

**IN THE MATTER:** of the Resource Management Act 1991  
(**RMA**)

**AND**

**IN THE MATTER:** of Proposed Plan Change 94 (Washer Road) to the Western Bay of Plenty District Plan under Schedule 1 of the RMA.

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**STATEMENT OF EVIDENCE OF MARK TOWNSEND**

1 July 2022

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**INTRODUCTION**

**Qualifications and experience**

1. My name is Mark Townsend. I am the Engineering Manager for the Bay of Plenty Regional Council (**Regional Council**).
2. I have a Bachelor of Engineering (Civil) from Auckland University. I have [30] years civil and environmental engineering experience almost all of which has been gained working in the Bay of Plenty.
3. I have worked in local government, contracting, industry and consulting and thus have a broad knowledge of civil and environmental engineering practices. I have been involved with land subdivision, stormwater management, transportation, coastal engineering and natural hazards, hydrological and hydraulic assessments and geotechnical engineering.
4. I confirm that I have read and agree to comply with the Code of Conduct for expert witnesses in the Environmental Court Consolidated Practices Note 2014. I confirm that I have complied with it in the preparation of this statement of

position. I have not omitted to consider material facts known to me that might alter or detract from the opinion I express.

### **Scope of evidence**

5. My evidence addresses the concerns raised in the Regional Council's submission on Proposed Plan Change 94 (Washer Road) and focusses primarily on the mitigation of increased run-off from the site required to address effects on off-site flood management infrastructure and downstream landowners.
6. I will also respond to the recommendation in the Planner's Report on the landscape strip identified in the Structure Plan.
7. I have reviewed the Application, the supporting technical assessments, and the Planner's Report. I had input into the Regional Council submission. I have also been involved in direct discussions with the Applicant regarding the proposed stormwater design and assessment since the submission was lodged.

### **INCREASED RUN-OFF / ON-SITE ATTENUATION**

8. The proposal will result in increased run-off but the Applicant has not proposed any mitigation for this. As the Planner's Report highlights, the stormwater proposal prepared by the Applicant is proposed for water treatment purposes only.
9. The Regional Council sought that additional feasibility reporting be undertaken to demonstrate the requirements for stormwater detention measures based on updated modelling and in accordance with BOPRC's Hydrological and Hydraulic Guidelines 2021/02.
10. The Planner's Report recommended that the Applicant provides the additional information required and liaises with the Regional Council, following which the assessment and outcome of the discussion can be provided to the District Council.
11. We have been engaging with the Applicant regarding the stormwater detention measures but have not reached agreement.

12. In particular I disagree with the Applicant's approach to Section 7.1.3 of the BOPRC Stormwater Management Guidelines. The consultants for the Applicant have responded that:

13. I disagree with the comments related to this aspect.

Section 7.1.3 of the BOPRC Stormwater Management Guidelines (SMG) for the Bay of Plenty Region (Guideline 2012/01) states that peak discharge control should only be undertaken in the top half of a catchment where potential coincidence of peaks cannot occur. Lysaght's report noted that the site is located in the lower portion of the catchment therefore detention is not required by the guidelines. It is also noted that the downstream flood plain is likely to have a significantly long draw down period, probably measured in days. As such, any detention provided in a pond is likely to have been discharged into the flood plain before it has been drawn down and thus the benefits of detention are greatly diminished.

14. Section 7.1.3 of the BOPRC Stormwater Management Guidelines for the Bay of Plenty Region (Guideline 2012/01) in fact says "As a general rule stormwater detention for peak flow control should only be done in the top half of a catchment where the potential for coincidence of peaks cannot occur." This is a general rule and as such does not accurately portray all situations.

15. The flood carrying capacity of the lower reaches of the Ohineangaanga Stream and surrounding land can be described as over-allocated in its current state especially when considering predicted climate change effects.

16. Our submission considered that there is a lack of appropriate analysis of the potential effects on the control scheme, existing infrastructure and houses due to increased runoff, and hence added flood risk.

