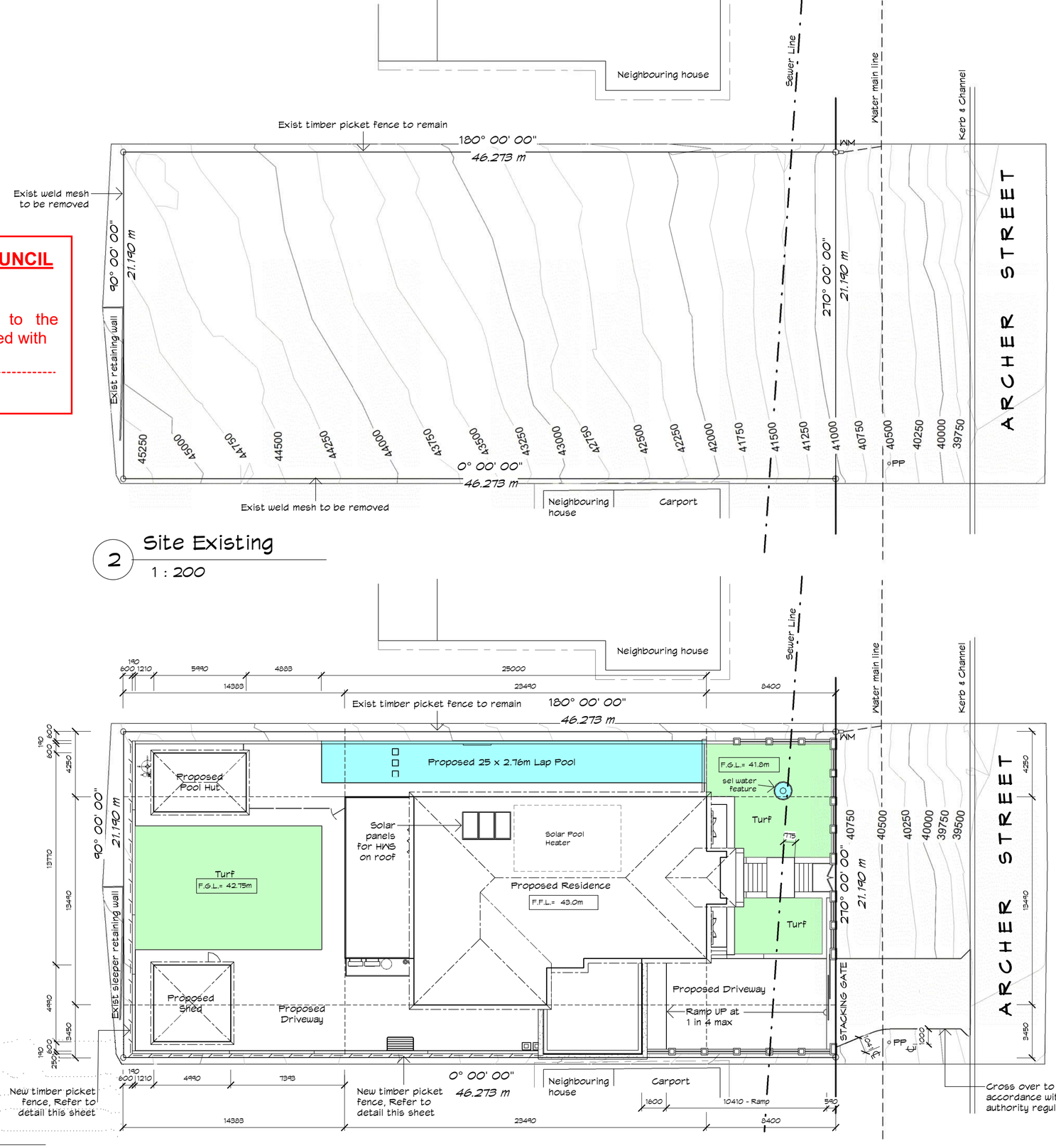
ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

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

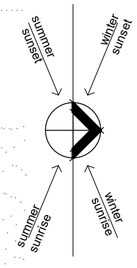
Development Permit No.: D/6-2019

Dated: 21 March 2019



2 Site Existing

1 : 200

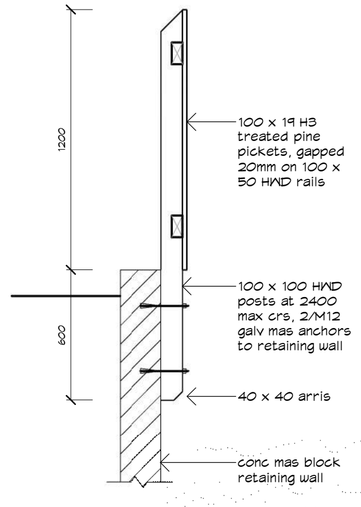


R.P.D.

Lot Number :	35
Reg./Survey Plan Number :	R26183
Parish :	Rockhampton
County :	Livingstone
Area :	981 sqm

1 Proposed Site Plan

1 : 200



3 Picket Fence Detail

1 : 20

REVISIONS			
A	TENDER ISSUE		22/11/18
No.	DESCRIPTION		DATE

PROPOSED RESIDENCE
FOR M & S. IHSAN
AT 259 ARCHER STREET
THE RANGE

this drawing
Site Existing & Proposed Site Plan

Rufus Design Group
STYLE • QUALITY • INNOVATION

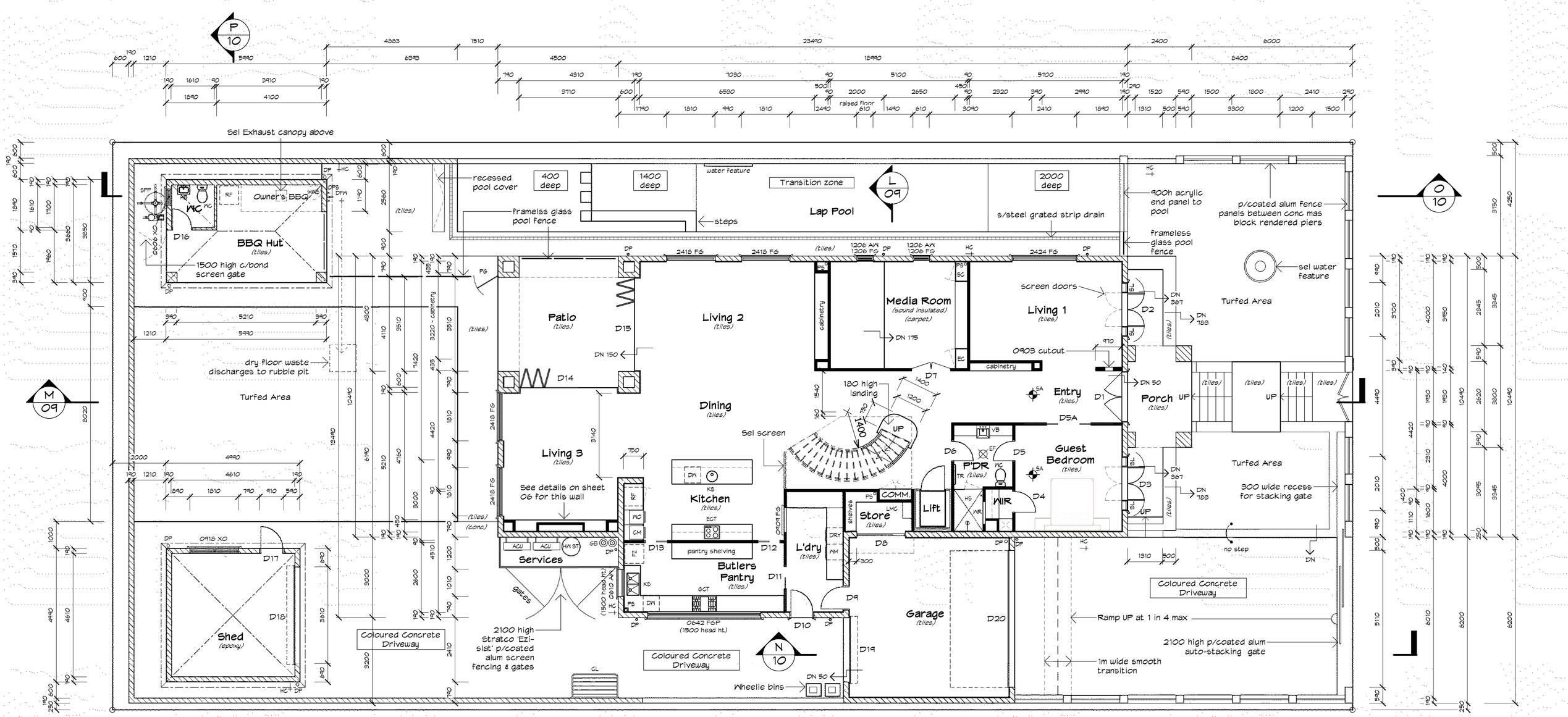
MEMBER BUILDING DESIGNERS ASSOC. OF QLD INC.

