

Our Reference: CC210530:NB\nb

Your Reference:



9 November 2023

The Manager  
Westwood Capital Pty Ltd  
61 – 65 Kingsway  
KINGSGROVE NSW 2208

Suite 2.01, Level 2  
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ERINA NSW 2250

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Dear Sir/Madam,

**Re: Proposed Mixed-Use Development**  
**Response to Council RFI – Flooding Assessment**  
**Property: No's. 913 – 925 Punchbowl Road, and**  
**21 Canterbury Road, Punchbowl**  
**Client: Waldron Hill Projects**

ENGINEERS  
MANAGERS  
INFRASTRUCTURE  
PLANNERS  
DEVELOPMENT  
CONSULTANTS

We refer to your instructions in relation to this matter and we understand that you require our technical response in relation to flood related issues raised by Canterbury Bankstown Council which state:

***“Council’s Request for Additional Information – Flooding Assessment***

*Council requested the following additional information in relation to the flooding assessment that supports the current Planning Proposal for the subject site: In response to the Council RFI:*

1. **Amended Flood Assessment to include:**
  - a. *An assessment of the PMF and amended hazard mapping to reflect new scheme.*
  - b. *Confirmation the June 2022 Flood Investigation Report is the report referenced in Acor’s letter dated 26 September 2023 (the letter refers to a report dated 24 August 2022 which Council does not have).*
2. **Flood model deficiencies** - *deficiencies found in the flood model developed such as the coarse grid size of 5m (should be refined to 1-2m), model extent not covering the entire site, and the Punchbowl Road inflow boundary located too close to the Site and does not consider upstream flows from east of Canterbury Road. This can be addressed as part of the updates to reflect the revised site layout/building footprints.*
3. **Modelling of Buildings** – *proposed buildings should be modelled as fully blocked to remove any inundation within the building footprint.*

4. **Indicative FFL** – I will be required to include these in the LPP report and if they are to impact the max building heights proposed. They will also be required to be on the final Architectural drawings which will need to be complete prior to going to a Council meeting.
5. **Hazard Classification** - For a H4-H5 flood classification, evacuation would not be possible via the main access and the developments adjacent to the main access would be vulnerable to structural damage. As the flooding on-site is likely to be categorised as flash flooding, the building occupants would likely have to shelter in place and as such the buildings will need to be designed to withstand forces of floodwater, debris and buoyancy up to the PMF. A safe refuge will also need to be provided on the higher floors of the buildings above the PMF level with sufficient space to accommodate all the building occupants when sheltering in place. It is recommended that a flood evacuation strategy be developed for the Site considering the high flood risk and documented in a Flood Emergency Response Plan for the Site. All basement openings/vents/shafts and basement car park entries should also have threshold levels above the PMF to prevent ingress of floodwaters and damage to vehicles.
6. Provide a **revised blocked sensitivity analysis** to reflect the amended scheme.
7. **Detailed Flood Impact Assessment (FIRA)** – A full FIRA is not required at this stage given the timing constraints, however, please note this will be required prior to exhibition. For now, we require justification from your consultant why not providing this prior to exhibition is acceptable. I have included the feedback from Council's Flood Engineers for you to consider when preparing the FIRA - the flood assessment should be undertaken in accordance with the DPE's Flood Impact and Risk Assessment guidelines, which require a detailed FIRA for a full range of events, i.e. from 20% AEP to PMF, as well as consideration of climate change impacts. "

In response to that matters raised by Council we offer the following comments adopting the same numerical sequence.

1. (a) We confirm additional modelling is being undertaken to respond to this matter.
- (b) We confirm the revised report dated 24 August 2022 included a change to the client reference. The findings outlined in both documents dated 2 June 2022 and 24 August 2022, in relation to the proposed development and flood affectation are identical.
2. We note the 5 metre cell size is embedded in Council's TUFLOW model and was consequently adopted for the purposes of our assessment. We are in the process of refining the model grid to 2 metres . The reduced cell size consequently increases model simulation time, in this regard these supplementary details will be provided in the future.  
  
In relation to the inflow boundary, the location of the boundary has not been altered from Council's adopted model. We confirm previously submitted flood information has adopted this methodology and has not been raised as an issue.  
  
If there are deficiencies with Council's adopted TUFLOW model, we will require further Council input before revising our model.
3. We confirm the proposed buildings will be modelled as blocked structures in the supplementary revised model simulations.

4. We confirm having provided advice in relation to minimum floor levels following our assessment of the revised building layout. In this regard, we refer to our flood mapping reference CC210530, sheets FL1 and FL2, revision A, dated 9 November 2023 (copies enclosed) which depicts the post-development PMF flood levels and hazard classifications based on the current scheme. We note the results depicted in our mapping was determined from a refined 2 m grid TUFLOW model. In this regard, the post-development PMF flood level across the site is generally less than RL 8.0 m AHD. Subsequently, all floor levels proposed at or above RL 8.0 m AHD will be located above PMF floodwaters, removing the need for vertical evacuation. This advice will be included in the planning report.
5. The Flood Emergency Response Plan will be prepared following completion of revised modelling in accordance with our comments under items 1 - 3 above. Also refer to response under item 4.
6. We confirm a revised blockage sensitivity assessment forms part of our current assessment.
7. We note Council's comments in relation to the final FIRA. In support of our position, the current proposal includes a reduction in the density and number of buildings. Consequently, it is our view the revised proposal will result in post developed flood behaviour having a lesser or similar impact when compared to pre-development floodwater behaviour.

Should you have any further queries in relation to this matter, please do not hesitate to contact our Central Coast office.

Yours faithfully,  
**ACOR Consultants (CC) Pty Ltd**

A handwritten signature in black ink, appearing to read 'N Broadbent', is positioned above the printed name.

**Nathan Broadbent**  
**BEng (Civil)(Hons) CPEng NER**

Encl. 1. ACOR Consultants (CC) Pty Ltd Flood Plans, Reference CC210530, Sheets FL1 and FL2, Revision A, dated 9 November 2023