Patcol Group Pty Ltd
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397 Bolsover Street, Depot Hill
Flood Hazard Assessment

Project Number: 21-761

Project Address: 397 Bolsover Street, Depot Hill, QLD 4700 (Lot 18 & 19 RP600379)

Client: Wayne Wisley

Client Contact: Wayne Wisley

Dated: 10/03/2023 **Rev:** 0

Revision	Revision	Issue Date
Original Issue	0	16/05/2022
Stormwater Data Added	1	10/03/2023

ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

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

Preliminary Approval No.: D/32-2023

Dated: 27 July 2023

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 397 Bolsover Street, Depot Hill.

397 Bolsover Street, as shown below, currently has Class 1a residential structure (house), a class 10a temporary structure (shed) along with a proposed class 10a shed structure for which the following report addresses.

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 H3 (high) – H4 (high) zone.

Figure 1 - Site Location

2.0 Flood Hazard Assessment

The structure located at 397 Bolsover Street is and is a shed structure. Due to its location, it triggers the need for a flood hazard assessment.

The purpose of the structure is to store boat, gardening tools and supplies, car parts 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 Zones H3 – H4.

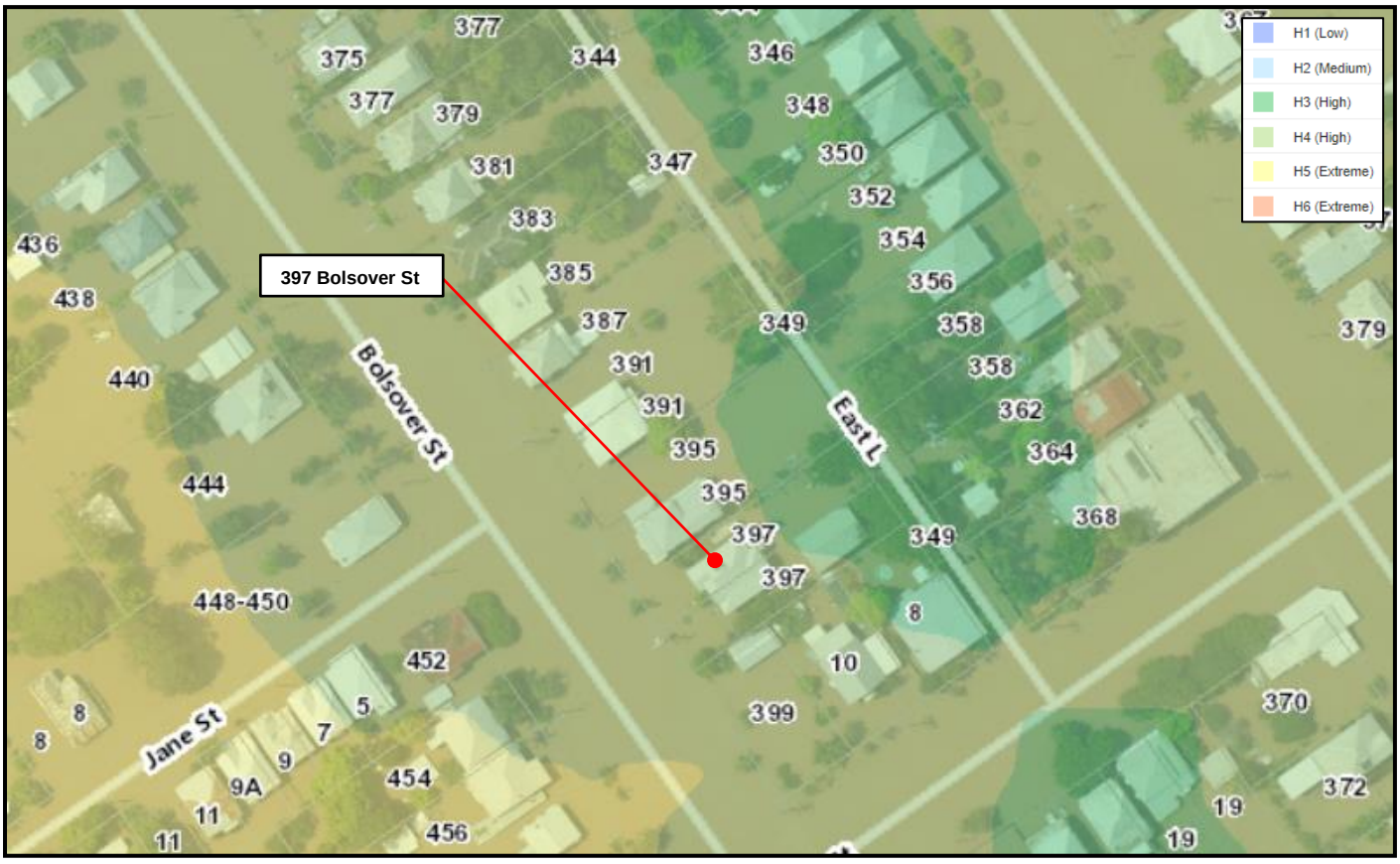

Figure 2 - Proposed General Arrangement

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 1.5m to 2.0m. 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. All electrical infrastructure has been installed at a minimum height of 1200mm above FFL
3. 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.
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

The Rockhampton Regional Council was approached through an application requesting a comprehensive flood report containing relevant stormwater data. Subsequently, the provided Flood Report from the Rockhampton Regional Council (attached in full as Appendix A) was utilised to extract the following information.

