

Helen Ellams

From: Michael Law <Michael.Law@beca.com>
Sent: Tuesday, 29 October 2019 2:57 PM
To: Kinley, Peter; Elliot Tuck; Jarad.Sinni@jacobs.com
Cc: Josie Burrows; James Beban
Subject: GWRC-WW Pinehaven stream works model review

Peter and Jarad

Thank you for coming into the Beca office last week to discuss the review of the Pinehaven model. From our perspective, it was useful to understand the development of the baseline model since the July 2015 review, and then to consider what changes have been made to represent the proposed stream works.

Summary of 22 October meeting:

- Beca explained our understanding of the review requirements
- Jacobs:
 - Described the two separate consents being sought; for stream channel improvements and two culverts. Modelling covers both consents.
 - Two model scenarios have been modelled:
 - Base model, based on the updated version of the model reviewed in 2015.
 - Full works (model run 'detailed design Rev 7'. *Brief discussion on the issue of the hydraulic effects of the culverts being installed but the stream works not proceeding.*
 - Explained that they had inherited the SKM model and there was an expectation that model should be used (with appropriate updates)
 - The 'MWH' hydrology has been retained, noting the corrections made following the July 2015 review. That includes adjustments for climate change based on MfE 2008 guidance. *We discussed the need to update the climate change allowance in line with MfE 2018 guidance. Peter and Mike spoke on the phone on 24 October, where peter indicated that Jacobs would be adjusting the hydrology to account for MfE 2018.*
 - Provided Beca with 'final' versions of the model, reports, documents, etc so as not to swamp Beca with information. However, draft or other information can be provided as requested, and especially if it helps to close out any issues raised.
- Discussion on model updates and design, including:
 - Input locations for hydrology
 - Size of sub-catchments
 - Grid size, and grid not mesh.
 - 2013 LiDAR update
 - 2015 and 2018/9 topo survey and cross-section updates. *No works below 200 mm above channel bed. Existing control weirs to be retained*
 - Change in channel alignment, and effect on model chainages. *Jarad to provide Elliot with a list of adjusted chainages.*
 - Floodplain and channel roughness coefficients. No change to base model, but 'full works' model roughness has been updated to reflect channel changes
 - Culvert blockage parameters, and the tasks associated with modelling blockage.
 - The bypass weir; how it controls flow into the bypass and how it is modelled, noting that the weir is not being lowered as part of these design work.
- Elliot and Jarad navigated through the model so that Elliot is aware of the model layout (and sections of stream that are effected by the proposed works) and confirmed where to find the latest model parameters.

Elliot and I will have the draft review of the model completed and provided to GWRC by 8 November. However, we'll give you a call if there are any questions that we think can be answered with a brief conversation and note that in the review. As with the 2015 review, we will use a 'traffic light' system to show whether there are any issues with the model parameters that we review.

Regards

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