Jack Slater
p: 9710 0190
e: JSlater@ssc.nsw.gov.au
File Ref: FC16/0063

10 November 2016

1301012212121130200030310031122133013

Fabcot Pty Ltd
PO Box 8000
BAULKHAM HILLS NSW 2153

Dear Sir/Madam,

# FLOOD INFORMATION

**Property Address:** 130-142 Parraweena Road, Miranda
**Property Description:** Lot B DP 385650
**Issue Date:** 10 November 2016
**References:** Gwawley Bay Floodplain Risk Management Study and Plan
**Application No:** FC16/0063

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This flood information sheet provides information in regards to the above property. This property is identified as flood prone land in the Gwawley Bay Floodplain Risk Management Study and Plan.

Floodplain risk management controls as set out in SSDCP2015 *(Chapter 39: Environmental Risk)* apply to the development of this property. The nature of the development and level of risk (low, medium and high) will determine which controls apply under the following headings:

1. Floor Level
2. Building Components & Method
3. Structural Soundness
4. Flood Effects
5. Car Parking and Driveway Access
6. Evacuation

130-140 Parraweena Rd

| MAINSTREAM: *This information was made available to Council from the "Gwawley Bay Floodplain Risk Management Study and Plan" prepared by Floodmit Pty Ltd dated August 2015.* | |
|---|---|
| FLOOD RISK (SSDCP 2015): | High, Medium and Low |
| 5% AEP: | Min: 4.1m AHD<br>Max: 6.3m AHD |
| 1% AEP*: | Min: 4.2m AHD<br>Max: 6.3m AHD |
| PMF: | Min: 4.4m AHD<br>Max: 6.6m AHD |
| Minimum habitable floor level*: | Min: 4.7m AHD<br>Max: 6.8m AHD<br>(1% AEP + 500mm freeboard) |
| Minimum finished floor level (garage and driveway access)*: | Min: 4.4m AHD<br>Max: 6.5m AHD<br>(1% AEP + 200mm freeboard) |
| Existing Floor Level: | Not available |

140-142 Parraweena Rd

| MAINSTREAM: *This information was made available to Council from the "Gwawley Bay Floodplain Risk Management Study and Plan" prepared by Floodmit Pty Ltd dated August 2015.* | |
|---|---|
| FLOOD RISK (SSDCP 2015): | Medium and Low |
| 5% AEP: | Min: 6.2m AHD<br>Max: 7.6m AHD |
| 1% AEP*: | Min: 6.2m AHD<br>Max: 7.6m AHD |
| PMF: | Min: 6.5m AHD<br>Max: 8.1m AHD |
| Minimum habitable floor level*: | Min: 6.7m AHD<br>Max: 8.1m AHD<br>(1% AEP + 500mm freeboard) |
| Minimum finished floor level (garage and driveway access)*: | Min: 6.4m AHD<br>Max: 7.8m AHD<br>(1% AEP + 200mm freeboard) |
| Existing Floor Level: | INSERT FLOOR LEVEL & DATE OF SURVEY / Not available |

DISCLAIMER: This information has been produced with the most current data available to Council as supplied by various sources. Council is not responsible for any inaccuracies in the data provided.