Riverine		Local Catchment	
AEP 1% WSL Min:	8.18	AEP 1% WSL Min:	6.32
AEP 1% WSL Max:	8.19	AEP 1% WSL Max:	6.32
AEP 1% Velocity Min:	0.05	AEP 1% Velocity Min:	0.11
AEP 1% Velocity Max:	0.13	AEP 1% Velocity Max:	0.11

Figure 4 – Excerpts from RRC Flood Date

Upon thorough examination of the pertinent data, it is evident that the 1% Stormwater Level exhibits a reduction of 1.87 meters. Therefore, the measures specified in this report concerning floodwater management shall also be applicable to the management of stormwater. Furthermore, given the similarity in the required management measures for both floodwater and stormwater, it is determined that no further provisions need to be recommended to adequately address 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,

Scott Thomas

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

Fitzroy River – H1 or H2 or North Rockhampton flood management area or Creek catchment planning area 2

Table 8.2.8.3.1 Development outcomes for assessable development and requirements for accepted development (part)

Performance outcomes	Acceptable outcomes
Development in Fitzroy River flood areas – H1 (low hazard area) or H2 (medium hazard area) or North Rockhampton flood management area or Creek catchment flood - planning area 2 Editor's note—Refer to overlay maps OM-8A and OM-8C	
PO1 Development (including extensions) for non-residential purposes is able to provide a safe refuge for people and for the storage of goods during times of flood inundation.	**AO1.1** For non-residential development, at least thirty (30) per cent of the gross floor area of all new buildings and structures is located a minimum of 500 millimetres above the defined flood level. Editor's note—Areas less than those nominated above may be supported where accompanied by a flood impact report in accordance with SC6.10— Flood hazard planning scheme policy. Development is for residential purposes. **AND** **AO1.2** A report from a registered professional engineer of Queensland certifies that the development in the flood area will not result in a material increase in flood level or flood hazard on upstream, downstream or adjacent properties. As provided in this report.
PO2 Development is located to minimise susceptibility to and potential impacts of flooding.	**AO2.1** For residential uses the finished floor levels of all habitable rooms shall be constructed a minimum of 500 millimetres above the defined flood level. No habitable rooms in the structures **AND** **AO2.2** A report from a registered professional engineer of Queensland certifies that the development in the flood area will not result in a material increase in flood level or flood hazard on upstream, downstream or adjacent properties. Editor's note—Report to be prepared in accordance with SC6.10—Flood hazard planning scheme policy. As provided in this report.

PO3 Development avoids the release of hazardous materials into floodwaters.	**AO3.1** All hazardous materials and hazardous manufacturing equipment and hazardous containers are located and stored a minimum of 500 millimetres above the defined flood level. No hazardous materials, hazardous manufacturing equipment or hazardous containers are to be stored at the site. Editor's note—Refer to the *Work Health and Safety Act 2011* and associated regulation, the *Environmental Protection Act 1994* and the relevant building assessment provisions under the *Building Act 1975* for requirements related to the manufacture and storage of hazardous substances.

Fitzroy River – H3-H4 or H5-H6 or Creek catchment flood planning area 1

Table 8.2.8.3.1 Development outcomes for assessable development and requirements for accepted development (part)

Performance outcomes	Acceptable outcomes
Development in Fitzroy River flood areas – H3-H4 (high hazard areas) or H5-H6 (extreme hazard areas) or Creek catchment flood - planning area 1 Editor's note—Refer to overlay maps OM-8A **and** OM-8C	
PO4 Development does not involve the further intensification of land uses and does not increase the risk to people and property. Editor's Note—Flood hazard risk assessment can be undertaken in accordance with SC6.10 — Flood hazard planning scheme policy.	**AO4.1** AO4.1.1 Development does not involve new buildings or structures. Development approval is proposed for existing structures OR AO4.1.2 Where involving the replacement or alteration to an existing non-residential building or structure: 1. there is no increase in the existing or previous buildings' gross floor area; and 2. the finished floor level of any replacement or alteration to an existing building is constructed a minimum of 500 millimetres above the defined flood level. No alteration to the existing structure OR

	AO4.1.3 Where involving the replacement or alteration to an existing caretaker's accommodation, dwelling house or dwelling unit: 1. there is no increase in the number of dwellings; 2. there is no increase in the existing or previous buildings' gross floor area; and 3. the finished floor level of all habitable rooms shall be constructed a minimum of 500 millimetres above the defined flood level. No existing dwelling structure. AND AO4.1.4 Where located in the rural zone, the total floor area of class 10a buildings and structures on the site do not exceed a total of fifty (50) square metres, and are set back a minimum of twenty (20) metres from all site boundaries. Structure not located in the rural zone.
PO5 Development avoids the release of hazardous materials into floodwaters.	**AO5.1** Materials manufactured, used or stored on site are not hazardous in nature. No hazardous materials to be manufactured, used or stored on site.

Fitzroy River – all hazard areas, North Rockhampton flood management area or Creek catchment – all planning areas

Table 8.2.8.3.2 Development outcomes for assessable development

Performance outcomes	Acceptable outcomes
Development in Fitzroy River flood area – all hazard areas, North Rockhampton flood management area or Creek catchment flood – all planning areas Editor's note—Refer to overlay maps OM-8A and OM-8C	
PO8 Development is located to minimise susceptibility to and potential impacts of flooding.	No acceptable outcome is nominated. Development has been located to minimise susceptibility to and potential impacts of flooding.
PO9 Underground car parks are designed to prevent the intrusion of floodwaters.	**AO9.1** Development with underground car parking is designed to prevent the intrusion of floodwaters by the incorporation of a bund or similar barrier a minimum of 500 millimetres above the defined flood level. No underground carparks.

