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*)	Kenneth and Lynne-Maree McCord
Contact name *(only applicable for companies)*	Patrick Clifton GMA Certification
Postal address *(PO Box or street address)*	PO Box 831
Suburb	Port Douglas
State	QLD
Postcode	4877
Country	Australia
Contact number	0438 755 374
Email address *(non-mandatory)*	Patrick.c@gmacert.com.au
Mobile number *(non-mandatory)*	0438 755 374
Fax number *(non-mandatory)*	
Applicant's reference number(s) *(if applicable)*	20205050

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
	1361	Mossman Daintree Road	Rocky Point
Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)
4877	251	SR334	Douglas Shire Council

2.2) 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

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

Douglas Shire Council

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.			
Detached Dwelling House extension			
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			

g) New building use/classification? *(if applicable)*
1A
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?
$N/A

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	

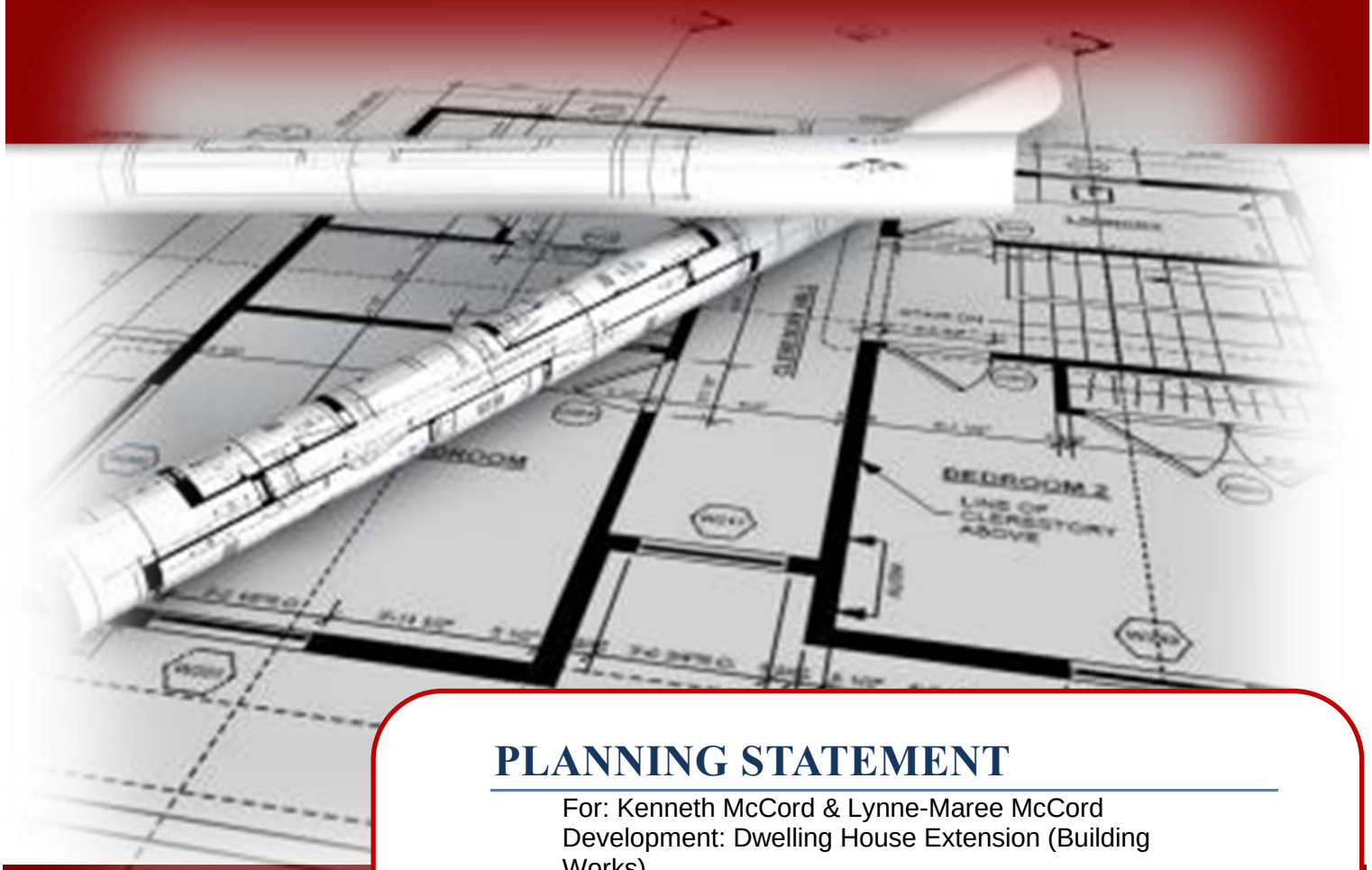
Additional information required by the local government			
Confirm proposed construction materials:			
External walls	☐ Double brick ☐ Brick veneer ☐ Stone/concrete	☐ Steel ☐ Timber ☐ Fibre cement	☐ Curtain glass ☐ Aluminium ☐ Other
Frame	☐ Timber ☐ Other	☐ Steel	☐ Aluminium
Floor	☐ Concrete	☐ Timber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

GMA Certification Group

Leader's in Building Certification Services



PLANNING STATEMENT

For: Kenneth McCord & Lynne-Maree McCord
Development: Dwelling House Extension (Building Works)
At: 1361 Mossman Daintree Road, Rocky Point (Lot 251 SR334)
Prepared by: GMA Certification Group
File Ref: 20205050
Revision: B

Table of Contents

1.0 Introduction

This report has been prepared on behalf of Kenneth and Lynne-Maree McCord in support of a Development Application to Douglas Shire Council for a Development Permit for Building Works Assessable against the Planning Scheme to provide for extensions to an existing dwelling house on land located at 1361 Mossman Daintree Road, Rocky Point, and described as Lot 251 SR334.

The subject site is a single allotment containing an area of 12,200m2 and with frontage to Mossman Daintree Road of approximately 43 metres. The land is currently improved by a two storey Dwelling House and two sheds. Access to the site is obtained from an existing driveway off Mossman Daintree Road via an easement over the adjacent Lot 163 to the north.

The site has a topography that slopes from the rear (west) to the site frontage to the east with a fall of approximately 25 metres over the 200 metre length of the site. The site contains mature vegetation with the exception of the area surrounding the existing Dwelling House and an area containing a shed to the rear.

It is proposed to extend the existing Dwelling House to provide an additional bedroom, living and kitchen area and bathroom for the existing residents' relatives. It is important to note that no additional laundry is proposed, on that basis, the extension does not comprise a secondary dwelling.

The application is identified as being Code Assessable and consideration can only be given to the relevant planning Assessment Benchmarks. The proposed development is considered to be consistent with the Assessment Benchmarks contained within the Planning Scheme and is considered to be a suitable use of the site. The development is considered to be consistent in terms of scale and intensity to other forms of development in the locality and the site can contain the use without adverse impact on the amenity of the area.

The application is submitted for approval, subject to reasonable and relevant conditions.

2.0 Development Summary

Address:	1361 Mossman Daintree Road, Rocky Point
Real Property Description:	Lot 251 SR334
Easements & Encumbrances:	Nil
Site Area/Frontage:	Area: 12,200m^2 Frontage: Approx. 43m
Registered Owner:	Kenneth McCord & Lynne-Maree McCord
Proposal:	Dwelling House Extension (Building Works)
Approval Sought:	Development Permit
Level of Assessment:	Code Assessment
State Interests – State Planning Policy	• Environment and Heritage: ○ MSES Wildlife Habitat, Regulated Vegetation (Essential Habitat); • Safety and Resilience to Hazards, Bushfire Prone Area – Potential Impact Buffer; • Infrastructure – State-controlled Road.
State Interests – SARA Mapping:	• Native Vegetation Clearing: • Category B and X on the Regulated Vegetation Management Map; and, • Category A or B area containing a least concern regional ecosystems; • State Transport – State-controlled Road
Referral Agencies:	Nil
State Development Assessment Provisions:	N/A
Regional Plan Designation:	Regional Landscape and Rural Production Area.
Zone:	Environmental Management Zone
Overlays:	• Acid Sulfate Soils (5-20m AHD)

- Bushfire Hazard Overlay – Potential Impact Buffer;
- Hillslopes Overlay – Area Affected by Hillslopes, in part;
- Landscape Values Overlay – High Landscape Values and Scenic Route Buffer;
- Potential Landslide Hazards Overlay – Landslide Hazards Area; and,
- Natural Areas Overlay – MSES Wildlife Habitat and MSES Regulated Vegetation.

3.0 Site and Locality

The application site is a single allotment located at 1361 Mossman Daintree Road, Rocky Point, and described as Lot 251 on SR334. The site contains an area of 12,200m2 and has frontage to Mossman Daintree Road of approximately 34 metres. The land is currently improved by a two storey Dwelling House and two sheds. Access to the site is obtained from an existing lawfully constructed driveway off Mossman Daintree Road via an easement over the adjacent lot 164 to the north.

The site has a topography that slopes from the rear (west) to the site frontage to the east with a fall of approximately 25 metres over the 200 metre length of the site. The site contains mature vegetation wit the exception of cleared areas surrounding the house and sheds. A notable topographic feature is a deep gully that traverses the land from the west to the east and is contained in the south eastern corner of the site and on the site to the south.

The locality containing the site is generally characterised by rural lifestyle allotments on gently sloping land, National Park and the coast. To the north and south the site adjoins rural lifestyle allotments with the allotment to the south being vacant and the lot to the north developed with a Dwelling House. To the west the site adjoins National Park and to the east on the other side of Mossman Daintree Road is the east coast and foreshore.

Photo 1 – Site Location (Source Queensland Globe)

4.0 Proposal

It is proposed to extend the existing Dwelling House to provide for an additional bedroom, bathroom and living/kitchen area. The proposed extension is intended to be accommodated by the applicants aging parents who are requiring assisted living. On this basis the extension is proposed to be in close proximity to the existing dwelling house in order to provide assistance where required. It is not proposed to provide an additional laundry as part of the development and the single laundry would be provided in the existing dwelling house.

The dwelling house extension would be provided to the south of the existing dwelling and would be detached from the dwelling. It would have a gross floor area of approximately 85m^2 with a deck to the rear and front. It would extend over the gully to the south and would be supported on post and beam construction. The extension has been designed to lightly touch the ground to reduce the impact on the landform and natural processes. It would not require the removal of significant vegetation and would be screened from views external to the site by existing mature vegetation.

Image 2 and 3 – Location of proposed house extension

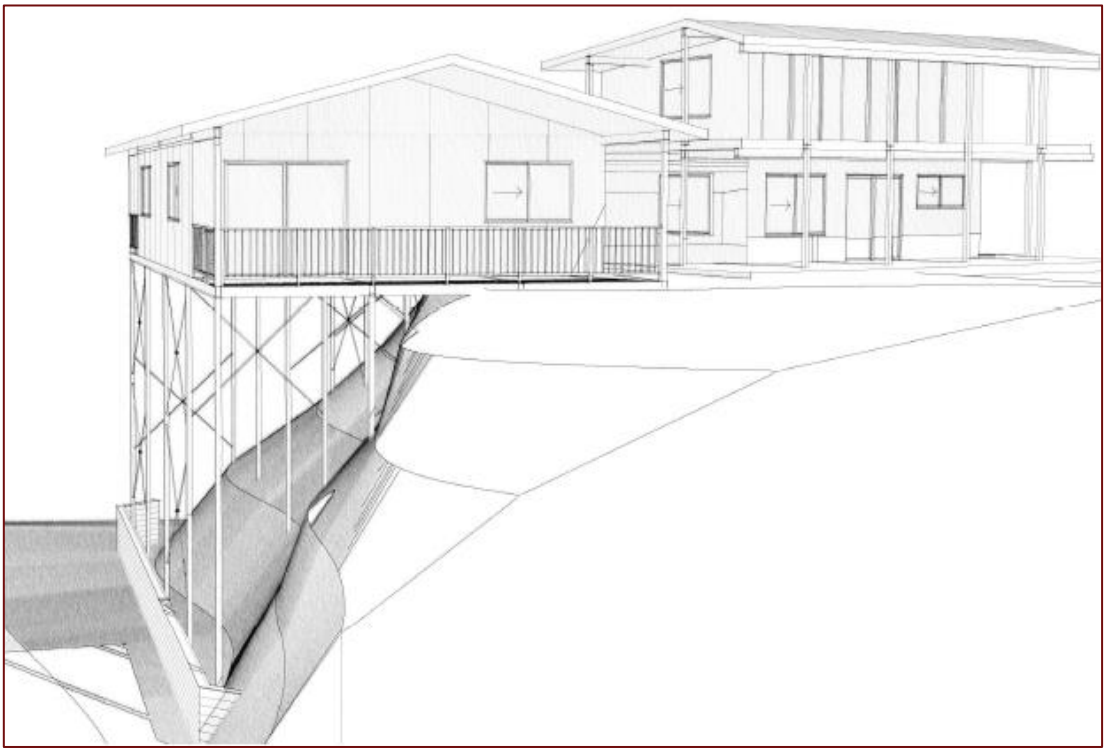


Image 4 – Proposed extension.

Proposal Plans are attached at Appendix 2.

The development has been the subject of a Geotechnical assessment, attached as Appendix 4 and as part of the development the on-site waste water system would be upgraded in accordance with the details provided at Appendix 5.

The key development features of the proposed development are summarised in the table below:

Development Feature	Proposal
Site Area:	12,200m^2
Frontage:	Approx. 43 metres
Height:	Max. 10.6 metres
Floor Area (including deck):	127.92m^2
Setbacks:	>6 metres to side and rear boundaries and 7.7 metres to the property frontage.
Access:	Existing driveway from Mossman Daintree Road
Car Parking Spaces:	Three (inside existing shed)

5.0 Statutory Planning Considerations

This section provides a summary of the legislative framework affecting the application pursuant to the Planning Act 2016.

5.1 Planning Act 2016

5.1.1 Categorisation of Development

The proposed development is not identified as prohibited development having regard to the relevant instruments that can prohibit development under the *Planning Act 2016*, including

- Schedule 10 of the Planning Regulations 2017
- Relevant Categorising Instruments.

The development is made assessable under the Douglas Shire Council Planning Scheme, which is a categorising instrument for the purpose of s43 of the *Planning Act 2016.*

5.1.2 Assessment Manager

Pursuant to Schedule 8 of the *Planning Regulations 2017,* the Assessment Manager for the application is the Douglas Shire Council.

5.1.3 Level of Assessment

The application involves Building Works. The table below identifies the level of assessment and the categorising section of the Douglas Shire Council Planning Scheme.

Development	Categorising Section	Level of Assessment
Dwelling House Extension (Building Works)	Table 5.6.d – Environmental Management Zone	Code Assessable

5.1.4 Statutory Considerations for Assessable Development

As the application is subject to Code Assessment, in deciding the application pursuant to s60 of the *Planning Act 2016,* the Council, as Assessment Manager, can only have regard to the matters established in the relevant planning benchmarks.

This assessment is further discussed in Section 6.0 of this report and a detailed assessment of the proposed development against the assessment benchmarks is provided at Appendix 3.

5.1.5 State Planning Policy

It is understood that the Minister has identified that the State Planning Policy has been appropriately integrated into in the Douglas Shire Council Planning Scheme and consequently no further assessment is required in this instance.

5.1.6 Regional Plan

The application site is identified in the Regional Landscape and Rural Production Area designation of the FNQ Regional Plan. Consistent with the State Planning Policies, it is understood that the Planning Scheme has been determined to appropriately advance the Regional Plan and, on that basis, no further assessment is required in this instance.

5.1.7 Referral Agencies

There are no referral agencies identified in respect of this application.

5.1.8 State Development Assessment Provisions

As there are no referral agencies for the application, no State Development Assessment Provisions Apply to the assessment.

6.0 Local Planning Considerations

6.1 Douglas Shire Council Planning Scheme

Within the Douglas Shire Council Planning Scheme (2018), the site is identified within the Environmental Management Zone and is affected by the following Overlays:

- Acid Sulfate Soils (5-20m AHD);
- Bushfire Hazard Overlay – Potential Impact Buffer;
- Hillslopes Overlay – Area Affected by Hillslopes, in part;
- Landscape Values Overlay – High Landscape Values and Scenic Route Buffer;
- Potential Landslide Hazards Overlay – Landslide Hazards Area; and,
- Natural Areas Overlay – MSES Wildlife Habitat and MSES Regulated Vegetation.

The Table below identifies the applicable Assessment Benchmarks contained within the Planning Scheme.

Assessment Benchmark	Applicability	Compliance
Environmental Management Zone Code	Applies	Consideration of Performance Outcomes PO1, PO2, PO5 and PO6 is required. Refer below.
Acid Sulfate Soils Overlay Code	Applies	Complies with all applicable Acceptable Outcomes
Bushfire Hazard Overlay Code	Applies	Complies with all applicable Acceptable Outcomes.
Hillslopes Overlay Code	Applies	Consideration of Performance Outcome PO2 is required. Refer below.
Landscape Values Overlay Code	Not applicable	Not an Assessment Benchmark.
Potential Landslide Hazard Overlay Code	Applies	Complies with all applicable Acceptable Outcomes
Natural Areas Overlay Code	Applies	Consideration of Performance Outcome PO7 is required. Refer below.

Access, Parking and Servicing Code	Applies	Complies with all applicable Acceptable Outcomes
Filling and Excavation Code	Applies	Complies with all applicable Acceptable Outcomes
Infrastructure Works Code	Applies	Complies with all applicable Acceptable Outcomes

6.1.1 Statement of Compliance – Benchmark Assessment

6.1.1.1 Environmental Management Zone Code

Performance Outcome PO1 of the Environmental Management Zone Code States:

PO1

The height of all buildings and structures is in keeping with the natural characteristics of the site. Buildings and structures are low-rise and not unduly visible from external sites

The Associated Acceptable Outcome states:

AO1

Buildings and structures are not more than 8.5 metres and two storeys in height.

The proposed Dwelling House extension would have a maximum height of 10.6 metres measured at the highest point from natural ground and minimum height of 4.074 metres. The variation in height occurs as a result of the development cantilevering over the adjacent gully. Whilst the development exceeds the Accepted Outcome in terms of height, the proposed development has been designed to complement the existing built form and maintain a low rise appearance when viewed from the street front. The design maintains natural processes, including hydrology and requires limited vegetation clearing. It would not be unduly visible from external sites and vantage points. It is considered that the proposed development complies with Performance Outcome PO1 and therefore the Assessment Benchmark.

Performance Outcome PO2 states:

PO2

Buildings and structures are set back to:

(a) maintain the natural character of the area;

(b) achieve separation from neighbouring buildings and from road frontages

The associated Acceptable Outcome AO2 requires the building to be setback 40 metres from the frontage of a state-controlled road.

The proposed development would provide a setback that complies with the Accepted Outcomes for the side and rear boundaries; however, it would have a setback of 7.7 metres to the boundary to Mossman Daintree Road, which is a state-controlled road. Notwithstanding that it does not satisfy the Acceptable Outcome, it is considered that it complies with the Performance Outcomes. The constructed road at the site frontage is approximately 33 metres from the site boundary and is separated from the site by mature and dense vegetation. The area of the proposed development is also separated from the nearest dwelling by in excess of 80 metres.

It is considered that the proposed setback, given the particular circumstance would maintain the natural character of the area and would achieve suitable separation from the trafficable area of the adjacent road and neighbouring properties.

Performance Outcomes PO5 and PO6 state:

PO5

Development is located, designed, operated and managed to respond to the characteristics, features and constraints of the site and its surrounds.

PO6

Buildings and structures are responsive to steep slope through innovative construction techniques so as to:

(a) maintain the geotechnical stability of slopes;
(b) minimise cut and/or fill;
(c) minimise the overall height of development

The associated Acceptable Outcomes state:

AO5.2

Buildings and structures and associated infrastructure are not located on slopes greater than 1 in 6 (16.6%) or on a ridgeline

AO6.1

Where development on land steeper than 1 in 6 (16.6%) cannot be avoided, development follows the natural contours of the land and single plane concrete slab on-ground methods of construction are not utilised.

The development would be located on land with a slope of greater than 1 in 6; however it does not use a slab on ground construction and has been deigned on posts to limit the impact of the development on the natural ground surface and provides for the

maintenance of the geotechnical stability of the land and minimise cut and fill. The proposed design is supported by a geotechnical assessment provided at Appendix 4.

It is considered that the proposed development does satisfy the Performance Outcomes PO5 and PO6. It would respond to the natural features of the site whilst maintaining geotechnical stability and natural processes and not being a significant visual impact on the amenity of the area.

6.1.1.2 Hillslopes Overlay Code

The site of the proposed Dwelling House extension is located outside of the Hillslopes area; however for the purpose of a complete assessment it has been considered.

Performance Outcome PO2 of the Hillslopes Overlay Code states:

PO2

The landscape character and visual amenity quality of hillslopes areas is retained to protect the scenic backdrop to the region

The associated Acceptable Outcome AO2.1 and AO2.2 state:

AO2.1

Development does not occur on land with a gradient in excess of 1 in 6 (16.6%)

AO2.2

Where development on land steeper than 1 in 6 (16.6%) cannot be avoided, development follows the natural contours of the site.

The development would occur, in part, on land that exceeds 1 in 6; however, it has been designed to be provided on posts that lightly touch the ground and the development is screened from vantage points external to the site by established mature vegetation. It would not affect the scenic backdrop to the region.

6.1.1.3 Natural Areas Overlay Code

Performance Outcome PO7 of the Natural Areas Overlay Code states:

PO7

Development minimises disturbance to matters of state environmental significance (including existing ecological corridors).

The associated Acceptable Outcome states:

AO7.1

Development avoids shading of vegetation by setting back buildings by a distance equivalent to the height of the native vegetation.

The proposed development would be developed over an existing gully and would result in some additional shading of that area. The exiting gully is an existing disturbed area and is generally shaded by the topography. The proposed development would not result in a significant increase in the shading of native vegetation, it would require minimal vegetation disturbance and has been designed to maintain ecological processes. The proposed development is considered to satisfy the Assessment Benchmarks contained in the Natural Areas Overlay Code.

7.0 Summary and Conclusion

This report has been prepared on behalf of Kenneth and Lynne-Maree McCord in support of a Development Application to Douglas Shire Council for a Development Permit for Building Works Assessable against the Planning Scheme. The application is to provide for extensions to an existing dwelling house on land located at 1361 Mossman Daintree Road, Rocky Point, and described as Lot 251 SR334.

The subject site is a single allotment containing an area of 12,200m^2 and with frontage to Mossman Daintree Road of approximately 43 metres. The land is currently improved by a two storey Dwelling House and two sheds. Access to the site is obtained from an existing driveway off Mossman Daintree Road via an easement over the adjacent Lot 163 to the north.

