From: Greg <greg@skyringdesign.com.au>
Sent: Friday, 22 October 2021 3:32 PM
To: Enquiries
Subject: R. Joshua DA
Attachments: DECISION NOTICE (orig).pdf; DA cover & report-Joshua-Diwan 22.10.21.doc; DAForm1-Joshua-Diwan.docx; DAForm2-Joshua-Diwan 22.10.21.docx; Joshua Renovation C 22.10.21.pdf; Orig Joshua Geotech Report (amended).pdf; Geotechnical Assessment_Rev-0_combined.pdf; P21-003_63 Stonewood_Retaining walls_Preliminary stamped.pdf

Hello,

Please find attached material for the above mentioned development application:
- Original DA approval
- Covering Letter
- DA Forms 1 & 2
- Proposed Plan set
- Original Geotechnical Report
- Recent Geotechnical Report
- Geotechnical Stamped Retaining Wall Designs.

Regards,

GREG SKYRING,
BSA Lic No 65264 (Building Design - Medium Rise)
GREG SKYRING DESIGN & DRAFTING PTY LTD
BSA Lic No 1040371 (Building Design - Medium Rise)
Building Designers
11 Noli Close, MOSSMAN Q 4873
Phone: 07 40982061 Mob: 0419212652

DA Form 1 – Development application details

Approved form (version 1.3 effective 28 September 2020) made under section 282 of the Planning Act 2016.

This form **must** be used to make a development application **involving code assessment or impact assessment**, except when applying for development involving only building work.

For a development application involving **building work only**, use *DA Form 2 – Building work details*.

For a development application involving **building work associated with any other type of assessable development (i.e. material change of use, operational work or reconfiguring a lot)**, use this form (*DA Form 1*) **and** parts 4 to 6 of *DA Form 2 – Building work details.*

Unless stated otherwise, all parts of this form **must** be completed in full and all required supporting information **must** accompany the development application.

One or more additional pages may be attached as a schedule to this development application if there is insufficient space on the form to include all the necessary information.

This form and any other form relevant to the development application must be used to make a development application relating to strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994*, and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008.* For the purpose of assessing a development application relating to strategic port land and Brisbane core port land, any reference to a planning scheme is taken to mean a land use plan for the strategic port land, Brisbane port land use plan for Brisbane core port land, or a land use plan for airport land.

Note: *All terms used in this form have the meaning given under the Planning Act 2016, the Planning Regulation 2017, or the Development Assessment Rules (DA Rules).*

PART 1 – APPLICANT DETAILS

1) Applicant details	
Applicant name(s) (*individual or company full name*)	Russell Joshua
Contact name *(only applicable for companies)*	Greg Skyring Design and Drafting Pty Ltd - Greg Skyring
Postal address *(P.O. Box or street address)*	11 Noli Close
Suburb	Mossman
State	Qld
Postcode	4873
Country	Aus
Contact number	0740982061
Email address *(non-mandatory)*	greg@skyringdesign.com.au
Mobile number *(non-mandatory)*	
Fax number *(non-mandatory)*	
Applicant's reference number(s) *(if applicable)*	

2) Owner's consent
2.1) Is written consent of the owner required for this development application?
☐ Yes – the written consent of the owner(s) is attached to this development application ☒ No – proceed to 3)

PART 2 – LOCATION DETAILS

3) Location of the premises *(complete 3.1) or 3.2), and 3.3) as applicable)*

***Note**: Provide details below and attach a site plan for any or all premises part of the development application. For further information, see DA Forms Guide: Relevant plans.*

3.1) Street address and lot on plan

☐ Street address **AND** lot on plan (*all lots must be listed*), ***or***

☐ Street address **AND** lot on plan for an adjoining or adjacent property of the premises *(appropriate for development in water but adjoining or adjacent to land e.g. jetty, pontoon. All lots must be listed).*

a)	Unit No.	Street No.	Street Name and Type	Suburb
		63	Stonewood Road	Diwan
	Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)
	4873	196	RP740952	Douglas Shire
b)	Unit No.	Street No.	Street Name and Type	Suburb
	Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)

3.2) Coordinates of premises *(appropriate for development in remote areas, over part of a lot or in water not adjoining or adjacent to land e.g. channel dredging in Moreton Bay)*

***Note**: Place each set of coordinates in a separate row.*

☐ Coordinates of premises by longitude and latitude

Longitude(s)	Latitude(s)	Datum	Local Government Area(s) *(if applicable)*
		☐ WGS84 ☐ GDA94 ☐ Other:	

☐ Coordinates of premises by easting and northing

Easting(s)	Northing(s)	Zone Ref.	Datum	Local Government Area(s) *(if applicable)*
		☐ 54 ☐ 55 ☐ 56	☐ WGS84 ☐ GDA94 ☐ Other:	

3.3) Additional premises

☐ Additional premises are relevant to this development application and the details of these premises have been attached in a schedule to this development application

☒ Not required

4) Identify any of the following that apply to the premises and provide any relevant details

☐ In or adjacent to a water body or watercourse or in or above an aquifer

Name of water body, watercourse or aquifer:

☐ On strategic port land under the *Transport Infrastructure Act 1994*

Lot on plan description of strategic port land:

Name of port authority for the lot:

☐ In a tidal area

Name of local government for the tidal area *(if applicable)*:

Name of port authority for tidal area *(if applicable)*:

☐ On airport land under the *Airport Assets (Restructuring and Disposal) Act 2008*

Name of airport:

☐ Listed on the Environmental Management Register (EMR) under the *Environmental Protection Act 1994*	
EMR site identification:	
☐ Listed on the Contaminated Land Register (CLR) under the *Environmental Protection Act 1994*	
CLR site identification:	

5) Are there any existing easements over the premises?

Note: Easement uses vary throughout Queensland and are to be identified correctly and accurately. For further information on easements and how they may affect the proposed development, see DA Forms Guide.

☐ Yes – All easement locations, types and dimensions are included in plans submitted with this development application

☒ No

PART 3 – DEVELOPMENT DETAILS

Section 1 – Aspects of development

6.1) Provide details about the first development aspect

a) What is the type of development? *(tick only one box)*

☐ Material change of use ☐ Reconfiguring a lot ☒ Operational work ☒ Building work

b) What is the approval type? *(tick only one box)*

☒ Development permit ☐ Preliminary approval ☐ Preliminary approval that includes a variation approval

c) What is the level of assessment?

☒ Code assessment ☐ Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots)*:

Part Demolition, Addition and Renovation to existing Dwelling House and Carport. New concrete retaining walls

e) Relevant plans

***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms guide: Relevant plans.*

☒ Relevant plans of the proposed development are attached to the development application

6.2) Provide details about the second development aspect

a) What is the type of development? *(tick only one box)*

☐ Material change of use ☐ Reconfiguring a lot ☐ Operational work ☐ Building work

b) What is the approval type? *(tick only one box)*

☐ Development permit ☐ Preliminary approval ☐ Preliminary approval that includes a variation approval

c) What is the level of assessment?

☐ Code assessment ☐ Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots)*:

e) Relevant plans

***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms Guide: Relevant plans.*

☐ Relevant plans of the proposed development are attached to the development application

6.3) Additional aspects of development

☒ Additional aspects of development are relevant to this development application and the details for these aspects that would be required under Part 3 Section 1 of this form have been attached to this development application

☐ Not required

Section 2 – Further development details

7) Does the proposed development application involve any of the following?	
Material change of use	☐ Yes – complete division 1 if assessable against a local planning instrument
Reconfiguring a lot	☐ Yes – complete division 2
Operational work	☒ Yes – complete division 3
Building work	☒ Yes – complete *DA Form 2 – Building work details*

Division 1 – Material change of use

***Note**: This division is only required to be completed if any part of the development application involves a material change of use assessable against a local planning instrument.*

8.1) Describe the proposed material change of use			
Provide a general description of the proposed use	Provide the planning scheme definition *(include each definition in a new row)*	Number of dwelling units *(if applicable)*	Gross floor area (m^2) *(if applicable)*

8.2) Does the proposed use involve the use of existing buildings on the premises?
☒ Yes
☐ No

Division 2 – Reconfiguring a lot

***Note**: This division is only required to be completed if any part of the development application involves reconfiguring a lot.*

9.1) What is the total number of existing lots making up the premises?

9.2) What is the nature of the lot reconfiguration? *(tick all applicable boxes)*	
☐ Subdivision *(complete 10))*	☐ Dividing land into parts by agreement *(complete 11))*
☐ Boundary realignment *(complete 12))*	☐ Creating or changing an easement giving access to a lot from a constructed road *(complete 13))*

10) Subdivision				
10.1) For this development, how many lots are being created and what is the intended use of those lots:				
Intended use of lots created	Residential	Commercial	Industrial	Other, please specify:
Number of lots created				

10.2) Will the subdivision be staged?	
☐ Yes – provide additional details below ☐ No	
How many stages will the works include?	
What stage(s) will this development application apply to?	

11) Dividing land into parts by agreement – how many parts are being created and what is the intended use of the parts?				
Intended use of parts created	Residential	Commercial	Industrial	Other, please specify:
Number of parts created				

12) Boundary realignment			
12.1) What are the current and proposed areas for each lot comprising the premises?			
Current lot		Proposed lot	
Lot on plan description	Area (m^2)	Lot on plan description	Area (m^2)
12.2) What is the reason for the boundary realignment?			

13) What are the dimensions and nature of any existing easements being changed and/or any proposed easement? *(attach schedule if there are more than two easements)*				
Existing or proposed?	Width (m)	Length (m)	Purpose of the easement? *(e.g. pedestrian access)*	Identify the land/lot(s) benefitted by the easement

Division 3 – Operational work

***Note**: This division is only required to be completed if any part of the development application involves operational work.*

14.1) What is the nature of the operational work?		
☐ Road work	☐ Stormwater	☐ Water infrastructure
☐ Drainage work	☒ Earthworks	☐ Sewage infrastructure
☐ Landscaping	☐ Signage	☐ Clearing vegetation
☒ Other – please specify:	Construction of concrete retaining walls	
14.2) Is the operational work necessary to facilitate the creation of new lots? *(e.g. subdivision)*		
☐ Yes – specify number of new lots:		
☒ No		
14.3) What is the monetary value of the proposed operational work? *(include GST, materials and labour)*		
$		

PART 4 – ASSESSMENT MANAGER DETAILS

15) Identify the assessment manager(s) who will be assessing this development application
Douglas Shire Council
16) Has the local government agreed to apply a superseded planning scheme for this development application?
☐ Yes – a copy of the decision notice is attached to this development application
☐ The local government is taken to have agreed to the superseded planning scheme request – relevant documents attached
☒ No

PART 5 – REFERRAL DETAILS

17) Does this development application include any aspects that have any referral requirements?
***Note**: A development application will require referral if prescribed by the* Planning Regulation 2017.

☒ No, there are no referral requirements relevant to any development aspects identified in this development application – proceed to Part 6

Matters requiring referral to the **Chief Executive of the *Planning Act 2016*:**

☐ Clearing native vegetation
☐ Contaminated land *(unexploded ordnance)*
☐ Environmentally relevant activities (ERA) *(only if the ERA has not been devolved to a local government)*
☐ Fisheries – aquaculture
☐ Fisheries – declared fish habitat area
☐ Fisheries – marine plants
☐ Fisheries – waterway barrier works
☐ Hazardous chemical facilities
☐ Heritage places – Queensland heritage place *(on or near a Queensland heritage place)*
☐ Infrastructure-related referrals – designated premises
☐ Infrastructure-related referrals – state transport infrastructure
☐ Infrastructure-related referrals – State transport corridor and future State transport corridor
☐ Infrastructure-related referrals – State-controlled transport tunnels and future state-controlled transport tunnels
☐ Infrastructure-related referrals – near a state-controlled road intersection
☐ Koala habitat in SEQ region – interfering with koala habitat in koala habitat areas outside koala priority areas
☐ Koala habitat in SEQ region – key resource areas
☐ Ports – Brisbane core port land – near a State transport corridor or future State transport corridor
☐ Ports – Brisbane core port land – environmentally relevant activity (ERA)
☐ Ports – Brisbane core port land – tidal works or work in a coastal management district
☐ Ports – Brisbane core port land – hazardous chemical facility
☐ Ports – Brisbane core port land – taking or interfering with water
☐ Ports – Brisbane core port land – referable dams
☐ Ports – Brisbane core port land – fisheries
☐ Ports – Land within Port of Brisbane's port limits *(below high-water mark)*
☐ SEQ development area
☐ SEQ regional landscape and rural production area or SEQ rural living area – tourist activity or sport and recreation activity
☐ SEQ regional landscape and rural production area or SEQ rural living area – community activity
☐ SEQ regional landscape and rural production area or SEQ rural living area – indoor recreation
☐ SEQ regional landscape and rural production area or SEQ rural living area – urban activity
☐ SEQ regional landscape and rural production area or SEQ rural living area – combined use
☐ Tidal works or works in a coastal management district
☐ Reconfiguring a lot in a coastal management district or for a canal
☐ Erosion prone area in a coastal management district
☐ Urban design
☐ Water-related development – taking or interfering with water
☐ Water-related development – removing quarry material *(from a watercourse or lake)*
☐ Water-related development – referable dams
☐ Water-related development –levees *(category 3 levees only)*
☐ Wetland protection area

Matters requiring referral to the **local government:**

☐ Airport land
☐ Environmentally relevant activities (ERA) (*only if the ERA has been devolved to local government)*

☐ Heritage places – Local heritage places

Matters requiring referral to the **Chief Executive of the distribution entity or transmission entity:**
☐ Infrastructure-related referrals – Electricity infrastructure

Matters requiring referral to:
- The **Chief Executive of the holder of the licence**, if not an individual
- The **holder of the licence**, if the holder of the licence is an individual

☐ Infrastructure-related referrals – Oil and gas infrastructure

Matters requiring referral to the **Brisbane City Council:**
☐ Ports – Brisbane core port land

Matters requiring referral to the **Minister responsible for administering the *Transport Infrastructure Act 1994*:**
☐ Ports – Brisbane core port land *(where inconsistent with the Brisbane port LUP for transport reasons)*
☐ Ports – Strategic port land

Matters requiring referral to the **relevant port operator**, if applicant is not port operator**:**
☐ Ports – Land within Port of Brisbane's port limits *(below high-water mark)*

Matters requiring referral to the **Chief Executive of the relevant port authority:**
☐ Ports – Land within limits of another port *(below high-water mark)*

Matters requiring referral to the **Gold Coast Waterways Authority:**
☐ Tidal works or work in a coastal management district *(in Gold Coast waters)*

Matters requiring referral to the **Queensland Fire and Emergency Service:**
☐ Tidal works or work in a coastal management district *(involving a marina (more than six vessel berths))*

18) Has any referral agency provided a referral response for this development application?

☐ Yes – referral response(s) received and listed below are attached to this development application
☒ No

Referral requirement	Referral agency	Date of referral response

Identify and describe any changes made to the proposed development application that was the subject of the referral response and this development application, or include details in a schedule to this development application *(if applicable).*

PART 6 – INFORMATION REQUEST

19) Information request under Part 3 of the DA Rules

☒ I agree to receive an information request if determined necessary for this development application
☐ I do not agree to accept an information request for this development application

***Note**: By not agreeing to accept an information request I, the applicant, acknowledge:*

- *that this development application will be assessed and decided based on the information provided when making this development application and the assessment manager and any referral agencies relevant to the development application are not obligated under the DA Rules to accept any additional information provided by the applicant for the development application unless agreed to by the relevant parties*
- *Part 3 of the DA Rules will still apply if the application is an application listed under section 11.3 of the DA Rules.*

Further advice about information requests is contained in the DA Forms Guide.

PART 7 – FURTHER DETAILS

20) Are there any associated development applications or current approvals? *(e.g. a preliminary approval)*

☒ Yes – provide details below or include details in a schedule to this development application
☐ No

List of approval/development application references	Reference number	Date	Assessment manager
☒ Approval ☐ Development application	MCUC 1667/2016	18/10/2016	Douglas Shire Council
☐ Approval ☐ Development application			

21) Has the portable long service leave levy been paid? *(only applicable to development applications involving building work or operational work)*

☐ Yes – a copy of the receipted QLeave form is attached to this development application
☐ No – I, the applicant will provide evidence that the portable long service leave levy has been paid before the assessment manager decides the development application. I acknowledge that the assessment manager may give a development approval only if I provide evidence that the portable long service leave levy has been paid
☐ Not applicable *(e.g. building and construction work is less than $150,000 excluding GST)*

Amount paid	Date paid (dd/mm/yy)	QLeave levy number (A, B or E)
$		

22) Is this development application in response to a show cause notice or required as a result of an enforcement notice?

☐ Yes – show cause or enforcement notice is attached
☒ No

23) Further legislative requirements

Environmentally relevant activities

23.1) Is this development application also taken to be an application for an environmental authority for an **Environmentally Relevant Activity (ERA)** under section 115 of the *Environmental Protection Act 1994*?

☐ Yes – the required attachment (form ESR/2015/1791) for an application for an environmental authority accompanies this development application, and details are provided in the table below
☒ No

***Note**: Application for an environmental authority can be found by searching "ESR/2015/1791" as a search term at www.qld.gov.au. An ERA requires an environmental authority to operate. See www.business.qld.gov.au for further information.*

Proposed ERA number:		Proposed ERA threshold:	
Proposed ERA name:			

☐ Multiple ERAs are applicable to this development application and the details have been attached in a schedule to this development application.

Hazardous chemical facilities

23.2) Is this development application for a **hazardous chemical facility**?

☐ Yes – *Form 69: Notification of a facility exceeding 10% of schedule 15 threshold* is attached to this development application
☒ No

***Note**: See www.business.qld.gov.au for further information about hazardous chemical notifications.*

Clearing native vegetation

23.3) Does this development application involve **clearing native vegetation** that requires written confirmation that the chief executive of the *Vegetation Management Act 1999* is satisfied the clearing is for a relevant purpose under section 22A of the *Vegetation Management Act 1999*?

☐ Yes – this development application includes written confirmation from the chief executive of the *Vegetation Management Act 1999* (s22A determination)

☒ No

***Note**: 1. Where a development application for operational work or material change of use requires a s22A determination and this is not included, the development application is prohibited development.*

2. See https://www.qld.gov.au/environment/land/vegetation/applying for further information on how to obtain a s22A determination.

Environmental offsets

23.4) Is this development application taken to be a prescribed activity that may have a significant residual impact on a **prescribed environmental matter** under the *Environmental Offsets Act 2014*?

☐ Yes – I acknowledge that an environmental offset must be provided for any prescribed activity assessed as having a significant residual impact on a prescribed environmental matter

☒ No

***Note**: The environmental offset section of the Queensland Government's website can be accessed at www.qld.gov.au for further information on environmental offsets.*

Koala habitat in SEQ Region

23.5) Does this development application involve a material change of use, reconfiguring a lot or operational work which is assessable development under Schedule 10, Part 10 of the Planning Regulation 2017?

☐ Yes – the development application involves premises in the koala habitat area in the koala priority area

☐ Yes – the development application involves premises in the koala habitat area outside the koala priority area

☒ No

***Note**: If a koala habitat area determination has been obtained for this premises and is current over the land, it should be provided as part of this development application. See koala habitat area guidance materials at www.des.qld.gov.au for further information.*

Water resources

23.6) Does this development application involve **taking or interfering with underground water through an artesian or subartesian bore, taking or interfering with water in a watercourse, lake or spring, or taking overland flow water under the *Water Act 2000***?

☐ Yes – the relevant template is completed and attached to this development application and I acknowledge that a relevant authorisation or licence under the *Water Act 2000* may be required prior to commencing development

☒ No

***Note**: Contact the Department of Natural Resources, Mines and Energy at www.dnrme.qld.gov.au for further information.*

DA templates are available from https://planning.dsdmip.qld.gov.au/. If the development application involves:

- *Taking or interfering with underground water through an artesian or subartesian bore: complete DA Form 1 Template 1*
- *Taking or interfering with water in a watercourse, lake or spring: complete DA Form1 Template 2*
- *Taking overland flow water: complete DA Form 1 Template 3.*

Waterway barrier works

23.7) Does this application involve **waterway barrier works?**

☐ Yes – the relevant template is completed and attached to this development application

☒ No

DA templates are available from https://planning.dsdmip.qld.gov.au/. For a development application involving waterway barrier works, complete DA Form 1 Template 4.

Marine activities

23.8) Does this development application involve **aquaculture, works within a declared fish habitat area or removal, disturbance or destruction of marine plants?**

☐ Yes – an associated *resource* allocation authority is attached to this development application, if required under the *Fisheries Act 1994*

☒ No

***Note**: See guidance materials at www.daf.qld.gov.au for further information.*

Quarry materials from a watercourse or lake

23.9) Does this development application involve the **removal of quarry materials from a watercourse or lake** under the *Water Act 2000?*

☐ Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development
☒ No

***Note**: Contact the Department of Natural Resources, Mines and Energy at www.dnrme.qld.gov.au and www.business.qld.gov.au for further information.*

Quarry materials from land under tidal waters

23.10) Does this development application involve the **removal of quarry materials from land under tidal water** under the *Coastal Protection and Management Act 1995?*

☐ Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development
☒ No

***Note**: Contact the Department of Environment and Science at www.des.qld.gov.au for further information.*

Referable dams

23.11) Does this development application involve a **referable dam** required to be failure impact assessed under section 343 of the *Water Supply (Safety and Reliability) Act 2008* (the Water Supply Act)?

☐ Yes – the 'Notice Accepting a Failure Impact Assessment' from the chief executive administering the Water Supply Act is attached to this development application
☒ No

***Note**: See guidance materials at www.dnrme.qld.gov.au for further information.*

Tidal work or development within a coastal management district

23.12) Does this development application involve **tidal work or development in a coastal management district**?

☐ Yes – the following is included with this development application:
- ☐ Evidence the proposal meets the code for assessable development that is prescribed tidal work *(only required if application involves prescribed tidal work)*
- ☐ A certificate of title

☒ No

***Note**: See guidance materials at www.des.qld.gov.au for further information.*

Queensland and local heritage places

23.13) Does this development application propose development on or adjoining a place entered in the **Queensland heritage register** or on a place entered in a local government's **Local Heritage Register**?

☐ Yes – details of the heritage place are provided in the table below
☒ No

***Note**: See guidance materials at www.des.qld.gov.au for information requirements regarding development of Queensland heritage places.*

Name of the heritage place:		Place ID:	

Brothels

23.14) Does this development application involve a **material change of use for a brothel**?

☐ Yes – this development application demonstrates how the proposal meets the code for a development application for a brothel under Schedule 3 of the *Prostitution Regulation 2014*
☒ No

Decision under section 62 of the *Transport Infrastructure Act 1994*

23.15) Does this development application involve new or changed access to a state-controlled road?

☐ Yes – this application will be taken to be an application for a decision under section 62 of the *Transport Infrastructure Act 1994* (subject to the conditions in section 75 of the *Transport Infrastructure Act 1994* being satisfied)
☒ No

Walkable neighbourhoods assessment benchmarks under Schedule 12A of the Planning Regulation

23.16) Does this development application involve reconfiguring a lot into 2 or more lots in certain residential zones (except rural residential zones), where at least one road is created or extended?

☐ Yes – Schedule 12A is applicable to the development application and the assessment benchmarks contained in schedule 12A have been considered

☐ No

***Note**: See guidance materials at www.planning.dsdmip.qld.gov.au for further information.*

PART 8 – CHECKLIST AND APPLICANT DECLARATION

24) Development application checklist	
I have identified the assessment manager in question 15 and all relevant referral requirement(s) in question 17 ***Note**: See the Planning Regulation 2017 for referral requirements*	☒ Yes
If building work is associated with the proposed development, Parts 4 to 6 of *DA Form 2 – Building work details* have been completed and attached to this development application	☒ Yes ☐ Not applicable
Supporting information addressing any applicable assessment benchmarks is with the development application ***Note**: This is a mandatory requirement and includes any relevant templates under question 23, a planning report and any technical reports required by the relevant categorising instruments (e.g. local government planning schemes, State Planning Policy, State Development Assessment Provisions). For further information, see DA Forms Guide: Planning Report Template.*	☒ Yes
Relevant plans of the development are attached to this development application ***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms Guide: Relevant plans.*	☒ Yes
The portable long service leave levy for QLeave has been paid, or will be paid before a development permit is issued (*see 21*)	☐ Yes ☒ Not applicable

25) Applicant declaration

☒ By making this development application, I declare that all information in this development application is true and correct

☐ Where an email address is provided in Part 1 of this form, I consent to receive future electronic communications from the assessment manager and any referral agency for the development application where written information is required or permitted pursuant to sections 11 and 12 of the *Electronic Transactions Act 2001*

***Note**: It is unlawful to intentionally provide false or misleading information.*

Privacy – Personal information collected in this form will be used by the assessment manager and/or chosen assessment manager, any relevant referral agency and/or building certifier (including any professional advisers which may be engaged by those entities) while processing, assessing and deciding the development application. All information relating to this development application may be available for inspection and purchase, and/or published on the assessment manager's and/or referral agency's website.

Personal information will not be disclosed for a purpose unrelated to the *Planning Act 2016*, Planning Regulation 2017 and the DA Rules except where:

- such disclosure is in accordance with the provisions about public access to documents contained in the *Planning Act 2016* and the Planning Regulation 2017, and the access rules made under the *Planning Act 2016* and Planning Regulation 2017; or
- required by other legislation (including the *Right to Information Act 2009*); or
- otherwise required by law.

This information may be stored in relevant databases. The information collected will be retained as required by the *Public Records Act 2002.*

PART 9 – FOR COMPLETION OF THE ASSESSMENT MANAGER – FOR OFFICE USE ONLY

Date received: | Reference number(s):

Notification of engagement of alternative assessment manager	
Prescribed assessment manager	
Name of chosen assessment manager	
Date chosen assessment manager engaged	
Contact number of chosen assessment manager	
Relevant licence number(s) of chosen assessment manager	

QLeave notification and payment *Note: For completion by assessment manager if applicable*			
Description of the work			
QLeave project number			
Amount paid ($)		Date paid (dd/mm/yy)	
Date receipted form sighted by assessment manager			
Name of officer who sighted the form			

GREG SKYRING Design
and DRAFTING PTY. LTD.
ATF THE SKYRING FAMILY TRUST
ABN 78 409 217 980

22nd October 2021

The Manager,
Planning Services,
Douglas Shire Council
P.O. Box 723
Mossman Q 4873

Attention: - Development Services

Dear Sir/Madam,

RE: APPLICATION FOR BUILDING AND OPERATIONAL WORK ASSESSABLE AGAINST THE PLANNING SCHEME –
PART DEMOLITION, ADDITION and RENOVATION to EXISTING DWELLING HOUSE,
DEMOLISH and RECONSTRUCT EXIST CARPORT, NEW CONCRETE RETAINING WALLS
on L196 RP740952, 63 STONWOOD ROAD, DIWAN
For R. JOSHUA

Attached is DA Forms 1 & 2 duly completed, together with sketches of the existing dwelling house, demolition area, extent of extension, and sketches of proposed gabion retaining walls with Form 15. Also attached are original and recent Geotechnical reports.

The following report provides supporting information to show compliance or otherwise with the planning scheme and codes within.

1.0 General Details

Applicant	R. Joshua
Contact	Greg Skyring, Greg Skyring Design and Drafting Pty Ltd 11 Noli Close, Mossman QLD 4873 Ph - 07 40982061 Email - greg@skyringdesign.com.au
Registered Owner of Land	R. Joshua
Real Property Description	L196 RP740952
Location	63 Stonewood Road, Diwan

1.0 – General Details continued

Tenure	Freehold
Land Area	10,110m ^{2}
Present Use	Dwelling house
Easements and Encumbrances	None
Local Government Authority	Douglas Shire Council
Planning Scheme	2018 Douglas Shire Planning Scheme
Planning Area	Conservation Zone
Assessment Level	Code Assessable
Applicable Codes	Refer Below

2.0 Assessment Against the Douglas Shire Planning Scheme Codes

Table 6.2.3.3.a - Conservation zone – assessable development

Performance Outcomes	Acceptable Outcomes	Comments
For assessable development		
PO1 The establishment of uses is consistent with the outcomes sought for the Conservation zone and protects the zone from the intrusion of inconsistent uses.	AO1 Uses identified in Table 6.2.3.3.b are not established in the Conservation zone.	Complies
PO2 The height of buildings is compatible with the character of the area and does not adversely affect the amenity of the area.	AO2 Buildings and structures are not more than 8.5 metres in height and two storeys. Note - Height is inclusive of roof height.	Complies. The renovations and additions will be no higher than current roof heights of 8.5m
PO3 Development is setback from site boundaries so they are screened from view from the boundaries of adjoining properties and adjoining roads to maintain the scenic values of the area.	AO3 Buildings and structures are setback not less than: (a) 40 metres from the frontage of a State-controlled road, existing or proposed arterial road, existing or proposed sub-arterial road, as identified on the Transport network overlay maps contained in Schedule 2; (b) 25 metres from Cape Tribulation Road frontage; (c) 20 metres from any other road frontage 10 metres from side and rear boundaries.	The original approved plan set nominates 8m clear to the north-eastern boundary. A cadastral survey has been carried out and the current boundary clearance is 6.625m. A relaxation is requested for a deck extension at 4.685m, as dimensioned on the Site Plan. In this reduced setback the general topography and vegetation will combine to create an acceptable buffer for noise and visual amenity.

