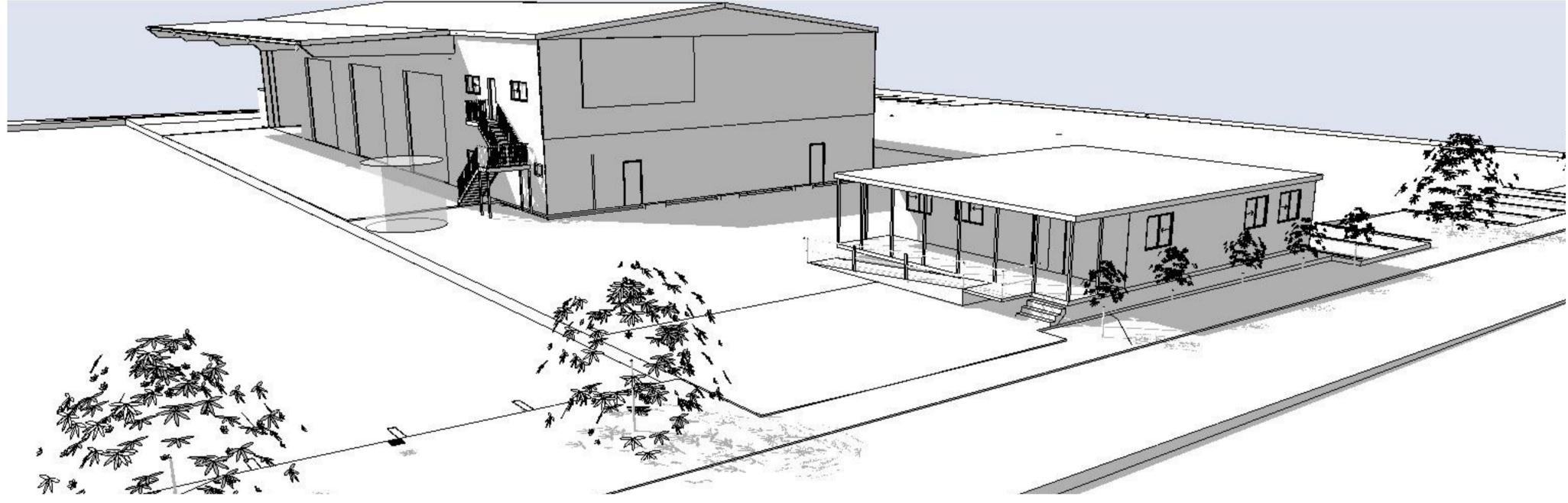
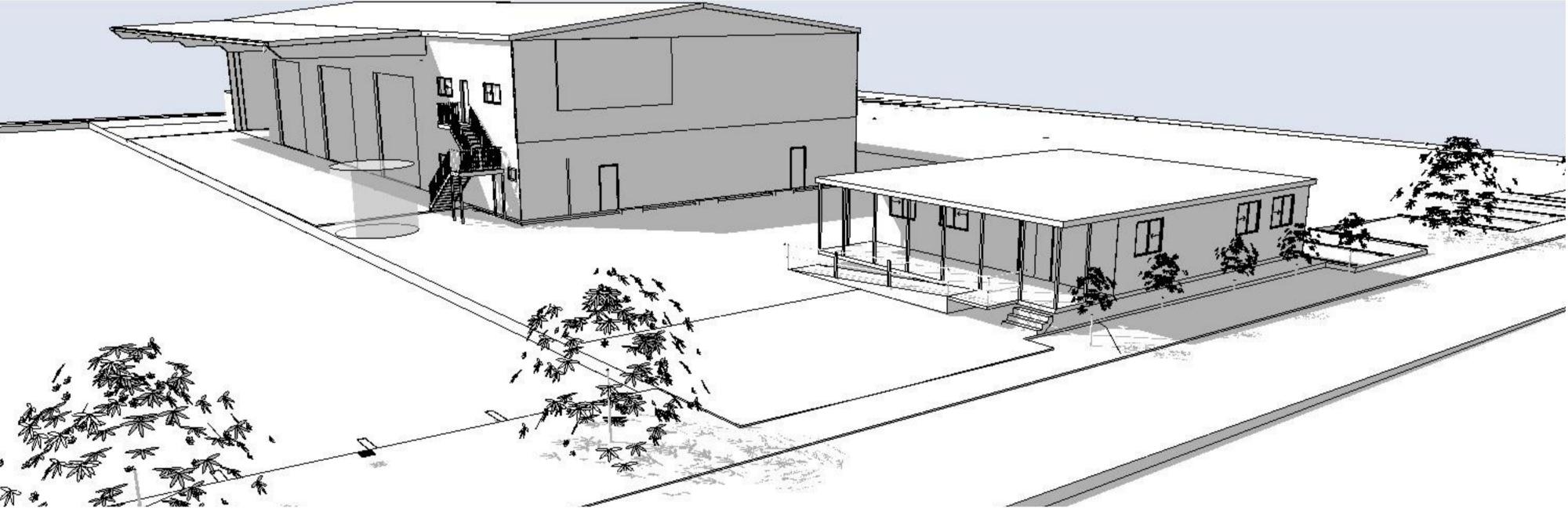
153 FOSTER ST GRACEMERE QLD 4702 for **ESSJAY CONTRACTING**





ROCKHAMPTON REGIONAL COUNCIL

AMENDED PLANS APPROVED

5 October 2023 _____

DATE

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

Development Permit No.: D/117-2021

Dated: 30 November 2021

- 1. USE FIGURED DIMENSIONS. DO NOT SCALE FROM THE DRAWINGS.
- GENERAL NOTES
- CONFIRM ALL DIMENSIONS ON SITE PRIOR TO CONSTRUCTION OR FABRICATION. IT REMAINS THE CONTRACTORS RESPONSIBILITY TO ENSURE COMPLIANCE WITH ALL RELEVANT CODES AND REGULATIONS IS MAINTAINED AT ALL TIMES
- 2. FIGURED DIMENSIONS TAKE PRECEDENCE, DO NOT SCALE FROM DRAWINGS.
- 3. ALL CONSTRUCTION SHALL CONFORM TO THE NATIONAL CONSTRUCTION CODE (NCC) AND ALL OTHER RELEVANT CODES AND AUSTRALIAN STANDARDS.
- 4. ALL MATERIALS TO BE NEW UNLESS SPECIFIED OTHERWISE.
- REFER TO ENGINEERS DRAWINGS FOR DESIGN OF WIND LOADING, BRACING AND FRAMING DETAILS.
- 6. STEEL WORK TO BE IN ACCORDANCE WITH ENGINEERS DETAILS AND SPECIFICATIONS AND RELEVANT AUSTRALIAN STANDARDS.
- EXTENT OF CONTRACTOR'S AREA SITE BOUNDARY OR AS AGREED
- WITH OWNER. WHERE AN ITEM IS NOTED, IT IS ASSUMED THE BUILDER SHALL ALLOW FOR ITS CONNECTION TO THE BUILDING SYSTEMS, REGARDLESS IF SHOWN OTHERWISE ON CONSULTANT DRAWINGS (I.E. A FIELD INLET
- SHOWN IS TO BE CONNECTED TO THE SW SYSTEM). 9. THE BUILDER ACCEPTS TO SUPPLY AND INSTALL ALL ITEMS NOTED ON THE ARCHITECTURAL & CONSULTANT DRAWINGS. NOT ALL TRADE SPECIFIC DETAIL MAY BE SPECIFIED IN THE ONE PARTICULAR CONSULTANT DOCUMENTS & MAY BE SPREAD OVER SEVERAL DRAWINGS.
- WHS
- 1. THESE NOTES MUST BE READ AND UNDERSTOOD BY ALL INVOLVED IN THE PROJECT. THIS INCLUDES (BUT IS NOT EXCLUDED TO): OWNER, BUILDER, SUB-CONTRACTORS, CONSULTANTS, RENOVATORS, OPERATORS, MAINTAINERS, DEMOLISHERS.
- 2. WORKPLACE HEALTH AND SAFETY MATTERS AND CONDITION OF THE SITE ARE IN THE FIRST INSTANCE THE RESPONSIBILITY OF THE PRINCIPAL CONTRACTOR.

TENDERING

- 1. CONTRACTORS SHALL VISIT THE SITE PRIOR TO TENDERING TO FAMILIARISE THEMSELVES WITH ACCESS AND SITE CONDITIONS. FAILURE TO DO SO WILL NOT BE GROUNDS FOR A CLAIM FOR ITEMS WHICH AN INSPECTION WOULD HAVE DISCLOSED.
- REPORT ANY DISCREPANCIES (ON DRAWING OR ON-SITE) TO THE DESIGNER BEFORE COMMENCING OR CONTINUING CONSTRUCTION.

ENERGY EFFICIENCY 1. ENERGY EFFICIENCY REPORT DECUREMENTS OF THIS

DEVELOPMENT MUST BE CARRIED OUT AS PART OF THE PROPOSED DEVELOPMENT TO COMPLY WITH THE QDC 4.1 AND THE BCA 3.12 A FORM 16 - ASPECT CERTIFICATE TO CONFIRM COMPLIANCE WITH THE ENERGY REPORT.

