# PROPOSED CLUB HOUSE EXTENSION / CHANGEROOM / AMENITIES

## ROCKHAMPTON PANTHERS AFC

**ROCKHAMPTON REGIONAL COUNCIL**

**APPROVED PLANS**

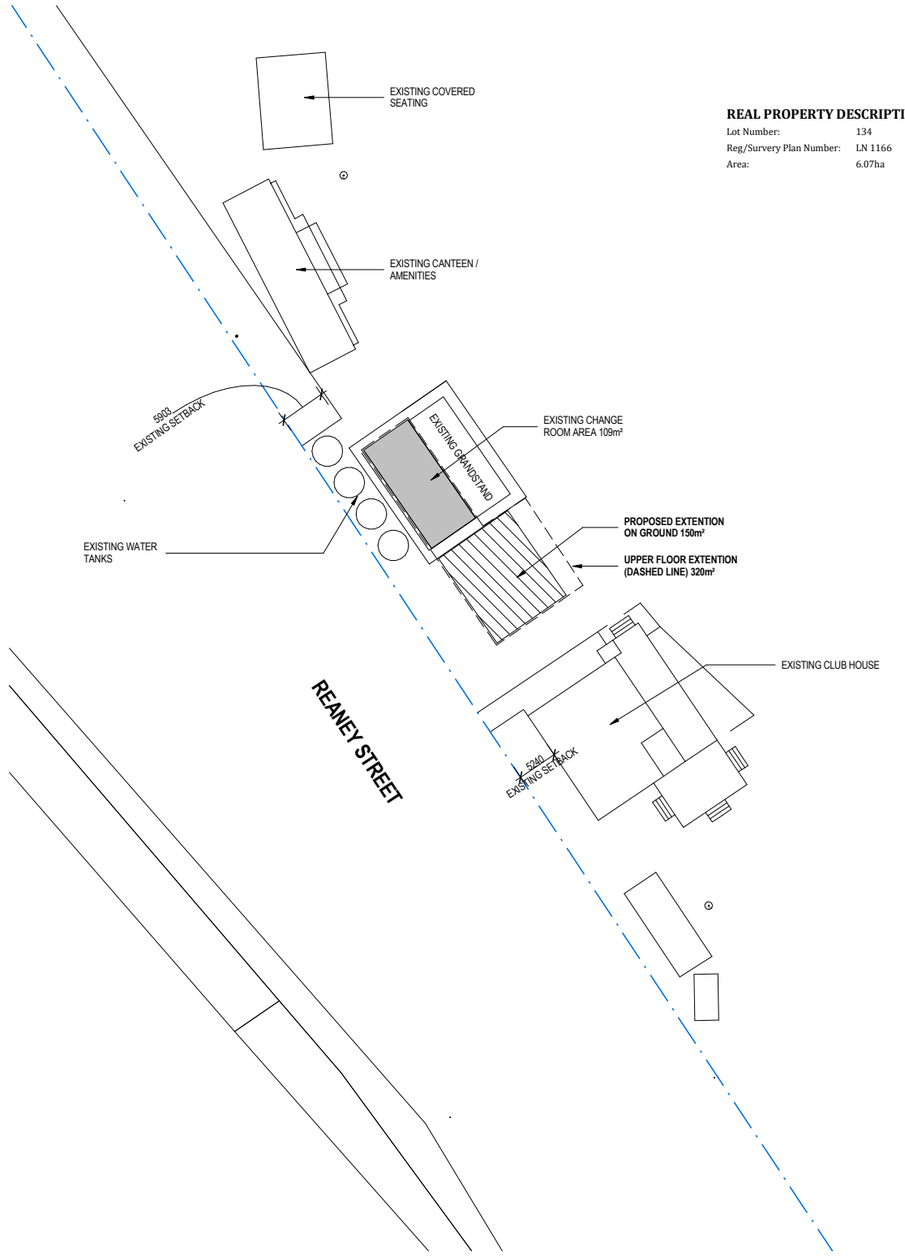
These plans are approved subject to the current conditions of approval associated with

**Development Permit No.:** D/129-2018

**Dated:** 11 April 2019


**OVERALL SITE PLAN**

1 : 1000




**PART SITE PLAN**

1 : 400

**REAL PROPERTY DESCRIPTION**

| | |
|---|---|
| Lot Number: | 134 |
| Reg/Survery Plan Number: | LN 1166 |
| Area: | 6.07ha |

DO NOT SCALE DRAWING
ALL DIMENSION IN MILLIMETERS

REVISIONS

| No: | Description: | Date: |
|---|---|---|
| 1 | DEVELOPMENT APPLICATION | 27.11.18 |
| 2 | REVISED DRAWINGS | 19.03.19 |

ISSUED FOR

**PRELIMINARY**

Project Details:

**PROPOSED EXTENSION**

**ROCKHAMPTON PANTHERS AFC**

**45 REANEY STREET, THE COMMON**

Drawing Title:

**TITLE / SITE PLANS**


dezignelements BUILDING DESIGNERS

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QBCC No: 1247120 BDAQ No: 0001677


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| Scale: | As indicated | Rev: | 2 |
| Date: | NOV 2018 | | |
| Drawn: | NJB | | |
| Project No: | 18_082 | Drawing No: | S-01 |

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STAGE 1 - EXISTING CHANGE ROOM FLOOR AREA - 109m²
STAGE 2 - PROPOSED GROUND FLOOR EXTENSION - 150m²
STAGE 2 - UPPER FLOOR EXTENSION - 320m²

