

Our Ref: 215338_LEO_001A

24 March 2016

The General Manager
Orange City Council
PO Box 35
ORANGE NSW 2800

Attention: Craig Mortell

Dear Craig

FLOODING REVIEW TO SUPPORT A PLANNING PROPOSAL

Background

Geolyse has been commissioned by CPRAM Investments Pty Ltd to prepare a flooding review to support a planning proposal to amend the Orange Local Environmental Plan 2011 to change the maximum building height restriction currently applying to land located at part Lot 564 DP776383, also known as 212-220 Summer Street, Orange.

The amendment to the LEP would enable the future/concurrent development of a five storey building (approximately 20 metres in height above natural ground level) designed to accommodate 80 serviced apartments and a basement housing 44 car parking spaces.

Flooding Review

The information provided below is a review of current design plans for the proposed development and available documentation relating to flooding at the site. Flooding will be assessed further at concept and detailed engineering design stages.

The Orange Local Environmental Plan 2011 (OLEP) Part 7 Clause 7.2- Flood Planning states:

“(1) The objectives of this clause are as follows:

- (a) to minimise the flood risk to life and property associated with the use of land,*
- (b) to allow development on land that is compatible with the land’s flood hazard, taking into account projected changes as a result of climate change,*
- (c) to avoid significant adverse impacts on flood behaviour and the environment.*

(2) This clause applies to:

- (a) land identified as “Flood planning area” on the Flood Planning Map, and*
- (b) other land at or below the flood planning level.*

(3) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development:

- (a) is compatible with the flood hazard of the land, and*
- (b) is not likely to significantly adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties, and*



(c) incorporates appropriate measures to manage risk to life from flood, and
(d) is not likely to significantly adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses, and
(e) is not likely to result in unsustainable social and economic costs to the community as a consequence of flooding.

(4) A word or expression used in this clause has the same meaning as it has in the Floodplain Development Manual (ISBN 0 7347 5476 0), published by the NSW Government in April 2005, unless it is otherwise defined in this clause.

(5) In this clause:

flood planning level means the level of a 1:100 ARI (average recurrent interval) flood event plus 0.5 metre freeboard.”

The OLEP Flood Planning Map identifies the eastern portion of the site as being within the Flood Planning Area. The eastern portion of the site contains a section of Blackmans Swamp Creek that has been culverted. The proposed development area within the site is wholly outside of the Flood Planning Area and as a result would not be inundated by flooding events up to and including the 1% Average Exceedance Probability event.

Whilst the proposed development area is not ‘Flood Planning Area’ the proposed basement may fall below the flood planning level (to be confirmed by survey). To address the items in Section 3 of the OLEP Part 7 Clause 7.2 we provide the following information.

Figure 2.4- Flood Hazard Zones 1% AEP within the Blackmans Swamp Creek Flood and Floodplain Risk Management Study and Plan 2007 prepared by Lyall and Associates shows that the proposed development area is located wholly outside of the flood hazard zones (the eastern portion of the site is identified as being within the Low Hazard Zone). Therefore the proposed development is compatible with the flood hazard of the land.

As the proposed development area is wholly outside of the 1% AEP flood extents the proposed development will not have any adverse effect on flooding behaviour in the vicinity of the site, nor will it have any effect on other development or properties.

The proposed development has stair and lift access to the Ground Floor from the proposed basement, therefore in the event of flooding of the existing shopping centre carpark, egress is available and risk to life due to flooding as a result of the proposed development is considered to be extremely low.

The section of Blackmans Swamp Creek at the site is culverted and the proposed development area is wholly outside the 1% AEP flood extents. As a result the proposed development is not likely to adversely affect the environment or cause degradation of the watercourse.

The proposed development area is wholly outside the 1% AEP flood extents and as a result will not result in the creation of social or economic costs as a result of flooding.

The above information demonstrates that the proposed development satisfies the requirements of the OLEP relating to flooding.

The Blackmans Swamp Creek Flood Study 2005 prepared by DHI Water and Environment modelled expected flooding from Blackmans Swamp Creek, Rifle Range Creek and the East Orange Channel through residential areas and the central business district of Orange. The Flood Study concluded that:



"All events greater than the 5% AEP event will exceed the capacity of the channel and the Kite Street culverts to pass overland through the CBD. Flows exiting the channel at Kite Street pass either down Lords Place or run through the Shopping Centre to rejoin the flow at Lords Place via Colvin Lane".

It appears therefore that the eastern portion of the site may become inundated with flood waters in flood events greater the 5% AEP (1 in 20 year ARI) flood event. The Flood Study showed that proposed development area will not be inundated by flood waters up to and including the 1% AEP (1 in 100 year ARI) event.

The proposed basement will be constructed to have a floor level higher than the existing shopping centre car parking with a ramp up to the proposed basement area to allow vehicle access. The proposed basement floor will be shaped to fall towards the ramp access to ensure that in the unlikely event of flooding it will drain to the existing car parking area.

The proposed development area at the site is located wholly outside of the OLEP Flood Planning Area and is identified in the Blackmans Swamp Creek Flood and Floodplain Risk Management Study and Plan as being wholly outside of the flood hazard zones. Egress from the proposed development area basement is provided via a proposed stair and lift access to the ground floor and Anson Street. As a result the proposed development will not affect flooding or result in increased risk to life.

Yours faithfully
Geolyse Pty Ltd



ALISTAIR WHITTLE

Senior Civil Engineer