PO4 The site coverage of all buildings and structures does not have an adverse effect on the conservation or scenic amenity values of the site and surrounding area and buildings are subservient to the natural environment.	PO4 Development is sited in an existing cleared area or an area approved for clearing, but which is not yet cleared until a development permit to carry out Building Works is issued. Any clearing is limited to a maximum area of 700m^2 and is sited clear of the high bank of any watercourse. Note – The 700m^2 area of clearing does not include an access driveway.	The exist building and additions are located in an existing cleared area. Footprint areas are: <u>Residence</u>- Exist floor area - 269m² Additional area - 177m² Total new area - 376m² <u>Carport</u> Exist floor area - 18m² (demolished) New area - 60m² <u>Max site cover</u> – 4.3%
PO5 Development is consistent with the overall outcomes sought for the Conservation zone.	AO5 No acceptable outcomes are prescribed.	Complies
PO6 Development complements, and is subservient to the surrounding environment and is in keeping with the ecological, landscape and scenic values of the area.	AO6.1 The exterior finishes and colours of all development are non-reflective and consist of colours that blend easily with surrounding native vegetation and view-shed.	Existing colours are leaf green to walls generally, dark grey roofing. To be replicated on the new structure
PO7 Development is screened from view from adjoining roads and properties with a dense screen of endemic/native landscape which: (a) is informal in character and complementary to the existing natural environment; (b) provides screening; (c) enhances the visual appearance of the development. Note – Planning scheme policy – Landscaping provides further guidance on meeting the performance outcome.	AO7.1 For any development, the balance area of the site not built upon, including all setback areas must be landscaped/revegetated with dense three tier, endemic planting which is maintained to ensure successful screening is achieved. AO7.2 Endemic palm species, where used, are planted as informal accent features and not as avenues and not in a regular pattern.	Complies
PO8 Development is complementary to the surrounding environment.	AO8.1 Development harmonises with the surrounding environment, for example, through suspended, light-weight construction on sloping sites, which requires minimal excavation or fill. AO8.2 A driveway or parking areas are constructed and maintained to: (a) minimise erosion, particularly in the wet season; (b) minimise cut and fill; (c) follow the natural contours of the site; (d) minimise vegetation clearing. AO8.3 Buildings and structures are erected on land not exceeding a maximum gradient of 1 in 6 (16.6%) or	Use of the development is consistent with the existing use and all adjacent properties. A concrete driveway is provided that is perpendicular to the general contour. Existing building has prior planning approval.

	On land steeper than 1 in 6 (16.6%) gradient: (e) A split level building form is utilised; (f) A single plane concrete slab is not utilised; (g) Any voids between building and ground level, or between outdoor decks and ground level are screened from view using lattice/battens and/or landscaping. and (h) is accompanied by a Geotechnical Report prepared by a qualified engineer at development application stage which includes certification that the site can be stabilised, followed by a certificate upon completion of works. AO8.4 Buildings and structures are sited below any ridgelines and are sited to avoid protrusion above the surrounding tree-level canopy.	Complies Complies Not necessary from a neighbours perspective Original and amended Geotech reports are attached New building part will be above the ridge line, but not the canopy level.
PO9 Development is located to: (a) protect the ecological values of the site and surrounding land; (b) maintain the scenic values of the area; (c) maintain appropriate setbacks to waterways, watercourses, wetlands, tidal areas and overland flow paths; (d) avoid areas that are vulnerable to natural hazards; (e) minimise to the greatest extent possible on site excavation and filling; (f) provide buffers to cultural, historical or ecological features; (g) minimise visibility from external sites or public viewing points; minimises to the greatest extent possible the loss of native vegetation and fauna habitat.	AO9 No acceptable outcomes are prescribed.	Complies
PO10 Development does not result in adverse impacts on: (a) ecological function or features; (b) on-site or surrounding waterways and wetlands.	AO10 No acceptable outcomes are prescribed.	Complies

PO11 Rehabilitation of natural processes on disturbed sites is undertaken to improve the environmental integrity of the area.	AO11 No acceptable outcomes are prescribed	Gabions will be placed to correct a minor slip in the vicinity of the dwelling north and west elevations.
PO12 Fencing is designed to not impede the free movement of native fauna through the site.	AO12 No acceptable outcomes are prescribed	No fencing will be installed.
PO13 New lots contain a minimum lot size of 200 hectares, unless: (a) the lot reconfiguration results in no additional lots (e.g. amalgamation, boundary realignments); (b) the reconfiguration is limited to one additional lot to accommodate an existing or approved: (i) Telecommunications facility; (ii) Utility installation; (c) the lot reconfiguration facilitates and outcome consistent with the Return to Country local plan. Note – Boundary realignments must result in an improved environmental outcome or resolve encroachments.	AO13 No acceptable outcomes are prescribed	N/A

Table 7.2.1.10a - Cape Tribulation and Daintree Coast local plan – assessable development

Performance Outcomes	Acceptable Outcomes	Comments
PO1 Development does not result in a demand which exceeds the capacity of: (a) the Daintree River ferry crossing; (b) Alexandra Range Road; (c) the local road network.	AO1 No acceptable outcomes are prescribed.	The proposed dwelling is acceptable development, with no further population capacity as original,so should fit within the expected traffic density for the region.
PO2 Development provides a suitable standard of self-sufficient service for: (a) potable water; (b) water for fire fighting purposes; (c) electricity supply.	AO2.1 Water storage is provided in tank/s with a minimum capacity to service the proposed use, including fire fighting capacity, and access to the tank/s for fire trucks. Tank/s are to be: (a) fitted with a 50mm ball valve and camlock fitting; (b) installed and connected prior to occupation; (c) sited so as to be visually unobtrusive.	Complying water storage tanks are existing, with combined domestic use and fire fighting as set out in the acceptable outcomes.

	AO2.2 Water storage tanks are to be fitted with screening at their inlets to prevent the intrusion of leaves and insects. AO2.3 An environmentally acceptable and energy efficient power supply is constructed, installed and connected prior to occupation and sited so as to be screened from the road.	Complies Existing solar panels and ancillary equipment will be upgraded.
PO3 On-site waste water does not adversely impact on the environmental quality of the water and soil resources or amenity of residents, through the implementation of best environmental practice.	AO3 No acceptable outcomes are prescribed	An existing waste water system is appropriate for the proposed works, as there is no increase in the population density from original.
PO4 The sustainability of the natural water resources of the area is protected for ecological and domestic consumption purposes	AO4.1 If groundwater is to be used, development is limited to one bore per site and the bore is: not located within 100 metres of a septic disposal trench (on the site or adjoining sites); not located within 100 metres of another bore. AO4.2 Surface water is to be used for domestic purposes only.	N/A Roof catchment will be directed to sufficiently service the storage tanks.
PO5 Development does not adversely impact on areas of sensitive natural vegetation, foreshore areas, watercourses and/or areas of tidal inundation.	AO5 No acceptable outcomes are prescribed.	Complies
PO6 Development is subservient to the surrounding natural environment in scale and intensity and is designed to be functional in a humid tropical rainforest environment.	AO6.1 The exterior finishes and colours of buildings are non-reflective and complement the colours of the surrounding vegetation and view shed. AO6.2 The noise of generators is controlled by design, or the generator is enclosed within a sound insulated building with a residential approved muffler. The noise level generated is less than 65 dBA when measured from a distance of 7 metres. AO6.3 Any fuel storage associated with an on-site generator, with storage of 20 litres or more of fuel, is enclosed with a building and provided with a bund.	Existing colours are leaf green to walls generally, dark grey roofing and will be replicated on the new structure Owner to be advised Owner to be advised

PO7 Landscaping of the development ensures that the endemic character of the local area is dominant.	AO7.1 Landscaping complies with the requirements of Planning Scheme Policy 7 – Landscaping; AO7.2 All of the existing landscaping to be retained and all of the proposed landscaping is 100% endemic or native species and the details are provided on a landscape plan.	Complies Endemic species will be allowed to re-establish in areas where minor clearing has occurred.
PO8 Site access driveways and roads within the local plan area are retained as safe, slow speed, scenic drives.	AO8.1 Site access driveways and existing or proposed roads comply with the relevant requirements of Planning Scheme Policy 5 – FNQROC Development Manual and are maintained as low speed gravel roads to maintain the scenic drive experience and to discourage the use of roads by through-traffic; AO8.2 Where existing roads/tracks are 4-wheel drive only, upgrading to facilitate conventional vehicles and an increase in through traffic does not occur.	Concrete driveway provided
PO9 The on-site impacts on natural flow regimes and erosion and sedimentation are minimised.	AO9.1 Filling and excavation is kept to a minimum and involves not more than 5% of the cleared area of the lot. AO9.2 All exposed surfaces must incorporate erosion and sediment controls during construction and must be maintained until revegetation, or other permanent stabilisation, has occurred. AO9.3 This is no disturbance to tree roots and trenching does not involve any damage to tree roots. AO9.4 On-site drainage and stormwater management: (a) maintains natural flow regimes; (b) minimises impervious surfaces; avoids concentration of flows, but where there is any form of concentration of flow, energy dissipation measures are installed at the outlet to avoid erosion (e.g. rock rip rap, gravel beds, diffusers etc.)	Minor cut will be required for the building additions and retaining walls. A shallow concrete table drain is to be directed around the building and connected to the existing stormwater system. N/A Downpipes to be advised.
General requirements – Dwelling house		
PO10 Development minimises the loss of vegetation and habitat connectivity on site and is sited to protect the environmental values of the site.	AO10.1 The elements of development and access to the site are included in a Designated Development Area (DDA). AO10.2 Development is sited in an existing cleared area or in an area approved	Complies Complies

	for vegetation clearing. AO10.3 Any new clearing is limited to a maximum area of 700m2 and is sited to be clear of the high bank of any watercourse. Note – The 700m^2 of clearing does not include an access driveway.	Further clearing will be required for retaining wall construction, however the type of construction will allow revegetation up to the top of the wall.
PO11 All existing native vegetation on a house site, other than that required and approved to be cleared for the construction of a house and access thereto, is protected to ensure the environmental integrity of the local plan area.	AO11 No acceptable solutions are prescribed.	Complies
PO12 Wildlife movement, fauna habitat and habitat corridors are protected and domestic impacts are minimised.	AO12.1 Fences are limited in extent to the confines of the cleared area around the house and any associated gates are self-closing. AO12.2 External lighting is to be kept to the minimum necessary for orientation, safety and security. Flood lights must not point up, and areas of retained vegetation should, in general, not be illuminated. Where appropriate, outdoor lights are controlled by movement detectors and/or timers.	No fences are provided to delineate boundary lines or for internally separated areas. Owner to be advised by approval condition
PO13 House sites have efficient and safe vehicle access and manoeuvring areas on site, and to the site, to an acceptable standard for the local plan area.	AO13.1 Vehicle access is limited to one access per lot and sited in an approved location, clear of any watercourses. AO13.2 Vehicular access is a maximum width of 4 metres, avoids large tree specimens and/or significant vegetation and habitat corridors and is constructed and maintained to a minimum gravel standard of 75mm of road base on a compacted soil surface. AO13.3 Vehicular access is constructed prior to house construction.	Complies Existing concrete driveway to be reconstructed adjacent to new addition to give access to the Level 2 car parking. Complies
Additional requirements for Precinct 1 – Conservation precinct		
PO18 The biodiversity value of the area and the habitat of endemic species is protected on land included in the Rainforest Conservation precinct.	AO18 No new development occurs whether on undeveloped or developed land except for: Undeveloped land that meets one or more of the following criteria: Land which has been previously been lawfully cleared and currently remains cleared; (a) Land which is the subject of a current Clearing Permit, but has yet to be cleared; (b) Land which is subject of a current	

	Operational Works Permit, can be developed for a house subject to compliance with all relevant codes. In addition, minor extensions can be undertaken to an existing development, provided: (a) The extensions are limited to 30% of the existing gross floor area of the house at the commencement date of the planning scheme. or (b) The extent of extensions are determined on a site specific/use specific basis for other land uses, and (c) No further clearing is required to accommodate the extensions for either a house or any other land use development.	Existing GFA is 152m² New GFA is 218m² This extension is a 43% increase in GFA. A relaxation is requested. A relaxation of this condition is requested as an area of approximately 70m² will require clearing (dependant on retaining wall design). Refer to Conclusion below

Table Error! No text of specified style in document..a – Filling and excavation code – for self-assessable and assessable development

Performance Outcomes	Acceptable Outcomes	Comments
For self-assessable and assessable development		
Filling and excavation - General		
PO1 All filling and excavation work does not create a detrimental impact on the slope stability, erosion potential or visual amenity of the site or the surrounding area.	AO1.1 The height of cut and/or fill, whether retained or not, does not exceed 2 metres in height. and Cuts in excess of those stated in A1.1 above are separated by benches/ terraces with a minimum width of 1.2 metres that incorporate drainage provisions and screen planting. AO1.2 Cuts are supported by batters, retaining or rock walls and associated benches/terraces are capable of supporting mature vegetation. AO1.3 Cuts are screened from view by the siting of the building/structure, wherever possible. AO1.4 Topsoil from the site is retained from cuttings and reused on benches/terraces. AO1.5 No crest of any cut or toe of any fill, or any part of any retaining wall or structure is closer than 600mm to any boundary of the property, unless the prior written approval of the adjoining landowner has been obtained.	Concrete masonry retaining walls are being installed at select locations, heights of walls vary in height up to 3m. Refer to Geotech Engineer's details. Complies Complies Complies Complies

	AO1.6 Non-retained cut and/or fill on slopes are stabilised and protected against scour and erosion by suitable measures, such as grassing, landscaping or other protective/aesthetic measures.	Complies
Visual Impact and Site Stability		
PO2 Filling and excavation are carried out in such a manner that the visual/scenic amenity of the area and the privacy and stability of adjoining properties is not compromised	AO2.1 The extent of filling and excavation does not exceed 40% of the site area, or 500m^2 whichever is the lesser, except that AO2.1 does not apply to reconfiguration of 5 lots or more. AO2.2 Filling and excavation does not occur within 2 metres of the site boundary.	Complies
Flooding and drainage		
PO3 Filling and excavation does not result in a change to the run off characteristics of a site which then have a detrimental impact on the site or nearby land or adjacent road reserves.	AO3.1 Filling and excavation does not result in the ponding of water on a site or adjacent land or road reserves. AO3.2 Filling and excavation does not result in an increase in the flow of water across a site or any other land or road reserves. AO3.3 Filling and excavation does not result in an increase in the volume of water or concentration of water in a watercourse and overland flow paths. AO3.4 Filling and excavation complies with the specifications set out in Planning Scheme Policy No SC5 – FNQROC Development Manual.	Complies
Water quality		
PO4 Filling and excavation does not result in a reduction of the water quality of receiving waters.	AO4 Water quality is maintained to comply with the specifications set out in Planning Scheme Policy No SC5 – FNQROC Development Manual.	Complies
Infrastructure		
PO5 Excavation and filling does not impact on Public Utilities.	AO5 Excavation and filling is clear of the zone of influence of public utilities.	N/A

CONCLUSION

The proposed development is considered generally consistent with the relevant Planning Scheme Codes and Overlays. Minor clearing will be required for the installation of site stabilising retaining walls. The Owner has demonstrated previously his ability and desire to re-establish the existing flora to a high standard, and there is no reason to consider that he will renege on his position toward this process after the completion of this proposed work.

DA Form 2 – Building work details

Approved form (version 1.2 effective 7 February 2020) made under Section 282 of the Planning Act 2016.

This form **must** be used to make a development application **involving building work**.

For a development application involving **building work only**, use this form (*DA Form 2*) only. The DA Forms Guide provides advice about how to complete this form.

For a development application involving **building work associated and any other type of assessable development** (i.e. material change of use, operational work or reconfiguring a lot), use *DA Form 1 – Development application details* **and** parts 4 to 6 of this form (*DA Form 2*).

Unless stated otherwise, all parts of this form **must** be completed in full and all required supporting information **must** accompany the development application.

One or more additional pages may be attached as a schedule to this development application if there is insufficient space on the form to include all the necessary information.

This form and any other form relevant to the development application must be used to make a development application relating to strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994*, and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008.* For the purpose of assessing a development application relating to strategic port land and Brisbane core port land, any reference to a planning scheme is taken to mean a land use plan for the strategic port land, Brisbane port land use plan for Brisbane core port land, or a land use plan for airport land.

Note: *All terms used in this form have the meaning given under the Planning Act 2016, the Planning Regulation 2017, or the Development Assessment Rules (DA Rules).*

PART 1 – APPLICANT DETAILS

1) Applicant details	
Applicant name(s) (*individual or company full name*)	
Contact name *(only applicable for companies)*	
Postal address *(PO Box or street address)*	
Suburb	
State	
Postcode	
Country	
Contact number	
Email address *(non-mandatory)*	
Mobile number *(non-mandatory)*	
Fax number *(non-mandatory)*	
Applicant's reference number(s) *(if applicable)*	

PART 2 – LOCATION DETAILS

2) Location of the premises *(complete 2.1 and 2.2 if applicable)*

Note*: Provide details below and attach a site plan for any or all premises part of the development application. For further information, see DA Forms Guide: Relevant plans.*

2.1) Street address and lot on plan

☐ Street address **AND** lot on plan (*all lots must be listed*), **or**

☐ Street address **AND** lot on plan for an adjoining or adjacent property of the premises *(appropriate for development in water but adjoining or adjacent to land e.g. jetty, pontoon. All lots must be listed).*

Unit No.	Street No.	Street Name and Type	Suburb
Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)

☐ Additional premises are relevant to this development application and the details of these premises have been attached in a schedule to this development application
☐ Not required

3) Are there any existing easements over the premises?

***Note**: Easement uses vary throughout Queensland and are to be identified correctly and accurately. For further information on easements and how they may affect the proposed development, see the DA Forms Guide*

☐ Yes – All easement locations, types and dimensions are included in plans submitted with this development application
☐ No

PART 3 – FURTHER DETAILS

4) Is the application only for building work assessable against the building assessment provisions?

☐ Yes – proceed to 8)
☐ No

5) Identify the assessment manager(s) who will be assessing this development application

6) Has the local government agreed to apply a superseded planning scheme for this development application?

☐ Yes – a copy of the decision notice is attached to this development application
☐ The local government is taken to have agreed to the superseded planning scheme request – relevant documents attached
☐ No

7) Information request under Part 3 of the DA Rules

☐ I agree to receive an information request if determined necessary for this development application
☐ I do not agree to accept an information request for this development application

***Note**: By not agreeing to accept an information request I, the applicant, acknowledge:*

- *that this development application will be assessed and decided based on the information provided when making this development application and the assessment manager and any referral agencies relevant to the development application are not obligated under the DA Rules to accept any additional information provided by the applicant for the development application unless agreed to by the relevant parties.*
- *Part 3 of the DA Rules will still apply if the application is an application listed under section 11.3 of the DA Rules.*

Further advice about information requests is contained in the DA Forms Guide.

8) Are there any associated development applications or current approvals?

☐ Yes – provide details below or include details in a schedule to this development application
☐ No

List of approval/development application	Reference	Date	Assessment manager
☐ Approval ☐ Development application			
☐ Approval ☐ Development application			

9) Has the portable long service leave levy been paid?		
☐ Yes – a copy of the receipted QLeave form is attached to this development application ☐ No – I, the applicant will provide evidence that the portable long service leave levy has been paid before the assessment manager decides the development application. I acknowledge that the assessment manager may give a development approval only if I provide evidence that the portable long service leave levy has been paid ☐ Not applicable *(e.g. building and construction work is less than $150,000 excluding GST)*		
Amount paid	Date paid (dd/mm/yy)	QLeave levy number (A, B or E)
$		

10) Is this development application in response to a show cause notice or required as a result of an enforcement notice?
☐ Yes – show cause or enforcement notice is attached ☐ No

11) Identify any of the following further legislative requirements that apply to any aspect of this development application			
☐ The proposed development is on a place entered in the **Queensland Heritage Register** or in a local government's **Local Heritage Register**. See the guidance provided at www.des.qld.gov.au about the requirements in relation to the development of a Queensland heritage place			
Name of the heritage place:		Place ID:	

PART 4 – REFERRAL DETAILS

12) Does this development application include any building work aspects that have any referral requirements?
☐ Yes – the *Referral checklist for building work* is attached to this development application ☒ No – proceed to Part 5

13) Has any referral agency provided a referral response for this development application?		
☐ Yes – referral response(s) received and listed below are attached to this development application ☐ No		
Referral requirement	Referral agency	Date referral response
Identify and describe any changes made to the proposed development application that was the subject of the referral response and this development application, or include details in a schedule to this development application *(if applicable)*		

PART 5 – BUILDING WORK DETAILS

14) Owner's details	
☒ Tick if the applicant is also the owner and proceed to 15). Otherwise, provide the following information.	
Name(s) (*individual or company full name*)	
Contact name *(applicable for companies)*	
Postal address *(P.O. Box or street address)*	
Suburb	
State	

Postcode	
Country	
Contact number	
Email address *(non-mandatory)*	
Mobile number *(non-mandatory)*	
Fax number *(non-mandatory)*	

15) Builder's details	
☒ Tick if a builder has not yet been engaged to undertake the work and proceed to 16). Otherwise provide the following information.	
Name(s) *(individual or company full name)*	
Contact name *(applicable for companies)*	
QBCC licence or owner – builder number	
Postal address *(P.O. Box or street address)*	
Suburb	
State	
Postcode	
Contact number	
Email address *(non-mandatory)*	
Mobile number *(non-mandatory)*	
Fax number *(non-mandatory)*	

16) Provide details about the proposed building work			
What type of approval is being sought?			
☒ Development permit ☐ Preliminary approval			
b) What is the level of assessment?			
☒ Code assessment ☐ Impact assessment *(requires public notification)*			
c) Nature of the proposed building work (tick all applicable boxes)			
☒ New building or structure ☐ Change of building classification *(involving building work)* ☒ Demolition		☒ Repairs, alterations or additions ☐ Swimming pool and/or pool fence ☐ Relocation or removal	
d) Provide a description of the work below or in an attached schedule.			
Part Demolition, Addition and Renovation to existing Dwelling House and Carport. New concrete retaining walls			
e) Proposed construction materials			
External walls	☐ Double brick ☐ Brick veneer ☐ Stone/concrete	☐ Steel ☒ Timber ☐ Fibre cement	☐ Curtain glass ☐ Aluminium ☐ Other
Frame	☒ Timber ☐ Other	☐ Steel	☐ Aluminium
Floor	☒ Concrete	☒ Timber	☐ Other
Roof covering	☐ Slate/concrete ☐ Aluminium	☐ Tiles ☒ Steel	☐ Fibre cement ☐ Other
f) Existing building use/classification? *(if applicable)*			
1a and 10a			

g) New building use/classification? *(if applicable)*
1a and 10a
h) Relevant plans ***Note:*** *Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms Guide: Relevant plans.*
☒ Relevant plans of the proposed works are attached to the development application

17) What is the monetary value of the proposed building work?
$unknown

18) Has Queensland Home Warranty Scheme Insurance been paid?		
☐ Yes – provide details below ☒ No		
Amount paid	Date paid (dd/mm/yy)	Reference number
$		

PART 6 – CHECKLIST AND APPLICANT DECLARATION

19) Development application checklist	
The relevant parts of *Form 2 – Building work details* have been completed	☒ Yes
This development application includes a material change of use, reconfiguring a lot or operational work and is accompanied by a completed *Form 1 – Development application details*	☒ Yes ☐ Not applicable
Relevant plans of the development are attached to this development application ***Note****: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms Guide: Relevant plans.*	☒ Yes
The portable long service leave levy for QLeave has been paid, or will be paid before a development permit is issued (*see 9*)	☐ Yes ☒ Not applicable

20) Applicant declaration
☒ By making this development application, I declare that all information in this development application is true and correct ☒ Where an email address is provided in Part 1 of this form, I consent to receive future electronic communications from the assessment manager and any referral agency for the development application where written information is required or permitted pursuant to sections 11 and 12 of the *Electronic Transactions Act 2001* ***Note****: It is unlawful to intentionally provide false or misleading information.*
Privacy – Personal information collected in this form will be used by the assessment manager and/or chosen assessment manager, any referral agency and/or building certifier (including any professional advisers which may be engaged by those entities) while processing, assessing and deciding the development application. All information relating to this development application may be available for inspection and purchase, and/or published on the assessment manager's and/or referral agency's website. Personal information will not be disclosed for a purpose unrelated to the *Planning Act 2016*, Planning Regulation 2017 and the DA Rules except where: • such disclosure is in accordance with the provisions about public access to documents contained in the *Planning Act 2016* and the Planning Regulation 2017, and the access rules made under the *Planning Act 2016* and Planning Regulation 2017; or • required by other legislation (including the *Right to Information Act 2009*); or • otherwise required by law. This information may be stored in relevant databases. The information collected will be retained as required by the *Public Records Act 2002.*

PART 7 – FOR COMPLETION BY THE ASSESSMENT MANAGER – FOR OFFICE USE ONLY

Date received: | Reference numbers:

For completion by the building certifier		
Classification(s) of approved building work		
Name	QBCC Certification Licence number	QBCC Insurance receipt number

Notification of engagement of alternative assessment manager	
Prescribed assessment manager	
Name of chosen assessment manager	
Date chosen assessment manager engaged	
Contact number of chosen assessment manager	
Relevant licence number(s) of chosen assessment manager	

Additional information required by the local government			
Confirm proposed construction materials:			
External walls	☐ Double brick ☐ Brick veneer ☐ Stone/concrete	☐ Steel ☐ Timber ☐ Fibre cement	☐ Curtain glass ☐ Aluminium ☐ Other
Frame	☐ Timber ☐ Other	☐ Steel	☐ Aluminium
Floor	☐ Concrete	☐ Timber	☐ Other
Roof covering	☐ Slate/concrete ☐ Aluminium	☐ Tiles ☐ Steel	☐ Fibre cement ☐ Other

QLeave notification and payment *Note: For completion by assessment manager if applicable*			
Description of the work			
QLeave project number			
Amount paid ($)		Date paid (dd/mm/yy)	
Date receipted form sighted by assessment manager			
Name of officer who sighted the form			

Additional building details required for the Australian Bureau of Statistics			
Existing building use/classification? *(if applicable)*			
New building use/classification?			
Site area *(m^2)*		Floor area *(m^2)*	

ARO INDUSTRIES

63 STONEWOOD ROAD, DIWAN
GEOTECHNICAL REPORT

DOCUMENT CONTROL SHEET

Title:	63 Stonewood Road, Diwan, Geotechnical Report	**ARO Industries Pty Ltd** 44 McLeod Street Cairns, QLD, 4870 PO Box 6490 Cairns QLD 4870 Phone: (07) 4281 6897 www.aroindustries.com.au
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Client Contact:	Gene Kubala, APEC Projects	
Client Reference:	63 Stonewood Road	
Purpose:	A assessment of geotechnical site stability.	

Distribution	**Document Revision Number**								
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Dr Russell Joshua	1								
ARO Industries Record	1								

Revision History					
Revision No.	**Author**	**Reviewer**	**Approved For issue**		
			RPEQ No.	**Signature**	**Date**
0	K. Ryan	R. Rankine	8452		10/8/2021

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1. INTRODUCTION

This report has been prepared as supporting information for the geotechnical assessment of the proposed development at 63 Stonewood Road, Diwan, as illustrated in Figure 1 below. The work was commissioned by Dr Russell Joshua of Cyprinoid Pty Ltd. It is understood that the proposed development will consist of:

- Removal of existing carport and construction of a new carport (7.5m x 8.5m) in front of the existing residential dwelling.
- Construction of concrete stairs to link the proposed new carport to the existing dwelling.
- House/deck extension over the existing driveway on the south-western side of the house.
- Construction of approximately 40 – 50 lineal meters of retaining wall[1] at selected locations across the site.

Figure 1 Locality Plan of Site (Queensland Globe)

As illustrated in Figure 2, part of the proposed site has been identified as a potential landslip hazard area (*Douglas Shire Council Planning Scheme Mapping 2018).*

Figure 2 - Potential Landslip Hazard Overlay Map (PLH-003) as mapped on the Douglas Shire Council Planning Scheme Mapping 2018

1 Discussions between ARO Industries and APEC Pty Ltd on 4 June 2021 indicated that the client has agreed to replacing the proposed gabion walls on Dwg. No: 147726-1 with retaining walls

2. SCOPE OF SERVICES

The objective of this report was to assess the existing geotechnical conditions of the site and provide details on how the proposed development can be safely constructed giving due regard to geotechnical stability. This was achieved by undertaking the following:

- Site inspection to assess existing conditions of site.
- Geotechnical investigation which consisted of one test-pit, seven dynamic cone penetrometer (DCP) tests and laboratory testing of the soil samples.
- A limit state analysis (or 'slip circle') assessment of stability for the existing slope geometry and proposed cuts.

It should be noted that the number of test pits undertaken on site was limited due to restricted access.

3. SITE DESCRIPTION

The site is located on a hillside at 63 Stonewood Road, Diwan. The existing topography illustrated in Figure 3, indicates general falls from the north-west to the south-east with existing levels varying between 42 m AHD to approximately 18 m AHD. Currently the site has an existing dwelling on the north-eastern corner of the allotment. The remainder of the land parcel is vegetated with medium-dense rainforest.

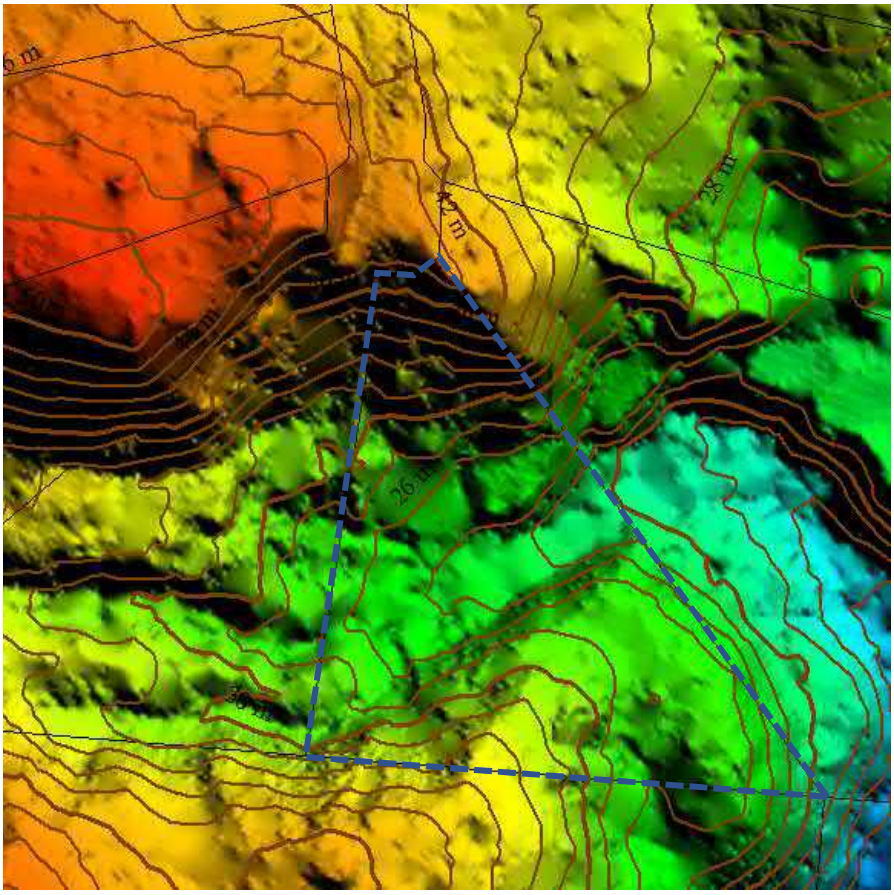


Figure 3 - High Quality Digital Elevation Information of Site (Queensland Government)

4. GEOLOGY

The Geological Survey of Queensland's 1:100,000 series map indicates that the site is underlain by:

- Alluvium; clay, silt, sand, and gravel
- Underlain by the Hodgkinson Formation/cg (mudrock - dark grey, thin-bedded mudstone subordinate thin to thick-bedded arenite beds, minor chert, and basalt.