PO10 Development: 1. does not result in any reduction of onsite flood storage capacity; or 2. does not result in any change to depth, duration or velocity of floodwaters within the premises; and 3. does not change flood characteristics outside the premises, including but not limited to causing: 1. loss of flood storage; or 2. loss of or changes to flow paths; or 3. acceleration or retardation of flows; or 4. any reduction in flood warning times elsewhere on the floodplain. 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.	No acceptable outcome is nominated. 1. Development does not result in a reduction of onsite flood storage; 2. Development does not result in a change to depth, duration or velocity of floodwater within the premises, and; 3. Does not change flood characteristics outside the premises, including but not limited to causing; 1. Loss of flood storage, 2. Loss of or changes to flow paths, 3. Acceleration or retardation of flows, and; 4. Any reduction of flood warning times.
PO11 Essential community infrastructure and community facilities are protected from, and able to function effectively during and immediately after, a defined flood event.	**AO11.1** A use for a purpose listed in Table 8.2.8.3.3: 1. is not located within the flood hazard area; and has at least one (1) flood free access road. Development is not essential community infrastructure, community facilities or public asset.
PO12 Development provides safe and trafficable access to the local evacuation centres and evacuation services and have regard to: 1. evacuation time; 2. number of persons affected; 3. types of vehicles necessary for evacuation purposes; 4. the distance to flood free land; and the evacuation route.	**AO12.1** Trafficable access to and from the development complies with the Capricorn Municipal Guidelines. Trafficable access will be provided with regards to the requirements of the Capricorn Municipal Development Guidelines. **AND** **AO12.2** Trafficable access to and from the development within the creek catchment planning areas are in accordance with the Queensland Urban Drainage Manual. Trafficable access will be provided with regards to the requirements of the Queensland Urban Drainage Manual.. Note—Trafficable access for emergency services or community related uses is obtained from at least one (1) route (minor collector or higher) for emergency services purposes. The development is to ensure that safe access, to the road network between the development site and the closest centre zone, is provided.

	Editor's note—Trafficable access requirements for creek catchment planning areas has not been identified and reference has been made to the provisions under the Queensland Urban Drainage Manual. This is due to the short period that property may be isolated.

Fitzroy River – H3-H4 or H5-H6, North Rockhampton flood management area or Creek catchment – planning area 1

Table 8.2.8.3.2 Development outcomes for assessable development

Performance outcomes	Acceptable outcomes
Development in Fitzroy River flood areas – H3-H4 (high hazard areas) or H5-H6 (extreme hazard areas), North Rockhampton flood management area or Creek catchment flood – planning area 1 **Editor's note—Refer to overlay maps OM-8A and OM-8C**	
PO13 Development that involves temporary or moveable residential structures (for example caravan parks and camping grounds) are not located with the Fitzroy River high and extreme hazard areas, North Rockhampton flood management area and Creek catchment planning area 1.	No acceptable outcome is nominated. The development is not temporary or moveable.

Operational work

Table 8.2.8.3.2 Development outcomes for assessable development (part)

Performance outcomes	Acceptable outcomes
Operational work	
PO17 Development does not materially impede the flow of floodwaters through the site or worsen flood flows external to the site.	**AO17.1** Development does not involve: a) filling with a height greater than 100 millimetres; or b) block or solid walls or fences; or c) garden beds or other structures with a height more than 100 millimetres; or d) the planting of dense shrub hedges. Development does not impede the flow of floodwaters through the site or worsen flood flows external to the site – refer Report 20-411.

Appendix A : RRC Supplied Flood Report

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Flood Report for 397 Bolsover Street Depot Hill QLD 4700