The site has a topography that slopes from the rear (west) to the site frontage to the east with a fall of approximately 25 metres over the 200 metre length of the site. The site contains mature vegetation with the exception of the area surrounding the existing Dwelling House and an area containing a shed to the rear. A notable topographic feature of the site is a gully located to the south of the existing dwelling house and in the south eastern corner of the site.

It is proposed to extend the existing Dwelling House to provide an additional bedroom, living and kitchen area and bathroom for the existing residents' relatives. It is important to note that no additional laundry is proposed, on that basis, the extension does not comprise a secondary dwelling. The Detached Dwelling House extension would be of post and beam construction and would extend over the adjacent gully. It would require minimal vegetation clearing or earthworks and has been designed to complement the existing Dwelling House whilst having limited impact on the environment and natural processes.

The application is identified as being Code Assessable and consideration can only be given to the relevant planning Assessment Benchmarks. On the basis of design, the proposed development is considered to be consistent with the Assessment Benchmarks contained within the Planning Scheme and the site can contain the use without adverse impact on the amenity of the area.

The application is submitted for approval, subject to reasonable and relevant conditions.

Appendix 1.

CERTIFICATE OF TITLE

CURRENT TITLE SEARCH

NATURAL RESOURCES, MINES AND ENERGY, QUEENSLAND

Request No: 35807722
Search Date: 14/12/2020 13:47 **Title Reference: 20645075**
Date Created: 14/06/1963

REGISTERED OWNER

Dealing No: 716609528 06/07/2015

KENNETH ANDREW MCCORD
LYNNE-MAREE MCCORD JOINT TENANTS

ESTATE AND LAND

Estate in Fee Simple

LOT 251 CROWN PLAN SR334
Local Government: DOUGLAS

EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by
   Deed of Grant No. 20645075 (POR 251)

2. EASEMENT No 713138808 25/03/2010 at 10:37
   benefiting the land over
   EASEMENT A ON SP230814

3. MORTGAGE No 716609530 06/07/2015 at 12:23
   NATIONAL AUSTRALIA BANK LIMITED A.B.N. 12 004 044 937

ADMINISTRATIVE ADVICES - NIL
UNREGISTERED DEALINGS - NIL

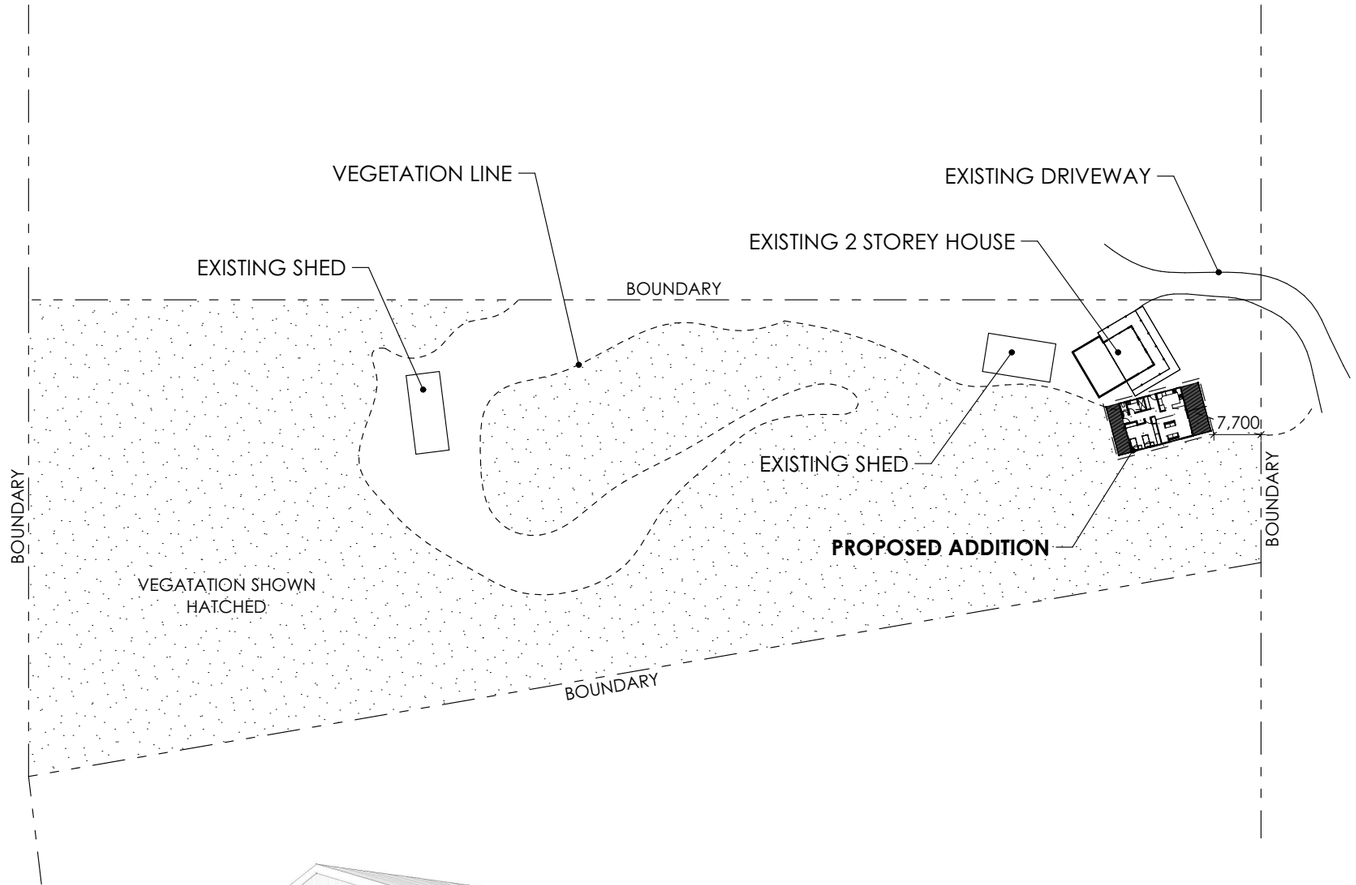
Caution - Charges do not necessarily appear in order of priority

** End of Current Title Search **

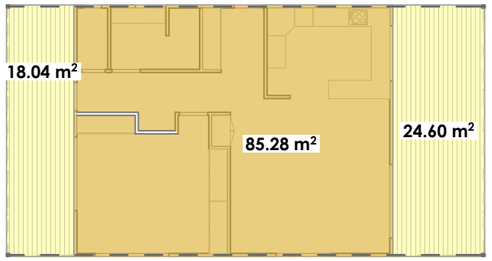
Requested By: D-ENQ GLOBALX

Appendix 2.

PROPOSAL PLANS



MOSSMAN DAINTREE RD



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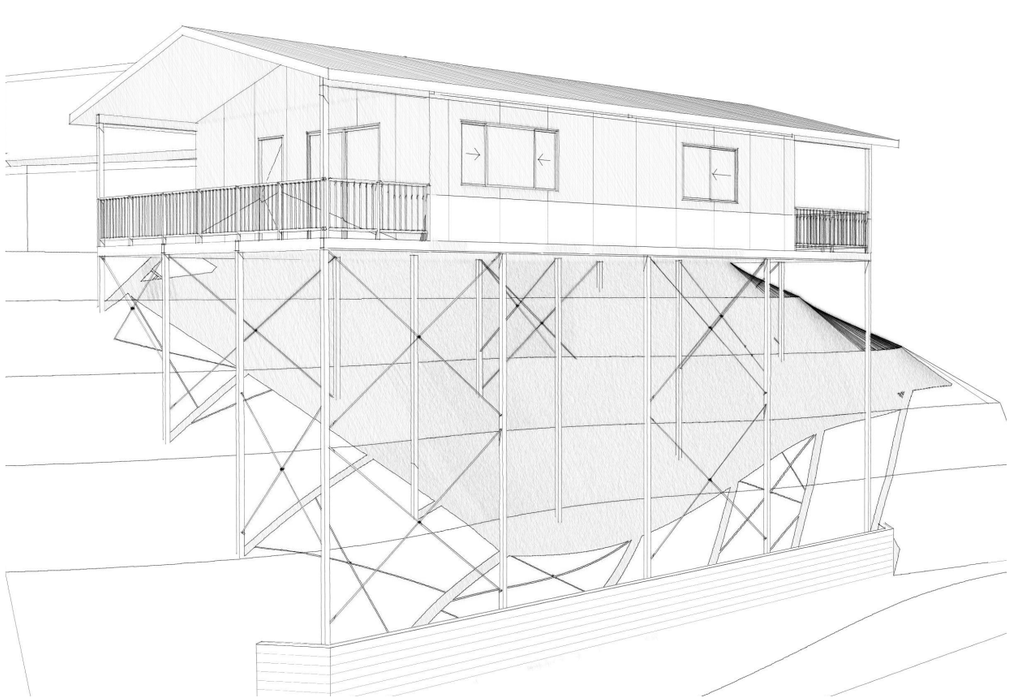
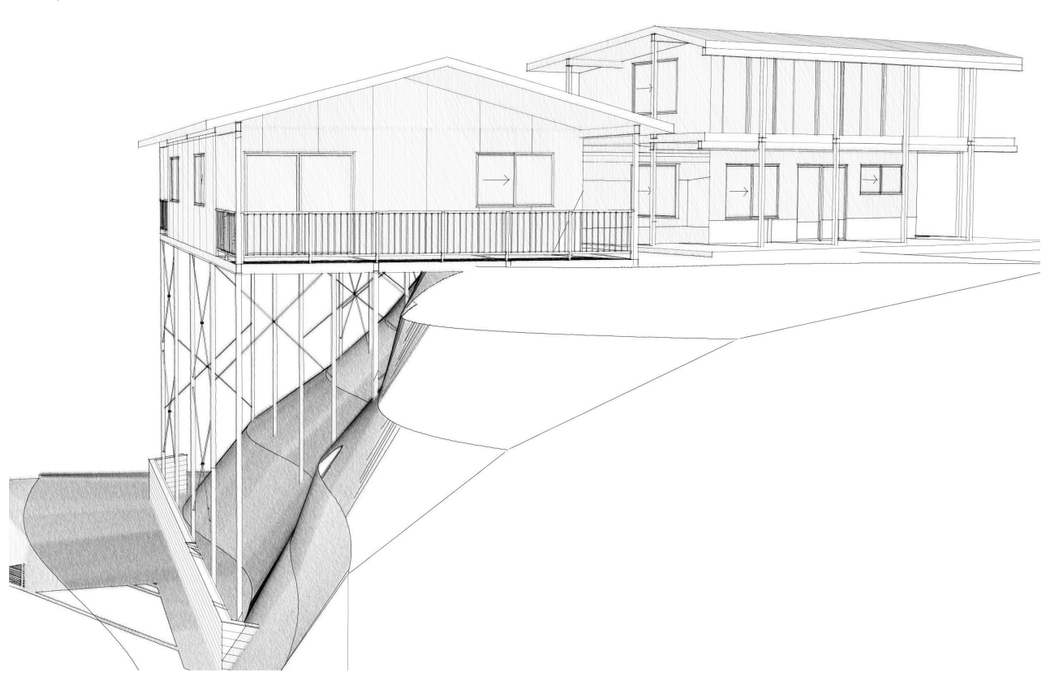




G A P P R O V A L

P L A N N I N G

REV B
A3 SHEET

9/12/2020

1.0

danny VOS Architect
m 0415 300 748

P R O P O S E D A D D I T I O N
K E N & L Y N M c C O R D
1 3 6 1 M O S S M A N D A I N T R E E R D , R O C K Y P O I N T

EXISTING
2 BDRM HOUSE

ex. concrete
pad 0.0m

04
Elev

EDGE OF BANK

-1.0m

-2.45m

-4.0m

-5.6m

-7.8m

BTHRM

BALCONY

KITCHEN

OV

DECK

BED 01

LIVING

01
Elev

02
Elev

03
Elev

7,700

GRD FLOOR PLAN
1:100

PLANNING APPROVAL

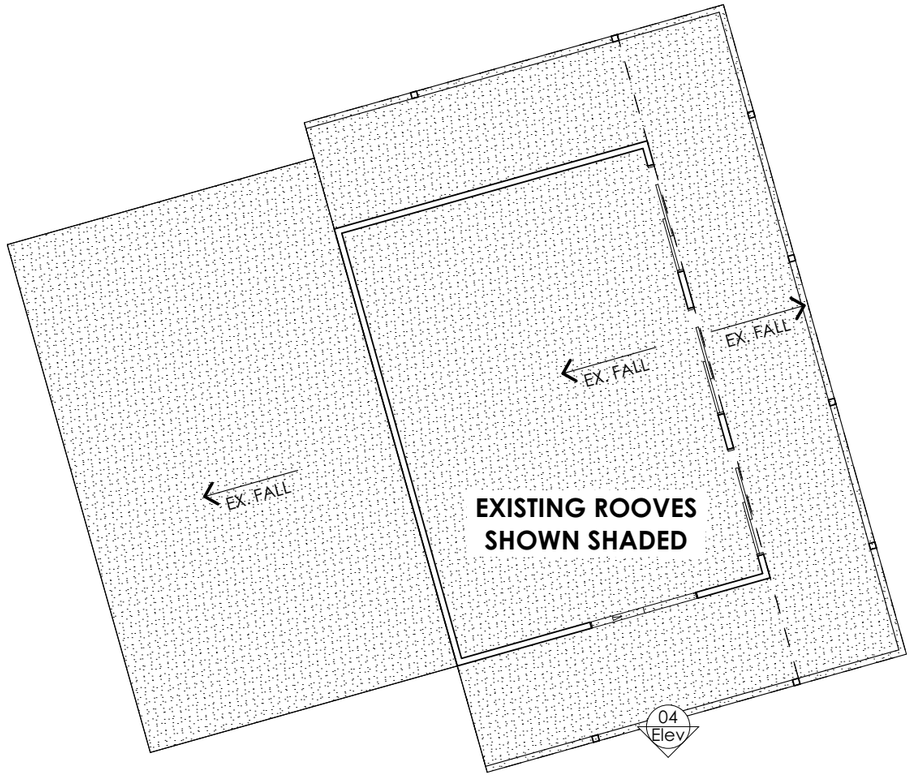
REV B
A3 SHEET

9/12/2020

danny VOS Architect
m 0415 300 748

PROPOSED ADDITION
KEN & LYN McCORD
1361 MOSSMAN DAINTREE RD, ROCKY POINT

1.1



ROOF PLAN
1:100

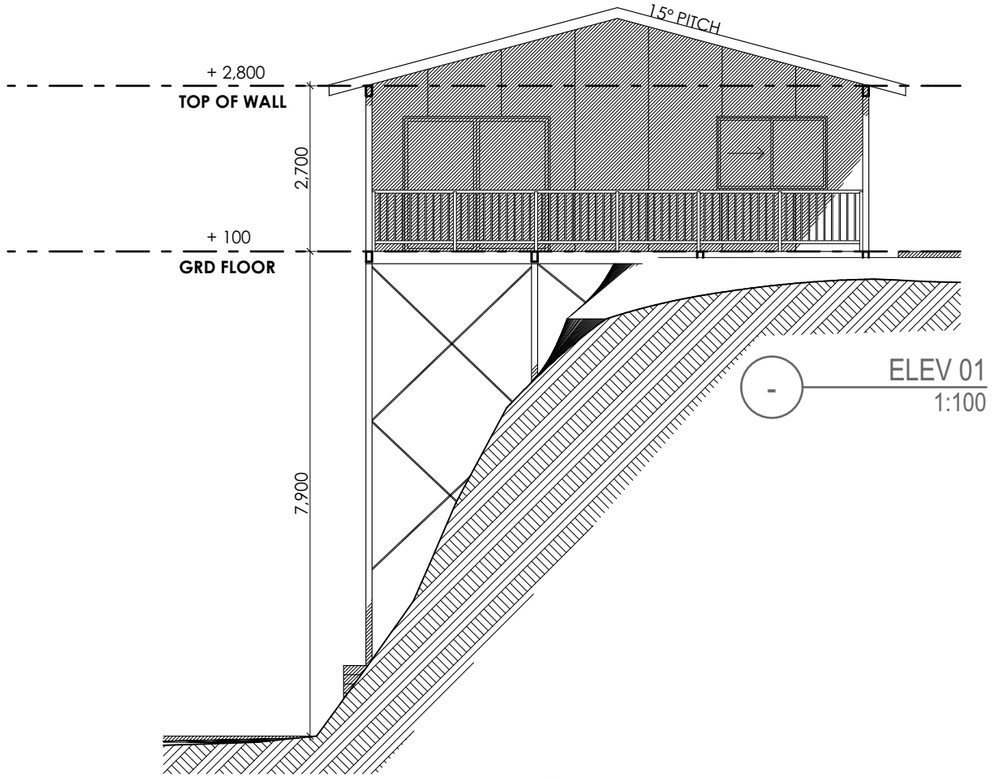
PLANNING APPROVAL

REV B
A3 SHEET
9/12/2020

danny VOS Architect
m 0415 300 748

PROPOSED ADDITION
KEN & LYN McCORD
1361 MOSSMAN DAINTREE RD, ROCKY POINT

1.2



ELEV 01
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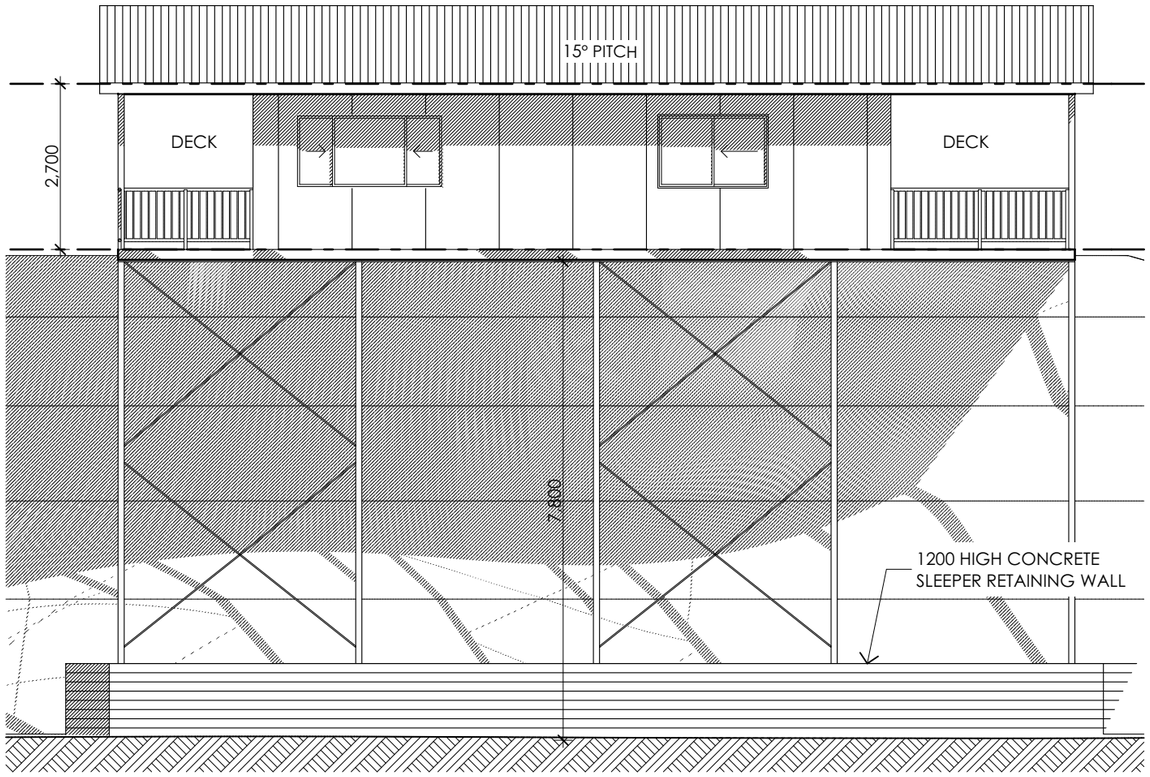

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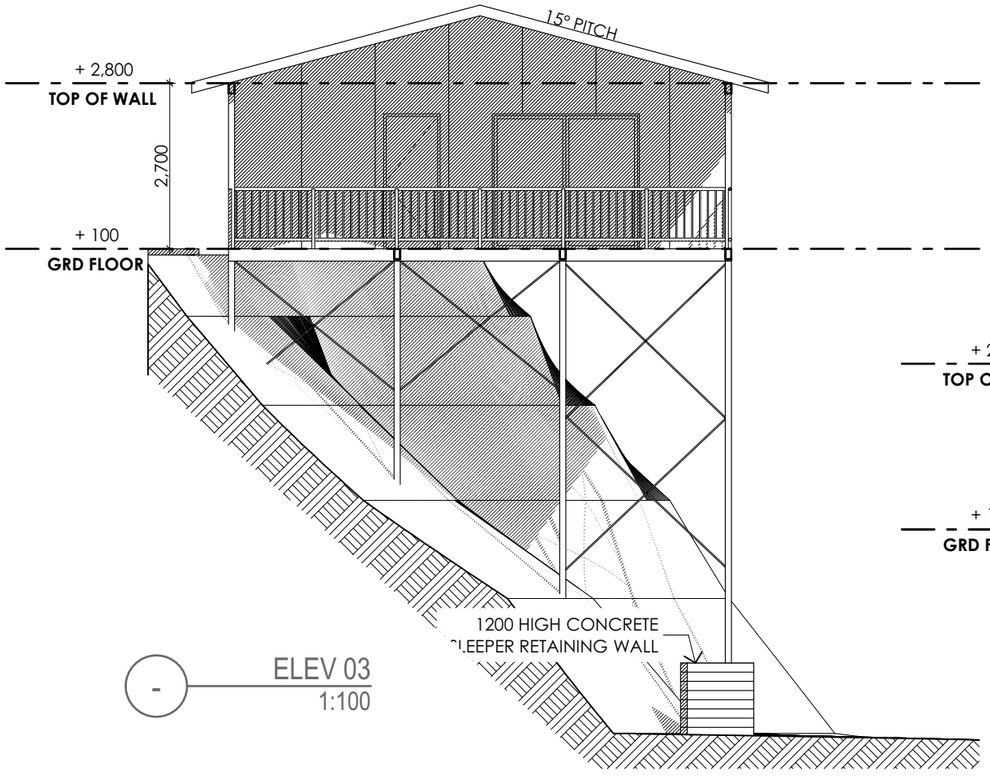

ELEV 03
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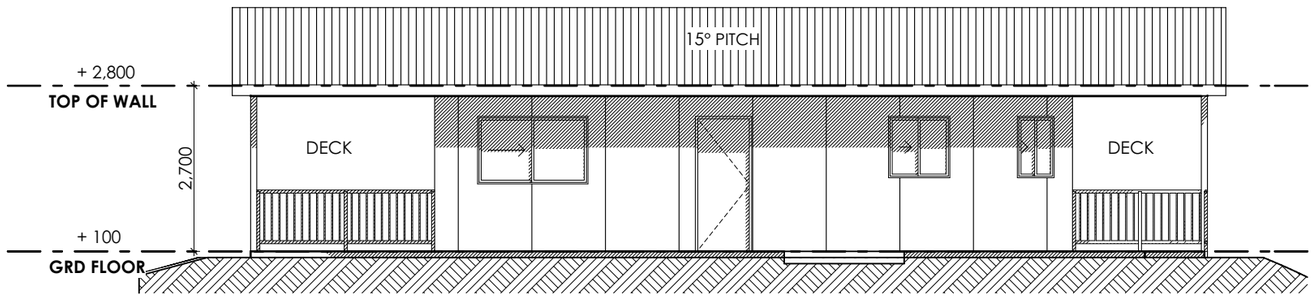

ELEV 04
1:100

PLANNING APPROVAL

REV B
A3 SHEET

9/12/2020

danny VOS
Architect
m 0415 300 748

PROPOSED ADDITION
KEN & LYN McCORD
1361 MOSSMAN DAINTREE RD, ROCKY POINT

2.0

Appendix 3.