An extract of the maps from Queensland Globe has been included in Figure 4 below.

4a – Alluvium *4b - Hodkinsion Formation*

Figure 4 - Geological Survey of Queensland 1:100,000 Map (Queensland Globe)

5. PREVIOUS GEOTECHNICAL STUDIES

The author has been unable to access any previous geotechnical assessments completed on the site.

6. FIELD WORK RESULTS

Fieldwork was carried out on 21 January and 16 July 2021 and comprised of the following:

- Walk over survey to assess surface conditions.
- Excavation of one test pit (TP-1) with an adjacent Dynamic Cone Penetrometer (DCP) test (DCP-1) and performance of an additional six DCP tests at selected locations across the site

6.1 Site Walkover

The site is located on a hillside generally sloping from the north-west to south-east (refer to Figure 3). There is currently an existing driveway running north-west to south-east towards the residential development. Figure 5a illustrates the current slope and vegetation from the top of the driveway looking towards the existing carport to the east. Several features were observed during the visual assessment and relevant observations are presented in point form below:

- Outside the existing development (driveway and residential house), the site is generally vegetated with medium-dense tropical rainforest
- The topography of the site generally consists of gentle to steeply sloping topography with several cuts at the currently developed areas (northern side of existing carport and house).
- At the time of the visual assessment there was evidence of minor slope instability / slumping on the batter at the northern corner of the residence (Figure 5).

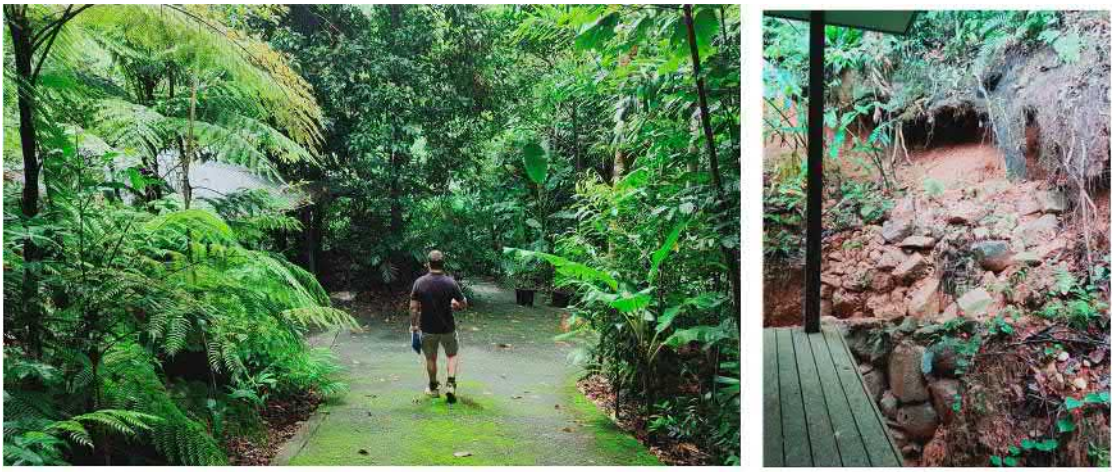


Figure 5 - Site Walkover Assessment

6.2 Field Testing and Investigations

The test pit was excavated using an 8.3 tonne backhoe and carried out under the full-time supervision of a geotechnical engineer. Investigation locations are shown in Appendix A. The reports of the test pit and DCPs, are provided in Appendix B. Based on the results, the subsurface conditions encountered at the test locations generally comprised:

- Topsoil — Organic debris cover with large cobbles and boulders on surface
- Clayey Silt (ML) *(Low Plasticity)* — The topsoil was generally underlain by firm to stiff colluvial clayey SILT of low to medium plasticity with varying proportions of sand and organic debris (roots). Traces of gravel were also observed.
- Clayey Silt (MH) *(High Plasticity)* — The colluvial layer was underlain by an inferred residual silty layer of very stiff to high consistency and medium to high plasticity.

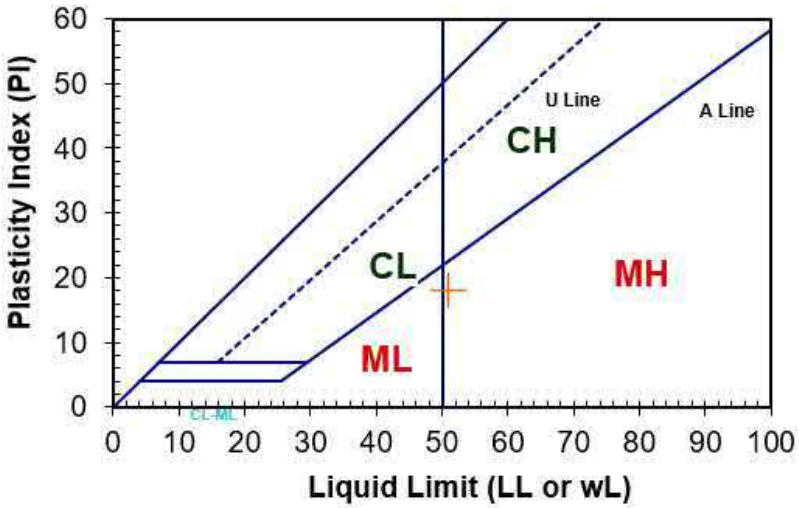
Termination occurred at maximum reach of the 8.3 tonne excavator. Groundwater was not identified at the time of the subsurface investigation. However, seepage is likely at the soil/rock interface during and after prolonged periods of rain.

7. LABORATORY TESTING

Laboratory plasticity and grading tests were carried out on one sample of the materials recovered to confirm field classifications. The laboratory test results are summarised as follows:

Table 1 - Summary of Laboratory Test Results

Description	Detail / Results
Sample Depth (m)	2.0m
Liquid Limit (%)	51
Plastic Limit (%)	33
Plasticity Index	18
Linear Shrinkage (%)	7
Percentage Fines (% < 75μm)	56
Sample Description	MH (Medium - High plasticity clayey silt)



The detailed testing results are provided in Appendix C.

8. GEOTECHNICAL MODEL AND DESIGN PARAMETERS

8.1 Material Properties

Geotechnical parameters relevant to the material types encountered have been assessed based on test pit observations, in situ test results and correlations based on previous experience, engineering judgement and published references. The assessed geotechnical parameters for each material type are listed in Table 2.

Table 2 - Material Properties

Material Description		Bulk Density	Drained ("Effective") Soil Parameters		Undrained ("Total") Soil Parameters	
			Friction angle	Cohesion	Friction angle	Cohesion
		γ_b (kN/m^3)	$\emptyset'$ (degrees)	c' (kPa)	$\emptyset$ (degrees)	c (kPa)
	Unit 1: Colluvium (firm to stiff with organics)	18	28	3	0	50
	Unit 2: Residual (very stiff to hard)	19	30	8		150
	Unit 3: Extremely Weathered Rock	20	32	10	0	200
	Engineered Fill	20	30	5	0	50

It should be noted that extremely weathered rock was not encountered during the site investigation, however, was assumed in the stratigraphy profiles analysed in the stability assessment. It is anticipated, that due to the topography and geology of the site, that weathered rock would be encountered within the upper layers of the stratigraphy.

9. SLOPE STABILITY ASSESSMENT AND RESULTS

9.1. Methodology

9.1.1 Slope Geometry

The slope stability of the site was assessed by analysing a section running north-west to east south as illustrated as Section A in Figure 6. The topography of the site was extracted using publicly available digital elevation information (LiDAR).

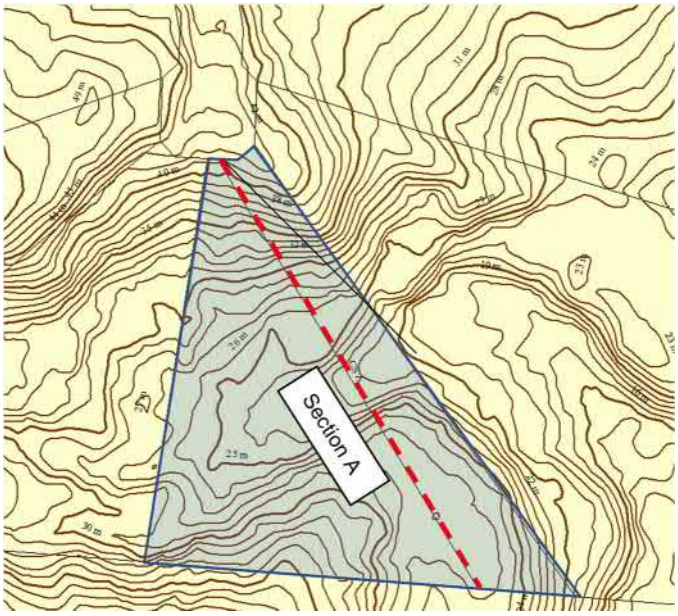


Figure 6 - Section A

Section A was analysed for the following cases:

- Original slope profile (Figure 7)
- Proposed slope profile (these were interpolated from overlaying the proposed plan on the publicly available digital elevation information (LIDAR).

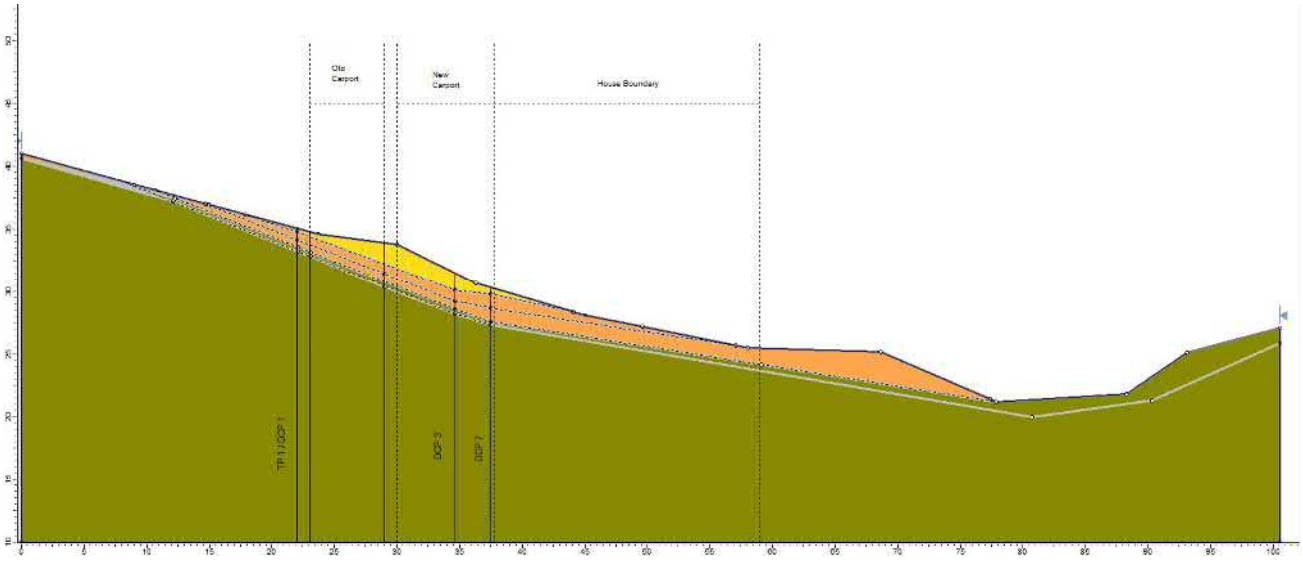


Figure 7 – Section A - Existing Profile

9.1.2 Pore Pressure Assumptions

The stability analysis for the selected profiles were performed for:

- **Dry** ("normal") conditions, and
- Two (2) variants of wet ("extreme") conditions. These are referred to as **saturated drained** and **saturated undrained.**

The "extreme" wet conditions were modelled by assuming a fully saturated profile, then solving the groundwater conditions to a steady state solution. This is to understand where the phreatic surface (i.e., groundwater) is likely to be in fully saturated conditions. Once this has been determined, it is used as an input to the slope stability assessment for the saturated drained condition. The saturated drained condition represents the condition when the soil is saturated, and loading is applied slowly (no pore pressure build up). The saturated undrained case represents the case where loading is applied to the surface instantaneously, the consequence of which is the build-up of pore pressure (water pressure) in the soil matrix.

9.1.3 Surcharge Load

A 10 kPa surcharge loading will be applied on each embankment fill slope for the 'during construction' design slope stability analysis to simulate the loading generated by machinery/vehicular movements during construction and/or housing for longer term stability assessment.

9.1.4 Design Criteria

For the purposes of assessing stability the following is provided which are considered appropriate to the site:

- A calculated factor of safety > 1.5 indicates that the profile is likely to be stable.
- A calculated factor of safety from 1.0 – 1.5 indicates a marginally stable profile.
- A calculated factor of safety < 1.0 indicates a marginally stable profile.

In general terms, the factor of safety (FoS) is calculated by dividing the forces resisting instability (i.e., strength of the soil) by the forces driving instability (i.e., the weight of the soil, groundwater, and los on the slope).

Generally, for normal operating conditions a long-term factor of safety of 1.5 is acceptable. For short term or "extreme" conditions, it may be acceptable to design for a reduced factor of safety of 1.2.

9.2 Stability Assessment Results

9.2.1 Existing Slope Profile

Outputs for the existing slope profile are provided Table 3, and detailed outputs provided in Appendix D.

Table 3 - Existing Stability of Batter

Section	Calculated Factor of Safety		
	Dry Conditions	Wet Conditions	
		Undrained (Steady State Groundwater)	Drained (Steady State Groundwater)
Section A - Existing	1.816	> 2	1.090

The results of the stability analysis indicate localised instability of the batters which is consistent with the features observed on site (Figure 5). Prior to proposed development (new carport and installation of retaining structures surrounding the site), it is recommended the Unit 1 material (firm to stiff silty CLAY) be removed and replaced with engineered fill. This will aid in further instability that may result due to loading generated by machinery/vehicular movements during construction. The existing profile was rerun using these recommendations and a surcharge load was added to mimic the construction loading. Results are presented in Table 4.

Table 4 – Stability Results with replaced Unit 1 material

Section	Calculated Factor of Safety		
	Dry Conditions	Wet Conditions	
		Undrained (Steady State Groundwater)	Drained (Steady State Groundwater)
Section A – Existing with replaced Unit 1 material	1.689	> 2	1.45

9.2.1 Proposed Slope Profile

Section A was analysed assuming a 10 kPa loading and the proposed retaining structure as provided in Dwg number 147726-1 – Section 1-1. Additional assumptions for the model include:

- The retaining structure between proposed carport and existing house will be a structurally design element and is considered in the geotechnical model as stable.
- The retaining wall has been modelled with a height of 3m between existing ground level and proposed carport as per site notes on Dwg number 147726-1.
- Unit 1 material has been removed and replaced with engineered fill as per previous recommendations
- The 3 m high retaining wall was embedded 0.5 into extremely weathered rock.

Figure 8 illustrates the profile used in analysis and Table 5 summarizes the results.

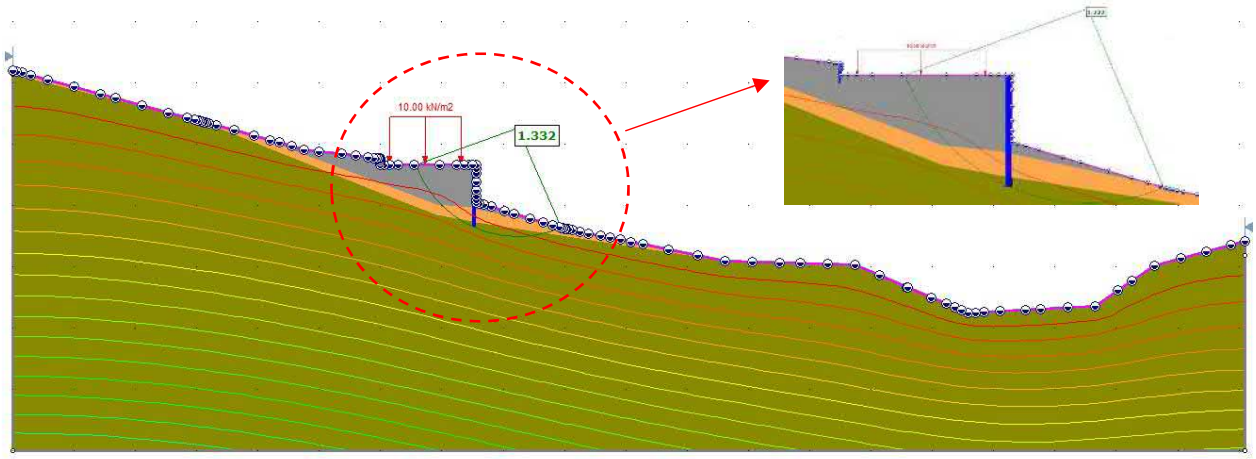


Figure 8 - Proposed Profile

Table 5 Stability Results for proposed profile

Section	Calculated Factor of Safety		
	Dry Conditions	Wet Conditions	
		Undrained (Steady State Groundwater)	Drained (Steady State Groundwater)
Section A – Proposed Profile	1.965	> 2	1.332

The modelling showed that the proposed profile is technically feasible to provide a stable profile.

10 ENGINEERING ADVICE

10.1 Slope

The analysis showed that the current profile is not within the normally acceptable limits for regulators during wet conditions (Table 3). Ongoing batter failures will likely continue. It is recommended that Unit 1 material be replaced with engineered fill for the following reasons:

- Improvement of slope stability (refer to Table 4 and Table 5)
- Unit 1 indicated the presence of organic material (Refer to TP-01 Appendix A). By removing this unit, we are removing the bulk of organic material present at the proposed development (i.e., new carport). This is standard construction practise within industry.
- Unit 1 was predominately located within the zone of influence of the proposed 3 m retaining wall. Regardless of material encountered, it is generally considered common practise, to place engineered material and/or drainage material behind proposed retaining walls. Detailed design of retaining walls should be undertaken once more detailed information becomes available.
- The critical case for the proposed profiles was the saturated drained scenario. This highlights the importance of reducing pore water pressure within the batter, to ensure fully saturated conditions are

avoided. This can be achieved through the use replacing unit 1 with drainage material (e.g., geofabric wrapped gravel).

To ensure short and long-term integrity of batter face, it is recommended adequate erosion control is also maintained. This includes the diversion of water away from the stem and toe of the batters.

10.2 Drainage

It is recommended that the natural flow paths of the allotment be maintained during and post earthworks so that runoff continues to discharge as per the current residential development. Consideration should be given to the drainage of the proposed retaining structures. The adequate control and management of stormwater on site has a significant impact on the stability of the site. All stormwater which discharges on site (roof water, hardstand, drainage channels, pits or pipes, or other such elements should be managed and discharged in a controlled manner at a lawful point of discharge. It is anticipated that the existing drainage scheme on site would be utilised with the minor works proposed. It is recommended that a suitably qualified and experienced RPEQ review the stormwater management on site, to confirm suitability.

10.3 Site Preparation and Earthworks

It is anticipated that excavation of existing site material will be able to be completed with traditional earthmoving equipment. If excavation beyond the soil is required, some specialist earthmoving equipment such as rock breaker attachments may be required.

If onsite filling is required, the following site preparation measures should be considered:

- Stripping and grubbing of site to remove all vegetation from the site surface. Environmentally significant vegetation should be noted, and advice sought regarding their removal if deemed necessary. Depressions in the surface from removal of vegetation should be filled and compacted in layers with clean fill.
- Excavate and removal of structurally poor material. Compaction of subgrade level will aid in identification of poor material.
- Fill should be placed and compacted in layers not exceeding 200mm in thickness.

Using the standard compaction method, a density ratio of at least 95% is recommended. Imported clean fill should have a CBR greater than 15% and a plasticity index of less than 10.

It is recommended that earthworks are completed in accordance with AS3798-2011 and the works are supervised by a suitably qualified person.

10.4 Footings

No details of the footings or the structural loading for the proposed carport development have been provided to ARO at the present time. All geotechnical comments provided in this report should be considered preliminary in nature and should be reviewed and, if necessary, revised once the final design details are available.

Based on the ground conditions encountered and from a slope stability standpoint, it is recommended that ***deep footings*** (either screw piles or bored cast in situ piles) be used to support all residency vertical loads. Piles must extend into the weathered rock by a minimum depth of three times the pile diameter.

It is also recommended that:

- No footings should be constructed within three meters of the top of the batter. If footings are to be constructed within three meters a qualified structural engineer should design the footing system
- Footing excavations should be inspected by a qualified geotechnical engineer to confirm that founding conditions are consistent with those on which the design guidelines are based.

As per Australian standards, it is recommended that design detail of the piles should be in accordance with AS2159-2009 ‘Piling – Design and installation’.

10.5 Uncontrolled Fill

Existing site material is assumed to be uncontrolled fill. Consequently, all foundations are to be embedded into underlying rock layers to allow direct transmission of the loads into competent substrate.

10.6 Retaining Walls

Proposed retaining structures can be designed using earth pressure coefficients summarised in Table 6, plus surcharge loads imposed on the walls. Footings for retaining structures should be founded at least 0.5 m into hard clay or weathered rock, unless otherwise approved by a geotechnical engineer. Footings for retaining walls can be designed using allowable bearing pressures up to 100 kPa if founded at least 0.5m into very stiff to hard clay (Unit 2) or 300 kPa if founded in weathered rock (Unit 3). All retaining walls should be engineered designed structures.

It is recommended that drainage be provided behind the retaining wall to adequately mitigate the development of pore water pressure. Regardless of prescription of drainage, the designer should allow for a build-up of pore water pressure behind to wall if drainage becomes obstructed or ineffective.

Design parameters for retaining walls are provided in .

Table 6.

Table 6 - Geotechnical Design Parameters for Retaining Walls

Material	Active Earth Pressure Coefficient (k_a)	At Rest Earth Pressure Coefficient (k_o)	Passive Earth Pressure Coefficient (k_o)	Unit Weight (kN/m^3)
Unit 1 - Alluvial / Colluvial	0.36	1.0	2.77	18
Unit 2 - Residual	0.33	1.0	3.0	19
Unit 3 – Extremely Weathered Rock	0.31	1.0	3.19	20
Engineered Fill	0.33	1.0	3.0	20

11 SPECIFICATIONS

11.1 Compaction Procedure and Specifications

Provided the placement moisture content of the imported fill or select in-situ material approximates the Optimum Moisture Content (OMC) for compaction, suitable compaction levels should be achievable using typical compaction machinery (5-10t) vibrating sheepsfoot roller or compactor, vibrating plate compactors and compaction wheels.

For the above plant, the fill material should be compacted in layers not exceeding 200mm loose thickness lifts. This is more than typical compaction requirements – but has been specified by the manufacturer to ensure that the damage to the geogrid during installation is minimised. Final maximum placement layer thickness will need to be determined by a geotechnical engineer when the compaction plant as well as the material type and conditions are known.

Minimum requirements for compaction have been outlined in Table 7.

Table 7 - Minimum Compaction Requirements

Soil Types	Test Method	Trafficable Areas	Non-Trafficable Areas	
		Embankment/ Embedment Material (%)	Embedment Material (%)	Embankment Material (%)
Cohesionless	Density Index	70	60	Compaction will depend on site requirements
Cohesive	Standard Dry Density Ratio, Hilf Density Ratio	95	90	

Field density testing should be carried out to check the standard of compaction achieved and the placement moisture content. The frequency and location of testing should be as specified in AS/ NZS 2566.2, Section 5.6.4.

11.2 Material Usage

The following recommendations apply to the materials on site and any imported materials intended for use during construction.

- The in situ natural soils, where free from organic and deleterious material, may be used for embankment fill, provided the moisture content of the soils on placement approximates the optimum moisture content (OMC) required for compaction. This will require conditioning to bring the soil to optimum. However, it should be noted that the on-site soils could be expected to provide difficulties in handling, placement, and compaction if the appropriate moisture content could not be achieved, particularly if the soils are overly moist.
- A moisture content within the range of OMC -2% to OMC +2% (Standard compaction) is recommended.
- Rock, or cobbles over 63mm greatest dimension, which cannot be broken down should be removed.
- Any imported fill, if required to make up embankment deficiencies should be fair to good quality and conform to the following general specification(s):
    - Minimum soaked CBR = 15%
    - Maximum Aggregate size = 63mm
    - Shrink/ Swell Index Maximum of 1.0%
- Embankment Materials should conform to the material quality specifications in AS/ NZS 2566:2002, Appendix G.

11.3 Construction Inspections

It is recommended that throughout the construction process of the proposed development, inspections by a suitably qualified and experienced geotechnical engineer be undertaken to confirm design assumptions.

Localised landslips may occur during construction activities. All works should aim to minimise disturbance of the natural slope outside of the immediate earthworks zone. Where possible, all earthworks should be completed in the dry season. Construction activities should not take place in heavy or prolonged rainfall due the potential reduction of slope stability. Works should be protected prior to forecast rainfall.

12 LIMITATIONS AND ASSUMPTIONS

- Actual ground conditions will need to be confirmed during the construction period and the designs confirmed, prior to being certified by a suitably experienced and qualified RPEQ (geotechnical)[2].
- The subsurface conditions have been interpreted from the site inspections.
- The analysis performed has been based on the information obtained and the assumptions outlined below.
    - ARO Industries Pty Ltd have prepared this report for the use of the Clients, for design and construction purposes in accordance with generally accepted geotechnical engineering practices. No other warranty, expressed or implied, is made as to the professional advice included in this report.
    - This report has not been prepared for use by parties other than the Client or their design consultants, i.e., Architect & Civil/Structural Engineers.
    - The report has been based on project details as provided to us at the time of the commission. It therefore applies only to the site investigated and to a specific set of project requirements as understood by ARO Industries Pty Ltd.
    - If there are changes to the project, you need to advise us in order that the effect of the changes on the report recommendations can be adequately assessed.

[2] Registered Professional Engineer of Queensland

- It is important to remember that the subsurface conditions described in the report represent the state of the site at the time of investigation, and in the locations tested. Natural processes and the activities of man can result in changes to site conditions. For example, ground water levels can change, or fill can be placed on a site after the investigation is completed. If there is a possibility that conditions may have changed with time, ARO Industries Pty Ltd should be consulted to assess the impact on the recommendations of the report.
- The site investigation only identifies the actual subsurface conditions at the location and time when the samples were taken. Geologists and engineers then extrapolate between the investigation points to provide an assumed three-dimensional picture of the site conditions.
- The report assumes that the site conditions as identified at the investigation locations are representative of the actual conditions throughout an area. This may not be the case and actual conditions may differ from those inferred to exist. This will not be known until construction has commenced. Your geotechnical report and the recommendations contained within it can therefore only be regarded as preliminary. If conditions encountered during construction are different to those described in the report, ARO Industries Pty Ltd should be consulted immediately. Nothing can be done to change the actual site conditions which exist, but steps can be taken to reduce the impact of unexpected findings.
- This report should be retained as a complete document and should not be copied in part, divided, or altered in any way.
- It is recommended that ARO Industries Pty Ltd is retained during the construction phase to confirm that conditions encountered are consistent with design assumptions. For example, this may involve assessment of bearing capacity for footings, stability of natural slopes or excavations or advice on temporary construction conditions.

- This document has been produced to help all parties involve recognise their individual responsibilities.