17. Any stormwater discharge and associated mitigation works must not compromise the design and/or function of the flood protection scheme assets or any other infrastructure, such as bridges/culverts and any associated level of service with the community. BOPRC considers that as existing downstream infrastructure is already over allocated that no increased peak flow should be allowed to enter the Ohineangaanga Stream otherwise the downstream stopbanks may overtop.

18. This can be achieved by detention by ensuring mitigation of increased stormwater runoff is provided by detaining the increased runoff flow (peak

discharge) so that the post-development peak discharge for the 100-year return period storm be limited to 80% of the pre-development peak discharge. For this reason, I consider there will be no increases in downstream flood risk as a result of the plan change.

19. This is consistent with guidance provided in both BOPRC's Hydrological and Hydraulic Guidelines 2012/02 and BOPRC Stormwater Guidelines.
20. It should be noted that the recently granted Te Puke Comprehensive Stormwater Consent has the same requirement for stormwater detention. This is of course upstream of this proposed plan change area.
21. The extended detention volume as indicated in the "Washer Road Business Park" Plan Change Structure Plan: circulated in the bundle of evidence for the applicant on 28/06/2022, will need to change as a result of applying the above. I am comfortable that there will be adequate space available in the Structure Plan area for an adequate and feasible stormwater solution.
22. Specific details should not be included in the Structure Plan in light of the above. I do not support an annotation being included on the Structure Plan that would identify the volume of detention which needs to be established at a detailed design stage consistent with the parameters I have outlined above.
23. I have reviewed the provisions proposed by Mr Te Pairi that would see this addressed as part of a comprehensive Stormwater Management Plan at the pre-development stage. I support those provisions to manage peak flows and to guide future consenting processes.
24. For the avoidance of doubt in regard to increases in hazards downstream. I consider that these can be appropriately managed by ensuring peak flow is managed to 80% of the pre-development flow. This is captured in the stormwater management plan and identified in the evidence of Mr Te Pairi.

## **FLOOD HAZARD / LOSS OF FLOOD STORAGE**

25. The Regional Council's submission sought that any proposed floodplain filling be compensated for by providing an equivalent amount of additional storage in

the floodplain owing to the cumulative effect of the development enabled on the site.

26. I have considered the response on this issue provided by the Applicant and am prepared to accept that no mitigation is required on the basis that the loss of flood plain storage due to the proposal is so small that it is negligible. I remain concerned about the cumulative impact of successive developments, each with a “minor” effect, but in this instance given it is negligible I am satisfied.
27. I support the Applicant’s proposal to lift the ground level above the flood level.

### **LANDSCAPE STRIP**

28. The Regional Council supported the concept of the landscape buffer in its submission but not the proposed location. Concerns related to the access to the Ohineangaaga Stream to maintain the canal banks and adjacent stopbanks. Maintenance of the stability of the stopbank is also relevant.
29. The Planner’s Report recommends that the Structure Plan be amended to relocate the vegetation buffer to the west of the stop bank.
30. The Regional Council sought in its submission that the vegetation buffer be located outside the toe of the stop bank but also that the details of the proposed vegetation buffer be reserved to ensure access is provided and stability maintained to the satisfaction of the Bay of Plenty Rivers and Drainage Department.
31. The location of the stop bank forms part of those details that need to be reserved as it is relevant to both access and stability considerations. As such, we do not support the vegetation buffer being identified on a Structure Plan.
32. It may also trigger the need for a Bylaw Authority as part of this approval process, depending on location and nature of the works, and also taking into account the plans to upgrade the stopbank.
33. I have reviewed the provisions proposed by Mr Te Pairi in relation to the buffer and support those provisions as being appropriate.

### **DRAINAGE SWALE**

34. An earlier Structure Plan identified a drainage swale. However, as identified in appendix 14 of Richard Coles evidence the swale is no longer shown on the proposed structure plan map. Therefore, provision is made in the SMP for further details.

**Mark Townsend**