

**Platino Properties**  
11/20 Young Street  
Neutral Bay NSW 2089

Attention: George Revay

11 September 2018

Dear George,

### **1. Introduction**

Platino Properties have applied for a Planning Proposal to rezone the industrial site at 67-75 Lords Road, Leichhardt to mixed use. Platino Properties have requested a flood impact assessment based on the Council requirements as specified in their DCP and the State government requirements as specified in the Floodplain Development Manual (2005) and the Section 117 Directions for flooding. They have provided a site survey plan and a flood certificate (refer Attachment A) from Council which provides the 100 year and PMF flood levels at the western end of the site and in the adjacent Hawthorne Canal.

### **2. Site Description**

The site consists of two lots being Lot 1 DP 940543 and Lot 1 DP 550608 with a total area of approximately 10,617m<sup>2</sup>. The western boundary of the site is adjacent to the former freight line embankment which separates the area from the Hawthorne Canal which is located on the western side of this embankment. The area along the western boundary has existing ground levels varying from RL 2.44m AHD at the drainage inlet pit near the southern end of this boundary rising to RL 4m AHD. Most of this area is above RL 3.5m AHD. The drainage inlet pit drains to a drainage pipe running under the embankment to the Canal.

The eastern part of the site has significantly higher existing ground levels varying from RL 5m AHD to RL 8.5m AHD. The majority of this area is above RL 6.75m AHD.

Lords Road (along the southern boundary) and the local catchment drains to the pedestrian access tunnel under the freight rail embankment and to a point adjacent to the south western corner of the subject site. There is a stormwater pipe drainage system in Lords Road which is piped under the embankment to the Canal. Overland flows in excess of the pipe capacity would overtop the kerb and drain to the canal via a pedestrian tunnel provided through the embankment. This 3m wide by 3m high tunnel is located adjacent to the south western corner of the site.

### **3. Flood Behaviour**

The flood levels provided by Council from the Cardno 2010 Flood Study are presented in Table 1.

Based on the flood levels quoted by Council, the 100 yr flood extent on the site is limited to a narrow section along the western boundary. The existing ground levels in this area range from RL 2.44m AHD around the drainage inlet pit to RL 4m AHD. Lambert Park at the northern boundary of the site is elevated with the playing field and embankment out to the rail embankment at levels from RL

4.5m AHD to RL 5.25m AHD. This embankment would block the 100 year ARI flood flows at RL 4.05m AHD and as such, would not be an overland flow path for the 100 year ARI floods. The area along the western boundary is therefore a flood storage area and not a flow path.

The extent of the PMF flood would be up to the eastern extent of the existing buildings on the site.

Table 1 – Council Flood Levels

Location	Ground level	100 yr flood depth	100 yr flood level	PMF level
Entry to site	3.21	0.85	4.05	6.75
Canal –opp site entry			3.55	5.60
Northern end of site	3.90	0.15	4.05	6.80
Canal – opp northern end			3.55	5.45

The flood hazard in the 100 yr flood at the south western end of the site is recorded by Council as high due to the ponding depth of 0.85m at one point on the site. This is a small area in the south western portion of the site and should not define the flood hazard over the entire site. Elsewhere the flood hazard on the site is low which means the site can be redeveloped without adverse impact on the flooding behaviour and risk to life and flood damages subject to appropriate design of the development. The Council flood hazard plans show that there is only a small area of high flood hazard on the site with the majority of the site being designated as low flood hazard.

#### 4. Council Flooding Requirements

The Council policy requirements related to flooding for the proposed redevelopment of the site have been derived from Part C – Hazard Management of the Council's DCP. The development has to meet the following:

1. Adoption of a flood planning level (FPL) which is 500mm above the 100yr flood level – FPL=RL 4.55m AHD;
2. All residential floors to be at or above the FPL;
3. In a mixed use development, non residential floors can be below the FPL provided they are flood proofed;
4. Any entrances or flood evacuation routes have to be at or above the FPL;
5. Basement carparks are required to have an entry at the higher of the FPL or PMF – this will require an entry level of RL 6.75m AHD;
6. Access to the basement from residential apartments has to be controlled such that flood waters can only enter the basement when flood waters reach the PMF level;
7. All residential dwellings/apartments will require an evacuation route internally to levels above the PMF;

8. The development would provide compensatory flood storage to offset any loss of 100 year flood storage below RL 4.05m AHD on the site due to the development. This compensatory storage is capable of being incorporated into the development design and will mitigate the need for upgrading any of Council's drainage system between the site and the canal. Any upgrading of Council's drainage pipes to the canal are likely to cause adverse flooding impacts on properties along the canal; and
9. The development would be setback from the western boundary and in concert with the above measures would not have a significant impact on the flood behaviour or the flood levels in adjacent properties.