APPENDIX A

Site Plan with Field Test Locations

APPENDIX A – SITE PLAN AND TESTING LOCATIONS

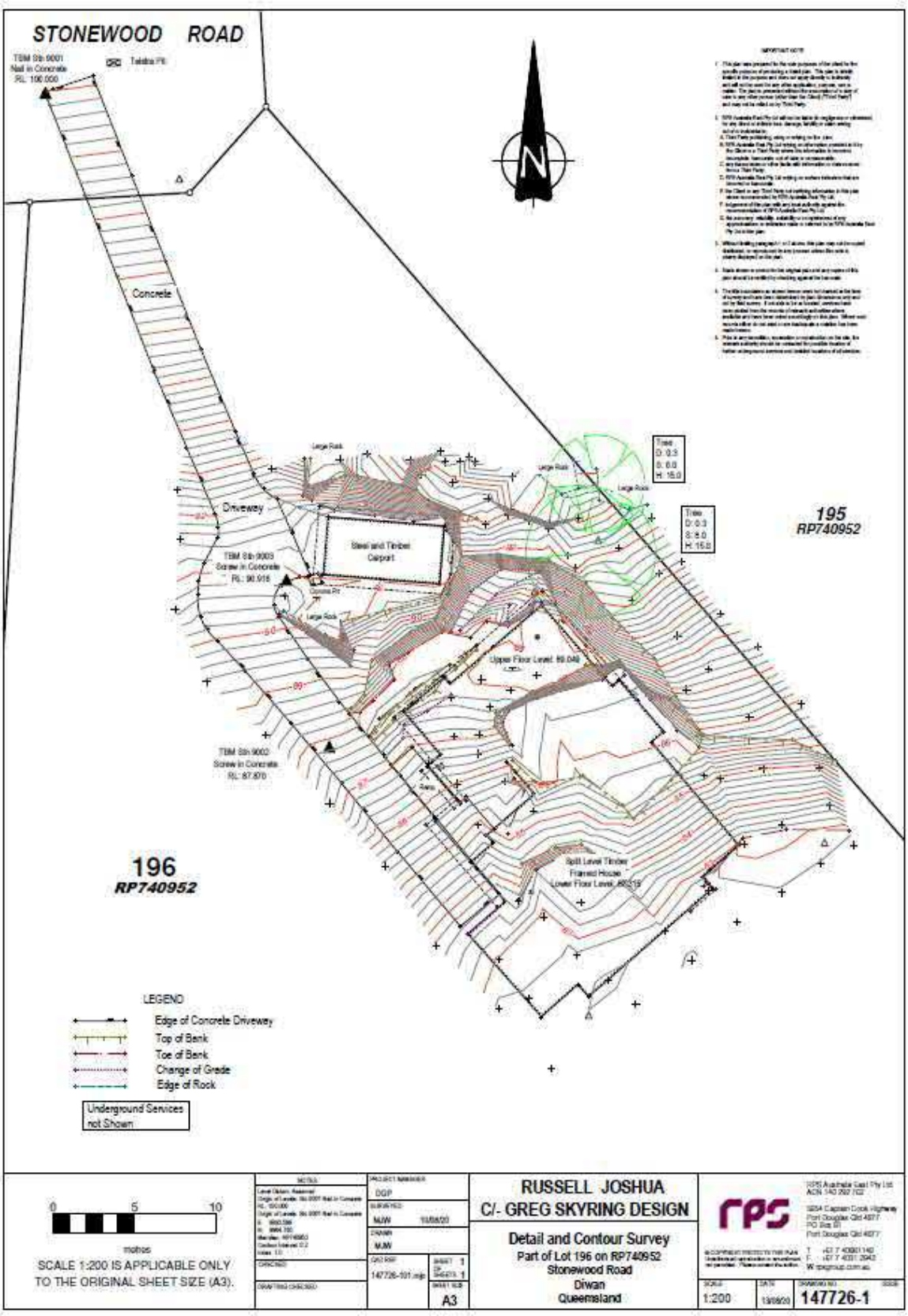


Figure 1 - Site Plan

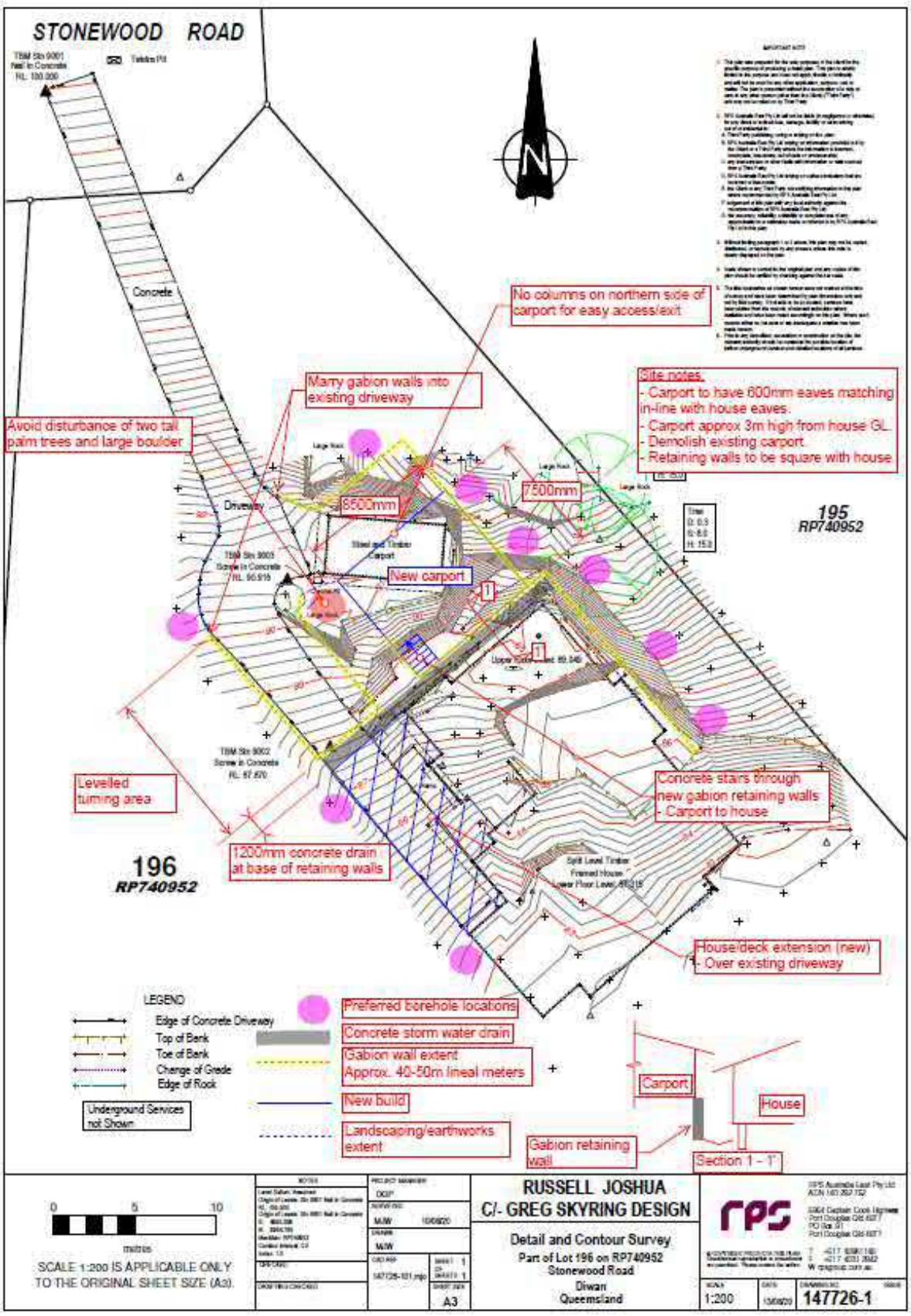


Figure 2 – Site Plan Mark-up

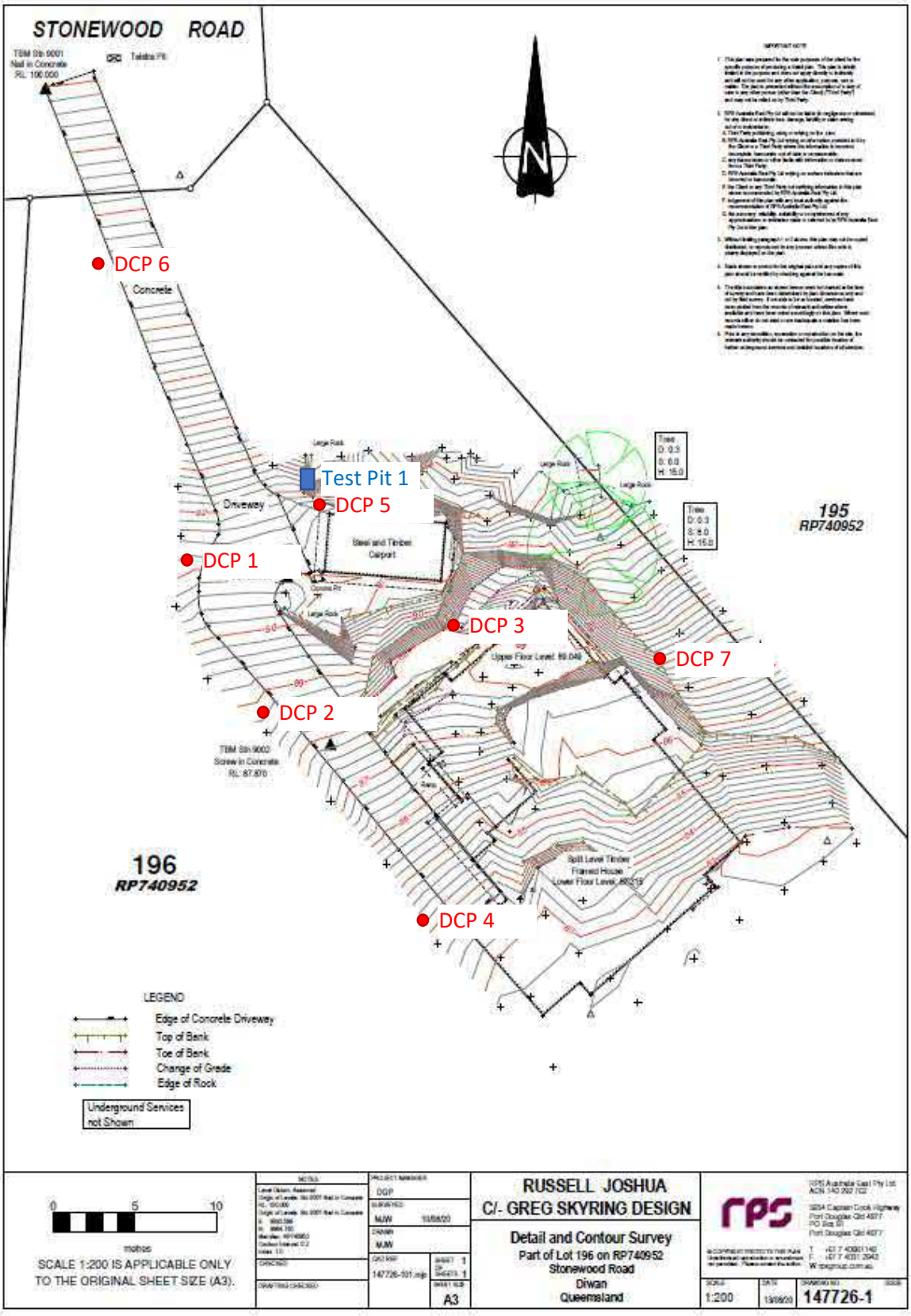


Figure 3 – Testing Locations

APPENDIX B
Test Pit Log and DCP Results

SITE TESTING DATA SHEET - FINDINGS

Client	Cyprinoid Pty Ltd	TP:	1
Project No.	ARO0096	DCP:	1
Project	63 Stonewood Rd	Pit Depth:	3.2m
Location	63 Stonewood Road, Diwan	Machine:	Backhoe (8.3 tonne)
Date	16/07/2021	Bucket Type:	300mm Toothed

Test Pit 1

RL	Depth (m)	Water Level	Description of Strata	Graphic Log	Type	Depth (m)	Sample	Results and Comments	RAW Data
			Topsoil - Organic debris, moist.						2
									2
									3
			Silty CLAY (CL-CI) - low to medium plasticity, light brown, trace fine to medium grained sand, trace gravel and fine tree roots, moist						4
			Silty CLAY (CI) - medium plasticity, organge/red, trace fine gravel and sand, trace of fine roots, moist		D	0.6	B		2
									3
									4
									3
									3
	1								4
			Silty CLAY (CI-CH) - as above grading to medium to high plasticity		D	1	B		5
									9
			as above grading to orange/red with mottled white/pale grey and trace of sand and fine gravel, trace of roots						Refusal
	2								
		Groundwater not encountered	as above without rootlets		D	2	B		
	3								
					D	3	B		
			Test Pit Termination at 3.2m						
	4								

Dynamic Pentromoeter Test (AS1289.6.3.2) (Blows / 100mm)

RAW Data	5	10	15	20
2				
2				
3				
4				
2				
3				
4				
3				
3				
4				
5				
9				
Refusal				

RIG	Kubota KX018-4 1.8T
LOGGED BY	LB
REMARKS	

A	Auger	▷	Water Seepage
B	Bulk Sample	▼	Water Level
BLK	Block Sample	PID	Photo Ionisation detector (ppm)
C	Core Drilling	PL(A)	Point Load Axial test Is50 (MPa)
D	Disturbed Sample	PL(D)	Point Load Diametral test Is50 (MPa)
E	Environmental Sample	pp	Pocket Penetrometer (kPa)
G	Gas Sample	S	Standard Penetration Test
P	Piston Sample	V	Shear Vane test (kPa)
U_x	Tube Sample (x.mm dia)		
W	Water Sample		

SITE TESTING DATA SHEET - LOCATION AND PHOTOGRAPHIC EVIDENCE

Client	Cyprinoid Pty Ltd	TP:	1
Project No.	0	DCP:	1
Project	63 Stonewood Rd	Pit Depth:	3.2m
Location	63 Stonewood Road, Diwan	Machine:	Backhoe (8.3 tonne)
Date	0/01/1900	Bucket Type:	300mm Toothed

RIG	Kubota KX018-4 1.8T
LOGGED BY	LB
REMARKS	

A	Auger	▷	Water Seepage
B	Bulk Sample	▼	Water Level
BLK	Block Sample	PID	Photo Ionisation detector (ppm)
C	Core Drilling	PL(A)	Point Load Axial test Is50 (MPa)
D	Disturbed Sample	PL(D)	Point Load Diametral test Is50 (MPa)
E	Environmental Sample	pp	Pocket Penetrometer (kPa)
G	Gas Sample	S	Standard Penetration Test
P	Piston Sample	V	Shear Vane test (kPa)
U_x	Tube Sample (x.mm dia)		
W	Water Sample		

SITE TESTING DATA SHEET - FINDINGS

Client	Cryprinoid Pty Ltd
Project No.	ARO0096
Project	63 Stonewood Rd
Location	As per Site Plan
Date	#
Logged By	LB

DCP 1

Dynamic Pentromoeter Test (AS1289.6.3.2) (Blows / 100mm)

RL	Depth (m)	RAW Data
		2
		2
		3
		4
		2
		3
		4
		3
		3
	1	4
		5
		9
		Refusal
	2	
	3	

DCP2

Dynamic Pentromoeter Test (AS1289.6.3.2) (Blows / 100mm)

RL	Depth (m)	RAW Data
		1
		1
		3
		2
		3
		2
		3
		2
		2
	1	3
		Refusal > 20/100mm
	2	
	3	

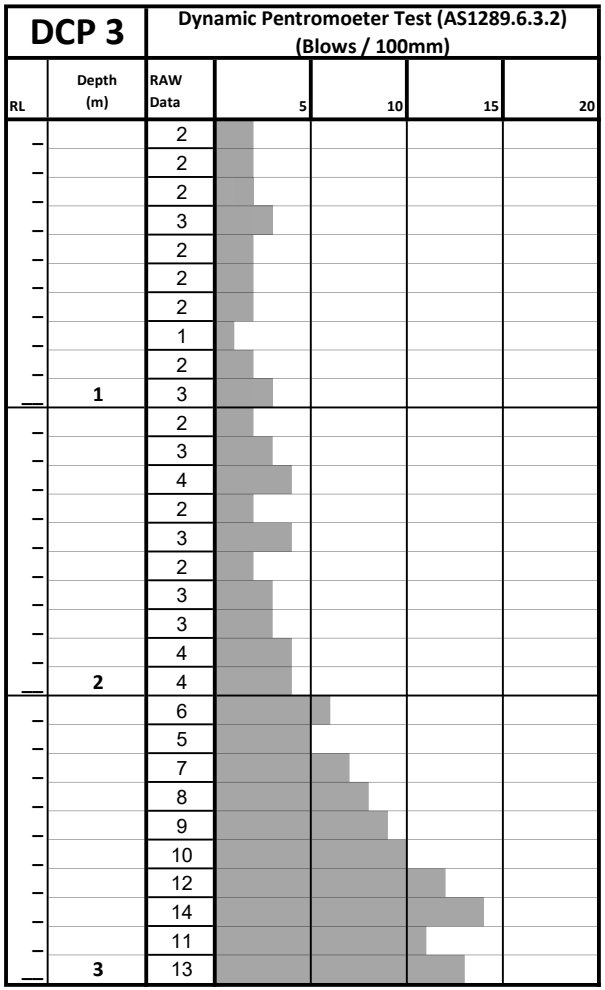
SITE TESTING DATA SHEET - FINDINGS

Client	Cryprinoid Pty Ltd
Project No.	ARO0096
Project	63 Stonewood Rd
Location	As per Site Plan
Date	#
Logged By	LB

DCP 3

Dynamic Pentromoeter Test (AS1289.6.3.2) (Blows / 100mm)

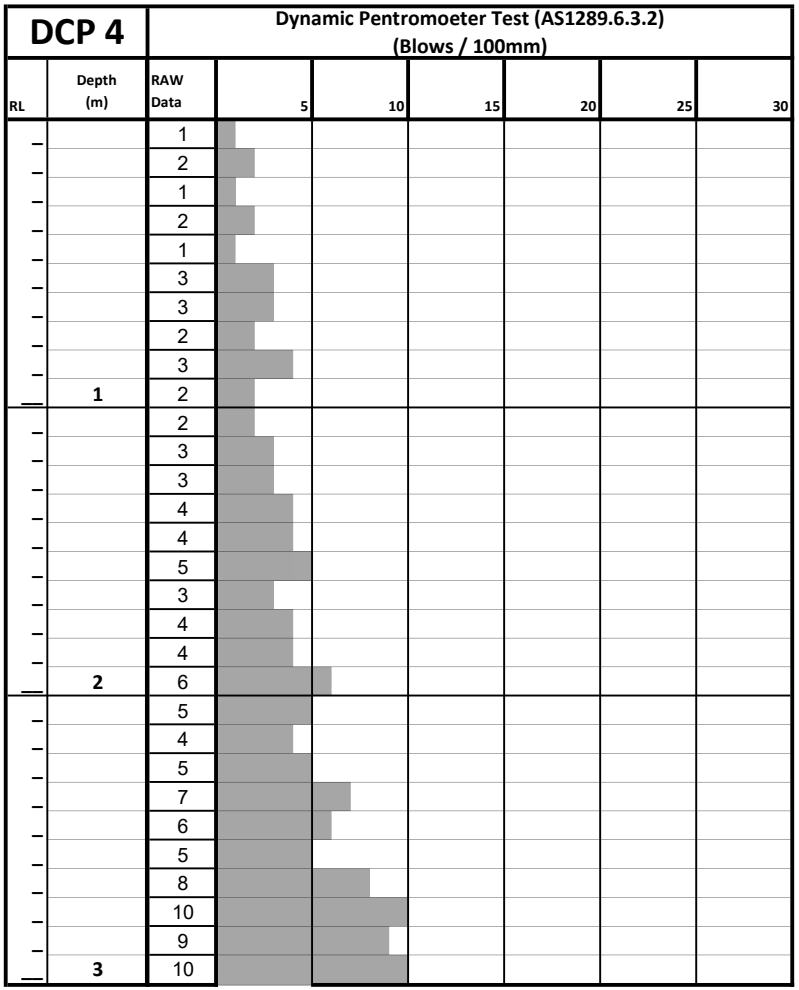
RL	Depth (m)	RAW Data
		2
		2
		2
		3
		2
		2
		2
		1
		2
	1	3
		2
		3
		4
		2
		3
		2
		3
		3
		4
	2	4
		6
		5
		7
		8
		9
		10
		12
		14
		11
	3	13



DCP 4

Dynamic Pentromoeter Test (AS1289.6.3.2) (Blows / 100mm)

RL	Depth (m)	RAW Data
		1
		2
		1
		2
		1
		3
		3
		2
		3
	1	2
		2
		3
		3
		4
		4
		5
		3
		4
		4
	2	6
		5
		4
		5
		7
		6
		5
		8
		10
		9
	3	10



SITE TESTING DATA SHEET - FINDINGS

Client	Cryprinoid Pty Ltd
Project No.	ARO0096
Project	63 Stonewood Rd
Location	As per Site Plan
Date	#
Logged By	LB

DCP 5

Dynamic Pentromoeter Test (AS1289.6.3.2) (Blows / 100mm)

RL	Depth (m)	RAW Data
		0
		1
		1
		0
		1
		1
		1
		3
		3
	1	2
		4
		3
		3
		5
		2
		4
		4
		4
		2
	2	3
		3
		4
		3
		2
		3
		2
		4
		3
		4
	3	5

DCP 6

Dynamic Pentromoeter Test (AS1289.6.3.2) (Blows / 100mm)

RL	Depth (m)	RAW Data
		3
		3
		2
		2
		3
		2
		3
		4
		4
	1	3
		3
		4
		4
		5
		7
		8
		10
		Refusal (> 20/50mm
	2	
	3	

SITE TESTING DATA SHEET - FINDINGS

Client	Cryprinoid Pty Ltd
Project No.	ARO0096
Project	63 Stonewood Rd
Location	As per Site Plan
Date	#
Logged By	LB

DCP 7		Dynamic Pentromoeter Test (AS1289.6.3.2) (Blows / 100mm)				
RL	Depth (m)	RAW Data	5	10	15	20
		1				
		1				
		1				
		0				
		1				
		2				
		2				
		2				
		3				
	1	4				
		4				
		3				
		4				
		3				
		3				
		4				
		4				
		4				
		4				
	2	5				
		6				
		7				
		7				
		6				
		5				
		6				
		7				
		8				
		9				
	3	9				

APPENDIX C
Laboratory Test Reports

APPENDIX C – Laboratory Test Results

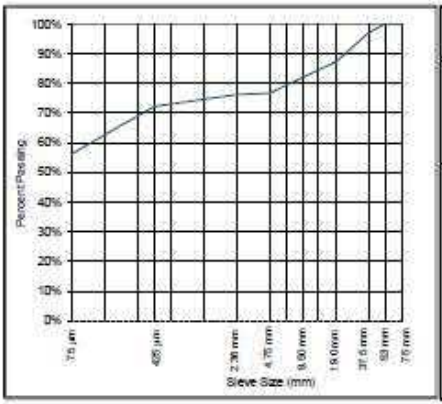
GEOTECHNICAL

HEAD OFFICE – CAIRNS
ETS GEO PTY LTD
ABN: 16 121 817 784
07 4047 8000
07 4047 8000
admin@etsgeo.com.au
PO Box 667
REDLYNCH QLD 4870

91 Bright Street
CAIRNS QLD 4870

Quality of Materials Report

Client:	ARO Industries Pty Ltd	Report Number:	GT21-210- CS43131 Q
Client Address:	PO Box 459, Clifton Beach. QLD 4879		
Job Number:	GT21-210	Report Date:	7/08/2021
Project:	Various CMT Projects	Test Request No:	-
Location:	Cairns Region		
Lab No:	CS43131	Sample Location:	
Date Sampled:	16/07/2021		ARO-0096
Date Tested:	6/08/2021		TP1
Sampled By:	Client		2.0m
Sample Method:	As Received		
Material Source:	Insitu Material	Spec Description:	-
For Use As:	-	Lot Number:	-
Remarks:	-	Spec Number:	-



Particle Size Distribution

Test Method AS1289.3.6.1

A.S. Sieve Size	Specification Minimum	Result % Passing	Specification Maximum
75mm		100	
53mm		100	
37.5mm		97	
19.0mm		87	
9.5mm		82	
4.75mm		77	
2.36mm		76	
0.425mm		72	
0.075mm		56	

Plasticity Tests (Air Dried - Dry Sieved)	Test Method	Specification Minimum	Result	Specification Maximum
Liquid Limit (%)	AS1289.3.1.2		51	
Plastic Limit (%)	AS1289.3.2.1		33	
Plasticity Index	AS1289.3.3.1		18	
Linear Shrinkage (%)	AS1289.3.4.1 *		7	
P.I. X % Passing 0.425mm (WPI)			1296	
L.S. X % Passing 0.425mm			506	
Ratio of % Passing (0.075 / 0.425)			0.78	

* 250mm linear shrinkage mould used, Shrinkage had not cracked, crumbled or curled.

Emerson Class	Test Method	Water Temperature	Emerson Class No	Water Type Used
	AS1289.3.8.1		-	
Soil Description :				

NATA TECHNICAL COMPETENCE	Accredited for compliance with ISO/IEC 17025 - Testing	APPROVED SIGNATORY Troy Bock - Senior Technician NATA Accreditation No. 20026 Cairns Laboratory	FORM NUMBER FM-RP-120-5

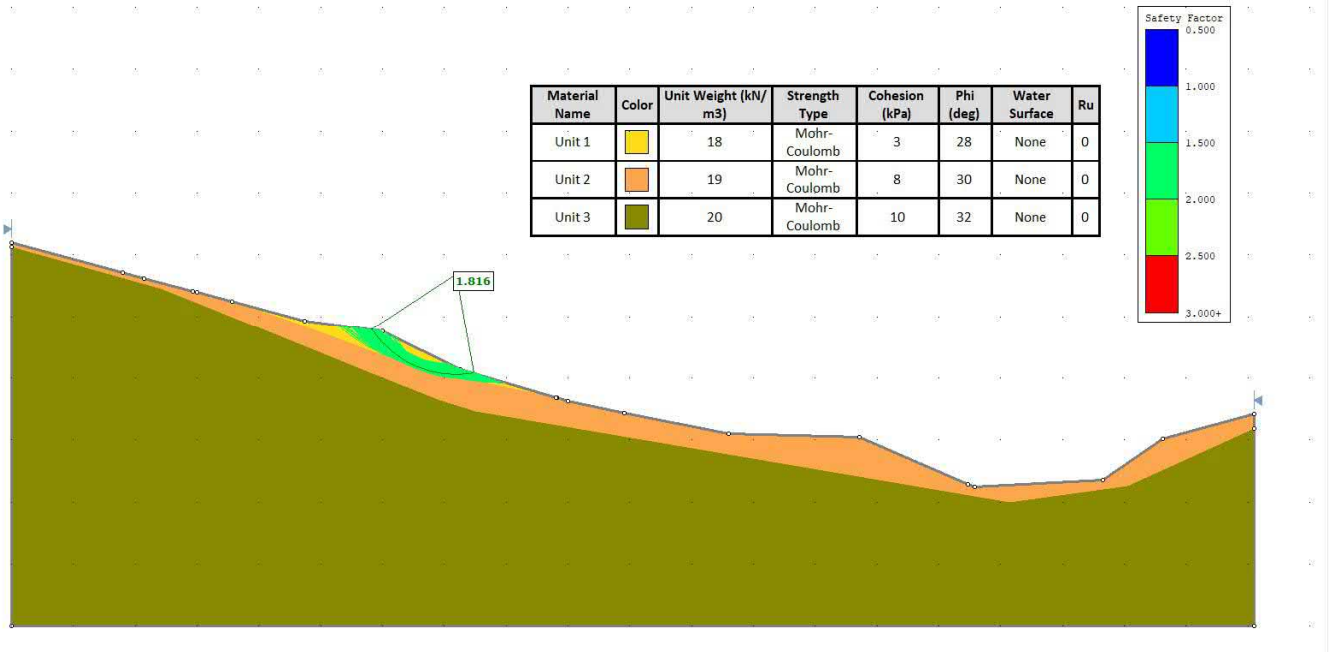
APPENDIX D

Stability Modelling Outputs for Existing Slope Geometry

APPENDIX D - EXISTING CONDITIONS

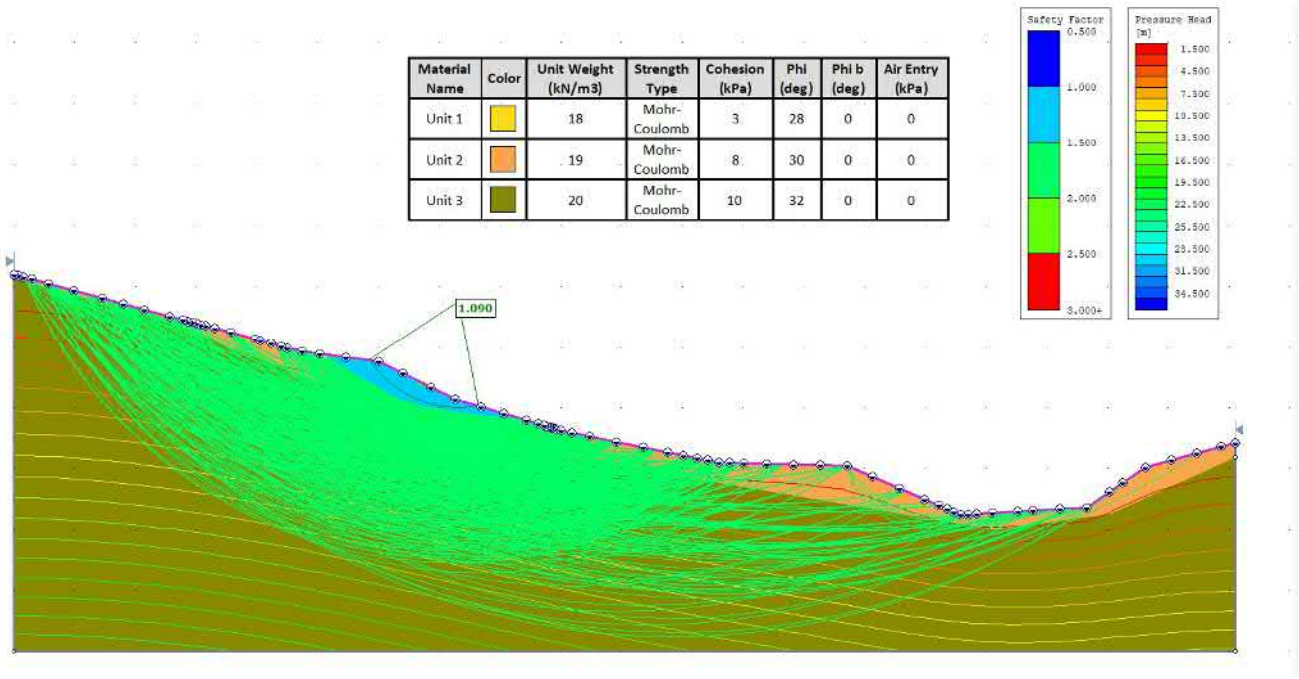
Case 1 – Dry

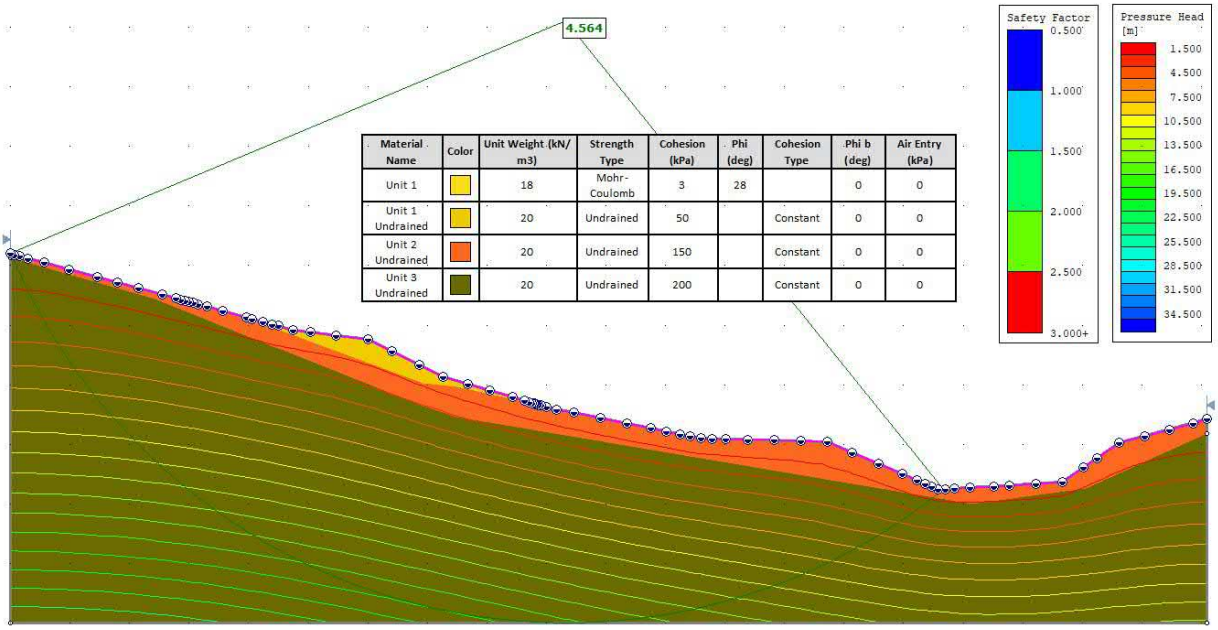
Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (deg)	Water Surface	Ru
Unit 1		18	Mohr-Coulomb	3	28	None	0
Unit 2		19	Mohr-Coulomb	8	30	None	0
Unit 3		20	Mohr-Coulomb	10	32	None	0