PROPOSED INDUSTRIAL SHED

PERSPECTIVE VIEW

REV ID	Transmittal Set Date	DESCRIPTION
А	25/08/2021	MCU ISSUE
MCU/B	23/08/2023	MCU AMENDMENTS -REVISE OFFICE

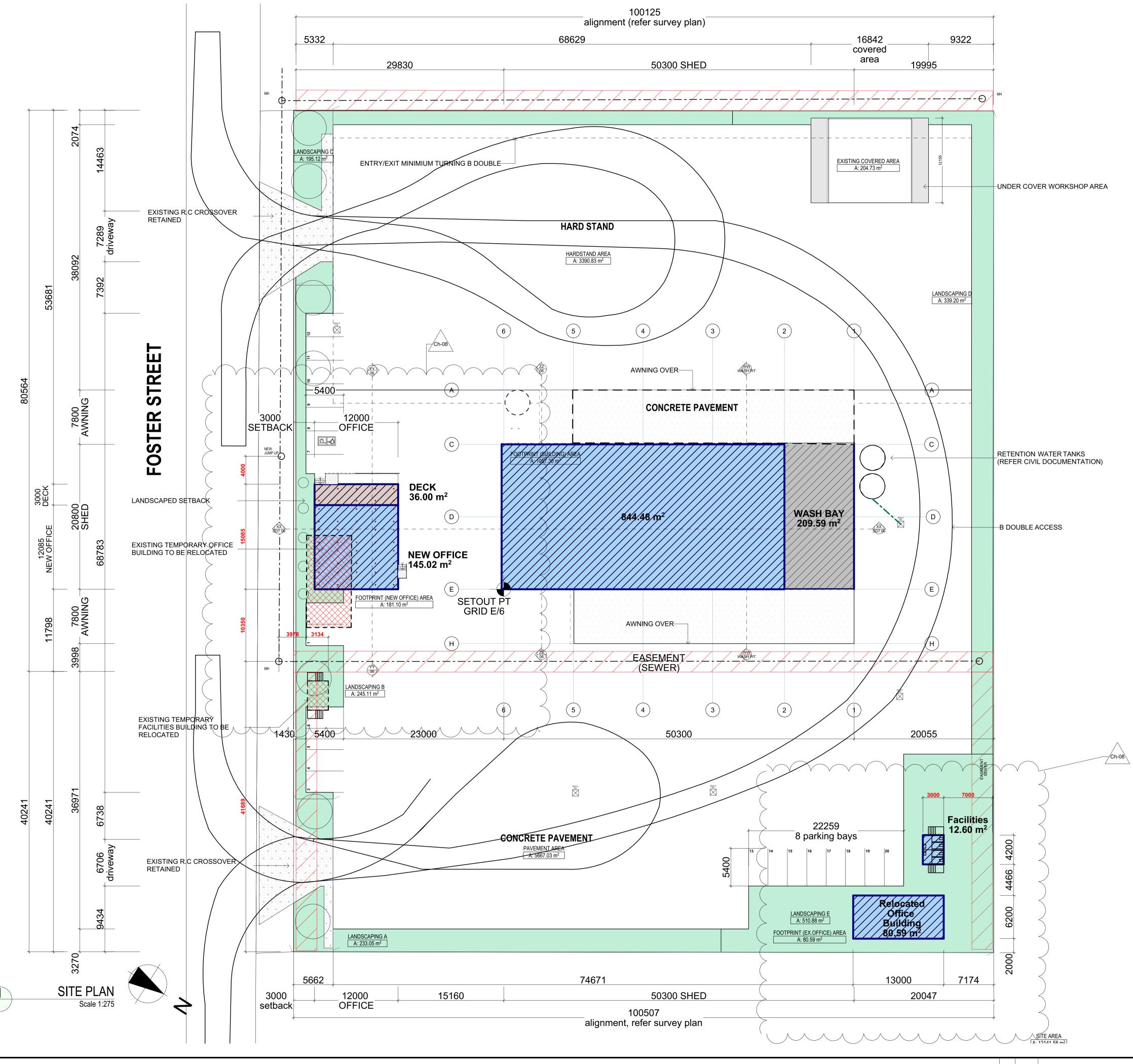


SKETCH DESIGN

FOR TOWN PLANNING APPLICATION ONLY FURTHER MORE DETAILED DESIGN INFORMATION **REQUIRED FOR CONSTRUCTION.**

DRAWING LIS	Г	
Drawing No:	Description	Issue
SD/01	Cover Sheet	MCU/B
SD/02	Site Plan	MCU/B
SD/03	Ground Floor Plan	MCU/B
SD/04	First Floor	MCU/B
SD/05	Roof Plan	MCU/B
SD/06	Typical Sections	MCU/B
SD/07	Elevations	MCU/B

Drafting	PROJECT PROPOSED INDUSTRIAL SHED	APPROVED CHECKED	-	JOB No.	21-010
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fting.com.au et, Rockhampton Qld 4700 No 069429	153 FOSTER ST GRACEMERE QLD 4702	DECION		MCU/B	



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MCU/B 23/08/2023 MCU AMENDMENTS -REVISE OFFICE	A
	MCU/B



SKETCH DESIGN FOR TOWN PLANNING APPLICATION ONLY FURTHER MORE DETAILED DESIGN INFORMATION **REQUIRED FOR CONSTRUCTION.**

SITE AREAS	
NAME	Measured Area
EXISTING COVERED AREA	204.73
FOOTPRINT (BUILDING) AREA	1057.30
FOOTPRINT (EX.OFFICE) AREA	80.59
FOOTPRINT (NEW OFFICE) AREA	181.10
HARDSTAND AREA	3390.83
LANDSCAPING A	233.05
LANDSCAPING B	245.11
LANDSCAPING C	195.12
LANDSCAPING D	339.20
LANDSCAPING E	510.88
PAVEMENT AREA	5667.03
	12104.94 m ²

DEVELOPMENT SCHEDULE

GFA MORE THAN 1000M2, CODE ASSESSABLE

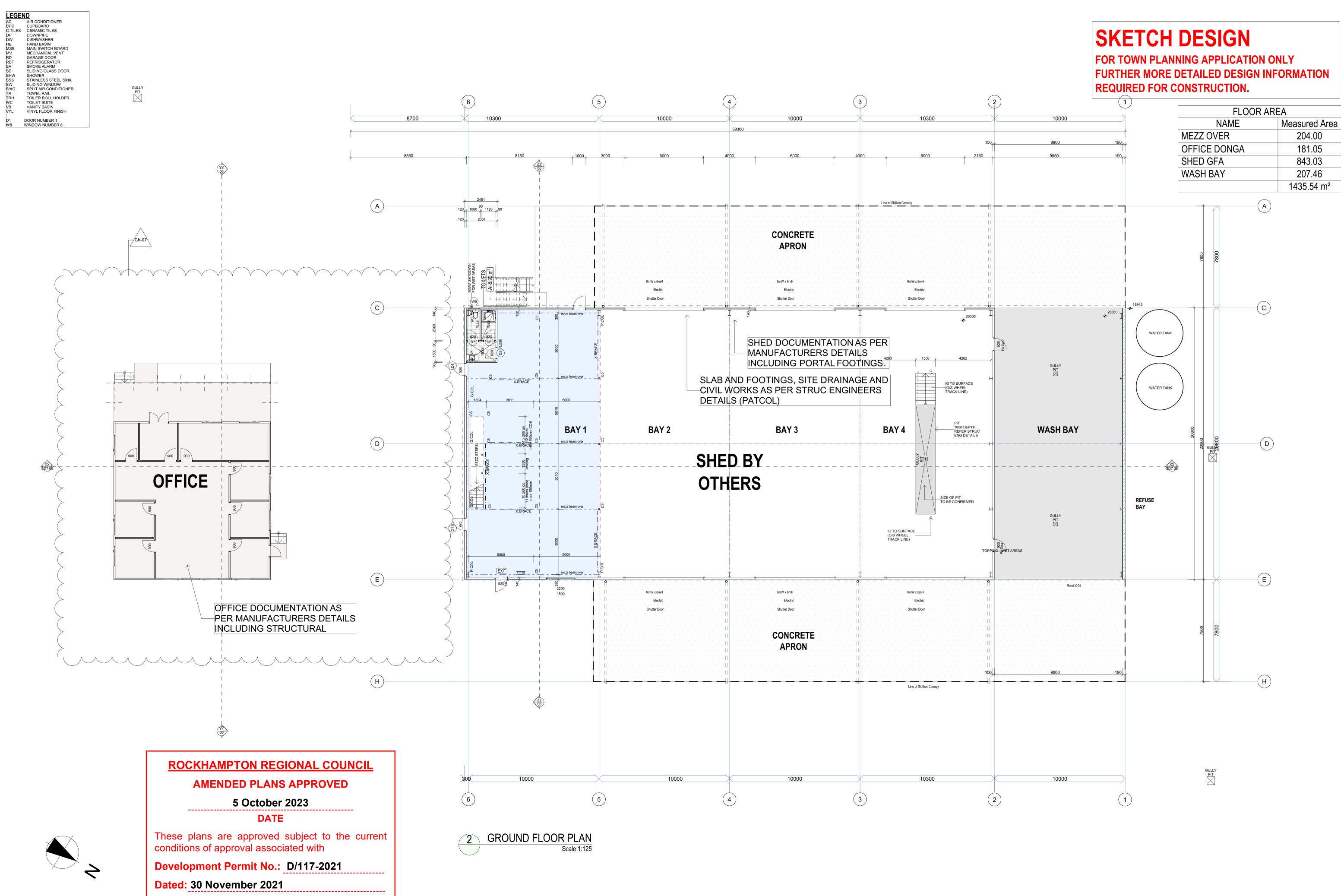
PARKING 1/100M2 MEDIUM INDUSTRY 1210M2 (EXCLUDE WASH BAY) 13 REQUIRED 20 PROVIDED.