PLANNING BENCHMARK ASSESSMENT

6.2.4 Environmental management zone code

6.2.6.1 Application

(1) This code applies to assessing development in the Environmental management zone.

(2) When using this code, reference should be made to Part 5.

6.2.4.2 Purpose

(1) The purpose of the Environmental management zone code is to recognise environmentally sensitive areas and provide for houses on lots and other low impact activities where suitable.

These areas are protected from intrusion of any urban, suburban, centre or industrial land use.

(2) The local government purpose of the code is to:

(a) implement the policy direction set in the Strategic Framework, in particular:

(i) Theme 2 : Environment and landscape values, Element 3.5.3 – Biodiversity, Element 3.5.5 – Scenic amenity.

(b) protect and buffer areas of environmental significance from inappropriate development.

(3) The purpose of the code will be achieved through the following overall outcomes:

(a) Development is generally restricted to a dwelling house;

(b) Adverse impacts on natural systems, both on-site and on adjoining land are minimised through the location, design and management of development;

(c) Development reflects and responds to the natural features and environmental values of the area;

(d) Visual impacts are minimised through the location and design of development;
(e) Development does not adversely affect water quality;
(f) Development responds to land constraints, including but not limited to topography, vegetation, bushfire, landslide and flooding.

6.2.4.3 Criteria for assessment

Table 6.2.4.3.a – Environmental management zone – assessable development

Performance outcomes	Acceptable outcomes	Compliance
For self-assessable and assessable development		
PO1 The height of all buildings and structures is in keeping with the natural characteristics of the site. Buildings and structures are low-rise and not unduly visible from external sites	**AO1** Buildings and structures are not more than 8.5 metres and two storeys in height. Note – Height is inclusive of the roof height.	**Complies with PO1** The proposed Dwelling House extension would have a maximum height of 10.6 metres measured at the highest point from natural ground and minimum height of 4.074 metres. The variation in height occurs as a result of the development cantilevering over the adjacent gully. Whilst the development exceeds the Accepted Outcome in terms of height, the proposed development has been designed to complement the existing built form and maintain a low rise

Performance outcomes	Acceptable outcomes	Compliance
		appearance when viewed from the street front. The design maintains natural processes, including hydrology and requires limited vegetation clearing. It would not be unduly visible from external sites and vantage points.
	AO1.2 Buildings have a roof height not less than 2 metres	**Complies with AO1.2** The roof height would not exceed 2 metres.
PO2 Buildings and structures are set back to: (a) maintain the natural character of the area; (b) achieve separation from neighbouring buildings and from road frontages	**AO2** Buildings and structures are set back not less than: (a) 40 metres from the frontage of a state controlled road; (b) 25 metres from the frontage to Cape Tribulation Road; (c) 6 metres from any other road;	**Complies with PO2** The proposed development would provide a setback that complies with the Accepted Outcomes for the side and rear boundaries; however, it would have a setback of 7.7 metres to the boundary to Mossman Daintree Road, which is a state-controlled road. Notwithstanding that it does not satisfy the Acceptable Outcome, it is considered that it complies with the Performance Outcomes. The

Performance outcomes	Acceptable outcomes	Compliance
	(d) 6 metres from the side and rear boundaries of the site.	constructed road at the site frontage is approximately 33 metres from the site boundary and is separated from the site by mature and dense vegetation. The area of the proposed development is also separated from the nearest dwelling by in excess of 80 metres. It is considered that the proposed setback, given the particular circumstance would maintain the natural character of the area and would achieve suitable separation from the trafficable area of the adjacent road and neighbouring properties.
For assessable development		
PO3 Development is consistent with the purpose of the Environmental management zone and protects the zone from the intrusion of inconsistent uses.	**AO3** Inconsistent uses as identified in Table 6.2.4.3.b are not established in the Environmental management zone.	**Complies with AO3** A Dwelling House is not identified as an inconsistent use.
PO4	**AO4** No acceptable outcomes are prescribed.	**Complies with PO4**

Performance outcomes	Acceptable outcomes	Compliance
The site coverage of all buildings and structures and associated services do not have an adverse effect on the environmental or scenic values of the site.		The proposed development would not result in an excessive site coverage on the site. It would be designed to maintain natural processes and would not be visible from vantage points external to the site.
PO5 Development is located, designed, operated and managed to respond to the characteristics, features and constraints of the site and its surrounds. Note - Planning scheme policy – Site assessments provides guidance on identifying the characteristics, features and constraints of a site and its surrounds.	**AO5.1** Buildings, structures and associated access, infrastructure and private open space are sited: (a) within areas of the site which are already cleared; or (b) within areas of the site which are environmentally degraded; (c) to minimise additional vegetation clearing.	**Complies with AO5.1** The proposed development would be located over an area that has already been disturbed and has been designed to maintain natural processes and in response to characteristics of the site.
	AO5.2 Buildings and structures and associated infrastructure are not located on slopes greater than 1 in 6 (16.6%) or on a ridgeline	**Complies with PO5** The proposed development would be located on land that, in part has a slope greater than 1 in 6. However, it is sited in an area that has already

Performance outcomes	Acceptable outcomes	Compliance
		been disturbed and the development has been designed to maintain natural processes and in response to characteristics of the site and surrounds.
PO6 Buildings and structures are responsive to steep slope through innovative construction techniques so as to: (a) maintain the geotechnical stability of slopes; (b) minimise cut and/or fill; (c) minimise the overall height of development	**AO6.1** Where development on land steeper than 1 in 6 (16.6%) cannot be avoided, development follows the natural contours of the land and single plane concrete slab on-ground methods of construction are not utilised.	**Complies with PO6** The development would be located on land with a slope of greater than 1 in 6; however it does not use a slab on ground construction and has been deigned on posts to that the impact of the development on the natural ground surface is limited and provides for the maintenance of the geotechnical stability of the land and minimise cut and fill. The proposed design is supported by a geotechnical assessment provided at Appendix 4.
	AO6.2 Access and vehicle manoeuvring and parking areas are constructed and maintained to: (a) minimise erosion;	**Complies with AO6.2** The vehicle parking and manoeuvring areas would be contained within the existing approved shed, which provides sufficient space to accommodate the three parking spaces required.

Performance outcomes	Acceptable outcomes	Compliance
	(b) minimise cut and fill; (c) follow the natural contours of the site.	
PO7 The exterior finishes of buildings and structures are consistent with the surrounding natural environment	**AO7** The exterior finishes and colours of buildings and structures are non-reflective and are moderately dark to darker shades of grey, green, blue and brown or the development is not visible external to the site.	**Complies with AO7** The exterior finish of the development would complement the existing Dwelling House..
PO8 Development does not adversely affect the amenity of the zone and adjoining land uses in terms of traffic, noise, dust, odour, lighting or other physical or environmental impacts.	**AO8** No acceptable outcomes are prescribed.	**Complies with PO8** The proposed development would not involve a change in use to the existing lawful use or the generation of additional traffic, noise, dust or other environmental impacts.
PO9 The density of development ensures that the environmental and scenic amenity values of the	**AO9** The maximum residential density is one dwelling house per lot.	**Complies with AO9** Only a single Dwelling House is proposed.

Performance outcomes	Acceptable outcomes	Compliance
site and surrounding area are not adversely affected.		
PO10 Lot reconfiguration results in no additional lots. Note - Boundary realignments to resolve encroachments and lot amalgamation are considered appropriate**.**	**AO10** No acceptable outcomes are prescribed**.**	**Not applicable** No lot reconfiguration is proposed.

Table 6.2.4.3.b — Inconsistent uses within the Environmental management zone.

Inconsistent uses		
• Adult store • Agricultural supplies store • Air services • Aquaculture • Bar • Brothel • Bulk landscape supplies • Car wash • Caretaker's accommodation • Cemetery	• Hardware and trade supplies • Health care services • High impact industry • Hospital • Hotel • Indoor sport and entertainment • Intensive animal industry • Intensive horticulture • Landing • Low impact industry	• Renewable energy facility • Relocatable home park • Research and technology industry • Residential care facility • Resort complex • Retirement facility • Rooming accommodation • Rural industry • Rural workers accommodation • Sales office

• Child care centre • Club • Community care centre • Community residence • Community use • Crematorium • Cropping • Detention facility • Dual occupancy • Dwelling unit • Educational establishment • Food and drink outlet • Function facility • Garden centre	• Major electricity infrastructure • Major sport, recreation and entertainment facility • Marine industry • Market • Motor sport facility • Multiple dwelling • Nightclub entertainment facility • Office • Outdoor sales • Outstation • Parking station • Place of worship • Port services	• Service Station • Shop • Shopping centre • Short-term accommodation • Showroom • Special industry • Substation • Theatre • Transport depot • Utility installation • Veterinary services • Warehouse • Wholesale nursery • Winery

Note – This table does not imply that all other uses not listed in the table are automatically consistent uses within the zone. Assessable development must still demonstrate consistency through the assessment process.

8.2.1 Acid sulfate soils overlay code

8.2.1.1 Application

(1) This code applies to assessing a material change of use, reconfiguring a lot, operational work or building work within the Acid sulfate soils overlay, if:
   (a) self-assessable or assessable development where the code is identified as being applicable in the Assessment criteria for the Overlay Codes contained in the Levels of Assessment Tables in section 5.6;
   (b) impact assessable development.

(2) Land in the Acid sulphate soils overlay is identified on the Acid sulfate soils overlay map in Schedule 2 and includes the following sub-categories:
   (a) Land at or below the 5m AHD sub-category;
   (b) Land above the 5m AHD and below the 20m AHD sub-category.

(3) When using this code, reference should be made to Part 5.

8.2.1.2 Purpose

(1) The purpose of the acid sulfate soils overlay code is to:
   (a) implement the policy direction in the Strategic Framework, in particular:
      (i) Theme 2: Environment and landscape values, Element 3.5.4 Coastal zones.
      (ii) Theme 3: Natural resource management, Element 3.6.2 land and catchment management, Element 3.6.3 Primary production, forestry and fisheries.

(2) enable an assessment of whether development is suitable on land within the Acid sulfate soils overlay sub-categories.

(2) The purpose of the code will be achieved through the following overall outcomes:

(a) Development ensures that the release of any acid and associated metal contaminant is avoided by not disturbing acid sulfate soils when excavating, removing soil or extracting ground water or filling land;
(b) Development ensures that disturbed acid sulphate soils, or drainage waters, are treated and, if required, on-going management practices are adopted that minimise the potential for environmental harm from acid sulfate soil and protect corrodible assets from acid sulfate soil.

8.2.1.3 Criteria for assessment

Table 8.2.1.3.a – Acid sulphate soils overlay code –assessable development

Performance outcomes	Acceptable outcomes	Compliance
For assessable development		
PO1 The extent and location of potential or actual acid sulfate soils is accurately identified.	**AO1.1** No excavation or filling occurs on the site. or **AO1.2** An acid sulfate soils investigation is undertaken. Note - Planning scheme policy SC 6.12– Potential and	**Complies with AO1.1** Given the proposed design and method of construction, filling and excavation would not occur on the site.

Performance outcomes	Acceptable outcomes	Compliance
	actual acid sulfate soils provides guidance on preparing an acid sulfate soils investigation.	
PO2 Development avoids disturbing potential acid sulfate soils or actual acid sulfate soils, or is managed to avoid or minimise the release of acid and metal contaminants.	**AO2.1** The disturbance of potential acid sulfate soils or actual acid sulfate soils is avoided by: (a) not excavating, or otherwise removing, soil or sediment identified as containing potential or actual acid sulfate soils; (b) not permanently or temporarily extracting groundwater that results in the aeration of previously saturated acid sulfate soils; (c) not undertaking filling that results in: (d) actual acid sulfate soils being moved below the water table; (e) previously saturated acid sulfate soils being aerated.	**Complies with AO2.1** Given the proposed design and method of construction, filling and excavation would not occur on the site.

Performance outcomes	Acceptable outcomes	Compliance
	or **AO2.2** The disturbance of potential acid sulfate soils or actual acid sulfate soils is undertaken in accordance with an acid sulfate soils management plan and avoids the release of metal contaminants by: (a) neutralising existing acidity and preventing the generation of acid and metal contaminants; (b) preventing the release of surface or groundwater flows containing acid and metal contaminants into the environment; (c) preventing the in situ oxidisation of potential acid sulfate soils and actual acid sulfate soils through ground water level management; (d) appropriately treating acid sulfate soils before disposal occurs on or off site;	

Performance outcomes	Acceptable outcomes	Compliance
	(e) documenting strategies and reporting requirements in an acid sulfate soils environmental management plan. Note - Planning scheme policy SC 6.12 – Acid sulfate soils provides guidance on preparing an acid sulfate soils management plan.	
PO3 No environmental harm is caused as a result of exposure to potential acid sulfate soils or actual acid sulfate soils.	**AO3** No acceptable outcomes are prescribed.	**Complies with PO3** Given the proposed design and method of construction, filling and excavation would not occur on the site.

8.2.2 Bushfire hazard overlay code

Note - Land shown on the bushfire hazard overlay map is designated as the bushfire prone area for the purposes of section 12 of the Building Regulations 2006. The bushfire hazard area (bushfire prone area) includes land covered by the high and medium hazard areas as well as the buffer area category on the overlay map.

8.2.2.1 Application

(1) This code applies to assessing a material change of use, reconfiguring a lot, operational works or building work in the Bushfire hazard overlay, if:
   (a) self-assessable or assessable where the code is identified as being applicable in the Assessment criteria for the Overlay Codes contained in the Levels of Assessment Tables in section 5.6;
   (b) impact assessable development.

(2) Land in the Bushfire hazard overlay is identified on the Bushfire hazard overlay map in Schedule 2 and includes the following sub-categories:
   (a) Medium bushfire risk sub-category;
   (b) High bushfire risk sub-category;
   (c) Very high bushfire risk sub-category;
   (d) Potential impact buffer sub-category.

(3) When using this code, reference should be made to Part 5.

8.2.2.2 Purpose

(1) The purpose of the Bushfire overlay code is to:

   (a) implement the policy direction in the Strategic Framework, in particular:

(i) Theme 1 Settlement pattern: Element 3.4.7 Mitigation of hazards;
(ii) Theme 6 Infrastructure and transport: Element 3.9.2 Energy.

(b) enable an assessment of whether development is suitable on land within the Bushfire risk overlay sub-categories.

(2) The purpose of the code will be achieved through the following overall outcomes:

(a) development avoids the establishment or intensification of vulnerable activities within or near areas that are subject to bushfire hazard;
(b) development is designed and located to minimise risks to people and property from bushfires;
(c) bushfire risk mitigation treatments are accommodated in a manner that avoids or minimises impacts on the natural environment and ecological processes;
(d) development involving the manufacture or storage of hazardous materials does not increase the risk to public safety or the environment in a bushfire event;
(e) development contributes to effective and efficient disaster management response and recovery capabilities.

Note - A site based assessment may ground-truth the extent of hazardous vegetation and extent and nature of the bushfire hazard area (bushfire prone area). Such assessments should be undertaken using the methodology set out in Planning scheme policy SC6.9 - Natural Hazards.

8.2.2.3 Criteria for assessment

Table 8.2.2.3.a – Bushfire hazard overlay code –assessable development

Performance outcomes	Acceptable outcomes	Compliance
For self-assessable and assessable development		
Compatible development		
PO1 A vulnerable use is not established or materially intensified within a bushfire hazard area (bushfire prone area) unless there is an overriding need or other exceptional circumstances. Note - See the end of this code for examples of vulnerable uses.	**AO1** Vulnerable uses are not established or expanded. Note – Where, following site inspection and consultation with Council, it is clear that the mapping is in error in identifying a premises as being subject to a medium, high, very high bushfire hazard or potential impact buffer sub-category, Council may supply a letter exempting the need for a Bushfire Management Plan. Note – Where the assessment manager has not previously approved a Bushfire Management Plan (either by condition of a previous development approval), the development proponent will be expected to prepare such a plan. Note – Planning scheme policy SC6.9 - Natural hazards, provides a guide to the preparation of a	**Complies with AO1** The proposal does not involve a vulnerable use.

Performance outcomes	Acceptable outcomes	Compliance
	Bushfire Management Plan.	
PO2 Emergency services and uses providing community support services are able to function effectively during and immediately after a bushfire hazard event.	**AO2** Emergency Services and uses providing community support services are not located in a bushfire hazard sub-category and have direct access to low hazard evacuation routes.	**Not applicable** The proposal does not involve an emergency service or community support service.
PO3 Development involving hazardous materials manufactured or stored in bulk is not located in bushfire hazard sub-category.	**AO3** The manufacture or storage of hazardous material in bulk does not occur within bushfire hazard sub-category.	**Complies with AO3** The proposal does not involve the manufacture or storage of hazardous materials.
Development design and separation from bushfire hazard – reconfiguration of lots		
PO4.1 Where reconfiguration is undertaken in an urban area or is for urban purposes or smaller scale rural residential purposes, a separation distance from hazardous vegetation is provided to achieve a radiant heat flux level of 29kW/m^2 at the edge of	**AO4.1** No new lots are created within a bushfire hazard sub-category. or	**Not applicable** No reconfiguration is proposed.

Performance outcomes	Acceptable outcomes	Compliance
the proposed lot(s). Note - "Urban purposes" and "urban area" are defined in the *Sustainable Planning Regulations 2009*. Reconfiguration will be taken to be for rural residential purposes where proposed lots are between 2000m^2 and 2ha in area. "Smaller scale" rural residential purposes will be taken to be where the average proposed lot size is 6000m2 or less. Note - The radiant heat levels and separation distances are to be established in accordance with method 2 set out in AS3959-2009.		
PO4.2 Where reconfiguration is undertaken for other purposes, a building envelope of reasonable dimensions is provided on each lot which achieves radiant heat flux level of 29kW/m^2 at any point.	**AO4.2** Lots are separated from hazardous vegetation by a distance that: (a) achieves radiant heat flux level of 29kW/m^2 at all boundaries; and (b) is contained wholly within the development site. Note - Where a separation distance is proposed to be achieved by utilising existing cleared developed areas	**Not applicable** No reconfiguration is proposed.

Performance outcomes	Acceptable outcomes	Compliance
	external to the site, certainty must be established (through tenure or other means) that the land will remain cleared of hazardous vegetation. For staged developments, temporary separation distances, perimeter roads or fire trails may be absorbed as part of subsequent stages. Note - The achievement of a cleared separation distance may not be achievable where other provisions within the planning scheme require protection of certain ecological, slope, visual or character features or functions.	
PO5 Where reconfiguration is undertaken in an urban area or is for urban purposes, a constructed perimeter road with reticulated water supply is established between the lots and the hazardous vegetation and is readily accessible at all times for urban fire fighting vehicles. The access is available for both fire fighting and	**AO5.1** Lot boundaries are separated from hazardous vegetation by a public road which: (a) has a two lane sealed carriageway; (b) contains a reticulated water supply; (c) is connected to other public roads at both ends and at intervals of no more than 500m; (d) accommodates geometry and turning radii in accordance with Queensland Fire and	**Not applicable** No reconfiguration is proposed.

Performance outcomes	Acceptable outcomes	Compliance
maintenance/defensive works.	Emergency Services' Fire Hydrant and Vehicle Access Guidelines; (e) has a minimum of 4.8m vertical clearance above the road; (f) is designed to ensure hydrants and water access points are not located within parking bay allocations; and (g) incorporates roll-over kerbing.	
	AO5.2 Fire hydrants are designed and installed in accordance with AS2419.1 2005, unless otherwise specified by the relevant water entity. Note - Applicants should have regard to the relevant standards set out in the reconfiguration of a lot code and works codes in this planning scheme.	**Not applicable** No reconfiguration is proposed.
PO6 Where reconfiguration is undertaken for smaller scale rural residential purposes, either a constructed perimeter road or a formed, all	**AO6** Lot boundaries are separated from hazardous vegetation by a public road or fire trail which has: (a) a reserve or easement width of at least 20m;	**Not applicable** No reconfiguration is proposed.

Performance outcomes	Acceptable outcomes	Compliance
weather fire trail is established between the lots and the hazardous vegetation and is readily accessible at all times for the type of fire fighting vehicles servicing the area. The access is available for both fire fighting and maintenance/hazard reduction works.	(b) a minimum trafficable (cleared and formed) width of 4m capable of accommodating a 15 tonne vehicle and which is at least 6m clear of vegetation; (c) no cut or fill embankments or retaining walls adjacent to the 4m wide trafficable path; (d) a minimum of 4.8m vertical clearance; (e) turning areas for fire-fighting appliances in accordance with Queensland Fire and Emergency Services' Fire Hydrant and Vehicle Access Guidelines; (f) a maximum gradient of 12.5%; (g) a cross fall of no greater than 10 degrees; (h) drainage and erosion control devices in accordance with the standards prescribed in a planning scheme policy; (i) vehicular access at each end which is connected to the public road network at intervals of no more than 500m;	

Performance outcomes	Acceptable outcomes	Compliance
	(j) designated fire trail signage; (k) if used, has gates locked with a system authorised by Queensland Fire and Emergency Services; and (l) if a fire trail, has an access easement that is granted in favour of Council and Queensland Fire and Emergency Services.	
PO7 Where reconfiguration is undertaken for other purposes, a formed, all weather fire trail is provided between the hazardous vegetation and either the lot boundary or building envelope, and is readily accessible at all times for the type of fire fighting vehicles servicing the area. However, a fire trail will not be required where it would not serve a practical fire management purpose.	**AO7** Lot boundaries are separated from hazardous vegetation by a public road or fire trail which has: (a) a reserve or easement width of at least 20m; (b) a minimum trafficable (cleared and formed) width of 4m capable of accommodating a 15 tonne vehicle and which is at least 6m clear of vegetation; (c) no cut or fill embankments or retaining walls adjacent to the 4m wide trafficable path; (d) a minimum of 4.8m vertical clearance; (e) turning areas for fire-fighting appliances in	**Not applicable** No reconfiguration is proposed.