Case 2 – Saturated Drained SSFEA

Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (deg)	Phi b (deg)	Air Entry (kPa)
Unit 1		18	Mohr-Coulomb	3	28	0	0
Unit 2		19	Mohr-Coulomb	8	30	0	0
Unit 3		20	Mohr-Coulomb	10	32	0	0





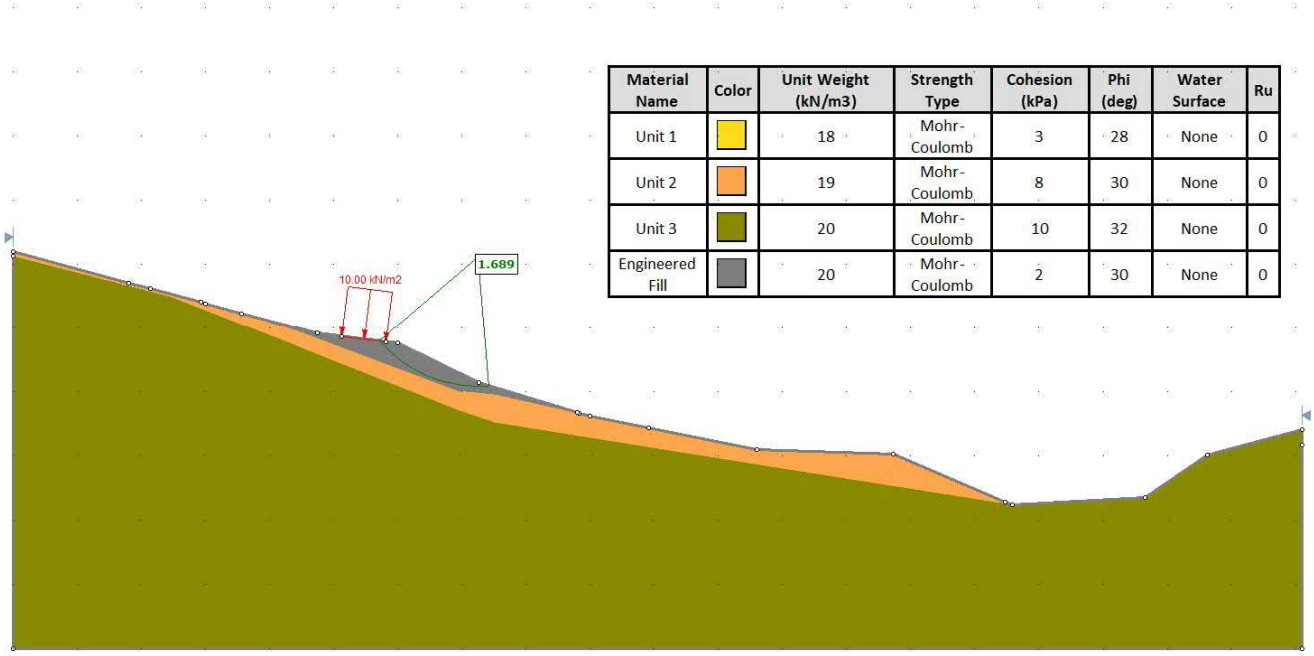
Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (deg)	Cohesion Type	Phi b (deg)	Air Entry (kPa)
Unit 1		18	Mohr-Coulomb	3	28		0	0
Unit 1 Undrained		20	Undrained	50		Constant	0	0
Unit 2 Undrained		20	Undrained	150		Constant	0	0
Unit 3 Undrained		20	Undrained	200		Constant	0	0

APPENDIX E

Stability Modelling Outputs for updated Profiles for proposed Development

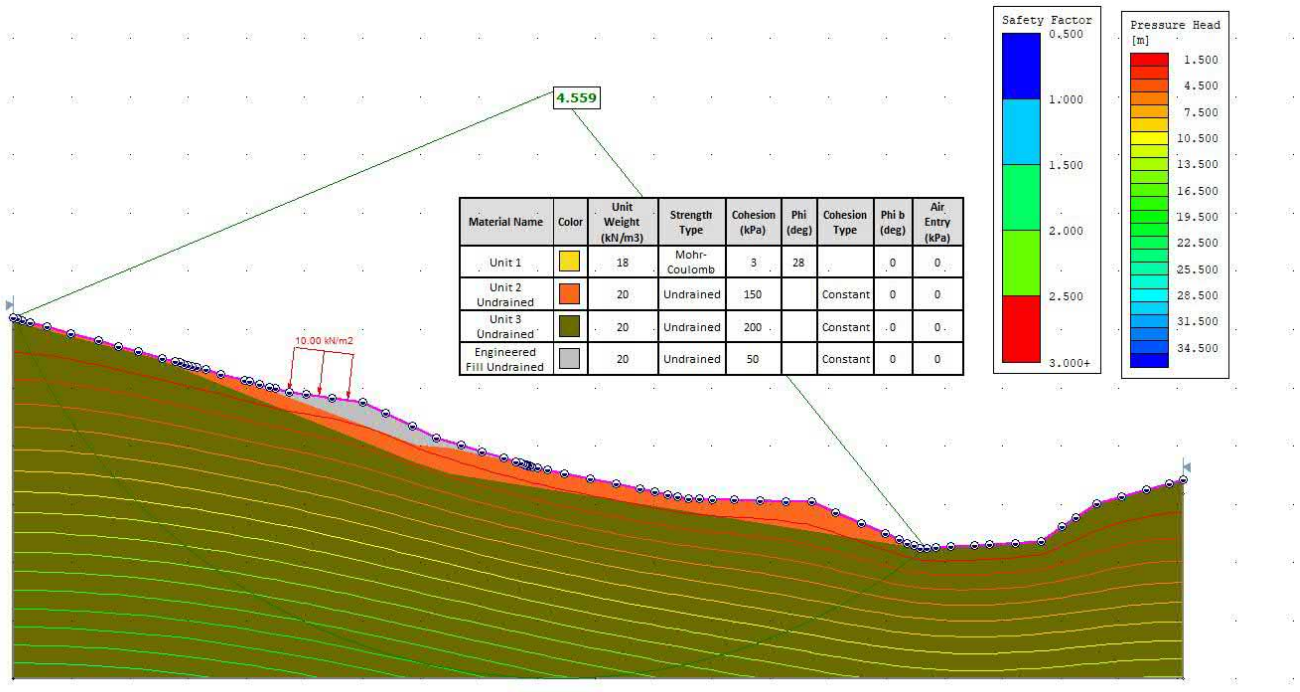
APPENDIX E - EXISTING CONDITIONS WITH REPLACED UNIT 1 AND CONSTRUCTION LOADING

Case 1 - Dry

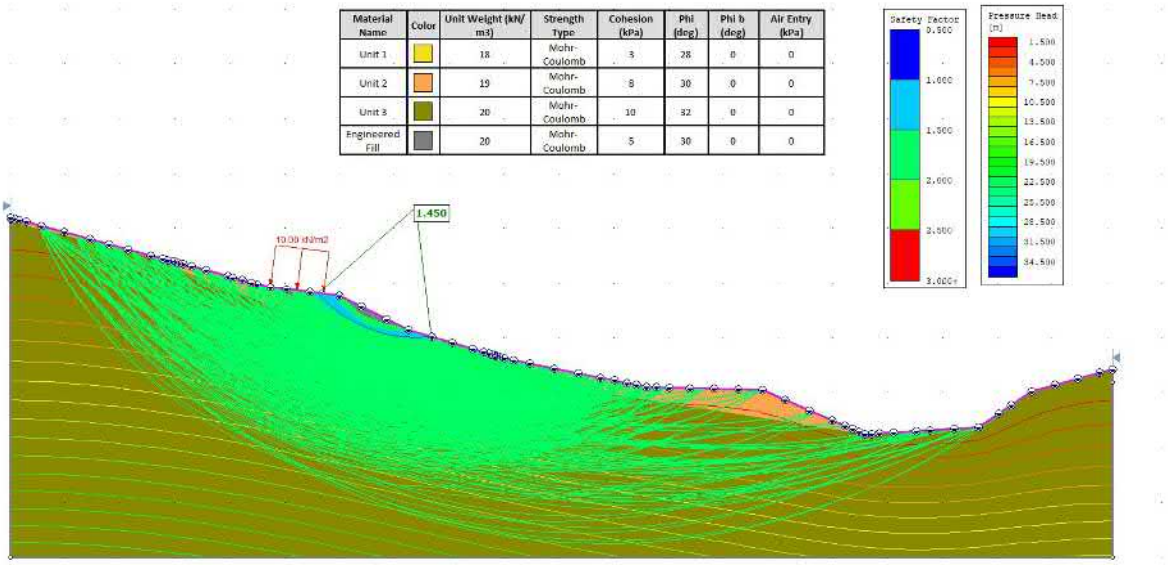


Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (deg)	Water Surface	Ru
Unit 1		18	Mohr-Coulomb	3	28	None	0
Unit 2		19	Mohr-Coulomb	8	30	None	0
Unit 3		20	Mohr-Coulomb	10	32	None	0
Engineered Fill		20	Mohr-Coulomb	2	30	None	0

Case 2 – Saturated Undrained SSFEA



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (deg)	Cohesion Type	Phi b (deg)	Air Entry (kPa)
Unit 1		18	Mohr-Coulomb	3	28		0	0
Unit 2 Undrained		20	Undrained	150		Constant	0	0
Unit 3 Undrained		20	Undrained	200		Constant	0	0
Engineered Fill Undrained		20	Undrained	50		Constant	0	0

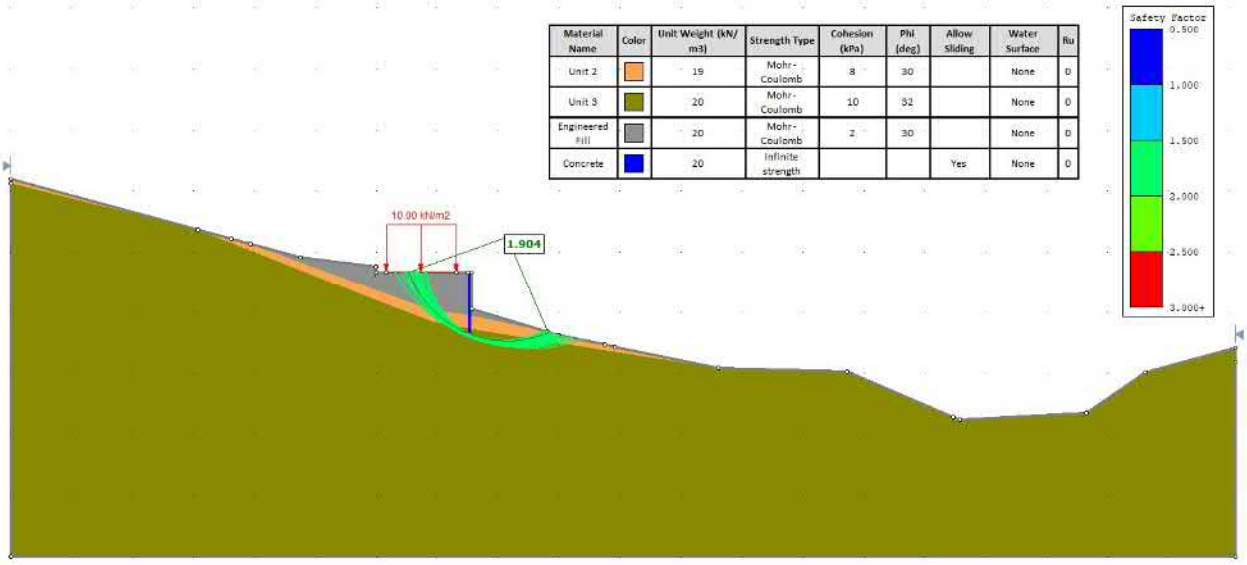

Material Name
Color
Unit Weight (kN/m3)
Strength Type
Cohesion (kPa)
Phi (deg)
Phi b (deg)
Air Entry (kPa)
Unit 1
18
Mohr-Coulomb
3
28
0
0
Unit 2
19
Mohr-Coulomb
8
30
0
0
Unit 3
20
Mohr-Coulomb
10
32
0
0
Engineered Fill
20
Mohr-Coulomb
5
30
0
0
Safety Factor
0.500
1.000
1.500
2.000
2.500
3.000+
Pressure Head (m)
1.500
4.500
7.500
10.500
13.500
16.500
19.500
22.500
25.500
28.500
31.500
34.500
1.450
10.00 kN/m2

APPENDIX F

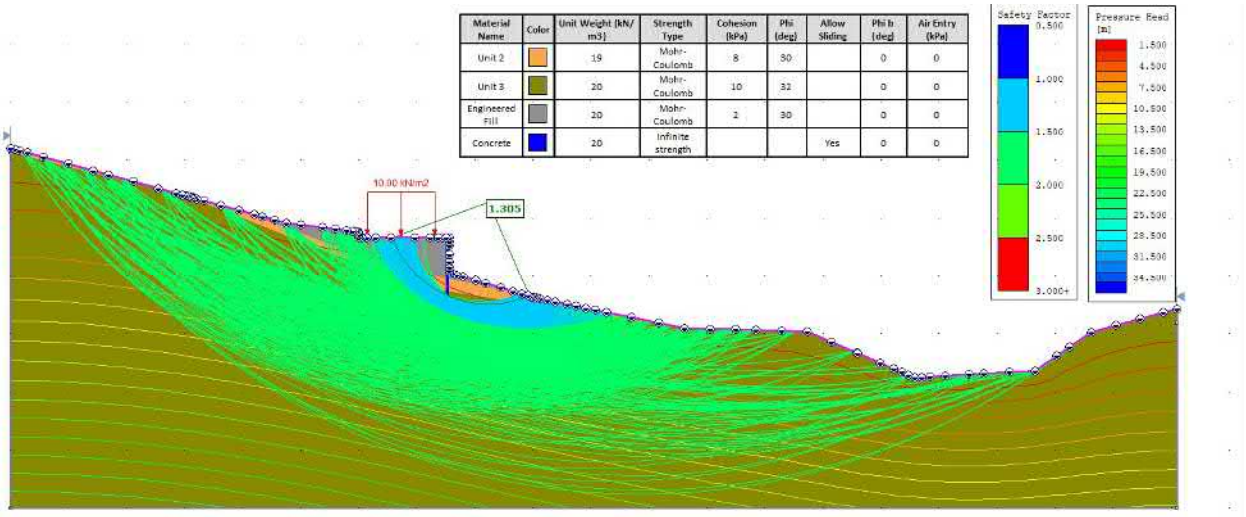
Stability Modelling Outputs for updated Sections for proposed Development with Retaining Structures

APPENDIX F - With PROPOSED PROFILE (with retaining structures) 0.5m embedment into assumed EW Rock

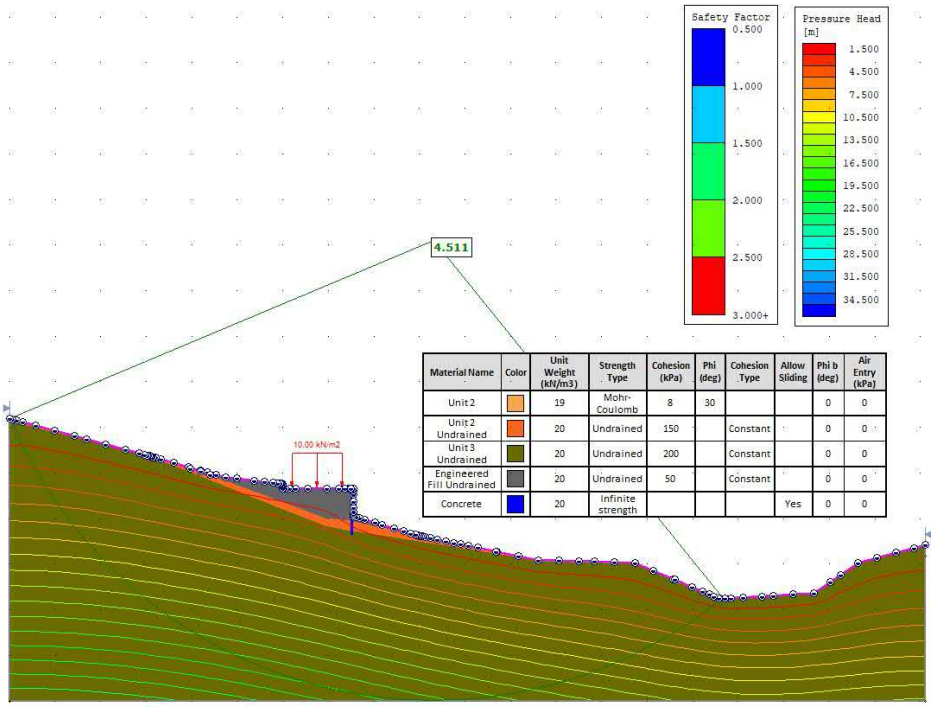
Case 1 – Dry



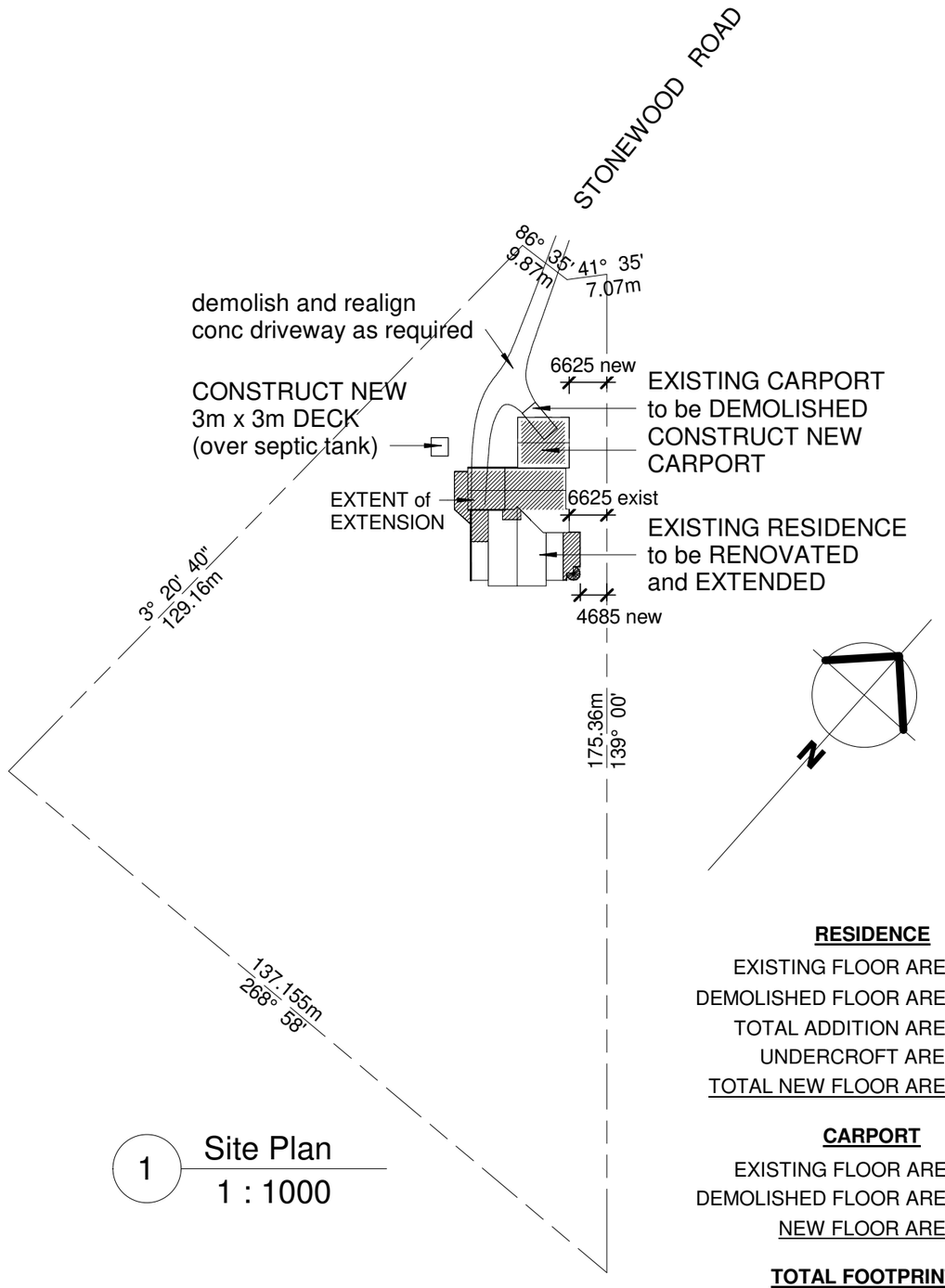
Case 2 – Saturated Drained SSFEA



Case 3 – Saturated Undrained SSFEA



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (deg)	Cohesion Type	Allow Sliding	Phi b (deg)	Air Entry (kPa)
Unit 2		19	Mohr-Coulomb	8	30			0	0
Unit 2 Undrained		20	Undrained	150		Constant		0	0
Unit 3 Undrained		20	Undrained	200		Constant		0	0
Engineered Fill Undrained		20	Undrained	50		Constant		0	0
Concrete		20	Infinite strength				Yes	0	0



1 Site Plan
1 : 1000

RESIDENCE

EXISTING FLOOR AREA - 261m²
DEMOLISHED FLOOR AREA - 70m²
TOTAL ADDITION AREA - 152m²
UNDERCROFT AREA - 41m²
TOTAL NEW FLOOR AREA - 392m²

CARPORT

EXISTING FLOOR AREA - 18m²
DEMOLISHED FLOOR AREA - 18m²
NEW FLOOR AREA - 60m²

TOTAL FOOTPRINT - 411m²

GREG SKYRING Design and DRAFTING Pty. Ltd.
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4873
Phone/Fax: (07) 40982061
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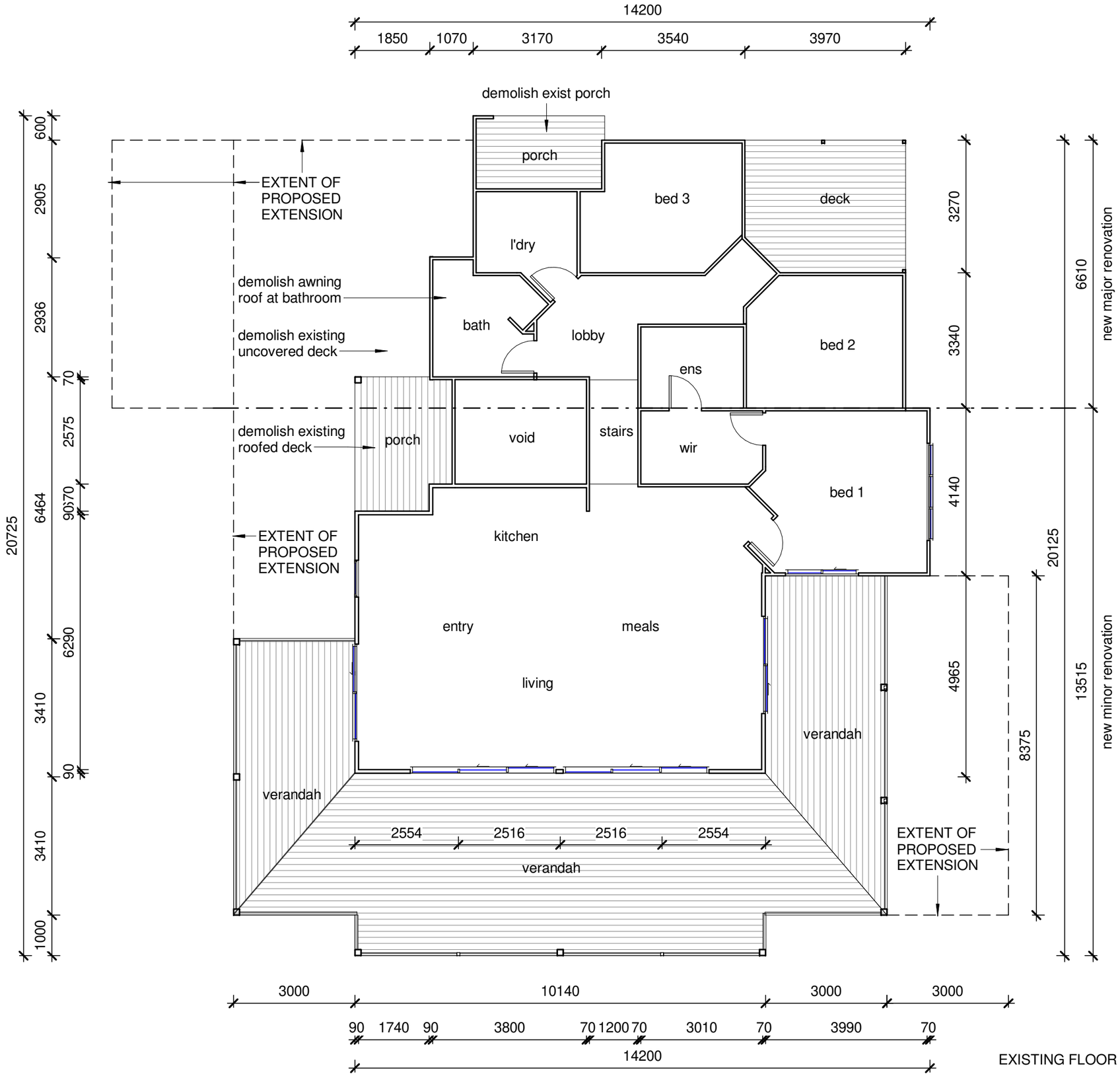
Email: greg@skyringdesign.com.au

PROJECT
Alterations and Additions to Existing Residence,
L196 RP740952, 63 Stonewood Road,
DIWAN

CLIENT	WIND CLASS	PLAN NUMBER	SHEET
R. Joshua	C2	304-19	1 of 7

SCALES	PLAN TITLE	DATE OF ISSUE	REV
1 : 1000	Site Plan	prelim 21.07.21	



EXISTING FLOOR AREA - 269m²

1 Floor Plan - Existing
1 : 100

REV	DATE	DESCRIPTION

GREG SKYRING Design and DRAFTING Pty. Ltd.
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PROJECT

Alterations and Additions to Existing Residence,
L196 RP740952, 63 Stonewood Road,
DIWAN

PLAN TITLE

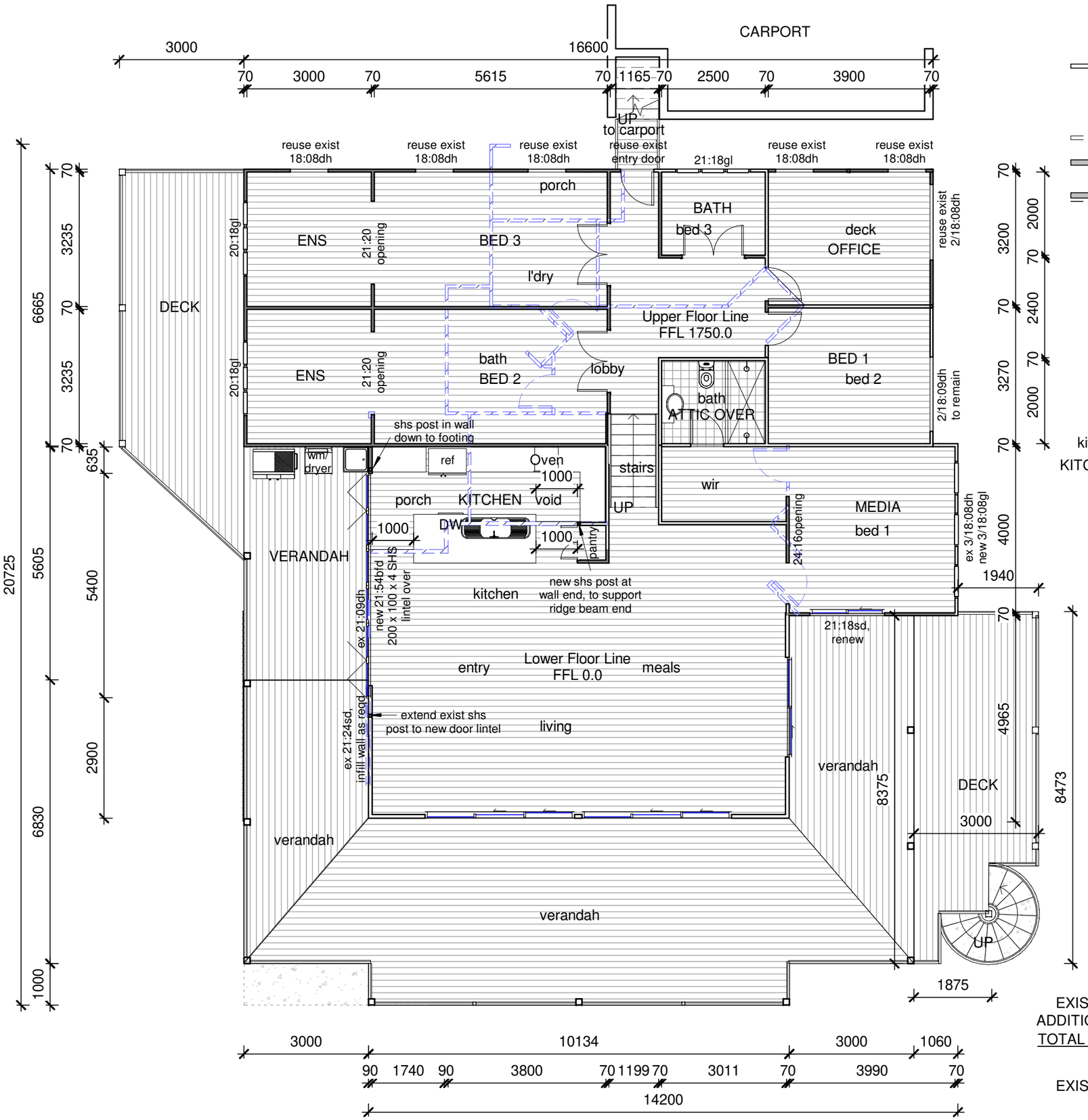
Floor Plan - Existing

CLIENT

R. Joshua

SCALES	WIND CLASS	PLAN NO	SHEET NO
1 : 100	C2	304-19	2 of 7

REV.