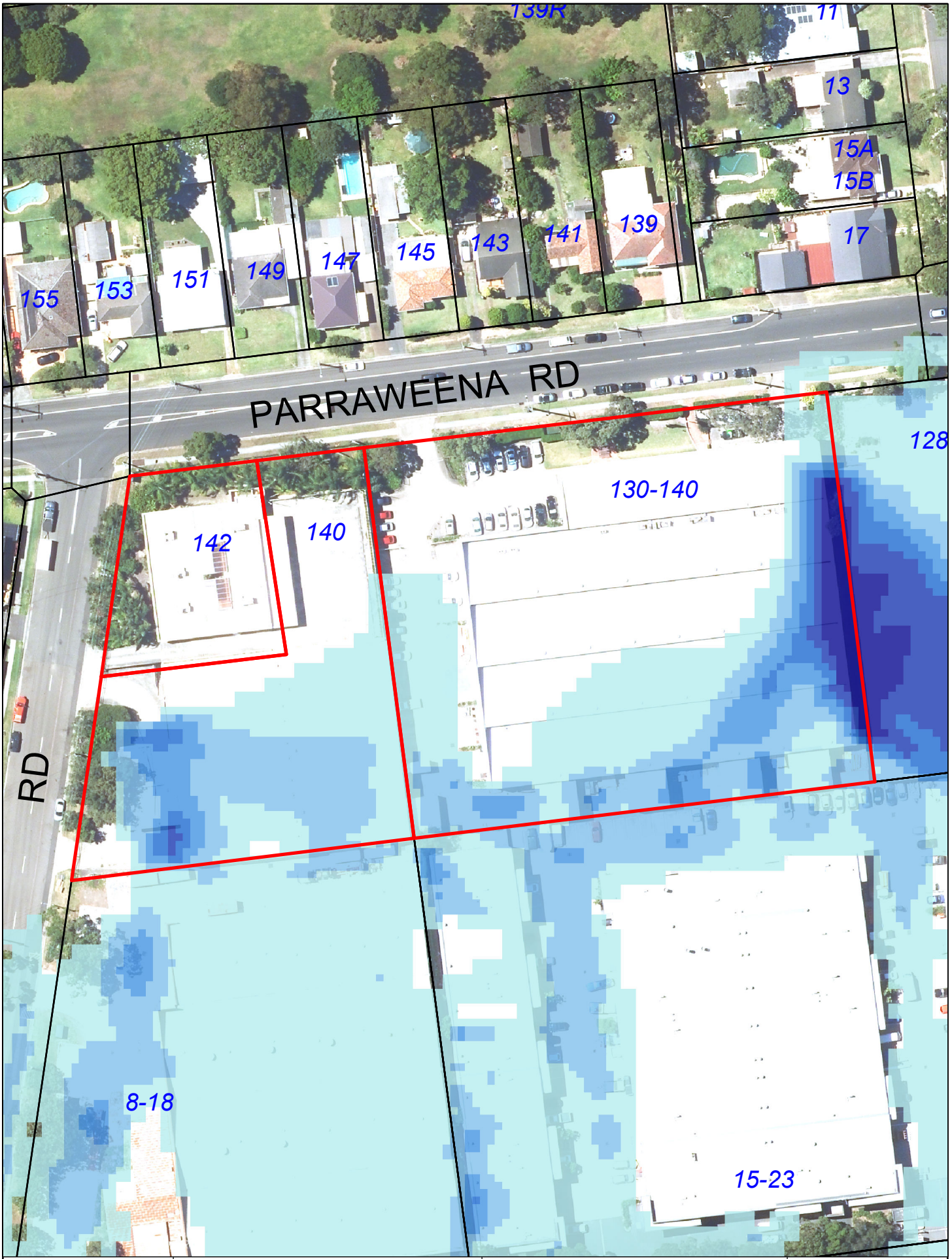
* These levels take into consideration the impact of Climate Change and predicted sea level rise by the year 2050.

If you are undertaking a development application, this information should be submitted to Council.

Yours Faithfully,

Jack Slater
Stormwater & Waterways Engineer
Sutherland Shire Council

ENCL.
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.