Printed from GeoCortex on 22/02/2023

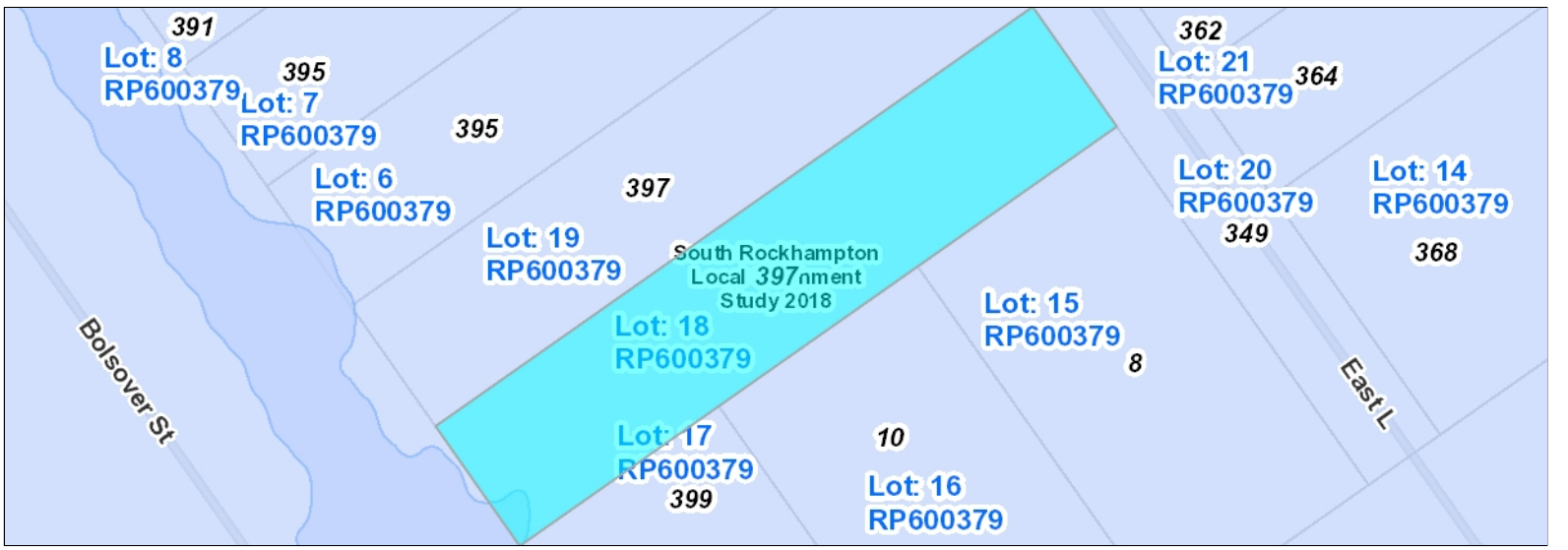
Rockhampton Regional Council

Owners: W E Wisley and G A Wisley

Ratepayer Address: 397 Bolsover St DEPOT HILL QLD 4700

Parcel ID: RP600379/18

Land use: Single Dwelling



Riverine Catchment: Fitzroy River Flood Study

Creek Catchment: South Rockhampton Local Catchment Study 2018

Mitigation Area: N/A

Horizontal Datum: MGA 56, GDA 2020

Elevation / WSL: mAHD

Velocity: m/sec

Comments

N/A

Riverine

PMF WSL Min:	11.77	AEP 2% WSL Min:	7.82
PMF WSL Max:	11.77	AEP 2% WSL Max:	7.82
PMF Velocity Min:	0.23	AEP 2% Velocity Min:	N/A
PMF Velocity Max:	0.34	AEP 2% Velocity Max:	0.12
AEP 0.05% WSL Min:	9.46	AEP 5% WSL Min:	7.24
AEP 0.05% WSL Max:	9.46	AEP 5% WSL Max:	7.24
AEP 0.05% Velocity Min:	0.09	AEP 5% Velocity Min:	0.02
AEP 0.05% Velocity Max:	0.18	AEP 5% Velocity Max:	0.05
AEP 0.2% WSL Min:	8.92	AEP 10% WSL Min:	*6.59*
AEP 0.2% WSL Max:	8.93	AEP 10% WSL Max:	*6.59*
AEP 0.2% Velocity Min:	0.08	AEP 10% Velocity Min:	*0.02*
AEP 0.2% Velocity Max:	0.13	AEP 10% Velocity Max:	*0.04*
AEP 0.5% WSL Min:	8.52	AEP 18% WSL Min:	*N/A*
AEP 0.5% WSL Max:	8.53	AEP 18% WSL Max:	*N/A*
AEP 0.5% Velocity Min:	0.07	AEP 18% Velocity Max:	*N/A*
AEP 0.5% Velocity Max:	0.13	AEP 18% Velocity Max:	*N/A*
AEP 1% WSL Min:	8.18	AEP 39% WSL Min:	*N/A*
AEP 1% WSL Max:	8.19	AEP 39% WSL Max:	*N/A*
AEP 1% Velocity Min:	0.05	AEP 39% Velocity Min:	*N/A*
AEP 1% Velocity Max:	0.13	AEP 39% Velocity Max:	*N/A*

Creek \ Local Catchment

PMF WSL Min:	*6.61*	AEP 5% WSL Min:	*6.30*
PMF WSL Max:	*6.64*	AEP 5% WSL Max:	*6.31*
PMF Velocity Min:	*0.03*	AEP 5% Velocity Min:	*0.10*
PMF Velocity Max:	*0.12*	AEP 5% Velocity Max:	*0.10*
AEP 0.05% WSL Min:	*6.34*	AEP 10% WSL Min:	*6.30*
AEP 0.05% WSL Max:	*6.34*	AEP 10% WSL Max:	*6.31*
AEP 0.05% Velocity Min:	*0.11*	AEP 10% Velocity Min:	*0.09*
AEP 0.05% Velocity Max:	*0.11*	AEP 10% Velocity Max:	*0.09*
AEP 0.2% WSL Min:	*6.33*	AEP 18% WSL Min:	*N/A*
AEP 0.2% WSL Max:	*6.33*	AEP 18% WSL Max:	*N/A*
AEP 0.2% Velocity Min:	*0.08*	AEP 18% Velocity Min:	*N/A*
AEP 0.2% Velocity Max:	*0.09*	AEP 18% Velocity Max:	*N/A*
AEP 0.5% WSL Min:	*6.32*	AEP 39% WSL Min:	*N/A*
AEP 0.5% WSL Max:	*6.32*	AEP 39% WSL Max:	*N/A*
AEP 0.5% Velocity Min:	*0.10*	AEP 39% Velocity Min:	*N/A*
AEP 0.5% Velocity Max:	*0.10*	AEP 39% Velocity Max:	*N/A*
AEP 1% WSL Min:	*6.32*	AEP 63% WSL Min:	*N/A*
AEP 1% WSL Max:	*6.32*	AEP 63% WSL Max:	*N/A*
AEP 1% Velocity Min:	*0.11*	AEP 63% Velocity Min:	*N/A*
AEP 1% Velocity Max:	*0.11*	AEP 63% Velocity Max:	*N/A*

Property Elevation

Ground Elevation (Min):	6.24
Ground Elevation (Max):	7.37

AEP 2% WSL Min:	*6.31*
AEP 2% WSL Max:	*6.31*
AEP 2% Velocity Min:	*0.11*
AEP 2% Velocity Max:	*0.11*

