Our Reference: SY181072

04 June 2019

Figgis + Jefferson Tepa Pty Ltd
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Attention: Stephen Figgis

Dear Stephen

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Re Flood Management Report – Review of Flood Information and Reporting of Information for Marion Street, Leichhardt

1.0 INTRODUCTION

ACOR Consultants have been engaged to prepare flooding advice for 245 Marion Street, Leichhardt for commercial and residential use.

This report has been undertaken with the intention of providing preliminary advice with regards to 245 Marion Street in conjunction with Nov. 2017 Cardno Flood Study for Inner West Council. Inner West Council has identified that the site is within the Hawthorne Canal Catchment and is affected by major flooding and overland flooding.

2.0 SITE CHARACTERISTICS

2.1 Existing Site Conditions

The existing site is a single storey rendered brick “Mazda” service centre located within the vicinity of Leichhardt area. The site is bounded to the north by Walter Street, to the east by Nursing Home (no. 237 Marion), to the south by Marion Street and to the west by Leichhardt light rail.

Figure 1 Site Locality Plan

2.2 Proposed Site Planning

The proposal development is mixed-use consists of three basements, Ground Floor, eight levels of residential and Roof. This development will be on approximately an area of 5200m^2.

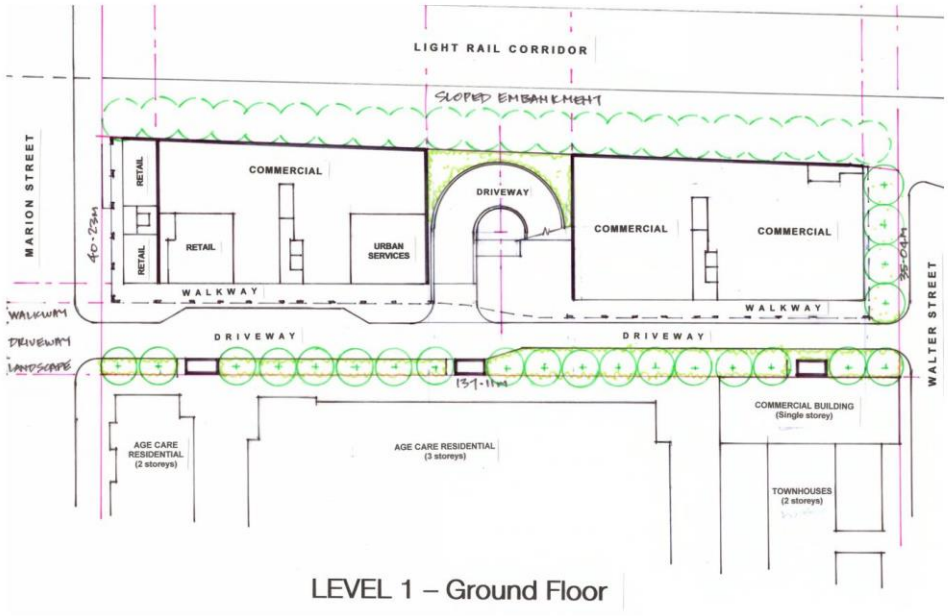

Figure 2 Ground Floor Plan prepared by FIGGIS + JEFFERSON TEPA

3.0 FLOOD INFORMATION

3.1 Flood Behaviour

The subject site is located within the Hawthorne Canal Catchment within the Leichhardt LGA. A Flood Plain Risk Management Study of Inner West Council prepared by Cardno (Nov. 2017) to define major flooding and overland flood behaviour for the study area.

The Overland Flood Study has identified that the subject site is partially within the low flood risk precinct, being land below the 100-year ARI flood event that is not subject to a high hydraulic hazard. The site remains largely unaffected by overland flows except within the Northern and southern sides of the site (adjacent to Walter St and Marion St).

