

# FLOOD REPORT COMPLYING DEVELOPMENT ON FLOOD CONTROL LOTS

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**Client:** Edwards

**Property:** Lot 14 DP 6462 (No. 35) Warraba Road,  
North Narrabeen


**Date:** 16 March 2020

## Document Identification

Our Reference: GO120221

For and on behalf of ACOR Consultants (CC) Pty Ltd

## Quality Information

Issue Date	Description	Author	Signature
Issue 1	SEPP 3.5 – Flood Control Lot	Nathan Broadbent BEng (Civil) (Hons)	

## Distribution

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## 1.0 INTRODUCTION

We refer to your instructions in relation to this matter. We also acknowledge receipt of copies of the following documents:

- Survey Plan Showing Design Plan prepared by CMS Surveyors Pty Ltd, Drawing Name 18288plan, Issue 2, dated 15 July 2019.

We understand that alterations and additions are proposed and approval will be sought under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 (as amended) (SEPP). In this regard, we understand that you require our technical input in relation to the requirements outlined under the relevant clauses of 3.5 of the SEPP which state:

### **“3.5 Complying Development on Flood Control Lots**

- (1) *Development under this code must not be carried out on any part of a flood control lot, other than a part of the lot that the Council or a professional engineer who specialises in hydraulic engineering has certified, for the purposes of the issue of the relevant complying development certificate, as not being any of the following:*
  - (a) *a flood storage area,*
  - (b) *a floodway area,*
  - (c) *a flow path,*
  - (d) *a high hazard area,*
  - (e) *a high risk area.*
- (2) *If complying development under this code is carried out on any part of a flood control lot, the following development standards also apply in addition to any other development standards:*
  - (a) *if there is a minimum floor level adopted in a development control plan by the relevant council for the lot, the development must not cause any habitable room in the dwelling house to have a floor level lower than that floor level,*
  - (b) *any part of the dwelling house or any attached development or detached development that is erected at or below the flood planning level is constructed of flood compatible material,*
  - (c) *any part of the dwelling house and any attached development or detached development that is erect is able to withstand the forces exerted during a flood by water, debris and buoyancy up to the flood planning level (or if an on-site refuge is provided on the lot, the probable maximum flood level),*
  - (d) *the development must not result in increased flooding elsewhere in the floodplain,*
  - (e) *the lot must have pedestrian and vehicular access to a readily accessible refuge at a level equal to or higher than the lowest habitable floor level of the dwelling house,*
  - (f) *vehicular access to the dwelling house will not be inundated by water to a level of more than 0.3m during a 1:100 ARI (average recurrent interval) flood event,*
  - (g) *the lot must not have any open car parking spaces or carports lower than the level of a 1:20 ARI (average recurrent interval) flood event.*

- (3) *The requirements under subclause (2) (c) and (d) are satisfied if a joint report by a professional engineer specialising in hydraulic engineering and a professional engineer specialising in civil engineering states that the requirements are satisfied.*
- (4) *A word or expression used in this clause has the same meaning as it has in the Floodplain Development Manual, unless it is otherwise defined in this Policy.*
- (5) *In this clause:*

**Flood compatible material** means building materials and surface finishes capable of withstanding prolonged immersion in water.

**Flood planning level** means:

- (a) *the flood planning level adopted by a local environmental plan applying to the lot, or*
- (b) *if a flood planning level is not adopted by a local environmental plan applying to the lot, the flood planning level adopted in a development control plan by the relevant council for the lot.*

**Floodplain Development Manual** means the Floodplain Development Manual (ISBN 0 7347 54760) published by the NSW Government in April 2005.

**Flow path** means a flow path identified in the council's flood study or floodplain risk management study carried out in accordance with the Floodplain Development Manual.

**High hazard area** means a high hazard area identified in the council's flood study or floodplain risk management study carried out in accordance with the Floodplain Development Manual.

**High risk area** means a high risk area identified in the council's flood study or floodplain risk management study carried out in accordance with the Floodplain Development Manual.