LANDSCAPING REQUIRED 1195 M2 (10%) PROVIDED 1480 M2 (12.3 %)

R.P.D LOT 18 SP206688 & LOT 12 RP604012 153 FOSTER ST GRACEMERE QLD 4702 **ROCKHAMPTON REGIONAL COUNCIL** AREA, 12143 M2 (as per survey)

ROCKHAMPTON REGIONAL COUNCIL AMENDED PLANS APPROVED 5 October 2023 -----_____ DATE These plans are approved subject to the current conditions of approval associated with **Development Permit No.:** D/117-2021 **Dated: 30 November 2021** JOB No. PROJECT PROPOSED INDUSTRIAL SHED APPROVED **D**rafting 21-010 CHECKED building designs FOR SD/02 DRAWN ESSJAY CONTRACTING AMF AMF DESIGN MCU/B

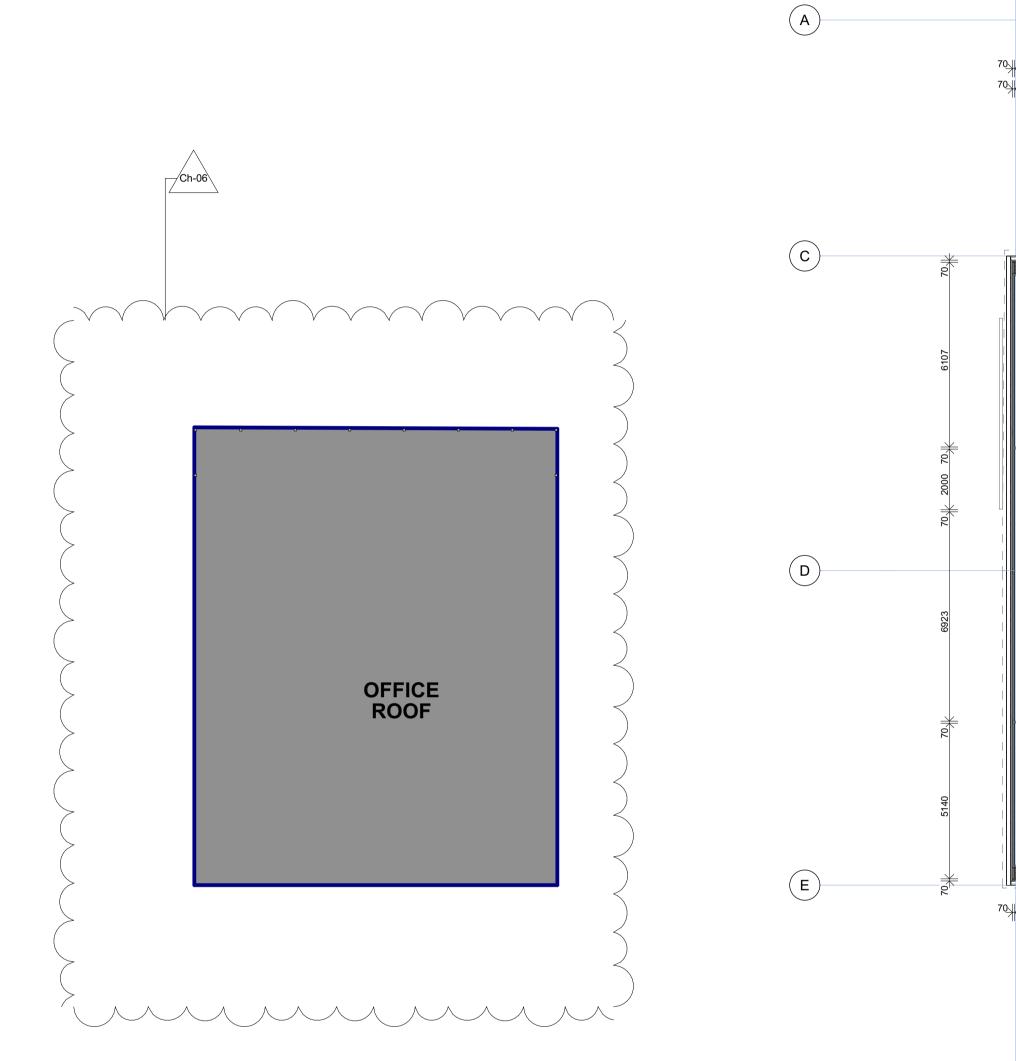
153 FOSTER ST GRACEMERE QLD 4702

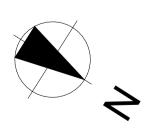


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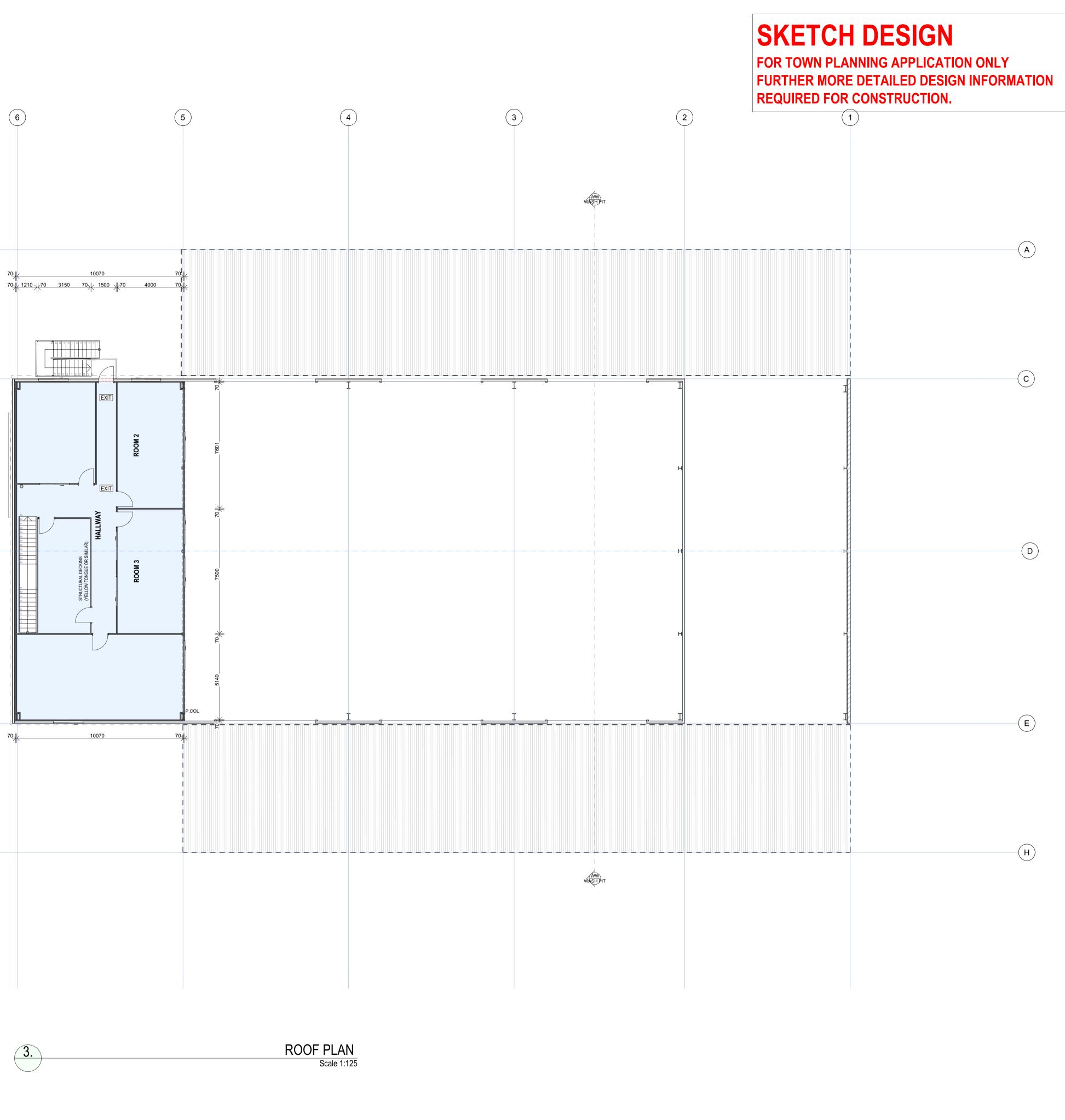




ROCKHAMPTON REGIONAL COUNCIL AMENDED PLANS APPROVED 5 October 2023 DATE These plans are approved subject to the current conditions of approval associated with Development Permit No.: D/117-2021