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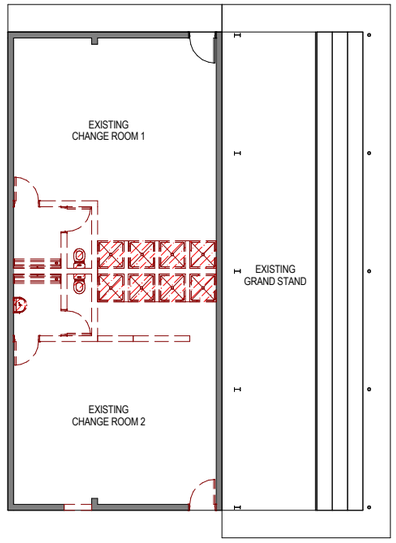


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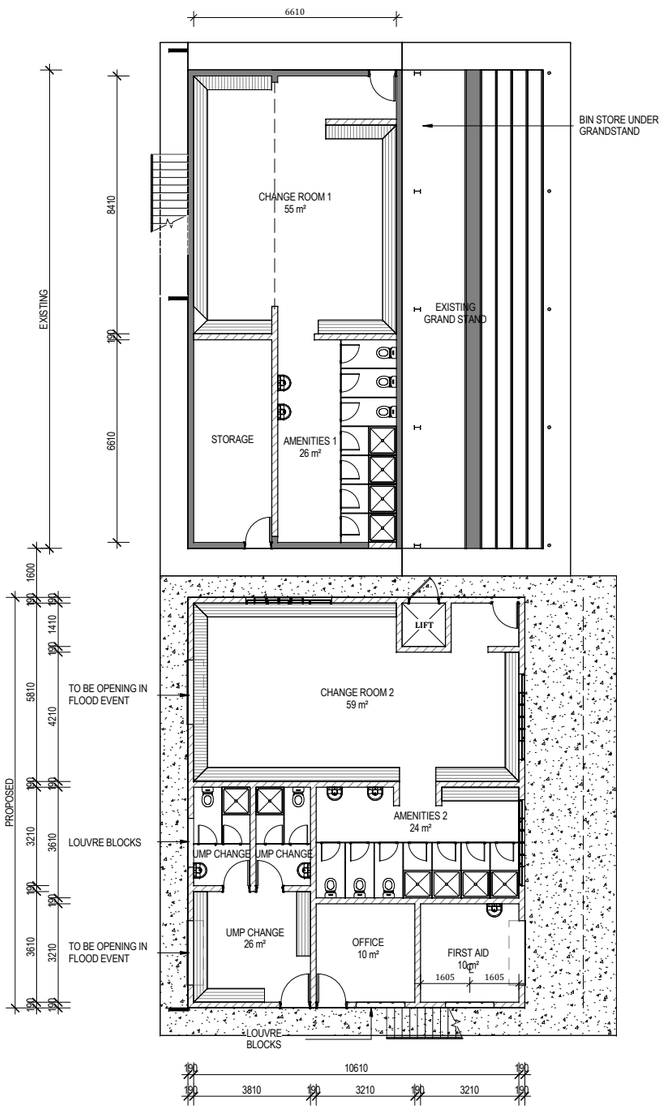


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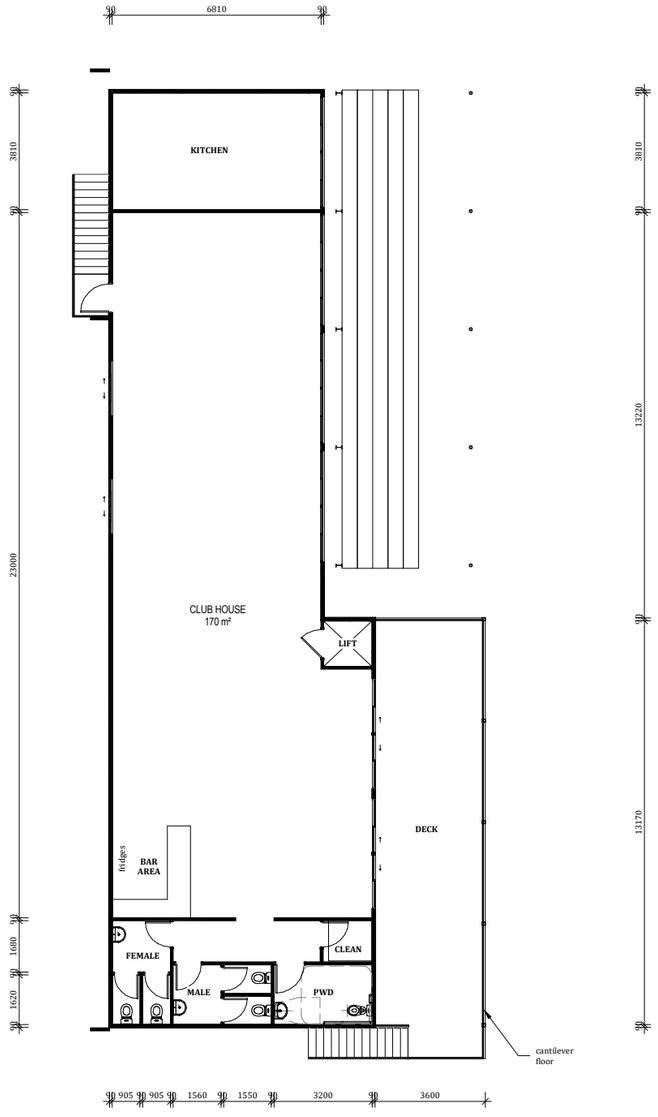


**PROPOSED UPPER FLOOR PLAN**
1 : 100

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B
A C
D
**ELEVATIONS**

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Project Details:
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**ROCKHAMPTON PANTHERS AFC**