Licenced under the QBSA Act Lic No. 1180286

Telephone 61 7 49288011
Facsimile 61 7 49266579
E-mail mailbox@rufusdesigngroup.com

PROJECT MANAGER :	T.J.R.
DRAWN :	DAW
CHKD :	T.J.R.
WIND SPEED	C1
PLAN SIZE:	A2
PROJECT NUMBER	180107 - 01
SHEET	01 OF 14 SHEETS
REVISION	A

PRINT DATE : 23/11/2018 1:04:47 PM



Plan Legend	
ACU	Air Conditioner Unit
BTH	Free standing Bath
CC	Ceiling Cassette
CF	Ceiling Fan
CL	Wall Mounted Clothes Line
CM	Coffee machine
DFW	Dry Floor Waste
DP	Down Pipe
DRY	Dryer
DT	Built-in Dressing Table
DW	Dishwasher
EC	Electronics cabinet by cabinetmaker
ECT	Electric Cooktop
EF	Mechanical exhaust fan discharging to outside air in accord. with AS 1668.2 (25L/sec per. min.)
FW	Floor Waste
FZ	Freezer
GB	Gas Bottles
GCT	900mm wide gas Cooktop
HB	Hand Basin
HC	Hose Cock
HS	Hobless Shower
HW ST	Solar Hot Water Storage Tank
HWS	Hot Water System

Plan Legend	
KS	Under slung Kitchen Sink
LMC	Lift Machine Cabinet
MH	Man Hole
OPS	Outdoor Pool Shower (hot & cold)
PG	1200 high glass self closing Pool gate with safety latch
PS	Plumbing Stack
RF	Refrigerator
SA	Photoelectric Smoke Alarm
SC	Storage cabinet by cabinetmaker
SPA	1400 x 1400 Jacuzzie Spa
SPP	Swimming Pool Pump
TR	Towel Rail
VB	Vanity Basin
WC	Toilet
WM	Washing Machine
WO	Wall Oven
WR	Shower Wall Recess, see detail on sht 03

ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

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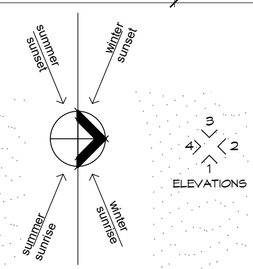
Development Permit No.: D/6-2019

Dated: 21 March 2019

1 Ground Floor Plan

1 : 100



Floor Areas	
External	
Porch	9.1 m²
BBQ Hut	23.1 m²
Patio	23.7 m²
Shed	24.9 m²
Open Deck	47.2 m²
Internal	
Garage	39.0 m²
First Floor Habitable	216.3 m²
Ground Floor Habitable	248.5 m²
Grand total	631.8 m²

Window Legend

1218 - 1200 high x 1800 wide
XO - Sliding / Fixed
X - Sliding
O - Fixed
D - Double Hung
A - Awning
CMT - Casement
L - Louvre
F.G. - Fixed Glass
Glazing to wet areas to be obscure
Glazing to remainder to be solarblock

REVISIONS		
A	TENDER ISSUE	22/11/18
No.	DESCRIPTION	DATE

PROPOSED RESIDENCE
FOR M & S. IHSAN
AT 259 ARCHER STREET
THE RANGE

this drawing
Ground Floor Plan

Rufus Design Group
STYLE • QUALITY • INNOVATION
MEMBER BUILDING DESIGNERS ASSOC. OF QLD INC.
Licenced under the QBSA Act Lic No. 1180286
Telephone 61 7 49288011
Facsimile 61 7 49266579
E-mail mailbox@rufusdesigngroup.com

PROJECT MANAGER : T.J.R.
DRAWN : DAW
CHKD : T.J.R.
WIND SPEED C1
PLAN SIZE: A2
PROJECT NUMBER 180107 - 02
SHEET 02 OF 14 SHEETS
REVISION A

PRINT DATE : 23/11/2018 1:04:48 PM

ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

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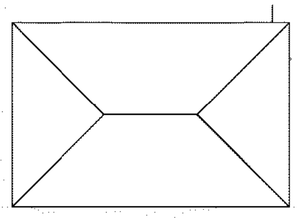
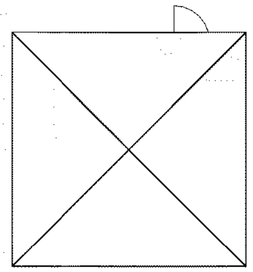
Development Permit No.: D/6-2019

Dated: 21 March 2019





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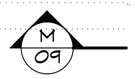