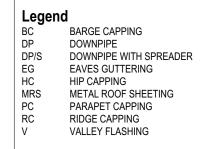
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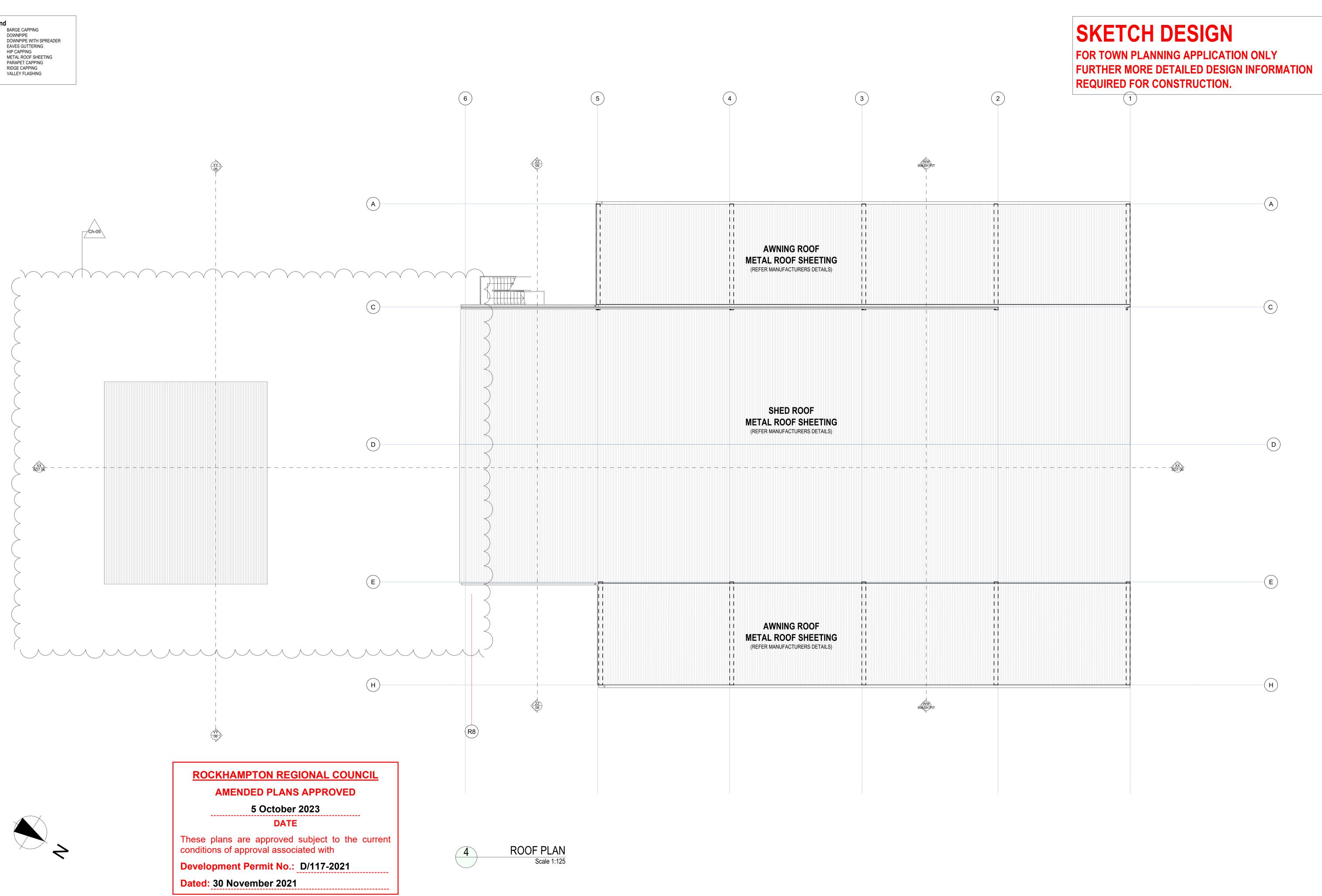
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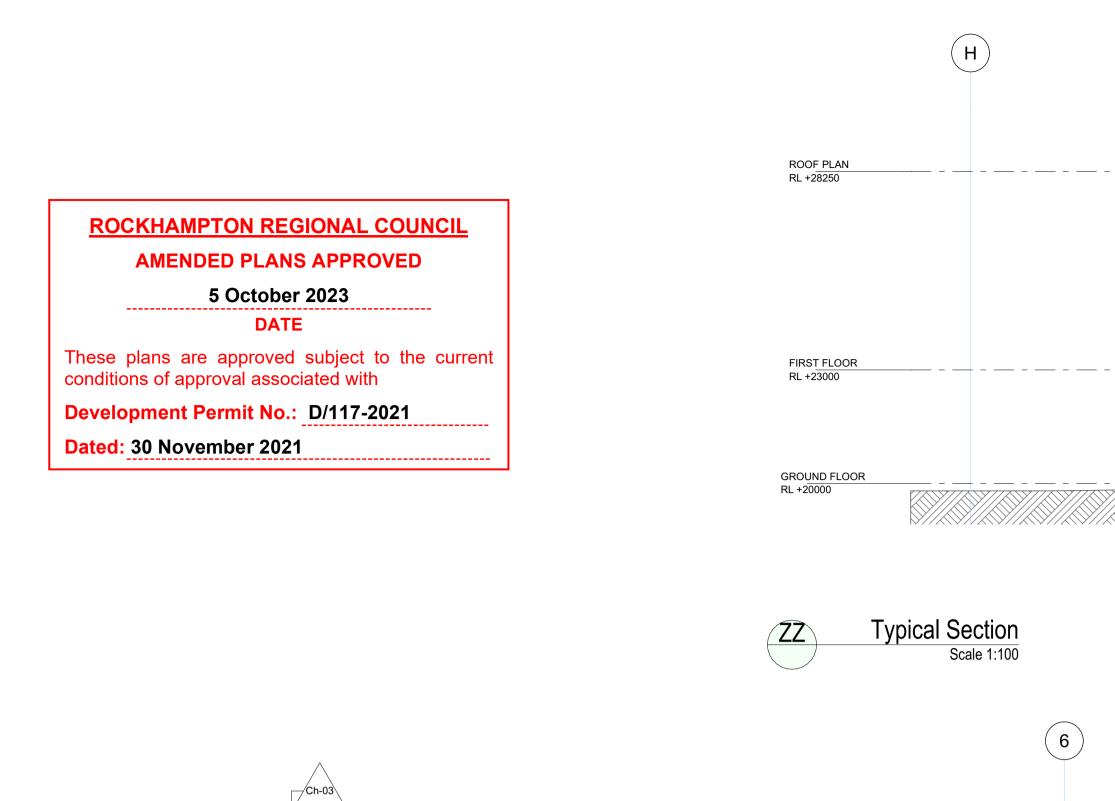




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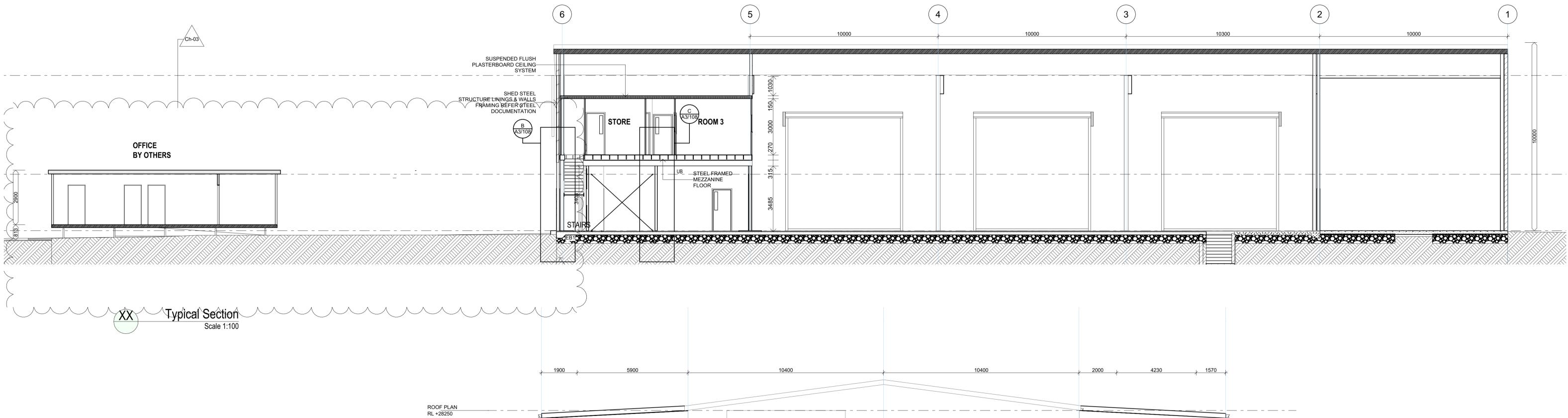
GROUND FLOOR RL +20000

