

## Natural Environment Referral Response - Flood

<b>Application Number:</b>	DA2022/2251
<b>Proposed Development:</b>	Alterations and additions to a dwelling house including carport
<b>Date:</b>	30/01/2023
<b>To:</b>	Brittany Harrison
<b>Land to be developed (Address):</b>	Lot 7 DP 6462 , 2 The Crescent NORTH NARRABEEN NSW 2101

### Reasons for referral

This application seeks consent for the following:

- All Development Applications on land below the 1 in100 year flood level;
- All Development Applications located on land below the Probable Maximum Flood levels.

And as such, Council's Natural Environment Unit officers are required to consider the likely impacts on drainage regimes.

### Officer comments

The development proposes a northern extension of the existing single story dwelling, construction of a new carport and demolition of an existing carport and cabana.

The proposed development is affected by the 1% AEP flood, PMF flood, H2 - H5 Flood Life Hazard and Flood Storage Area.

The proposal is therefore supported.

Note: Should you have any concerns with the referral comments above, please discuss these with the Responsible Officer.

### Recommended Natural Environment Conditions:

#### **CONDITIONS TO BE SATISFIED PRIOR TO THE ISSUE OF THE CONSTRUCTION CERTIFICATE**

#### **Flooding**

In order to protect property and occupants from flood risk the following is required:

##### Flood Effects Caused by Development – A2

There is to be no filling of the land or any other reduction of the available flood storage which results in a net loss of storage below the 1% AEP flood level of 3.03m AHD.

##### Building Components and Structural Soundness – B1

All new development below the Flood Planning Level of 3.53 m AHD shall be designed and constructed

from flood compatible materials in accordance with Reducing Vulnerability of Buildings to Flood Damage: Guidance on Building in Flood Prone Areas, Hawkesbury-Nepean Floodplain Management Steering Committee (2006).

#### Building Components and Structural Soundness – B2

All new development must be designed to ensure structural integrity up to the Probable Maximum Flood of 4.87m AHD, taking into account the forces of floodwater, wave action, flowing water with debris, buoyancy and immersion.

#### Building Components and Structural Soundness – B3

A suitably qualified electrician or contractor is to certify that all new electrical equipment, power points, wiring, fuel lines, sewerage systems or any other service pipes and connections are suitably waterproofed or located above the Flood Planning Level of 3.53 m AHD and any existing electrical devices, wiring and the like located below the FPL are protected from water ingress or have residual current devices installed to cut electricity supply during flood events.

#### Floor Levels – C1

New floor levels within the development shall be set at or above the Flood Planning Level of 3.53m AHD .

#### Floor Levels – C3

The underfloor area of the dwelling below the 1% AEP flood level of 3.03m AHD is to be designed to allow clear passage of floodwaters. At least 50% of the perimeter of the underfloor area must be of an open design from the natural ground level up to the 1% AEP flood level.

#### Car parking – D3

Car ports are to be designed to allow flood waters to pass through and are to have a minimum of 50% of the perimeter open.

#### Car parking – D4

Vehicle barriers or restraints are to be installed so as to prevent vehicles leaving the site. Protection must be provided for all events up to the 1% AEP flood event level of 3.03m AHD.

Perimeter walls/louvres installed as vehicle barriers or restraints are to be designed to allow flood waters to pass through and are to have a minimum of 50% open area from the natural ground level up to the 1% AEP flood level of 3.03 m AHD.

#### Flood Emergency Response – E1

The shelter-in-place refuge must:

- a) Have a floor level at or above the Probable Maximum Flood level of 4.87 m AHD; and
- b) Have a floor space that provides at least 2m<sup>2</sup> per person where the flood duration is long (6 or more hours) in the Probable Maximum Flood event, or 1m<sup>2</sup> per person for less than 6 hours;
- c) Is intrinsically accessible to all people on the site, plainly evident, and self-directing, with sufficient capacity of access routes for all occupants without reliance on an elevator

The shelter in place refuge which is proposed in the attic is to be accessible via attic stairs designed with handrailings and appropriate flat steps that allows for intrinsic access to all people on the site.

#### Fencing – F1

New fencing (including pool fencing, boundary fencing, balcony balustrades and accessway balustrades) shall be open to allow for the unimpeded movement of flood waters. It must be designed with a minimum of 50% open area from the natural ground level up to the 1% AEP flood level of 3.03m

AHD. Openings should be a minimum of 75mm x 75mm.

#### Storage of Goods – G1

Storage areas for hazardous or potentially polluting materials shall not be located below the Flood Planning Level of 3.53m AHD unless adequately protected from floodwaters in accordance with industry standards.

Details demonstrating compliance are to be submitted to the Certifier prior to the issue of the Construction Certificate.

Reason: To reduce the impact of flooding and flood liability on owners and occupiers of flood-prone property and reduce public and private losses in accordance with Council and NSW Government policy.

### **CONDITIONS WHICH MUST BE COMPLIED WITH PRIOR TO THE ISSUE OF THE OCCUPATION CERTIFICATE**

#### **Certification of the Structural Stability of the Building (B2)**

A suitably qualified structural engineer is to certify the structural stability of the new development considering lateral flood flow, buoyancy, suction effects, wave action and debris load impact of the Probable Maximum Flood (PMF) design flood depths and velocities.

Details demonstrating compliance are to be submitted to the Principal Certifier for approval.

Reason: To reduce the impact of flooding and flood liability on owners and occupiers of flood-prone property and reduce public and private losses in accordance with Council and NSW Government policy.

#### **Certification of Services (B3)**

A suitably qualified electrical engineer or contractor is to certify that all new electrical equipment, power points, wiring, fuel lines, sewerage systems or any other service pipes and connections are located above the Flood Planning Level of 3.53 m AHD and any existing electrical devices, wiring and the like located below the FPL are protected from water egress or have residual current devices installed to cut electricity supply during flood events.

Details demonstrating compliance are to be submitted to the Principal Certifier for approval.

Reason: To reduce the impact of flooding and flood liability on owners and occupiers of flood-prone property and reduce public and private losses in accordance with Council and NSW Government policy.

### **ON-GOING CONDITIONS THAT MUST BE COMPLIED WITH AT ALL TIMES**

#### **Flood Management**

##### Storage of Goods (G1)

Hazardous or potentially polluting materials shall not be stored below the Flood Planning Level of 3.53m AHD unless adequately protected from floodwaters in accordance with industry standards.

##### Flood Effects Caused by Development (A2)

There shall be no filling of the land below the 1% AEP flood level of 3.03 m AHD, or obstruction of flow paths through the property. This includes the blocking of areas required by DA consent to be left open.

##### Flood Emergency Response (E1)

Appropriate access to the shelter in place refuge is to be maintained at all times from all areas within the development and it must contain as a minimum: sufficient clean water for all occupants; portable radio with spare batteries; torch with spare batteries; and a first aid kit.

Reason: To reduce the impact of flooding and flood liability on owners and occupiers of flood-prone property and reduce public and private losses in accordance with Council and NSW Government policy.