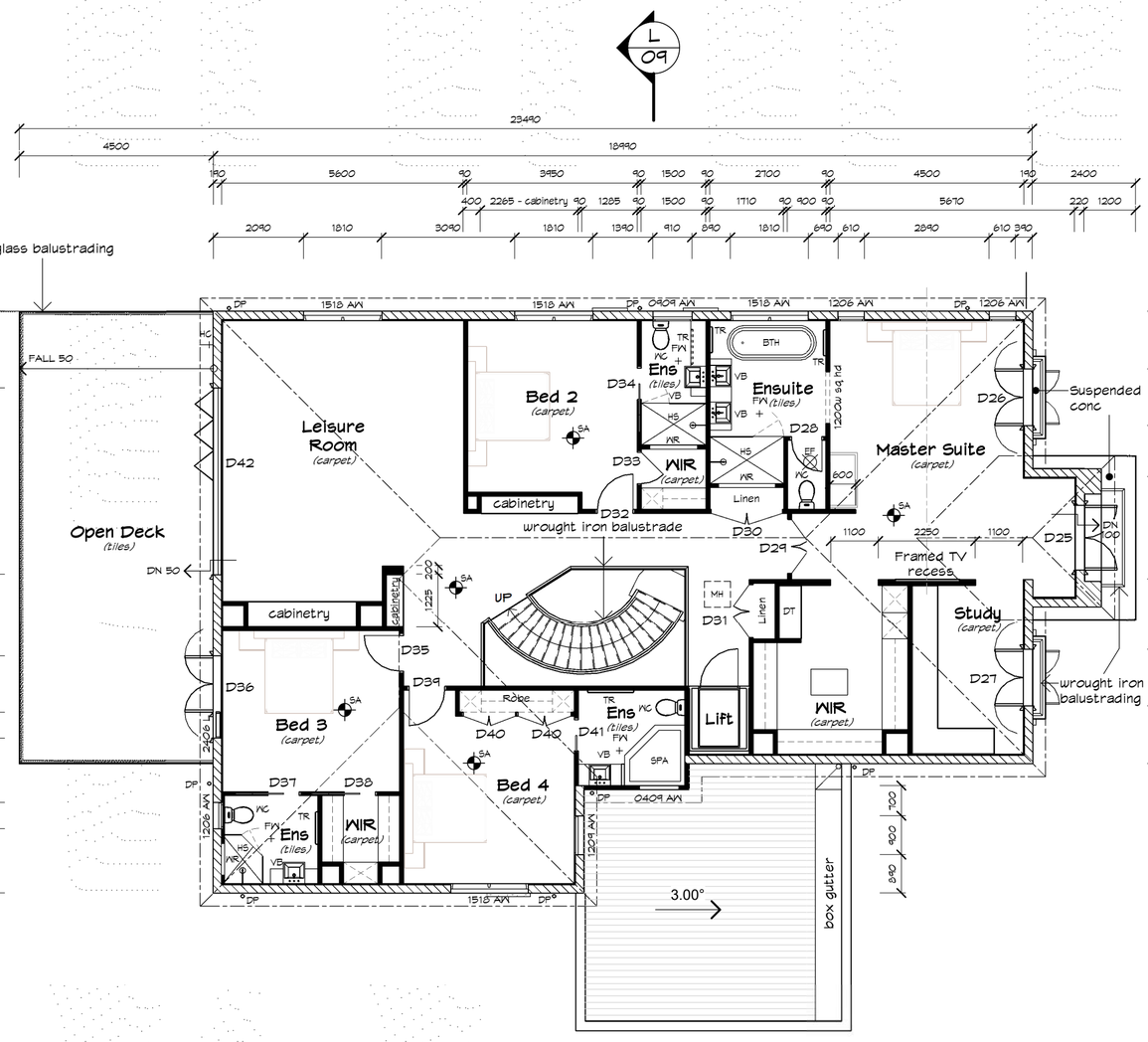

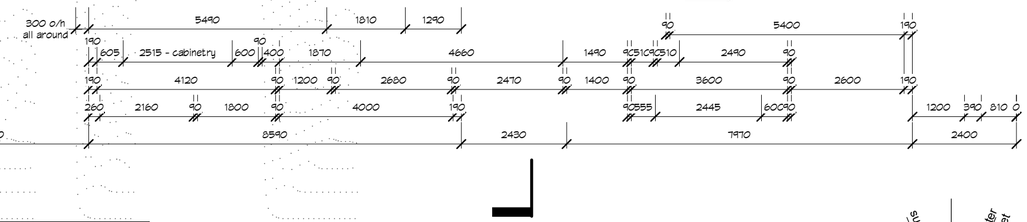

Plan Legend	
ACU	Air Conditioner Unit
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FZ	Freezer
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GCT	900mm wide gas Cooktop
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HWS	Hot Water System

Plan Legend	
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WM	Washing Machine
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WR	Shower Wall Recess, see detail on sht 03

Floor Areas	
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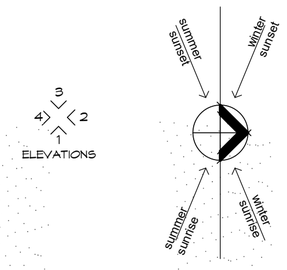
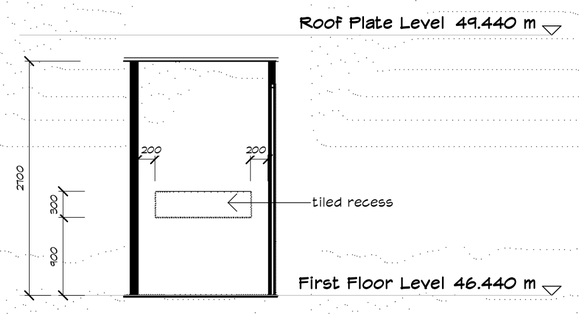
BBQ Hut	23.1 m²
Patio	23.7 m²
Shed	24.9 m²
Open Deck	47.2 m²
Internal	
Garage	39.0 m²
First Floor Habitable	216.3 m²
Ground Floor Habitable	248.5 m²
Grand total	631.8 m²

1 First Floor Plan
1 : 100





2 Shower Wall Recess
1 : 50

REVISIONS			
A	TENDER ISSUE	22/11/18	
No.	DESCRIPTION	DATE	

PROPOSED RESIDENCE
FOR M & S. IHSAN
AT 259 ARCHER STREET
THE RANGE

this drawing
First Floor Plan

Rufus Design Group
STYLE • QUALITY • INNOVATION
MEMBER BUILDING DESIGNERS ASSOC. OF QLD INC.
Licenced under the QBSA Act Lic No. 1180286
Telephone 61 7 49288011
Facsimile 61 7 49266579
E-mail mailbox@rufusdesigngroup.com

PROJECT MANAGER : T.J.R.
DRAWN : DFW
CHKD : T.J.R.
WIND SPEED C1
PLAN SIZE: A2
PROJECT NUMBER 180107 - 03
SHEET 03 OF 14 SHEETS
REVISION A

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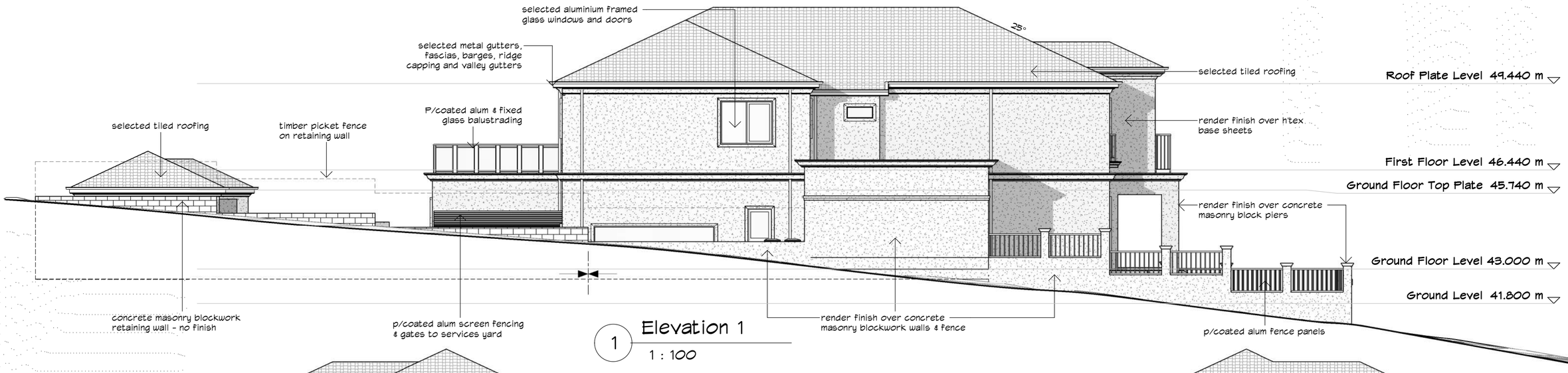