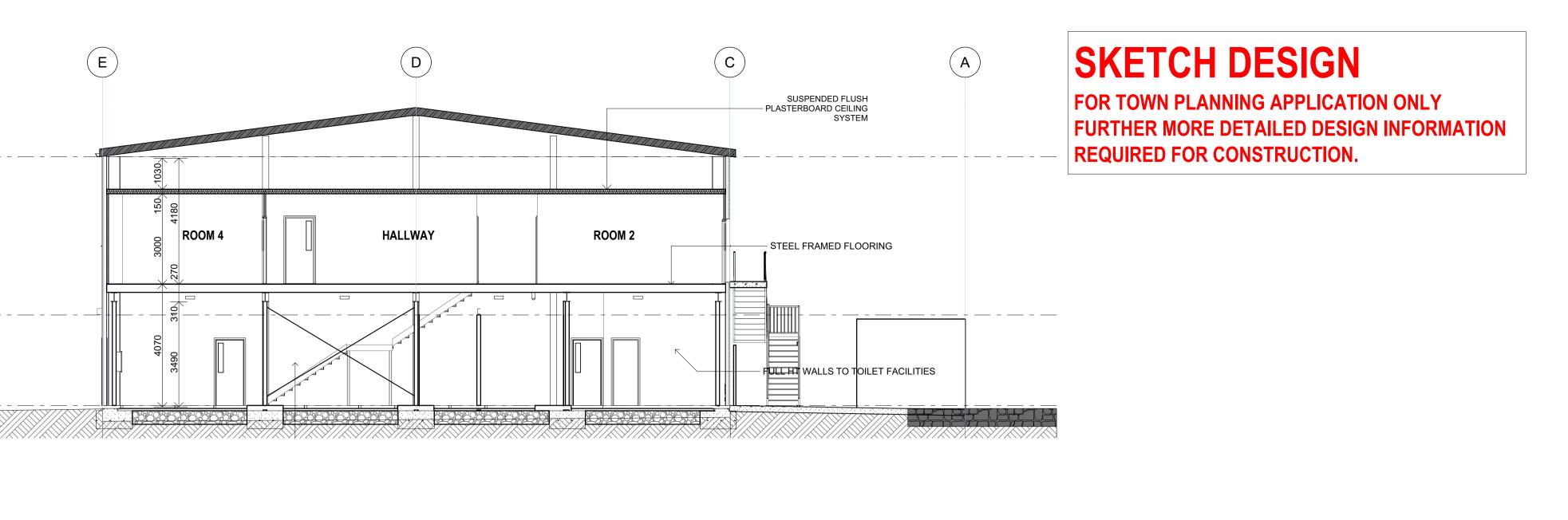
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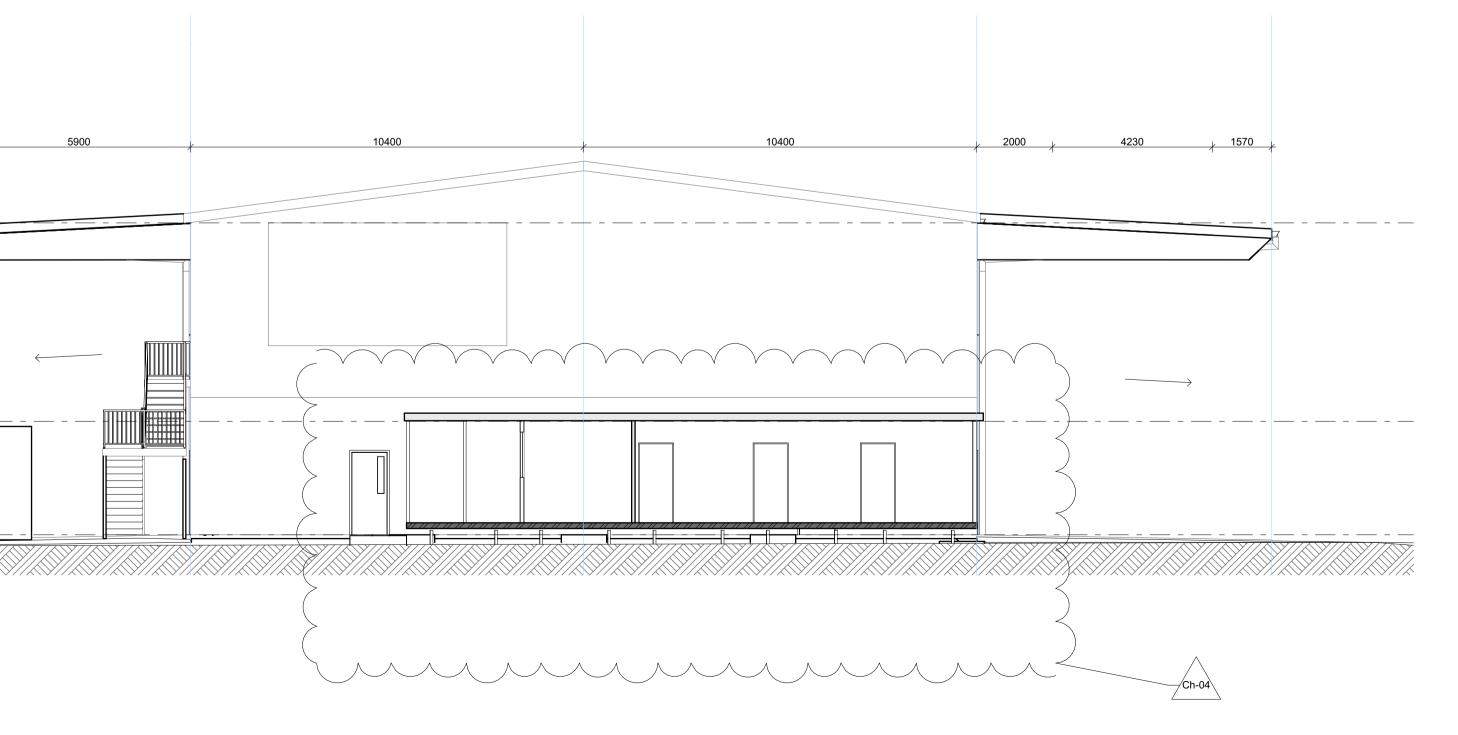
Typical Section

Scale 1:100

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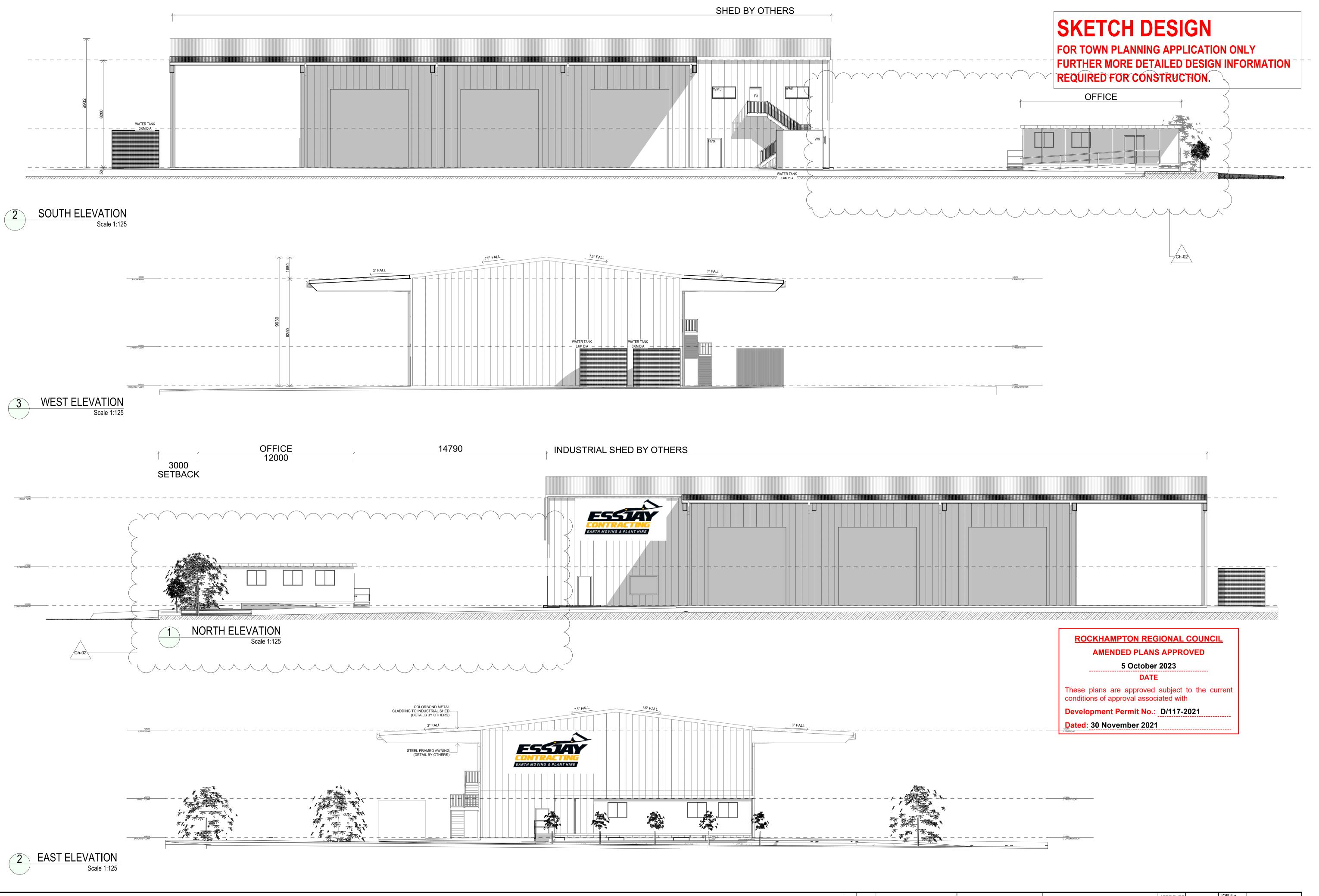


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PLANNING REPORT INDUSTRIAL DEVELOPMENT

Project Name:	Proposed Transport Depot at 153 Foster St, Gracemere		
Project Number:	21-094		
Project Address:	153 Foster St, Gracemere		
Client:	SK Drafting		
Client Contact:	Scott Matveyeff		
Dated:	11.08.21	Rev:	С

ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

These plans are approved subject to the current conditions of approval associated with **Development Permit No.: D/117-2021 Dated: 30 November 2021**

Revision	Revision	Issue Date
Original Issue	А	30.07.21
Stormwater Quality Specification Added	В	11.08.21
Amended for Information Request Response	С	19.10.21

186 Denham St, Allenstown, QLD, 4700

1.0 Introduction

1.1 Project Overview

Patcol Group Pty Ltd have been engaged by SK Drafting to carry out an engineering assessment on various aspects of a proposed development. The intention of this report is to form part of a proposal to be submitted to the Local Government Authority in support of the development approval.

It is proposed that the current un-developed site at 153 Foster St, Gracemere 4702 be developed for use as a transport depot facility and office complex for use by a civil construction company. To achieve this, the below construction scope has been proposed:

- Workshop shed 50m (L) x 20.78m (W) x 8.25m (H);
- Office 22.78m (L) x 8.69m (W) x 3m (H);
- 2x 4-person accommodation units;
- Approx. 5483m² of concrete paved hardstand area;
- 30x parking spaces;
- Miscellaneous landscaping and site works.

