



RESPONSE TO EXPERT PANEL MINUTE 18 – [P6] MT WELCOME, PUKERUA BAY

TO	Pukerua Property Group LP	DATE	10 September 2026
PROJECT NAME	Mt Welcome, Pukerua Bay	ENVELOPE REF	1753-02
ATTENTION	William Dorset	FROM	Kyle Dirse
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INTRODUCTION

This memorandum responds to the requests for information in paragraphs 6 and 15 of Minute 18 of the Expert Panel (FTAA-2603-1181, 4 September 2026) that relate to Envelope Engineering's wastewater assessments.

Item	Matter
[6]	Comments on Tiaki Wai's additional wastewater modelling

PARAGRAPH [6] – TIAKI WAI'S WASTEWATER MODELLING

Ms Bryden advised that Tiaki Wai has undertaken wastewater modelling of its own. As requested, she has provided a copy of same to the EPA. The applicant is requested to provide any comments it has on that modelling by noon on 11 September.

Response:

We have reviewed Tiaki Wai's Response to Panel Request – Additional Wastewater Modelling (Zeean Brydon, v1.0 Final, modelling by Manu Ward dated 4 September 2026). Our comments are as follows.

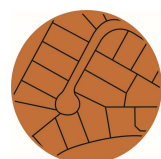
Both parties used the same Tiaki Wai wastewater model and the same design storms. The different conclusions come from development input parameters and population scenarios.

- HAL's report groups its growth scenarios into ranges: CUR-MED (2027–2036), M2L-LNG (2046–2056) and L2M-MPD (2066–2076), each with its own set of network and infiltration parameters. Envelope used the CUR-MED (2027–2036) range, which covers the period in which the initial 200 Mt Welcome lots would be delivered. Tiaki Wai used the M2L-LNG (2046–2056) range, which does not align with the initial development programme and loads the network with growth and pipe ageing that would not exist when the first 200 lots connect.
- The infiltration allowance follows the scenario range. HAL sets a low allowance for new pipes in the 2027–2036 range and doubles it for 2046–2056 to reflect ageing. Envelope used the 2027–2036 range, Tiaki Wai used the 2046–2056 range. This is the main reason its peak flows are about 1.5 times Envelope's.
- Tiaki Wai added the 83 Muri Road Stage 1 lots as an unrestricted gravity discharge. In reality Muri Road stores its flow on site and pumps it to the network through PS30 at a fixed 8 L/s, so its peak wet-weather contribution is much smaller than the gravity case. Tiaki Wai acknowledges this assumption needs further investigation. Its runs E and F, which exclude Muri Road, avoid the issue but do not correct it.

Conclusion

Envelope has issued M012v2 to correct the understated dry-weather flows previously applied to the Mt Welcome. The corrected modelling shows that the first 200 lots can connect by gravity without overflow in the 6-month containment event. Additional overflow volumes at PS13 are approximately 67 m³ and 161 m³ in the 1-year and 2-year events, respectively.

Tiaki Wai's findings reflect different assumptions, including the 2046–2056 scenario range, higher infiltration allowances, unrestricted gravity discharge from Muri Road, and 880 Plimmerton Farms lots in two runs. Its baseline also includes overflow at PS13 in the 1-year event. Despite these differences, Tiaki Wai's comparable runs E and F also show no overflow in the 6-month containment event.



Envelope considers the 2027–2036 (CUR–MED) scenario range appropriate for assessing the initial 200 lots because it covers their expected delivery period. This assessment also represents Muri Road discharging through PS30 at 8 L/s, supported by on-site storage. On this basis, the first 200 lots do not worsen overflows in the containment event.

Envelope requests that Tiaki Wai explain the basis for its preferred future scenario and remains open to agreeing common scenarios and parameters for assessing the long-term storage solution and subsequent development stages.