**45 REANEY STREET, THE COMMON**

Drawing Title:
**FLOOR PLANS**


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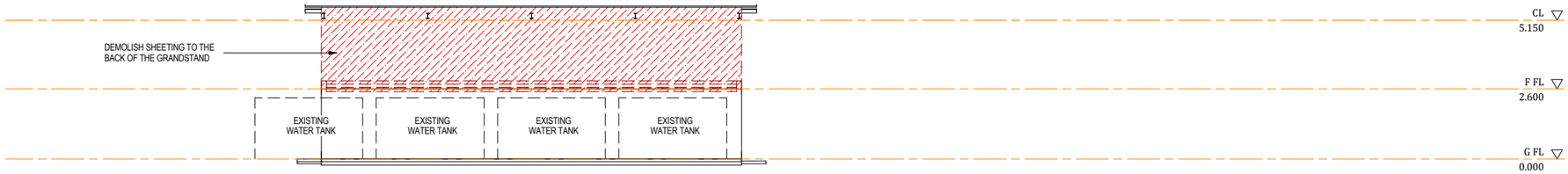


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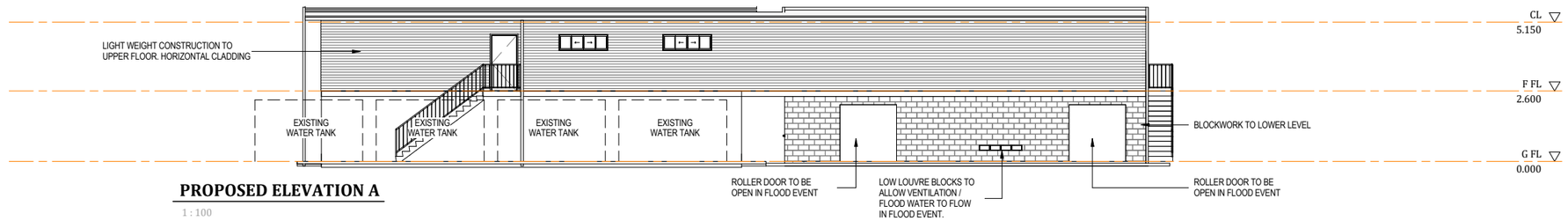


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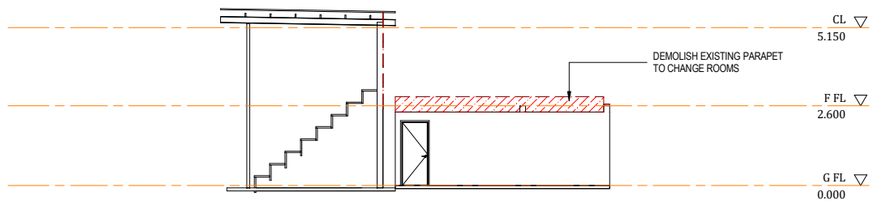


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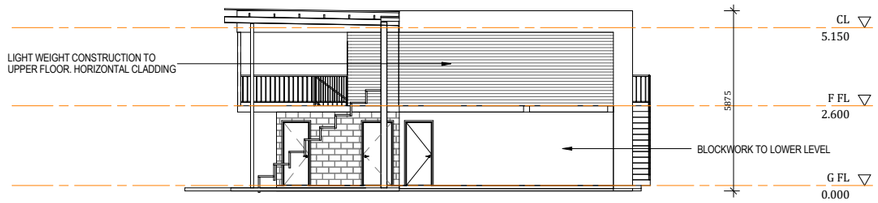


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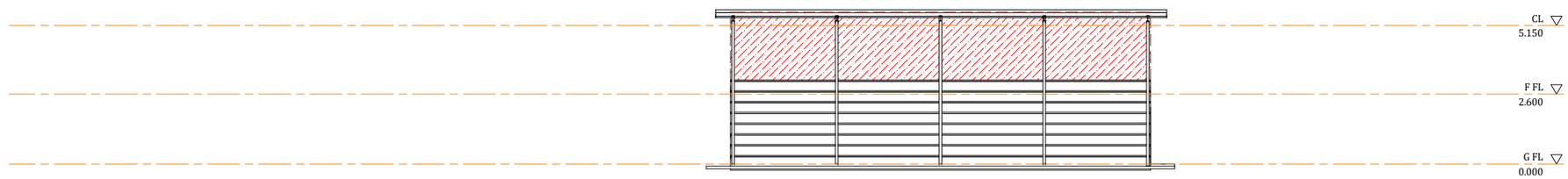


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## PROPOSED ELEVATION C

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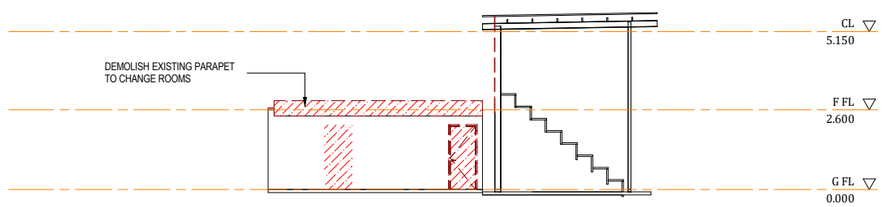


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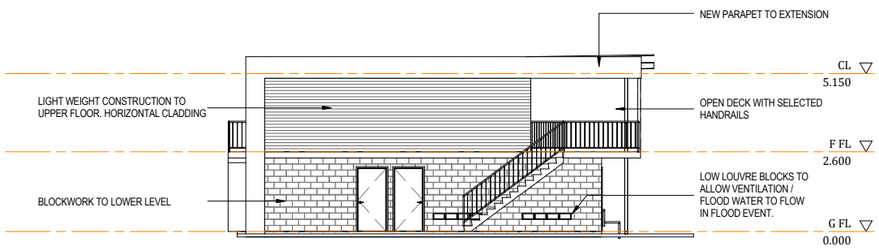


## PROPOSED ELEVATION D

1 : 100

**ROCKHAMPTON REGIONAL COUNCIL**

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Project Details:

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**ROCKHAMPTON PANTHERS AFC**

**45 REANEY STREET, THE COMMON**

Drawing Title:

**ELEVATIONS**


dezignelements BUILDING DESIGNERS

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QBCC No: 1247120 BDAQ No: 0001677


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| Drawn: NJB | |
| Project No: 18_082 | Drawing No: S-04 |

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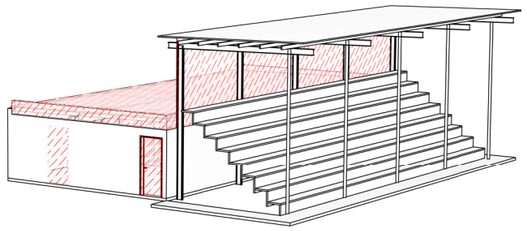

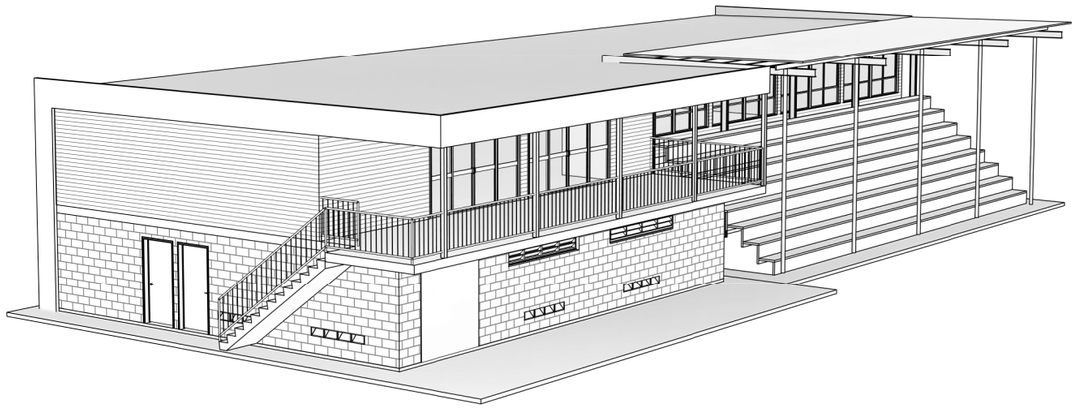

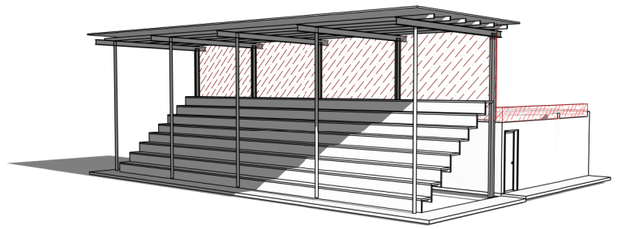

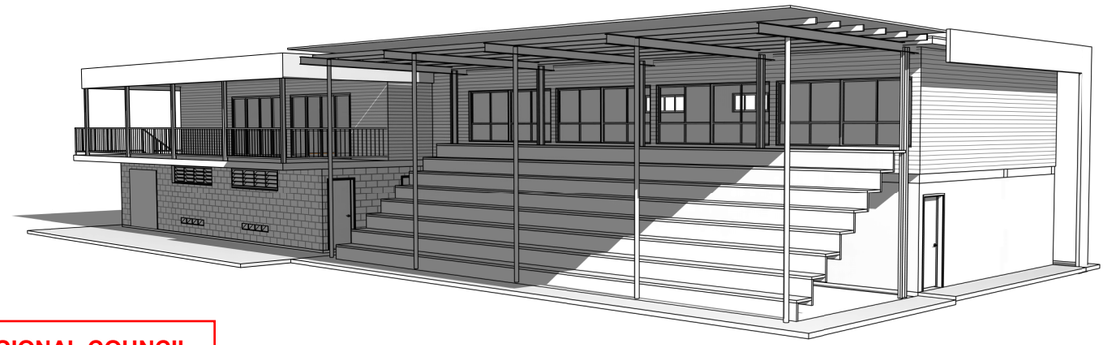

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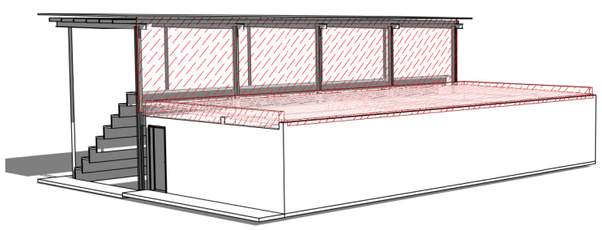

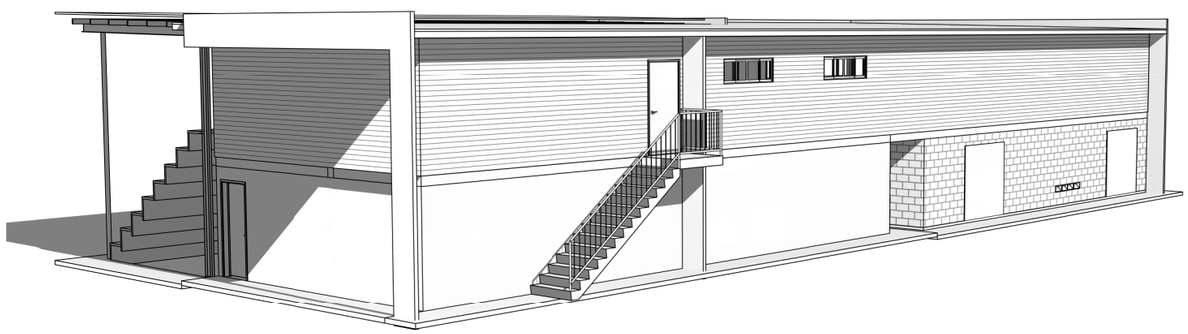

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REVISIONS

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Project Details:

**PROPOSED EXTENSION**

**ROCKHAMPTON PANTHERS AFC**

**45 REANEY STREET, THE COMMON**

Drawing Title:

**3D VIEWS**


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**QBCC No: 1247120** **BDAQ No: 0001677**


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| Date: NOV 2018 | 2 |
| Drawn: NJB | |

| Project No: | Drawing No: |
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**Development Permit No.: D/129-2018**

**Dated: 11 April 2019**

# 45 Reaney St – Sports Precinct

## Engineering Infrastructure Report

Prepared for Rockhampton Panthers AFC & Rockhampton Cricket Association

November 2018

18131

Document Control

18131

| ISSUE | DATE | ISSUE DETAILS | AUTHOR | CHECKED | APPROVED |
|---|---|---|---|---|---|
| A | 21 November 2018 | For Approval | G.dV. | S.M.T. | Scott Thomas RPEQ 16203 |

# CONTENTS



Table of Figures

Patcol Group Pty Ltd
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2/31 Denham St.
Rockhampton, QLD, 4700

# 1 INTRODUCTION

Patcol Group Pty Ltd has written this Engineering Infrastructure Report in support of the Material Change of Use Application on behalf of Rockhampton Panthers AFC & Rockhampton Cricket Association. This report relates to works associated with the proposed extension of change rooms and new clubhouse on the existing premise at 45 Reaney Street, The Common (Lot 134 on LN1166).

The subject site is currently utilised as sport and recreation space and includes a cricket pitch as well as associated change rooms, clubhouse and amenities buildings. The site is surrounded by other sporting facilities with the Rockhampton Jockey Club to the south, Stapleton Park to the north, Fitzroy Pony Club to the west and a several residential dwellings to the North-West.

The development proposal intends to renovate the existing change room, and construct an extension to the previous with additional change rooms facilities and clubhouse.

This report intends to address the Civil Engineering Infrastructure for the proposed development including water reticulation, sewer reticulation, stormwater management including flood impacts from riverine flooding of the Fitzroy River and strategies for access and parking for the project. The report will demonstrate that the development will not negatively impact on existing service, buildings and infrastructure surrounding the subject site.

*FIGURE 1 - SITE LOCATION*

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# 2 SITE WORKS/EROSION CONTROL

Site works for the development will consist of the following stages:

- Demolition of existing;
- Clearing and grubbing;
- Earthworks;
- Underground services installation;
- Building construction;
- Final detailed works; and
- Vegetation establishment, landscaping, and erosion and sediment control measures.

# 3 SEWER RETICULATION

The existing site currently has access to Rockhampton Regional Council's sewage infrastructure which will be maintained as part of this upgrade of the sports precinct.

An existing 150mm diameter sewer articulation main traverse the Western boundary according to the Rockhampton Regional Council's Geotechnical Information System (GIS). A 900mm diameter concrete pipe runs along the Southern boundary. Figure 2 demonstrates the existing sewer services from the Rockhampton Regional Council's GIS.

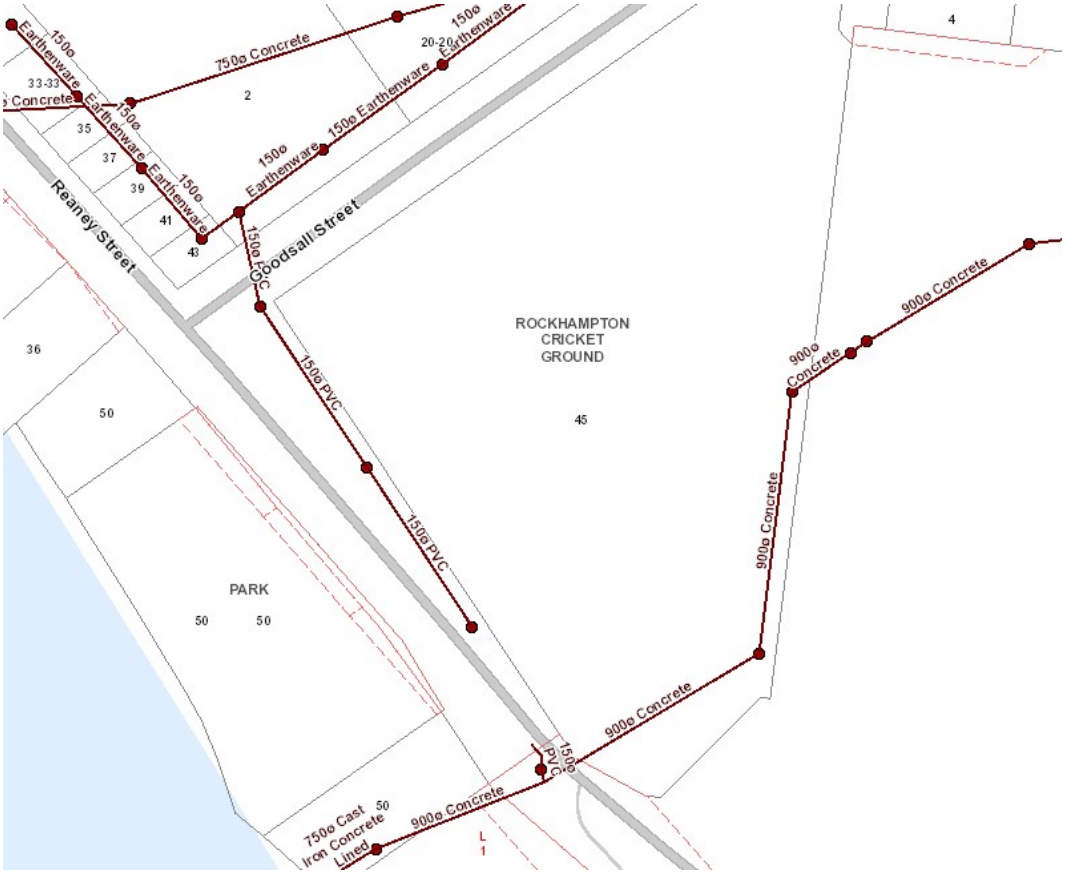


*FIGURE 2 - EXISTING SEWER INFRASTRUCTURE LAYOUT*

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We believe that there will be minimal increase in sewer loadings from the proposed works and due to the fact that an existing canteen and amenities building is currently connected, the sewer loadings in the proposed case will be comparable to the existing situation. Therefore, we believe no upgrades will be required to council's infrastructure with any negative impact posed.

