

24 July 2013

Our Ref: F08/691,13/65023
Contact: Jamie Milner 9562 1652

Ed Lippmann
Lippmann Partnership
570 Crown Street
SURRY HILLS NSW 2010



Dear Sir / Madam,

Re: Flood Advice Letter for 160 Rocky Point Road, Kogarah

When lodging a Development Application you must enclose a copy of this letter, together with a separate flood study.

I refer to your application requesting flooding information for the above property. Based on the current information Council has not identified this property as being affected by the 1% Annual Exceedance Probability (A.E.P.) flood. However this property is adjacent to the 1% AEP flood area, being above the 1% AEP flood level, but less than 0.5 m above this flood. This property will require protection from flooding by setting minimum floor levels.

Council's most recent flood study for the area identified the following levels:

- **1% A.E.P. Flood level:** **2.45m AHD (Australian Height Datum)**
- **Minimum Habitable Floor Level:** **2.95m AH.D.**
- **Probable Maximum Flood (PMF):** **3.00m AHD.**

The Flood Risk Exposure of the site varies and has been assessed as:

- **Mainstream Flooding : Flood Storage : Low Hazard**

No accurate information is recorded regarding the impact of tsunamis in the Rockdale Local Government area.

For the design of new developments on this land the minimum habitable floor level will be 2.95 m A.H.D. The minimum pool coping level, storage shed floor, patio, deck, carport, garage floor, or parking level is 2.45 m A.H.D. Basements and below ground garages are to be physically protected to the minimum habitable floor level. Basements and below ground garages are to be physically protected to the minimum habitable floor level.

All electrical connections, air conditioning units, or external power points are to be set above the minimum habitable floor level. As noted these floor levels are minimum only, floor levels higher than these are allowable subject to normal building requirements. In order to relate these levels to your property you will need to obtain survey to determine the existing ground and floor levels to A.H.D. at this site.

Council's study also identifies overland flows entering the site from Rocky Point Road, and these overland flows would be sufficient to require minimum floor levels to protect any future development.

The overland flow is:

- **1 in 100 year flow o/s 200 Rocky Point Road
(pit reference SC.290A.60):** **4.19m³/sec**
- **1 in 100 year flow at internal lot boundary
between 160 and 200 Rocky Point Road
(pit reference SC.290A.40):** **6.65m³/sec**
- **1 in 100 year flow at lot boundary
between 200 Rocky Point Road and Production Avenue
(pit reference SC.290A.40):** **8.86m³/sec**

Consequently a local flood/drainage study will be required to be undertaken by a hydraulic engineer to determine the depth of flow and whether this flow enters the property. The depth of flow can be assessed using Mannings Equation or HEC-RAS.

For the design of new developments on this land with respect to the overland flow the minimum habitable floor level will be the higher of 2.95m A.H.D, or the 1 in 100 year overland flow level plus freeboard where the freeboard will be at least the depth of flow with a minimum of 0.2m and a maximum of 0.5m. The minimum pool coping level, storage shed floor, patio, deck, carport and/or garage floor is the higher of 2.45m A.H.D, or the 1 in 100 year overland flow level.

Basements and below ground garages are to be physically protected to the minimum habitable floor level. All electrical connections, air conditioning units, or external power points are to be set above the minimum habitable floor level. As noted these floor levels are minimums only, floor levels higher than these are allowable subject to normal building requirements. In order to relate these levels to your property you will need to obtain survey to determine the existing ground and floor levels to A.H.D. at this site.

Flow through open form fencing (louvres or pool fencing) is required for all new rear, front fencing and all new internal fences and gates up to the 1% A.E.P. Flood Level. Any new side boundary fences adjoining private properties are to have a minimum 80 mm gap at the bottom to allow flows through.

The following additional conditions also apply.

1. Any portion of the building or structure lower than the FPL shall be built from flood compatible materials to be specified by a Structural Engineer.
2. All services associated with the development shall be flood proofed to the FPL.
3. Filling is limited to the building footprint and under the driveway.

4. A suitably qualified engineer is to certify that the structure can withstand the forces of floodwater, debris and buoyancy in a 1% AEP flood event.
5. A Flood Management Plan is required to be lodged with the DA which will detail whether evacuation procedures are required and if so how they will be initiated, warning signs and preservation of flood awareness as owners and/or occupants change through time. An example is attached.

Council owns existing stormwater pipes which are running through the property. These pipes should be physically located by a surveyor along with the depth. The depth of the pipe along with the alignment of the pipe should clearly be shown on the plans submitted for DA Approval. No construction is allowed within the zone adjacent to the pipe as specified in Council's DCP.

Additional information relating to *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*, otherwise known as the 'Codes SEPP':

Is the lot a flood control lot ¹ ?	Yes
For the purposes of the Codes SEPP, has Council determined that any part of the lot ² :	
(a) Is a flood storage area ⁴ ?	No
(b) Is a floodway area ⁴ ?	No
(c) Is a flow path ³ ?	Yes
(d) Is a high hazard area ³ ?	No
(e) Is a high risk area ³ ?	No
Is any part of the lot ² within a flood planning area?	Yes
For the purposes of development permitted by the Codes SEPP, the minimum habitable floor level specified in Clause 3.36C(3)(a) of the SEPP is:	1% AEP flood level plus freeboard

1. This term is defined in clause 1.5 of the Codes SEPP.
2. This advice has been prepared without sufficient knowledge of the part of the lot upon which development is proposed. For the purposes of the application of the Codes SEPP, it is that part of the lot upon which development is proposed, that is relevant for the type of determination listed in this row of the table. Therefore, should the answer(s) be 'yes' further specific advice may need to be sought concerning that part of the lot upon which development is proposed.
3. This term is defined in clause 3.36C (6) of the Codes SEPP.
4. This term is defined in the Floodplain Development Manual.

Council considers that this is the best currently available information on flooding in the adjacent area, but Council cannot comment on the accuracy of the result. This information is only valid as of the date above.

Should you require any further information, please contact Council's Floodplain & Stormwater Engineer, Mr Vladimir Stojnic on 9562 1652.

Yours faithfully



Jamie Milner
COORDINATOR CITY ASSETS
 Encl.