edge just north of the existing Waikanae urban area, with low-impact urban style and density development to the south, and eco-hamlets and low density rural residential living and rural economic activities to the north. A full interchange would place pressure on this and would also increase pressure to expand the coastal village area at Peka Peka.”

28. The Council has abandoned the growth management policies that applied in 2011. Indeed, “*Expansion of the coastal village area at Peka Peka*” is exactly what the new development is doing. Its approval removes any reason not to complete this interchange through the addition of south-facing ramps. Indeed it makes it a necessity, as the ITA predicts 95 percent of the traffic generated by the new development will come and go from a southerly direction, 35 percent along the Paetawa Road corridor and 60 percent through Waikanae town centre. With south-facing ramps, most of the traffic from the new development travelling to Paraparaumu and beyond would instead use the interchange. It would be a highly effective mitigation to the transport impacts, and would have the additional benefit of reducing pressure on the SH1 Te Moana interchange.
29. In the same submission, KCDC acknowledged that the construction of the Expressway without south-facing ramps may have impacts on Paetawa Road that would require mitigation. Their submission stated:
- “Current residents have chosen to live in this area for its non-urban qualities and would generally not wish to see a major character change. They would continue to have access along the old State Highway (with an improved travel time as a result of reduced congestion) and would be able to join the Expressway at Paraparaumu or at Poplar Avenue. There may be some local network effects with some Peka Peka residents travelling along Paetawa Road to the Te Moana Road interchange. These effects will need to be mitigated.”*
30. If mitigation of effects on the Paetawa Road to Te Moana Road corridor was required ten years ago without any large new development, it is self-evident that it is required as a result of this development, which increases the number of local residents by a factor of five, and vehicle movements along Paetawa Road by a factor of four.
31. Furthermore, the ITA acknowledges that this is not the only major development in the area and includes the following extract from the *Te Tupu Pai Growth Strategy for Kāpiti*.



32. The green area and yellow hatched areas in the above have been identified for greenfield growth, and will add still further to the transport load on the local network. Cumulatively there is an even stronger case for the addition of south-facing ramps to the SH1 Peka Peka interchange. Considering cumulative impacts should be a core part of an integrated approach to transport and urban form, as is required by District Plan Policies TR-P1 and TR-P2.
33. I acknowledge construction of south-facing ramps would increase traffic along Peka Peka Road to the east of the development, by diverting it from the Paetawa Road to Te Moana corridor. However, 65 percent would use that route anyway (to travel via Waikanae Town Centre, or to the north). Also Peka Peka Road to the east of the development is a 60kph peri-urban zone, rather than the 50kph residential zones along the Paetawa Road to Te Moana corridor. It is therefore better suited to carrying this demand.
34. Figure 3.1 in the ITA seems to indicate that the requisite land for south-facing ramps has already been designated by the NZTA. This will make construction easier, quicker and potentially less costly.
- 35. I recommend, in relation to the transport impacts of the proposal, that:**
- the Panel makes construction of south-facing on- and off-ramps at the SH1 Peka Peka Interchange a condition of consent, and that either:
 - the costs of construction should be funded by the developer; or
 - the development should be delayed until a co-funding agreement between the developer, the NZTA, and any future developers in the area has been reached.

Appendix 1 – Photographs of flooding of Paetawa Road properties, Dec 2021-August 2022 caused by elevated groundwater in Te Harakeke Swamp



Floodwater inundation near residential property, Paetawa Road

Floodwater blocking the only vehicular access to six Paetawa Road properties



Appendix 2 - Transport Calculations

Statement	Calculation
The new development will increase the size of the Peka Peka community (current population around 730) by a factor of over 5, generating between 9,000 and 10,000 additional vehicle movements per day.	Current Peka Peka population (Stats NZ)= 730 New development will consist of 1,181 – 1,209 residential dwellings. Using 1,200 dwellings, and an average number of residents per dwelling of 2.7 (NZ average, Stats NZ 2023 Census): Increase in population from development = $1,200 \times 2.7 = 3,240$ Proportional increase = $(3,240 + 730)/730 = 5.4$ Vehicles per day generated by new development = 9,684-9,914 (ITA p.37).
For example, the development will quadruple the number of vehicles per day on Paetawa Road compared to current levels, and increase by 60 percent the traffic through Waikanae Town Centre compared to current levels.	Vehicles per day generated by new development = 9,684-9,914 (ITA p.37). Using a mid-range figure of 9,800: Peka Peka Road west of the development (and Paetawa Road corridor) = 35% of generated traffic (ITA p.40) = 3,430 vpd. Current demand on Paetawa Road = 1,090 vpd (ITA p.6). Increase = $(3,430+1,090)/1,090 = 410\%$ Peka Peka Road east of the development (and Old SH1 to Waikanae) = 60% of generated traffic (ITA p.40) = 5,880 vpd. Current demand through Waikanae Town Centre (north of Elizabeth Street) = 10,050 vpd (ITA p.6). Increase = $(5,880 + 10,050)/10,050 = 160\%$

The ITA predicts 95 percent of the traffic generated by the new development will come and go from a southerly direction, 35 percent along the Paetawa Road corridor and 60 percent through Waikanae town centre.	ITA page 40.
However, 65 percent would use that route anyway (to travel via Waikanae Town Centre, or to the north).	60% of traffic will go through Waikanae Town Centre 5% will travel north Total along Paetawa Road to west of development = 60+5 = 65% of generated demand. ITA page 40.

Thank you for your comments