

Report 2017.134
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Committee Environment Committee
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Waiohine FMP independent audit and future reporting

1. Purpose

To brief the Committee on the independent audit findings.

2. Background

A draft Waiohine FMP was prepared and approved for release for consultation in May 2016. Submissions on the draft closed in July 2017. A significant number of the submissions that we received were in relation to the science used in the mapping of the flood hazard. Many did not have confidence in the modelling that underpinned the draft FMP. Submissions also referred to concerns about the process to develop the draft document. The hearing of submissions was postponed because of the unavailability of some of the hearing panel.

Taking this feedback into account it was decided not to proceed with the hearing and work with the Wairarapa territorial authorities on a new way forward. In the interim, however, it was agreed with Carterton and South Wairarapa District Councils to proceed to commission an independent audit of the hydrology and hydraulic modelling. GWRC proceeded to engage an independent audit and review of the mapping used to develop the draft FMP. The audit brief was agreed both Wairarapa Councils.

We have recently contacted submitters and other affected parties in writing to give them an update.

3. Independent audit

The final audit report has not been received in time to provide as an attachment to this report. It will be provided to Councillors and also made public on our website once it is available. We are able to provide the following key points based on the draft report and subsequent discussion with the auditor:

- The audit report has found the hydrology and hydraulic model setup and climate change allowances are overall fit for purpose;

- The main recommendations involve doing further work on the calibration, sensitivity tests and freeboard to confirm that these aspects are as rigorous as possible;
- Given the limited calibration and validation data, do more extensive sensitivity analysis to understand the range of uncertainty;
- Consider how freeboard is developed and applied in light of the sensitivity analysis, and document how this is constructed. Try to do it in a way that is easily understood and communicated;
- Revisit calibration using the 2009 event, which was only a 2-year event, and investigate whether the model results can be validated against some bigger historical floods. Attempt to use local knowledge in this verification.
- Take this opportunity to update the modelling. There is now an opportunity to model Greytown urban area in greater detail using recent advances in computer modelling techniques. This would help resolve some of the concerns raised by members of the community.

4. Governance

We are seeking CDC and SWDC's input into how this project should be governed and how to provide for community input. The idea of reporting this project to the proposed Wairarapa Committee will be considered. In the interim we anticipate setting up a Project Committee structure that will consider the final audit report and what actions are required to progress the draft FMP.

5. Consideration of Climate Change

The matters addressed in this report have been considered by officers in accordance with the process set out in the GWRC Climate Change Consideration Guide.

5.1 Mitigation assessment

Mitigation assessments are concerned with the effect of the matter on the climate (i.e. the greenhouse gas emissions generated or removed from the atmosphere as a consequence of the matter) and the actions taken to reduce, neutralise or enhance that effect.

The effect of the proposed FMP works on the climate are not considered significant, and will be addressed through GWRCs procurement process which is undergoing review in 2017 and will encourage suppliers and contractors to minimise emissions.

5.2 Adaptation assessment

Adaptation assessments relate to the impacts of climate change (e.g. sea level rise or an increase in extreme weather events), and the actions taken to address or avoid those impacts.

GWRC plans for climate change in assessing the degree of future flood hazard and in determining an appropriate response. There are only specific, limited situations in which climate change is not relevant (for example, planning for present-day emergency management).

In assessing flood hazard and determining appropriate structural and/or non-structural responses in areas subject to flood risk, GWRC applied a rainfall increase of 16.8% to the flood hydrology to account for climate change over the next 100 years. This approach was consistent with how we applied the national guidance at that time, and led to increases in flow ranging from 17% to 28% in the different sub-catchments contributing to the hydraulic model.

Further detail is available in the report: *High Intensity Rainfall and Potential Impacts of Climate Change in the Waiohine Catchment - NIWA, Feb 2009.*

6. The decision-making process and significance

No decision is being sought in this report.

6.1 Engagement

Engagement on this matter is not necessary.

7. Recommendations

That the Committee

- 1. Receives the report.*
- 2. Notes the content of the report.*

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