Sutherland Shire COUNCIL

# 1% AEP FLOOD EXTENTS

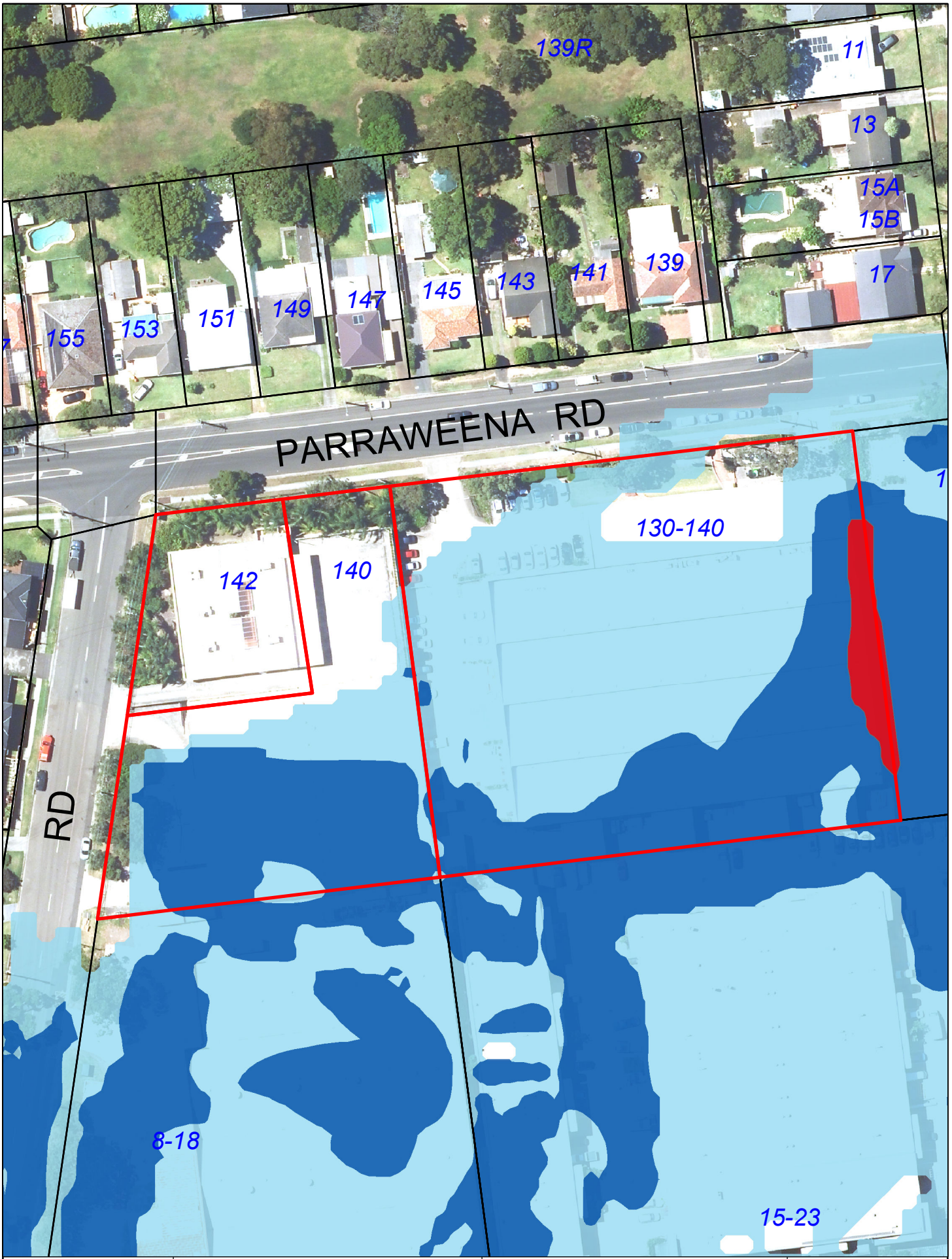
Scale: 1:1,000 @ A4 Printed: 10/11/2016

0 10 20 30 m

**LEGEND**
**1% AEP Depth (m)**

- 0 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1
- >1

This map has been produced with the most current data available to Council as supplied by various sources. INFORMATION IN THIS MAP IS SUBJECT TO COPYRIGHT. Council is not responsible for any inaccuracies in the data provided. Contact Council's Stormwater & Waterways Unit (ph. 9710 0857) for further information

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# FLOOD RISK PRECINCTS

Scale: 1:1,000 @ A4 Printed: 10/11/2016

N W E S

0 10 20 30 m

**LEGEND**

- Low Risk Precinct
- Medium Risk Precinct
- High Risk Precinct

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## GLOSSARY:

**Annual Exceedance Probability (AEP):** The chance of a flood of a given size occurring in any one year, expressed as a percentage. For example, there is a 1% (1 in 100) chance of a 1% AEP storm event occurring in any given year.

**Australian Height Datum (AHD):** The Australian surface level datum is a convention for consistently measuring the height of land above sea level.

**Flood Risk:** A combination of the chance of a flood occurring and the consequences of the flood for people, property and infrastructure. The Sutherland Shire Council classifies these risks into **Low, Medium** and **High** categories.

**Floodways:** Those areas where a significant volume of water flows during floods and are often aligned with obvious natural channels. They are areas that, even if only partially blocked, would cause a significant increase in flood levels and/or a significant redistribution of flood flow, which may in turn adversely affect other areas. They are often, but not necessarily areas with deeper flow or areas where higher velocities occur.

**Flood Storage:** Those areas where parts of the floodplain that are important for the temporary storage of floodwaters during the passage of a flood. If the capacity of flood storage areas is substantially reduced by, for example, the construction of levees or by landfill, flood levels in nearby areas may rise and the peak discharge downstream may be increased. Substantial reduction of the capacity of a flood storage area can also cause a significant redistribution of flood flows.

**Flood Fringe:** It is the remaining area of land affected by flooding, after floodway and flood storage areas have been defined. Development in flood fringe areas would not have any significant effect on the pattern of flood flows and/or flood levels.

**Floodplain:** Area of land which is subject to inundation by floods upto and including the probable maximum flood even, that is, flood prone land.

**Freeboard:** it provides reasonable certainty that the risk exposures selected in deciding on a particular flood chosen as the basis for the flood planning level is actually provided. It is factor of safety typically used in relation to the setting of floor levels.