1 Floor Plan - Proposed
1 : 100

LEGEND

	exist stud framed external and internal walls, gyprock to int generally, villaboard to bathroom, select boards to external
	denotes exist walls to be removed
	new stud framed external and internal walls, lined as above
B	As above with 4mm F22 structural ply lining extra to one face, nail fixed for bracing (see bracing notes).
FW	Floor Waste (optional)
WP	Waterproof wet area to AS3740.
S/A	Smoke alarms to AS3786.
L/O	Lift-off hinges to WC - where pan is within a 1200 radius from door hinge
x	Denotes location of M12 galv hold down bolts, M16 at roof beam ends
kitchen	exist room use (lower case)
KITCHEN	new room use (upper case)

WINDOW and DOOR LEGEND

td	timber door, suitable for location
ftd	feature timber door, suitable for location
gsd	alum framed glass swing door
rd	colorbond roller door
bfd	bifold door
sw	alum framed single sliding window
sw/sw	alum framed single sliding window over single sliding window
gl	glass louvres in Altair frame
dh	double hung window

NOTE: all windows and doors are colour coated aluminium framed uno, fitted with grey glass and flymesh

RESIDENCE

EXISTING FLOOR AREA - 269m² **
ADDITIONAL FLOOR AREA - 83m²
TOTAL NEW FLOOR AREA - 344m²

CARPORT

EXISTING FLOOR AREA - 18m² *
NEW FLOOR AREA - 60m²

** - minor areas demolished and repurposed
* - demolish existing

REV	DATE	DESCRIPTION

GREG SKYRING Design and DRAFTING Pty. Ltd.
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PROJECT

Alterations and Additions to Existing Residence, L196 RP740952, 63 Stonewood Road, DIWAN

PLAN TITLE

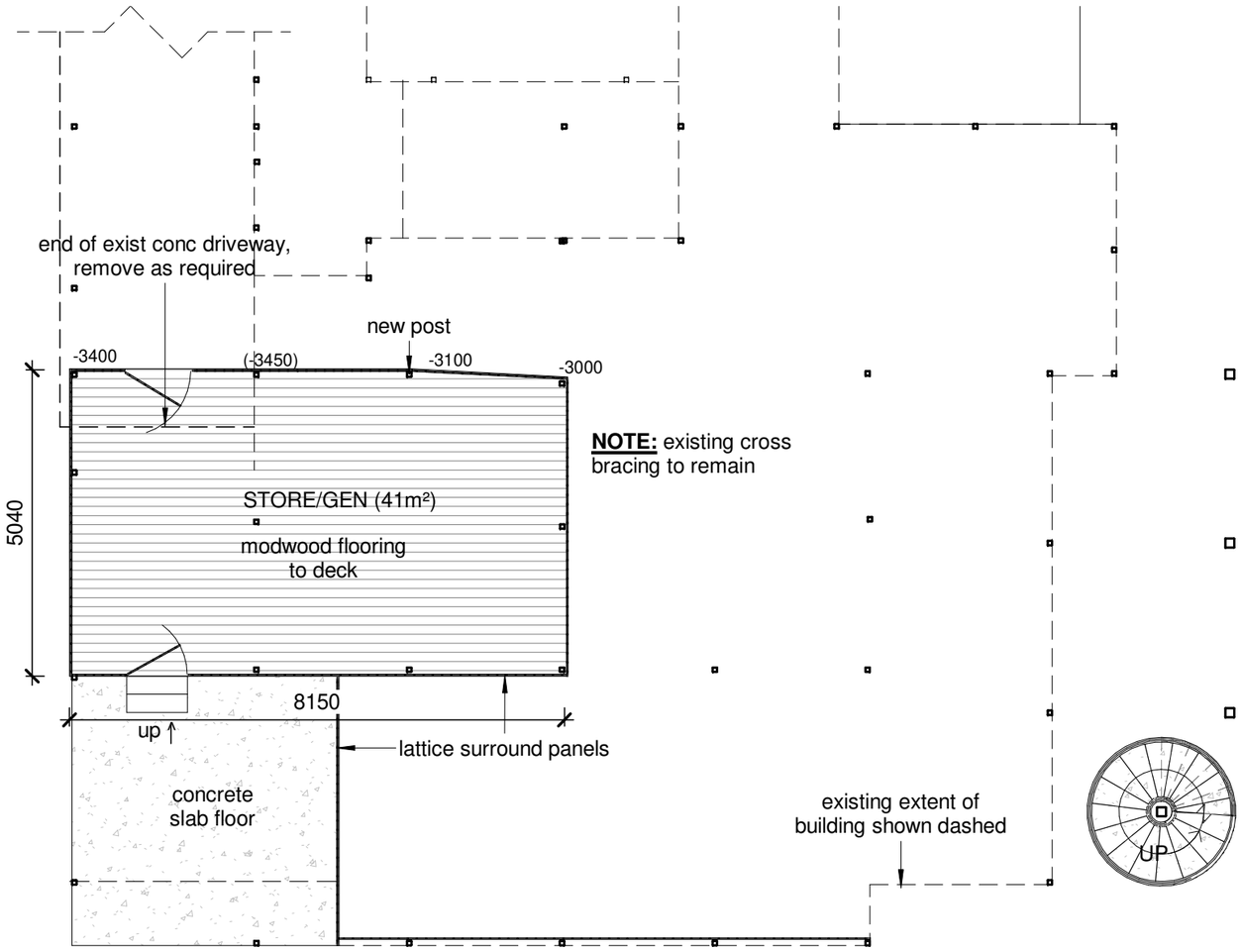
Floor Plan - Proposed

CLIENT

R. Joshua

SCALES	WIND CLASS	PLAN NO	SHEET NO
1 : 100	C2	304-19	3 of 7

REV.



NOTE: existing cross bracing to remain

1 FLoor Plan - Undercroft
1 : 100

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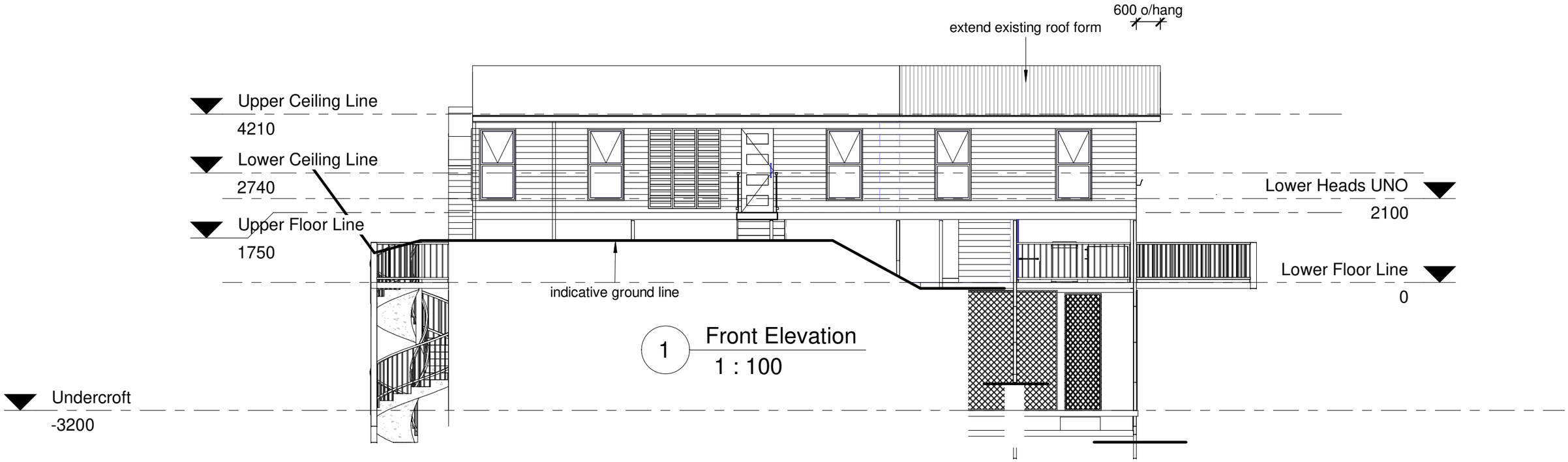
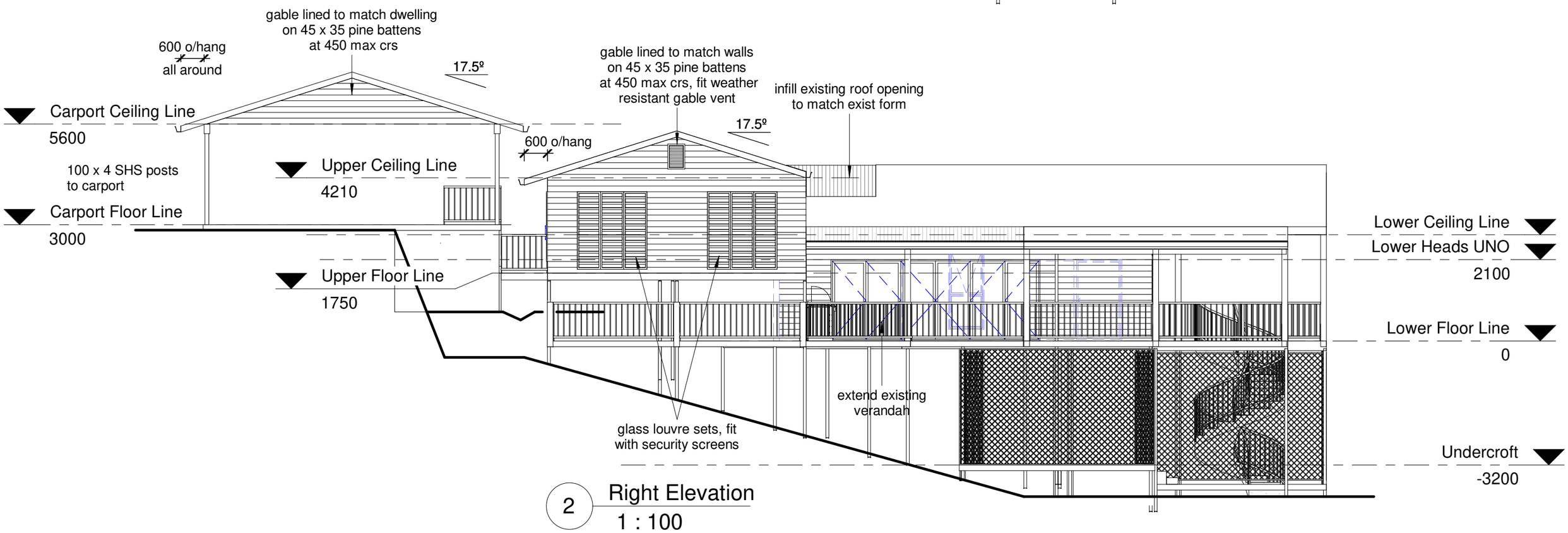
PROJECT
Alterations and Additions to Existing Residence,
L196 RP740952, 63 Stonewood Road,
DIWAN

CLIENT	WIND CLASS	PLAN NUMBER	SHEET
R. Joshua	C2	304-19	4 of 7

SCALES	PLAN TITLE	DATE OF ISSUE	REV
1 : 100	Floor Plan - Undercroft	prelim 21.07.21	



1 Front Elevation
1 : 100



2 Right Elevation
1 : 100

GREG SKYRING Design and DRAFTING Pty. Ltd.
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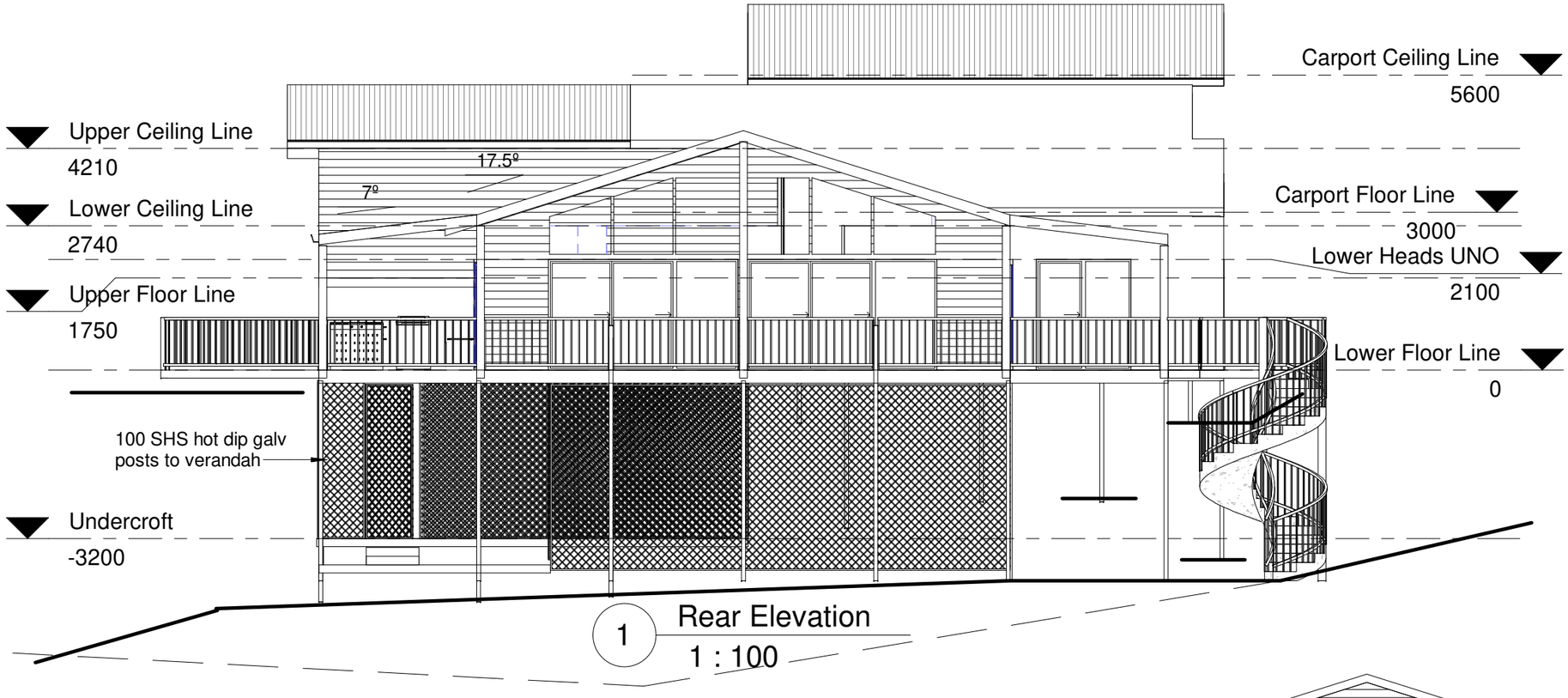
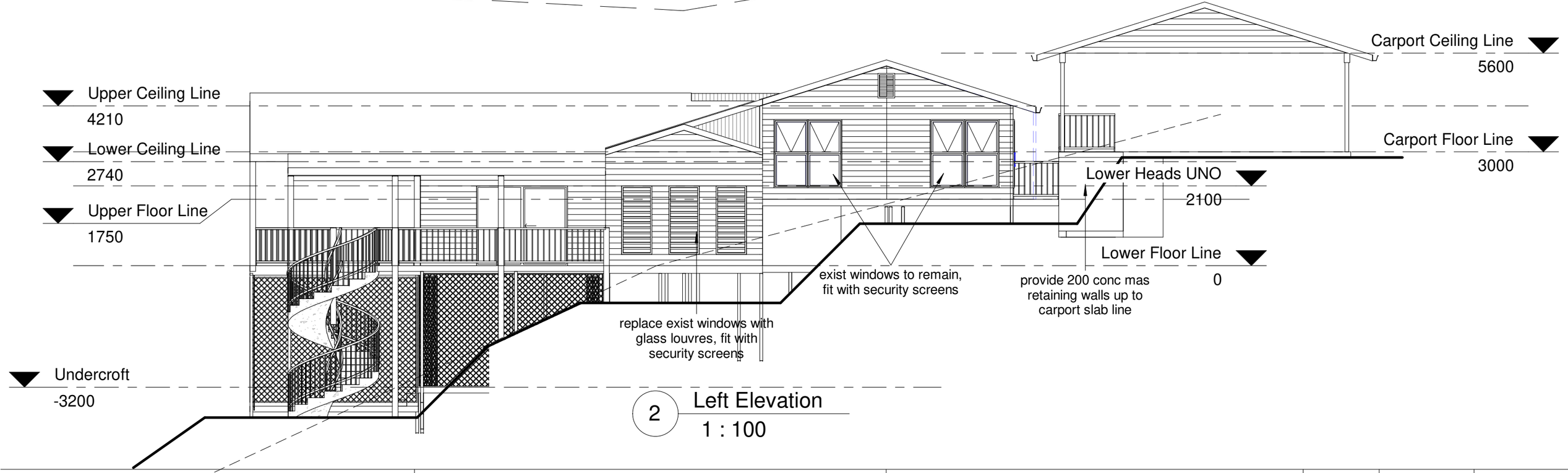
PROJECT
Alterations and Additions to Existing Residence, L196 RP740952, 63 Stonewood Road, DIWAN

CLIENT	WIND CLASS	PLAN NUMBER	SHEET
R. Joshua	C2	304-19	5 of 7

SCALES	PLAN TITLE	DATE OF ISSUE	REV
1 : 100	Elevations - Sheet 1	prelim 21.07.21	



1 Rear Elevation
1 : 100



2 Left Elevation
1 : 100

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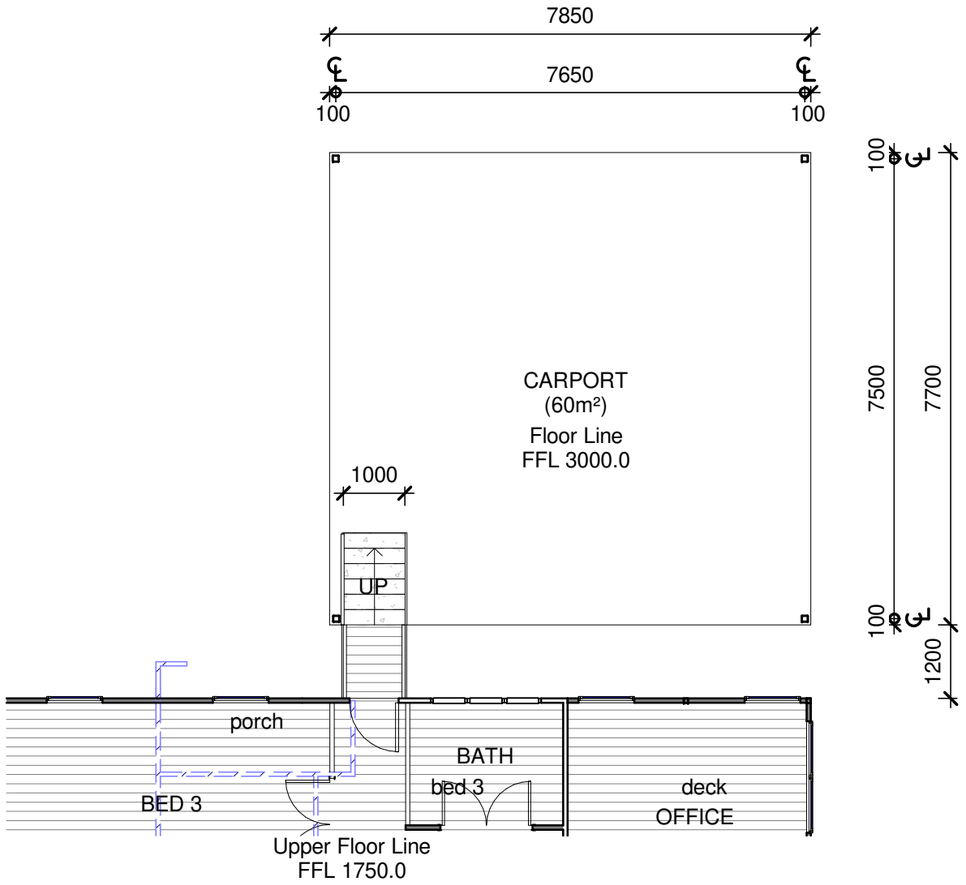
Mobile: 0419212652
Email: greg@skyringdesign.com.au

PROJECT
Alterations and Additions to Existing Residence, L196 RP740952, 63 Stonewood Road, DIWAN

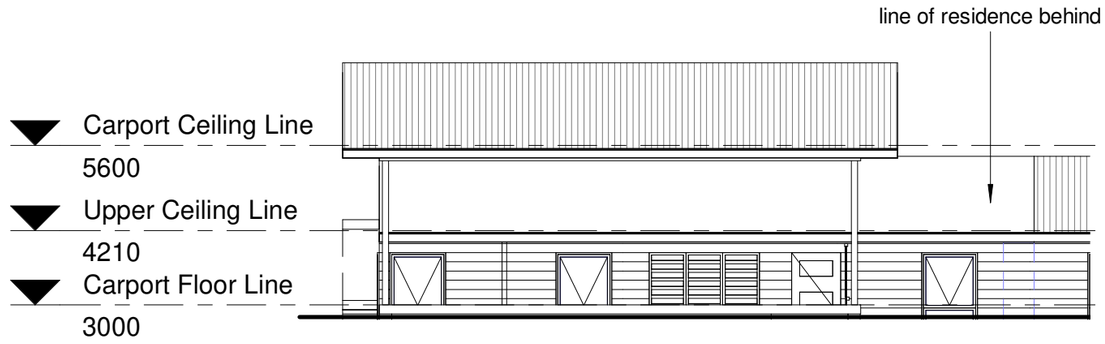
CLIENT	WIND CLASS	PLAN NUMBER	SHEET
R. Joshua	C2	304-19	6 of 7

SCALES	PLAN TITLE	DATE OF ISSUE	REV
1 : 100	Elevations - Sheet 2	prelim 21.07.21	

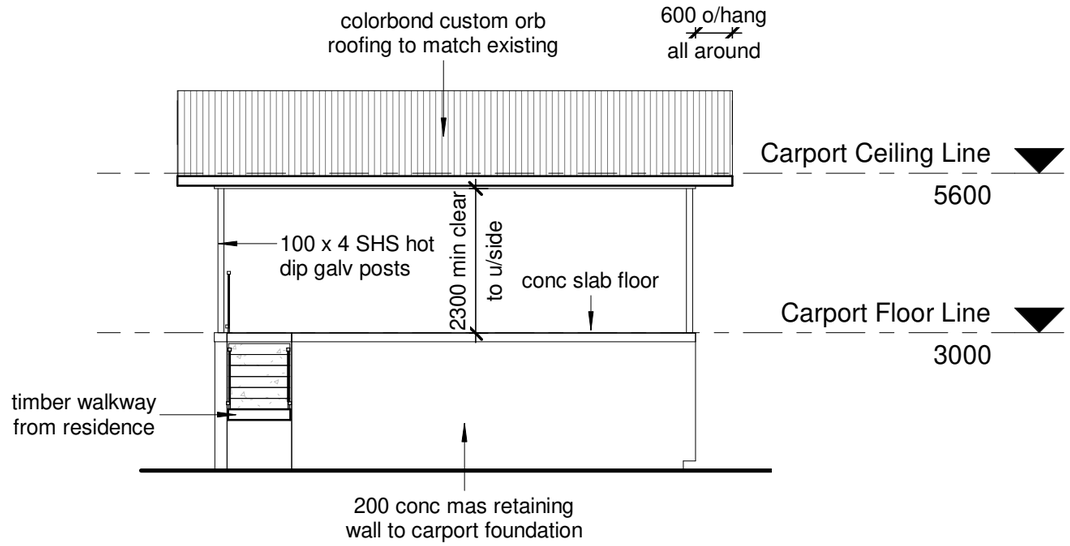


1 Floor Plan - Carport
1 : 100

REFER ALSO TO:
ELEVATIONS - SHEET 5, RIGHT ELEVATION
ELEVATIONS - SHEET 6, LEFT ELEVATION



2 Front Elevation - Carport
1 : 100



3 Rear Elevation - Carport
1 : 100

GREG SKYRING
Design and DRAFTING Pty. Ltd.
Lic Under QBSA Act 1991 - No 1040371
11 Noli Close,
Mossman Q.
4873
Phone/Fax: (07) 40982061
Mobile: 0419212652
Email: greg@skyringdesign.com.au

PROJECT
Alterations and Additions to Existing Residence,
L196 RP740952, 63 Stonewood Road,
DIWAN

CLIENT	WIND CLASS	PLAN NUMBER	SHEET
R. Joshua	C2	304-19	7 of 7

SCALES	PLAN TITLE	DATE OF ISSUE	REV
1 : 100	Floor Plan, Elevations - Carport	prelim 21.07.21	

Construction Soiltest Pty Ltd A.B.N. 90 054 339 683
Materials Testing and Geotechnical Services
7 Barry Street, Westcourt, PO Box 2034 Cairns Ph 07 4041 4577 Fax 07 4041 4399 e-mail: consoil@bigpond.com

22 January 2004

Job No: G4944

Oakdare Holdings
PO Box 1120
MOSSMAN QLD 4873

Dear Sir/Madam,

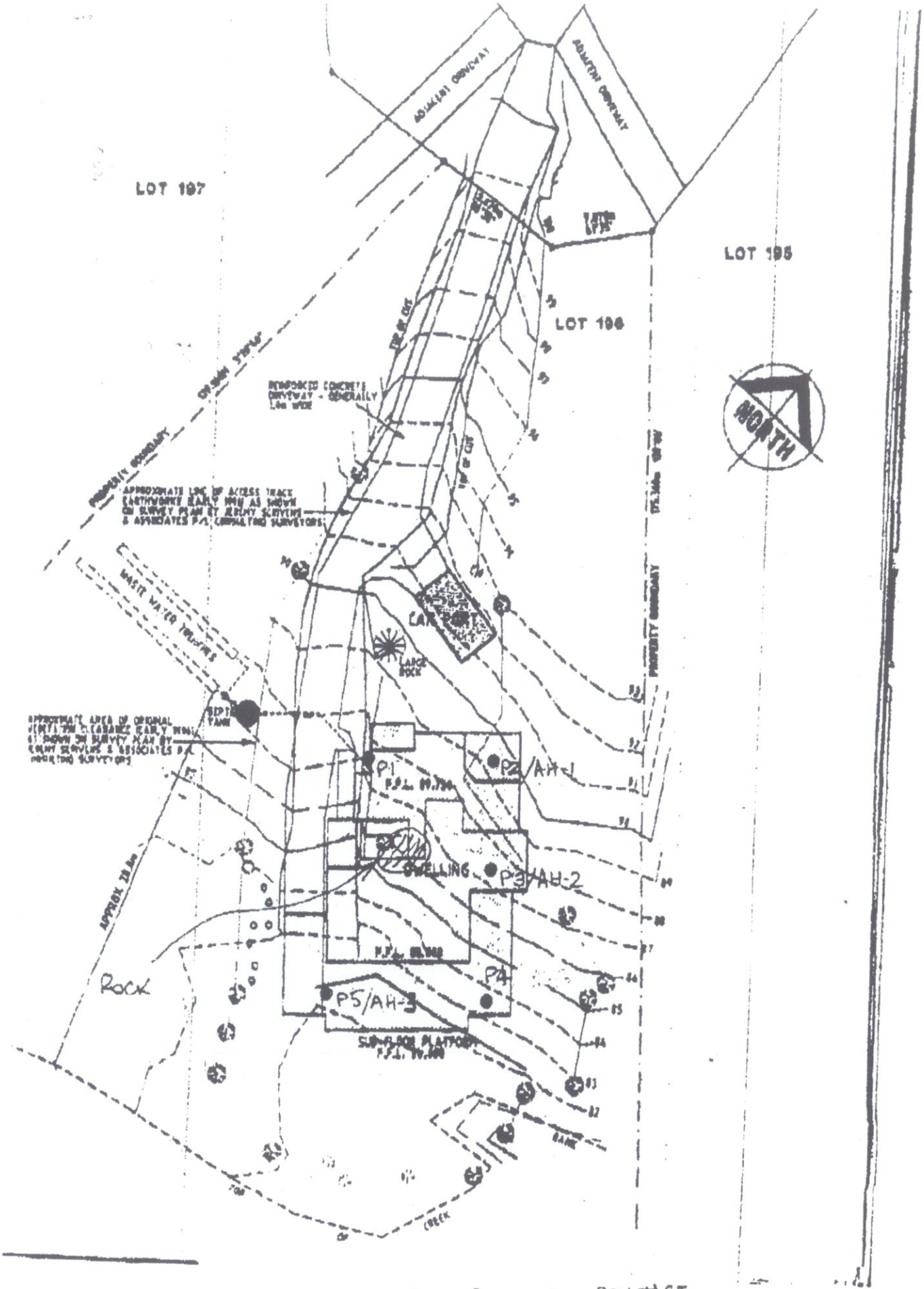
Lot 196 Stonewood Road, Diwan.

Please find attached report with an amended site plan for the above project. Please replace the original plan with this amended plan. The balance of the report remain unaffected. Borelogs and DCP results now match the amended plan. We regret any inconvenience this may have caused. Please contact us if you have any queries.