# 4 WATER RETICULATION

The information obtained from Rockhampton Regional Council's GIS has identified that a 150 AC water main is located on the Western side of Reaney Street. The following image shows the existing water reticulation infrastructure surround the subject site.

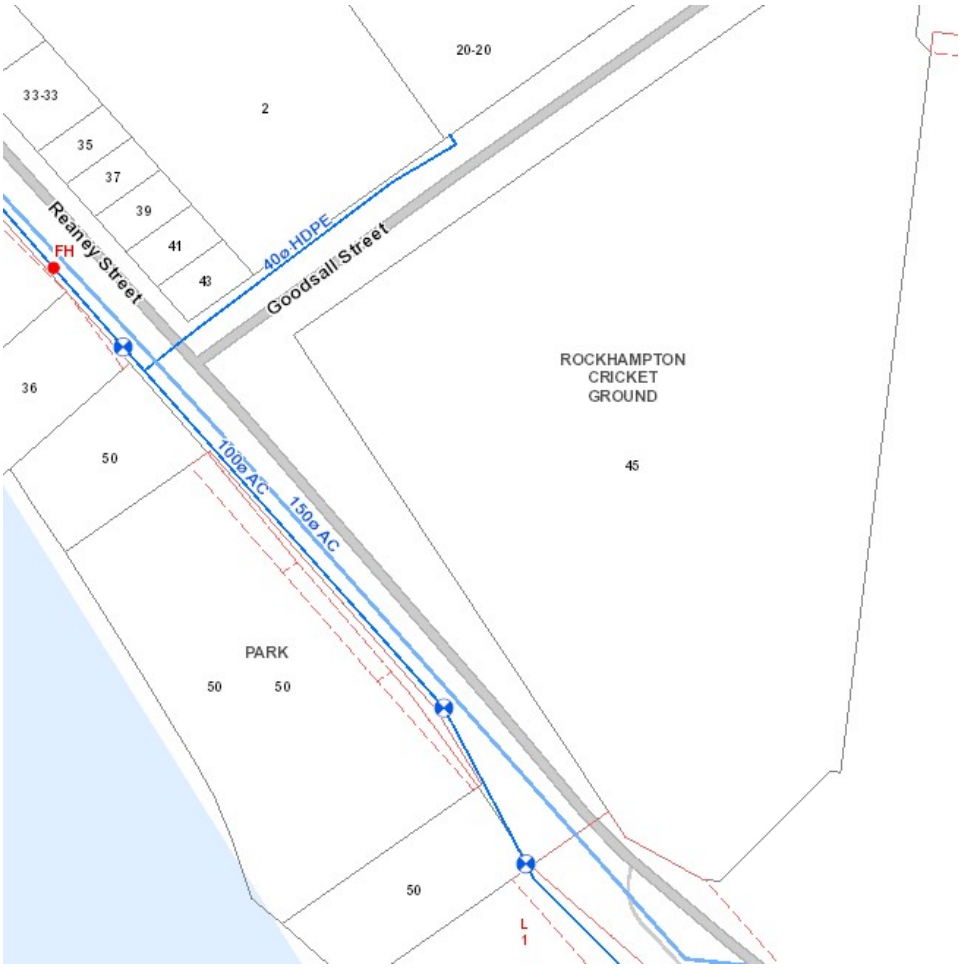


*FIGURE 3 - EXISTING WATER INFRASTRUCTURE LAYOUT*

Existing water service connections are present on site to service the existing amenities and canteen building. The condition of the existing water service is unknown.

As there is no increase in the use of the site, we believe that the water strategy for the proposed extension is achievable with the current council reticulation infrastructure in place with no detriment to the existing water supply.

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# 5 ACCESS & PARKING

The current facility is accessed through parking on the Northern side of Reaney Street. There is no increase in the use of the site, therefore no additional parking area is required.

## 5.1 WASTE MANAGEMENT

The facilities currently utilise a storage area for standard 240 Litre wheelie bins. These bins have been used for previous events and there is no increase in the use of the site. Garbage bins are wheeled to the Reaney Street kerb and collected by council's weekly kerbside waste collection system.

# 6 STORMWATER MANAGEMENT

An analysis has been undertaken for the stormwater management for the development to ensure that no adverse impacts occur to adjacent and downstream properties and infrastructure from the proposed development. Figure 4 demonstrates the existing stormwater services from the Rockhampton Regional Council's GIS.


*FIGURE 4 - EXISITNG STORMWATER INFRASTRUCTURE LAYOUT*

## 6.1 STORMWATER QUANTITY

There are no alternations to increase the use of the site and therefore we believe that no mitigation measures are required (i.e. detention) as part of the works.

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## 6.2 Stormwater Quality

There are no alternations to increase the use of the site and therefore we believe that no stormwater quality measures or improvement devices are required to be implements as part of this development on the site for the sports precinct.

## 6.3 Riverine Flooding

The site is subjected to riverine flooding from the Fitzroy River as define in the Rockhampton Regional Council Planning Scheme. The flood hazard overlay code within the panning scheme applies to this subject site and the overlay maps identify that the site is within the 'extreme' category for riverine Fitzroy River Flooding.

