

## Running, Tanya

---

**From:** Running, Tanya  
**Sent:** Monday, November 15, 2021 10:21 AM  
**To:** Michael Parsonson  
**Cc:** Mike Wood  
**Subject:** SH1/SH29 | Further S92 stormwater response to WRC

Hi Michael

There are two stormwater matters that Mr James Oakley of WRC would like addressed via resource consent conditions being:

1. Increase in an existing flood level outside the designation boundary
2. Intermediate storm peak flow attenuation.

Outlined below is Waka Kotahi's response to these two matters.

### **Increase in an existing flood level outside the designation boundary**

As explained in Waka Kotahi's section 92 response (dated 15 October 2021), the Project scenario near the existing DN450 culvert is predicted to result in a localised increase in existing flood levels greater than 50 mm outside of the proposed designation boundary. Mr James Oakley of WRC requested a consent condition to address this matter.

The hydraulic model shows an increase of flood depth of up to 60 mm above the baseline, lasting for less than 1 hour, over an area of approximately 94 m<sup>2</sup> (adjacent to the proposed designation boundary), in the 1 in 100-year ARI event. Given the rural context i.e. open pastoral land clear from any structures, and the small area of land impacted over such a short period of time, Waka Kotahi's experts consider any effect of this increased flood depth to be negligible or de minimis. As such, Waka Kotahi considers that a consent condition is not necessary.

### **Intermediate storm peak flow attenuation.**

Request 1 of WRC's section 92 letter (dated 20 September 2021) queried why intermediate storm peak flow management is not required and requested pre and post impervious area comparisons and peak flow comparisons at each discharge location for the 2 and 10-year ARI events.

Waka Kotahi's section 92 response (dated 15 October 2021) provided this information and additional evidence from the Hydraulic Modelling Report to demonstrate that the change in peak flows has a negligible flooding effect to the floodplain and the identified properties.

Mr James Oakley of WRC subsequently asked (email dated 3 November 2021) that Waka Kotahi include a condition requiring it to confirm with WRC if intermediate peak flow attenuation is required at the detailed design stage.

In considering whether to include such a new consent condition, Waka Kotahi's experts remain of the view that intermediate storm peak flow attenuation is not required, and that sufficient information has been provided to WRC to justify this view. The hydraulic model has been used as a catchment analysis tool, with the results showing that any flooding on neighbouring properties and structures would be de minimis, and there would be no cumulative effects for this catchment, as the roundabout is the only significant imperviousness likely to occur. Consequently, Waka Kotahi considers that a consent condition regarding intermediate storm peak flow attenuation is not necessary.

Kind regards

Tanya



**Tanya Running**  
Principal Environmental Consultant

M: +64 27 298 4502  
[tanya.running@wsp.com](mailto:tanya.running@wsp.com)

[wsp.com/nz](http://wsp.com/nz)