The majority of flooding within the study area catchments is characterised by both major creek flooding and overland flow. The critical storm duration is between 15 minutes and 2 hours across the catchment, with the peak of the flood reached approximately 30 minutes to 1 hour after the start of the storm. This is considered short duration “flash” flooding.

The critical duration for the 5 and 100 Year ARI events ranges from 15 minutes to 2 hours, while that of the PMF ranges from 15 to 45 minutes throughout most of the catchment. The peak of the flow would therefore generally occur at various locations within the catchment within 15 minutes to 2 hours from the start of the rainfall. These short critical durations suggest that there is insufficient time to alert residents for the purposes of evacuation of significant flood preparations.

3.2 Flood Levels and Floor Levels

Based on Leichhardt Flood Risk Management Study prepared by Cardno and issued on Nov. 2017, the 100yr Flood depth on Marion Street at the subject site is between 0.1m to 0.3m which is equal to 4.15m AHD hence, the minimum FPL = 4.65 (4.15 + 0.5m).

The PMF Flood depth is between the range of 1m to 3m on Marion Street which is equal to 5m AHD and this is the level that the second floor should be set at or higher, which will be considered as the safe refuge area.

Attached are figures from the Flood Study as follows:

- Figure 8.2 – 100yr ARI Peak Depth
- Figure 8.3 – PMF Peak Depth
- Figure 8.5 – 100yr ARI Peak Velocity
- Figure 9.2 – 100yr ARI Hazard

In November 2017, Cardno completed their flood study for Inner West Council – Leichhardt Catchment and determined the flood depths, velocities and

hazards for Marion and Walter Streets. The flood depths in Marion Street vary between 300mm and 1m for the 100yr ARI and PMF and similarly in Walter Street.
There are two flow paths that link Marion and Walter Street. The eastern flow path adjacent to the nursing home is 1.7m wide and the western flow path on the light rail land is approximately 5.4m wide.

Any future development that proceeds on this site should not interfere with these existing flow paths. The site levels should be selected such that flows in Marion Street are prevented from flowing north to Walter Street. This ensures there are no adverse flooding effects in downstream and upstream attachments.

In conclusion, any access driveways should omit all flood flows from entering the property by the raising the driveway crest to 4.65m AHD.

We trust the above satisfies the preliminary investigation of flood impacts upon 245 Marion Street, Leichhardt in regard to Inner West Council Flood Study. If there are any queries or wish to discuss anything further, please do not hesitate to contact the undersigned.

Yours faithfully,
ACOR Consultants Pty Ltd

Gregory Lyell
Civil Engineer

Appendix A

Figures from the Flood Risk Management Plan of Inner West Council.

Depth (metres)

- 0.01 to 0.1
- 0.1 to 0.3
- 0.3 to 0.5
- 0.5 to 1.0
- 1.0 to 3.0

SUBJECT SITE

Legend

Indicative 100yr ARI Flood Extent

0 250 500

meters

N W E S

Figure 8.2- 100yr ARI Peak Depth Sheet1

Depth (metres)

- 0.01 to 0.1
- 0.1 to 0.3
- 0.3 to 0.5
- 0.5 to 1.0
- 1.0 to 3.0

SUBJECT SITE

Legend

Indicative PMF Flood Extent

0 250 500

meters

N W E S

Cardno Lawson Treloar

LJ2629
June 2010

Figure 8.3- PMF Peak Depth
Sheet1

Leichhardt Flood Study

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Water Velocity (m/s)

- >5.10
- 3.10-5.00
- 2.00-3.00
- 1.50-1.99
- 1.00-1.49
- 0.50-0.99
- 0.00-0.49

SUBJECT SITE

Legend

Indicative 100yr ARI Flood Extent

0 250 500

meters

N W E S

Figure 8.5- 100yr ARI Peak Velocity
Sheet1

Cardno Lawson Treloar

LJ2629
June 2010

Figure 9.2 - 100yr ARI - Hazard
Sheet1

Leichhardt Flood Study

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