The Defined Flood Level (DFL) as per the Rockhampton Regional Council (RRC) planning scheme is assigned to be the one percent annual exceedance probability (AEP) flood event. The following figure is extracted from the RRC planning scheme overlay maps showing the DFL and the site within the extreme category for flooding of the Fitzroy River.

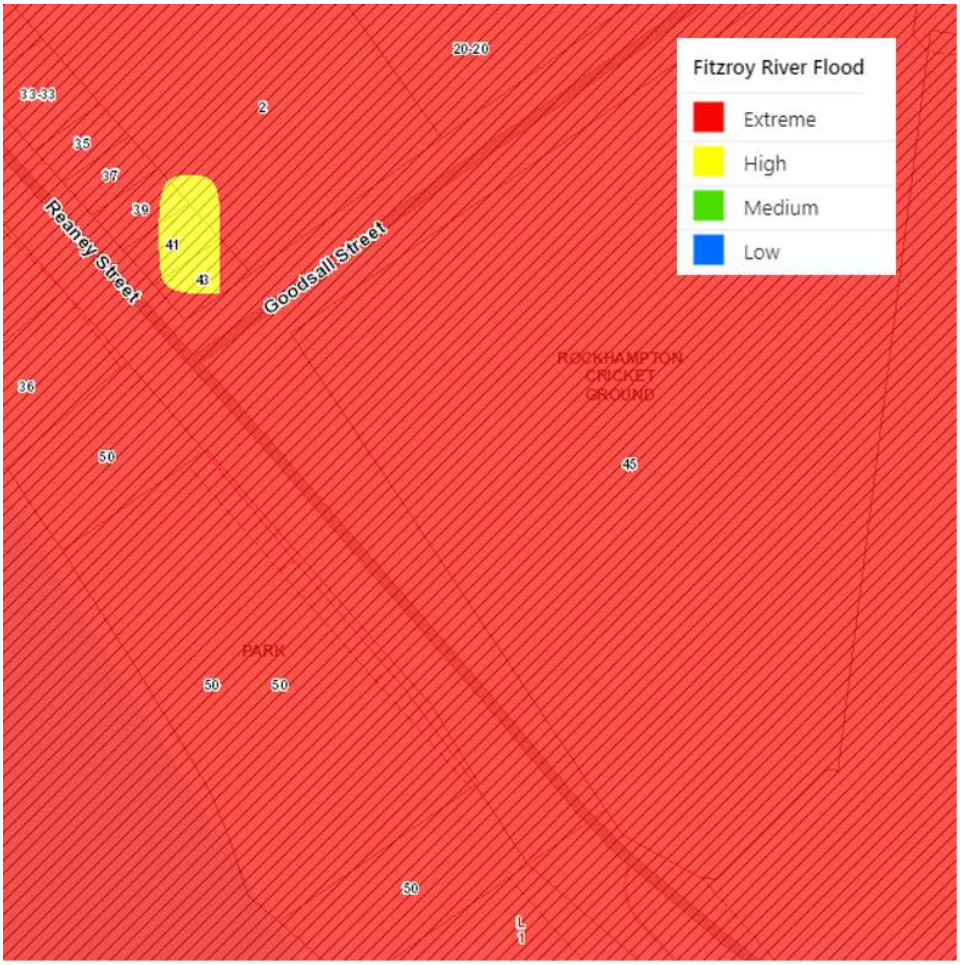


*FIGURE 5 - RRC FLOOD OVERLAY MAPPING INCLUDING DEFINED FLOOD LEVEL (DFL)*

The subject site is not immune to flooding however the additional facilities will have no negative impact to the flood situation or neighbouring allotments.

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# 7 ELECTRICITY AND TELECOMMUNICATIONS

Existing Electrical and Telecommunication services area located in the vicinity of the site which can be used be utilised for this project.

# 8 CONCLUSION

There appears to be no great engineering infrastructure difficulties with the proposed sports precinct on the site of Rockhampton Panthers AFC and Rockhampton Cricket Grounds located at 45 Reaney Street, The Common (Lot 134 on LN1166).

There is no increase in the use of the site and access and parking are still adequate. Additionally, the proposed facilities can adequately be serviced by the existing council sewer and water infrastructure within the area and electrical and telecommunication services are available within the vicinity of the site.

Yours sincerely,

Scott Thomas

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

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15th March 2019

Development Assessment Section
Rockhampton Regional Council
PO Box 1860
ROCKHAMPTON QLD 4700

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**APPROVED PLANS**
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**Development Permit No.: D/129-2018**
**Dated: 11 April 2019**

RE : Development Application D/129-2018 (Response 2 RE Flooding Issues)

Further to previous correspondence on this issue I have highlighted additional information as referenced from the following (both available from RRC Website);

1. Aurecon Fitzroy River Flood Study (2011)
2. AECOM 2014 Tuflow Model

This report further addresses the 2 Performance Outcomes previously highlighted;

**PO4**
Development does not involve the further intensification of land uses or the construction of new buildings or structures (except involving the replacement, alterations or extensions to an existing building) in order to avoid potential flood impacts on people and property.

Editor's Note—Flood hazard assessment risk is to be undertaken in accordance with SC6.10 — Flood hazard planning scheme policy.

There is no doubt that the area in question is inundated during a flood event. The proposed works will have a Finished Floor Level (FFL) of 6.60mAHD which means they have experienced similar events over the last twenty years. There are numerous buildings in the vicinity (i.e within the sporting precinct) in a similar predicament and the ability of the respective clubs and their workforce means they have learnt to deal with such a situation. The building will be designed such that the following applies to minimise the effects on people and property;

1. Roller doors at both ends of the building to allow water to enter and exit the facility. This obviously ensures the impact on any surrounding infrastructure is minimised and the only additional displacement of flood water would be caused from the thickness of the walls which is considered negligible.
2. All services, where possible (electrical, any gas supplies, appropriate waste lines etc.) will be positioned above a 1% AEP Flood Height (refer below for nomination of this level).
3. A specific TARP (Trigger and Action Plan) would be documented for the facility but as noted above this is currently well managed by the respective committees.
4. The structure itself would be designed to resist the loads imposed from the relative flow velocity (refer below for nomination of this flow rate) and from initial observation would not be the overriding factor in the design process. It should be noted the existing changerooms are masonry and it is proposed to use the same building material in the lower floor to aid with waterproofing issues.