Performance outcomes	Acceptable outcomes	Compliance
	accordance with Queensland Fire and Emergency Services' Fire Hydrant and Vehicle Access Guidelines; (f) a maximum gradient of 12.5%; (g) a cross fall of no greater than 10 degrees; (h) drainage and erosion control devices in accordance with the standards prescribed in a planning scheme policy; (i) vehicular access at each end which is connected to the public road network; (j) designated fire trail signage; (k) if used, has gates locked with a system authorised by Queensland Fire and Emergency Services; and (l) if a fire trail, has an access easement that is granted in favour of Council and Queensland Fire and Emergency Services.	
PO8 The development design responds to the potential	**AO8** The lot layout:	**Not applicable** No reconfiguration is proposed.

Performance outcomes	Acceptable outcomes	Compliance
threat of bushfire and establishes clear evacuation routes which demonstrate an acceptable or tolerable risk to people.	(a) minimises the length of the development perimeter exposed to, or adjoining hazardous vegetation; (b) avoids the creation of potential bottle-neck points in the movement network; (c) establishes direct access to a safe assembly /evacuation area in the event of an approaching bushfire; and (d) ensures roads likely to be used in the event of a fire are designed to minimise traffic congestion. Note - For example, developments should avoid finger-like or hour-glass subdivision patterns or substantive vegetated corridors between lots. In order to demonstrate compliance with the performance outcome, a bushfire management plan prepared by a suitably qualified person may be required. The bushfire management plan should be developed in accordance with the Public Safety Business Agency (PSBA) guideline entitled "Undertaking a Bushfire Protection Plan.	

Performance outcomes	Acceptable outcomes	Compliance
	Advice from the Queensland Fire and Emergency Services (QFES) should be sought as appropriate	
PO9 Critical infrastructure does not increase the potential bushfire hazard.	**AO9** Critical or potentially hazardous infrastructure such as water supply, electricity, gas and telecommunications are placed underground.	**Not applicable** No reconfiguration is proposed.
Development design and separation from bushfire hazard – material change of use		
PO10 Development is located and designed to ensure proposed buildings or building envelopes achieve a radiant heat flux level at any point on the building or envelope respectively, of: (e) 10kW/m^2 where involving a vulnerable use; or (f) 29kW/m^2 otherwise. The radiant heat flux level is achieved by separation unless this is not practically achievable. Note - The radiant heat levels and separation distances are to be established in accordance with method 2 set	**AO10** Buildings or building envelopes are separated from hazardous vegetation by a distance that: (a) achieves a radiant heat flux level of at any point on the building or envelope respectively, of 10kW/m^2 for a vulnerable use or 29kW/m^2 otherwise; and (b) is contained wholly within the development site. Note - Where a separation distance is proposed to be achieved by utilising existing cleared developed areas external to the site, certainty must be established	**Not applicable** No material change of use is proposed.

Performance outcomes	Acceptable outcomes	Compliance
out in AS3959-2009.	(through tenure or other means) that the land will remain cleared of hazardous vegetation. For staged developments, temporary separation distances, perimeter roads or fire trails may be absorbed as part of subsequent stages. Note - The achievement of a cleared separation distance may not be achievable where other provisions within the planning scheme require protection of certain ecological, slope, visual or character features or functions.	
PO11 A formed, all weather fire trail is provided between the hazardous vegetation and the site boundary or building envelope, and is readily accessible at all times for the type of fire fighting vehicles servicing the area. However, a fire trail will not be required where it would not serve a practical fire management purpose.	**AO11** Development sites are separated from hazardous vegetation by a public road or fire trail which has: (a) a reserve or easement width of at least 20m; (b) a minimum trafficable (cleared and formed) width of 4m capable of accommodating a 15 tonne vehicle and which is at least 6m clear of vegetation; (c) no cut or fill embankments or retaining walls adjacent to the 4m wide trafficable path;	**Not applicable** No material change of use is proposed.

Performance outcomes	Acceptable outcomes	Compliance
Note - Fire trails are unlikely to be required where a development site involves less than 2.5ha	(d) a minimum of 4.8m vertical clearance; (e) turning areas for fire-fighting appliances in accordance with Queensland Fire and Emergency Services' Fire Hydrant and Vehicle Access Guidelines; (f) a maximum gradient of 12.5%; (g) a cross fall of no greater than 10 degrees; (h) drainage and erosion control devices in accordance with the standards prescribed in a planning scheme policy; (i) vehicular access at each end which is connected to the public road network which is connected to the public road network at intervals of no more than 500m; (j) designated fire trail signage; (k) if used, has gates locked with a system authorised by Queensland Fire and Emergency Services; and (l) if a fire trail, has an access easement that is	

Performance outcomes	Acceptable outcomes	Compliance
	granted in favour of Council and Queensland Fire and Emergency Services.	
All development		
PO12 All premises are provided with vehicular access that enables safe evacuation for occupants and easy access by fire fighting appliances.	**AO12** Private driveways: (a) do not exceed a length of 60m from the street to the building; (b) do not exceed a gradient of 12.5%; (c) have a minimum width of 3.5m; (d) have a minimum of 4.8m vertical clearance; (e) accommodate turning areas for fire-fighting appliances in accordance with Queensland Fire and Emergency Services' Fire Hydrant and Vehicle Access Guidelines; and (f) serve no more than 3 dwellings or buildings.	**Not applicable** The site is serviced by an existing and lawfully constructed driveway that would not be altered as part of the proposed development.
PO13 Development outside reticulated water supply	**AO13** A water tank is provided within 10m of each	**Not applicable** The site is connected to the reticulated water

Performance outcomes	Acceptable outcomes	Compliance
areas includes a dedicated static supply that is available solely for fire fighting purposes and can be accessed by fire fighting appliances.	building (other than a class 10 building) which: (a) is either below ground level or of non-flammable construction; (b) has a take off connection at a level that allows the following dedicated, static water supply to be left available for access by fire fighters: (i) 10,000l for residential buildings Note – A minimum of 7,500l is required in a tank and the extra 2,500l may be in the form of accessible swimming pools or dams (ii) 45,000l for industrial buildings; and (iii) 20,000l for other buildings; (c) includes shielding of tanks and pumps in accordance with the relevant standards; (d) includes a hardstand area allowing medium rigid vehicle (15 tonne fire appliance) access within 6m of the tank; (e) is provided with fire brigade tank fittings – 50mm ball valve and male camlock coupling and, if underground, an access hole of 200mm	supply.

Performance outcomes	Acceptable outcomes	Compliance
	(minimum) to accommodate suction lines; and (f) is clearly identified by directional signage provided at the street frontage.	
PO14 Landscaping does not increase the potential bushfire risk.	**AO14** Landscaping uses species that are less likely to exacerbate a bushfire event and does not increase fuel loads within separation areas.	**Not applicable** No additional landscaping is proposed.
PO15 The risk of bushfire and the need to mitigate that risk is balanced against other factors (such as but not limited to, biodiversity or scenic amenity).	**AO15** Bushfire risk mitigation treatments do not have a significant impact on the natural environment or landscape character of the locality where this has value.	**Not applicable** No bushfire risk mitigation measures are proposed.

8.2.5 Hillslopes overlay code

8.2.5.1 Application

(1) This code applies to assessing a material change of use, reconfiguring a lot, operational work or building work within the Hillslopes overlay, if:

(a) self assessable or assessable development where the code is identified as being applicable in the Assessment criteria for the Overlay Codes contained in the Levels of Assessment Tables in section 5.6;
(b) impact assessable development.

(2) Land in the Hillslopes overlay is identified on the Hillslopes overlay map in Schedule 2 and includes the following sub-categories:
(a) Hillslopes constraint sub-category.

(3) When using this code, reference should be made to Part 5.

8.2.5.2 Purpose

(1) The purpose of the Hillslopes overlay code is to:

(a) implement the policy direction in the Strategic Framework, in particular:

(i) Theme 1 - Settlement pattern: Element 3.4.7 Mitigation of hazards;
(ii) Theme 2 – Environment and landscape values: Element 3.5.5 Scenic amenity.

(b) enable an assessment of whether development is suitable on land within the Hillslopes sub-categories.

(2) The purpose of the code will be achieved through the following overall outcomes:

(a) development on hillslopes is safe, serviceable and accessible;
(b) the ecological values, landscape character and visual quality of the hillslopes are protected from development so as to retain the scenic backdrop to the region;
(c) Development on hillslopes is appropriate, having regard to the topographic constraints and environmental characteristics of the land;
(d) Development responds to the constraints of the site including gradient and slope stability;
(e) Works do not involve complex engineering solutions.

8.2.5.3 Criteria for assessment

Table 8.2.5.3.a – Hillslopes overlay code –assessable development

Performance outcomes	Acceptable outcomes	Compliance
For self-assessable development		
PO1 The landscape character and visual amenity quality of hillslopes areas is retained to protect the scenic backdrop to the region.	**AO1.1** Development is located on parts of the site that are not within the Hillslopes constraint subcategory as shown on the Hillslopes overlay Maps contained in schedule 2.	**Complies with AO1.1** The site if the proposed development is outside of the Hillslopes constraint area.
For assessable development		
PO2	**AO2.1**	**Complies with PO2**

Performance outcomes	Acceptable outcomes	Compliance
The landscape character and visual amenity quality of hillslopes areas is retained to protect the scenic backdrop to the region	Development does not occur on land with a gradient in excess of 1 in 6 (16.6%)	The development would occur, in part, on land that exceeds 1 in 6; however, it has been designed to be provided on posts that lightly touch the ground and the development is screened from vantage points external to the site by established mature vegetation. It would not affect the scenic backdrop to the region.
	or **AO2.2** Where development on land steeper than 1 in 6 (16.6%) cannot be avoided, development follows the natural contours of the site.	**Complies with PO2** The development would occur, in part, on land that exceeds 1 in 6; however, it has been designed to be provided on posts that lightly touch the ground and the development is screened from vantage points external to the site by established mature vegetation. It would not affect the scenic backdrop to the region.
	AO2.3 Access ways and driveways are: (a) constructed with surface materials that blend with the surrounding environment;	**Not applicable** Access would be provided by the existing and lawfully constructed driveway.

Performance outcomes	Acceptable outcomes	Compliance
	(b) landscaped with dense planting to minimise the visual impact of the construction; (c) provided with erosion control measures immediately after construction.	
	AO2.4 The clearing or disturbance of vegetation is limited to clearing and disturbance that: (a) is necessary for the construction of driveways; (b) is necessary to contain the proposed development; (c) minimises canopy clearing or disturbance; (d) minimises riparian clearing or disturbance.	**Complies with AO2.4** Vegetation disturbance would be limited to the building works area.
	AO2.5 On land with slopes greater than 1 in 6 (16.6%) or greater, alternative construction methods to concrete slab on ground are utilised (i.e. split level or post and beam constructed buildings that	**Complies with AO2.5** The development on land with a slope grater that 1 in 6 would be of post and beam construction that minimises modification to the natural terrain.

Performance outcomes	Acceptable outcomes	Compliance
	minimise modification to the natural terrain of the land).	
	AO2.6 Development does not alter the sky line.	**Complies with AO2.6** The Dwelling House extension would not result in a greater impact than the existing development and is not located above the ridgeline.
	AO2.7 Buildings and structures: (a) are finished predominantly in the following exterior colours or surfaces: (i) moderately dark to darker shades of olive green, brown, green, blue, or charcoal; or (ii) moderately dark to darker wood stains that blend with the colour and hues of the surrounding vegetation and landscape; (b) are not finished in the following exterior	**Complies with AO2.7** The proposed Dwelling House extension would be finished to match the existing house.

Performance outcomes	Acceptable outcomes	Compliance
	colours or surfaces: (i) pastel or terracotta colours, reds, yellows, shades of white or beige, or other bright colours that do not blend with the surrounding vegetation and landscape; (ii) reflective surfaces.	
	AO2.8 Exterior colour schemes limit the use of white or other light colours to exterior trim and highlighting of architectural features	**Complies with AO2.8** The proposed Dwelling House extension would be finished to match the existing house.
	AO2.9 Areas between the first floor (including outdoor deck areas) and ground level are screened from view.	**Complies with AO2.9** The areas beneath the development would be screened from view by the existing vegetation.
	AO2.10 Recreational or ornamental features (including tennis courts, ponds or swimming pools) do not	**Not applicable** No recreational or ornamental features are

Performance outcomes	Acceptable outcomes	Compliance
	occur on land: (a) with a gradient of 1 in 6 (16.6%) or more; (b) are designed to be sited and respond to the natural constraints of the land and require minimal earthworks.	proposed.
PO3 Excavation or filling does not have an adverse impact on the amenity, safety, stability or function of the site or adjoining premises through: (a) loss of privacy; (b) loss of access to sunlight; (c) intrusion of visual or overbearing impacts; (d) complex engineering solutions.	**AO3** Excavation or fill: (a) is not more than 1.2 metres in height for each batter or retaining wall; (b) is setback a minimum of 2 metres from property boundaries; (c) is stepped with a minimum 2 metre wide berm to incorporate landscaping in accordance with Planning scheme policy SC6.7 – Landscaping; (d) does not exceed a maximum of 3 batters and 3 berms (i.e. not greater than 3.6 metres in height) on any one lot.	**Not applicable** No excavation or filling would occur outside the area of building works.

Performance outcomes	Acceptable outcomes	Compliance
Lot reconfiguration		
PO4 For development that involves reconfiguring a lot, lot layout and design is responsive to the natural constraints of the land and each lot is capable of being used for its intended purpose.	**AO4.1** The frontage and depth of all lots is of sufficient width to: (a) allow driveways to follow the natural contours of the site and not exceed a gradient of 1 in 6 (16.6%); (b) accommodate any changes in gradient between the road and lot within the lot boundary and not within the road reserve.	**Not applicable** No lot reconfiguration is proposed.
	AO4.2 Development does not create new lots containing land of greater than 1 in 6 (16.6%), except where a rectangular area of land of lesser grade is contained within the new lots to accommodate the intended land use, with the balance left in its natural state to the greatest extent possible. Note – The size of rectangular areas is outlined within	**Not applicable** No lot reconfiguration is proposed.

Performance outcomes	Acceptable outcomes	Compliance
	each zone code.	
	AO4.3 Development does not alter ridgelines.	**Not applicable** No lot reconfiguration is proposed.
	AO4.4 Lots are designed to ensure rooflines of future buildings and structures do not protrude above a ridgeline.	**Not applicable** No lot reconfiguration is proposed.

8.2.7 Natural areas overlay code

8.2.7.1 Application

(1) This code applies to assessing a material change of use, reconfiguring a lot, operational work or building work within the Natural areas overlay, if:

(a) self-assessable or assessable development where the code is identified as being applicable in the Assessment criteria for the Overlay Codes contained in the Levels of Assessment Tables in section 5.6;

(b) impact assessable development.

(2) Land in the Natural areas overlay is identified on the Natural areas overlay map in Schedule 2 and includes the following sub-categories:

(a) MSES – Protected area;
(b) MSES – Marine park;
(c) MSES – Wildlife habitat;
(d) MSES – Regulated vegetation;
(e) MSES – Regulated vegetation (intersecting a Watercourse);
(f) MSES – High ecological significance wetlands;
(g) MSES – High ecological value waters (wetlands);
(h) MSES – High ecological value waters (watercourse);
(i) MSES – Legally secured off set area.

Note – MSES = Matters of State Environmental Significance.

(3) When using this code, reference should be made to Part 5.

8.2.7.2 Purpose

(1) The purpose of the Natural areas overlay code is to:

(a) implement the policy direction in the Strategic Framework, in particular:
  (i) Theme 2: Environment and landscape values, Element 3.5.3 Biodiversity, Element 3.5.4 Coastal zones;
  (ii) Theme 3: Natural resource management Element 3.6.2 Land and catchment management, Element 3.6.3 Primary production, forestry and fisheries.
(b) enable an assessment of whether development is suitable on land within the Biodiversity area overlay sub-categories.

(2) The purpose of the code will be achieved through the following overall outcomes:
(a) development is avoided within:
  (i) areas containing matters of state environmental significance (MSES);
  (ii) other natural areas;
  (iii) wetlands and wetland buffers;
  (iv) waterways and waterway corridors.
(b) where development cannot be avoided, development:
  (i) protects and enhances areas containing matters of state environmental significance;
  (ii) provides appropriate buffers;
  (iii) protects the known populations and supporting habitat of rare and threatened flora and fauna species, as listed in the relevant State and Commonwealth legislation;

(iv) ensures that adverse direct or indirect impacts on areas of environmental significance are minimised through design, siting, operation, management and mitigation measures;
(v) does not cause adverse impacts on the integrity and quality of water in upstream or downstream catchments, including the Great Barrier Reef World Heritage Area;
(vi) protects and maintains ecological and hydrological functions of wetlands, waterways and waterway corridors;
(vii) enhances connectivity across barriers for aquatic species and habitats;
(viii) rehabilitates degraded areas to provide improved habitat condition, connectivity, function and extent;
(ix) protects areas of environmental significance from weeds, pests and invasive species.

(c) strategic rehabilitation is directed to areas on or off site, where it is possible to achieve expanded habitats and increased connectivity.

8.2.7.3 Criteria for assessment

Table 8.2.7.3.a – Natural areas overlay code –assessable development

Performance outcomes	Acceptable outcomes	Compliance
For self-assessable and assessable development		
Protection of matters of environmental significance		
PO1 Development protects matters of environmental significance**.**	**AO1.1** Development avoids significant impact on the relevant environmental values.	**Complies with AO1.1** Development would occur on land that has previously been disturbed and does not require the

Performance outcomes	Acceptable outcomes	Compliance
	or **AO1.2** A report is prepared by an appropriately qualified person demonstrating to the satisfaction of the assessment manager, that the development site does not contain any matters of state and local environmental significance. or **AO1.3** Development is located, designed and operated to mitigate significant impacts on environmental values. For example, a report certified by an appropriately qualified person demonstrating to the satisfaction of the assessment manager, how the proposed development mitigates impacts, including on water quality, hydrology and biological processes.	removal of significant mature vegetation .In addition, the development has been designed to limit the impacts on natural processes and environmental values.
Management of impacts on matters of environmental significance		
PO2	**AO2**	**Complies with AO2**

Performance outcomes	Acceptable outcomes	Compliance
Development is located, designed and constructed to avoid significant impacts on matters of environmental significance.	The design and layout of development minimises adverse impacts on ecologically important areas by: (a) focusing development in cleared areas to protect existing habitat; (b) utilising design to consolidate density and preserve existing habitat and native vegetation; (c) aligning new property boundaries to maintain ecologically important areas; (d) ensuring that alterations to natural landforms, hydrology and drainage patterns on the development site do not negatively affect ecologically important areas; (e) ensuring that significant fauna habitats are protected in their environmental context; and (f) incorporating measures that allow for the safe movement of fauna through the site.	The development has been designed to minimise impacts on the ecologically important areas by limiting requirements for vegetation clearing, maintaining existing landforms, hydrology and drainage patterns.
PO3 An adequate buffer to areas of state	**AO3.1** A buffer for an area of state environmental	**Not applicable** The site does not adjoin or contain wetlands.

Performance outcomes	Acceptable outcomes	Compliance
environmental significance is provided and maintained.	significance (Wetland protection area) has a minimum width of: (a) 100 metres where the area is located outside Urban areas; or (b) 50 metres where the area is located within an Urban areas. **or** **AO3.2** A buffer for an area of state environmental significance is applied and maintained, the width of which is supported by an evaluation of environmental values, including the function and threats to matters of environmental significance.	
PO4 Wetland and wetland buffer areas are maintained, protected and restored. Note – Wetland buffer areas are identified in AO3.1**.**	**AO4.1** Native vegetation within wetlands and wetland buffer areas is retained.	**Not applicable** The site does not adjoin or contain wetlands
	AO4.2	**Not applicable**

Performance outcomes	Acceptable outcomes	Compliance
	Degraded sections of wetlands and wetland buffer areas are revegetated with endemic native plants in patterns and densities, which emulate the relevant regional ecosystem**.**	The site does not adjoin or contain wetlands
PO5 Development avoids the introduction of non-native pest species (plant or animal) that pose a risk to ecological integrity.	**AO5.1** Development avoids the introduction of non-native pest species**.**	**Complies with AO5.1** It is not proposed to introduce pest species.
	AO5.2 The threat of existing pest species is controlled by adopting pest management practices for long-term ecological integrity.	**Not applicable** The site is not known to contain pest species.
Ecological connectivity		
PO6 Development protects and enhances ecological connectivity and/or habitat extent.	**AO6.1** Development retains native vegetation in areas large enough to maintain ecological values, functions and processes.	**Complies with AO6.1** The development would require limited removal of native vegetation and would be deigned to maintain ecological functions and processes.

Performance outcomes	Acceptable outcomes	Compliance
	and **AO6.2** Development within an ecological corridor rehabilitates native vegetation**.** and **AO6.3** Development within a conservation corridor mitigates adverse impacts on native fauna, feeding, nesting, breeding and roosting sites and native fauna movements.	
PO7 Development minimises disturbance to matters of state environmental significance (including existing ecological corridors).	**AO7.1** Development avoids shading of vegetation by setting back buildings by a distance equivalent to the height of the native vegetation. and **AO7.2** Development does not encroach within 10 metres of existing riparian vegetation and watercourses.	**Complies with PO7** The proposed development would not result in a significant increase in the shading of native vegetation, it would require minimal vegetation disturbance and has been designed to maintain ecological processes.

Performance outcomes	Acceptable outcomes	Compliance
Waterways in an urban area		
PO8 Development is set back from waterways to protect and maintain: (a) water quality; (b) hydrological functions; (c) ecological processes; (d) biodiversity values; (e) riparian and in-stream habitat values and connectivity; (f) in-stream migration.	**AO8.1** Where a waterway is contained within an easement or a reserve required for that purpose, development does not occur within the easement or reserve**;** or **AO8.2** Development does not occur on the part of the site affected by the waterway corridor. Note – Waterway corridors are identified within 8.	**Not applicable** The site is not within an urban area.
Waterways in a non-urban area		
PO9 Development is set back from waterways to protect and maintain: (a) water quality;	**AO9** Development does not occur on that part of the site affected by a waterway corridor. Note – Waterway corridors are identified within table	**Complies with AO9** The site of the building works does not occur on an identified waterway corridor.