1 Elevation 1

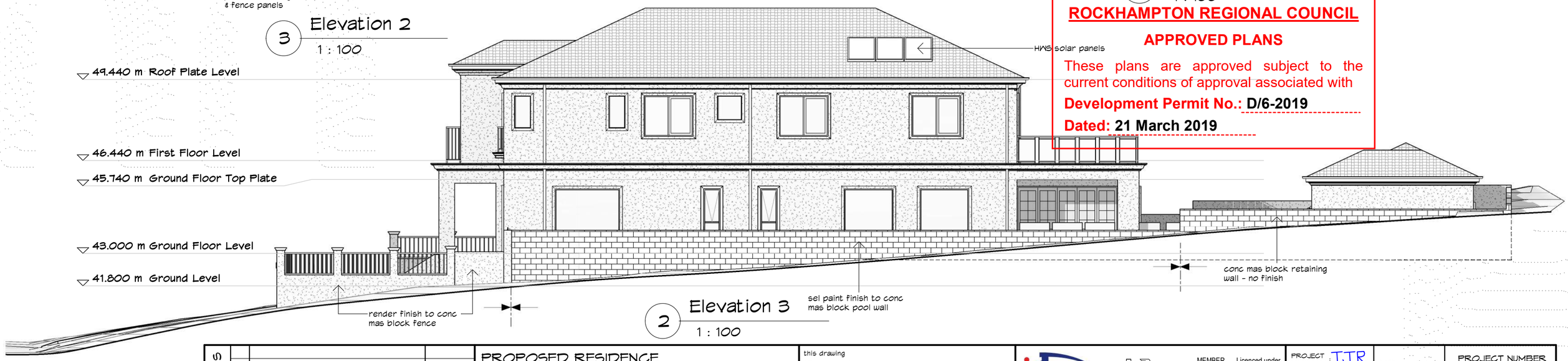
1 : 100

4 Elevation 4

1 : 100

3 Elevation 2

1 : 100



2 Elevation 3

1 : 100

ROCKHAMPTON REGIONAL COUNCIL

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Development Permit No.: D/6-2019

Dated: 21 March 2019

REVISIONS			
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No.	DESCRIPTION	DATE	

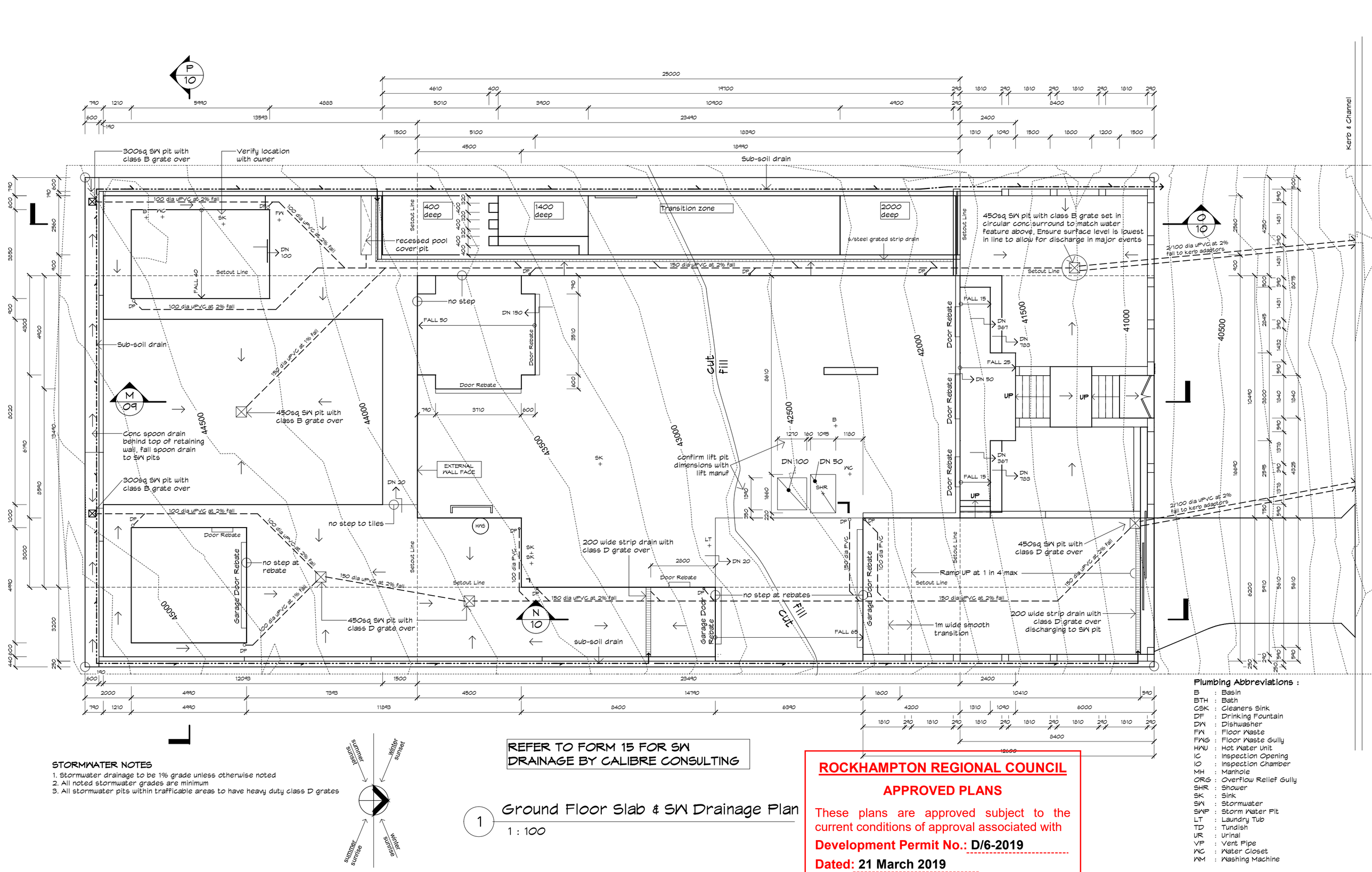
PROPOSED RESIDENCE
FOR M & S. IHSAN
AT 259 ARCHER STREET
THE RANGE

this drawing
Elevations

Rufus Design Group
STYLE • QUALITY • INNOVATION
MEMBER BUILDING DESIGNERS ASSOC. OF QLD INC.
Licenced under the QBSA Act Lic No. 1180286
Telephone 61 7 49288011
Facsimile 61 7 49266579
E-mail mailbox@rufusdesigngroup.com

PROJECT MANAGER : T.J.R.
DRAWN : DAW
CHKD : T.J.R.
WIND SPEED C1
PLAN SIZE: A2
PROJECT NUMBER 180107 - 04
SHEET 04 OF 14 SHEETS
REVISION A