Other stormwater related issues noted from the Council's DCP are:

1. Onsite detention is generally required by Council but as this site already consists entirely of impermeable surfaces, then no detention is necessary;
2. Requires incorporation of stormwater water quality treatment facilities to achieve the stated extent of pollutant removal;
3. Any development should not compromise the existing Council stormwater pipe drainage under the railway embankment from the western boundary of the site.

The proposed development satisfies all these flood related requirements specified by Council.

## **5. State Government Flooding Policies and Guidelines**

### **5.1 Floodplain Development Manual (2005)**

The State government requirements for development on flood prone land are outlined in the NSW Government Flood Prone Land Policy and the Floodplain Development Manual 2005.

The policy and manual have been formulated to minimise the flood risk to property and lives without unduly sterilising land for development. They propose a merit based approach to any assessment of the flood risk and acceptability of development. The Leichhardt Council DCP has been formulated based on the State government flood policies and so adherence to the DCP will generally mean conformance with the State government policies.

The proposed development conforms to the State government flood policies and guidelines by having:

- a. the minimum habitable floor level at or above the Flood Planning Level (100 yr ARI flood level plus 500mm freeboard);
- b. no adverse impact on the flood behaviour at adjoining sites;
- c. no adverse impact on the development by the flooding – floor levels meet guidelines and building to have a structural design to resist hydraulic loads imposed by flooding;
- d. flood proofing of the development below the flood planning level;
- e. no significant adverse impact on the flood evacuation capacity for the area;
- f. flood free areas only a short distance from the development and within the development;
- g. fail safe vertical evacuation option to above PMF levels in the building; and
- h. a low potential for structural damage to the building in all floods – beyond the State government requirements.

## 5.2 Section 117 Directions

Section 4.3 of the Ministerial Directions under Section 117 of the EP&A Act deals with requirements for making LEPs. The objectives of the Flood Prone Land Directions are to conform to State government flood policy and guidelines and ensure development is commensurate with the flood hazard and considers potential flood impacts both on and off the subject site. As discussed in Section 5.1, the proposed development complies and in some cases, significantly exceeds the State government policy. It also appropriately considers flood impacts both on and off the site. The 100 year flooding on the site is minor and any loss can be overcome with provision of compensatory storage.

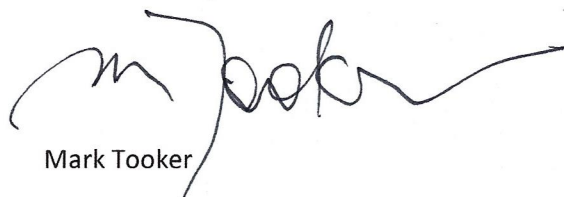
The proposed development would meet all the requirements of the Direction as required under Clauses 4 to 8 except for Clause 6 (c) which requires the planning proposal not to significantly increase the development of the subject site. However, the Direction allows an inconsistency with it if the inconsistency is of minor significance. It is considered that the proposed development meets all flood related requirements and exceeds many of the flood requirements such that any impact on the flood related risks are of a minor significance.

The proposed development and rezoning of the subject site conforms with the flood planning requirements of Council and the State government. It would conform in the following ways:

- a. The minimum habitable floor level would be at the flood planning level (100 year ARI plus 500mm freeboard);
- b. The habitable floor levels and basement would be protected up to the PMF flood level – this significantly exceeds the State government requirements and protects the basement from all floods;
- c. The flood hazard on the site is overwhelmingly Low and only has a small area of high hazard due to the depth of water and not high flow velocities - the development is able to remove any risk to persons from this high hazard area – this ensures that the site is not unnecessarily sterilised from development which is an objective of the Floodplain Development Manual's merit based approach to planning;
- d. Flood damages would be limited with flood proofing of the building up to the FPL, location of all habitable floors above the FPL, most of the residences free from flooding and design of the buildings to be able to resist all hydraulic loads from flooding;
- e. The building would have a low potential for structural damage by floodwaters up to the PMF level – this far exceeds the State governments;
- f. For the evacuation of the development during a flood, only the ground floor apartments/commercial areas would have to be evacuated - the development has flood free land available on site and adjacent to the site;
- g. If for some reason during a flood that evacuation was not available onsite or on adjacent sites, then residents and tenants of ground floor areas would have a fail safe vertical evacuation in the building to the first and higher levels which are above the PMF flood level.