The scope of this report is to address the required provisions of the Rockhampton Regional Council Planning Scheme.

1.2 Methodology

The project methodology is as follows:

- 1. Identify catchments for the pre-development case and quantify peak discharge from the site with respect to catchment parameters, local rainfall intensities and other hydrologic properties. XP-STORM utilising the Laurenson runoff routing method was used to achieve this.
- 2. Identify the critical storm durations for the required AEP event.
- 3. Identify catchments for the post-development case and quantify peak discharge from the site similar to item 1.
- 4. Identify measures required to achieve no net change to stormwater quantity and quality discharged from the site as a result of the proposed development.

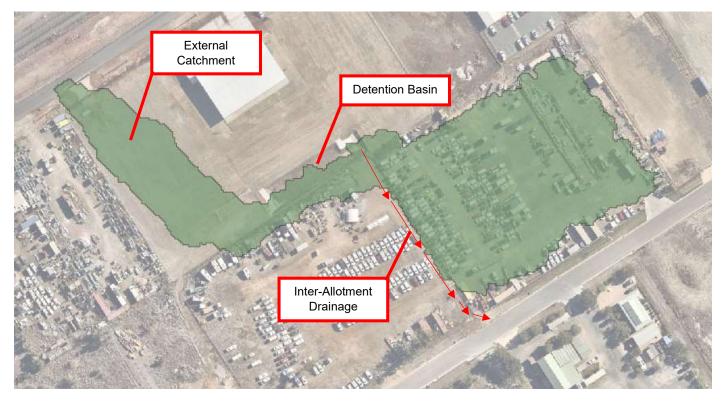
Data sources for the project include:

- 1. Australian Rainfall & Runoff data hub for Intensity-Frequency-Duration data and temporal patters.
- 2. Rockhampton Regional Council GIS data.
- 3. Survey completed by Vision Surveys.
- 4. Preliminary site layouts completed by SK Drafting.

2.0 Hydrology

2.1 External Catchments

Catchments upstream of the site have been identified using an upslope area analysis taking Council's 2015 LiDAR data as the primary input and setting a pour-point at the south-eastern corner of the site. The below image shows the resulting upstream catchment:



The upslope external catchment shown in 35-51 Somerset Dr to the north-west has been developed since this LiDAR data was taken, with site grading and drainage added including a detention basin where indicated. This basin drains via and inter-allotment drain to the RGU on Foster St south-west of the proposed site. As such, we believe this external catchment has been effectively removed from discharging to 153 Foster St and instead diverts to the road drainage network on Foster St, hence no need to accommodate discharging waters.

2.2 Pre-Development Case

The pre-development catchment presents as a large, relatively flat hardstand of well compacted gravel. It's use prior to the development associated with this report appears to have been as an industrial storage facility for cars and shipping containers as identified via historical aerial imagery. The condition and underlying assumptions made around this have been confirmed onsite.

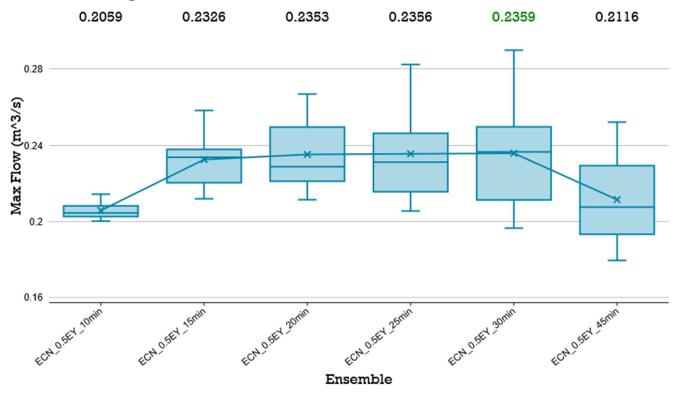
Table 1 presents the relevant pre-development sub-catchment parameters.

		Pre-Development Case		
		Pervious	Impervious	
Are	Area (ha)		.607	
Percent Impervious (%)		0	100	
Slope (%)		0.7	0.7	
Manı	Manning's 'n'		0.015	
Infiltration	Initial Loss (mm/hr)	0	0	

Patcol Group | 153 Foster St, Gracemere Planning Report 21-094 | 3

Continuing Loss (mm/hr)	1.5	0
Pre-Development	0	.5
Fraction Impervious		

For the pre-development case, a fraction impervious (whole site) was taken as 50% on request from Council. Values for the initial and continuing loss model applied are taken from Australian Rainfall Runoff guidelines around urban catchment hydrology. The overall peak discharges for the site are shown in Figure 1, Figure 2 and Figure 3 in the form of box-and-whisker plots of the mean peak flow for a range of storm durations for the design storm events.



Comparison of Storm Ensembles of different durations for AEP = 0.5EY

Figure 1 - Pre-development 0.5EY box-and-whisker plot

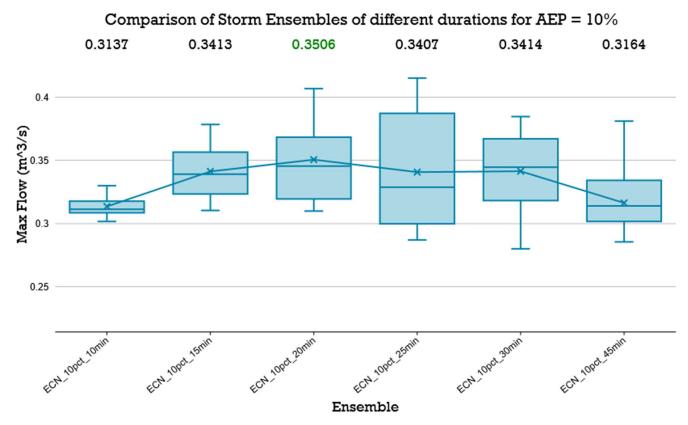


Figure 2 - Pre-development 10% AEP box-and-whisker plot

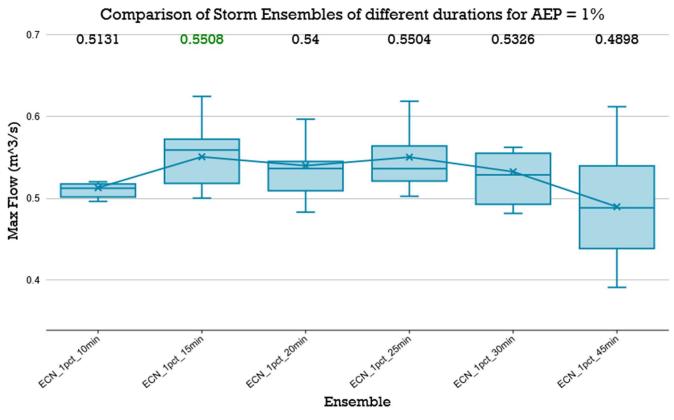


Figure 3 - Pre-development 1% AEP box-and-whisker plot

Summarising, the below Table 2 shows the peak discharges for each design storm, as well as the corresponding storm duration and design rainfall ID.

Table 2 - Pre-development peak discharges & storms for design purposes

	Pre-Development Case			
	Max Flow	Storm	Design Rainfall ID	
	Max Flow (m³/s)	Duration	_	
		(mins)		
0.5 EY (m ³ /s)	0.2359	15	ECN_0.5EY_30min_9	
10% AEP (m ³ /s)	0.3506	15	ECN_10pct_20min_4	
1% AEP (m ³ /s)	0.5508	15	ECN_1pct_15min_9	

2.3 Post-Development Case

Table 3 presents the relevant post-development sub-catchment parameters.

Table 3 - Post-development sub-catchment parameters

		Post-Develo	pment Case
		Pervious	Impervious
Are	ea (ha)	0.316	0.898
Percent In	npervious (%)	0	100
Slope (%)		1	1
Manning's 'n'		0.03	0.015
Infiltration	Initial Loss (mm/hr)	0	0
	Continuing Loss (mm/hr)	1.5	0
Post-Development		0.	74
Fraction Impervious			

Figure 1, Figure 2 and Figure 3 present the box-and-whisker plots of the mean peak flow for a range of storm durations for the design storm events.