PRINT DATE : 23/11/2018 1:05:00 PM



STORMWATER NOTES

1. Stormwater drainage to be 1% grade unless otherwise noted
2. All noted stormwater grades are minimum
3. All stormwater pits within trafficable areas to have heavy duty class D grates

REFER TO FORM 15 FOR SW DRAINAGE BY CALIBRE CONSULTING

1 Ground Floor Slab & SW Drainage Plan

1 : 100

Plumbing Abbreviations :

B	:	Basin
BTH	:	Bath
CSK	:	Cleaners Sink
DF	:	Drinking Fountain
DW	:	Dishwasher
FW	:	Floor Waste
FWG	:	Floor Waste Gully
HWU	:	Hot Water Unit
IC	:	Inspection Opening
IO	:	Inspection Chamber
MH	:	Manhole
ORG	:	Overflow Relief Gully
SHR	:	Shower
SK	:	Sink
SW	:	Stormwater
SWP	:	Storm Water Pit
LT	:	Laundry Tub
TD	:	Tundish
UR	:	Urinal
VP	:	Vent Pipe
WC	:	Water Closet
WM	:	Washing Machine

ROCKHAMPTON REGIONAL COUNCIL

APPROVED PLANS

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Development Permit No.: D/6-2019

Dated: 21 March 2019

REVISIONS			
No.	DESCRIPTION	DATE	
A	TENDER ISSUE	22/11/18	

PROPOSED RESIDENCE
FOR M & S. IHSAN
AT 259 ARCHER STREET
THE RANGE

this drawing: Ground Floor Slab & SW Drainage Plan

Rufus Design Group
STYLE • QUALITY • INNOVATION
MEMBER BUILDING DESIGNERS ASSOC. OF QLD INC.
Licenced under the QBSA Act Lic No. 1180286
Telephone 61 7 49288011
Facsimile 61 7 49266579
E-mail mailbox@rufusdesigngroup.com

PROJECT MANAGER : T.J.R.
DRAWN : DAW
CHKD : T.J.R.
WIND SPEED C1
PLAN SIZE: A2
PROJECT NUMBER 180107 - 05
SHEET 05 OF 14 SHEETS
REVISION A

PRINT DATE : 23/11/2018 1:05:01 PM

AVIATION PROJECTS

M & S Ihsan
4 Red Penda Court
Norman Gardens, QLD 4701

By email: umerihsan@hotmail.com

Our ref: 062501-01

Dear Mr and Mrs Ihsan

Re: 259 Archer Street, The Range – Rockhampton Airport – Obstacle Limitation Surfaces Study

Please find in this correspondence an assessment of the proposed development located at 259 Archer Street, The Range, Rockhampton, QLD 4700 relative to the obstacle limitation surfaces (OLS) of Rockhampton Airport.

1.1. Project background

Rufus Design Group (RDG) is preparing an application for height concession with Rockhampton Regional Council for a residential house located on Lot 35R26183 at 259 Archer Street, The Range, Rockhampton, in Queensland (QLD).

The proposed development (the Project) involves the construction of a two-storey residential house.

Figure 1 shows the proposed design of the project (source: RDG, project No. 180107-17, revision A, dated 22 November 2018).

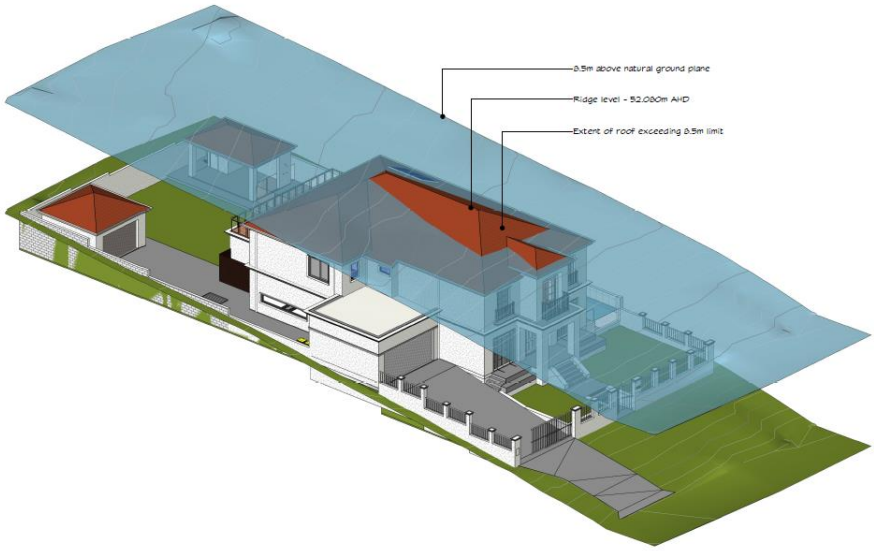
1.2. Scope of Works

RDG has engaged Aviation Projects to set out the planning context from an aviation perspective and prepare an assessment of the project relative to Rockhampton Airport's OLS.

1.3. Task methodology

The task was performed according to the steps outlined below:

1. Review supplied client material;
2. Review and set out the planning context;
3. Prepare an OLS assessment;
4. Prepare a draft letter report for client review; and
5. Prepare a final report for client acceptance.



3D - Roof Height - Extent exceeding 0.5m (above natural ground)

REVISIONS

No.	DESCRIPTION	DATE
A	TENDER ISSUE	22/11/18

PROPOSED RESIDENCE
FOR M & S. IHSAN
AT 259 ARCHER STREET
THE RANGE

Rufus Design Group
STYLE · QUALITY · INNOVATION
MBIBER BUILDING DESIGNERS ASSOC. OF QLD INC. Licenced under the QBSA Act Lic No. 1160286
Telephone 61 7 49288011
Facsimile 61 7 49266579
E-mail mailbox@rufusdesigngroup.com

PROJECT MANAGER : T.J.R.
DRAWN : DAW
CHKD :
WIND SPEED C1
PLAN SIZE A3
PROJECT NUMBER 180107 - 17
SHEET 01 OF 01 SHEETS
REVISION A
PRINT DATE : 19/02/2019 12:48:07 PM

Figure 1 Proposed residence at 259 Archer Street

1.4. References

References used or consulted in the preparation of this report include:

- Airservices Australia, Aeronautical Information Package; including AIP Book, Departure and Approach Procedures, and En Route Supplement Australia effective 28 February 2019;
- Civil Aviation Safety Authority, *Manual of Standards Part 139 – Aerodromes*, version 1.14: dated January 2017;
- Department of Infrastructure, Local Government and Planning, QLD State Government, Development Assessment mapping system and State Planning Policy Planning interactive mapping system;
- Rockhampton Region Planning Scheme, version 1.1, dated 2015; and
- other references as noted.

1.5. Client material

RDG provided the following materials for the purposes of this assessment:

- RDG, Proposed Residence for M & S Ihsan at 259 Archer Street the Range.pdf, project number 180117-17, revision A, dated 22 November 2018;
- RDG, Application for Height Concession;
- Rockhampton Regional Council, Airport Height Limitation Map, accessed 20 February 2019; and
- Rockhampton Airport, Rockhampton Airport Master Plan 2017-2037,17 November 2017.