The site is subjected to riverine flooding from the Fitzroy River as defined in the RRC Planning scheme. The flood hazard overlay code within the planning scheme applies to this site and the overlay maps identify that the site is within the “Extreme” category for riverine Fitzroy River flooding.

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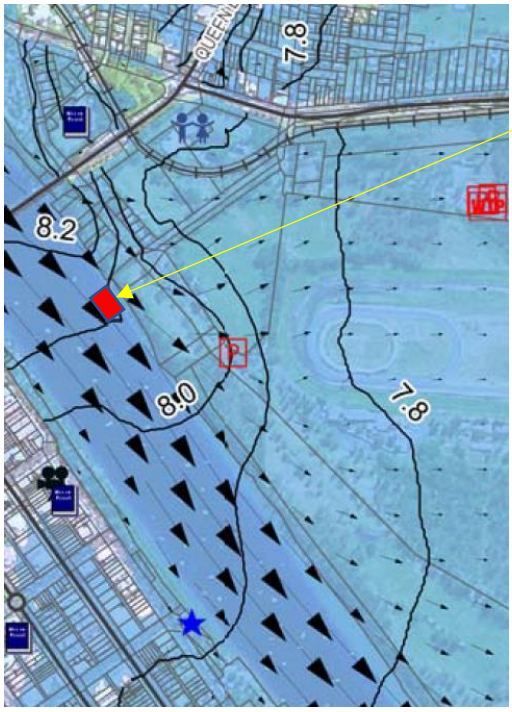
Determination of Flood Height & Water Velocity

- Aurecon Fitzroy River Flood Study (2011)




Flood Height – 7.90 AHD

Water Velocity – 1.2 m/s

*Fig 1 (Extract P49) 1:100 Event*

- AECOM 2014 Tuflow Model


Flood Height – 8.00 AHD

*Fig 2 (Extract P10) 1:100 Peak Water Surface*

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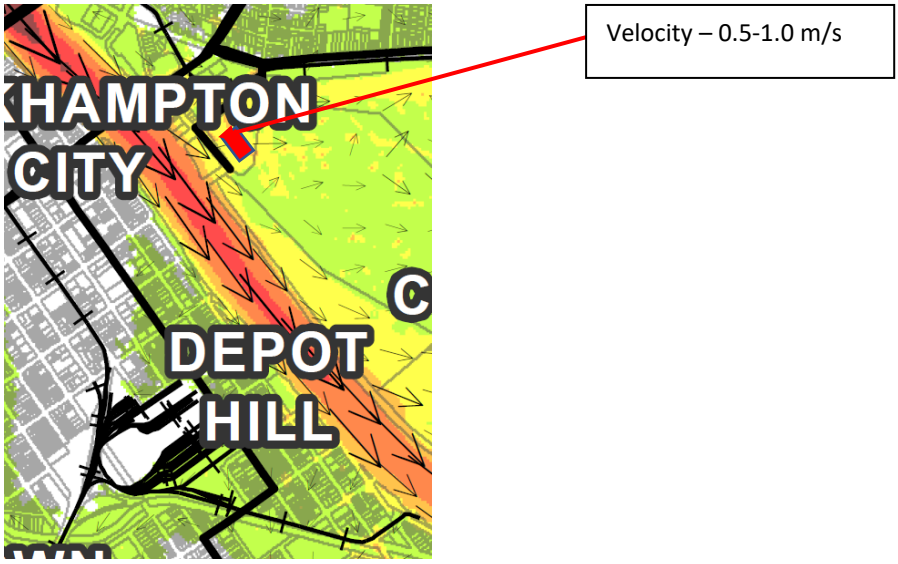


*Fig 3 (Extract P10) 1:100 Peak Water Surface*

Based on the above information and similar readings from the 2%, 5% and 10% AEP Flood maps the following table is presented. The height above the FFL is also shown which is consistent with what was experienced at the facility in 2011, prior to this and subsequent events. In each case we have referenced the results available from both the reports nominated above and have taken the worst-case scenario from the data.

| Likelihood (AEP) | Maximum Flood Height (AHD) | Maximum Flood Velocity (m/s) | Height above AHD (m) |
|---|---|---|---|
| 1% | 8.00 | 1.2 | 1.4 |
| 2% | 7.51 | 0.9 | 0.91 |
| 5% | 7.12 | 0.67 | 0.52 |
| 10% | 6.24 | 0.67 | -0.36 |

As can be seen from the above table the height of the water during a 1:100-year event will be 1.4m. The nature of the facility is such that it cannot be replicated elsewhere in a more flood proof area so we have to work with the constraints we are given in terms of the existing levels to ensure maximum use of this land space.

**PO9**
Development directly, indirectly and cumulatively avoids:
(a) creating flowpath obstacles; or
(b) increasing water flow velocity or flood levels; and
(c) does not increase the potential for flood damage on the premises or on other properties.

Editor's note—Council may require the applicant to submit a site-based flood study that investigates the impact of the development on the floodplain and demonstrates compliance with the relevant performance outcome.

For this reason we propose to maintain the lower level FFL of approximately 6.60 AHD. As the building is not a habitable space we believe this is acceptable. Given the notice of an impending flood is sufficient to relocate equipment and the fact that the building can be opened up (if required) the impacts on any surrounding properties or infrastructure is not adversely effected post development. Given the small additional footprint proposed we believe it does not affect any of the items nominated in PO9.

Yours sincerely,

Scott Thomas

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