

Section Ref	Review Comment	Proposed Action
General	Peer review - The report notes several sections that a peer review was completed. There is no detail provided on what stage of model development this was completed, who completed it, what the comments were or how they were addressed	Recommend adding an appendix to the report that includes these details.
General	The basis for selecting climate change scenarios and associated impacts is not well articulated. The report refers to 2008 and 2018 MfE guidance documents, but selects the 2008 guidance on the basis that the 2018 guidance had not yet been adopted by WRC. The 2018 guidance represents best available current information at the time the work was completed and is more conservative than the 2008 guidance.	Update modelled rainfall to reflect 2018 guidance and align sea level rise assumptions with the selected temperature rise scenario.
1.2	First paragraph duplicated	Remove duplicate
4.2.3	Missing invert data was assumed 0.7m below the GIS lid level, or LiDAR level if lid level is also missing - This is an unusual assumption as allocating 0.7m below lid level would provide insufficient pipe cover for any pipes >0.3m diameter. It is unlikely the stormwater network was constructed with less than 0.5m cover.	Revise assumption to provide more realistic cover for stormwater system and be proportional to pipe size.
4.2.6	MPD hydrology does not appear to address roads as a key runoff component - the hydrology is based on District Plan zoning without specific allowances for roads.	Add road as a zone type and classify impervious cover to suit
4.3.3	Method for estimating Time of Concentration (ToC) is not stated	Please add description of ToC method and confirm compatibility with wider hydrological approach
4.4.4	Building footprints are not explicitly included in the model. This is a key assumption and should be included as a sensitivity test as buildings can have a significant impact on flood volume displacement and influence flow direction in an urban environment.	Complete sensitivity runs to confirm this assumption is appropriate.
4.4.5	Williamson Park Pond - Weir level assumed with low confidence. Given the significant influence this has on upstream flooding, this should be updated with recently surveyed data. The sensitivity test associated with this weir level should also be re-run	Update weir level and re-run sensitivity test
4.6.2	Soakage has been modelled by adjusting rainfall data and does not represent any soakage that may occur during overland flow or ponding. This is a conservative assumption and should be sensitivity tested	Complete sensitivity runs to confirm this assumption is appropriate.
5.3	Williamson Road was selected as the location for testing the impact of explicitly modelling catchpits. Network capacity in this area is controlled by the water level in Williamson Park Pond. It is not appropriate for testing the impact of catchpits on the model.	Select an area that does not have a tail-water control for testing of catchpit impacts and re-run sensitivity testing
ICM Model	We have not reviewed the supplied ICM model in full, but through using the model we noted the percentage impervious area in each of the 51 hydrological zones is not explicitly built into the model. Instead, the impermeable area seems to be incorporated into the rainfall applied to the existing and maximum probable development scenarios. A more robust approach might be to explicitly account for land use rather than averaging it out into the rainfall pattern.	Consider updating the ICM model to a more robust approach as proposed