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# FLOOD RISK MANAGEMENT REPORT

48 Gondola Road, North Narrabeen NSW 2101





## Flood Risk Management

48 Gondola Road, North Narrabeen NSW 2101

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## 1.0 Executive Summary

Stellen Consulting has conducted a flood risk assessment for the proposed development at 48 Gondola Road North Narrabeen NSW 2101. This assessment evaluates the impacts of flooding on the site, particularly considering the predicted 1% Annual Exceedance Probability (AEP) flood event scenario.

Key Findings:

- 1. The site is located in low hazard category area and is classified as Medium risk precinct.
- 2. The proposed floor level of the proposed alteration and addition is set above the predicted 1% AEP flood level.
- 3. The proposed alteration and additions will not cause loss in flood storage and will not change flood behaviour elsewhere.

The proposed works, if carried out in accordance with the recommendations within this report, are consistent with Council's flood controls and compatible with the flood hazard of the land.



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## 2.0 Introduction

This flood report has been prepared to assess the flood risks associated with the proposed alterations and additions at 48 Gondola Road, North Narrabeen. The proposed development maintains the existing footprint of the site and does not involve any significant changes to the ground levels or drainage patterns.

## 3.0 Information relied upon

The following documents have been used to assess the proposed alterations and additions against Council's flood controls:

- Architectural drawings and a detailed survey listed in Appendix A
- Northern Beaches Council's (NBC) Flood Hazard Map
- Narrabeen Lagoon Floodplain Risk Management Study 2019)
- Pittwater 21 DCP (2014) B3.11 Flood Prone Land



Figure 1: Location of the Subject Site (Source: SIX Maps)



## 4.0 Description of the Site

The site is located within the Northern Beaches Council jurisdiction and is subject to potential flood risks associated with Narrabeen Lagoon and surrounding waterways. The property is identified within a flood-affected zone, requiring an assessment to ensure compliance with Council's flood-related development controls.



Figure 1: Existing Ground Floor showing some alteration & addition at the front

## 5.0 Description of the Development

The proposed development consists of alterations and additions to the existing dwelling while maintaining the current footprint of the site. An additional bedroom is proposed on the first floor of the existing dwelling. The existing shed is proposed to be demolished and a new in ground pool is proposed.



Figure 3: Existing Ground Floor showing proposed pool at the rare



## 6.0 Flooding of site

Northern Beaches Council's (NBC) Flood Hazard Map identifies the site as being flood-prone, with an area of low to medium flood risk precinct during the 1% AEP event. The site's flood hazard has been classified as negligible flood risk as seen in the Narrabeen lagoon flood risk management plan April 2019 by Cardio (Figure 3 and Figure 4).



Figure 3: Flood Hazard Map (Northern Beaches Council, 2020)





**Figure 4:** Flood Hazard Categories – Northern Lagoon Catchment – 1% AEP Event (Narrabeen Lagoon Floodplain Risk Management Study 2019)

#### 6.1 Flood Analysis and Assessment of Impacts

The proposed development is categorised as residential. The site area is designated as medium to low-risk precinct. On this basis, the property is assessed under the Northern Beaches Council (Pittwater) 21DCP sB3.11 as medium risk. Table 2 provides a summary of the relevant controls for the proposed development.

Table 2. DCP Flood Con	trols, Residential developments - Medium Risk

#	Criteria	Compliance with control			Relevant controls
		NA	Yes	No	_
A	Flood effects caused by development		V		A1, A2
В	Building components and structural		~		B1, B2, B3
С	Floor levels		~		C1, C3, C4, C6
D	Car parking	~			D1, D2, D3, D4, D5, D6
E	Flood emergency response		~		E1
F	Fencing	~			F1
G	Storage of goods		~		G1
Н	Pools		~		H1



#### Addressing the Controls

#### Control A) - Flood effects caused by development

A1. Complies – The proposed first floor FFL is set above the FPL above an existing floor and will not change the existing flooding paths or flood storage.

A2. Not Applicable - The development does not propose any fill.

#### Control B) - Building Components and Structural Soundness

B1. All buildings shall be designed and constructed as flood compatible buildings in accordance with Reducing Vulnerability of Buildings to Flood Damage.

B2. All structures shall be designed and constructed to ensure structural integrity up to the Flood Planning Level.

B3 All new electrical equipment, power points, wiring, fuel lines, sewerage systems or any other service pipes and connections must be waterproofed and/or located above the FPL.

#### Control C) - Floor levels

C1. Complies – No ground floor addition is proposed. The first-floor addition (RL 6.70m AHD) is entirely above the Flood Planning Level (FPL), complying with the requirement for new floor levels.

C3. Complies - No new development is proposed.

C4. Not applicable - The additional floor level is above FPL

C6. Complies - The proposed development consists of alterations and additions to the existing dwelling while maintaining the current footprint of the site. An additional master bedroom is proposed on the first floor of the development. The existing shed is proposed to be demolished. The development complies as:

(a) It is outside the floodway

(b) Existing foundations shall be certified by the structural engineer as to determine the foundations are sufficient to support the proposed final structure above them.

(c) Only minor modifications are proposed while maintaining the structural integrity

(d) Ground floor remains floodproofed with no configuration changes

#### Control D) – Car parking

Not applicable - The development does not propose open parking or carports.

#### Control E) - Flood emergency response



E1. The proposed flood emergency response is to shelter in place on the new first floor whose FFL is above the PMF. The occupants of the property shall be directed to the first-floor FFL = 6.700m AHD which is 2.7m above the surrounding natural surface level.



#### Control F) – Fencing

F1. Not Applicable - No new fencing is proposed.

#### Control G) - Storage of Goods

G1. Can Comply – Storage of hazardous goods must be above the FPL

#### Control H) – Pools

H1. Complies – The proposed pool is located within the 1% AEP flood extent and will be in-ground, with coping flush with natural ground level. Where flush alignment is not achievable, it has been demonstrated that the development will result in no net loss of flood storage and no impact on flood conveyance on or from the site.

**H2.** Complies – All electrical equipment associated with the pool (including pool pumps) will be waterproofed and/or located at or above the Flood Planning Level (FPL).

H3. Complies – All chemicals associated with the pool will be stored at or above the Flood Planning Level (FPL).

### 7.0 Conclusion and Recommendations

The proposed alterations and additions at 48 Gondola Road, North Narrabeen, maintain the existing site footprint and do not introduce any significant changes to flood risk or drainage conditions. The development is compliant with Council's flood-related development requirements and is unlikely to have any adverse impact on surrounding properties.

## Appendix A- Architectural Plans

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