1.6. Site overview

The Project site is located approximately 1.3 km (0.7 nm) north east from Rockhampton Airport's runway 33 threshold.

Figure 2 shows the location of the project relative to Rockhampton Airport (source: Google Earth, 2019).

Figure 2 Project site location

1.7. Planning context

The Civil Aviation Safety Authority (CASA) regulates aviation activities in Australia. Applicable requirements include the Civil Aviation Regulations 1988 (CAR), Civil Aviation Safety Regulations 1998 (CASR) and associated Manual of Standards (MOS) and other guidance material.

Chapter 7 of Manual of Standards Part 139—*Aerodromes,* provides specific regulatory provisions relating to obstacle limitation surfaces which are copied below:

> *7.1.3.1 An aerodrome operator must establish the OLS applicable to the aerodrome.*
>
> ***Note:*** *A description and illustration of the obstacle limitation surfaces is provided in Section 7.3.*
>
> *7.1.3.2 The following OLS must be established for a non-instrument runway and a non-precision instrument runway:*
>
> *(a) conical surface;*
>
> *(b) inner horizontal surface;*
>
> *(c) approach surface;*
>
> *(d) transitional surface; and*
>
> *(e) take-off climb surface.*
>
> *7.1.3.4 The physical dimensions of the OLS surfaces, for approach runways, must be determined using Table 7.1-1.*

A copy of Table 7.1-1 is provided in Figure 3.

Table 7.1-1: Approach Runways

OLS & Dimensions (in metres and percentages)	Runway Classification									
	Non-instrument				Instrument					
					Non-precision			Precision		
	Code No				Code No			I Code No		II & III Code No
	1*	2	3	4	1, 2	3	4	1, 2	3, 4	3, 4
OUTER HORIZONTAL										
Height (m)									150	150
Radius (m)									15000	15000
CONICAL										
Slope	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Height (m)	35	55	75	100	60	75	100	60	100	100
INNER HORIZONTAL										
Height (m)	45	45	45	45	45	45	45	45	45	45
Radius (m)	2000	2500	4000	4000	3500	4000	4000	3500	4000	4000
APPROACH										
Length of inner edge (m)	60	80	150[a]	150	90	150	300[b]	150	300	300
Distance from threshold (m)	30	60	60	60	60	60	60	60	60	60
Divergence each side	10%	10%	10%	10%	15%	15%	15%	15%	15%	15%
First section length (m)	1600	2500	3000	3000	2500	3000	3000	3000	3000	3000
Slope	5%	4%	3.33%	2.5%	3.33%	3.33%	2%	2.5%	2%	2%
Second section length (m)	-	-	-	-	-	3600[c]	3600	12000	3600	3600
Slope	-	-	-	-	-	2.5%[c]	2.5%	3%	2.5%	2.5%
Horizontal section length (m)	-	-	-	-	-	8400[c]	8400	-	8400	8400
Total length (m)	1600	2500	3000	3000	2500	15000[d]	15000	15000	15000	15000
INNER APPROACH										
Width (m)								90	120	120
Distance from threshold (m)								60	60	60
Length (m)								900	900	900
Slope								2.5%	2%	2%
TRANSITIONAL										
Slope	20%	20%	14.3%	14.3%	20%	14.3%	14.3%	14.3%	14.3%	14.3%
INNER TRANSITIONAL										
Slope								40%	33.3%	33.3%
BAULKED LANDING										
Length of inner edge (m)								90	120	120
Distance from threshold (m)								[e]	1800[f]	1800
Divergence each side								10%	10%	10%
Slope								4%	3.3%	3.3%

Figure 3 A copy of Table 7.1-1

1.8. Rockhampton Region Planning Scheme

Rockhampton Region Planning Scheme version 1.1. dated 2015 includes an Airport environs overlay code. The purpose of the airport environs overlay code is to ensure that:

(a) *the current and future operations of the Rockhampton Airport and associated aviation facilities are not adversely impacted by development and land uses;*

(b) *development within the vicinity of the Rockhampton Airport is not adversely impacted by the operation of airports and aviation facilities; and*

(c) *the number of people likely to be adversely affected by significant aircraft noise is not increased.*

Acceptable Outcome A01.1 of Rockhampton Region Planning Scheme ensures that new development does not penetrate the airport's operational airspace as identified on overlay map OM-2A.

Copy of overlay map OM-2A is provided in Figure 4 (source: Rockhampton Region Planning Scheme, version 1.1, dated 2015.

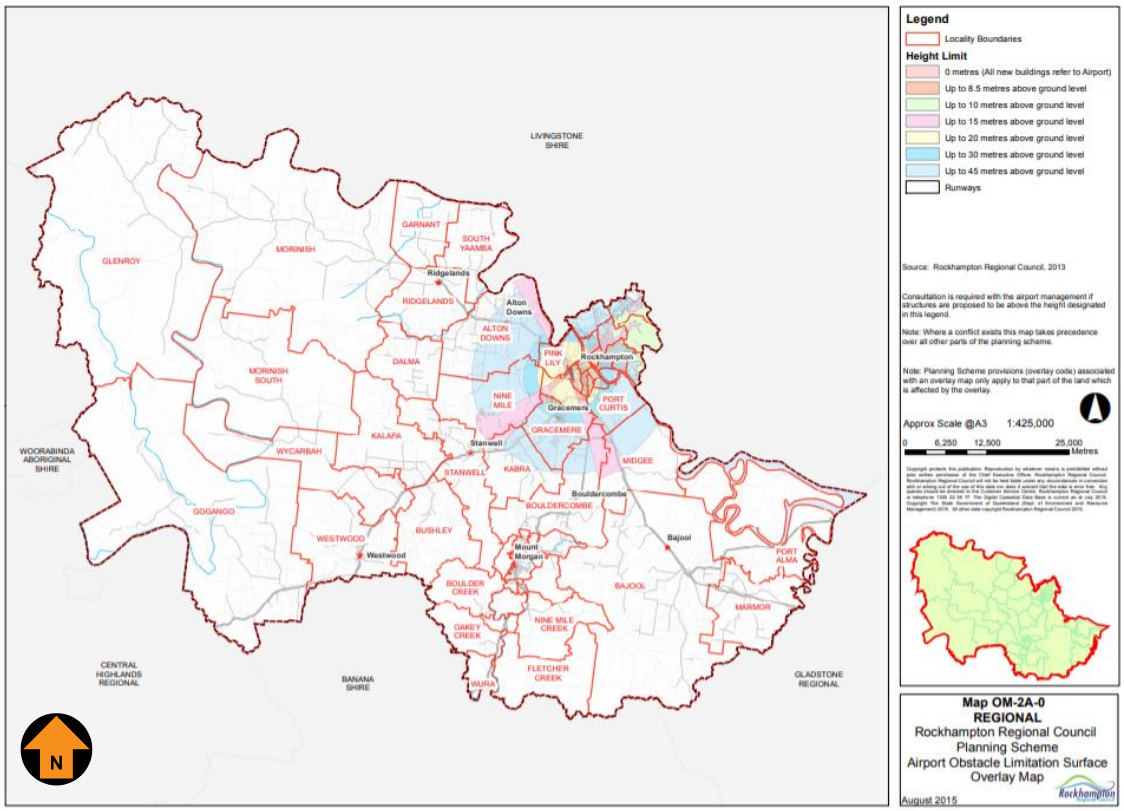


Figure 4 Airport Obstacle Limitation Surface Overlay Map OM-2A

A close up of Rockhampton overlay map OM-2A is provided in Figure 5.