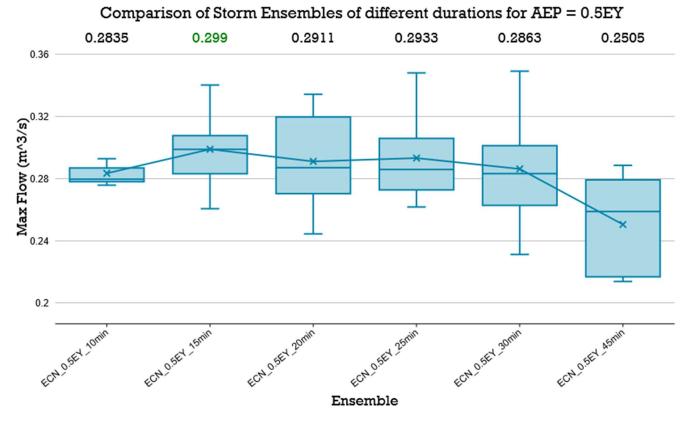


Figure 4 - Post-development 0.5EY box-and-whisker plot

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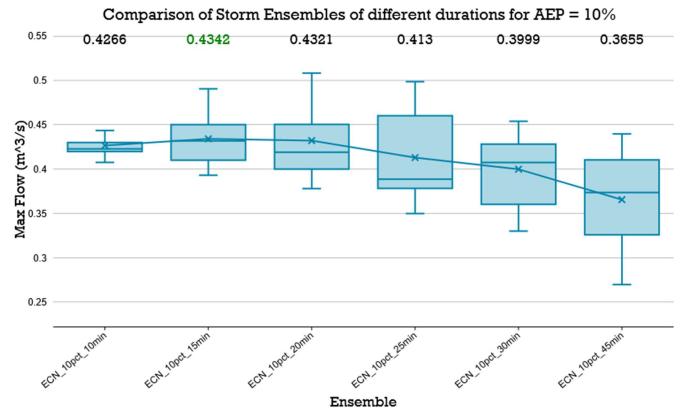


Figure 5 - Post-development 10% AEP box-and-whisker plot

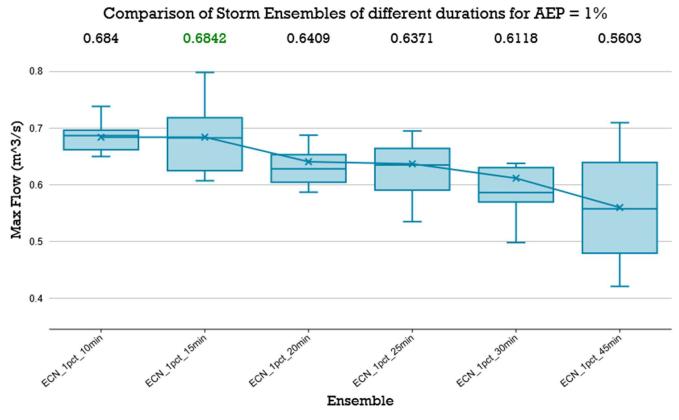


Figure 6 - Post-development 1% AEP box-and-whisker plot

Table 4 - Post-development peak discharges & storms for design purposes

	Post-Development Case			
	Max Flow (m³/s)	Storm Duration (mins)	Design Rainfall ID	
0.5 EY (m ³ /s)	0.299	15	ECN_0.5EY_15min_6	
10% AEP (m ³ /s)	0.4342	15	ECN_10pct_15min_8	
1% AEP (m ³ /s)	0.6842	10	ECN_1pct_15min_9	

The post-development case was assessed using realistic estimates of the impervious fraction taken from Autocad and survey data. The as shown in Table 3, it was predicted that the site slope would be slightly increased to 1% as part of the operational works design to facilitate surface water drainage. This, coupled with an overall reduction in Manning's 'n' for the site, has resulted in increases in the design flows, as presented below.

Table 5 - Comparison of pre and post development flows

	Pre-	Post-		
	Development Max Flow	Development Max Flow	Change (m³/s)	Change (%)
	(m³/s)	(m³/s)		
0.5 EY (m ³ /s)	0.2359	0.299	0.0631	26.75%
10% AEP (m ³ /s)	0.3506	0.4342	0.0836	23.84%
1% AEP (m ³ /s)	0.5508	0.6842	0.1334	24.22%

3.0 Hydraulics

3.1 Scope

The hydraulic assessment of this report has been carried out using XPSTORM (Version 2021.1) and the hydrologic inputs developed in Section 0 with the aim to demonstrate a suitable method of attenuating the peak flows produced as a result of the proposed development.

3.2 Stormwater Management Strategy

The proposed stormwater management strategy is to incorporate a 46kL surge tank in-line with a bioretention/detention basin that will take the majority of the roofwater/concrete hardstand flows. The basin will have an inlet control structure to attenuate flows, and will drain to the kerb inlet by a pipe network to be designed at Operational Works stage. The remainder of the gravelled hardstand, along with some concrete hardstand and roof areas will drain directly to the kerb inlet via the pipe network. Refer to Appendix A for the site general arrangement which shows the proposed site stormwater management strategy.

The 46kL (4.5m diameter, 3.2m usable height) surge tank was modelled with a 25mm diameter orifice at ground level. Details of the bioretention/detention basin is provided below:

Table 6 - Basin Parameters

Base Level	18.6m
Effective Crest Level	19.1m
Detention Volume	51.65m ³
Outlet Structure	900x900 Field Inlet
Outlet Structure	2x "letterbox" opening 750(w) x 150(h), invert at 18.9m

Figure 7 shows the mitigated flow rates from the site to the lawful point of discharge, which is at the kerb inlet on Foster St. Table 1 presents a comparison between pre-development and mitigated max flows.

Table 7 - Comparison of pre and mitigated flows

	Pre- Development Max Flow (m ³ /s)	Mitigated Max Flow (m³/s)	Change (m³/s)	Change (%)
0.5 EY (m ³ /s)	0.2359	0.164	-0.0719	-30.48
10% AEP (m ³ /s)	0.3506	0.264	-0.0866	-24.70
1% AEP (m ³ /s)	0.5508	0.495	-0.0558	-10.13

Conduit DN600 pipe to kerb inlet from Junction to Kerb Inlet

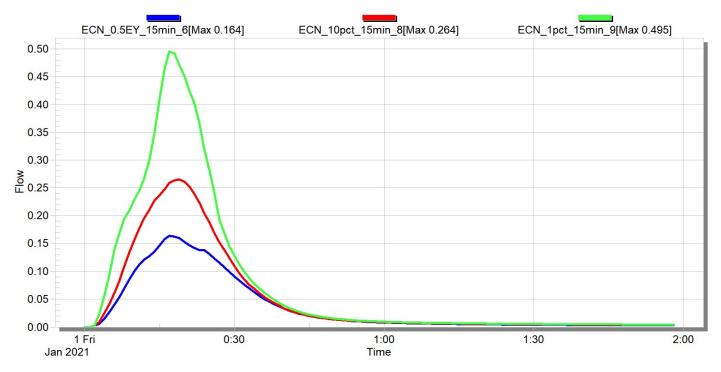
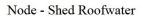


Figure 7 - Site to RRC kerb inlet discharge



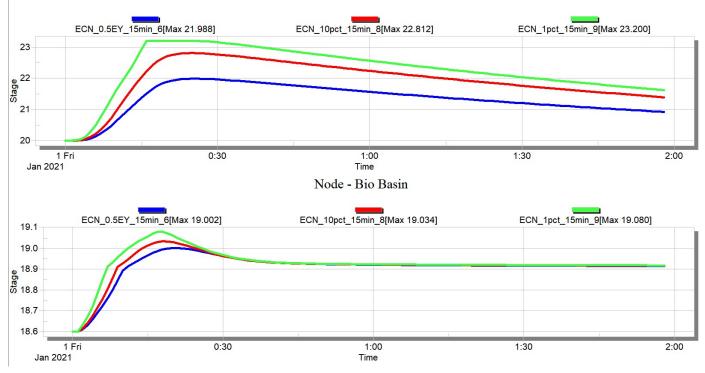


Figure 8 - Stage curves for storage nodes

Figure 8 shows the stage curves for the storage nodes.

Overall the proposed design results in no net increase in discharged flows from the site.

4.0 Stormwater Quality

4.1 Scope

The development being larger than 2500m² triggers the need to address the stormwater quality provisions of the State Planning Policy 2017 (SPP 2017). This section aims to address the potential for an increase in pollutant loads during operational works and for the ongoing use of the development.

4.2 During Operational Works

The main risk of increased pollutant loads during construction is likely to be from erosion and sediment loss from disturbing the site. The following are the key pollutants that must be addressed during construction:

Pollutant	Sources
Litter	Paper, construction packaging, food packaging, cement bags, material offcuts etc.
Sediment	Exposed soil and stockpiled soil/gravel.
Hydrocarbons	Fuel and oils.
Toxic Materials	Cement, asphaltic materials, solvents, cleaning agents etc.
Acids or Alkaline Materials	Acid sulphate soils, cement.

Table 8 - Key Pollutants During Construction

Erosion and sediment control devices will be the main hard-control to lower pollutant loads during construction. At operational works design stage an Erosion & Sediment Control Plan (ESCP) will be provided detailing the controls required, however the below provides high-level measures that will be implemented.

Pre-Construction:

- Site personnel are to be informed and made aware of the ESCP and it's requirements around implementation, maintenance and decommissioning;
- Sediment fences to all areas requiring bulk earthworks will be installed;
- Major flowpaths (kerb and channel, formalised drains etc.) will have erosion & sediment control devices installed upstream;
- The site access/s will have rumble pads installed to limit soil material tracked off-site by vehicles;
- Topsoil (if any) will be stripped and stockpiled to be reinstated after construction. Stockpiled topsoil will be bunded off.

During Construction:

- All bulk earthworks to be kept tidy with batters and stockpiles ironed to minimise erosion by wind and rain;
- Areas of bulk filling to be bunded off during construction;
- Erosion and sediment control devices are to be monitored and maintained for the duration of construction;
- Appropriate waste disposal facilities are to be provided onsite e.g. skip bins.

Post-Construction:

- Areas to be revegetated to have topsoil reinstated prior to placement of turf or hydromulching;
- Sediment fencing to remain in place until revegetation has occurred.

4.3 Water Quality Objectives

The SPP 2017 provides target pollutant load reduction objectives for new development as shown below.

Table 9 - Pollutant Load Reduction Targets

	Total Suspended Solids (kg/yr)	Total Phosphorus (kg/yr)	Total Nitrogen (kg/yr)	Gross Pollutants (kg/yr)
Load Reduction Target	85%	60%	45%	90%

4.4 MUSICX Model

Per Council requirements, a MUSICX model has been developed to model the development's pollutant load generation and determine appropriate measures to effectively reduce the loads per the targets provided by the SPP 2017.

