Proposed Shed and Awning (Existing)

38 MacAlister Street, Park Avenue







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Development Permit No.: D/85-2022 Dated: 14 December 2022



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23°21'28"S 150°30'10"E

23°21'26"S 150°30'10"E

23°21'28"S 150°30'7"E





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38 MacAlister St, Park Avenue Flood Hazard Assessment

Project Name:		38 MacAlister Street Flood Hazard Assessment						
Project Number:		22-545						
Project Address:		38 MacAlister Street, Park Avenue QLD, (Lot 14 RP600212)						
Client:		Damon Bradshaw						
Dated:		27/09/22		Rev:	0			
R	evision		Revision	Issue Date				
0	riginal Issue		0	27/09/2022				

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1.0 Introduction

The scope of this document is to address the relevant provisions of the Rockhampton Region Planning Scheme 2015 with regards to the Fitzroy River Flood Overlay for 38 MacAlister Street, Park Avenue.

38 MacAlister Street, as shown below, currently has Class 1a residential structure and seeks approval for a new Class 10a structure (shed with an attached awning).

The subject site is located in the flood hazard zone as defined by the Rockhampton Region Planning Scheme 2015 hazard overlays. As can be seen in Figure 2, the flood overlay map shows the site being within the H4 (high) zone.

This report also aims to provide the necessary governance for effects of stormwater and suggests that these are not as significant as flood waters thus any mitigatory recommendations applicable for floodwater management will also apply to the stormwater management.



Figure 1 - Site Location

2.0 Flood Hazard Assessment

The structure located at 38 MacAlister Street is and is a Carport structure. Due to its location, it triggers the need for a flood hazard assessment.

The purpose of the structure is to store cars and other items that are not suitable for indoor storage. The nature of the structures is such that it is generally open in nature, being that they would not obstruct the flow of flood waters, meaning that in a flood event water will be free to flow in and around the structure without causing nuisance turbulence or redirecting flows outside of the site.

It is seen that in a flood event, the site could be effectively managed with regards to achieving the acceptable outcomes set out in Appendix A by simply ensuring all doors are opened to allow water to flow unimpeded through the shed which would in turn mean existing flood risks are not made worse by alteration to the flow characteristics of the site. Further, insignificant increase in impervious area is seen to have resulted from the structures, hence the post-development case for the site will show very minimal impact on the peak discharge and stormwater quality.

Summarising, the structure covered under this report would not create any actionable nuisance to the surrounding properties.

3.0 Existing Site Conditions

The proposed site is situated within the Fitzroy River Flood Overlay Zone H4.



Figure 2 - Proposed General Arrangement

Figure 4 is an extract from the report "Flood Study Report Fitzroy River Flood Study, Rockhampton Regional Council" which was completed by Aurecon in 2011. This report shows that the peak depth in a 100 Year ARI is 0.0m to 0.5m. From the same report it was shown that the velocity of the water flowing through the site during a 100 Year ARI event will almost be negligible.



Figure 3 - Flood Depth Mapping (Aurecon, 2011)

It is seen that the proposal is acceptable based on the following:

- 1. The building is not habitable, and the amount of displaced floodwater is negligible.
- 2. Resilience to the existing flood event affects will be provided in accordance with the RRC Planning Scheme outcomes towards a defined flood event. This is achievable as the existing structure is constructed using structural steel. This coupled with the fact that the floodwater is slow moving due to being backflow from the Fitzroy River.
- 3. All electrical infrastructure has been installed at a minimum height of 1200mm above FFL.
- 4. Local and global (Riverine Flooding) flood heights will not increase as a result of the development. This is due to the fact that there will be no material change to existing hydraulic parameters and no loss of storage.
- 5. As there will be no change to depth or velocity, there will be no increase to the sites Flood Hazard Category and therefore no risk to persons, infrastructure or property.
- 6. There are no proposed earthworks aside from minor levelling of ground under the shed.
- 7. Sufficient notice period of two weeks has been the case for previous Riverine Flooding events and we know this would not change in the future. Given the structure is not habitable or commercial the management required after notice include:
 - 1. Removal of loose material and potential debris.
 - 2. Relocation of all equipment off site
 - 3. Relocation of all animals off site
 - 4. Open all doors and windows to allow ingress of flood waters

4.0 Stormwater Heights

An application was made to Rockhampton Regional Council to gain a flood report which had stormwater data within it. The following information was used from the RRC supplied Flood Report (attached in full as Appendix A).

In lieu of AEP 1% stormwater data on the RRC report, AEP 0.2% (1 in 500) data has been used for comparison.

Riverine		Local Catchment					
AEP 1% WSL Min: 10.3	AEP 0.2% W	SL Min: 9.37	AEP	1% WSL Min:	N/A		
AEP 1% WSL Max: 10.3	6 AEP 0.2% W	SL Max: 9.57	AEP	1% WSL Max:	N/A		
AEP 1% Velocity Min: 0.20	AEP 0.2% V	elocity Min: 0.00	AEP	1% Velocity Min:	N/A		
AEP 1% Velocity Max: 0.26	AEP 0.2% V	elocity Max: 0.58	AEP	1% Velocity Max:	N/A		

Figure 4 – Excerpts from RRC Flood Date

After looking at the relevant data it is obvious that the 0.5% Stormwater Level is lower by 940mm and as such the provisions nominated in this report applicable to the floodwater management will also apply to the stormwater management.

5.0 Conclusion

There appears to be no great engineering infrastructure difficulties with the proposed changes to the aforementioned property. It is seen that the proposal will not affect flooding, either on the property or upstream/downstream in any way and conforms to the acceptable outcomes as set out by the RRC planning scheme.

Yours sincerely,

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Scott Thomas Manager – B. Eng (Civil/Structural) RPEQ 16203

Appendix A : RRC Supplied Flood Report