**Habitable Room:** In a residential situation; a living or working area such as a lounge room, dining room, rumpus room, kitchen, bedroom or workroom.

In an industrial or commercial situation: an area used for offices or to store valuable possessions susceptible to flood damage in the event of a flood.

**High Flood Risk**: The area of land below the Flood Planning Level (FPL) that has been identified by Council as being either subject to a high hydraulic hazard or where there are significant evacuation difficulties. The high flood risk precinct is where high flood damages,

potential risk to life and evacuation problems are anticipated, or development would significantly and adversely affect flood behaviour. Most development should be restricted in this precinct. In this precinct, there is significant risk of flood damages without compliance with flood related building and planning controls.

**High Hazard:** The area of the land within the floodplain where possible danger to personal safety, difficulty in evacuation by trucks, able bodied adults would have difficulty in wading to safety and potential for significant structural damage to buildings.

**Low Flood Risk:** All other land within the floodplain, i.e. within the extent of the Probable Maximum Flood (PMF) that has not been identified as having High or Medium flood risk. The low flood risk precinct is where the risk of damages is low for most land uses.

**Low Hazard:** The area of the land within the floodplain where truck could evacuate people & their possessions and able bodied adults would have little difficulty in wading to safety.

**Mainstream Flooding:** Refers to the inundation of normally dry land occurring when water overflows the natural or artificial banks of a stream, river, estuary, lake or dam. Mainstream flooding can affect large areas and is driven by widespread prolonged rainfall.

**Medium Flood Risk:** The area of land below the Flood Planning Level (FPL) that has been identified by Council as being not subject to high hydraulic hazard and where there are no significant evacuation difficulties. In the medium risk flood precinct there is significant risk of flood damage, but these damages can be minimized by the application of appropriate development controls.

**Overland Flooding:** Water that runs across the land after rain, either before it enters a creek or stream, or after rising to the surface naturally from underground. Overland flooding tends to affect localised areas and is driven by intense slow moving storms.

**Probable Maximum Flood (PMF):** Is the largest flood that could conceivably occur within a catchment, and is a very rare and unlikely event. However, when undertaking a Floodplain Risk Management Study, Council looks at all storm events up to and including the PMF.

**Sutherland Shire Draft Development Control Plan 2015 (SSDCP 2015):** The SSDCP provides the fine grain detail of the planning framework and applies in conjunction with LEP (Sutherland Shire Local Environment Plan 2015). It assists in the preparation of development applications and ensures development takes place in a quality and orderly manner.

# State Environmental Planning Policy (Exempt and Complying Development Codes) 2008



## 3.36C Development standards for flood control lots

(1) This clause applies:

(a) to all development specified for this code that is to be carried out on a flood control lot, and

(b) in addition to all other development standards specified for this code.

(2) The development must not be on any part of a flood control lot unless that part of the lot has been certified, for the purposes of the issue of the relevant complying development certificate, by the council or a professional engineer who specialises in hydraulic engineering 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.

(3) The development must, to the extent it is within a flood planning area:

(a) have all habitable rooms no lower than the floor levels set by the council for that lot, and

(b) have the part of the development at or below the flood planning level constructed of flood compatible material, and

(c) be able to withstand the forces of floodwater, debris and buoyancy up to the flood planning level (or if on-site refuge is proposed, the probable maximum flood level), and

(d) not increase flood affectation elsewhere in the floodplain, and

(e) have reliable access for pedestrians and vehicles from the development, at a minimum level equal to the lowest habitable floor level of the development, to a safe refuge, and

(f) have open car parking spaces or carports that are no lower than the 20-year flood level, and

(g) have driveways between car parking spaces and the connecting public roadway that will not be inundated by a depth of water greater than 0.3m during a 1:100 ARI (average recurrent interval) flood event.

(4) A standard specified in subclause (3) (c) or (d) is satisfied if a joint report by a professional engineer who specialises in hydraulic engineering and a professional engineer who specialises in civil engineering confirms that the development:

(a) can withstand the forces of floodwater, debris and buoyancy up to the flood planning level (or if on-site refuge is proposed, the probable maximum flood level), or

(b) will not increase flood affectation elsewhere in the floodplain.

(5) If a word or expression used in this clause is defined in the Floodplain Development Manual, the word or expression has the same meaning as it has in that Manual unless it is otherwise defined in this clause.

(6) In this clause:

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

***Floodplain Development Manual*** means the *Floodplain Development Manual* (ISBN 0 7347 5476 0*)* 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.

Top of page