Performance outcomes	Acceptable outcomes	Compliance
(b) hydrological functions; (c) ecological processes; (d) biodiversity values; (e) riparian and in-stream habitat values and connectivity; (f) in-stream migration.	8.2.7.3.b.	

8.2.7.3.a — Widths of waterway corridors for waterways

Waterways classification	Waterway corridor width
Waterways in Urban areas	10 metres measured perpendicular from the top of the high bank.
Waterways in Other areas	For a dwelling house, 10 metres measured perpendicular from the top of the high bank. For all other development, 20 metres measured perpendicular from the top of the high bank.

8.2.9 Potential landslide hazard overlay code

8.2.9.1 Application

(1) This code applies to assessing a material change of use, reconfiguring a lot, operational work or building work within the Potential landslide hazard overlay; if

(a) self-assessable or assessable development where the code is identified as being applicable in the Assessment criteria for the Overlay Codes contained in the Levels of Assessment Tables in section 5.6;

(b) impact assessable development.

(2) Land in the Potential landslip hazard overlay is identified on the Potential landslide hazard overlay maps in Schedule 2 and includes the following sub-categories:

(a) Places of potential landslide hazard sub-category.

(3) When using this code, reference should be made to Part 5.

Note – The Potential landslide hazard overlay shows modelled areas where the factors contributing to landslip potential accumulate to provide a moderate or higher risk if certain factors are exacerbated (e.g. factors include significant vegetation clearing, filling and excavation, changes to soil characteristics, changes to overland water flow, or changes to sub-surface water flow). It shows areas that the Council has identified where landslides may occur and where land may be impacted by a landslide, but does not mean that landslides will occur or that the land will be impacted by a landslide. Other areas not contained within the potential landslide hazard overlay may sustain landslides or be impacted by landslides and consideration should be given to this issue, where appropriate.

8.2.9.2 Purpose

(1) The purpose of the Potential landslide hazard overlay code is:

(a) implement the policy direction of the Strategic Framework, in particular:
(i) Theme 1: Settlement pattern Element 3.4.7 Mitigation of hazards.
(b) enable an assessment of whether development is suitable on land within the Potential landslip hazard overlay.

(2) The purpose of the code will be achieved through the following overall outcomes:

(a) development is located, designed and constructed to not put at risk the safety of people, property and the environment;
(b) development is not at risk from and does not pose a risk to adjacent and nearby sites from landslides;
(c) ensures that community infrastructure is protected from the effects of potential landslides;
(d) ensures that vegetation clearing, stormwater management and filling and/or excavation does not create a landslide hazard and/or rectifies potential pre-existing landslide risks;
(e) development does not occur where works to provide a solution for safety of people, property or the environment involves complex engineering solutions to overcome the risk, or would result in a built form or outcome that causes an adverse visual impact on the Hillslopes or Landscape values of Douglas Shire.

8.2.9.3 Criteria for assessment

Table 8.2.9.3.a – Potential landslide hazard overlay code –assessable development

Performance outcomes	Acceptable outcomes	Compliance
For self-assessable and assessable development		
PO1 The siting and design of development does not involve complex engineering solutions and does not create or increase the potential landslide hazard risk to the site or adjoining premises through: (a) building design; (b) increased slope; (c) removal of vegetation; (d) stability of soil; (e) earthworks; (f) alteration of existing ground water or surface water paths; (g) waste disposal areas.	**AO1.1** Development is located on that part of the site not affected by the Potential landslide hazard overlay. or **AO1.2** Development is on an existing stable, benched site and requires no further earthworks or **AO1.3** A competent person certifies that: (h) the stability of the site, including associated buildings and infrastructure, will be maintained during the course of the development and will remain stable for the life of the development; (i) development of the site will not increase the risk of landslide hazard activity on other land, including land above the site;	**Complies with AO1.3** The development has been the subject to a geotechnical assessment, prepared by Geo Design and attached at Appendix 4.

Performance outcomes	Acceptable outcomes	Compliance
	(j) the site is not subject to the risk of landslide activity on other land; (k) any measures identified in a site-specific geotechnical report for stabilising the site or development have been fully implemented; (l) development does not concentrate existing ground water and surface water paths; (m) development does not incorporate on-site waste water disposal. Note – Planning scheme policy SC6.9 – Natural hazards provides guidance on preparing a site specific geo-technical assessment. Note – Development may alter the conditions of ground water and surface water paths in accordance with a site-specific geotechnical report, but should ensure that its final disbursement is as-per pre-developed conditions. Consideration for location, velocity, volume and quality should be given.	
PO2	**AO2** Excavation or fill:	**Not applicable**

Performance outcomes	Acceptable outcomes	Compliance
The siting and design of necessary retaining structures does not cause an adverse visual impact on landscape character or scenic amenity quality of the area.	(a) is not more than 1.2 metres in height for each batter or retaining wall; (b) is setback a minimum of 2 metres from property boundaries; (c) is stepped with a minimum 2 metre wide berm to incorporate landscaping in accordance with Planning scheme policy SC6.7 – Landscaping; (d) does not exceed a maximum of 3 batters and 3 berms (i.e. Not greater than 3.6 metres in height) on any one lot.	No batters or retaining wall are proposed outside of the building works area.
Additional requirements for Community infrastructure		
PO3 Development for community infrastructure: (a) is not at risk from the potential landslide hazard areas; (b) will function without impediment from a landslide;	**AO3** Development is designed in accordance with the recommendations of a site-specific geotechnical assessment which makes reference to the community infrastructure and its needs and function.	**Not applicable** No community infrastructure is proposed.

Performance outcomes	Acceptable outcomes	Compliance
(c) provides access to the infrastructure without impediment from the effects of a landslide; (d) does not contribute to an elevated risk of a landslide to adjoining properties.	Note - A site specific geotechnical assessment will detail requirements that will address the Acceptable Outcomes of this Performance Outcome. Planning scheme policy SC6.9 – Natural hazards provides guidance on preparing a site specific geotechnical assessment.	

9.4.1 Access, parking and servicing code

9.4.1.1 Application

(1) This code applies to assessing:

(a) operational work which requires a compliance assessment as a condition of a development permit; or
(b) a material change of use or reconfiguring a lot if:
(i) self-assessable or assessable development where this code is identified in the assessment criteria column of the table of assessment;
(ii) impact assessable development, to the extent relevant.

(2) When using this code, reference should be made to Part 5.

9.4.1.2 Purpose

(1) The purpose of the Access, parking and servicing code is to assess the suitability of access, parking and associated servicing aspects of a development.

(2) The purpose of the code will be achieved through the following overall outcomes:

(a) sufficient vehicle parking is provided on-site to cater for all types of vehicular traffic accessing and parking on-site, including staff, guests, patrons, residents and short term delivery vehicles;
(b) sufficient bicycle parking and end of trip facilities are provided on-site to cater for customer and service staff;
(c) on-site parking is provided so as to be accessible and convenient, particularly for any short term uses;
(d) development provides walking and cycle routes through the site which link the development to the external walking and cycling network;
(e) the provision of on-site parking, loading / unloading facilities and the provision of access to the site do not impact on the efficient function of street network or on the area in which the development is located;
(f) new vehicular access points are safely located and are not in conflict with the preferred ultimate streetscape character and local character and do

not unduly disrupt any current or future on-street parking arrangements.

9.4.1.3 Criteria for assessment

Table 9.4.1.3.a – Access, parking and servicing code –assessable development

Performance outcomes	Acceptable outcomes	Compliance
For self-assessable and assessable development		
PO1 Sufficient on-site car parking is provided to cater for the amount and type of vehicle traffic expected to be generated by the use or uses of the site, having particular regard to: (a) the desired character of the area; (b) the nature of the particular use and its specific characteristics and scale; (c) the number of employees and the likely number of visitors to the site;	**AO1.1** The minimum number of on-site vehicle parking spaces is not less than the number prescribed in Table 9.4.1.3.a for that particular use or uses. Note - Where the number of spaces calculated from the table is not a whole number, the number of spaces provided is the next highest whole number.	**Complies with AO1.1** The proposed development would not affect the existing car parking arrangements on the site which provides car parking in the existing shed.
	AO1.2 Car parking spaces are freely available for the parking of vehicles at all times and are not used	**Complies with AO1.2** The car parking spaces would be retained for car parking.

Performance outcomes	Acceptable outcomes	Compliance
(d) the level of local accessibility; (e) the nature and frequency of any public transport serving the area; (f) whether or not the use involves the retention of an existing building and the previous requirements for car parking for the building (g) whether or not the use involves a heritage building or place of local significance; (h) whether or not the proposed use involves the retention of significant vegetation.	for external storage purposes, the display of products or rented/sub-leased.	
	AO1.3 Parking for motorcycles is substituted for ordinary vehicle parking to a maximum level of 2% of total ordinary vehicle parking.	**Not applicable** No motorcycle parking is proposed.
	AO1.4 For parking areas exceeding 50 spaces parking, is provided for recreational vehicles as a substitute for ordinary vehicle parking to a maximum of 5% of total ordinary vehicle parking rate.	**Not applicable** Less than 50 space are provided.
PO2 Vehicle parking areas are designed and constructed in accordance with relevant standards.	**AO2** Vehicle parking areas are designed and constructed in accordance with Australian Standard:	**Complies with AO2** The car parking complies with the Australian Standard for a domestic use.

Performance outcomes	Acceptable outcomes	Compliance
	(a) AS2890.1; (b) AS2890.3; (c) AS2890.6.	
PO3 Access points are designed and constructed: (a) to operate safely and efficiently; (b) to accommodate the anticipated type and volume of vehicles (c) to provide for shared vehicle (including cyclists) and pedestrian use, where appropriate; (d) so that they do not impede traffic or pedestrian movement on the adjacent road area;	**AO3.1** Access is limited to one access cross over per site and is an access point located, designed and constructed in accordance with: (a) Australian Standard AS2890.1; (b) Planning scheme policy SC6.5 – FNQROC Regional Development Manual - access crossovers.	**Complies with AO3.1** Access would be via the existing crossover.
	AO3.2 Access, including driveways or access crossovers: (a) are not placed over an existing:	**Not applicable** No new crossovers are proposed.

Performance outcomes	Acceptable outcomes	Compliance
(e) so that they do not adversely impact upon existing intersections or future road or intersection improvements; (f) so that they do not adversely impact current and future on-street parking arrangements; (g) so that they do not adversely impact on existing services within the road reserve adjacent to the site; (h) so that they do not involve ramping, cutting of the adjoining road reserve or any built structures (other than what may be necessary to cross over a stormwater channel).	(i) telecommunications pit; (ii) stormwater kerb inlet; (iii) sewer utility hole; (iv) water valve or hydrant. (b) are designed to accommodate any adjacent footpath; (c) adhere to minimum sight distance requirements in accordance with AS2980.1.	
	AO3.3 Driveways are: (a) designed to follow as closely as possible to the existing contours, but are no steeper than the gradients outlined in Planning scheme policy SC6.5 – FNQROC Regional Development Manual;	**Not applicable** Access would be via the existing lawfully constructed driveway and no new driveways are proposed.

Performance outcomes	Acceptable outcomes	Compliance
	(b) constructed such that where there is a grade shift to 1 in 4 (25%), there is an area with a grade of no more than 1 in in 6 (16.6%) prior to this area, for a distance of at least 5 metres; (c) on gradients greater than 1 in 6 (16.6%) driveways are constructed to ensure the cross-fall of the driveway is one way and directed into the hill, for vehicle safety and drainage purposes; (d) constructed such that the transitional change in grade from the road to the lot is fully contained within the lot and not within the road reserve; (e) designed to include all necessary associated drainage that intercepts and directs storm water runoff to the storm water drainage system.	
	AO3.4	**Not applicable**

Performance outcomes	Acceptable outcomes	Compliance
	Surface construction materials are consistent with the current or intended future streetscape or character of the area and contrast with the surface construction materials of any adjacent footpath.	Access would be via the existing lawfully constructed driveway and no new driveways are proposed.
PO4 Sufficient on-site wheel chair accessible car parking spaces are provided and are identified and reserved for such purposes.	**AO4** The number of on-site wheel chair accessible car parking spaces complies with the rates specified in AS2890 Parking Facilities.	**Not applicable** Not required for a Dwelling House use.
PO5 Access for people with disabilities is provided to the building from the parking area and from the street.	**AO5** Access for people with disabilities is provided in accordance with the relevant Australian Standard.	**Not applicable** Not required for a Dwelling House use.
PO6 Sufficient on-site bicycle parking is provided to cater for the anticipated demand generated by the development.	**AO6** The number of on-site bicycle parking spaces complies with the rates specified in Table 9.4.1.3.b.	**Not applicable** Not required for a Dwelling House use.

Performance outcomes	Acceptable outcomes	Compliance
PO7 Development provides secure and convenient bicycle parking which: (a) for visitors is obvious and located close to the building's main entrance; (b) for employees is conveniently located to provide secure and convenient access between the bicycle storage area, end-of-trip facilities and the main area of the building; (c) is easily and safely accessible from outside the site.	**AO7.1** Development provides bicycle parking spaces for employees which are co-located with end-of-trip facilities (shower cubicles and lockers);	**Not applicable** Not required for a Dwelling House use.
	AO7.2 Development ensures that the location of visitor bicycle parking is discernible either by direct view or using signs from the street.	**Not applicable** Not required for a Dwelling House use.
	AO7.3 Development provides visitor bicycle parking which does not impede pedestrian movement.	**Not applicable** Not required for a Dwelling House use.
PO8 Development provides walking and cycle routes through the site which:	**AO8** Development provides walking and cycle routes which are constructed on the carriageway or through the site to:	**Not applicable** Not required for a Dwelling House use.

Performance outcomes	Acceptable outcomes	Compliance
(a) link to the external network and pedestrian and cyclist destinations such as schools, shopping centres, open space, public transport stations, shops and local activity centres along the safest, most direct and convenient routes; (b) encourage walking and cycling; (c) ensure pedestrian and cyclist safety.	(a) create a walking or cycle route along the full frontage of the site; (b) connect to public transport and existing cycle and walking routes at the frontage or boundary of the site.	
PO9 Access, internal circulation and on-site parking for service vehicles are designed and constructed: (a) in accordance with relevant standards; (b) so that they do not interfere with the amenity of the surrounding area;	**AO9.1** Access driveways, vehicle manoeuvring and on-site parking for service vehicles are designed and constructed in accordance with AS2890.1 and AS2890.2.	**Complies with AO2** The driveway and manoeuvring areas comply with the Australian Standard for a domestic use.
	AO9.2 Service and loading areas are contained fully within the site.	**Not applicable** Not required for a Dwelling House use.

Performance outcomes	Acceptable outcomes	Compliance
(c) so that they allow for the safe and convenient movement of pedestrians, cyclists and other vehicles.	**AO9.3** The movement of service vehicles and service operations are designed so they: (a) do not impede access to parking spaces; (b) do not impede vehicle or pedestrian traffic movement.	**Not applicable** Not required for a Dwelling House use.
PO10 Sufficient queuing and set down areas are provided to accommodate the demand generated by the development.	**AO10.1** Development provides adequate area on-site for vehicle queuing to accommodate the demand generated by the development where drive through facilities or drop-off/pick-up services are proposed as part of the use, including, but not limited to, the following land uses: (a) car wash; (b) child care centre; (c) educational establishment where for a school;	**Not applicable** Not required for a Dwelling House use.

Performance outcomes	Acceptable outcomes	Compliance
	(d) food and drink outlet, where including a drive-through facility; (e) hardware and trade supplies, where including a drive-through facility; (f) hotel, where including a drive-through facility; (g) service station.	
	AO10.2 Queuing and set-down areas are designed and constructed in accordance with AS2890.1.	**Not applicable** Not required for a Dwelling House use.

9.4.4 Filling and excavation code

9.4.4.1 Application

(1) This code applies to assessing:

(a) operational work for filling or excavation which is self-assessable or code assessable development if this code is an applicable code identified in the assessment criteria column of a table of assessment; or
(b) a material change of use or reconfiguring a lot if:
(i) assessable development where this code is identified as a prescribed secondary code in the assessment criteria column of a table of assessment; or
(ii) impact assessable development, to the extent relevant.

Note—This code does not apply to building work that is regulated under the Building Code of Australia.

(2) When using this code, reference should be made to Part 5.

9.4.4.2 Purpose

(1) The purpose of the Filling and excavation code is to assess the suitability of development for filling or excavation.

(2) The purpose of the code will be achieved through the following overall outcomes:

(a) filling or excavation does not impact on the character or amenity of the site and surrounding areas;
(b) filling and excavation does not adversely impact on the environment;
(c) filling and excavation does not impact on water quality or drainage of upstream, downstream or adjoining properties;
(d) filling and excavation is designed to be fit for purpose and does not create land stability issues;

(e) filling and excavation works do not involve complex engineering solutions.

9.4.4.3 Criteria for assessment

Table 9.4.4.3.a – Filling and excavation code – for self-assessable and assessable development

Performance outcomes	Acceptable outcomes	Compliance
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.	**Complies with AO1.1** All excavation and filling would be undertaken as Building Work and no external excavation or filling would exceed 2 metres in height.
	AO1.2	**Not Applicable**

Performance outcomes	Acceptable outcomes	Compliance
	Cuts are supported by batters, retaining or rock walls and associated benches/terraces are capable of supporting mature vegetation.	No cuts are proposed
	AO1.3 Cuts are screened from view by the siting of the building/structure, wherever possible.	**Not Applicable** No cuts are proposed.
	AO1.4 Topsoil from the site is retained from cuttings and reused on benches/terraces.	**Not Applicable** No filling or excavation would be external to the building footprint.
	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.	**Complies with AO1.5** No excavation or fill would be undertaken within 600mm of the boundary.

Performance outcomes	Acceptable outcomes	Compliance
	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.	**Not Applicable** No excavation or fill would be undertaken external to the building footprint.
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.	**Complies with AO2.1** No excavation or fill would be undertaken outside of the building footprint.
	AO2.2 Filling and excavation does not occur within 2 metres of the site boundary.	**Complies with Ao2.2** No excavation or fill would be undertaken within 2 metres of the site boundaries.

Performance outcomes	Acceptable outcomes	Compliance
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.	**Complies with AO3.1** No excavation or fill would be undertaken outside of the building footprint.
	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.	**Complies with AO3.2** No excavation or fill would be undertaken outside of the building footprint.
	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**.**	**Complies with AO3.3** No excavation or fill would be undertaken outside of the building footprint.
	AO3.4	**Not Applicable**

Performance outcomes	Acceptable outcomes	Compliance
	Filling and excavation complies with the specifications set out in Planning Scheme Policy No SC5 – FNQROC Development Manual.	All excavation and filling would be assessed as part of the building works application.
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 with AO4** No excavation or fill would be undertaken outside of the building footprint.
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.	**Not Applicable** No excavation or fill would be undertaken outside of the building footprint..

9.4.5 Infrastructure works code

9.4.5.1 Application

(1) This code applies to assessing:

(a) operational work which requires an assessment as a condition of a development permit or is assessable development if this code is identified in the assessment criteria column of a table of assessment;
(b) a material change of use or reconfiguring a lot if:
(i) assessable development where this code is identified in the assessment criteria column of the table of assessment;
(ii) impact assessable development, to the extent relevant.

Note – The Filling and excavation code applies to operational work for filling and excavation.

(2) When using this code, reference should be made to Part 5.

9.4.5.2 Purpose

(1) The purpose of the Infrastructure works code is to ensure that development is safely and efficiently serviced by, and connected to, infrastructure.

(2) The purpose of the code will be achieved through the following overall outcomes:

(a) the standards of water supply, waste water treatment and disposal, stormwater drainage, local electricity supply, telecommunications, footpaths and road construction meet the needs of development and are safe and efficient;
(b) development maintains high environmental standards;
(c) development is located, designed, constructed and managed to avoid or minimise impacts arising from altered stormwater quality or flow, wastewater discharge, and the creation of non-tidal artificial waterways;

(d) the integrity of existing infrastructure is maintained;
(e) development does not detract from environmental values or the desired character and amenity of an area.

9.4.5.3 Criteria for assessment

Table 9.4.5.3.a – Infrastructure Works code –assessable development

Performance outcomes	Acceptable outcomes	Compliance
For self-assessable and assessable development		
Works on a local government road		
PO1 Works on a local government road do not adversely impact on footpaths or existing infrastructure within the road verge and maintain the flow, safety and efficiency of pedestrians, cyclists and vehicles.	**AO1.1** Footpaths/pathways are located in the road verge and are provided for the hierarchy of the road and located and designed and constructed in accordance with Planning scheme policy SC5 – FNQROC Regional Development Manual.	**Not applicable** No works are proposed on a local government road.
	AO1.2 Kerb ramp crossovers are constructed in accordance with Planning scheme policy SC 5 –	**Not applicable** No works are proposed on a local government

Performance outcomes	Acceptable outcomes	Compliance
	FNQROC Regional Development Manual.	road.
	AO1.3 New pipes, cables, conduits or other similar infrastructure required to cross existing footpaths: (a) are installed via trenchless methods; or (b) where footpath infrastructure is removed to install infrastructure, the new section of footpath is installed to the standard detailed in the Planning scheme policy SC5 – FNQROC Regional Development Manual, and is not less than a 1.2 metre section.	**Not applicable** No works are proposed on a local government road.
	AO1.4 Where existing footpaths are damaged as a result of development, footpaths are reinstated ensuring: (a) similar surface finishes are used; (b) there is no change in level at joins of new	**Not applicable** No works are proposed on a local government road.

Performance outcomes	Acceptable outcomes	Compliance
	and existing sections; (c) new sections are matched to existing in terms of dimension and reinforcement.	
	AO1.5 Decks, verandahs, stairs, posts and other structures located in the road reserve do not restrict or impede pedestrian movement on footpaths or change the level of the road verges.	**Not applicable** No works are proposed on a local government road.
Accessibility structures		
PO2 Development is designed to ensure it is accessible for people of all abilities and accessibility features do not impact on the efficient and safe use of footpaths. Note – Accessibility features are those features	**AO2.1** Accessibility structures are not located within the road reserve.	**Not applicable** No accessibility structures are proposed.
	AO2.2 Accessibility structures are designed in	**Not applicable** No accessibility structures are proposed.