GENERAL NOTES

1. LOCATION OF EXISTING SERVICES TO BE CONFIRMED AS NO EXISTING SERVICES SHOULD BE REFERENCED FROM THESE PLANS.
2. DO NOT SCALE OFF DRAWINGS – IF IN DOUBT, ASK.
3. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BUILDING CODES OF QUEENSLAND, AUSTRALIA AND RELEVANT AUSTRALIAN STANDARDS. ALL CONTRACTORS SHALL BE LICENCED WHERE REQUIRED BY QBCC.
4. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE STRUCTURE DURING CONSTRUCTION INCLUSIVE OF BRACING AND PROPPING REQUIRED WHICH WILL NOT BE REFERENCED IN THESE DRAWINGS UNLESS NOTED OTHERWISE.
5. THESE DRAWINGS AND NOTES SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANT'S DRAWINGS AND SPECIFICATIONS.
6. TERMITE MANAGEMENT & WATER PROOFING SHALL BE IN ACCORDANCE WITH ARCHITECT'S SPECIFICATION AND THE RELEVANT AUSTRALIAN STANDARD.
7. ALLOW FOR MOVEMENT IN THE FOUNDATION MATERIALS BY FOLLOWING ARTICULATION REQUIREMENTS ALL CLADDING AND FINISHES ETC. AS PER ARCHITECT'S DETAILS & TIMBER QUEENSLAND RECOMMENDATIONS.
8. REFERENCES TO PROPRIETARY PRODUCTS IN DRAWINGS INFERS THAT PRODUCT IS TO BE USED, APPLIED AND/OR INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.

LOADS

1. ALL LOADS AND LOAD COMBINATIONS HAVE BEEN ASSESSED WITH THE FOLLOWING AS1170 SERIES CONSTRAINTS:

GENERAL FLOOR LIVE LOADS	3.0 kPa & 2.7kN POINT LOAD
ROOF LIVE LOADS	0.25 kPa & 1.8kN POINT LOAD
WIND LOADS	
TERRAIN CATEGORY	2.5
REGION	C
BUILDING IMPORTANCE LEVEL	2
$M_{z,cat}$	0.871
M_s	1.0
M_t	1.0
INTERNAL PRESSURE	+0.7 OR -0.65 (WORST CASE)
DESIGN WIND SPEED V_{des}	60 m/s
AS4055-2006 EQUIVALENT	C2

GROUND & BACKFILL CONDITIONS

1. FOUNDATION MATERIAL SHALL BE FIRM AND LEVEL. MACHINE PREPARATION MAY BE REQUIRED TO ACHIEVE THIS.
2. ANY IDENTIFIED SOFT SPOTS SHALL BE REMOVED AND REPLACED WITH MRS 2.5 MATERIAL COMPACTED IN LAYERS NOT EXCEEDING 200mm TO 98% MDD.
3. EXISTING GROUND CONDITIONS ASSUMED TO BE MINIMUM 100kPa BEARING CAPACITY.

FOOTINGS

1. FOR STRUCTURES FOUNDED ON REACTIVE CLAY SOILS IT IS IMPERATIVE THAT THE BUILDER AND HOMEOWNER DISCUSS FUTURE MAINTENANCE AND OBSERVATIONS. ANY MOVEMENT WILL RESULT IN DAMAGE TO THE STRUCTURE AND WILL MORE THAN LIKELY BE VISIBLE. THE FOLLOWING NOTES AND GUIDES WILL ASSIST IN ENSURING THIS IS MANAGED ACCORDINGLY.
2. THE PERFORMANCE OF ANY FOOTING SYSTEM IS DEPENDENT ON MAINTAINING A STABLE MOISTURE ENVIRONMENT. THIS CAN BE ACHIEVED THROUGH CONSIDERATION OF THE FOLLOWING;
   A. ENSURE THE BUILDING PAD IS BUILT UP AS MUSH AS POSSIBLE WITH COMPETENT MATERIAL ENSURE POSITIVE DRAINAGE.
   B. PLANT TREES AT LEAST 1.5 TIMES THEIR MATURE HEIGHT FROM THE STRUCTURE. THIS SHOULD BE INCREASED TO 2.0 TIMES THEIR MATURE HEIGHT IF THEY ARE PLANTED IN ROWS.
   C. REFER TO CSIRO DOCUMENT BTF 18-2003 "FOUNDATION & FOOTING PERFORMANCE : A HOMEOWNER'S GUIDE".
3. THIS FOOTING SYSTEM WAS DESIGNED BASED ON:
   CLASSIFICATION M
   ALLOWABLE BEARING CAPACITY 100 kPa
4. ARTICULATION OF SERVICES SHALL BE UNDERTAKEN TO THE RELEVANT AUSTRALIAN STANDARDS AND BASED ON THE SOIL TYPE NOMINATED ABOVE.

CONCRETE

1. ALL CONCRETE WORK TO BE IN ACCORDANCE WITH AS 3600 WITH SPECIAL CONSIDERATION OF EXPOSURE CLASSIFICATION & COVER REQUIREMENTS. CONCRETE SPECIFICATIONS TO COMPLY TO AS1379-1997.
2. CONCRETE CLASS TO BE N25, 20mm MAXIMUM AGGREGATE, 80mm SLUMP. USE OF CLIENT APPROVED ACCELERANTS TO BE USED THROUGH CONSULTATION WITH CONCRETE SUPPLIER.
3. MINIMUM COVER TO BE 40mm FOR FOOTINGS AGAINST GROUND, 30mm ELSEWHERE.
4. ALL CONCRETE FINISHES AS PER CLIENT'S REQUIREMENTS AND TO MATCH EXISTING.
5. ALL CURING PRODUCTS SHALL BE APPLIED AS PER THE MANUFACTURER'S SPECIFICATION.
6. ALL CONCRETE SHALL BE PROPERLY COMPACTED USING APPROVED METHODS.
7. ALL EXPOSED FORMED EDGES SHALL BE CHAMFERED, FILLETED OR RADIUSED 20mm.
8. WHERE POSSIBLE CONDUITS AND PIPING SHALL BE PLACED IN THE MIDDLE THIRD OF THE SLAB. THE CLEAR COVER TO EMBEDDED PIPES, CONDUITS ETC. FROM CONCRETE FACES, REINFORCEMENT AND EACH OTHER SHALL BE A MINIMUM OF 20mm.
9. PLACE 1 LAYER 200um VISQUEEN UNDER ALL CONCRETE SURFACES.
10. ALL STEELWORK TO BE INCASED IN IN CONCRETE, REQUIRES AN APPLICATION OF A RUST INHIBITOR (BITUMINOUS SEALANT OR SIMILAR).

