



Our Ref: 2019-05-16 Peer Review – Water Cycle & Flood Management Strategy:PM
Contact: Peter Moy

16 May 2019

Department of Planning
GPO Box 39
Sydney NSW 2001

Attention: Casey Joshua

Dear Casey,

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PEER REVIEW – WATER CYCLE & FLOOD MANAGEMENT STRATEGY

Lendlease engaged Cardno to undertake a peer review of Water Cycle and Flood Management Strategy (WCFMS) report prepared by J. Wyndham Prince Pty Ltd for the Calderwood Urban Development Project (CUDP) to support the Section 75W Modification (MOD4) to the 2010 CUDP.

Cardno is well placed to provide a peer review of the WCFMS report having had an extensive involvement in the CUDP since the inception of the project.

Cardno has reviewed the revised Water Cycle and Flood Management report with respect to the DA's that have been approved to date and consistency with the approved concept plan accounting for the revised yield. Cardno confirms that the impact of flooding on the development with the proposed modification is consistent with the concept plan as the proposed lots will be constructed above the flood planning level and access will be available up to the PMF. Cardno also confirms that the impact of the development on flooding upstream and downstream of the development is also consistent with the conditions of approval in the concept plan. Regarding the water quality treatment proposed, Cardno considers that the proposed concept is actually an improvement on the water quality outcome of the concept plan as the design has now accounted for higher treatment targets and has also considered the Risk Based Framework for considering waterway health outcomes which was published after the concept approval was granted.

The flood modelling undertaken by JWP has been undertaken using Shellharbour City Councils Macquarie Rivulet Flood Model which was prepared by WMA under the NSW Floodplain Management Program. The WMA model was prepared under the review and supervision of Shellharbour City Council and the Office of Environment and Heritage and is considered suitable to use for this application. Cardno has not specifically reviewed the changes made by JWP to the WMA model however it is understood that simple changes were undertaken to incorporate the design surfaces of the CUDP as well as the bridges and the model parameters and set up are essentially unchanged from Councils original calibrated model.

Cardno has provided a letter dated 4th April 2019 which outlines the timeline of approval and construction of the Stage 1 Bridge. Cardno considers the bridge to be meeting its intended purpose of providing flood free access to the Calderwood Development. This is quantified by the fact there is 500mm of freeboard from the PMF level to the soffit of the bridge based on the original flood modelling undertaken by Rienco/Cardno and that there is also 300mm of freeboard from the PMF level from the latest modelling by WMA/JWP.

Should you have any queries please contact Rory Hentschel (Manager – Water) on 4231 9638 or myself on 4231 9611.

Yours sincerely,

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