Performance outcomes	Acceptable outcomes	Compliance
required to ensure access to premises is provided for people of all abilities and include ramps and lifts.	accordance with AS1428.3.	
	AO2.3 When retrofitting accessibility features in existing buildings, all structures and changes in grade are contained within the boundaries of the lot and not within the road reserve.	**Not applicable** No accessibility structures are proposed.
Water supply		
PO3 An adequate, safe and reliable supply of potable, fire fighting and general use water is provided.	**AO3.1** The premises is connected to Council's reticulated water supply system in accordance with the Design Guidelines set out in Section D6 of the Planning scheme policy SC5 – FNQROC Regional Development Manual; or **AO3.2**	**Complies with AO3.1** The existing Dwelling House is connected to the reticulated water supply.

Performance outcomes	Acceptable outcomes	Compliance
	Where a reticulated water supply system is not available to the premises, on site water storage tank/s with a minimum capacity of 10,000 litres of stored water, with a minimum 7,500 litre tank, with the balance from other sources (e.g. accessible swimming pool, dam etc.) and access to the tank/s for fire trucks is provided for each new house or other development. Tank/s are to be fitted with a 50mm ball valve with a camlock fitting and installed and connected prior to occupation of the house and sited to be visually unobtrusive.	
Treatment and disposal of effluent		
PO4 Provision is made for the treatment and disposal of effluent to ensure that there are no adverse impacts on water quality and no adverse ecological impacts as a result of the system or as a result of increasing the cumulative effect of	**AO4.1** The site is connected to Council's sewerage system and the extension of or connection to the sewerage system is designed and constructed in accordance with the Design Guidelines set out in Section D7 of the Planning scheme policy SC5 –	**Complies with AO4.2** The proposed additional bedrooms would result in an upgraded on-site effluent disposal system being provided on site as detailed in the Wastewater Management System report provided at Appendix 5.

Performance outcomes	Acceptable outcomes	Compliance
systems in the locality.	FNQROC Regional Development Manual; or **AO4.2** Where not in a sewerage scheme area, the proposed disposal system meets the requirements of Section 33 of the *Environmental Protection Policy (Water) 1997* and the proposed on site effluent disposal system is designed in accordance with the *Plumbing and Drainage Act (2002).*	
Stormwater quality		
PO5 Development is planned, designed, constructed and operated to avoid or minimise adverse impacts on stormwater quality in natural and developed catchments by:	**AO5.1** A connection is provided from the premises to Council's drainage system; or **AO5.2**	**Complies with AO5.1** The proposed development would not alter the existing stormwater management regime.

Performance outcomes	Acceptable outcomes	Compliance
(a) achieving stormwater quality objectives; (b) protecting water environmental values; **(c)** maintaining waterway hydrology.	An underground drainage system is constructed to convey stormwater from the premises to Council's drainage system in accordance with the Design Guidelines set out in Sections D4 and D5 of the Planning scheme policy SC5 – FNQROC Regional Development Manual.	
	AO5.3 A stormwater quality management plan is prepared, and provides for achievable stormwater quality treatment measures meeting design objectives listed in Table 9.4.5.3.b and Table 9.4.5.3.c, reflecting land use constraints, such as: (a) erosive, dispersive and/or saline soil types; (b) landscape features (including landform); (c) acid sulfate soil and management of nutrients of concern; (d) rainfall erosivity.	**Not applicable** Not considered applicable to Dwelling Houses and Dwelling House extensions.

Performance outcomes	Acceptable outcomes	Compliance
	AO5.4 Erosion and sediment control practices are designed, installed, constructed, monitored, maintained, and carried out in accordance with an erosion and sediment control plan.	**Not applicable** Not considered applicable to Dwelling Houses and Dwelling House extensions.
	AO5.5 Development incorporates stormwater flow control measures to achieve the design objectives set out in Table 9.4.5.3.b and Table 9.4.5.3.c, including management of frequent flows, peak flows, and construction phase hydrological impacts. Note – Planning scheme policy SC5 – FNQROC Regional Development Manual provides guidance on soil and water control measures to meet the requirements of the *Environmental Protection Act 1994.* Note – During construction phases of development, contractors and builders are to have consideration in	**Not applicable** Not considered applicable to Dwelling Houses and Dwelling House extensions.

Performance outcomes	Acceptable outcomes	Compliance
	their work methods and site preparation for their environmental duty to protect stormwater quality.	
Non-tidal artificial waterways		
PO6 Development involving non-tidal artificial waterways is planned, designed, constructed and operated to: (a) protect water environmental values; (b) be compatible with the land use constraints for the site for protecting water environmental values; (c) be compatible with existing tidal and non-tidal waterways; (d) perform a function in addition to stormwater management;	**AO6.1** Development involving non-tidal artificial waterways ensures: (a) environmental values in downstream waterways are protected; (b) any ground water recharge areas are not affected; (c) the location of the waterway incorporates low lying areas of the catchment connected to an existing waterway; (d) existing areas of ponded water are included**.**	**Not applicable** No waterways are proposed.
	AO6.2	**Not applicable**

Performance outcomes	Acceptable outcomes	Compliance
(e) achieve water quality objectives.	Non-tidal artificial waterways are located: (a) outside natural wetlands and any associated buffer areas; (b) to minimise disturbing soils or sediments; (c) to avoid altering the natural hydrologic regime in acid sulfate soil and nutrient hazardous areas.	No waterways are proposed.
	AO6.3 Non-tidal artificial waterways located adjacent to, or connected to a tidal waterway by means of a weir, lock, pumping system or similar ensures: (a) there is sufficient flushing or a tidal range of >0.3 m; or (b) any tidal flow alteration does not adversely impact on the tidal waterway; or (c) there is no introduction of salt water into	**Not applicable** No waterways are proposed.

Performance outcomes	Acceptable outcomes	Compliance
	freshwater environments.	
	AO6.4 Non-tidal artificial waterways are designed and managed for any of the following end-use purposes: (a) amenity (including aesthetics), landscaping or recreation; or (b) flood management, in accordance with a drainage catchment management plan; or (c) stormwater harvesting plan as part of an integrated water cycle management plan; or (d) aquatic habitat.	**Not applicable** No waterways are proposed.
	AO6.5 The end-use purpose of the non-tidal artificial waterway is designed and operated in a way that protects water environmental values.	**Not applicable** No waterways are proposed.

Performance outcomes	Acceptable outcomes	Compliance
	AO6.6 Monitoring and maintenance programs adaptively manage water quality to achieve relevant water quality objectives downstream of the waterway**.**	**Not applicable** No waterways are proposed.
	AO6.7 Aquatic weeds are managed to achieve a low percentage of coverage of the water surface area, and pests and vectors are managed through design and maintenance.	**Not applicable** No waterways are proposed.
Wastewater discharge		
PO7 Discharge of wastewater to waterways, or off site: (a) meets best practice environmental management; (b) is treated to:	**AO7.1** A wastewater management plan is prepared and addresses: (a) wastewater type; (b) climatic conditions;	**Not applicable** No waste water would be discharged off-site.

Performance outcomes	Acceptable outcomes	Compliance
(i) meet water quality objectives for its receiving waters; (ii) avoid adverse impact on ecosystem health or waterway health; (iii) maintain ecological processes, riparian vegetation and waterway integrity; (iv) offset impacts on high ecological value waters**.**	(c) water quality objectives; (d) best practice environmental management**.**	
	AO7.2 The waste water management plan is managed in accordance with a waste management hierarchy that: (a) avoids wastewater discharge to waterways; or (b) if wastewater discharge cannot practicably be avoided, minimises wastewater discharge to waterways by re-use, recycling, recovery and treatment for disposal to sewer, surface water and ground water.	**Not applicable** No waste water would be discharged off-site.
	AO7.3 Wastewater discharge is managed to avoid or minimise the release of nutrients of concern so as to minimise the occurrence, frequency and	**Not applicable** No waste water would be discharged off-site.

Performance outcomes	Acceptable outcomes	Compliance
	intensity of algal blooms.	
	AO7.4 Development in coastal catchments avoids or minimises and appropriately manages soil disturbance or altering natural hydrology and: (a) avoids lowering ground water levels where potential or actual acid sulfate soils are present; (b) manages wastewater so that: (i) the pH of any wastewater discharges is maintained between 6.5 and 8.5 to avoid mobilisation of acid, iron, aluminium and other metals; (ii) holding times of neutralised wastewater ensures the flocculation and removal of any dissolved iron prior to release; (iii) visible iron floc is not present in any	**Not applicable** No waste water would be discharged off-site.

Performance outcomes	Acceptable outcomes	Compliance
	discharge; (iv) precipitated iron floc is contained and disposed of; (v) wastewater and precipitates that cannot be contained and treated for discharge on site are removed and disposed of through trade waste or another lawful method.	
Electricity supply		
PO8 Development is provided with a source of power that will meet its energy needs.	**AO8.1** A connection is provided from the premises to the electricity distribution network; or **AO8.2** The premises is connected to the electricity distribution network in accordance with the Design Guidelines set out in Section D8 of the Planning	**Complies with AO8.1** The site has an existing electricity connection.

Performance outcomes	Acceptable outcomes	Compliance
	scheme policy SC5 – FNQROC Regional Development Manual. Note - Areas north of the Daintree River have a different standard.	
PO9 Development incorporating pad-mount electricity infrastructure does not cause an adverse impact on amenity.	**AO9.1** Pad-mount electricity infrastructure is: (a) not located in land for open space or sport and recreation purposes; (b) screened from view by landscaping or fencing; (c) accessible for maintenance.	**Not applicable** No padmount infrastructure is proposed.
	AO9.2 Pad-mount electricity infrastructure within a building, in a Town Centre is designed and located to enable an active street frontage. Note – Pad-mounts in buildings in activity centres	**Not applicable** No padmount infrastructure is proposed.

Performance outcomes	Acceptable outcomes	Compliance
	should not be located on the street frontage.	
Telecommunications		
PO10 Development is connected to a telecommunications service approved by the relevant telecommunication regulatory authority.	**AO10** The development is connected to telecommunications infrastructure in accordance with the standards of the relevant regulatory authority.	**Complies with AO10** The site has an existing telecommunications connection.
PO11 Provision is made for future telecommunications services (e.g. fibre optic cable).	**AO11** Conduits are provided in accordance with Planning scheme policy SC5 – FNQROC Regional Development Manual.	**Complies with AO11** The site has an existing telecommunications connection.
Road construction		
PO12 The road to the frontage of the premises is	**AO12.1** The road to the frontage of the site is constructed	**Complies with AO12.1** Mossman Daintree Road is a constructed and

Performance outcomes	Acceptable outcomes	Compliance
constructed to provide for the safe and efficient movement of: (a) pedestrians and cyclists to and from the site; (b) pedestrians and cyclists adjacent to the site; (c) vehicles on the road adjacent to the site; (d) vehicles to and from the site; (e) emergency vehicles.	in accordance with the Design Guidelines set out in Sections D1 and D3 of the Planning scheme policy SC5 – FNQROC Regional Development Manual, for the particular class of road, as identified in the road hierarchy.	maintained road.
	AO12.2 There is existing road, kerb and channel for the full road frontage of the site**.**	**Complies with AO12.2** Mossman Daintree Road is a constructed and maintained road
	AO12.3 Road access minimum clearances of 3.5 metres wide and 4.8 metres high are provided for the safe passage of emergency vehicles.	**Complies with AO12.3** Mossman Daintree Road is a constructed and maintained road
Alterations and repairs to public utility services		
PO13 Infrastructure is integrated with, and efficiently	**AO13** Development is designed to allow for efficient	**Not applicable** No alterations or repairs to public utilities are

Performance outcomes	Acceptable outcomes	Compliance
extends, existing networks.	connection to existing infrastructure networks.	required.
PO14 Development and works do not affect the efficient functioning of public utility mains, services or installations.	**AO14.1** Public utility mains, services and installations are not required to be altered or repaired as a result of the development; or **AO14.2** Public utility mains, services and installations are altered or repaired in association with the works so that they continue to function and satisfy the relevant Design Guidelines set out in Section D8 of the Planning scheme policy SC5 – FNQROC Regional Development Manual.	**Complies with AO14.1** No alterations to public utilities are required.
Construction management		
PO15	**AO15**	**Not applicable**

Performance outcomes	Acceptable outcomes	Compliance
Work is undertaken in a manner which minimises adverse impacts on vegetation that is to be retained**.**	Works include, at a minimum: (a) installation of protective fencing around retained vegetation during construction; (b) erection of advisory signage; (c) no disturbance, due to earthworks or storage of plant, materials and equipment, of ground level and soils below the canopy of any retained vegetation; (d) removal from the site of all declared noxious weeds.	No trees are to be retained in the proposed building footprint.
PO16 Existing infrastructure is not damaged by construction activities**.**	**AO16** Construction, alterations and any repairs to infrastructure is undertaken in accordance with the Planning scheme policy SC5 – FNQROC Regional Development Manual. Note - Construction, alterations and any repairs to State-controlled roads and rail corridors are undertaken	**Not applicable** No alteration to existing public infrastructure is proposed.

Performance outcomes	Acceptable outcomes	Compliance
	in accordance with the Transport Infrastructure Act 1994.	
For assessable development		
High speed telecommunication infrastructure		
PO17 Development provides infrastructure to facilitate the roll out of high speed telecommunications infrastructure.	**AO17** No acceptable outcomes are prescribed.	**Not applicable** The site has an existing telecommunications connection.
Trade waste		
PO18 Where relevant, the development is capable of providing for the storage, collection treatment and disposal of trade waste such that: (a) off-site releases of contaminants do not occur;	**AO18** No acceptable outcomes are prescribed.	**Not applicable** No trade waste would be generated by the proposed development.

Performance outcomes	Acceptable outcomes	Compliance
(b) the health and safety of people and the environment are protected; (c) the performance of the wastewater system is not put at risk.		
Fire services in developments accessed by common private title		
PO19 Hydrants are located in positions that will enable fire services to access water safely, effectively and efficiently.	**AO19.1** Residential streets and common access ways within a common private title places hydrants at intervals of no more than 120 metres and at each intersection. Hydrants may have a single outlet and be situated above or below ground**.**	**Not applicable** No common private title is proposed.
	AO19.2 Commercial and industrial streets and access ways within a common private title serving commercial properties such as factories and warehouses and offices are provided with above	**Not applicable** No common private title is proposed.

Performance outcomes	Acceptable outcomes	Compliance
	or below ground fire hydrants located at not more than 90 metre intervals and at each intersection. Above ground fire hydrants have dual-valved outlets.	
PO20 Hydrants are suitable identified so that fire services can locate them at all hours. Note – Hydrants are identified as specified in the Department of Transport and Main Roads Technical Note: 'Identification of street hydrants for fire fighting purposes' available under 'Publications'.	**AO20** No acceptable outcomes are prescribed.	**Not applicable** No common private title is proposed.

Appendix 4.

GEOTECHNICAL REPORT

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REPORT

Geotechnical Assessment

Proposed Residence
1361 Mossman Daintree Road
Rocky Point QLD 4873

20055AA-D-R01-v1
Ken McCord
14 October 2020

GEO | design

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Figures

List of Appendices

1.0 Introduction

GEO Design has carried out a geotechnical investigation for a proposed new building at 1361 Mossman Daintree Road, Rocky Point. It is understood that it is proposed to construct a single level building over a slope adjacent to an existing residential development.

The aims of the geotechnical investigation were as follows:

- Evaluate the subsurface conditions at the site.
- Comment on suitable footings and geotechnical design parameters.
- Comment on retaining wall design and geotechnical design parameters.
- Comment on slope stability issues at the subject allotment and provide comments in regards to the development's adherence to the State Planning Policy 1/03-Mitigating the Adverse Impacts of Flood, Bushfire and Landslide (Landslides only).
- Comment on earthworks including recommended cut and fill batters, procedures and site preparation.

This report presents the results of the geotechnical investigation together with the engineering comments outlined above.

2.0 Fieldwork

Fieldwork comprised the following:

- A walkover assessment, carried out by an experienced technician.
- Mapping of exposed batters at the site.
- Mapping of excavations into the existing slope.

Photographs of the site are presented in Appendix A.

2.1 Surface Conditions

The site is located at 1361 Mossman Daintree Road, Rocky Point. The location of the proposed building is located adjacent to an existing two level residence.

The residence is bound to the south by a fill batter and natural slopes that extend down to a natural drainage path. The slope is about 4 to 5 m in height and slopes to the south between about 35 to 45° overall, with locally steeper sections. At the time of fieldwork, the surface of the slope was covered by low level vegetation and some trees.

Some evidence of small scale erosion and surficial slumping was noted in the slope. No evidence of large scale instability was noted in the proposed building area.

Several small retaining walls were noted along the slope outside of the proposed building area. The retaining walls are generally of lightweight construction and appear not to be engineer designed walls.

2.2 Subsurface Conditions

The subsurface conditions observed in the exposed batters and within the excavations into the slope surface indicate the following:

- A thin layer of uncontrolled fill, including some refuse materials, placed at the crest and on the surface of the slope.
- A thin layer of sandy clay colluvium (<1 m thick), over
- Extremely to Distinctly Weathered rocks of the Hodgkinson Formation.

At the time of fieldwork groundwater was not encountered or observed at the site.

3.0 Stability

Based on the results of the investigation at this site and experience with similar sites in this area of Rocky Point, it is considered the geotechnical model for this site generally comprises some uncontrolled fill and residual clays over extremely to highly weathered rocks of the Hodgkinson Formation in the natural slopes.

Based on the above geotechnical model, together with the results of the fieldwork, stability analyses were carried out for the existing profile of the site. A summary of the results of the stability analyses carried out for the site is presented in the following section.

3.1 Stability Analysis

Stability analyses were carried out for a typical existing profile in the area of the proposed new building. The existing profile was based on site measurements. Based on the materials observed at the site and experience with similar construction types, the following strength parameters were adopted for the stability analyses:

Material Type	Strength Parameters	
	c'	ϕ'
Residual Clay	5 kPa	30°
Extremely to Highly Weathered Rock	15 kPa	35°

The thin layer of fill at the surface of the slope was not included in the stability analyses.

Analyses were initially performed for what were considered to be dry or “normal” conditions. Analyses were then performed for what were considered to be wet or “extreme” conditions.

A pore water pressure co-efficient (R_u= 0.1-0.2) was used to simulate seepage/water infiltration for “extreme” conditions.

The analyses were carried out for a potential global (large scale) circular failure using the proprietary software SLIDE V5.0. The results of the stability analyses are presented in Appendix B and summarised as follows:

Calculated Factor of Safety (FOS)	
Dry Conditions	**Wet Conditions**
1.509	1.334

For the purposes of assessing stability we provide the following guidelines which are appropriate to the conditions at this site:

- A calculated factor of safety > 1.5 indicates 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 the profile is likely to be unstable.

In general terms the factor of safety is calculated by dividing the forces resisting instability (i.e. the strength of the soil/rock or the strength of discontinuities within the soil/rock) by the forces driving instability (i.e. the weight of the soil/rock, plus groundwater/seepage, plus surcharges/loads on the slope). A calculated factor of safety of 1.0 indicates the forces are balanced, whereas a calculated factor of safety <1.0 indicates instability will likely occur.

For this site we consider that a calculated factor of safety >1.3 should be achieved for the wet or "extreme" conditions modelled, and that a calculated factor of safety >1.5 should be achieved for the dry or "normal" conditions modelled.

The results of the stability analyses indicate that the FOS for stability at the site is >1.5 under the normal conditions and >1.3 under the extreme conditions modelled.

Analyses for small scale slumping at this site is not possible and is dependent upon slight profile variations and the cover of soil materials, angle and orientation of the discontinuities and the influences of trees and water flow. It is considered that small scale slumping within unsupported batters and in the steep sections of natural slopes should be expected. It is considered that this instability should be in the form of relatively small slumps or erosion failures and occur during or following prolonged rainfall events. This type of instability is common in this area of Rocky Point.

3.2 Landslide Risk

As part of the investigation, a landslide risk assessment was carried out for the area of the proposed development in general accordance with the guidelines of the Landslide Risk Management Concepts and Guidelines published by the Australian Geomechanics Society in March 2000. Risk assessment in accordance with the New South Wales Road Traffic Authority (RTA) Guide to Slope Risk Analysis, Version 3.1, and the Queensland Department of Transport and Main Roads (DTMR) Batter Slope Risk Element procedures were also carried out. These guides are based on the approach suggested in the Landslide Risk Management Concepts and Guidelines and to those outlined in the Australian Geoguide LR7 (Landslide Risk).

The landslide risk assessment generally involves the evaluation of slopes enabling the identification of potential hazards ("a condition with the potential for causing an undesirable consequence", for example, rockfall or slump type failure) and analyses the identified hazards with respect to likelihood and consequences using prescribed risk matrices. The risk matrices use a number of estimated conditional probabilities to calculate an Assessed Risk Level (ARL) rating for individual slopes.

The risk assessment procedure generally uses estimated conditional probabilities designed to characterise a sequence of events which must occur for slope instability to result in a fatality or injury to the community, damage to structures or buildings, and/or economical costs that may be associated with the effects of instability.

The principal conditional probabilities used in the risk assessment include the following:

- Temporal Probability (T)
- Vulnerability (V)
- Likelihood of instability (L)

In general, the risk assessments use T and V to estimate a Consequence rating (C) for loss of life or economic loss as a result of instability. The rating C is combined with L to derive the ARL rating.

The RTA system has five separate ARL categories, namely ARL1 to ARL5, with ARL1 being the highest risk rating and ARL5 being the lowest risk rating. It is generally understood that all slopes with a risk rating of ARL1 or ARL2 are given the highest priority and should have risk reduction measures implemented within the short term (<3 years). ARL3 sites generally undergo regular monitoring with risk reduction measures carried out if the assessed risk levels are considered to increase. Sites assessed as ARL4 and ARL5 are periodically inspected for any significant site changes.

In terms of the Guidelines for Landslide Risk Management outlined in Australian Geomechanics, Volume 42, No. 1 March 2007 (AGS 2007) the risk to property is defined as Very Low to Very High. In general terms risks of very low to low are tolerable for regulatory bodies in relation to developments, while higher risks are generally unacceptable without detailed investigation and implementation of risk reduction strategies to enable the reduction of risk to an acceptable level. The risk system matrix outlined in AGS 2007 is presented in Appendix C.

A full description of the risk analyses procedures are presented in the RTA and AGS 2007 documents. For further information the reader is directed to these documents.

The landslide risk assessment carried out as part of this investigation was based on the results of the stability analyses (outlined in the previous section), the walkover survey, site observations, and based on experience in this area of Rocky Point.

The hazards evaluated as part of the risk analysis comprised the following:

1. Instability within the existing batters or natural slopes resulting in downward migration of >2m^3 of soil or rock debris impacting the residence and associated structures or surrounding structures.