STEEL REINFORCEMENT

1. REINFORCEMENT SYMBOLS SHALL BE;
   N GRADE 50 NORMAL DUCTILITY DEFORMED BAR
   SL GRADE 500 LOW DUCTILITY CLASS SQUARELY CONFIGURED MESH
   LxTM GRADE 500 LOW DUCTILITY TRENCH MESH
   R GRADE 20 NORMAL DUCTILITY ROUND BAR
2. ALL BENDING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH AS3600.
3. NO HEATING OR WELDING OR REINFORCING SHALL BE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.
4. ALL REINFORCEMENT SHALL BE SUPPORTED ON PLASTIC TIPPED STEEL REINFORCEMENT CHAIRS AT 900mm MAXIMUM CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATIVE INTERSECTIONS.
5. MINIMUM LAP LENGTHS, UNLESS NOTED OTHERWISE ARE;

R-BAR	40 BAR DIAMETERS (300mm MINIMUM)
N12	450mm
N16	600mm
TRENCH	500mm
SLAB MESH	2 TRANSVERSE WIRES PLUS 25mm

6. WHERE PENETRATIONS ARE REQUIRED, REINFORCING STEEL IS NOT TO BE CUT BUT DISPLACED TO EITHER SIDE OF THE PENETRATION UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL

1. ALL CONNECTIONS TO BE 8MM PLATE & 2/M12 BOLTS TYP. UNO.
2. ALL STRUCTURAL STEEL WELDING SHALL COMPLY WITH AS 1554-2004 UNLESS NOTED OTHERWISE AND SHALL BE COMPLETED BY A EXPERIENCED GP WELDER. ELECTRODE SHALL BE E48XX.
3. THE CONTRACTOR IS TO PROVIDE EVIDENCE THAT ALL STRUCTURAL STEEL IS CERTIFIED BY THE AUSTRALIAN CERTIFICATION AUTHORITY FOR REINFORCING AND STRUCTURAL STEELS (ARCS).
4. STRUCTURAL STEEL IS TO COMPLY WITH THE FOLLOWING, UNLESS NOTED OTHERWISE IN THESE STRUCTURAL ENGINEERING DRAWINGS:

SECTION	GRADE (MPa)	STANDARD
HOT ROLLED SECTIONS & FLAT BAR	300	AS/NZS3679/1
CIRCULAR HOLLOW SECTIONS	250	AS/NZS1163
SQUARE HOLLOW SECTIONS	350	AS/NZS1163
RECTANGULAR HOLLOW SECTIONS	350	AS/NZS1163
PLATE	350	AS/NZS3678
STAINLESS STEEL - GRADE 316	205	-

5. BOLTS, NUTS, & WASHERS ARE TO COMPLY WITH THE FOLLOWING:

BOLT	INSTALLATION	GRADE	STANDARD
4.6/S	SNUG TIGHT	4.6 COMMERCIAL	AS1111 & AS1112
SSHS	SNUG TIGHT	A4-80, 316 STAINLESS STEEL	

6. ALL SHOP FABRICATED JOINTS & SITE WELDS FOR STRUCTURAL STEEL SHALL BE 6mm CONTINUOUS FILLET WELD.
7. ALL STEEL TO BE DURAGAL AND ALL HEAT EFFECTED AREAS PAINTED WITH COLD GAL OR EQUIVALENT.
8. ALL PLATES, GUSSETS ETC. SHALL HAVE SHARP EDGES AND CORNERS GROUND DOWN.
9. ALL PURLINS & SHEETING TO BE INSTALLED AS PER MANUFACTURER'S SPECIFICATION.
10. ALL STRUCTURAL STEELWORK SHALL BE ERECTED IN ACCORDANCE WITH AS4100 AND AS3828.

LOCALITY PLAN

SCALE: 1:200

ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

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

Preliminary Approval No.: D/32-2023

Dated: 27 July 2023

IF IN DOUBT ASK
THIS DOCUMENT BECOMES UNCONTROLLED WHEN PRINTED - CHECK THE REVISION IS CURRENT

REGISTERED PROFESSIONAL ENGINEER QUEENSLAND

RPEQ NO: 16203
SCOTT MATTHEW THOMAS

SIGNATURE: ..... DATE: 17.04.23

REV	DESCRIPTION	DRWN	DSN'D	APP'D	DATE
C	MINOR UPDATES	R.B.L.	S.J.	S.M.T.	17.04.23
B	MINOR UPDATES	R.B.L.	S.J.	S.M.T.	21.03.23
A	ISSUED FOR APPROVAL	R.B.L.	S.J.	S.M.T.	04.03.22

REVISIONS

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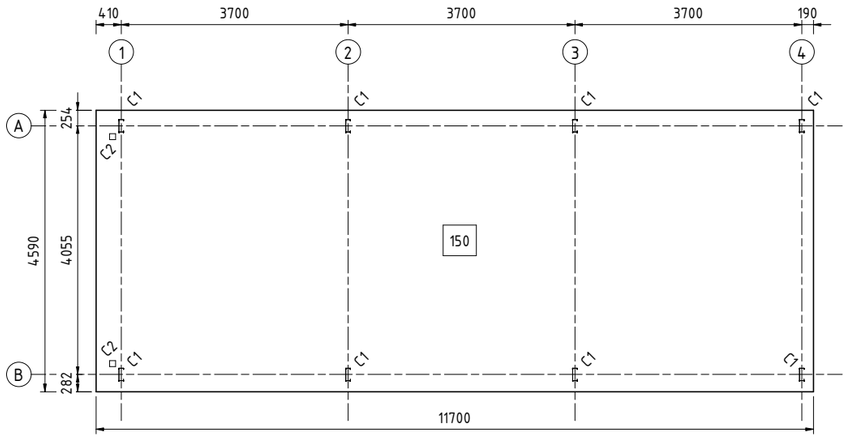
186 Denham Street,
Rockhampton QLD 4700