Yours faithfully
Construction Soiltest Pty Ltd

Warren McGrath
Administration Manager

ATTN KIRA REID
FAXED 2-2-04
TO 46383558



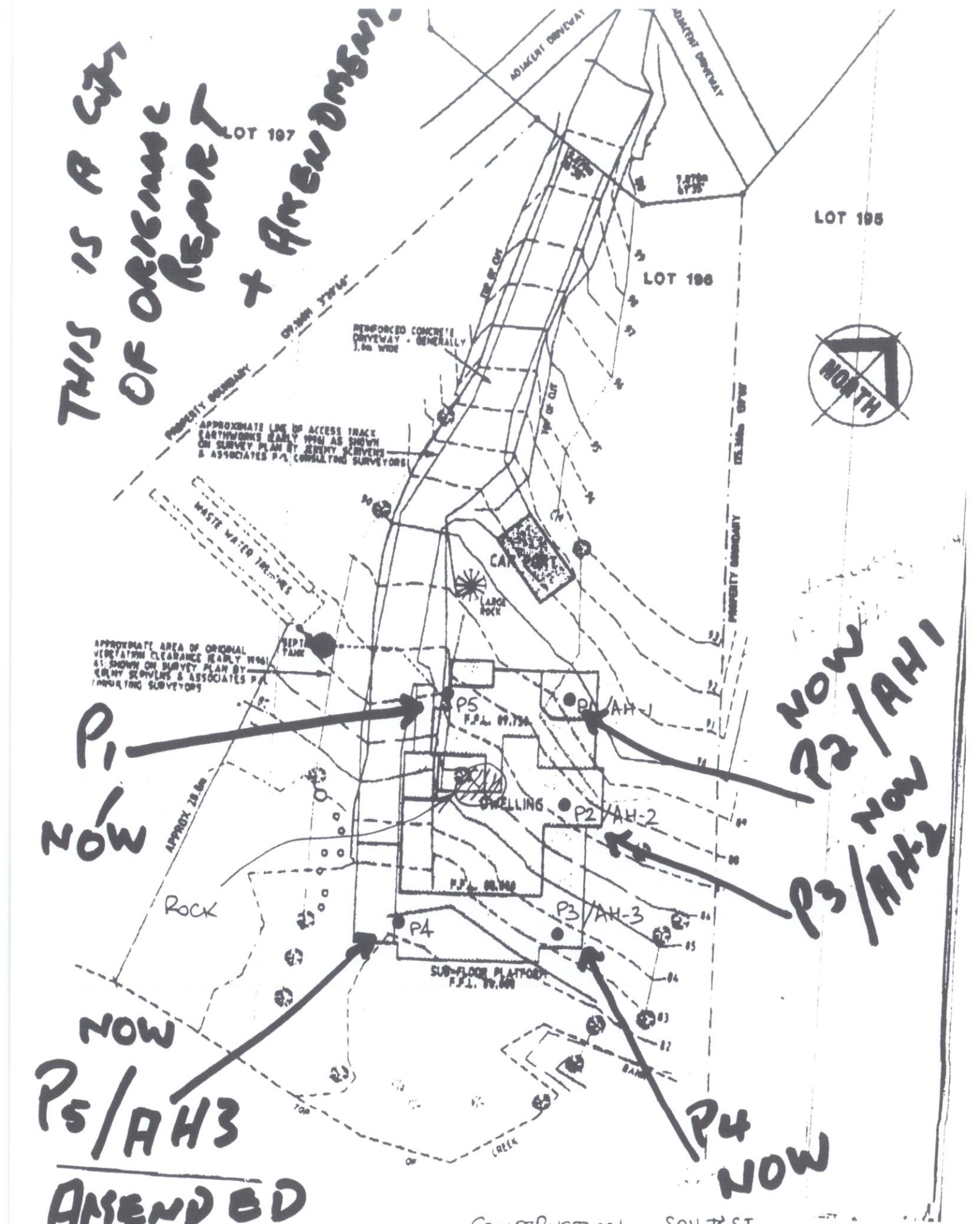
CONSTRUCTION SOILTEST

J/N 04944

REPORT

JOB NO G 4944

AMENDED 22-1-04


THIS IS A CPY OF ORIGINAL REPORT + AMENDMENT
LOT 197
LOT 196
LOT 195
NORTH
REINFORCED CONCRETE DRIVEWAY - GENERALLY 3.0m WIDE
APPROXIMATE LINE OF ACCESS TRACK EARTHWORKS EARLY 1990s AS SHOWN ON SURVEY PLAN BY JEFFRY SCRIVENS & ASSOCIATES P/L CONSULTING SURVEYORS
WASTE WATER TRENCHES
CARPORT
LARGE ROCK
SEPTIC TANK
APPROXIMATE AREA OF ORIGINAL VEGETATION CLEARANCE EARLY 1990s AS SHOWN ON SURVEY PLAN BY JEFFRY SCRIVENS & ASSOCIATES P/L CONSULTING SURVEYORS
P1
NOW
P5
F.F.L. 89.736
P1 NOW
AH-1
P2 NOW
DWELLING
P2
AH-2
P3 NOW
AH-2
ROCK
P4
P3
AH-3
SUB-FLOOR PLATFORM F.F.L. 89.060
NOW
P5/AH3
P4
NOW
CREEK
AMENDED REPORT 22-1-04
CONSTRUCTION SOILTEST
J/N G4944
JOB G 4944

ABN 90 054-339-883 PO Box 2234 Cairns Ph: 4041 4577

Job Name: Lot 196 Stonewood Road
Job Location: Diwan
Client: Oakdare Holdings

REPORT ON PENETRATION RESISTANCE OF SOIL

Tested By: WM Date Tested: 7/11/03 Date of Report: 20/11/03 Job Number: G4944

Depth Below GL (m)	Blows per 0.1m	Test Location: P4 See Sketch Description of Subsoil	Depth Below GL (m)	Blows per 0.1m	Test Location: P5/AH-3 See Sketch Description of Subsoil	Depth Below GL (m)	Blows per 0.1m	Test Location: Description of Subsoil
0.05	Seat		0.05	Seat	GL	0.05	Seat	
0.15	2		0.15	2	Uncontrolled fill.	0.15		
0.25	2		0.25	2	SC. Orange brown mottled red brown/yellow brown/pale grey sandy CLAY. Contains a trace of organics and occasional cobble. Moist. Medium plasticity.	0.25		
0.35	3		0.35	2		0.35		
0.45	2		0.45	2		0.45		
0.55	1		0.55	1		0.55		
0.65	1		0.65	1	0.65	0.65		
0.75	1		0.75	5	End borehole. Auger refusal due to cobble/boulder. No groundwater observed.	0.75		
0.85	5		0.85	5		0.85		
0.95	5		0.95	6		0.95		
1.05	6		1.05	5		1.05		
1.15	6		1.15	5		1.15		
1.25	5		1.25	6		1.25		
1.35	6		1.35	6		1.35		
1.45	6		1.45	6		1.45		
1.55			1.55			1.55		
1.65			1.65			1.65		
1.75			1.75			1.75		
1.85			1.85			1.85		
1.95			1.95			1.95		
2.05			2.05			2.05		
2.15			2.15			2.15		
2.25			2.25			2.25		
2.35			2.35			2.35		
2.45			2.45			2.45		
2.55			2.55			2.55		

Approved Signatory: P.A. Posar P. A Posar Date of Issue: 24/11/03

Dynamic cone penetrometer tested in accordance with AS 1289 6.3.2

Report AR111A July 2002

CONSTRUCTION SOILTEST PTY LTD
ABN 90 054-339-883 PO Box 2234 Cairns Ph: 4041 4577

Job Name: Lot 196 Stonewood Road
Job Location: Diwan
Client: Oakdare Holdings

REPORT ON PENETRATION RESISTANCE OF SOIL

Tested By: WM Date Tested: 7/11/03 Date of Report: 20/11/03 Job Number: G4944

Depth Below GL (m)	Blows per 0.1m	Test Location: P1 See Sketch Description of Subsoil	Depth Below GL (m)	Blows per 0.1m	Test Location: P2/AH-1 See Sketch Description of Subsoil	Depth Below GL (m)	Blows per 0.1m	Test Location P3/AH-2 See Sketch Description of Subsoil
0.05	Seat		0.05	Seat	GL	0.05	Seat	GL
0.15	1		0.15	3	SC. Orange brown mottled red brown/yellow brown/pale grey sandy CLAY. Moist. Medium plasticity.	0.15	3	SC. Orange brown mottled red brown/yellow brown/pale grey sandy CLAY. Moist. Medium plasticity.
0.25	2		0.25	3		0.25	2	
0.35	3		0.35	3	1.1	0.35	2	0.2
0.45	3		0.45	4	End borehole. Auger difficulty. No groundwater observed.	0.45	4	SC. White/red brown/yellow brown mottled sandy CLAY. Moist. Medium plasticity
0.55	3		0.55	4		0.55	4	
0.65	2		0.65	4		0.65	4	1.25
0.75	3		0.75	5		0.75	4	End borehole. Auger difficulty. No groundwater observed.
0.85	3		0.85	6		0.85	5	
0.95	3		0.95	6		0.95	6	
1.05	3		1.05	5		1.05	6	
1.15	3		1.15	6		1.15	6	
1.25	3		1.25	6		1.25	5	
1.35	3		1.35	6		1.35	6	
1.45	3		1.45	7		1.45	6	
1.55	3		1.55	6		1.55		
1.65			1.65			1.65		
1.75			1.75			1.75		
1.85			1.85			1.85		
1.95			1.95			1.95		
2.05			2.05			2.05		
2.15			2.15			2.15		
2.25			2.25			2.25		
2.35			2.35			2.35		
2.45			2.45			2.45		
2.55			2.55			2.55		

Approved Signatory: P.A. Posar P. Posar Date of Issue: 24/11/03

Dynamic cone penetrometer tested in accordance with AS 1289 6.3.2

Report AR111A July 2002

...ction Soiltest Pty Ltd ABN 90 054 339 883
... St, Westcourt, PO Box 2234 CAIRNS Ph: (07) 4041 4577 Fax: (07) 4041 4399

Report on:
Moisture Content, Atterberg Limits, Linear Shrinkage

Project: Lot 196 Stonewood Road

Location: Diwan

Location of test: AH-2 at 0.5m

Material use/type:

Project number: G4944

Registered number: CS6641A/03

Tested by: PP Date: 11/11/03

Checked by: PP Date: 13/11/03

Sample Number	Lab Reg Number	Insitu Moisture Content %	Liquid Limit %	Plastic Limit %	Plastic Index	Linear Shrinkage	Remarks
1	CS6646A/03	-	46	27	19	9.5	

Tested in accordance with AS 1289 ~~2.1.1, 2.1.2, 2.1.4, 3.1.1~~, 3.1.2, 3.2.1, 3.3.1, ~~3.3.2~~, 3.4.1, ~~3.9.~~

Sample History: Natural State, Air-Dryed, ~~Oven Dried, Unknown.~~
Preparation Method: ~~Wet Sieved~~ or Dry Sieved.
Linear Shrinkage: Size Mould: 150mm/~~250mm~~ Crumble/~~Curl, Neither~~.

Liquid Limit Moisture Condition Prior to Moulding: AS1289 3.1.1.~~ or 3.9.~~
Moisture Content for Atterberg Limit: AS1289 2.1.1,~~ 2.1.2, 2.1.4.~~

Approved Signatory: P.A. Posar P. Posar

Date: 24/11/03

APEC PROJECTS

01st September 2021

Russell Joshua

Attention: Russell Joshua

Dear Russell,

RE: 63 STONEWOOD DRIVE
PRELIMINARY RETAINING WALL DESIGN
NOTES - PRELIMINARY

Notes and design assumptions:

1. All concrete workmanship and materials shall be in accordance with AS3600 and AS1379.
2. Concrete with characteristic compressive strength, f'_c of at least 20MPa.
3. Ensure cover to reinforcement as per design sketches SK_S01, SK_S02, and SK_S03.
4. All workmanship and materials shall be in accordance with AS3700.
5. Masonry concrete blocks with characteristic compressive strength, f'_{uc} of at least 15MPa.
6. Mortar Type M3 with minimum compressive strength of 20MPa. Consists of Portland cement, hydrated lime and sand in the proportions of 1:1:6 by volume respectively.
7. Vertical reinforcement bars to be tied to starter bars and top course horizontal bar to ensure correct placement during pouring.
8. Max surcharge above wall 10kPa.
9. Reinforcement grade 500MPa
10. All cogs 150mm U.N.O.
11. All cores completely core filled.
12. Blockwork control joints (BCJ) at 10m maximum centres. Setout to match horizontal reinforcement (refer BCJ details).
13. All dimensions in mm U.N.O.
14. Geotechnical design parameters in accordance with ARO Industries Geotechnical Report Number ARO0096, dated 10/05/2021.

Assumed material as follows to be confirmed prior to detailed design:

a. Retained soil
Cohesive Stiff Sandy Clay
$\gamma = 19kN/m^3$
Ø' = 26º (internal)

b. Base soil
Cohesive Stiff Silty Clay
$\gamma = 19kN/m^3$
c' = 8 kPa
Ø' = 22º (internal / external base)

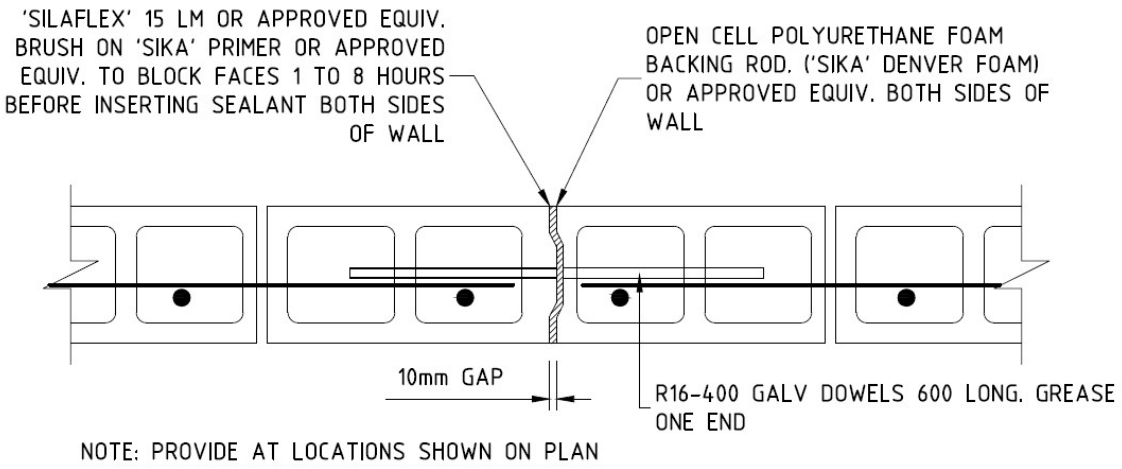
Drainage
Slotted Agline pipe wrapped in geofabric sock laid to a minimum grade of 1%. Provide free draining outlets at 5.0m centres.

Foundations

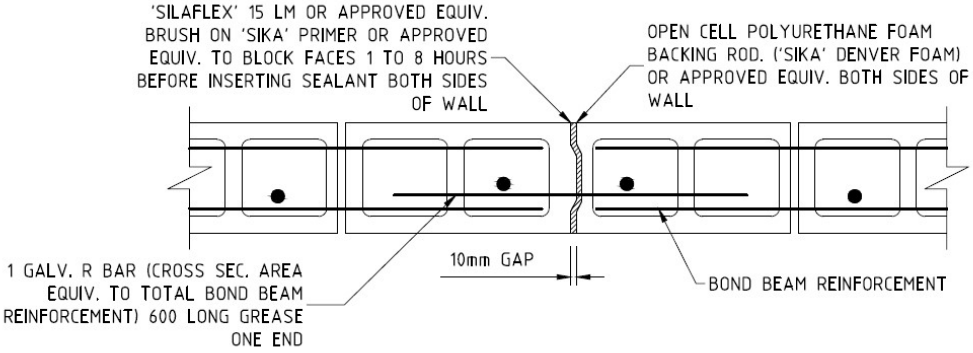
Footings to be founded in sound natural material with a minimum allowable bearing capacity of 100kPa.

Concrete to retaining wall footings to be minimum N32 grade.

Blockwork Control Joint – *Provide wall control joints at max 10m centres.*

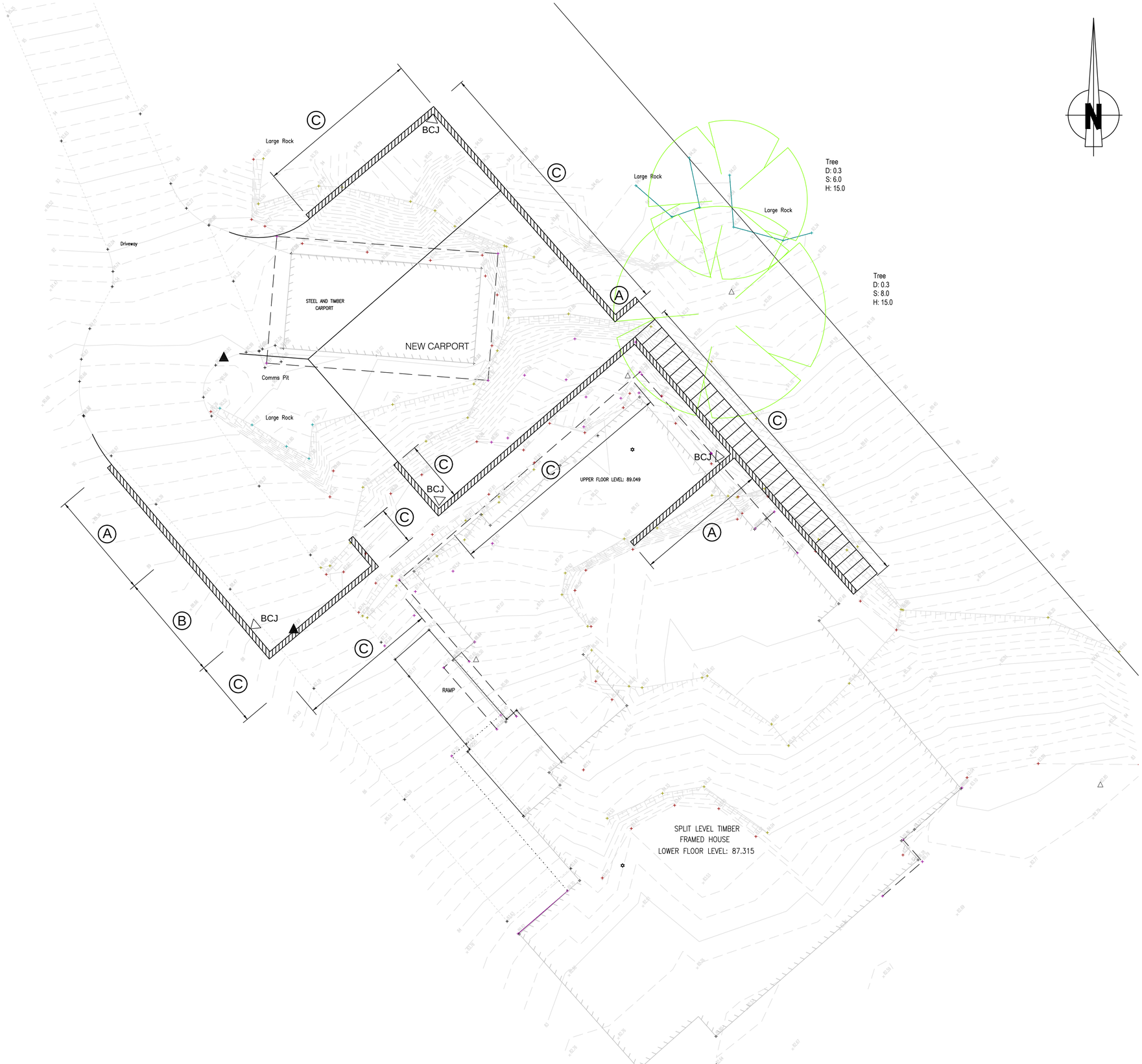


BLOCKWORK CONTROL JOINT (BCJ)



BLOCK WALL CONTROL JOINT THROUGH BOND BEAM DETAIL

NTS



LEGEND

	MASONRY BLOCKWORK RETAINING WALL
Ⓒ	RETAINING WALL TYPE
△ BCJ	BLOCKWORK CONTROL JOINT REFER DETAILS

NOTES

1. REFER APEC PROJECTS PRELIMINARY SKETCHES SK–S01(A), SK–S02(A) AND SK–S03(A) FOR RETAINING WALL DETAILS.
2. PROVIDE VERTICAL CONTROL JOINTS IN BLCOKWORK WALLS AT A MINIMUM OF 10m CENTRES OR WHERE INDICATED ON RETAINING WALL PLAN.

RETAINING WALL TYPE	RETAINING SOIL HEIGHT
A	800mm TO 1200mm
B	1400mm TO 2000mm
C	2200mm TO 3000mm

ARO
44 McLeod Street
Cairns Qld 4870
T (07) 4281 6897
E admin@aroindustries.com.au
W www.aroindustries.com.au
ABN: 49 641 461 298

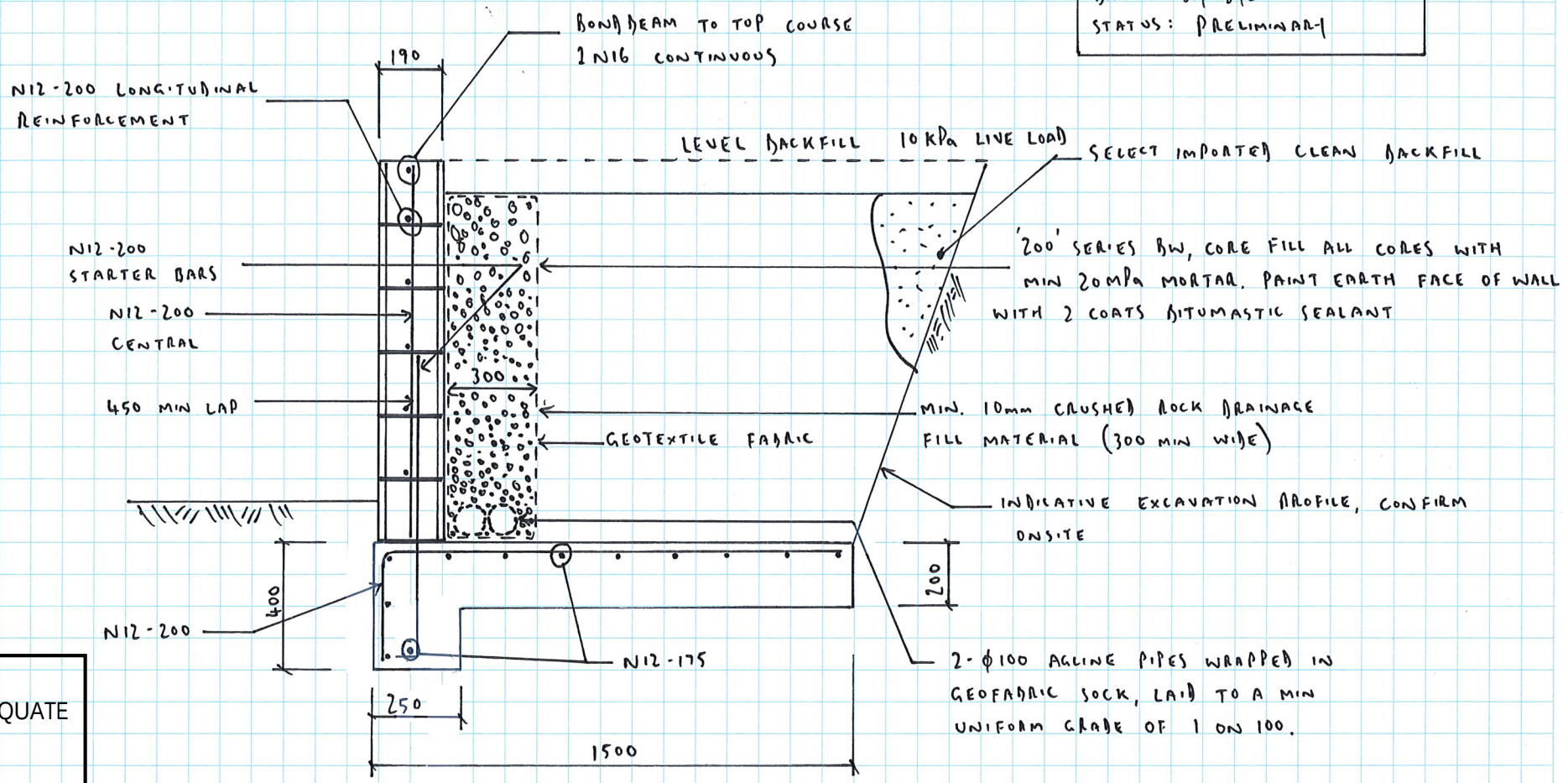
63 STONEWOOD ROAD

LAYOUT PLAN

ARO0096-SK01 1:75
A1 Full Size

Acad No. ARO0096-SK01(4) 9th September 2021

APEC PROJECTS
P21-003 - 63 STONEWOOD
RETAINING WALLS
SKETCH: SK_501 (A)
BY: LJB
DATE: 31/08/21
STATUS: PRELIMINARY



800 mm TO 1200 mm HIGH

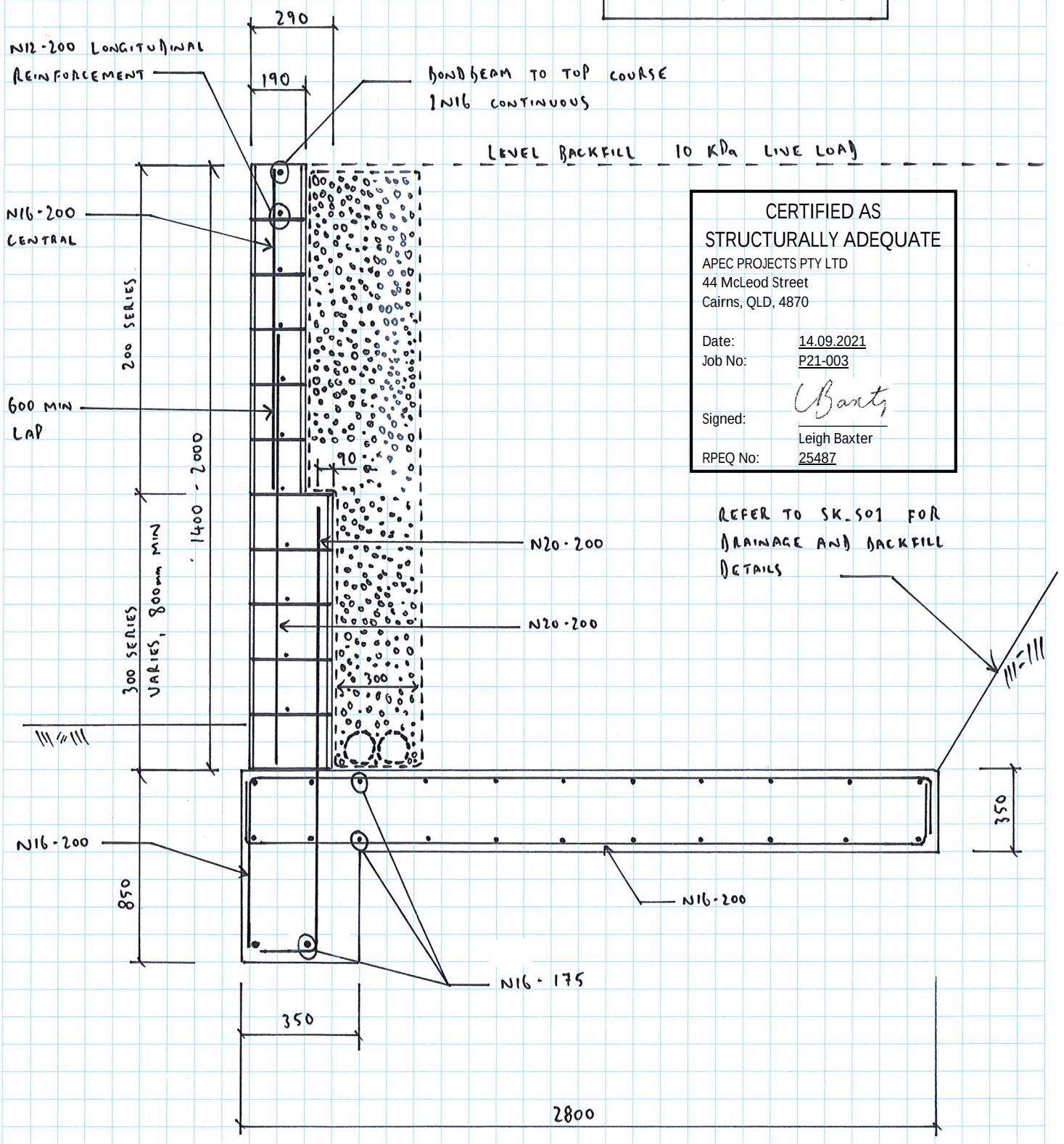
CERTIFIED AS
STRUCTURALLY ADEQUATE
APEC PROJECTS PTY LTD
44 McLeod Street
Cairns, QLD, 4870

Date: 14.09.2021
Job No: P21-003

Signed: LBaxty
Leigh Baxter
RPEQ No: 25487

A4 5 mm

APEC PROJECTS
P21-003 - 63 STONEWOOD
RETAINING WALLS
SKETCH : SK_502 (A)
BY : LJD
DATE : 31/08/21
STATUS : PRELIMINARY



CERTIFIED AS STRUCTURALLY ADEQUATE
APEC PROJECTS PTY LTD
44 McLeod Street
Cairns, QLD, 4870

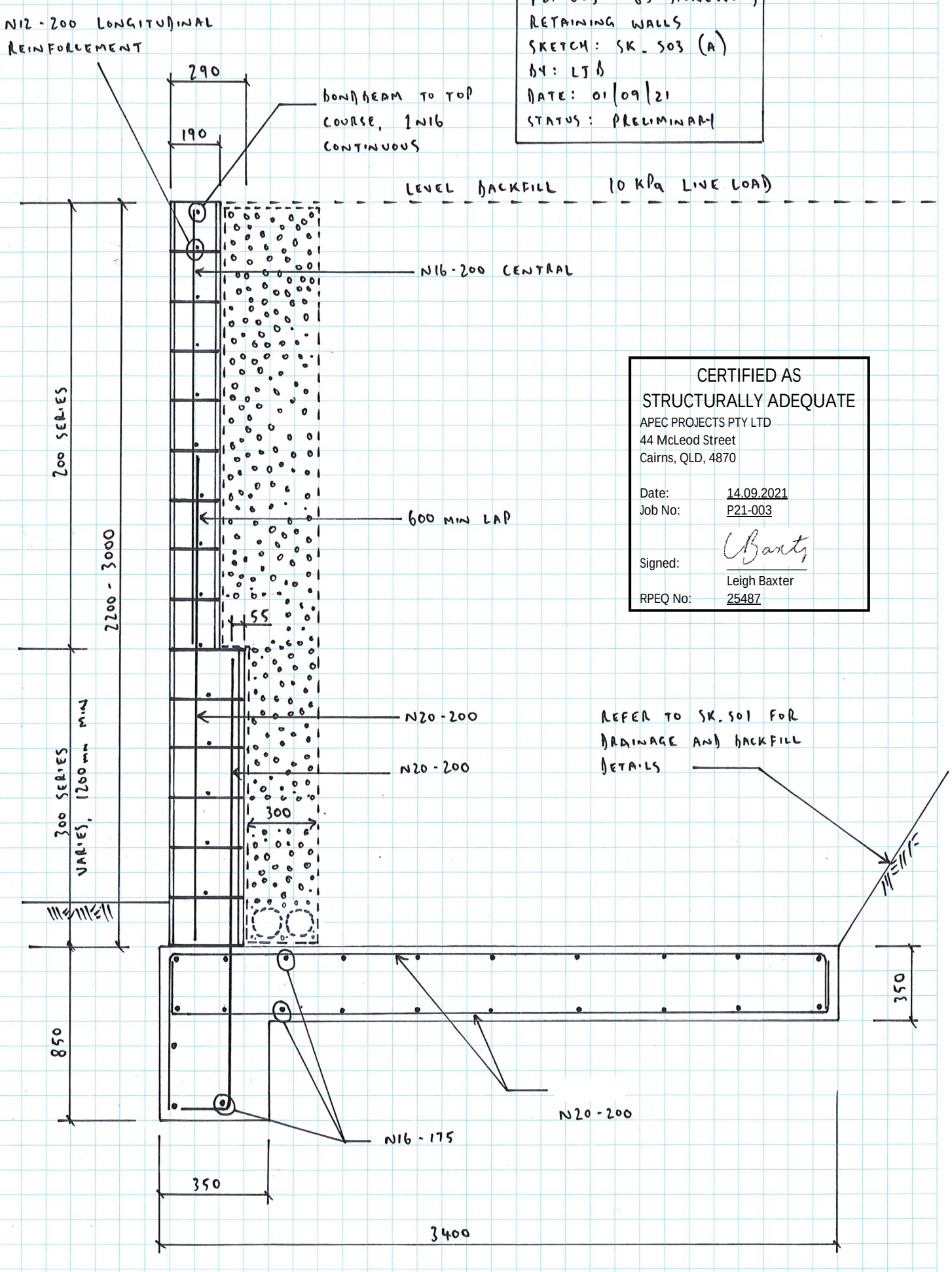
Date: 14.09.2021
Job No: P21-003
Signed:
Leigh Baxter
RPEQ No: 25487

REFER TO SK_501 FOR DRAINAGE AND BACKFILL DETAILS

1400 mm TO 2000 mm

A4 5 mm

APEC PROJECTS
P21-003 · 63 STONEWOOD
RETAINING WALLS
SKETCH: SK_503 (A)
BY: LTB
DATE: 01/09/21
STATUS: PRELIMINARY



CERTIFIED AS STRUCTURALLY ADEQUATE
APEC PROJECTS PTY LTD
44 McLeod Street
Cairns, QLD, 4870

Date: 14.09.2021
Job No: P21-003
Signed:
Leigh Baxter
RPEQ No: 25487

A4 5 mm

YOUR REF: 15-23\l000561
OUR REF: MCUC 1667/2016 (792375)

18 October 2016

Dr Russell Joshua
C/- Planning Plus
PO Box 8046
CAIRNS QLD 4870

Attention: Ms Claire Simmons

Dear Madam

DECISION NOTICE UNDER S 335 SUSTAINABLE PLANNING ACT 2009: DEVELOPMENT APPLICATION FOR 63R STONEWOOD ROAD DIWAN

With reference to the abovementioned Development Application, which was determined under Instrument of Delegation on 18 October 2016, please find attached the relevant Decision Notice.