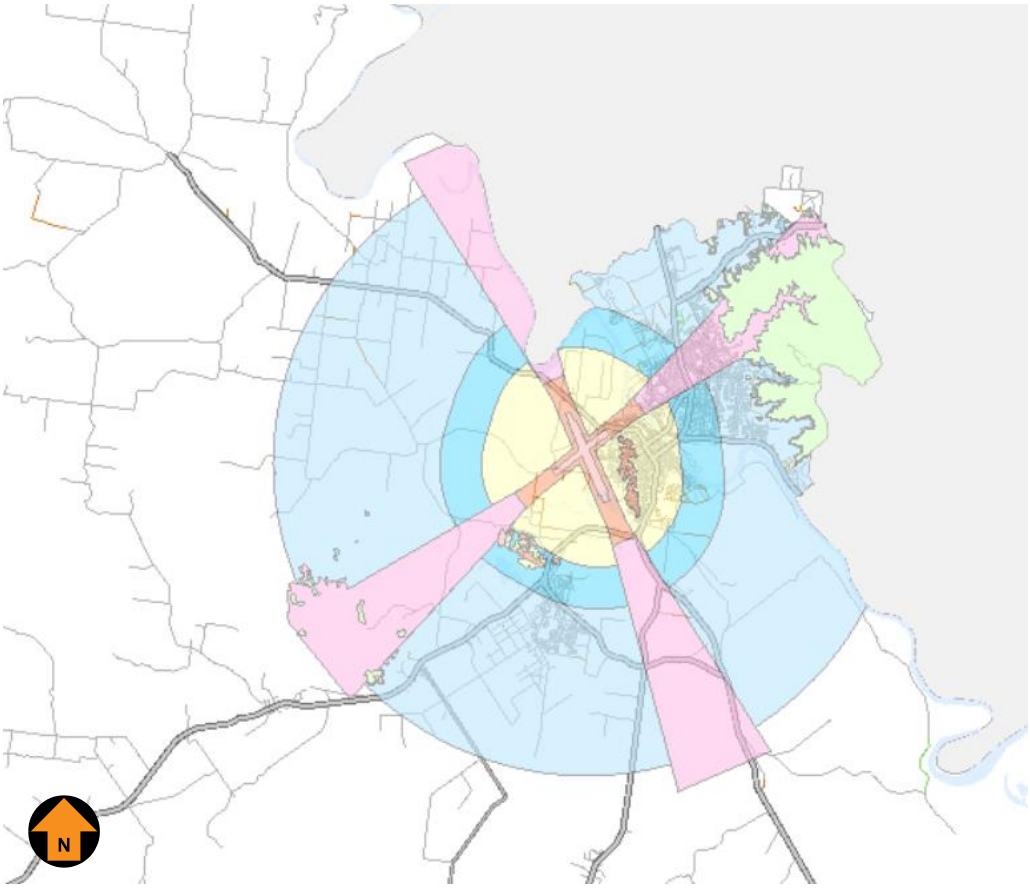


Figure 5 Rockhampton Airport's OLS - Rockhampton Region Planning Scheme Maps

The Rockhampton Airport OLS Overlay map shows new development height constraints in metres above ground level (AGL) rather than specifying the OLS's height constraint in metres Australian Height Datum (AHD). This is not as specified in Chapter 7 of the MOS 139. Therefore, for the purposes of the OLS assessment, the overlay map OM-2A does not provide sufficient information to assess the potential impact of the Project on the OLS.

1.9. Rockhampton Airport Master Plan

Rockhampton Airport Master Plan 2017-2037 (dated 17 November 2017) considers the OLS for the long-term future airport development. These OLS are based on Code 4 (runway 04/22) and Code 2 (runway 13/33) runways.

Exhibit 7-1 of Rockhampton Airport Master Plan in relation to Rockhampton Airport OLS is provided in Figure 6.

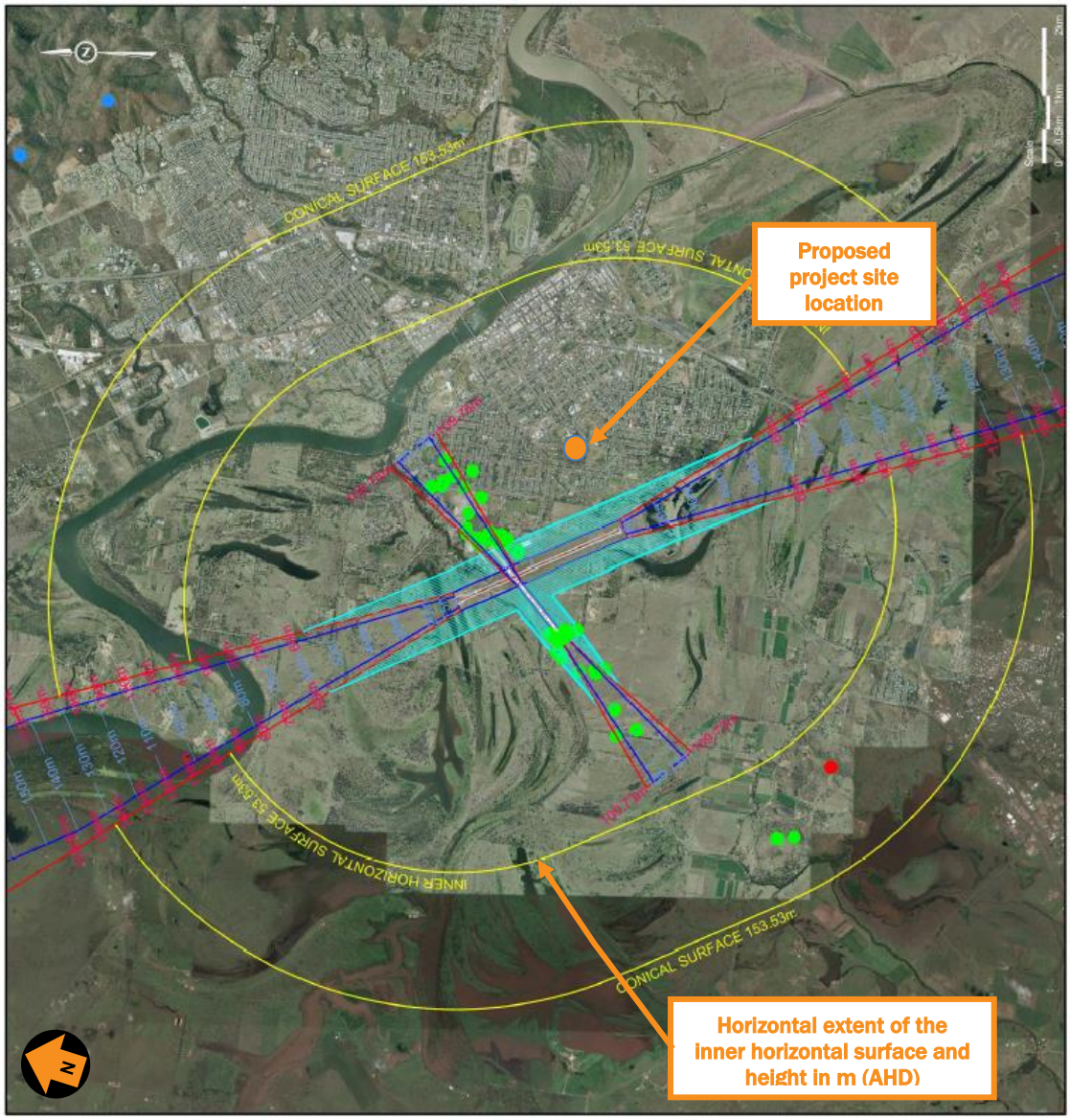


Figure 6 Copy of Exhibit 7-1

The height of the inner horizontal surface as illustrated in the Rockhampton Airport Master Plan is 53.53 m AHD. The height of the inner horizontal surface should be rounded off to 53.5 m AHD as per the recommendations of subsection 7.3.2.1 of MOS 139.