The music model has been developed in accordance with Water By Design MUSIC Modelling Guidelines 2018. All non-standard treatment nodes have been modelled using information from the specific manufacturer. All meteorologic data has been sourced from the Bureau of Meteorology for the site location, and a 10 year period from 01/01/1990 to 01/01/2000 has been modelled at a six minute timestep.

The below shows the schematic layout of the model.

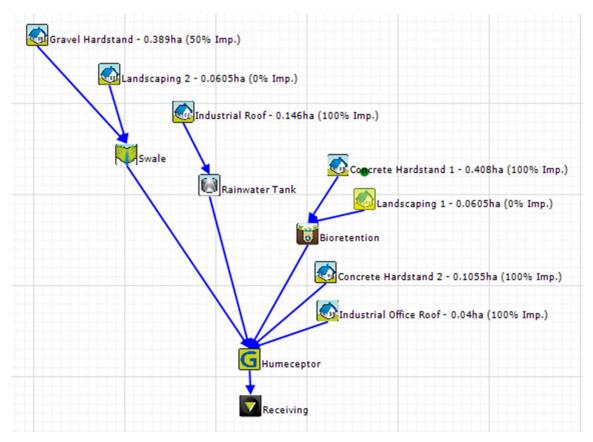


Figure 9 - MUSICX Model Treatment Train

The following assumptions have been made:

1. Rainwater re-use has been assumed to be 2.42kL/day for irrigation use only. This has been calculated for landscaping areas at the rate prescribed by the MUSIC Modelling Guidelines (730mm/yr).

4.5 MUSICX Analysis

The treatment train show has resulted in the below reductions of pollutants:

	Total	Total	Total	Gross
	Suspended	Phosphorus	Nitrogen	Pollutants
	Solids	(kg/yr)	(kg/yr)	(kg/yr)
	(kg/yr)			
Load Reduction Target	85%	60%	45%	90%
Removal Efficiency at Receiving Node	90.99%	65.97%	53.72%	99.69%

As shown, the load reduction targets set out in the SPP 2017 have been successfully met.

Refer to the attached MUSICX model for all inputs and results.

5.0 Sewer Reticulation

The site is serviced by a DN150 sewer main located through the centre of the lot as shown below.

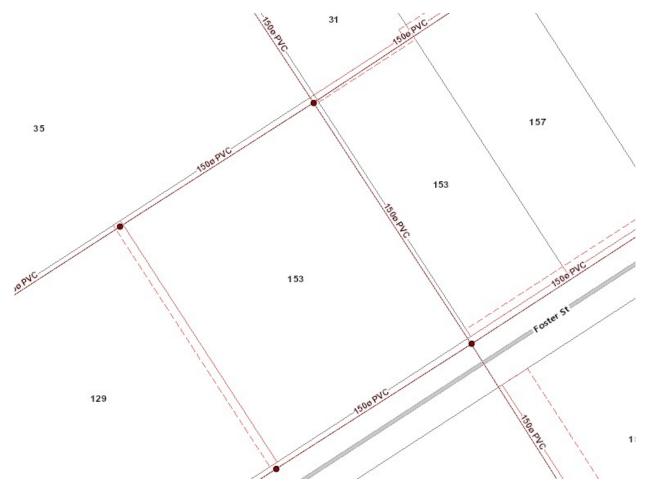


Figure 10 - Existing sewer infrastructure

An assessment of the sites current sewer infrastructure's ca	apacity is	presented below
	apaonty io	

	Use Case	Gross Floor Area (m ²)	Equivalent Persons	ADWF (L/day)
Existing	Industrial	12071.54	56 per gross hectare	33800.31
	Industrial	11945.197	56 per gross hectare	33446.55
Proposed	Offices	198.34	1 per 90m ² GFA	1101.89
	*Accommodation		*1 per dwelling unit	4000

* Note: equivalent persons reduced from 3.5 to 1 due to each accommodation unit being suitable for 1 person only and having no potential to be increased above this level in it's lifetime.

From the above, the proposal represents a 14.4% increase in demand from it's pre-development case. This equates to roughly 4748L/day or 0.06L/s, which from a volumetric perspective is negligible. It is seen that the existing sewer infrastructure is sufficient to service the proposed development.

6.0 Waste Management

The development aims to address the relevant provisions of the Waste Management Code in accordance with the following:

- Waste bins will be stored in a screened area near the office/shed to allow for ease of access while maintaining visual amenity. Bins will be moved to the kerbside on collection days. When emptied they will be moved back into the screened area. The exact location and details of the screened area will be provided in the Operational Works design.
- 2. Waste bins will be located on the kerbside during collection days with a one metre separation.
- 3. Waste not collected by the council (e.g. refuse oils from vehicle maintenance activities) will be stored within the shed until collection by a specialist waste management contractor. Storage areas

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will be self-bunded with spill kits located nearby, and will be in excess of 2m from any property boundary.

- 4. Waste storage areas will be designed for ease of maintenance by providing impervious flooring and bunding where required.
- 5. Waste storage areas will have dedicated water supply points to allow for cleaning, and wash down drains will be drained to the sewerage system. The layout of these areas will be provided in the Operational Works design.

It is seen that the proposal addresses the 'acceptable' and 'performance' outcomes of the code, and therefore meets the overall outcomes of the code.

7.0 Conclusion

The effects of the proposed development at 153 Foster St, Gracemere on the existing infrastructure network and surrounding lots have been demonstrated to be successfully managed through use of relevant controls.

Further enquiries should be directed to the below signed if required.

Yours sincerely,

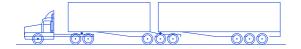
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Scott Thomas Manager – B. Eng (Civil/Structural) RPEQ 16203

Appendix A – Drawings

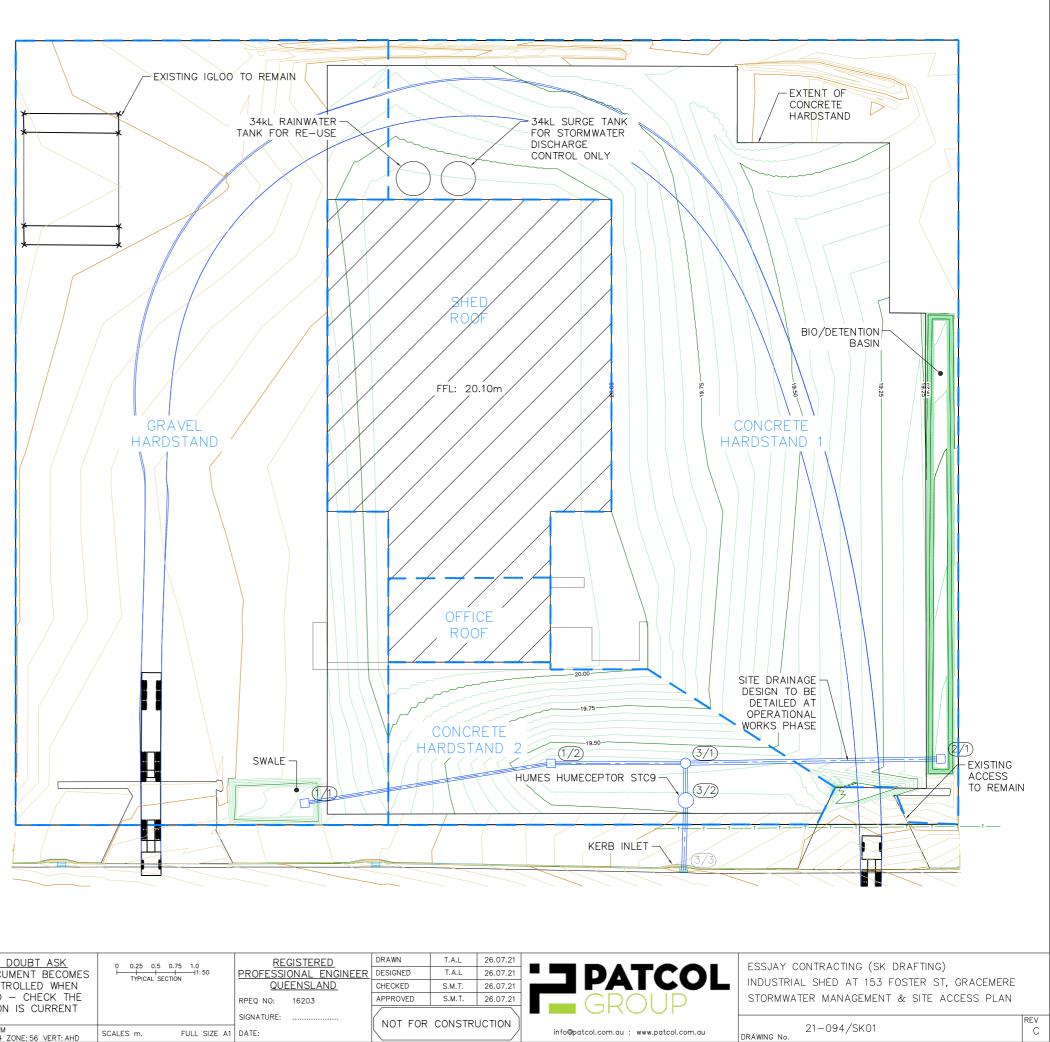
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OVERALL LENGTH OVERALL WIDTH OVERALL BODY HEIGHT MIN BODY GROUND CLEARANCE TRACK WIDTH LOCK-TO-LOCK TIME WALL TO WALL TURNING RADIUS	
MAX ARTICULATION (HORIZ./VERT.)	

B-DOUBLE VEHICLE DETAIL SCALE 1:200



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