Broadcrest
Engineering and Environmental consultants

Flood Risk Review

Proposed Residential Alts & Ads

ISSUED BY:	*Broadcrest Environmental Pty Ltd*	21 May 2025
TO:	*D. Kershaw C/O: Blue Sky Building Design*	
APPLICATION NO.:	-	
ADDRESS:	*139 George St, Avalon Beach NSW*	
TO BE SUPPLIED TO:	*Northern Beaches Council*	
RE:	*Flood Risk of proposal & compliance to LGA controls*	
BROADCREST REF:	*1813-FR-A-03*	

Broadcrest Consulting Pty Ltd have been engaged to provide the review of the proposed residential alterations & additions at *139 George St, Avalon Beach NSW* (hereafter 'the site') with compliance to LGA flood controls and comment on the flood risk of the development. The review herein is based upon the following underlying documentation:

- Blue Sky Building Designs (dated 14/05/2025), Architecturals No. AVA.2021012,
- Pittwater 21 DCP, Section B3.11 & B3.12
- Pittwater LEP2014, 7.4 Clause 3, and
- NBC (21/03/22) Flood Information Report - Comprehensive 28112E (D22/4246), as extracted from the *Avalon to Palm Beach Floodplain Risk Management Study & Plan, 2017*

1. Flood Information

Latest flood information available for the local catchment is present within the 2017 study noted above, for which the site-specific extract has been provided per NBC Appendix A.

The study results indicate the site is located within a 'Low Flood Risk' precinct for which the dwelling was not identified to be inundated by the 1% AEP, to be outside any 1% AEP hydraulic categories, and to not garner a prescribed 1% AEP Flood Planning Level (FPL).

The site is projected to be affected by the Probably Maximum Flood (PMF) event variably within the lot from 15.28m AHD to 9.55m AHD with a depth range of 0.3m to 0.16m from south to north respectively. PMF velocity ranges from 0.94 m/s to 0.39m/s respectively for which the site is categories as a PMF 'Flood Fringe' of low H1 hazard category. Under PMF conditions it is anticipated the 1st floor and above will be flood free at greater than the

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FGL+0.3m (15.53m AHD, 16.79m AHD); with minor inundation of the ground floor workshop, garage, and games room (11.7m AHD, and 14.10m AHD).

Projected Climate Change 1%AEP intensification indicates inundation at the dwelling of 10.93m AHD to a depth of 0.19m. Under such an event the ground floor and above will achieve an FPL greater than the CC adjusted 1%AEP + 0.5m freeboard (11.430m AHD).

2. Flood Controls

Flood controls for the development are understood to be governed per the following LGA criteria:

- Pittwater 21 DCP, B3.11 Flood Prone Land
- Pittwater 21 DCP, B3.12 Climate Change (Sea Level Rise and Increased Rainfall Volume)
- Pittwater LEP2014, 7.4 Floodplain Risk Management, clause 3

Given the development is not an intensification of land-use, nor a sensitive use case, LEP & DCP controls apply an FPL of 1%AEP + freeboard. Detail of the LEP and DCP controls and criteria are presented below.

Pittwater 21 DCP, B3.11 Flood Prone Land

B3.11 DCP controls are applied per Flood Risk precinct mapping of a given site for which a control matrix is applied based upon the risk profile. NBC mapped flood precinct for the site is presented in Figure 1, for which a 'Low Risk Precinct' condition is identified (see Figure 2). Based upon the continued 'Residential' use case for the site and the low risk profile, no B3.11 controls were identified to be applicable for the development.

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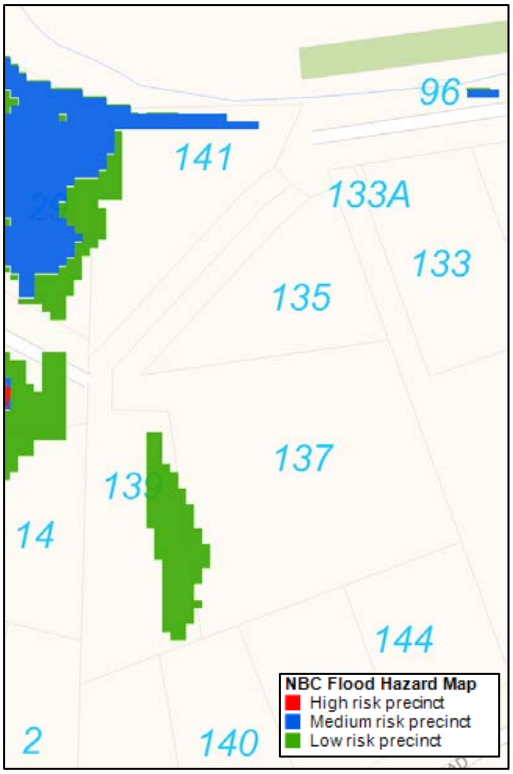

Figure 1. –NBC Online Flood Risk Mapping for 139 George St

		Low Flood Risk Precinct				
		Vulnerable & Critical Use	Residential Use	Business & Industrial Use	Recreational & Environmental Use	Subdivision & Civil Works
B	Building Components & Structural	B1 B2 B3				
C	Floor Levels	C2 C3				C5
D	Car Parking	D2 D7				
E	Emergency Response	E1 E2				E3

Figure 2. –Pittwater 21DCP B3.11 Low Risk Flood control Matrix

Pittwater 21 DCP, B3.12 Climate Change (Sea Level Rise and Increased Rainfall Volume)

B3.12 notes control application in relation to online coastal hazard mapping and estuarine hazard mapping. In relation to this site, the lot was not identified within the 'Pittwater Coastal Risk Planning Map' and was identified as subject to 'Wave Action and Tidal Inundation' within the Pittwater 'Estuarine Hazard Map'. As the proposed development does not constitute any

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of the development cases listed as 'intensification of development', it is understood that an Estuarine Risk Management Report is not warranted per B3.12 of the DCP.

Pittwater LEP2014, 7.4 Floodplain Risk Management, clause 3

(3) Development consent must not be granted to development for the following purposes on land to which this clause applies unless the consent authority is satisfied that the development will not, in flood events exceeding the flood planning level, affect the safe occupation of, and evacuation from, the land— (proceeds to list sensitive land-uses)

The proposed land-use is single dwelling residential and not listed within the affected development types, therefore the above clause does not apply.

3. Findings and Recommendations

The flood affectation has been identified for the 1%AEP, CC adjusted 1% AEP, and PMF from within the latest study data. The development was found to not attracted flood specific controls of the LEP & DCP based upon the continued single-dwelling residential land use and situation within a Low Risk 1% AEP flood precinct.

Based upon the proposed configuration (as detailed in Architecturals dated 29/05/23) the 1st and 2nd floor are anticipated to remain flood free for all inundations projected by the 2017 study. Ground floor inundation is anticipated for the PMF event only, with the space remaining flood free for the 1% AEP and CC adjusted 1% AEP per the 2017 study results.

The proposed dwelling configuration per Architecturals dated 29/05/23 was identified to be in compliance with the LEP and DCP controls with no modifications warranted.

On behalf of Broadcrest Environmental,

Logan Starkey
Civil Engineer
B. Eng (Adv.) (Civil) (Hons.)

P: 1300 554 945 E: contact@broadcrest.com.au W: broadcrest.com.au
ABN: 11677 727 749 Emu Plains, NSW

Appendix A: NBC FLOOD INFORMATION REPORT

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ABN: 11677 727 749 Emu Plains, NSW