WAYNE WISLEY - PROPOSED CARPORT

397 BOLSOVER STREET, DEPOT HILL - LOT 18 (RP600379)

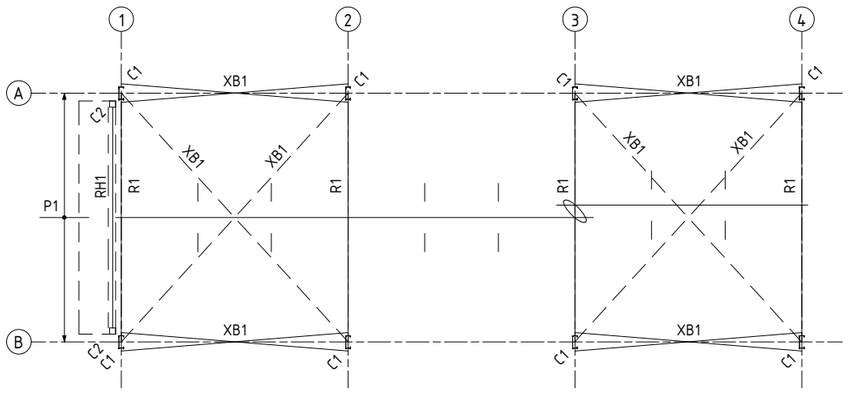
GENERAL NOTES & LOCALITY PLAN

SCALE (A1)	DRAWING No.	ISSUED FOR APPROVAL	REV.
	21-761/01		C



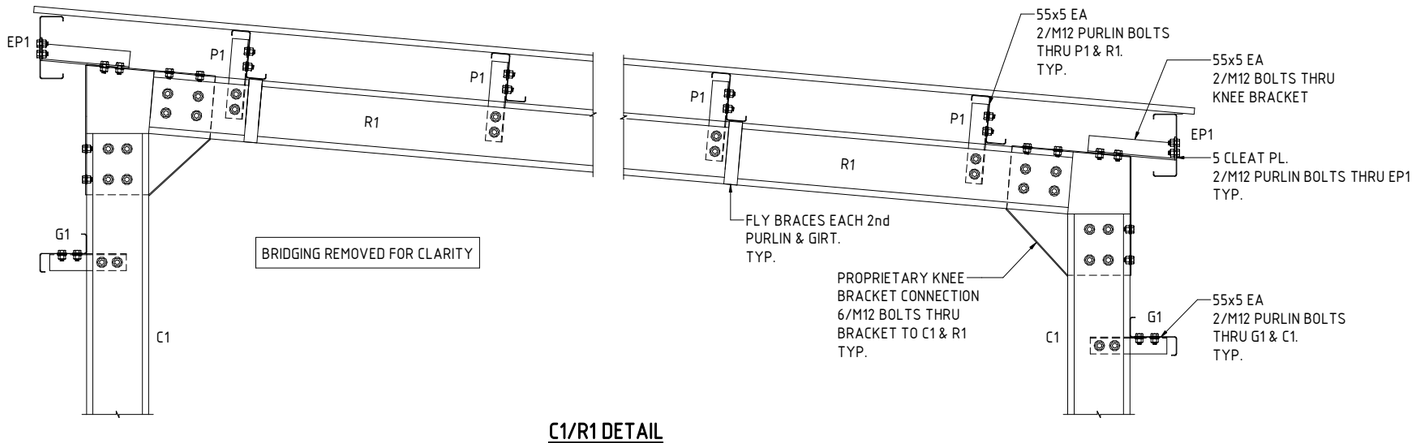
SLAB AND FOOTING PLAN

SCALE: 1 : 50



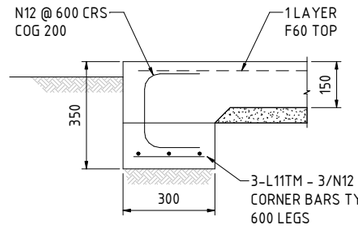
ROOF FRAMING PLAN

SCALE: 1 : 50



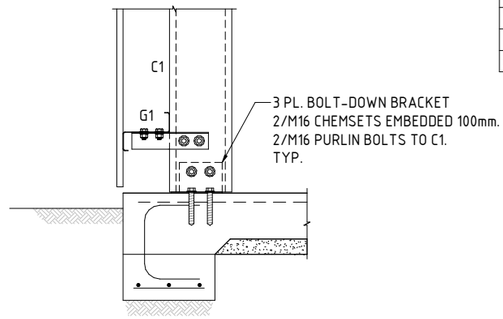
C1/R1 DETAIL

SCALE: 1 : 10



SF1

SCALE: 1 : 10



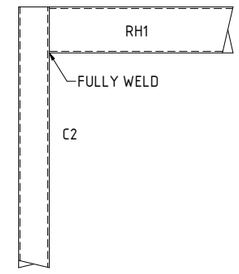
SF1/C1 DETAIL

SCALE: 1 : 10

MEMBER SCHEDULE	
MARK	SIZE
C1	C20024 COLUMN
C2	100 x 5 SHS COLUMN
G1	Z15015 GIRTS @ MAX. 1200 CRS.
R1	C20024 RAFTERS
P1	Z15019 PURLINS @ MAX. 900 CRS. - 2 ROWS BRIDGING
EP1	C20015 EAVE PURLIN
RH1	150 x 100 x 6 RHS ROLLER DOOR HEADER
XB1	30 x 0.8 GAL. STRAPPING CROSS BRACE