For these reasons, it is considered that the proposed development and rezoning meets the flood requirements of Council and the State government.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Mark Tooker', with a stylized, flowing script.

Mark Tooker

Director

**ATTACHMENT A**  
**COUNCIL FLOOD CERTIFICATE**

Contact: Mohammad Sikder  
Phone: 9367 9005

16 July 2013

John Codling  
Platino Properties  
Level 2, 20 Young Street  
NEUTRAL BAY NSW 2089



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www.leichhardt.nsw.gov.au

### **Flood Certificate**

As requested, attached is the Flood Level Information Report for the following address:

- **67 – 75 Lords Road, Leichhardt**

The information contained in the report is derived from the Draft Leichhardt Flood Study (June 2010 prepared by Cardno Lawson Treloar).

The information is provided in good faith and in accordance with the provisions of s.733 of the Local Government Act.

Should you have any questions please call Council's Stormwater & Development Section on 9367 9222.

Yours faithfully

David Paton  
**TEAM LEADER – STORMWATER & DEVELOPMENT**



# Property Flood Level Information Report



**Applicant Name:** John Codling

**Our Ref:** 337

**Street Address of Property:** 67 – 75 Lords Road, Leichhardt

**Date of Issue:** 16 July 2013

## About this Report

This report provides flooding information for the area in the vicinity of the above property. This information can be used to assist in understanding the extent of flooding affecting this property and can be used to assist in preparation of a Flood Risk Management Report in accordance with Section A3a.0 (Sustainable Water & Risk Management) of Council's Development Control Plan (DCP2000). It is recommended that the information in this report be interpreted by a suitably qualified professional.

This report includes two pages; this cover page with an explanation of the information provided, and the second page is a figure providing information on the flooding behaviour in the area. The figure includes peak water levels, depths and flow rates for the 100 year ARI and peak water levels for the Probable Maximum Flood event.

The flood levels provided are based on available information including numerical modelling results prepared by Cardno Lawson Treloar for Leichhardt Council. Further details are available in the *Draft Leichhardt Flood Study* (Cardno Lawson Treloar, 2010). All flood levels and depths are provided to the nearest 0.05 metres.

## Definitions

The following provides a brief definition for some of the key terms utilised in this report:

Average Recurrence Interval (ARI)	The long-term average number of years between the occurrence of a flood as big as or larger than the selected event. The 100 year ARI flood event can be expressed as having a 1% chance of occurrence in any given year or as the flood that could occur once every 100 years.
Probable Maximum Flood (PMF)	The PMF is the largest flood that could conceivably occur at a particular location. This event is used to determine what might occur in events larger than a 100 year ARI.
100 year ARI Flow Path / Extent	The area of land expected to be inundated by either a flow path or mainstream flooding during a 100 year ARI flood event. The extents are limited to the areas where depths of flow are greater than 150mm.
100 year ARI High Hazard	Areas within the 100 year ARI flood extents where the depth and/or velocity of flow is likely to represent a possible danger to personal safety; evacuation by trucks is difficult; able-bodied adults would have difficulty wading to safety; and/or potential for structural damage to buildings.
Flood Planning Level (FPL)	The Flood Planning Level in the Leichhardt Local Government Area is calculated by adding a 500mm freeboard onto the 100 year ARI flood level.
Freeboard	The freeboard is incorporated into the Flood Planning Level to provide a factor of safety to the flood levels. It accounts for a number of factors, including wave action, localised obstructions to flows, and model uncertainty.
Australian Height Datum (AHD)	A common national surface level datum approximately corresponding to mean sea level.

## Notes

The ground levels shown on the attached figure are based on aerial survey data undertaken by AAM Hatch on behalf of Council. The ground levels should be verified by a suitably qualified surveyor.