**Note 1.**

**Council, flood control lot, habitable room and professional engineer** are identified in clause 1.5.

**Note 2.**

*A section 149 certificate from a Council will state whether or not a lot is a flood control lot."*

## **2.0 RESPONSE**

In response to these requirements we confirm that a qualified civil engineer experienced flood modelling has undertaken a detailed assessment of the behaviour of floodwaters in the vicinity of the subject site.

In this regard, we refer to the definition of a professional engineer outlined under *The State Environmental Planning Policy (Exempt and Complying Development Codes) 2009 [NSW]* which states:

**"Professional engineer** has the same meaning as in the Building code of Australia.

**Note.** The term is defined as a person who is –

- (a) *if legislation is applicable – a registered professional engineer in the relevant discipline who has appropriate experience and competence in the relevant field, or*
- (b) *if legislation is not applicable –*
  - (i) *A corporate Member of the Institution of Engineers, Australia, or*
  - (ii) *Eligible to become a Corporate Member of the Institution of Engineers, Australia, and has appropriate experience and competence in the relevant field.”*

We confirm that a qualified professional engineer as defined above and experienced in the relevant field has prepared this Report.

Based on the foregoing we offer the following comments adopting the same point numbering:

**3.5 (1) (a) - (e)**

Based on Northern Beaches Council flood mapping we have determined that the site is partially impacted by 100 Year ARI floodwaters to RL 2.96 m (AHD), refer 'Narrabeen Lagoon Floodplain Risk Management Study' prepared by Cardno, reference 59915102, dated 1 April 2019.

The site is mapped as falling partly within the High Flood Risk Precinct, partly within the Medium Flood Risk Precinct, partly within the Low Flood Risk Precinct and partly on ground above the PMF flood level, refer Pittwater Flood Risk Planning Map.

Based on the foregoing we have formed the view that the proposed dwelling is **not** located on part of the land which is deemed to be:

- (a) a flood storage area,
- (b) a floodway area,
- (c) a flow path,
- (d) a high hazard area,
- (e) a high risk area.

**3.5 (2) (a)** The minimum habitable floor level required under Pittwater 21 Development Control Plan Section B3.11 is 3.46 m AHD (2.96 m AHD + 0.5 m freeboard). The finished floor level for the building shall be not lower than RL 3.46 m AHD.

**3.5 (2) (b)** The Flood Planning Level (FPL) for the proposed alterations and additions is RL 3.46 m (AHD) (2.96 m AHD + 0.5 m freeboard). The portion of the proposed structure below the FPL must be built from flood compatible materials. We understand that the sub-floor structure will be formed by brick piers supported on concrete footings. In this regard we note that these building materials are deemed flood compatible.

- 3.5 (2) (c)** Future design of the sub-floor system shall have due regard to the anticipated loads imposed by the 1% AEP floodwaters plus 0.5 m freeboard (3.46 m AHD) including hydrostatic, hydrodynamic and buoyancy forces. In this regard it is noted that an engineered sub-floor support system based on the requirements of the ABCB – Construction of Buildings in Flood Hazard Areas is deemed appropriate in this situation.
- 3.5 (2) (d)** The proposed alterations and additions will not increase flood affectation elsewhere in the floodplain for the 100 Year ARI design storm event.
- 3.5 (2) (e)** The proposed development will provide adequate and reliable pedestrian and vehicle access to and from the site.
- 3.5 (2) (f)** The application does not propose driveways between car parking spaces and the connecting public roadway which would be inundated by a depth of water greater than 0.3 m during a 100 Year ARI design storm event.
- 3.5 (2) (g)** The application does not propose open car parking spaces or carports that are lower than the 20-Year ARI flood level.
- 3.5 (3)** Noted.
- 3.5 (4)** Noted.
- 3.5 (5)** Noted.

### **3.0 CONCLUSION**

Based on the foregoing we certify that the proposed dwelling will meet the requirements of Clause 3.5 of the SEPP for the purpose of the issue of the relevant complying development certificate, as not being any of the following:

- (a) a flood storage area,
- (b) a floodway area,
- (c) a flow path,
- (d) a high hazard area,
- (e) a high risk area.