The Notice includes extracts from the Act with respect to making representations about conditions, negotiated decisions, suspension of the appeal period, and lodging an Appeal.

Should you have any enquiries in relation to this Decision Notice, please contact Jenny Elphinstone of Development Assessment and Coordination on telephone number 07 4099 9456.

Yours faithfully

Paul Hoye
Manager Sustainable Communities

Att

APPLICANT DETAILS
Dr Russell Joshua
C/- Planning Plus
PO Box 8046
Cairns QLD 4870

ADDRESS
63R Stonewood Road DIWAN

REAL PROPERTY DESCRIPTION
Lot 196 on RP740952

PROPOSAL
House

DECISION
Approved subject to conditions (refer to approval package below).

DECISION DATE
18 October 2016

TYPE
Material Change of Use (Development Permit)

REFERRAL AGENCIES
None Applicable

SUBMISSIONS
There were no submissions for this application.

FURTHER DEVELOPMENT PERMITS REQUIRED
Development Permit for Building Works
Compliance Permit for Plumbing Works

CODES TO COMPLY WITH FOR SELF-ASSESSABLE DEVELOPMENT
None

DOES THE ASSESSMENT MANAGER CONSIDER THE APPLICATION TO BE IN CONFLICT WITH APPLICABLE CODES, PLANNING SCHEME, STATE PLANNING POLICIES OR PRIORITY INFRASTRUCTURE PLAN (IF YES, INCLUDE STATEMENT OF REASONS)
Not in conflict

APPROVED DRAWING(S) AND/OR DOCUMENT(S)
The term 'approved drawing(s) and/or document(s)' or other similar expression means:

Drawing or Document	Reference	Date
Contour Plan	Folkhome Drafting Service Job 20114 Drawing 2 of 11, Revision A	September 2000
Floor Plan	Folkhome Drafting Service Job 20114 Drawing 3 of 11, Revision A	September 2000
Elevations 1 and 3	Folkhome Drafting Service Job 20114 Drawing 4 of 11, Revision A	September 2000
Elevations 2 and 4	Folkhome Drafting Service Job 20114 Drawing 5 of 11, Revision A	September 2000

ASSESSMENT MANAGER CONDITIONS:

1. Carry out the approved development generally in accordance with the approved drawing(s) and/or document(s), and in accordance with:-

    a. The specifications, facts and circumstances as set out in the application submitted to Council;

    b. The following conditions of approval and the requirements of Council's Planning Scheme and the FNQROC Development Manual,

    except where modified by these conditions of approval

Timing of Effect

2. The conditions of the Development Permit must be effected prior to Commencement of Use, except where specified otherwise in these conditions of approval.

Water Supply

3. Water storage tank(s) with a minimum capacity not less than 30,000 litres, and must be installed prior to occupation of the premises. Details of the water tank(s) must be shown on plans submitted with the building application. Such water tanks must be provided with:

    a. Mosquito-proof screens of brass, copper, aluminium or stainless steel gauze not coarser than one (1) mm aperture mesh of substantial construction and installed in such manner as not to cause o accelerate corrosion; or

b. Flap valve at every opening of the tank or other receptacle; or

c. Other approved means for preventing the ingress or egress of mosquitoes; and

d. Where a tank or other receptacle is provided with a manhole, the manhole must have a diameter of no more than 40 cm; and

e. The water tank(s) shall be fitted with a 50 mm ball valve with a camlock fitting.

On-Site Effluent Disposal

4. The method of on-site effluent disposal must be in accordance with the Queensland Plumbing & Wastewater Code. Details of the wastewater treatment system to be installed must be approved by the Chief Executive Officer prior to the issue of a Development Permit for Building Work.

Building Colours

5. The exterior finishes and colours of Buildings must be non-reflective and must blend with the natural colours of the surrounding environment. Roofs and structures (including Water Tanks) must be of moderately dark to darker shades of green, grey, blue and brown. The applicant / owner must also ensure that the above Building Exterior requirements are made known in writing to all prospective purchasers.

Landscaping and Setback from Top of Creek Bank

6. a. All landscaping on the land must consist of native and endemic species only and planted in an irregular and random fashion to blend with existing vegetation. Exotic species are not permitted. Species to have regard to Council's Planning Scheme Policy No.7 Landscaping. No species that are identified as Declared or Environmental Weeds or constitute an Invasive Species are to be established on the land

And

b. A setback of 10m from the top of creek bank must be revegetated within 1 year of the approval date and thereon maintained with a hierarchy of planting, which includes shade trees, shrubs and groundcovers.

Existing Creek and Drainage Systems

7. With the exception of replanting of the setback of the top of creek, as required under Condition 6 above all existing creek systems and drainage areas must be left in their current state, including no channel alterations and no removal of vegetation unless consented to in writing by the Chief Executive Officer.

Lawful Point of Discharge

8. All stormwater from the property must be directed to a lawful point of discharge such that it does not adversely affect surrounding properties or properties downstream from the development, all to the requirements and satisfaction of the Chief Executive Officer.

Generators

9. Noise from; generators, air-conditioning units, swimming and spa pool filters, service equipment or other mechanical equipment, must not emanate from the subject land to a degree that would, in the opinion of the Chief Executive Officer, create an environmental nuisance having regard to the provisions of Chapter 8 Part 3B of the *Environmental Protection Act 1994*

Fuel Storage

10. All fuels must be stored in an undercover and secure location at all times.

FURTHER ADVICE

1. This approval, granted under the provisions of the *Sustainable Planning Act* 2009*,* shall lapse four (4) years from the day the approval takes effect in accordance with the provisions of section 339 and section 341 of the *Sustainable Planning Act* 2009*.*

2. All building site managers must take all action necessary to ensure building materials and / or machinery on construction sites are secured immediately following the first cyclone watch and that relevant emergency telephone contacts are provided to Council officers, prior to commencement of works.

3. This approval does not negate the requirement for compliance with all other relevant Local Laws and other statutory requirements.

LAND USE DEFINITIONS

In accordance with the Douglas Shire Planning Scheme 2006, the approved land use of House is defined as:

Means the use of premises comprising one Dwelling Unit, located on one lot for the exclusive residential use of one Household. The use includes:

- Outbuildings/structures incidental to and necessarily associated with the residential use;
- The care of children in accordance with the Child Care (Family Day Care) Regulation 1991;
- Accommodation for a member or members of the extended family of the Household occupying the House and for personal staff;
- A display house which displays to the general public the type of construction or design offered by a builder/developer, for a maximum period of twelve (12) months and which then converts to a House for the exclusive use of one Household; and
- The short term letting of a house for the purpose of holiday rental accommodation.

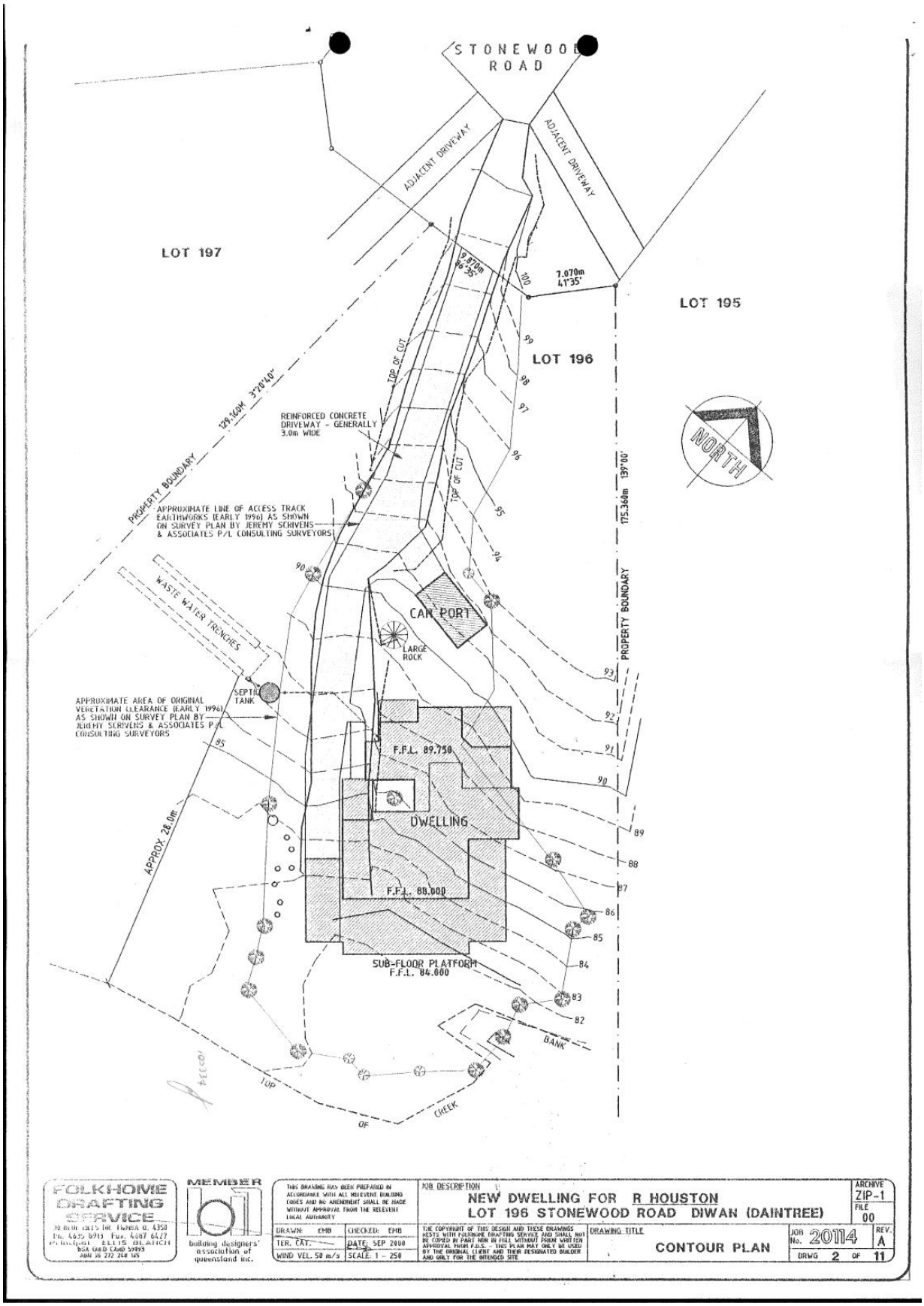
***This definition is provided for convenience only. This Development Permit is limited to the specifications, facts and circumstances as set out in the application submitted to Council and is subject to the abovementioned conditions of approval and the requirements of Council's Planning Scheme and the *FNQROC Development Manual*.**

DECISION NOTICE DETAILS
SUSTAINABLE PLANNING ACT 2009

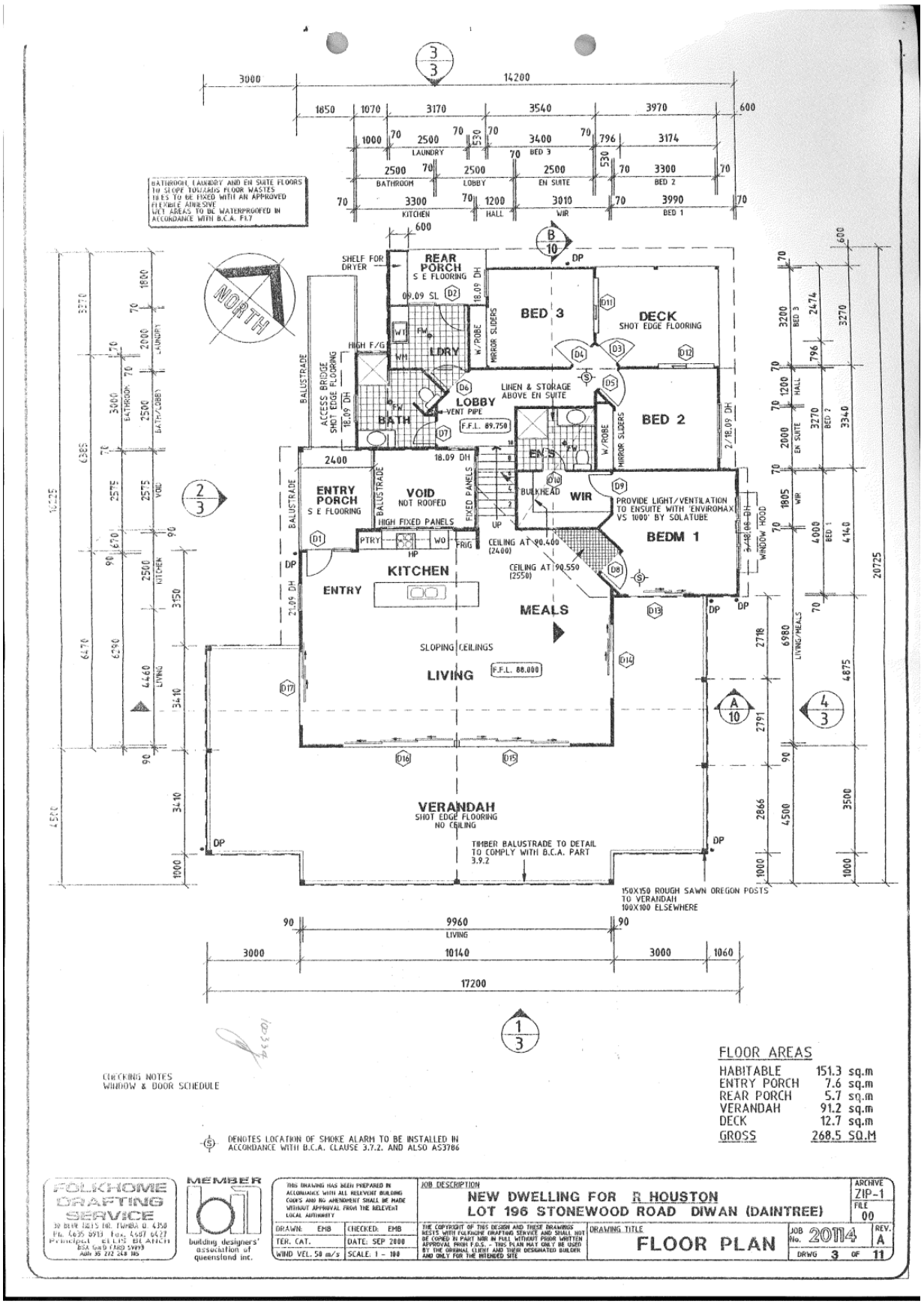
RIGHTS OF APPEAL
Attached

End of Decision Notice

APPENDIX 1: APPROVED DRAWING(S) & DOCUMENT(S)



DECISION NOTICE DETAILS
SUSTAINABLE PLANNING ACT 2009



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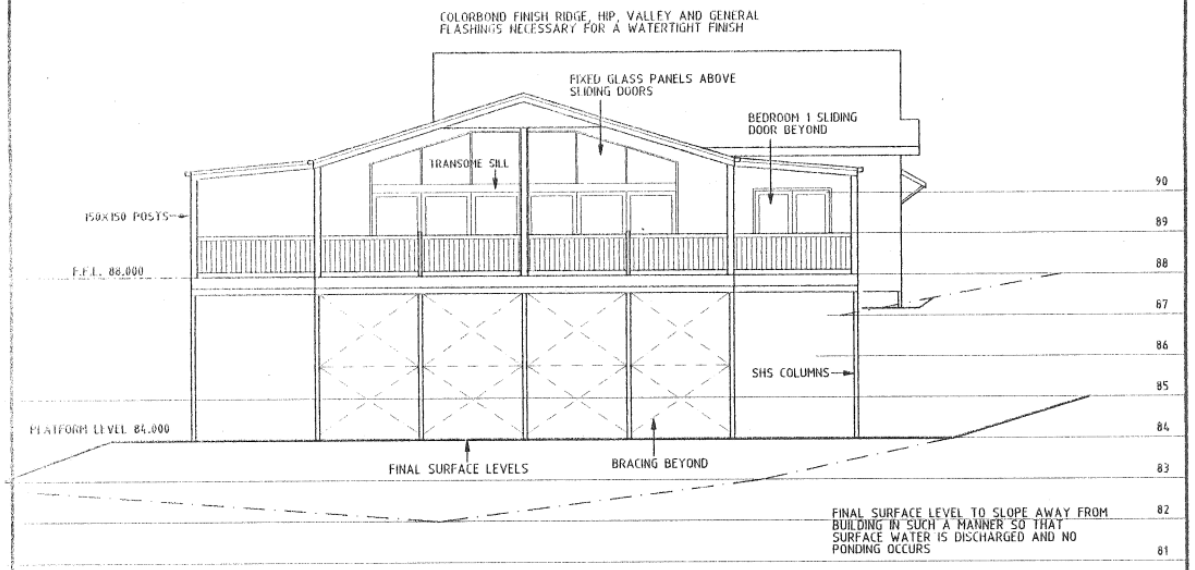
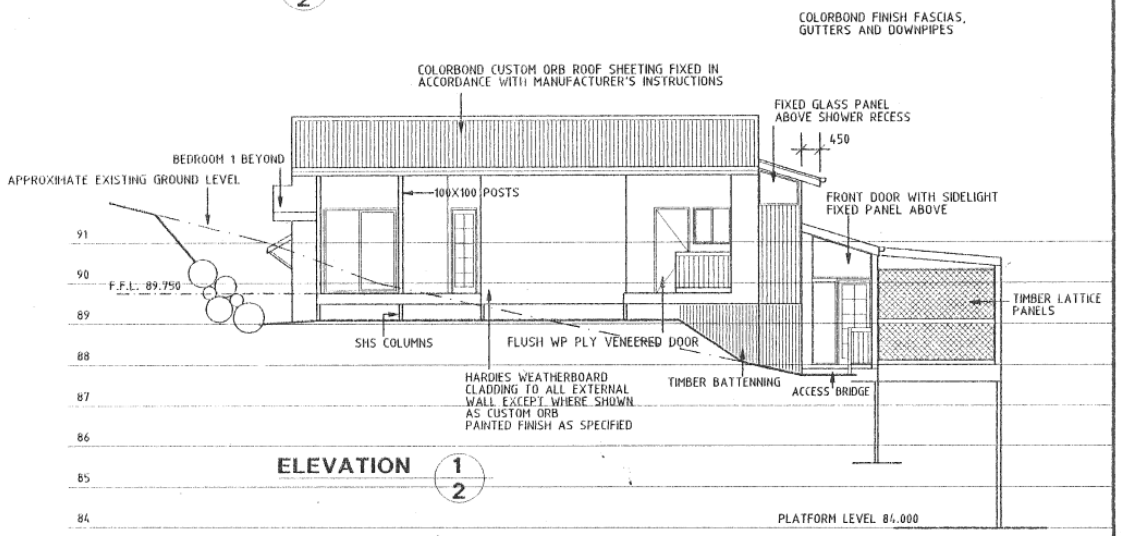


ELEVATION 3/2



ELEVATION 1/2

FOLKHOME DRAFTING SERVICE
30 BLUE HILLS DR. TWINDA Q. 4350
PH. 4695 8913 Fax. 4697 6427
Principal ELLIS BLANCH
BSA QLD CAND 59493
ABN 35 272 244 105

MEMBER building designers' association of queensland inc.

THIS DRAWING HAS BEEN PREPARED IN ACCORDANCE WITH ALL RELEVENT BUILDING CODES AND NO AMENDMENT SHALL BE MADE WITHOUT APPROVAL FROM THE RELEVENT LOCAL AUTHORITY

DRAWN: EMB | CHECKED: EMB
FER. CAT. | DATE: SEP 2000
WIND VEL. 50 m/s | SCALE: 1 ~ 100

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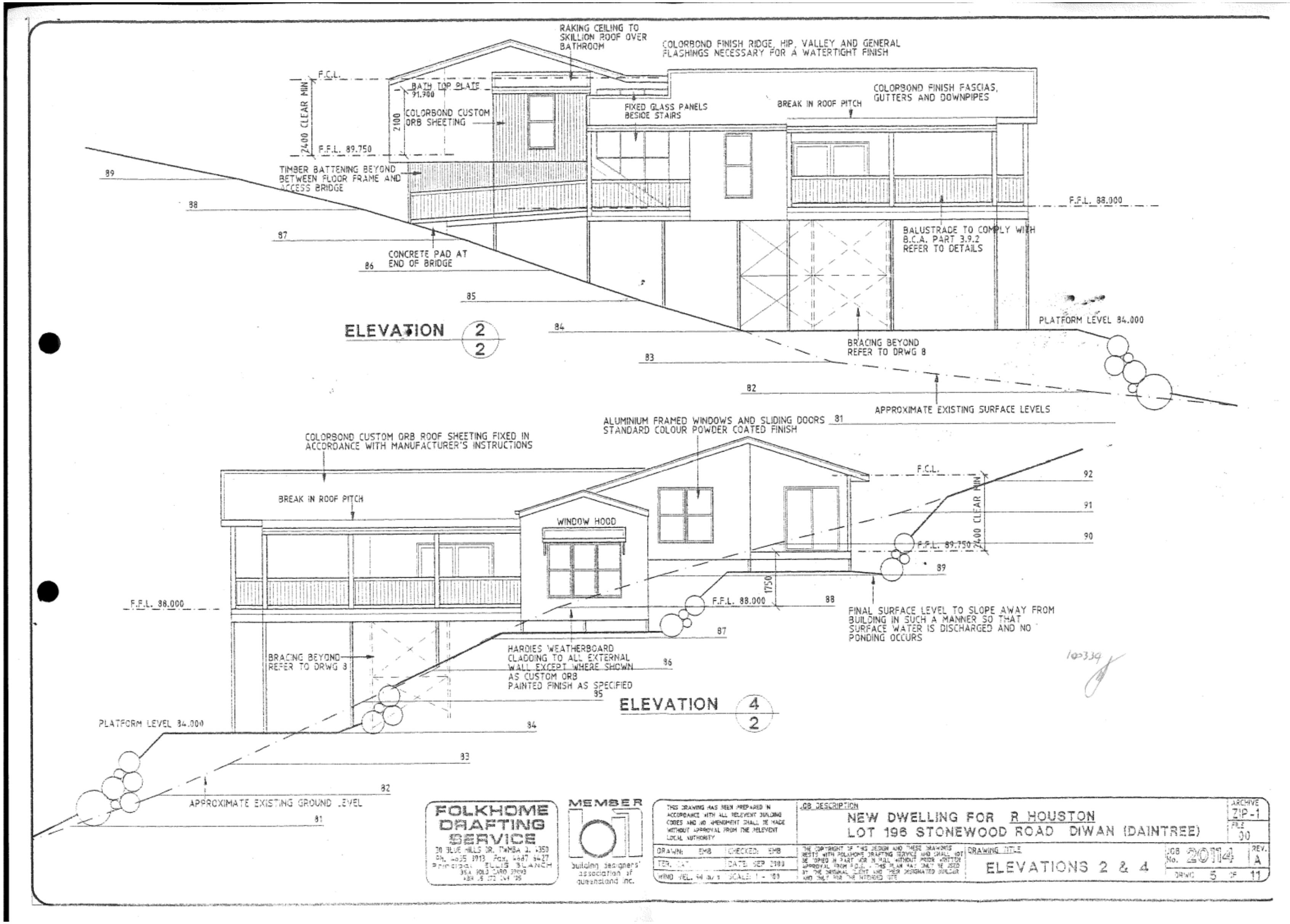
JOB DESCRIPTION
NEW DWELLING FOR R HOUSTON
LOT 196 STONEWOOD ROAD DIWAN (DAINTREE)

DRAWING TITLE
ELEVATIONS 1 & 3

ARCHIVE ZIP-1
FILE 00
JOB No. 2014
REV. A
DRWG 4 OF 11



RAKING CEILING TO SKILLION ROOF OVER BATHROOM
COLORBOND FINISH RIDGE, HIP, VALLEY AND GENERAL FLASHINGS NECESSARY FOR A WATERTIGHT FINISH
F.C.L.
BATH TOP PLATE 91.900
2400 CLEAR MIN
2100
COLORBOND CUSTOM ORB SHEETING
F.F.L. 89.750
FIXED GLASS PANELS BESIDE STAIRS
BREAK IN ROOF PITCH
COLORBOND FINISH FASCIAS, GUTTERS AND DOWNPIPES
TIMBER BATTENING BEYOND BETWEEN FLOOR FRAME AND ACCESS BRIDGE
F.F.L. 88.000
BALUSTRADE TO COMPLY WITH B.C.A. PART 3.9.2 REFER TO DETAILS
CONCRETE PAD AT END OF BRIDGE
89
88
87
86
85
84
83
82
81
ELEVATION 2/2
PLATFORM LEVEL 84.000
BRACING BEYOND REFER TO DRWG 8
APPROXIMATE EXISTING SURFACE LEVELS
ALUMINIUM FRAMED WINDOWS AND SLIDING DOORS STANDARD COLOUR POWDER COATED FINISH
COLORBOND CUSTOM ORB ROOF SHEETING FIXED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS
BREAK IN ROOF PITCH
WINDOW HOOD
F.C.L.
2400 CLEAR MIN
F.F.L. 89.750
92
91
90
89
1750
F.F.L. 88.000
88
87
FINAL SURFACE LEVEL TO SLOPE AWAY FROM BUILDING IN SUCH A MANNER SO THAT SURFACE WATER IS DISCHARGED AND NO PONDING OCCURS
BRACING BEYOND REFER TO DRWG 8
HARDIES WEATHERBOARD CLADDING TO ALL EXTERNAL WALL EXCEPT WHERE SHOWN AS CUSTOM ORB PAINTED FINISH AS SPECIFIED
86
85
ELEVATION 4/2
PLATFORM LEVEL 84.000
84
83
82
APPROXIMATE EXISTING GROUND LEVEL
81
FOLKHOME DRAFTING SERVICE
MEMBER
building designers' association of queensland inc.
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JOB DESCRIPTION
NEW DWELLING FOR R HOUSTON
LOT 196 STONEWOOD ROAD DIWAN (DAINTREE)
ARCHIVE ZIP-1
FILE 00
DRAWN: EMB
CHECKED: EMB
DATE: SEP 2008
DRAWING TITLE
ELEVATIONS 2 & 4
JOB No. 2014
REV. A
DRWG 5 OF 11

DECISION NOTICE DETAILS
SUSTAINABLE PLANNING ACT 2009