1.10. State Planning Interactive Mapping System

Due to discrepancies in the inner horizontal surface height of Rockhampton Airport presented in Rockhampton Region Planning Scheme version 1.1. dated 2015 and Rockhampton Airport Master Plan 2017-2037 (dated 22 November 2017), the Queensland Government's State Planning Interactive Mapping System was used to cross-check the OLS assessment.

An overview of the Project site area relative to the inner horizontal surface is provided in Figure 7 (source: Queensland Government, State Planning Interactive Mapping System, Strategic Airport and Aviation Facilities, Obstacle limitation surfaces contours). This data source indicates the height of the inner horizontal surface is 53.5 m AHD.

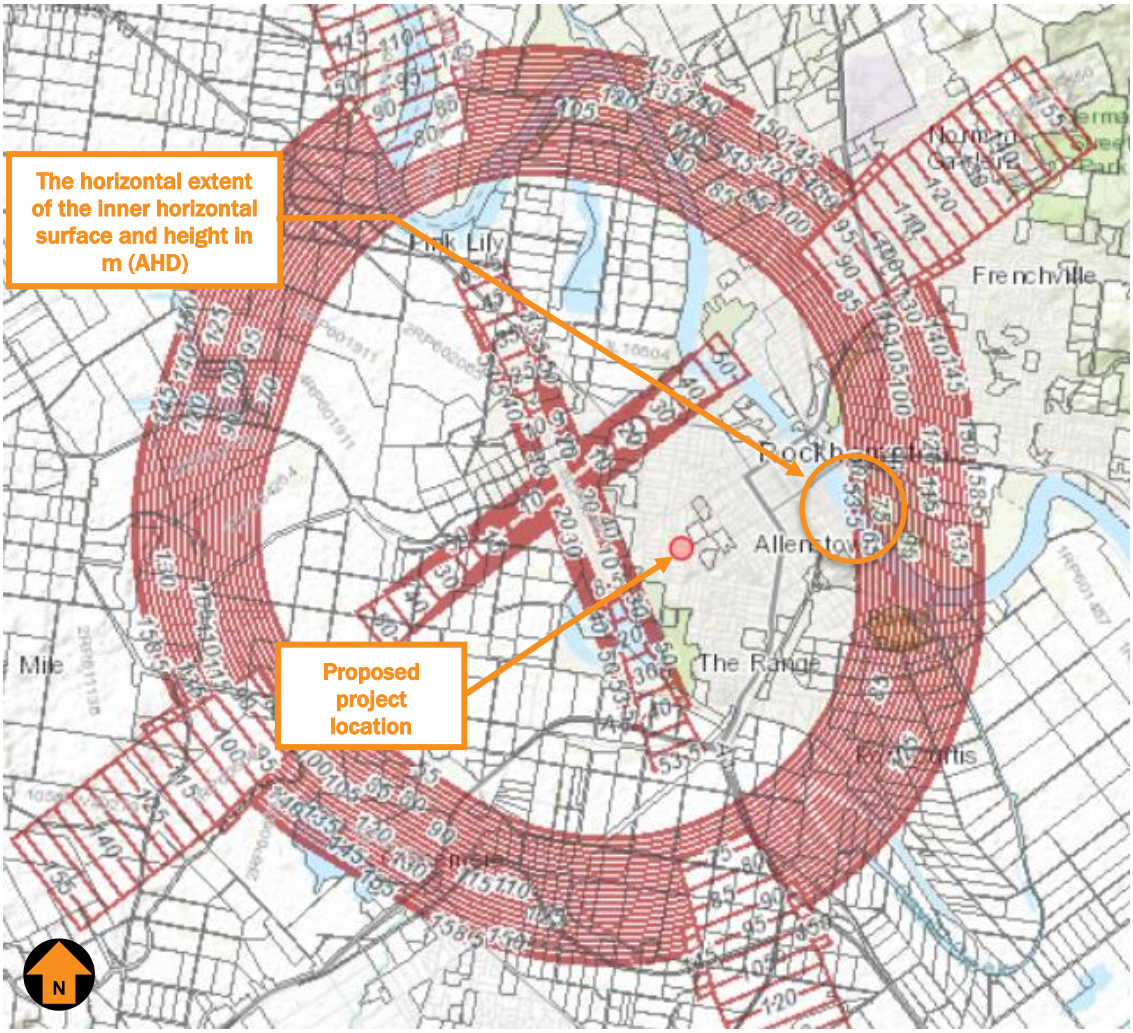


Figure 7 Proposed project site area overview

A close up of the project site location relative to the inner horizontal surface of Rockhampton Airport is provided in Figure 8 (source: Queensland Government, State Planning Interactive Mapping System, Strategic Airport and Aviation Facilities, Obstacle limitation surfaces contours).

Figure 8 A close up of the project site vs inner horizontal surface

1.11. OLS assessment

Runway 15/33 at Rockhampton Airport is an instrument, non-precision Code 4 runway. According to MOS 139 Chapter 7, the critical obstacle limitation surfaces for an instrument, non-precision Code 4 runway are as follows:

- Conical surface at 5% slope and 100 m in height;
- Inner horizontal surface 4000 m in radius and up to 45 m in height;
- Approach and take-off surface total length – 15 000 m; and
- Transitional surface – at 14.3% slope from the edge of a runway strip.

The project is located within the horizontal extent of the inner horizontal surface of Rockhampton Airport. This surface is a horizontal plane at 45 m above Rockhampton Airport's reference elevation datum and within a radius of 4000 m from the edge of the runway strip.

The project site is constrained by the inner horizontal surface at a height of approximately 53.5 m AHD, which is based on a reference elevation datum of 8.5 m AHD plus 45 m height of the inner transitional surface.

The residence roof height is 52.080 m AHD (as per drawing 180107-17, revision A, dated 22 November 2018) which is approximately 1.42 m below the upper limit of the inner horizontal surface. Therefore, the proposed project will not penetrate the inner horizontal surface of Rockhampton Airport.

1.12. Summary

Aviation Projects has concluded that the proposed project located on Lot 35R26183 (259 Archer Street, The Range, Rockhampton, QLD 4700) will be located within the horizonal extent of, and approximately 1.42 m AHD below, the inner horizontal surface of Rockhampton Airport and will therefore not penetrate the obstacle limitation surfaces of Rockhampton Airport.

If you wish to clarify or discuss the contents of this correspondence, please contact me on 0417 631 681.

Kind regards

Keith Tonkin

Managing Director

14 March 2019