2. Instability within the existing batters or natural slopes resulting in downward migration of >20m^3 of soil debris impacting the residence and associated structures or surrounding structures.

Based on the above, the following AGS 2007 and RTA risk classifications have been assessed for the proposed development:

Hazard	AGS 2007 Risk Rating	ARL Risk Rating
1	Low	ARL5
2	Low	ARL5

Very Low to Low risks are generally considered acceptable to regulators for development approval in accordance with the relevant guides. As such, no further risk reduction measures are warranted at the site to allow the proposed residence.

In addition to the above, to maintain long term stability at the site, the measures recommended in the following sections should be implemented as a minimum.

4.0 Engineering Comments

4.1 General

As outlined previously, it is understood that it is proposed to construct a new building at the site adjacent to the existing residence at the site. The proposed building will be founded on piers over the existing slope.

Engineering comments relating to site preparation and earthworks procedures, excavation conditions, foundation options, slope stabilisation comments and retaining walls are presented in the following sections.

4.2 Cut and Fill Earthworks

It is considered that minimal further cut and fill earthworks will be required at the site as part of the proposed development. However, if required, all new permanent cut batters should be limited to a maximum height of approximately 2.5 m formed at 1V:1H. Higher or steeper batters are to be retained by engineered retaining walls. Temporary cut batters can be formed at 3V:1H to a maximum height of 3 m. Higher or steeper batters should be inspected by an experienced geotechnical engineer to confirm short term stability.

The formation of unsupported fill batters should be avoided.

Site preparation and earthworks procedures should involve the following:

- Strip and remove existing debris, topsoil and soil containing significant amounts of organic materials.
- Strip and remove all cobble and boulders >150 mm in size from the building platform.
- Compact the subgrade with a heavy roller to reveal soft or loose materials. Soft or loose material that cannot be improved by compaction should be removed and replaced with engineered fill.
- Place fill where required in uniform horizontal layers not exceeding 200 mm loose thickness and compact to achieve a relative dry density ratio of at least 95% using Standard Compaction. Each layer of filling should be keyed into natural ground. Filling should be placed at least 1 m beyond the design profile and then trimmed to the design profile.

If required, imported fill materials should have a Plasticity Index less than 20 and a soaked CBR value of >15%.

It is recommended that all earthworks procedures be carried out in accordance with AS 3798-2007 "Guidelines on Earthworks for Commercial and Residential Developments" and local authority requirements. It is recommended that the earthworks contractor be familiar with site conditions.

4.3 Excavation Conditions

Excavations at the site in the proposed building area are likely to encounter clay soils overlying extremely weathered rock. Excavation of the soils would be readily achievable for a conventional small (>5T) excavator. Excavation into the extremely to highly weathered rock may be carried out using a conventional >16T excavator with a ripper. However, an impact breaker is likely to be required for deep excavation or to remove harder zones of rock.

4.4 Drainage

Drainage measures that should be implemented include:

- Provision of lined drains at the crest of the cut/fill batters and on interim berms.
- Provision of lined drains and kerbing or similar along the downhill margin of the concrete driveway and garage areas.
- Provision of subsurface drainage behind retaining walls and lined drains above the crest of any retaining walls over 1.5m in height.

All stormwater should be collected and discharged from the site via pipes into designated drainage paths and not allowed to flow on to the ground or around footings or structures. Where this is not possible, stormwater should be directed into flow spreaders or energy dissipaters to prevent concentrated flows.

It is considered that considerable surface water flow could be expected to reach the building area. On this basis, in addition to the above, it is recommended that a lined concrete drain is formed on the uphill side of the proposed building area to collect surface water and divert into a lined drainage path.

In addition to the above, it is recommended that the exposed slope surface in the area of the proposed building, under the elevated building, should be covered by shotcrete to limit the potential for erosion of the slope surface and around pier foundations. Shotcrete should comprise conventional 32 MPa poly fibre reinforced shotcrete with a 10 mm aggregate. Weep holes should also be included in the shotcrete together with strip drains placed on the batter slope under the shotcrete at 2 m horizontal intervals extending from the crest of the slope to the toe.

4.5 Retaining Structures

Where required, retaining walls to be constructed as part of the proposed structure can be designed using an earth pressure coefficient of 0.6, plus surcharge loads imposed on the wall.

Other stand-alone retaining walls where they form a boundary or for landscape purposes can be designed using an earth pressure coefficient of 0.4, plus surcharge loads imposed on the walls.

Retaining walls should be founded on bored pier footings. Bored pier footings for retaining walls should be extended at least three times their diameter into the weathered rock at depth. Bored piers should be founded at a minimum depth of 2.5 m below the natural surface level. Bored pier footings founded in the above manner can be designed using an allowable end bearing pressure of 300 kPa and an allowable shaft adhesion of up to 40 kPa, neglecting the contribution of the upper 1 m of the shaft.

All retaining walls should be designed by a Structural Engineer.

4.6 Footings

It is recommended that the building be founded on bored pier footings.

Bored pier footings should be extended at least three times their diameter into the weathered rock at depth. Bored piers should be founded at a minimum depth of 2.5 m below the natural surface level. Bored pier footings founded in weathered rock can be designed using an allowable end bearing pressure of 300 kPa and an allowable shaft adhesion of up to 40 kPa, neglecting the contribution of the upper 1 m of the shaft.

It is recommended that footing excavations be inspected by an experienced engineer to confirm that founding conditions are consistent with those on which the design guidelines are based.

5.0 Limitations

GEO Design has prepared this report for the use of Ken McCord for design 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 Ken McCord and their other consultants. It may not contain sufficient information for purposes of other parties or for other uses.

Your attention is drawn to the document - "Important Information About Your Geotechnical Engineering Report". This document has been prepared by the ASFE (Professional Firms Practicing in the Geosciences). The statements presented in this document are intended to advise you of what your realistic expectations of this report should be, and to present you with recommendations on how to

minimise the risks associated with the ground works for this project. The document is not intended to reduce the level of responsibility accepted by GEO Design Pty Ltd, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes in so doing.

We would be pleased to answer any questions that you may have regarding this matter.

Regards,

Steve Ford

Principal Geotechnical Engineer
BSc (Geo) BSc Hons (Geo) MEngSc (Geotechnical)

Gerard Read

Principal Engineer RPEQ 5153

SITE PLAN DEVELOPED FROM QUEENSLAND GLOBE

GEO | design

Client:	KEN McCORD	**GEOTECHNICAL INVESTIGATION**
Drawn:	SRF	**PROPOSED BUILDING** **1361 MOSSMAN DAINTREE ROAD, ROCKY POINT**
Scale:	AS SHOWN	**FIGURE 1** **SITE PLAN**
Ref No:	20055AA-D-FIGURE1-V1	

Appendix A

Site Photographs

GEO Ref:	20055AA-D - Site Photographs
Project Address:	1361 Mossman Daintree Road, Rocky Point
Client:	Ken McCord
Drawn:	Steve Ford, Engineering Geologist

Site Photographs

GEO Ref:	20055AA-D - Site Photographs
Project Address:	1361 Mossman Daintree Road, Rocky Point
Client:	Ken McCord
Drawn:	Steve Ford, Engineering Geologist

Site Photographs








GEO

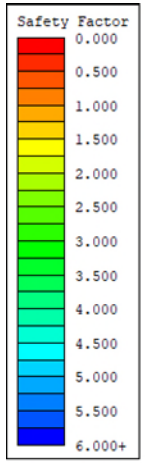
GEO Design Pty Ltd
Geotechnical Assessment
Site Photographs

GEO Ref:	20055AA-D - Site Photographs
Project Address:	1361 Mossman Daintree Road, Rocky Point
Client:	Ken McCord
Drawn:	Steve Ford, Engineering Geologist

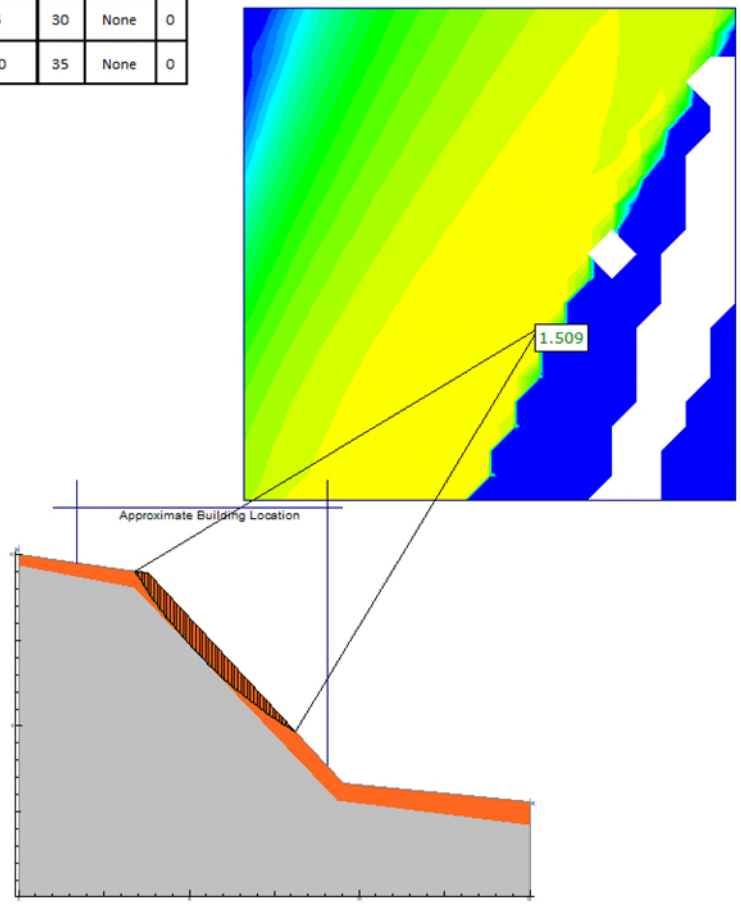
Site Photographs

Appendix B

Stability Analysis

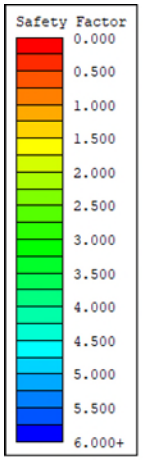


Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (deg)	Water Surface	Ru
Clayey Soils		20	Mohr-Coulomb	5	30	None	0
Weathered Rock		20	Mohr-Coulomb	10	35	None	0

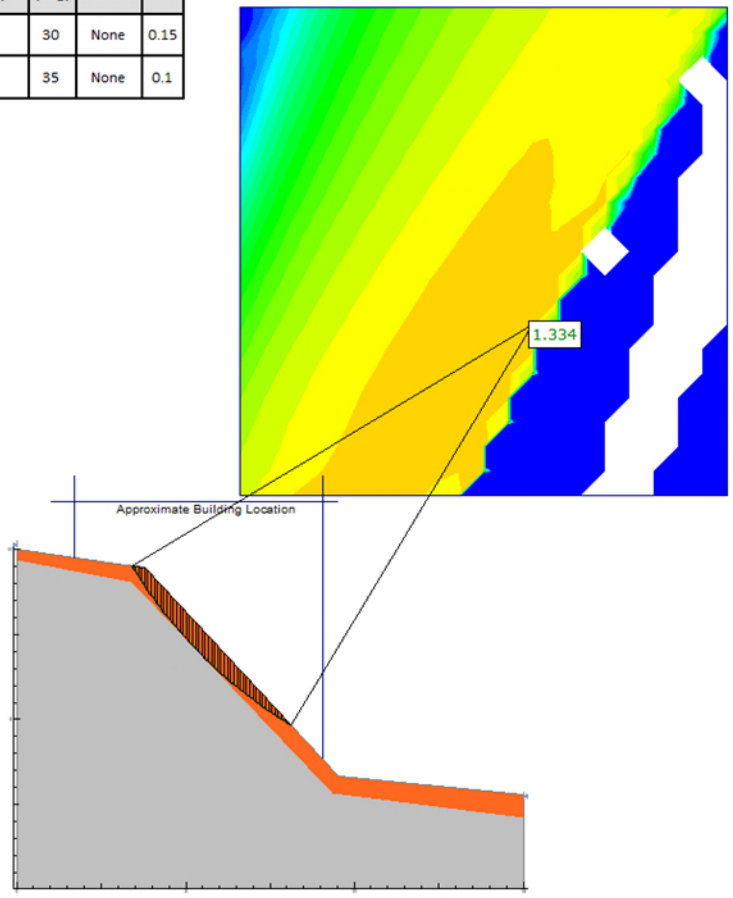


GEO | design

Client:	Ken McCord	**Geotechnical Assessment**
Drawn:	SRF	**1361 Mossman Daintree Road, Rocky Point**
Scale:	NTS	**RESULTS OF STABILITY ANALYSES SECTION A EXISTING PROFILE DRY CONDITIONS**
Project No:	20055AA-D	



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (deg)	Water Surface	Ru
Clayey Soils		20	Mohr-Coulomb	5	30	None	0.15
Weathered Rock		20	Mohr-Coulomb	10	35	None	0.1



GEO | design

Client:	Ken McCord	**Geotechnical Assessment**
Drawn:	SRF	**1361 Mossman Daintree Road, Rocky Point**
Scale:	NTS	**RESULTS OF STABILITY ANALYSES SECTION A EXISTING PROFILE WET CONDITIONS**
Project No:	20055AA-D	

Appendix C

AGS 2007 Risk Matrix

QUALITATIVE RISK ANALYSIS MATRIX – LEVEL OF RISK TO PROPERTY

LIKELIHOOD		CONSEQUENCES TO PROPERTY (With Indicative Approximate Cost of Damage)				
	Indicative Value of Approximate Annual Probability	1: CATASTROPHIC 200%	2: MAJOR 60%	3: MEDIUM 20%	4: MINOR 5%	5: INSIGNIFICANT 0.5%
A - ALMOST CERTAIN	10^{-1}	VH	VH	VH	H	M or **L** (5)
B - LIKELY	10^{-2}	VH	VH	H	M	**L**
C - POSSIBLE	10^{-3}	VH	H	M	M	**VL**
D - UNLIKELY	10^{-4}	H	M	**L**	**L**	**VL**
E - RARE	10^{-5}	M	**L**	**L**	**VL**	**VL**
F - BARELY CREDIBLE	10^{-6}	**L**	**VL**	**VL**	**VL**	**VL**

Notes: (5) For cell A5, may be subdivided such as that a consequence of less than 0.1% is Low risk

(6) When considering a risk assessment it must be clearly stated whether it is for existing conditions or with risk control measures which may not be implemented at the current time

RISK LEVEL IMPLICATIONS

Risk Level		Example Implications (7)
VH	**VERY HIGH RISK**	Unacceptable without treatment. Extensive detailed investigation and research, planning and implementation of treatment options essential to reduce risk to low; may be too expensive and not practical. Work likely to cost more the value of the property.
H	**HIGH RISK**	Unacceptable without treatment. Detailed investigation, planning and implementation of treatment options required to reduce risk to Low. Work would cost a substantial sum in relation to the value of the property.
M	**MODERATE RISK**	May be tolerated in certain circumstances (subject to regulator's approval) but requires investigation, planning and implementation of treatment options to reduce risk to Low. Treatment options to reduce to Low should be implemented as soon as practical.
L	**LOW RISK**	Usually acceptable to regulators. Where treatment has been required to reduce the risk to this level, ongoing maintenance is required.
VL	**VERY LOW RISK**	Acceptable. Manage by normal slope maintenance procedures.

Note: (7) The implications for a particular situation are to be determined by all parties to the risk assessment and may depend on the nature of the property at risk; these are only given as a general guide.

Appendix 5.

SITE CLASSIFICATION AND WASTEWATER MANAGEMENT SYSTEM REPORT

Site Classification

And

Wastewater Management System

For

Ken McCord

At

1361 Mossman Daintree Road

Rocky Point

Postal address: Earth Test, PO Box 1042, Tolga, Qld 4882. Phone: 4095 4734
e-mail: info@earthtest.com.au

INTRODUCTION:

Earth Test has been engaged by Ken McCord to assess, design and report on Site Classification and a Domestic Wastewater Management System at 1361 Mossman Daintree Road, Rocky Point.
Real Property Description:-
Lot 251, on SR 334
Local Authority: Douglas Shire Council.
It is understood the intention is to construct a new structure at the site.
A site and soil evaluation was carried out in September 2019.

SITE FACTORS:

The site was identified during a meeting with the owners on-site.
The Lot has an area of 12.2 hectares and is predominantly covered with grass.
The water supply to the site is reticulated.
No rock outcrops where noted at the site. An intermittent watercourse is shown on the site plan.
Three Dynamic Cone Penetrometer tests were performed at locations DCP1 through to DCP3, one borehole BH1 and one constant head soil permeability test P1 as shown on the site plan.
Atterberg Limits tests were performed on a disturbed sample from Borehole1.

Permeability testing at 1361 Mossman Daintree Road, Rocky Point

SITE INVESTIGATION REPORT

BOREHOLE LOG

CLIENT: Ken McCord. **PROJECT:** 1361 Mossman Daintree Road, Rocky Point. **REPORT DATE:** 6/09/19	**DATE SAMPLED:** 02/09/2019 **Sampled by:** G. Negri

BOREHOLE No: BH1

DEPTH (m)	DESCRIPTION	COMMENTS
0.0-0.5	Brown Clay-Silt (Fill)	Disturbed sample 0.6- 0.9m.
0.5-1.5	Red-Brown Clay-Silt	Watertable not encountered

ATTERBERG LIMITS TEST REPORT

CLIENT: Ken McCord

PROJECT: 1361 Mossman Daintree Road, Rocky Point

SAMPLE DETAILS: BH1 0.6-0.9m

REPORT DATE: 6/09/19

SAMPLE No: SI 368-19

DATE SAMPLED: 02/09/2019

Sampled by: G. Negri

Tested By:

TEST METHOD	RESULT
Liquid Limit: AS 1289.3.1.2	33%
Plastic Limit: AS 1289.3.2.1	21%
Plasticity Index: AS 1289.3.3.1	12%
Linear Shrinkage: AS 1289.3.4.1	7.5%
Length Of Mould:	250.1mm
Cracking, Crumbling, Curling, Number Of Breaks:	One Break
Sample History:	Air Dried
Preparation Method:	Dry Sieved
Insitu Moisture Content:	12.5%
% Passing 0.075mm:	

DYNAMIC CONE PENETROMETER REPORT
AS 1289.6.3.2

CLIENT: Ken McCord

PROJECT: 1361 Mossman Daintree Road, Rocky Point.

SAMPLE DETAILS: Sites "DCP1, DCP2 & DCP3" as per site plan.

REPORT DATE: 6/09/19

SAMPLE No: SI 368-19

DATE SAMPLED: 02/09/2019

Tested By: G. Negri

DEPTH (Metres)	Site: DCP1	Site: DCP2	Site: DCP3
	No Blows	No Blows	No Blows
0.0 – 0.1	2	4	3
0.1 – 0.2	3	4	2
0.2 – 0.3	3	4	2
0.3 – 0.4	3	4	2
0.4 – 0.5	2	4	3
0.5 – 0.6	2	6	2
0.6 – 0.7	2	6	2
0.7 – 0.8	2	8	4
0.8 – 0.9	2	9	6
0.9 – 1.0	4	8	6
1.0 – 1.1	4	7	8
1.1 – 1.2	5	6	6
1.2 – 1.3	6	6	6
1.3 – 1.4			
1.4 – 1.5			
1.5 – 1.6			
1.6 – 1.7			
1.7 – 1.8			
1.8 – 1.9			
1.9 – 2.0			

SITE CLASSIFICATION

1361 Mossman Daintree Road, Rocky Point.

The Dynamic Cone Penetrometer test results indicate soft conditions to depths up to 0.9m at DCP1 and 0.7m at DCP3. DCP2 results indicate adequate allowable bearing pressure to 1.5m.

The Atterberg Limits test results indicate a slightly reactive soil.

Due to the soft conditions and extremely steep slope the site must be classified **CLASS-"P".** To comply with the "Building Services Board Subsidence Policy" advice should be sought from a Registered Professional Engineer for footing design.

All site works must be carried out in accordance with AS 3798-2007 "Guidelines on earthworks for commercial and residential developments"

If the depth of any cut exceeds 0.5m or uncontrolled fill exceeds 0.4m the classification shall be reconsidered.

Because this investigation is limited in scope and extent, it is possible that areas may exist which differ from those shown on the test hole records and used in the site classification. Should any variation from the reported conditions be encountered during excavation work, this office must be notified immediately so that reappraisal of the classification can be made.

Gavin Negri
Earth Test

SITE AND SOIL EVALUATION

1361 Mossman Daintree Road, Rocky Point.

The site and soil evaluation carried out on 02/09/2019 provided the following results.

Site Assessment

Site Factor	Result
Slope	Varying - 40° bank, 8° to 4° in LAA
Shape	Varies
Aspect	East in LAA
Exposure	Good.
Erosion/land slip	Not noted.
Boulders/rock outcrop	Nil
Vegetation	Grass.
Watercourse/Bores	As shown on site plan.
Water table	Not encountered during investigation.
Fill	Some uncontrolled fill at DCP1/BH1.
Flooding	Not likely.
Channelled run-off	Not found
Soil surface conditions	Firm, Moist
Other site specific factors	Existing LAA and Septic Tank

Soil Assessment

Soil Property	Result
Colour	Brown
Texture	Clay-Loam
Structure	Moderate
Coarse Fragments	Nil
Measured Permeability Ksat (m/d)	P1= 0.61
Dispersion	Slakes
Soil Category	4
Resultant Design Load Rate, DLR (mm/day)	20

WASTEWATER MANAGEMENT SYSTEM

An "All-Waste" septic tank discharging into an "Advanced Enviro-Septic" bed is considered suitable for this site.

This system has been designed to conform to the requirements of the following codes, acts, regulations and standards. All work to be carried out in accordance with the following codes.

- AS/NZ 1547:2012 On-site domestic-wastewater management.
- Queensland PLUMBING AND DRAINAGE ACT 2002.
- Queensland STANDARD PLUMBING AND DRAINAGE REGULATION 2003.
- Queensland PLUMBING AND WASTEWATER CODE.

SYSTEM SIZING FACTORS.

A population equivalent of five (5) persons has been chosen for the existing two bedroom dwelling and one bedroom structure.

The site is connected to a reticulated water supply system.

Standard water-reduction fixtures must be used to ensure the integrity of the system.
They shall include:-

- Dual flush 6/3 Litre water closets.
- Shower-flow restrictors.
- Aerator faucets (taps).
- Water-conserving automatic washing machines.

Note: - Garbage grinders are not permitted.