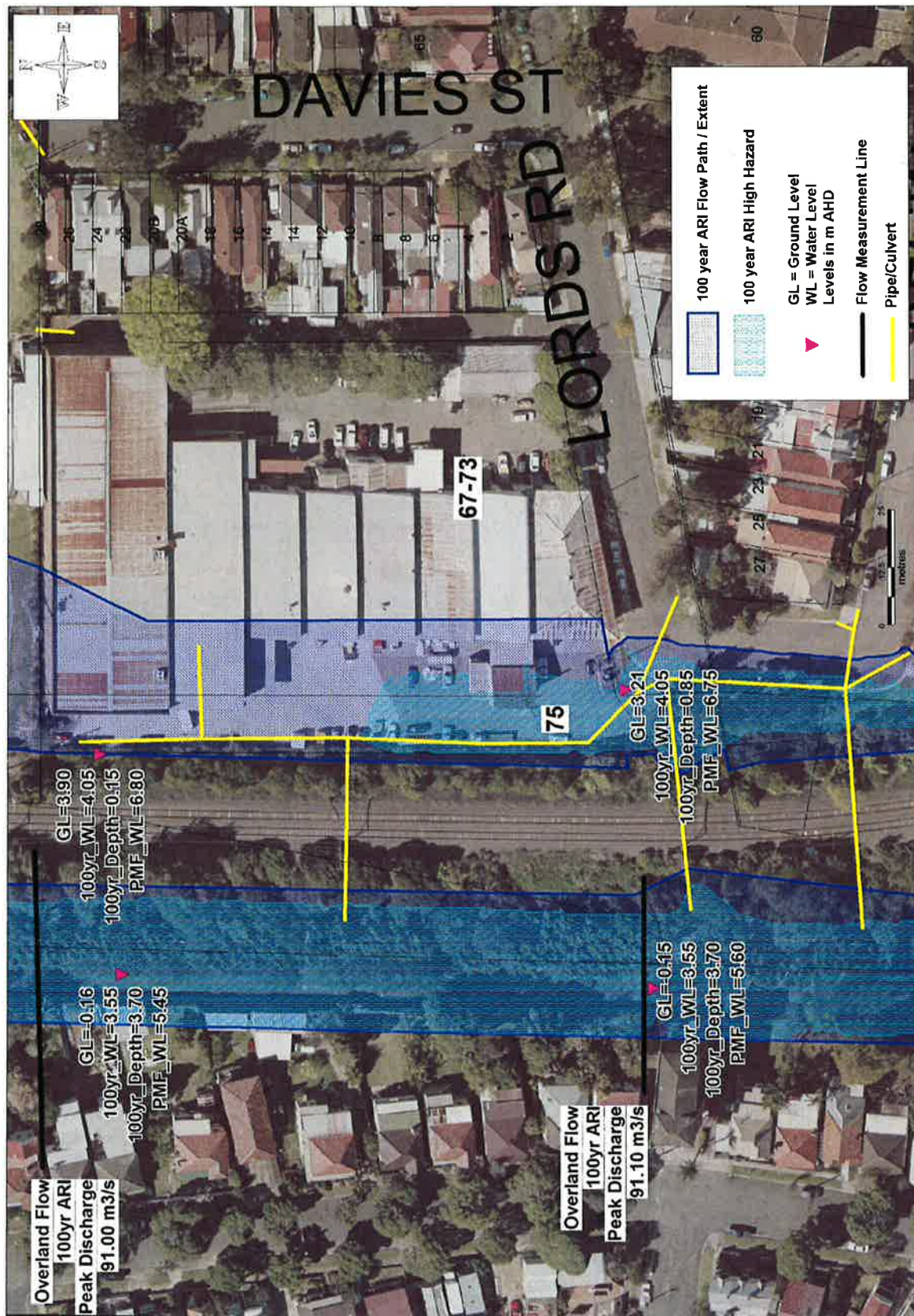
The location of stormwater pits and pipes on the attached figure are indicative only. The location and dimensions of pipelines should be verified by a suitably qualified surveyor.

The water depths shown are provided at the location shown and are indicative only. They do not necessarily represent the maximum depth in the area. For example, where a point is located on the centreline of a road, the depths will be higher within the road gutter.

The information is provided in good faith and in accordance with the provisions of s.733 of the Local Government Act.



# Property Flood Level Information Report



The information is provided in good faith and in accordance with the provisions of s.733 of the Local Government Act.

The aerial photo was taken by AAM Hatch and is dated at 2006.