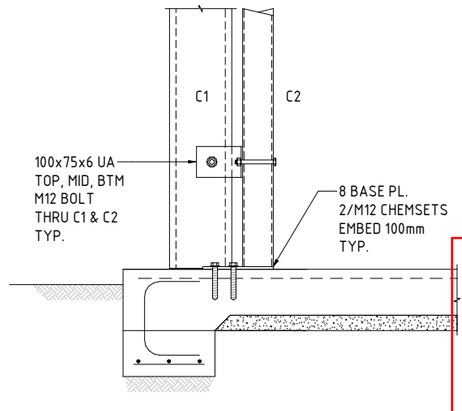
LEGEND: (UNLESS NOTED OTHERWISE)

150 SLAB THICKNESS



C2/RH1 DETAIL

SCALE: 1 : 10



SF1/C2 DETAIL

SCALE: 1 : 10

ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

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

Preliminary Approval No.: D/32-2023

Dated: 27 July 2023

IF IN DOUBT ASK
THIS DOCUMENT BECOMES UNCONTROLLED WHEN PRINTED - CHECK THE REVISION IS CURRENT

REGISTERED PROFESSIONAL ENGINEER QUEENSLAND

RPEQ NO: 16203
SCOTT MATTHEW THOMAS

SIGNATURE: ..... DATE: 17.04.23

REV	DESCRIPTION	DRWN	DSN'D	APP'D	DATE
D	MINOR UPDATES	R.B.L.	S.J.	S.M.T.	17.04.23
C	MINOR UPDATES	R.B.L.	S.J.	S.M.T.	21.03.23
B	MINOR UPDATES	R.B.L.	S.J.	S.M.T.	04.08.22
A	ISSUED FOR APPROVAL	R.B.L.	S.J.	S.M.T.	04.03.22

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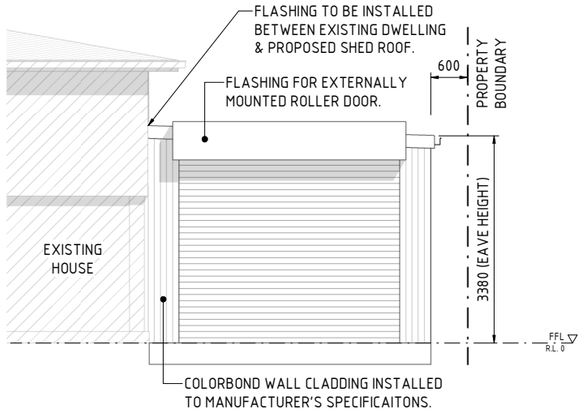
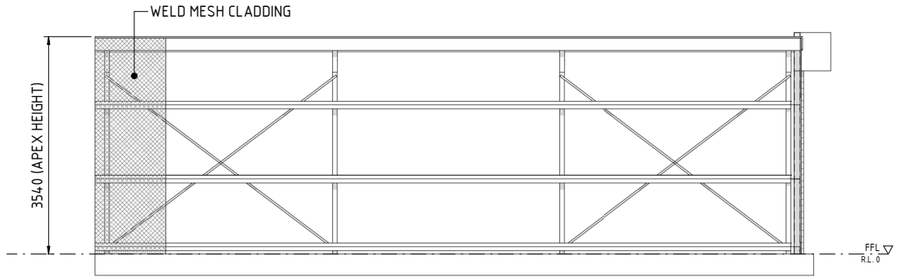
SLAB & FOOTING PLAN, ROOF FRAMING PLAN, & DETAILS

SCALE (A1)	DRAWING No.		REV.
	21-761/02	ISSUED FOR APPROVAL	D



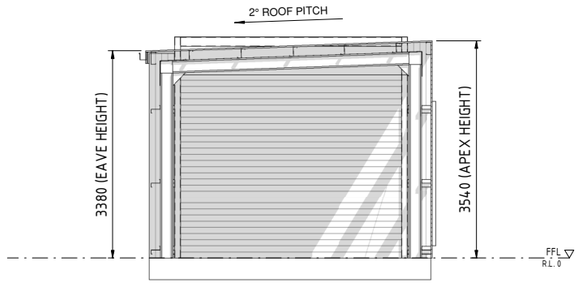
FRONT ELEVATION

SCALE: 1:50



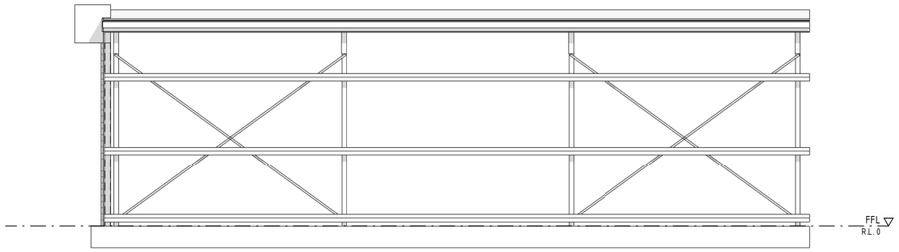
LEFT ELEVATION

SCALE: 1:50



REAR ELEVATION

SCALE: 1:50



RIGHT ELEVATION

SCALE: 1:50

ROCKHAMPTON REGIONAL COUNCIL

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Preliminary Approval No.: D/32-2023

Dated: 27 July 2023

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RPEQ NO: 16203
SCOTT MATTHEW THOMAS

SIGNATURE: ..... DATE: 17.04.23

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ELEVATIONS

SCALE (A1)	DRAWING No.	ISSUED FOR APPROVAL	REV.
	21-761/03		C