As per AS/NZ 1547:2012 Appendix H, Table H1 the "Typical wastewater design flow" for a "Reticulated water supply" gives a flow allowance of 150 L/Person/day.

The daily flow for the dwelling (5 persons @ 150 L/person/day) will be 750 L/day.

From AS/NZ 1547:2012 Table J1 the minimum capacity of the All-Waste septic tank required is 3000 L.
The tank must NOT be fitted with an outlet filter.

If existing trenches are intersected during installation of new trenches they must be backfilled with 0.6m wide (min) compacted natural material to seal them off and prevent leakage lower down the slope.

The existing septic tank and grease trap must be removed or demolished and backfilled. If it is backfilled its base must be penetrated to prevent it holding water and becoming a health risk.

LAND-APPLICATION SYSTEM

DISPOSAL AREA SIZING

From AS/NZ 1547:2012 APPENDIX L, L4 DESIGN AREA SIZING, L4.2 Sizing

L = Q / (DLRxW)

Where:

L = length in m
Q = design daily flow in L/day
DLR = Design Loading Rate in mm/d
W = Width in m

L = 750/(20*2.98)
= 12.6m.

Use one 12.6m long by 2.98m wide Advanced Enviro-Septic bed.
See site plan and detail cross-section.

Its recommended that 1kg gypsum per m² be applied to the scarified base before laying the sand

SYSTEM SAND

All configurations of Advanced Enviro-Septic® require a minimum of 150mm of system sand surrounding the circumference of the pipe. This sand, typically gravelly coarse sand, must adhere to the following percentage and quality restrictions.

AS Sieve Size (mm)	Percent Passing %
9.50	100
4.75	95-100
2.36	80-100
1.18	50-85
0.600	25-60
0.300	5-30
0.150	0-10
0.075	0-2

If there is any doubt if the sand media will pass requirements please contact Earth Test for further advice.

SYSTEM INSTALLATION

Avoid compaction by keeping people and machinery off the finished trench or bed floor. The system shall be installed by a licensed plumber in accordance with the manufacturer's recommendations and the relevant Australian Standards.

Operation and Maintenance

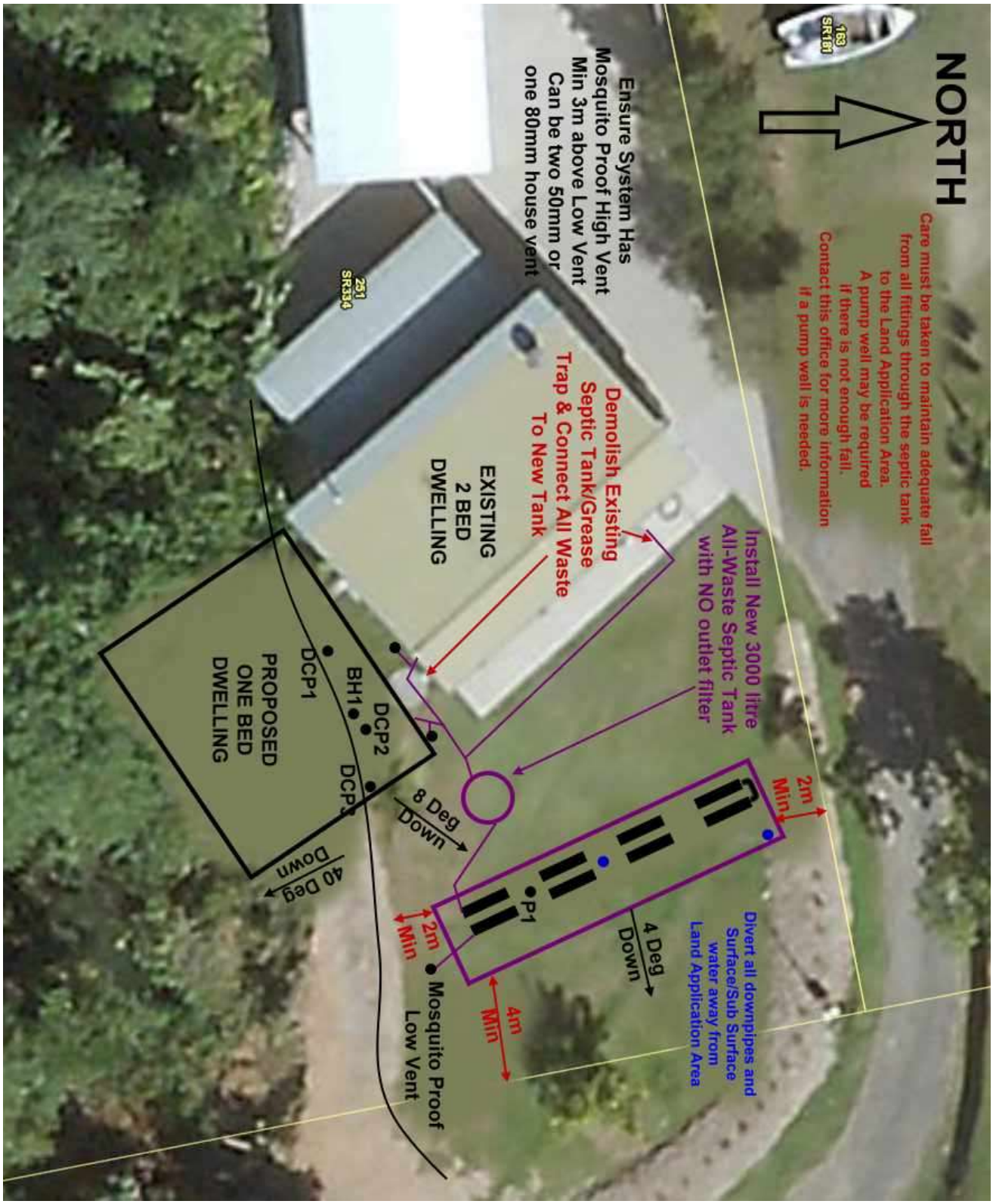
Homeowners should be fully informed of the proper operation and maintenance requirements of the on-site wastewater system.

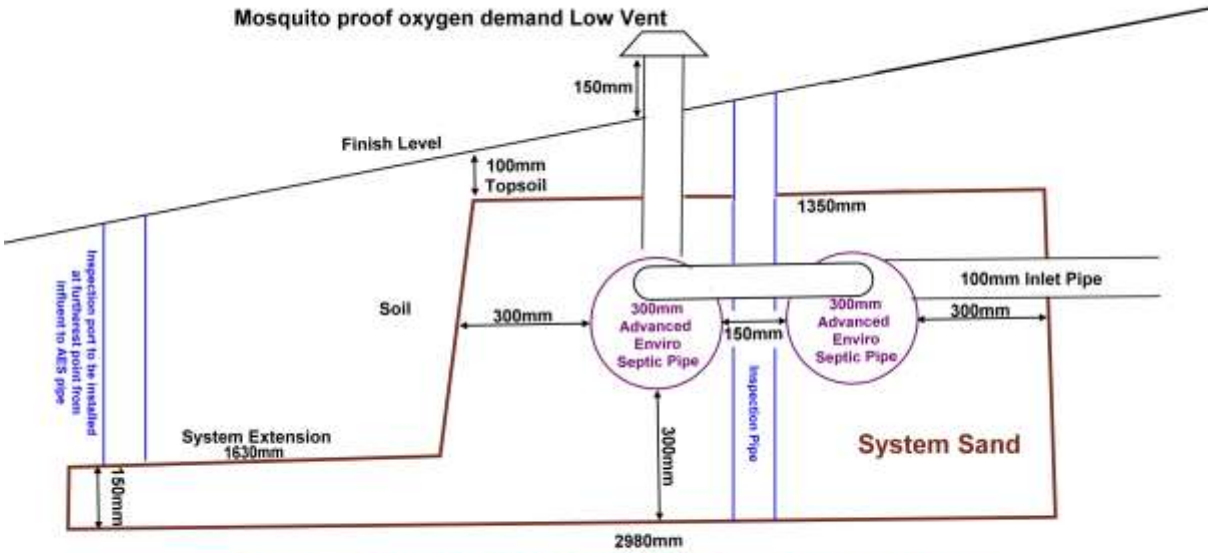
Gavin Negri
Earth Test

SITE PLAN

1361 Mossman Daintree Road, Rocky Point.

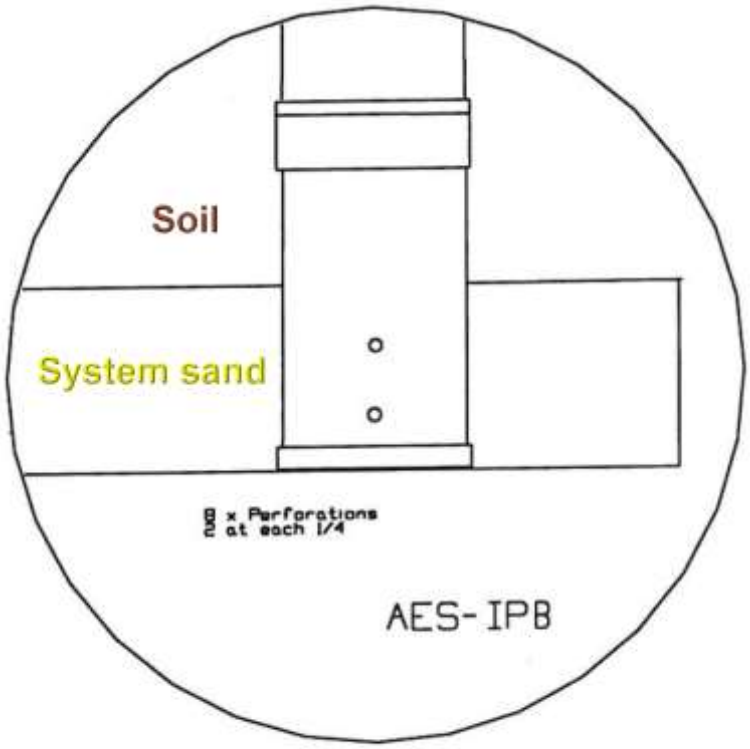
NOT TO SCALE



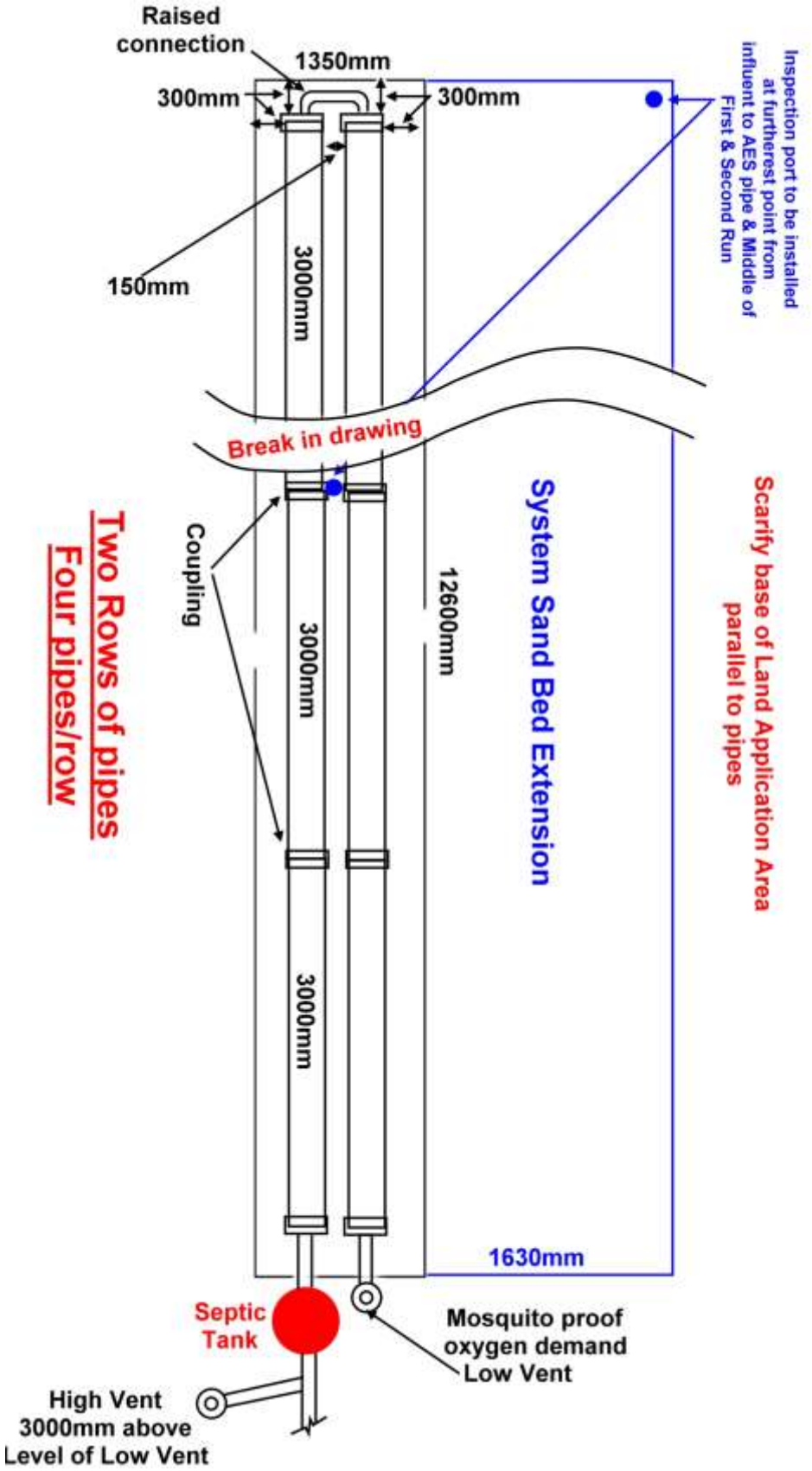


Base must be scarrified 200mm deep. Parallel to AES Pipes

2980mm Wide Two Pipe
Advanced Enviro-Septic Cross-Section



AES Inspection point detail


Raised connection
1350mm
300mm
300mm
150mm
3000mm
Inspection port to be installed at furtherest point from influent to AES pipe & Middle of First & Second Run
Break in drawing
Coupling
3000mm
12600mm
System Sand Bed Extension
Scarify base of Land Application Area parallel to pipes
Two Rows of pipes
Four pipes/row
3000mm
1630mm
Septic Tank
Mosquito proof oxygen demand Low Vent
High Vent 3000mm above Level of Low Vent

Advanced Enviro-septic Design Calculator V8.5

ADVANCED ENVIRO-SEPTIC™ "Always The First Option"

"Always the BEST Option" **until site and soil conditions rule it out.**

Site Address	1361 Mossman Daintree Road, Rocky Point		State QLD	Post Code	4874
Client Name	Ken McCord				
Designers Name	Earth Test	Designers Ph Number	40954734	Designer Lic Number (eg QBCC)	15092731
Plumber Name Lic		Plumber Ph Number		Plumb / Drainer Lic Number	
Council Area	Douglas Shire Council	Designers AES Cert Number		Date	6/9/19

This Calculator is a guide only, receiving soil classification, surface water, water tables and all other site constraints addressed by the qualified designer.

System Designers site and soil calculation data entry		IMPORTANT NOTES
e/meter loading rate, "30" for Advanced Secondary or "38" Secondary	38	*>> This design is for a SECONDARY system.*
Is this a new installation Y or N	y	**>> Minimun single vent size is 80mm or 2 x 50mm house vents**
Number of person	**5**	**a septic tank outlet filter is NOT RECOMMENDED**
Daily Design Flow Allowance Litre/Person/Day	**150**	
Number of rows required to suit site constrants	**2**	**>> The maximum lth of a single AES pipe run is 30 meters**
ırface Soil Category as established by site and soil evaluation. CATEGORY	**4**	**>> Catagory may require design considerations. Ref AS1547**
Design Loading Rate based on site & soil evaluation DLR (mm/day)	**20**	**>> Soil conditioning may be necessary. Ref AS1547 & Comments.**
Bore log depth below system Basel area	**1400**	**>> Min depth below basel area is 600 mm to establish water table or re**
Enter System footprint Slope in % for standard AES systems to calculat	**7**	**>> Consideration required for Sloping sites. Ref AS1547. refer comme**
Is this design a gravity system with no outlet filter? Y or N	**y**	**>> A House Vent & LOW VENT required on this system**

PLEASE CHECK YOU HAVE FALL FROM TANK TO AES SYSTEM PIPES

COMMENTS :- *" The outcome must be important to everyone. "*

- Ripping of receiving surface is required in clay soil structures in Cat 4,5,6. In addition refer to AS 1547. Always excavate and rip parallel to the site slope/AES pi

- Specialist soils advice and special design techniques will be required for clay dominated soil having dispersive or shrink/swell behaviour. Refer AS1547

- All Sloping sites require special consideration and management through design of slope percentage, surface water and construction methods as per AS1547.

- Plumbers are reminded that good construction techniques as per AS1547 are especilly important in these soil types. Refer AS1547 & AES installation Instructions

AES System Calculator Outcomes		
Total System load - litres / day (Q).	**750**	l/d
Min Length of AES pipe rows to treat loading	**9.9**	**lm**
Number of FULL AES Pipe lengths per row	**4**	lths
Total Capacity of AES System pipe in Litres	**1696**	ltr.

AES dimensions	AES System	System Extension
Lth m : (L)	**12.6**	**12.6**
Width m:(W)	**1.35**	**1.63**
Sand Depth :	**0.75**	**0.15**
Area m2	**17.0**	**20.5**

DO YOU WISH TO USE CUT LENGTHS OF PIPE IN THIS DESIGN? (ENTER Y)

IF YOU WISH TO USE A TRENCH EXTENSION DESIGN OPTION ENTER "Y"

Enter Custom Width in metre

AES INFILTRATION FOOT PRINT AREA - L = Q / (DLR x W)	**Length**		**Width**		**Minimum AES foot print required .**	
for this Basic Serial design is	**12.6**	x	**2.98**	=	**37.5**	m2 total

Code	AES System Bill of Materials.			Chankar Environmental Use Only
AES-PIPE	AES 3 mtr Lths required	**8**	lths	
AESC	AESC Couplings required	**6**	ea	
AESO	AESO Offset adaptors	**4**	ea	
AESODV	AES Oxgen demand vent	**1**	ea	
AES-IPB	AES 100mm Inspection point base	**2**	ea	
AES Equ	AES Speed Flow Equaliser		ea	
	TOTAL SYSTEM SAND REQUIRED (Guide Only)	**19**	m3	

PLEASE email your AES CALC and Drawings to

DESIGNREVIEW@ENVIRO-SEPTIC.COM.AU

Designreview@enviro-septic.com.au

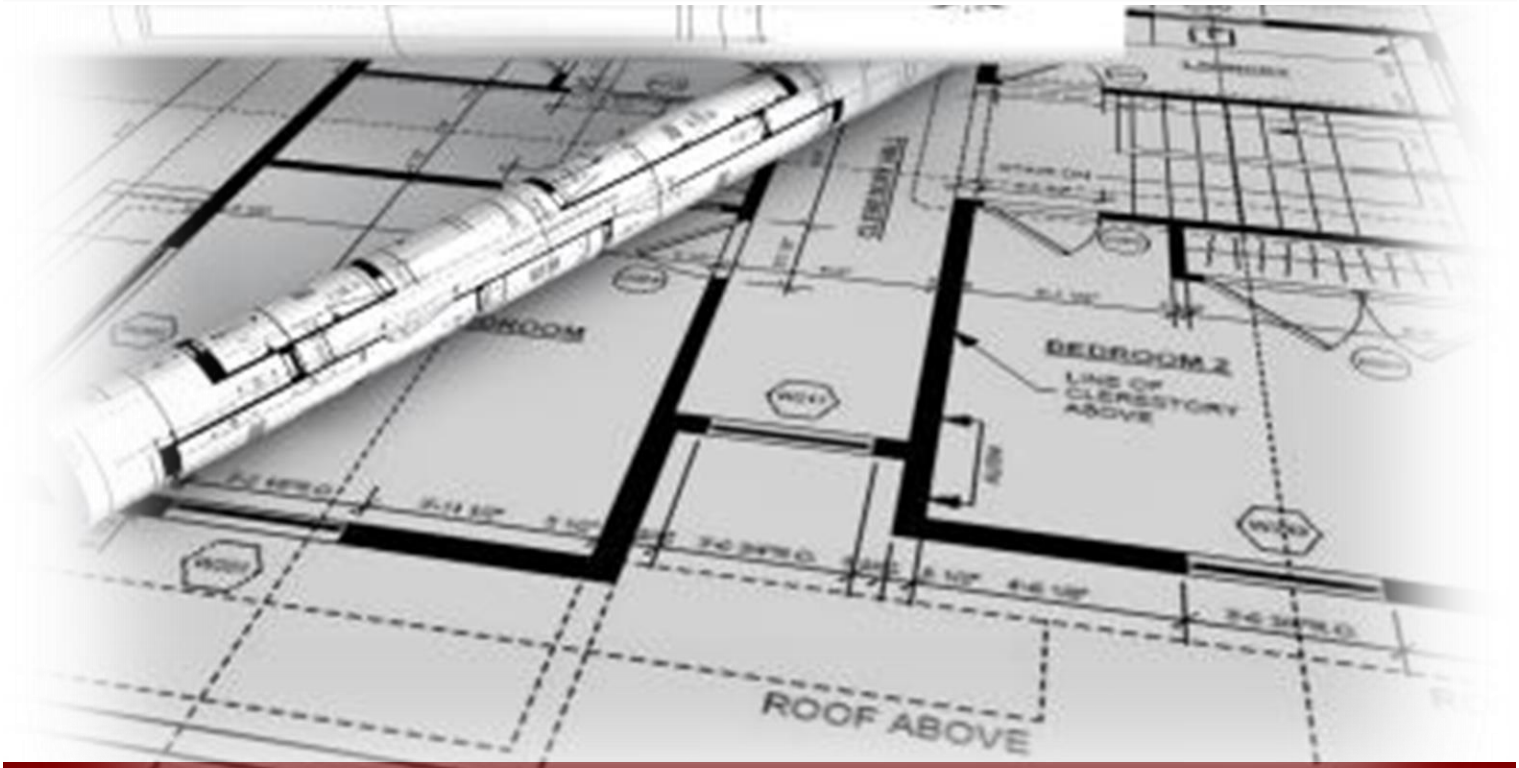
> The AES Calculator is a design aid to allow checking of the AES components and configuration and is a guide only. Site and soil conditions referencing the AS 1547 standard are calculated and designed by a Quailified Designer.

> Chankar Environmental has no responsibility for the soil evaluation, loading calculations or DLR entered by the designer for this calculator.

> AES pipes can be cut to lenght on site. They are supplied in 3 meter lths only.

GMA Certification Group

Leaders in Building Certification Services



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